CERATIZIT GROUP

The Catalogue

TEAM CUTTING TOOLS

CUTTING SOLUTIONS BY CERATIZIT · KOMET · WNT · KLENK

CERATIZIT is a high-tech engineering group specialised in tooling and hard material technologies.

Tooling the Future

www.ceratizit.com

CERATIZIT Group
With passion and pioneering spirit for carbide

CERATIZIT has been a pioneer in the field of demanding carbide solutions for machining and wear protection for more than 95 years, controlling the entire value chain from powder to the finished end product.

With exclusive access to the highest quality carbide raw materials, CERATIZIT offers more than 130 carbide grades and as a full-range supplier manufactures highly specialized cutting tools, indexable inserts, rods made of hard materials and wear parts.

With more than 9,000 employees worldwide at 34 production sites and a sales network of more than 70 branches, the CERATIZIT Group is a global player in the carbide industry. As a technology leader, CERATIZIT continually invests in research and development and owns more than 1,000 patents.

Under the motto „Tooling the Future," our innovative materials and applications help our customers develop a variety of machines and products that shape our immediate environment and are part of our everyday lives.

The goal remains the same: CERATIZIT provides competitive advantages – through new technological standards, innovative materials and coatings as well as unique carbide products.

Welcome!

Placing your order is quick and easy

Customer Service Centre

Freephone Number
UK: 0800 073 2073
Ireland: 1800 93 22 55

Freefax Number
UK: 0800 073 2074

E-Mail
info.uk@ceratizit.com

It couldn't be easier

Ordering via the Online Shop

http://cuttingtools.ceratizit.com

On-site technical support

Your Local Technical Sales Engineer

Your customer number

Team Cutting Tools

The new full-range supplier in machining

Four experts, one expertise: Cutting Solutions by CERATIZIT, KOMET, WNT and KLENK bundle their expertise and, with Team Cutting Tools, offer a uniquely broad know-how in the field of machining. Partners and customers benefit from a highly attractive, holistic service promise:
One of the largest product ranges on the market. An enormously efficient distribution. Leading expertise in future technologies from digitization to nanotechnology. Deep industry expertise based on many years of experience. All under one roof.

Solutions for the metalworking industry

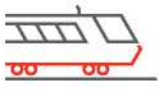
Automotive

Aerospace

Heavy Duty machining

Energy

Medical



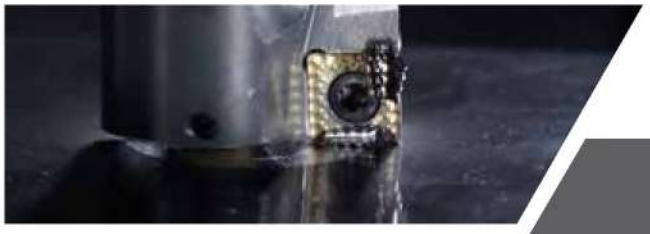
Rail industry

General Engineering

CUTTING SOLUTIONS BY CERATIZIT

COMPETENCE SUPPLIER IN THE DEVELOPMENT AND MANUFACTURE OF INDUSTRIAL SOLUTIONS

Cutting Solutions by CERATIZIT is a leader in the development and manufacturing of industrial solutions and has decades of experience in the manufacture of tungsten carbide tools and inserts.



KOMET

AN INNOVATIVE PIONEER IN HOLE PRODUCTION FOR OVER A CENTURY

KOMET is a global technology leader in high-precision drilling, reaming and threading. Like other members of the CERATIZIT group, KOMET has also established itself as a manufacturer of high-quality cutting tools by developing innovative products.

WNT

STRONG SERVICE, EXTENSIVE PORTFOLIO

Cutting edge quality tooling for every application from the machine spindle to the machine table: With this impressive range of high quality products combined with industry leading service and outstanding logistical support, WNT always delivers the highest cutting efficiency to the customer.

KLENK

PREMIUM CUTTING TOOLS FOR THE AEROSPACE AND ASTRONAUTICAL INDUSTRIES

KLENK focuses primarily on the aerospace industry and is a leader in rotary tools for drilling, milling, reaming and countersinking. Many of these products are custom-made for customers worldwide and are predestined for machining CFRP, titanium, aluminum and steel components.

Tool + Service = Solution

On the latest technology

Technical Training

Our engineers are provided with constant training to keep them up to speed on all technical matters. We will gladly share this knowledge with you. Use our Service for the further education of your metal cutting technicians in the Technical Centre.

Tool data always at your fingertips

Cutting data and CAD models for day-to-day assistance

In addition to detailed cutting data we also offer 2D and 3D models to assist you with your tool management or for simulating an operation. All data for this Service is available for you in our Online Shop.

Bringing the old back to life

Regrinding, not replacing

Your used precision tool is in the best possible hands with us. We return your tool to you with the original finish, coating and geometry – as good as new and ready for use back in the machine.

We come full circle

Our recycling service

Our joint contribution for the good of the environment: we take back your carbide and process it appropriately. You receive a credit from us that you can redeem with your next tool purchase.

Intelligent Machining

Industry 4.0 with ToolScope

ToolScope is a modular assistance system for monitoring and optimizing machining processes. With it, we are the only company that offers not only the tools, but also the expertise and capabilities to master and improve processes throughout the entire machining process.

Competent advice also available on call

Application engineers with know-how

An application engineer is always available by phone to answer your application-specific questions. Even if they are not on-site with you, our experts are always ready to answer your questions. Use our Service by telephone Monday to Friday from 8.00 am – 6.30 pm.
The Freephone number is 0800 073 2 073.

Your competent partner on-site

Technical advice from your Technical Sales engineer

There is a simple reason why we like to support our customers: we want the best for them. And the best solutions are developed when we work together. Thanks to many years of practical experience our experts are able to quickly recognize your individual needs and assist you in optimizing your productivity.

Ordered quickly, Available now, Delivered immediately

It couldn't be easier

Ordering via the Online Shop

In the Online Shop you can select and order your tool with a mouse click, 24 hours a day, 7 days a week. All your transactions including those in the past can be viewed clearly and easily in the online shop. Register and use our Service: **cuttingtools.ceratizit.com**

Stock around the clock!

Tool Supply 24/7

If you install a Tool-O-Mat it means that we take on all the procurement and stocking costs for you. You have 100 % availability of all tools at all times and without expenditure.

From single items to large orders!

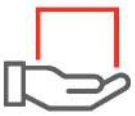
There are no minimum order quantities

No matter which tool you need, we promise you quick and uncomplicated delivery. Even if you only order one item! We do not have minimum order quantities.

Your tool is ready!

High product availability thanks to state-of-the-art logistics

Why own stock? We take care of that for you! With the cutting-edge logistics center of the cutting tools industry, we guarantee that your order will be delivered promptly.



Where is my order right now?

Order Delivery Tracking

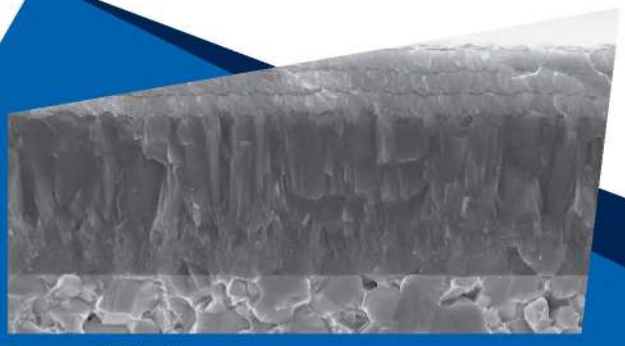
For those who do not want to lose sight of their order: With the shipment number you can track the current status of your order online – no matter how your order was placed.

Dragonskin by CERATIZIT
The latest generation of coating technology

Decades of experience coupled to consistent and constant development are in the unique Dragonskin coating technology. Thanks to our innovative design and expertise in powder metallurgy, we – and above all you – achieve an unmatched level of performance in machining.

Like the Dragon's invulnerability, Dragonskin Coating Technology offers the highest levels of protection against wear and is designed with its impermeable layer for the most adverse requirements. The result is an extremely hard and durable surface with a satin finish.

The perfect combination of state-of-the-art high-performance substrates and new coating structures enable high cutting speeds and increased process reliability. A proven – up to 80 % – increased performance through the latest Dragonskin coating technology offers you a significant competitive advantage.



Dragonskin Coating

DRAGONSKIN

Dragonskin – The coatings for the highest performance

The product category Dragonskin is intended to help make tools easily recognizable and quick to find using CERATIZIT's high-performance coating technology. All products that are marked with the Dragonskin icon represent unmatchable performance, maximum tool life and maximum process reliability.

Legendary Performance

Dragonskin

Stable production processes in a networked world

From tool management and the CAD / CAM system to simulation software and the machine itself – all systems involved in modern production processes can and want to deal more and more with digital data. To meet this demand, we are able to provide you with all the necessary production-relevant data that your production systems require for a smooth process.
All tool dimensions & data are in accordance with ISO 13399 in the product tables, enabling the digitized future.

Digital Tool Data

Technology Data

- Recommended use: Secure tool planning information on selecting the ideal tools for the relevant application
- Cutting data: optimal starting values for the machining of different materials

CAD Data

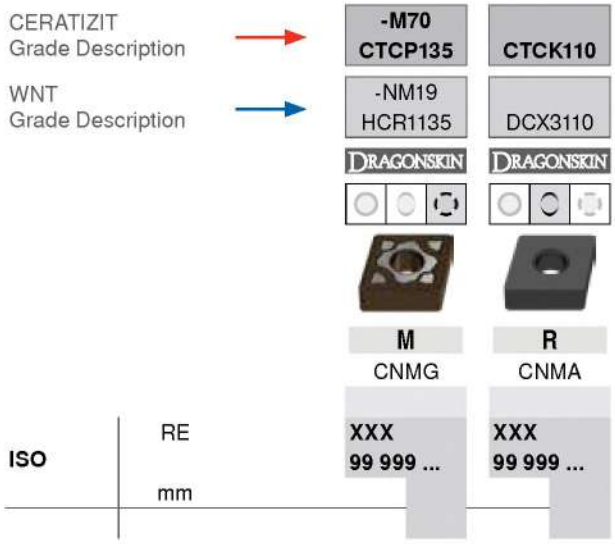
- All tool data is created in accordance with the current standards ISO 13399 / DIN 4003
- 3D solid models in STEP and STL formats
- 2D drawings as DXF
- Usable in all major CAD / CAM systems
- Perfect for integration in tool management systems
- Compatible with the CNC machine simulation to avoid collisions, tool breakage and damage to machinery

Direct and Free of Charge

- Recommended use and cutting data can be found in detail in the catalogue
- All information in digital form can be found on the website to download: **cuttingtools.ceratizit.com**
- Password protected customer area for unrestricted access to all data on the website

Simplified ordering with dual grade descriptions

To simplify identification, the inserts are labeled with the grade descriptions of both CERATIZIT and WNT. Even if these differ, it is always the same, high quality product meaning you can continue to work with the familiar grade description. The same applies to chip breakers, some of which also carry dual designations.



The Catalogue For Workpiece Clamping

We offer our extensive clamping technology program in a separate catalogue. In this you will find the comprehensive vice program, the mechanical (MNG) and pneumatic (PNG) zero-point clamping systems, as well as magnetic clamping technology (MST).

Clamping Systems Overview

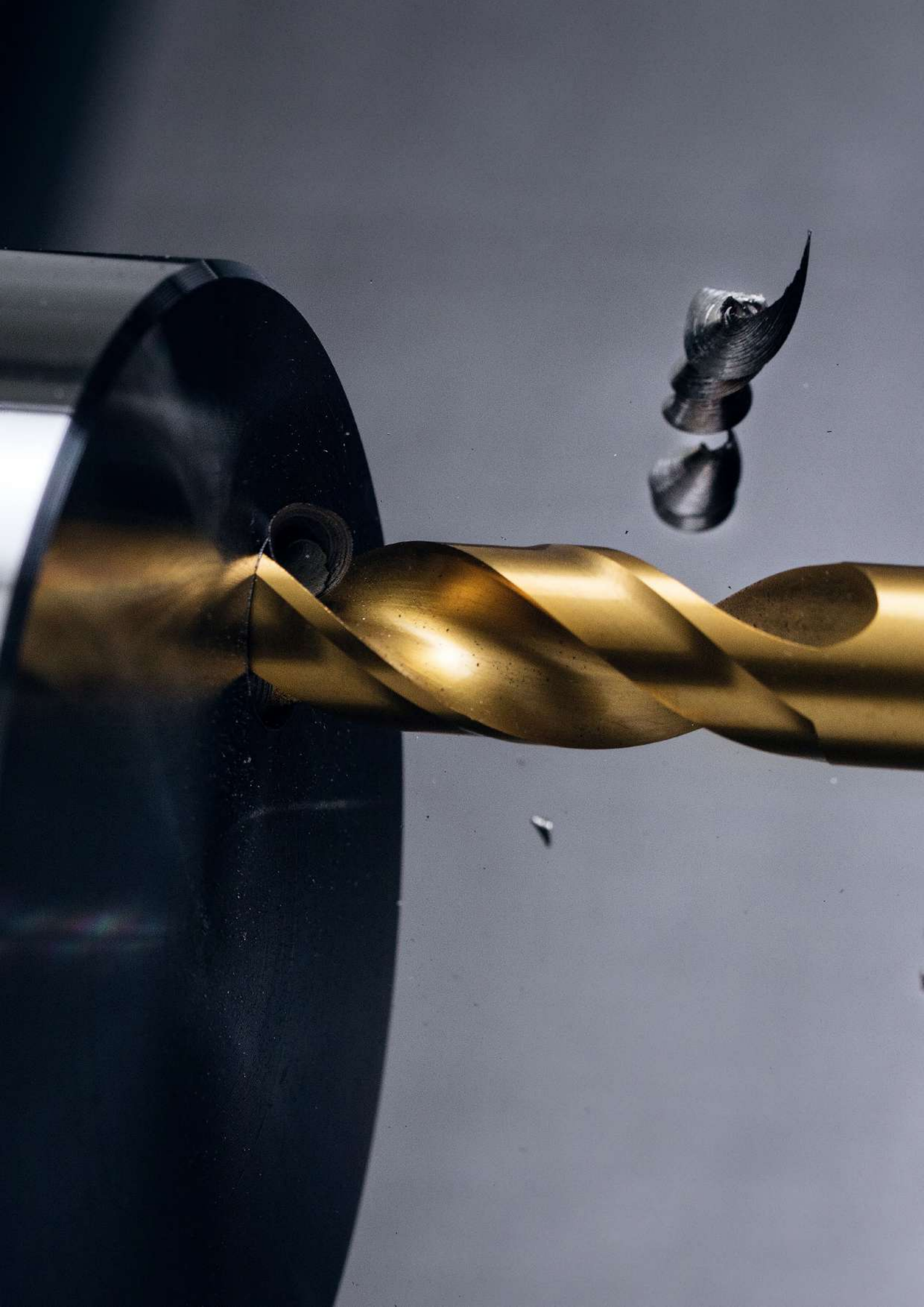
Single clamping vice
- power booster systems NCG, HDG and H5G
- fixed jaw as reference
- high repeatability

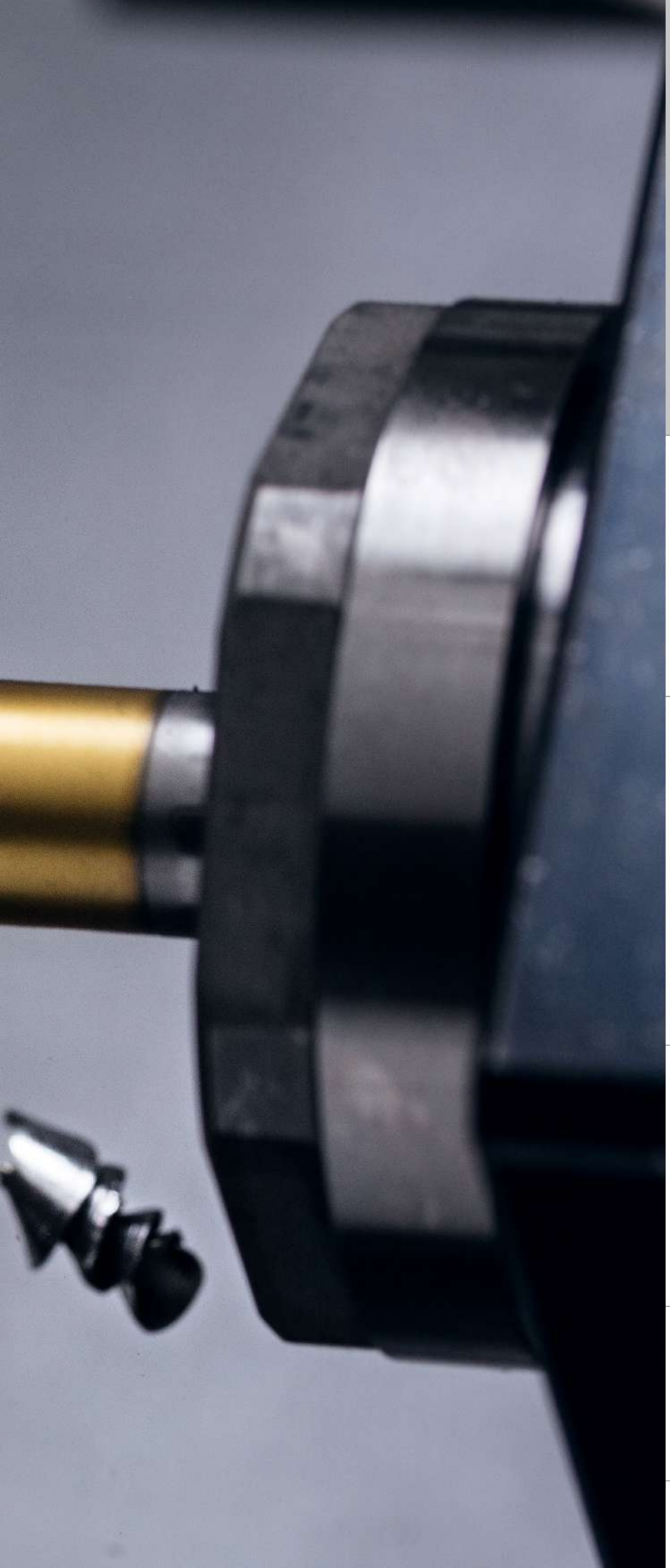
Centric vice
- symmetrical clamping
- very good accessibility for 5-sided machining
- part datum always centered
- high repeatability

Multiple vice
- Faster set up times
- multifunctional use
- optimum utilization of the machine table
- high repeatability

Clamping variants
- Zero point clamping system
- Zero point clamping system grid plate

Clamping Towers
- Double sided clamping tower
- Triangular clamping tower
- Cruciform clamping tower
- Cube clamping tower





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WNT \ Performance

Premium quality tools for high performance.

The premium quality tools from the **WNT Performance** product line have been designed for specific applications and are distinguished by their outstanding performance. If you make high demands on the performance of your production and want to achieve the very best results, we recommend the Premium tools in this product line.

Symbol explanation

Shank

Version

Int. coolant supply

self-centering

● = **Main Application**

○ = Extended application

Toolfinder

	Tool type	Material/ Coating	Description	DIN 1897	DIN 338	DIN 340	Series 1	Series 2	Series 3
				3xD	5xD	10xD	> 10xD		
Steel – Universal	VX	HSS-E TiN	▲ universal high-performance drill ▲ shank DIN 1835A ▲ self centering	8	16				
	UNI	HSS-E PM TiN	▲ wear-resistant due to HSS-E-PM and TiN coating ▲ universal high-performance drill	9–14	17–22				
	UNI	HSS-E TiN	▲ as for type VX ▲ without standard shank to DIN 1835 A ▲ available as a set	9–14	17–22	26–28			
	N	HSS vap.	▲ stable twist drill ▲ also suitable for portable drills ▲ available in set	9–14	17–22				
	WT	HSS-E vap.	▲ for high alloy steel and special alloys (Hastelloy, Inconel, Nimonic)	9–14					
	WT	HSS-E TiN	▲ as type WT HSS-E vap. ▲ higher wear resistance due to coating	9–14					
	WTL-L	HSS F.-nit	▲ left-hand cutting ▲ nitrided cutting edge giving increased wear protection to cutting corners and guide lands	15	23				
	WNXi	HSS-E	▲ very good chip evacuation with thro' coolant ▲ for long chipping materials to 1000 N/mm²		25				
	WNXi	HSS-E TiN	▲ as type WNXi HSS-E ▲ higher wear resistance due to coating		25				
	WTL	HSS-E F.-nit	▲ special flute profile with large chip gullet ▲ nitrided cutting edge giving increased wear protection to cutting corners and guide lands		17–22	26–28			
	WTL	HSS-E TiN	▲ as WTL HSS-E, but higher v_c and wear resistance due to coating ▲ suitable for steel and cast iron		17–22				
	WTL	HSS-E TiCN	▲ as WTL TiN, but higher v_c and wear resistance possible with high alloy steels		23				
	WTL	HSS F.-nit	▲ special flute profile with large chip gullet ▲ nitrided cutting edge giving increased wear protection to cutting corners and guide lands			26–28	29	30	30
	WTL	HSS TiN	▲ as WTL HSS, but higher v_c and wear resistance due to coating			26–28			
	WNX	HSS-E	▲ wide chip flutes for long-chipping materials ▲ self-centring	9–14					
	NC	HSS	▲ suitable for use with drill bushes ▲ very good chip evacuation with thro' coolant			25			
	NC	HSS TiAlN	▲ as NC, but higher v_c and wear resistance due to coating			25			
Stainless steel	VA	HSS-E	▲ specialist for stainless and acid-resistant materials ▲ special geometry	9–14	17–22				
Non-ferrous metals	W	HSS	▲ specialist for non-ferrous metals		17–22				
	WTW	HSS	▲ for non-ferrous metals to 500 N/mm² ▲ for deep holes			26–28			

HSS Drills Overview

3xD without thro‘ coolant

	Tool type	Material | Coating	Point angle	Diameter in mm DC	Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Hardened materials		coated	uncoated	WNT \ Performance
	VX	HSS-E TiN	118°	2–20	●	●	●	●	○			■		8
	UNI	HSS-E PM TiN	130°	1–14	●	○	●	○	○			■		9–14
	UNI	HSS-E TiN	118°	1–14	●	●	●	●	○	○		■		9–14
	N	HSS vap.	118°	0,4–20	●		●	○				■		9–14
	VA	HSS-E	130°	1–12	○	●	○	○	○				□	9–14
	WNX	HSS-E	130°	1–20	●	○	○	●	○				□	9–14
	WT	HSS-E vap.	130°	0,4–25	●	○	○	○	○	○		■		9–14
	WT	HSS-E TiN	130°	1–20	●	○	○	○	○	○		■		9–14
	WTL-L	HSS F-nit.	130°	1–19	●	○	○	●		○	left-hand cutting	■		15

5xD without thro‘ coolant

	Tool type	Material | Coating	Point angle	Diameter in mm DC	Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Hardened materials		coated	uncoated	WNT \ Performance
	VX	HSS-E TiN	118°	2–20	●	●	●	●	○			■		16
	UNI	HSS-E PM TiN	130°	1–14	●	○	●	○	○			■		17–22
	UNI	HSS-E TiN	118°	0,9–14	●	●	●	●	○			■		17–22
	N	HSS vap.	118°	0,2–20	●		●	○				■		17–22
	VA	HSS-E	130°	1–12	○	●	○	○	○				□	17–22
	WTL	HSS-E F-nit.	130°	1–16	●	○	○	○				■		17–22
	WTL	HSS-E TiN	130°	1–16	●	○	○	○				■		17–22
	WTL	HSS-E TiCN	130°	3–12	●	○						■		23
	W	HSS	130°	0,20–20				●					□	17–22
	WTL-L	HSS F-nit.	130°	1–16	●		○	○			left-hand cutting	■		23

HSS Drills Overview

	Tool type	Material | Coating	Point angle	Diameter in mm DC	Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Hardened materials	coated	uncoated	WNT \ Performance
5xD with thro' coolant													
	WNXi	HSS-E	130°	5–20	●	●	●	○	○	E		□	25
	WNXi	HSS-E TiN	130°	5–20	●	●	●	○	○	E	■		25
up to 10xD without thro' coolant													
	UNI	HSS-E TiN	118°	1–14	●	○	●	○		A	■		26–28
	WTL	HSS TiN	130°	1–14	●		●	●		A	■		26–28
	WTL	HSS-E F-nit.	130°	1–12	●	●	●	●		A	■		26–28
	WTL	HSS F-nit.	130°	1–14	●		●	●		A	■		26–28
	WTW	HSS	130°	1–14				●		A		□	26–28
up to 10xD with thro' coolant													
	NC	HSS	130°	3–13	●	○	●	○	○	A		□	25
	NC	HSS TiAlN	130°	3–13	●	○	●	○	○	A	■		25
over 10xD without thro' coolant													
	WTL	HSS Series 1	130°	2–13	●	○	●	●		A	■		29
	WTL	HSS Series 2	130°	2–13	●	○	●	●		A	■		30
	WTL	HSS Series 3	130°	2,5–13	●	○	●	●		A	■		30
Mini-drill													
	N	HSS-E PM	118°	0,15–1,45	●	●	●	●	○	A		□	31
Twist Drill Sets													
	N	HSS vap.	118°	1–10	●		●			A	■		24
	UNI	HSS-E TiN	118°	1–10	●	●	●	●	○	A	■		24

HSS Drills Overview

	Tool type	Material | Coating	Point angle	Diameter in mm DC	Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Hardened materials		coated	uncoated	WNT \ Performance
NC Spot Drill														
	NC-A	HSS	90°	3–20	●	○	●	○					□	35–37
	NC-A	HSS TiN	90°	3–20	●	○	●	○				■		35+36
	NC-A	HSS	120°	3–20	●	○	●	○					□	35+36
	NC-A	HSS TiN	120°	3–20	●	○	●	○				■		35+36
Centre drills														
	ZB	HSS	118°	0,5–6,3	●	○	●	○			DIN 333 – Form A/B/R		□	37–39
	ZB	HSS TiN	118°	0,5–6,3	●	○	●	○			DIN 333 – Form A	■		38
	ZB	HSS-E	118°	0,5–6,3	●	○	●	○			DIN 333 – Form A		□	38
Core drills														
	N	HSS	120°	3,8–12	●	○	●	●	○		3 flute		□	40
Stepped drills														
	SB	HSS vap.	118°	2,5–10,2	●	○	●	○			Countersinking angle 90°	■		41
	SB	HSS	118°	2,5–10,2	●	○	●	○			Countersinking angle 90°		□	41
	SB	HSS vap.	118°	3,2–10,5	●	○	●	○			Countersinking angle 90°	■		41
	SB	HSS	118°	3,2–10,5	●	○	●	○			Countersinking angle 90°		□	41
	SB	HSS vap.	118°	3,4–11	●	○	●	○			Countersinking angle 180°	■		42
	SB	HSS	118°	3,4–11	●	○	●	○			Countersinking angle 180°		□	42
	SB	HSS vap.	118°	3,3–21	●	○	●	○			Countersinking angle 60°	■		44

HSS Drills Overview

	Tool type	Material | Coating	Point angle	Diameter in mm DC	Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Hardened materials		coated	uncoated	WNT \ Performance
Drills with Morse taper														
3xD														
	WT	HSS-E vap.	130°	10–30	●	○	○	○	○	MK		■		31
5xD														
	N	HSS vap.	118°	10–60	●		●	○		MK		■		32
	WTL	HSS-E F-nit	130°	10–27	●	○	○	○		MK		■		32
10xD														
	N	HSS vap.	118°	10–50	●		●	○		MK		■		33
	WTL	HSS-E F-nit	130°	10–26	●	●	●	●		MK		■		33
above 10xD														
	WTL	HSS Series 1	130°	10–30	●	○	●	●		MK		■		34
	WTL	HSS Series 2	130°	10–30	●	○	●	●		MK		■		34
Core drills														
	N	HSS vap.	120°	10–30	●	○	●	●	○	MK	3 flute	■		40
Stepped drills														
	SB	HSS vap.	118°	5,5–22	●	○	●	○		MK	Countersinking angle 180°	■		43

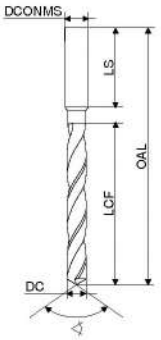
High-performance twist drills similar to DIN 1897, extra-short

- shank to DIN 1835 A
- special point thinning
- very good centering behaviour
- 4 facet
- highest Performance

≤ 3xD

VX

TiN



HSS-E

DC h8	OAL	LCF	DCONMS h6	LS	T2 Article no. 10 122 ...	
mm	mm	mm	mm	mm	£	
2.00	44	12	3	28	9.42	020
2.10	44	12	3	28	10.67	021
2.20	45	13	3	28	11.50	022
2.30	45	13	3	28	11.50	023
2.40	46	14	3	28	12.04	024
2.50	46	14	3	28	10.52	025
2.60	46	14	3	28	12.04	026
2.70	48	16	3	28	12.46	027
2.80	48	16	3	28	12.46	028
2.90	48	16	3	28	12.46	029
3.00	48	16	3	28	11.50	030
3.10	50	18	4	28	11.50	031
3.20	50	18	4	28	11.50	032
3.30	50	18	4	28	11.50	033
3.40	52	20	4	28	11.50	034
3.50	52	20	4	28	10.93	035
3.60	52	20	4	28	12.22	036
3.70	52	20	4	28	12.46	037
3.80	54	22	4	28	12.19	038
3.90	54	22	4	28	12.46	039
4.00	54	22	4	28	10.11	040
4.10	66	22	6	36	10.11	041
4.20	66	22	6	36	10.67	042
4.30	68	24	6	36	11.21	043
4.40	68	24	6	36	12.73	044
4.50	68	24	6	36	10.52	045
4.60	68	24	6	36	13.29	046
4.70	68	24	6	36	13.56	047
4.80	70	26	6	36	13.56	048
4.90	70	26	6	36	13.56	049
5.00	70	26	6	36	11.50	050
5.10	70	26	6	36	13.29	051
5.20	70	26	6	36	13.70	052
5.30	70	26	6	36	13.85	053
5.40	72	28	6	36	15.36	054
5.50	72	28	6	36	12.19	055
5.55	72	28	6	36	15.36	555
5.60	72	28	6	36	15.36	056
5.70	72	28	6	36	15.36	057
5.80	72	28	6	36	15.36	058
5.90	72	28	6	36	15.36	059
6.00	72	28	6	36	12.87	060
6.10	75	31	8	36	19.93	061
6.20	75	31	8	36	19.93	062
6.30	75	31	8	36	23.80	063
6.40	75	31	8	36	20.67	064
6.50	75	31	8	36	15.10	065
6.60	75	31	8	36	24.23	066
6.70	75	31	8	36	24.23	067
6.80	78	34	8	36	26.51	068
6.90	78	34	8	36	26.16	069
7.00	78	34	8	36	19.93	070
7.10	78	34	8	36	29.33	071
7.20	78	34	8	36	29.78	072
7.30	78	34	8	36	29.78	073
7.40	78	34	8	36	29.78	074
7.45	78	34	8	36	29.78	745
7.50	78	34	8	36	21.04	075
7.60	81	37	8	36	30.22	076
7.70	81	37	8	36	32.52	077
7.80	81	37	8	36	32.52	078
7.90	81	37	8	36	32.52	079
8.00	81	37	8	36	21.59	080
8.10	87	37	10	40	36.91	081
8.20	87	37	10	40	36.91	082
8.30	87	37	10	40	36.91	083
8.40	87	37	10	40	36.91	084
8.50	87	37	10	40	24.49	085
8.60	91	40	10	40	38.35	086
8.70	91	40	10	40	38.35	087
8.80	91	40	10	40	38.35	088
8.90	91	40	10	40	38.35	089
9.00	91	40	10	40	26.72	090
9.10	91	40	10	40	48.09	091
9.20	91	40	10	40	48.09	092
9.30	91	40	10	40	48.09	093
9.35	91	40	10	40	48.09	935
9.40	91	40	10	40	48.09	094
9.50	91	40	10	40	33.40	095
9.60	93	43	10	40	36.03	096
9.70	93	43	10	40	36.03	097
9.80	93	43	10	40	36.03	098
9.90	93	43	10	40	36.03	099
10.00	93	43	10	40	32.11	100
10.10	100	43	12	45	49.74	101
10.20	100	43	12	45	47.52	102
10.30	100	43	12	45	48.36	103
10.40	100	43	12	45	51.47	104
10.50	100	43	12	45	46.18	105
10.60	100	43	12	45	55.29	106
10.70	104	47	12	45	50.47	107
10.80	104	47	12	45	48.51	108
10.90	104	47	12	45	71.27	109
11.00	104	47	12	45	46.18	110
11.10	104	47	12	45	45.16	111
11.50	104	47	12	45	48.09	115
11.70	104	47	12	45	54.06	117
11.80	104	47	12	45	56.45	118
11.90	108	51	12	45	71.38	119
12.00	108	51	12	45	55.22	120
12.10	111	51	16	48	40.22	121
12.20	111	51	16	48	59.88	122
12.30	111	51	16	48	73.61	123
12.40	111	51	16	48	87.84	124
12.50	111	51	16	48	56.88	125
12.60	111	51	16	48	115.31	126
12.70	111	51	16	48	126.19	127
12.80	111	51	16	48	59.91	128
12.90	111	51	16	48	88.33	129
13.00	111	51	16	48	61.14	130
13.50	114	54	16	48	91.53	135
14.00	114	54	16	48	91.53	140
14.50	116	56	16	48	117.24	145
15.00	116	56	16	48	110.41	150
15.50	118	58	16	48	119.41	155
16.00	118	58	16	48	115.35	160
16.50	126	60	20	50	178.83	165
17.00	126	60	20	50	178.83	170
17.50	128	62	20	50	178.83	175
18.00	128	62	20	50	178.83	180
18.50	130	64	20	50	178.83	185
19.00	130	64	20	50	178.83	190
19.50	132	66	20	50	178.83	195
20.00	132	66	20	50	159.07	200

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	○

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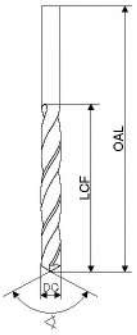
High-performance twist drills similar to DIN 1897, extra-short

≤ 3xD



	UNI	UNI	N	VA	WNX	WT	WT
	TiN	TiN	vap.			vap.	TiN
							
	◁ 130°	◁ 118°	◁ 118°	◁ 130°	◁ 130°	◁ 130°	◁ 130°
	HSS-E-PM	HSS-E	HSS	HSS-E	HSS-E	HSS-E	HSS-E
	T2	T2	T2	T2	T2	T2	T2
DC_{h8} mm	DC inch	OAL mm	LCF mm	Article no. 10 113 … £	Article no. 10 107 … £	Article no. 10 105 … £	Article no. 10 130 … £	Article no. 10 106 … £	Article no. 10 109 … £	Article no. 10 110 … £
0.40		19	2.5			4.43 004 1)			7.70 00400 1)	
0.50		20	3.0			3.60 005 1)			5.56 00500 1)	
0.55		21	3.5						13.11 00550 1)	
0.60		21	3.5			4.29 006 1)			6.84 00600 1)	
0.65		22	4.0						7.26 00650 1)	
0.70		23	4.5			4.02 007 1)			6.28 00700 1)	
0.75		23	4.5						6.57 00750 1)	
0.80		24	5.0			3.20 008 1)			5.43 00800 1)	
0.85		24	5.0						6.10 00850 1)	
0.90		25	5.5			3.20 009 1)			5.43 00900 1)	
0.95		25	5.5						6.10 00950 1)	
1.00		26	6.0	7.54 010 2)	4.84 010	1.82 010 1)	5.12 010	2.74 010	3.88 01000 1)	5.00 010
1.05		26	6.0						5.14 01050 1)	
1.10		28	7.0	7.54 011 2)	4.84 011	1.94 011 1)	4.99 011	2.98 011	3.74 01100 1)	5.27 011
1.15		28	7.0						4.14 01150 1)	
1.20		30	8.0	7.72 012 2)	4.57 012	1.94 012 1)	4.71 012	2.98 012	3.60 01200 1)	5.00 012
1.25		30	8.0						4.14 01250 1)	
1.30		30	8.0	8.09 013 2)	4.84 013	1.94 013 1)	4.99 013	2.92 013	3.74 01300 1)	5.27 013
1.35		32	9.0						4.14 01350 1)	
1.40		32	9.0	7.46 014 2)	4.71 014	1.94 014 1)	4.99 014	2.92 014	3.74 01400 1)	5.27 014
1.45		32	9.0						4.14 01450 1)	
1.50		32	9.0	7.00 015 2)	4.38 015	1.67 015 1)	4.43 015	2.74 015	3.49 01500 1)	5.00 015
1.55		34	10.0						5.43 01550 1)	
1.60		34	10.0	7.34 016 2)	4.38 016	1.82 016 1)	4.43 016	2.92 016	3.32 01600 1)	5.00 016
1.65		34	10.0						4.42 01650 1)	
1.70		34	10.0	7.46 017 2)	4.14 017	1.82 017 1)	4.29 017	2.92 017	3.32 01700 1)	4.71 017
1.75		36	11.0						4.02 01750 1)	
1.80		36	11.0	7.34 018 2)	4.38 018	1.94 018 1)	4.43 018	2.92 018	3.49 01800 1)	5.00 018
1.83		36	11.0						5.14 01830 1)	
1.85		36	11.0						3.85 01850 1)	
1.90		36	11.0	7.34 019 2)	4.38 019	1.82 019 1)	4.43 019	2.92 019	3.49 01900 1)	5.00 019
1.95		38	12.0						5.84 01950 1)	
2.00		38	12.0	6.17 020 2)	3.85 020	1.27 020 1)	3.88 020	2.44 020	2.92 02000 1)	4.38 020
2.05		38	12.0						5.43 02050 1)	
2.10		38	12.0	7.54 021 2)	4.14 021	1.67 021 1)	4.29 021	2.74 021	3.32 02100 1)	4.71 021
2.15		40	13.0						5.00 02150 1)	
2.20		40	13.0	7.54 022 2)	4.57 022	1.67 022 1)	4.71 022	2.74 022	3.74 02200 1)	5.00 022
2.25		40	13.0						4.02 02250 1)	
2.30		40	13.0	6.36 023 2)	4.43 023	1.82 023 1)	4.71 023	2.92 023	3.60 02300 1)	5.00 023
2.35		40	13.0						5.56 02350 1)	
2.38	3/32	43	14.0	6.96 238 2)	4.43 238					
2.40		43	14.0	7.57 024 2)	4.57 024	1.82 024	4.84 024	2.92 024	3.71 02400	5.27 024
2.45		43	14.0						4.42 02450	

Steel	●	●	●	○	●	●	●
Stainless steel	○	●		●	○	○	○
Cast iron	●	●	●	○	○	○	○
Non ferrous metals	○	●	○	○	●	○	○
Heat resistant alloys	○	○		○	○	○	○
Hardened materials		○				○	○

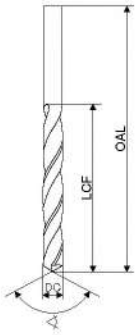
1) uncoated
2) self-centering

→ v_c Page 46+47

Continued on next page

High-performance twist drills similar to DIN 1897, extra-short

≤ 3xD



UNI	UNI	N	VA	WNX	WT	WT
TiN	TiN	vap.			vap.	TiN

∢ 130°	∢ 118°	∢ 118°	∢ 130°	∢ 130°	∢ 130°	∢ 130°
HSS-E-PM	HSS-E	HSS	HSS-E	HSS-E	HSS-E	HSS-E
T2	T2	T2	T2	T2	T2	T2

DC_{h8}	DC	OAL	LCF	Article no. 10 113 ...		Article no. 10 107 ...		Article no. 10 105 ...		Article no. 10 130 ...		Article no. 10 106 ...		Article no. 10 109 ...		Article no. 10 110 ...	
mm	inch	mm	mm	£		£		£		£		£		£		£	
2.50		43	14.0	6.62	025 [2]	4.14	025	1.38	025	4.16	025	2.74	025	3.32	02500	4.57	025
2.55		43	14.0											5.56	02550		
2.60		43	14.0	7.84	026 [2]	4.57	026	1.82	026	4.84	026	2.92	026	3.71	02600	5.27	026
2.65		43	14.0											5.56	02650		
2.70		46	16.0	8.29	027 [2]	4.84	027	1.82	027	4.99	027	2.92	027	3.85	02700	5.56	027
2.75		46	16.0											5.56	02750		
2.78	7/64	46	16.0	8.06	278 [2]	4.84	278										
2.80		46	16.0	7.72	028 [2]	4.84	028	1.82	028	4.99	028	2.98	028	3.85	02800	5.56	028
2.85		46	16.0											5.56	02850		
2.90		46	16.0	8.22	029 [2]	4.84	029	1.82	029	4.99	029	3.29	029	3.85	02900	5.56	029
2.95		46	16.0											4.02	02950		
3.00		46	16.0	6.96	030 [2]	4.38	030	1.38	030	4.43	030	2.92	030	3.49	03000	4.71	030
3.05		49	18.0											4.16	03050		
3.10		49	18.0	7.46	031 [2]	4.71	031	1.82	031	4.99	031	3.41	031	3.85	03100	5.43	031
3.15		49	18.0											6.10	03150		
3.17	1/8	49	18.0	7.34	317 [2]	4.57	317										
3.20		49	18.0	7.00	032 [2]	4.43	032	1.67	032	4.84	032	2.92	032	3.71	03200	5.14	032
3.25		49	18.0											4.38	03250		
3.30		49	18.0	7.00	033 [2]	4.84	033	1.82	033	5.12	033	2.98	033	3.88	03300	5.56	033
3.35		49	18.0											5.56	03350		
3.40		52	20.0	8.09	034 [2]	5.00	034	2.10	034	5.12	034	3.58	034	3.88	03400	5.56	034
3.45		52	20.0											4.38	03450		
3.50		52	20.0	7.00	035 [2]	4.84	035	1.67	035	5.12	035	3.41	035	3.88	03500	5.00	035
3.55		52	20.0											4.42	03550		
3.57	9/64	52	20.0	7.95	357 [2]	5.00	357										
3.60		52	20.0	9.31	036 [2]	5.00	036	2.10	036	5.12	036	3.58	036	3.88	03600	5.56	036
3.70		52	20.0	8.06	037 [2]	5.26	037	2.10	037	5.53	037	3.58	037	4.16	03700	6.02	037
3.75		52	20.0											4.42	03750		
3.80		55	22.0	8.60	038 [2]	5.14	038	2.10	038	5.41	038	3.71	038	4.02	03800	5.56	038
3.85		55	22.0											6.84	03850		
3.90		55	22.0	9.73	039 [2]	5.82	039	2.10	039			3.71	039	4.16	03900	6.02	039
3.95		55	22.0											6.84	03950		
3.97	5/32	55	22.0	8.78	397 [2]	5.53	397										
4.00		55	22.0	7.95	040 [2]	5.14	040	1.67	040	5.41	040	3.71	040	4.14	04000	5.14	040
4.05		55	22.0											4.84	04050		
4.10		55	22.0	9.12	041 [2]	5.43	041	1.94	041	5.69	041	3.85	041	4.38	04100	5.56	041
4.15		55	22.0											6.84	04150		
4.20		55	22.0	7.95	042 [2]	5.26	042	1.94	042	5.53	042	3.41	042	4.16	04200	5.56	042
4.25		55	22.0											7.43	04250		
4.30		58	24.0	9.05	043 [2]	5.56	043	2.78	043	5.82	043	3.85	043	4.57	04300	6.28	043
4.35		58	24.0											7.43	04350		
4.37	11/64	58	24.0	12.16	437 [2]	7.43	437										
4.40		58	24.0	9.73	044 [2]	6.28	044	2.78	044			3.85	044	4.57	04400	6.42	044

Steel	●	●	●	○	●	●	●
Stainless steel	○	●		●	○	○	○
Cast iron	●	●	●	○	○	○	○
Non ferrous metals	○	●	○	○	●	○	○
Heat resistant alloys	○	○		○	○	○	○
Hardened materials		○				○	○

1) uncoated
2) self-centering

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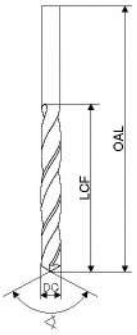
Continued on next page

High-performance twist drills similar to DIN 1897, extra-short

≤ 3xD



	UNI	UNI	N	VA	WNX	WT	WT
	TiN	TiN	vap.			vap.	TiN
							
	◁ 130°	◁ 118°	◁ 118°	◁ 130°	◁ 130°	◁ 130°	◁ 130°
	HSS-E-PM	HSS-E	HSS	HSS-E	HSS-E	HSS-E	HSS-E
	T2	T2	T2	T2	T2	T2	T2

DC h8	DC	OAL	LCF	Article no. 10 113 ...		Article no. 10 107 ...		Article no. 10 105 ...		Article no. 10 130 ...		Article no. 10 106 ...		Article no. 10 109 ...		Article no. 10 110 ...	
mm	inch	mm	mm	£		£		£		£		£		£		£	
4.45		58	24.0											7.56	04450		
4.50		58	24.0	9.05	045 2)	5.56	045	1.94	045	5.82	045	3.85	045	4.42	04500	5.27	045
4.55		58	24.0											7.43	04550		
4.60		58	24.0	9.12	046 2)	6.10	046	2.92	046	6.37	046	3.98	046	4.84	04600	6.98	046
4.65		58	24.0											6.84	04650	7.26	465
4.70		58	24.0	10.14	047 2)	6.42	047	2.92	047	6.65	047	4.14	047	5.00	04700	7.26	047
4.75		58	24.0											6.84	04750		
4.76	3/16	62	26.0	10.14	476 2)	6.42	476										
4.80		62	26.0	10.34	048 2)	6.51	048	2.92	048	6.93	048	4.38	048	5.27	04800	7.26	048
4.85		62	26.0											6.10	04850		
4.90		62	26.0	10.41	049 2)	7.20	049	2.92	049	7.47	049	4.57	049	5.82	04900	7.26	049
4.95		62	26.0											8.72	04950		
5.00		62	26.0	8.78	050 2)	5.69	050	2.10	050	6.23	050	4.14	050	4.71	05000	5.84	050
5.05		62	26.0											10.12	05050		
5.10		62	26.0	9.66	051 2)	7.61	051	2.92	051	8.18	051	4.71	051	6.28	05100	7.26	051
5.15		62	26.0											10.71	05150		
5.16	13/64	62	26.0	11.51	516 2)	9.84	516										
5.20		62	26.0	10.41	052 2)	9.42	052	2.92	052	9.97	052	4.71	052	7.43	05200	7.26	052
5.25		62	26.0											8.68	05250		
5.30		62	26.0	11.78	053 2)	9.97	053	2.92	053	10.67	053	4.84	053	8.29	05300	7.56	053
5.35		66	28.0											14.11	05350		
5.40		66	28.0	11.55	054 2)	9.84	054	3.32	054			5.14	054	8.68	05400	8.40	054
5.45		66	28.0											14.10	05450		
5.50		66	28.0	9.88	055 2)	7.34	055	2.50	055	7.89	055	5.00	055	6.02	05500	6.28	055
5.55		66	28.0											15.80	05550	7.99	555
5.56	7/32	66	28.0	10.82	556 2)	8.18	556										
5.60		66	28.0	11.78	056 2)	12.04	056	3.32	056	12.73	056	5.27	056	9.85	05600	7.99	056
5.70		66	28.0	12.64	057 2)	12.19	057	3.32	057	13.03	057	5.43	057	10.18	05700	7.99	057
5.75		66	28.0											11.68	05750		
5.80		66	28.0	12.08	058 2)	12.87	058	3.32	058	13.56	058	5.43	058	10.12	05800	7.99	058
5.85		66	28.0											16.99	05850		
5.90		66	28.0	13.32	059 2)	13.03	059	3.32	059	13.70	059	5.56	059	10.54	05900	8.27	059
5.95	15/64	66	28.0	20.18	595 2)	14.28	595							10.71	05950		
6.00		66	28.0	10.64	060 2)	7.34	060	2.50	060	7.89	060	5.00	060	6.02	06000	6.84	060
6.05		70	31.0											16.99	06050		
6.10		70	31.0	12.49	061 2)	13.85	061	3.60	061	14.81	061	5.82	061	11.12	06100	10.28	061
6.15		70	31.0											12.67	06150		
6.20		70	31.0	12.49	062 2)	14.11	062	3.60	062	15.23	062	5.84	062	11.68	06200	10.71	062
6.25		70	31.0											14.39	06250		
6.30		70	31.0	14.31	063 2)	15.36	063	3.60	063	16.19	063	5.84	063	12.52	06300	10.83	063
6.35	1/4	70	31.0	13.13	635 2)	15.23	635							8.68	06350		
6.40		70	31.0	13.25	064 2)	15.64	064	3.74	064	16.60	064	6.28	064	12.70	06400	11.19	064
6.45		70	31.0											14.39	06450		

Steel	●	●	●	○	●	●	●
Stainless steel	○	●		●	○	○	○
Cast iron	●	●	●	○	○	○	○
Non ferrous metals	○	●	○	○	●	○	○
Heat resistant alloys	○	○		○	○	○	○
Hardened materials		○				○	○

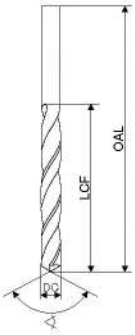
1) uncoated
2) self-centering

→ v_c Page 46+47

Continued on next page

High-performance twist drills similar to DIN 1897, extra-short

≤ 3xD



UNI	UNI	N	VA	WNX	WT	WT
TiN	TiN	vap.			vap.	TiN

◁ 130°	◁ 118°	◁ 118°	◁ 130°	◁ 130°	◁ 130°	◁ 130°
HSS-E-PM	HSS-E	HSS	HSS-E	HSS-E	HSS-E	HSS-E
T2	T2	T2	T2	T2	T2	T2

DC_{h8}	DC	OAL	LCF	Article no. 10 113 ...		Article no. 10 107 ...		Article no. 10 105 ...		Article no. 10 130 ...		Article no. 10 106 ...		Article no. 10 109 ...		Article no. 10 110 ...	
mm	inch	mm	mm	£		£		£		£		£		£		£	
6.50		70	31.0	12.49	065 2)	8.59	065	2.92	065	9.14	065	5.84	065	6.98	06500	7.99	065
6.55		70	31.0											17.25	06550		
6.60		70	31.0	13.77	066 2)	16.19	066	3.74	066	17.17	066	6.42	066	13.26	06600	11.19	066
6.65		70	31.0											18.39	06650		
6.70		70	31.0	15.18	067 2)	16.48	067	4.02	067	17.71	067	6.57	067	13.66	06700	11.19	067
6.75		74	34.0	18.67	675 2)	12.62	675							13.68	06750		
6.80		74	34.0	15.21	068 2)	16.89	068	4.57	068	18.13	068	7.26	068	14.10	06800	11.68	068
6.85		74	34.0											19.24	06850		
6.90		74	34.0	15.03	069 2)	17.02	069	4.99	069	18.28	069	7.43	069	13.96	06900	11.68	069
7.00		74	34.0	13.93	070 2)	9.84	070	3.74	070	10.52	070	6.42	070	7.85	07000	9.68	070
7.05		74	34.0											22.38	07050		
7.10		74	34.0	16.88	071 2)	17.71	071	5.12	071	18.82	071	8.68	071	14.11	07100	13.11	071
7.14	9/32	74	34.0	22.40	714 2)	18.13	714										
7.20		74	34.0	17.37	072 2)	17.87	072	5.12	072	19.23	072	9.28	072	15.12	07200	13.11	072
7.25		74	34.0											15.38	07250		
7.30		74	34.0	18.67	073 2)	17.99	073	5.41	073			9.68	073	14.97	07300	13.26	073
7.35		74	34.0											19.66	07350		
7.40		74	34.0	17.49	074 2)	17.87	074	5.69	074			10.54	074	15.56	07400	13.26	074
7.50		74	34.0	14.53	075 2)	11.21	075	4.02	075	12.04	075	6.98	075	9.28	07500	10.12	075
7.60		79	37.0	22.68	076 2)	16.74	076	6.37	076			10.18	076	16.57	07600	14.39	076
7.70		79	37.0	24.57	077 2)	20.77	077	6.37	077	22.00	077	10.28	077	16.54	07700	14.39	077
7.75		79	37.0											20.81	07750		
7.80		79	37.0	18.74	078 2)	20.07	078	6.37	078			10.28	078	17.44	07800	14.39	078
7.90		79	37.0	26.23	079 2)	22.00	079	6.51	079	23.25	079	9.85	079	17.38	07900	14.39	079
7.94	5/16	79	37.0	17.98	794 2)	11.34	794										
8.00		79	37.0	17.37	080 2)	10.83	080	4.16	080	11.09	080	7.26	080	8.72	08000	10.42	080
8.05		79	37.0											27.95	08050		
8.10		79	37.0	22.18	081 2)	22.57	081	6.93	081	24.07	081	10.83	081	18.39	08100	14.39	081
8.15		79	37.0											27.95	08150		
8.20		79	37.0	23.09	082 2)	23.54	082	7.20	082	24.90	082	11.19	082	18.96	08200	14.39	082
8.25		79	37.0											21.67	08250		
8.30		79	37.0	24.22	083 2)	25.31	083	7.47	083	26.98	083	11.12	083	20.50	08300	15.12	083
8.40		79	37.0	23.23	084 2)	26.01	084	7.61	084	27.68	084	11.55	084	21.25	08400	15.12	084
8.50		79	37.0	20.18	085 2)	12.87	085	5.69	085	13.56	085	8.72	085	10.28	08500	12.52	085
8.55		84	40.0											31.65	08550		
8.60		84	40.0			15.47	086	7.61	086	28.50	086	12.22	086	21.67	08600	15.55	086
8.70		84	40.0			17.80	087	7.76	087	29.33	087	12.67	087	23.25	08700	15.55	087
8.73	11/32	84	40.0	31.91	873 2)	20.39	873										
8.75		84	40.0											34.87	08750		
8.80		84	40.0	25.32	088 2)	16.74	088	7.89	088			13.96	088	23.54	08800	15.55	088
8.90		84	40.0			22.01	089	8.18	089			9.28	089	24.27	08900	15.98	089
8.95		84	40.0											38.88	08950		
9.00		84	40.0	20.48	090 2)	13.56	090	5.41	090	14.52	090	8.40	090	10.83	09000	12.70	090

Steel	●	●	●	○	●	●	●
Stainless steel	○	●		●	○	○	○
Cast iron	●	●	●	○	○	○	○
Non ferrous metals	○	●	○	○	●	○	○
Heat resistant alloys	○	○		○	○	○	○
Hardened materials		○				○	○

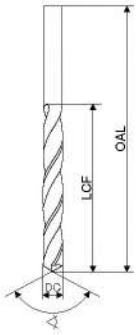
1) uncoated
2) self-centering

→ v_c Page 46+47

Continued on next page

High-performance twist drills similar to DIN 1897, extra-short

≤ 3xD



UNI	UNI	N	VA	WNX	WT	WT
TiN	TiN	vap.			vap.	TiN

∢ 130°	∢ 118°	∢ 118°	∢ 130°	∢ 130°	∢ 130°	∢ 130°
HSS-E-PM	HSS-E	HSS	HSS-E	HSS-E	HSS-E	HSS-E
T2	T2	T2	T2	T2	T2	T2

DC_{h8}	DC	OAL	LCF	Article no. 10 113 ...		Article no. 10 107 ...		Article no. 10 105 ...		Article no. 10 130 ...		Article no. 10 106 ...		Article no. 10 109 ...		Article no. 10 110 ...	
mm	inch	mm	mm	£		£		£		£		£		£		£	
9.05		84	40.0											25.52	09050		
9.10		84	40.0			18.55	091	9.14	091			14.39	091	25.27	09100	20.35	091
9.20		84	40.0			18.68	092	9.97	092	33.35	092	15.38	092	25.52	09200	20.35	092
9.25		84	40.0											29.22	09250		
9.30		84	40.0	23.23	093 2)	32.93	093	10.11	093	35.16	093	10.83	093	27.18	09300	20.35	093
9.40		84	40.0			21.66	094	10.38	094			10.83	094	26.93	09400	20.35	094
9.50		84	40.0	22.68	095 2)	14.52	095	8.59	095	15.64	095	10.28	095	11.85	09500	16.54	095
9.60		89	43.0			22.65	096	10.93	096			16.57	096	26.93	09600	20.67	096
9.65		89	43.0											31.67	09650		
9.70		89	43.0			22.01	097	11.09	097			16.57	097	27.50	09700	20.67	097
9.75		89	43.0											38.88	09750		
9.80		89	43.0	27.02	098 2)	33.91	098	11.62	098	36.26	098	16.54	098	27.95	09800	22.11	098
9.90		89	43.0			23.52	099	11.62	099			16.95	099	28.78	09900	22.11	099
10.00		89	43.0	22.33	100 2)	16.89	100	6.51	100	18.13	100	9.28	100	14.10	10000	15.55	100
10.05		89	43.0											36.47	10050		
10.10		89	43.0			22.65	101	12.87	101					38.36	10100		
10.20		89	43.0	28.27	102 2)	26.84	102	11.09	102	28.50	102	16.57	102	21.67	10200	21.95	102
10.25		89	43.0											33.40	10250		
10.30		89	43.0			21.04	103	13.70	103					35.45	10300		
10.40		89	43.0			24.63	104	14.28	104					41.83	10400		
10.50		89	43.0	26.79	105 2)	29.07	105	11.62	105	30.99	105	13.55	105	24.27	10500	20.92	105
10.60		95	47.0					17.87	106					42.29	10600		
10.70		95	47.0					17.87	107					42.29	10700		
10.75		95	47.0											35.92	10750		
10.80		95	47.0					18.28	108			17.97	108	41.13	10800	46.65	108
10.90		95	47.0					18.28	109					41.83	10900		
11.00		95	47.0	29.79	110 2)	30.99	110	11.62	110	32.93	110	15.98	110	25.52	11000	20.92	110
11.10		95	47.0					18.28	111					46.46	11100		
11.11	7/16	95	47.0	34.97	111 2)	36.53	111										
11.20		95	47.0					19.23	112					49.82	11200		
11.30		95	47.0					19.52	113					51.59	11300		
11.40		95	47.0					19.52	114					52.02	11400		
11.50		95	47.0	34.33	115 2)	35.16	115	12.32	115	37.37	115	20.92	115	29.22	11500	21.81	115
11.60		95	47.0					19.52	116								
11.70		95	47.0					19.52	117	70.28	117			52.02	11700		
11.75		95	47.0											57.68	11750		
11.80		95	47.0					19.79	118			26.31	118	52.02	11800	26.16	118
11.90		102	51.0					19.79	119								
12.00		102	51.0	33.60	120 2)	41.37	120	14.81	120	44.02	120	20.92	120	34.43	12000	24.95	120
12.10		102	51.0					20.90	121					51.59	12100		
12.20		102	51.0					20.90	122					52.02	12200		
12.25		102	51.0											58.55	12250		
12.30		102	51.0	56.92	123 2)	38.48	123	21.17	123			26.31	123	40.69	12300	38.35	123

Steel	●	●	●	○	●	●	●
Stainless steel	○	●		●	○	○	○
Cast iron	●	●	●	○	○	○	○
Non ferrous metals	○	●	○	○	●	○	○
Heat resistant alloys	○	○		○	○	○	○
Hardened materials		○				○	○

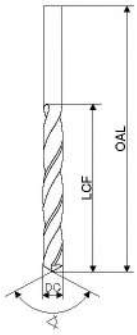
1) uncoated
2) self-centering

→ v_c Page 46+47

Continued on next page

High-performance twist drills similar to DIN 1897, extra-short

≤ 3xD



UNI	UNI	N	VA	WNX	WT	WT
TiN	TiN	vap.			vap.	TiN

∢ 130°	∢ 118°	∢ 118°	∢ 130°	∢ 130°	∢ 130°	∢ 130°
HSS-E-PM	HSS-E	HSS	HSS-E	HSS-E	HSS-E	HSS-E
T2	T2	T2	T2	T2	T2	T2

DC_{h8}	DC	OAL	LCF	Article no. 10 113 ...		Article no. 10 107 ...		Article no. 10 105 ...		Article no. 10 130 ...		Article no. 10 106 ...		Article no. 10 109 ...		Article no. 10 110 ...	
mm	inch	mm	mm	£		£		£		£		£		£		£	
12.40		102	51.0					21.17	124					52.02	12400		
12.50		102	51.0	36.86	125 2)	41.66	125	15.64	125			21.36	125	34.51	12500	26.16	125
12.60		102	51.0					21.59	126					35.49	12600		
12.70		102	51.0	47.05	127 2)	31.78	127	20.63	127					35.49	12700		
12.80		102	51.0					22.41	128			32.11	128	53.33	12800	48.32	128
12.90		102	51.0					23.12	129					53.33	12900		
13.00		102	51.0	36.86	130 2)	41.66	130	15.93	130			23.84	130	36.47	13000	26.37	130
13.20		102	51.0					23.80	132					53.33	13200		
13.30		107	54.0					24.49	133								
13.50		107	54.0	39.14	135 2)	41.66	135	18.28	135			29.51	135	40.26	13500	28.81	135
13.80		107	54.0					25.06	138			38.36	138			31.08	138
14.00		107	54.0	48.87	140 2)	44.27	140	18.54	140			26.93	140	40.26	14000	30.22	140
14.50		111	56.0					20.63	145			34.87	145	50.56	14500	30.95	145
14.75		111	56.0					31.57	147								
14.80		111	56.0									48.37	148				
15.00		111	56.0					20.07	150			32.41	150	48.09	15000	31.98	150
15.25		115	58.0					33.35	152					104.32	15250		
15.50		115	58.0					22.14	155			49.11	155	60.14	15500	41.70	155
15.75		115	58.0													44.04	157
16.00		115	58.0					22.41	160			38.94	160	49.32	16000	41.13	160
16.50		119	60.0					26.43	165			39.21	165	81.07	16500	60.56	165
17.00		119	60.0					27.13	170			40.39	170	69.13	17000	59.72	170
17.50		123	62.0					28.38	175			41.26	175	81.94	17500	55.87	175
17.75		123	62.0													67.70	177
18.00		123	62.0					28.66	180			40.77	180	76.71	18000	65.36	180
18.50		127	64.0					31.28	185					97.93	18500	73.23	185
19.00		127	64.0					32.93	190			42.18	190	81.94	19000	71.74	190
19.50		131	66.0					34.87	195					95.44	19500	80.49	195
19.75		131	66.0													80.52	197
20.00		131	66.0					34.87	200			44.47	200	81.95	20000	76.99	200
20.50		136	68.0											115.64	20500		
21.00		136	68.0											110.98	21000		
21.50		141	70.0											118.98	21500		
22.00		141	70.0											120.14	22000		
22.20		141	70.0											124.36	22200		
23.00		146	72.0											128.98	23000		
24.00		151	75.0											141.94	24000		
25.00		151	75.0											162.43	25000		

Steel	●	●	●	○	●	●	●
Stainless steel	○	●		●	○	○	○
Cast iron	●	●	●	○	○	○	○
Non ferrous metals	○	●	○	○	●	○	○
Heat resistant alloys	○	○		○	○	○	○
Hardened materials		○				○	○

1) uncoated
2) self-centering

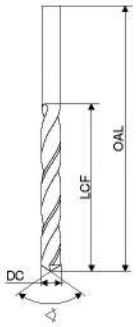
→ v_c Page 46+47

High-performance twist drills similar to DIN 1897, extra-short

▲ left-hand cutting

≤ 3xD

WTL-L



130°
HSS

DC h8	OAL	LCF	T2 Article no. 10 112 ...	
mm	mm	mm	£	
1.0	26	6	3.71	010 1)
1.1	28	7	3.98	011 1)
1.2	30	8	3.85	012 1)
1.3	30	8	3.85	013 1)
1.4	32	9	3.58	014 1)
1.5	32	9	3.29	015 1)
1.6	34	10	3.41	016 1)
1.7	34	10	4.84	017 1)
1.8	36	11	4.84	018 1)
1.9	36	11	4.57	019 1)
2.0	38	12	2.92	020 1)
2.1	38	12	2.98	021 1)
2.2	40	13	3.41	022 1)
2.3	40	13	4.99	023 1)
2.4	43	14	3.58	024 2)
2.5	43	14	2.98	025 2)
2.6	43	14	3.58	026 2)
2.7	46	16	3.71	027 2)
2.8	46	16	3.85	028 2)
2.9	46	16	3.98	029 2)
3.0	46	16	3.41	030 2)
3.1	49	18	4.14	031 2)
3.2	49	18	3.71	032 2)
3.3	49	18	4.14	033 2)
3.4	52	20	4.38	034 2)
3.5	52	20	6.10	035 2)
3.6	52	20	4.38	036 2)
3.7	52	20	4.38	037 2)
3.8	55	22	4.71	038 2)
3.9	55	22	4.71	039 2)
4.0	55	22	4.71	040 2)
4.1	55	22	5.27	041 2)
4.2	55	22	4.71	042 2)
4.3	58	24	6.42	043 2)
4.4	58	24	6.42	044 2)
4.5	58	24	5.14	045 2)
4.6	58	24	6.84	046 2)
4.7	58	24	6.84	047 2)
4.8	62	26	6.84	048 2)
4.9	62	26	9.84	049 2)
5.0	62	26	5.82	050 2)
5.1	62	26	6.84	051 2)
5.2	62	26	6.98	052 2)
5.3	62	26	7.26	053 2)
5.4	66	28	7.26	054 2)
5.5	66	28	6.57	055 2)
5.6	66	28	7.26	056 2)
5.7	66	28	10.80	057 2)
5.8	66	28	7.56	058 2)
5.9	66	28	7.70	059 2)
6.0	66	28	6.98	060 2)
6.1	70	31	8.29	061 2)
6.2	70	31	8.29	062 2)
6.3	70	31	8.29	063 2)
6.4	70	31	8.72	064 2)
6.5	70	31	7.26	065 2)
6.6	70	31	8.68	066 2)
6.7	70	31	9.28	067 2)
6.8	74	34	9.85	068 2)
6.9	74	34	11.68	069 2)
7.0	74	34	7.85	070 2)
7.2	74	34	15.38	072 2)
7.3	74	34	22.41	073 2)
7.4	74	34	15.98	074 2)
7.5	74	34	8.72	075 2)
7.7	79	37	24.07	077 2)
8.0	79	37	8.68	080 2)
8.1	79	37	17.25	081 2)
8.2	79	37	17.80	082 2)
8.3	79	37	17.80	083 2)
8.5	79	37	9.85	085 2)
8.6	84	40	18.89	086 2)
8.7	84	40	27.13	087 2)
8.8	84	40	28.66	088 2)
9.0	84	40	10.71	090 2)
9.5	84	40	12.22	095 2)
9.7	89	43	21.95	097 2)
10.0	89	43	12.26	100 2)
10.1	89	43	28.19	101 2)
10.2	89	43	20.35	102 2)
10.5	89	43	19.91	105 2)
11.0	95	47	20.35	110 2)
11.5	95	47	22.25	115 2)
11.8	95	47	29.51	118 2)
12.0	102	51	22.51	120 2)
12.5	102	51	35.42	125 2)
12.8	102	51	31.22	128 2)
13.0	102	51	27.31	130 2)
14.0	107	54	33.40	140 2)
14.5	111	56	41.19	145 2)
15.0	111	56	36.35	150 2)
16.0	115	58	43.48	160 3)
18.0	123	62	108.95	180 3)
19.0	127	64	143.67	190 3)

Steel	●
Stainless steel	○
Cast iron	○
Non ferrous metals	●
Heat resistant alloys	
Hardened materials	○

1) uncoated
2) nitrided chamfer
3) vaporised

→ v_c Page 47

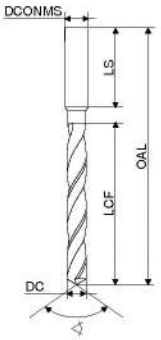
High-performance twist drill similar to DIN 338, short

- with shank to DIN 1835 A
- special point thinning
- 4 facet
- highest Performance
- very good centering behaviour

≤ 5xD

VX

TiN



HSS-E

DC h8	OAL	LCF	DCONMS h6	LS	T2 Article no. 10 124 ... £	
mm	mm	mm	mm	mm		
2.00	56	24	3	28	12.22	020
2.10	56	24	3	28	13.98	021
2.20	59	27	3	28	13.98	022
2.30	59	27	3	28	13.98	023
2.40	62	30	3	28	13.98	024
2.50	62	30	3	28	13.98	025
2.60	62	30	3	28	13.98	026
2.70	65	33	3	28	13.98	027
2.80	65	33	3	28	13.98	028
2.90	65	33	3	28	13.98	029
3.00	65	33	3	28	13.29	030
3.10	68	36	4	28	15.23	031
3.20	68	36	4	28	15.23	032
3.30	68	36	4	28	15.23	033
3.40	71	39	4	28	15.23	034
3.50	71	39	4	28	15.23	035
3.60	71	39	4	28	16.95	036
3.70	71	39	4	28	16.95	037
3.80	75	43	4	28	16.95	038
3.90	75	43	4	28	16.95	039
4.00	75	43	4	28	16.95	040
4.10	87	43	6	36	19.65	041
4.20	87	43	6	36	20.77	042
4.30	91	47	6	36	19.65	043
4.40	91	47	6	36	19.65	044
4.50	91	47	6	36	19.65	045
4.60	91	47	6	36	22.29	046
4.65	91	47	6	36	22.29	465
4.70	91	47	6	36	22.29	047
4.80	96	52	6	36	22.29	048
4.90	96	52	6	36	22.29	049
5.00	96	52	6	36	24.23	050
5.10	96	52	6	36	24.23	051
5.20	96	52	6	36	24.23	052
5.30	96	52	6	36	26.74	053
5.40	101	57	6	36	26.74	054
5.50	101	57	6	36	24.23	055
5.55	101	57	6	36	27.81	555
5.60	101	57	6	36	27.81	056
5.70	101	57	6	36	27.81	057
5.80	101	57	6	36	27.81	058
5.90	101	57	6	36	27.81	059
6.00	101	57	6	36	26.43	060
6.10	107	63	8	36	32.66	061
6.20	107	63	8	36	32.66	062
6.30	107	63	8	36	32.66	063
6.40	107	63	8	36	32.66	064
6.50	107	63	8	36	32.66	065
6.60	107	63	8	36	35.02	066
6.70	107	63	8	36	35.02	067
6.80	113	69	8	36	35.02	068
6.90	113	69	8	36	35.02	069
7.00	113	69	8	36	35.02	070
7.10	113	69	8	36	36.46	071
7.20	113	69	8	36	36.46	072
7.30	113	69	8	36	36.46	073
7.40	113	69	8	36	36.46	074
7.50	113	69	8	36	36.46	075
7.55	119	75	8	36	36.40	755
7.60	119	75	8	36	36.40	076
7.70	119	75	8	36	36.40	077
7.80	119	75	8	36	36.40	078
7.90	119	75	8	36	36.40	079
8.00	119	75	8	36	36.40	080
8.10	125	75	10	40	40.77	081
8.20	125	75	10	40	40.77	082
8.30	125	75	10	40	40.77	083
8.40	125	75	10	40	40.77	084
8.50	125	75	10	40	41.11	085
8.60	131	81	10	40	37.93	086
8.70	131	81	10	40	37.93	087
8.80	131	81	10	40	37.93	088
8.90	131	81	10	40	37.93	089
9.00	131	81	10	40	37.93	090
9.10	131	81	10	40	40.77	091
9.20	131	81	10	40	40.77	092
9.30	131	81	10	40	40.77	093
9.40	131	81	10	40	40.77	094
9.50	131	81	10	40	40.77	095
9.55	137	87	10	40	44.47	955
9.60	137	87	10	40	44.47	096
9.70	137	87	10	40	44.47	097
9.80	137	87	10	40	44.47	098
9.90	137	87	10	40	44.47	099
10.00	137	87	10	40	44.47	100
10.10	144	87	12	45	56.37	101
10.20	144	87	12	45	56.37	102
10.30	144	87	12	45	56.37	103
10.40	144	87	12	45	56.37	104
10.50	144	87	12	45	56.37	105
10.60	144	87	12	45	61.91	106
10.70	151	94	12	45	61.91	107
10.80	151	94	12	45	61.91	108
10.90	151	94	12	45	61.91	109
11.00	151	94	12	45	52.18	110
11.10	151	94	12	45	55.87	111
11.20	151	94	12	45	55.87	112
11.30	151	94	12	45	55.87	113
11.40	151	94	12	45	55.87	114
11.50	151	94	12	45	55.87	115
11.60	151	94	12	45	61.60	116
11.70	151	94	12	45	61.60	117
11.80	151	94	12	45	61.60	118
11.90	158	101	12	45	61.60	119
12.00	158	101	12	45	61.60	120
12.10	161	101	16	48	70.77	121
12.20	161	101	16	48	70.77	122
12.30	161	101	16	48	70.77	123
12.40	161	101	16	48	70.77	124
12.50	161	101	16	48	70.77	125
12.60	161	101	16	48	74.53	126
12.70	161	101	16	48	74.53	127
12.80	161	101	16	48	74.53	128
12.90	161	101	16	48	74.53	129
13.00	161	101	16	48	82.21	130
13.50	166	106	16	48	106.62	135
14.00	166	106	16	48	106.62	140
14.50	169	109	16	48	136.41	145
15.00	169	109	16	48	128.14	150
15.50	172	112	16	48	138.88	155
16.00	172	112	16	48	134.09	160
16.50	181	115	20	50	207.88	165
17.00	181	115	20	50	207.88	170
17.50	184	118	20	50	207.88	175
18.00	184	118	20	50	207.88	180
18.50	188	122	20	50	207.88	185
19.00	188	122	20	50	207.88	190
19.50	191	125	20	50	207.88	195
20.00	191	125	20	50	184.80	200

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	○

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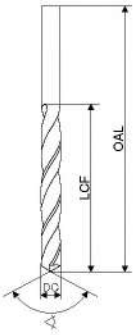
Twist drill to DIN 338, short

≤ 5xD



	UNI	UNI	N	VA	W	WTL	WTL
	TiN	TiN	vap.			F.-nit	TiN
							
	◁ 130°	◁ 118°	◁ 118°	◁ 130°	◁ 130°	◁ 130°	◁ 130°
	HSS-E-PM	HSS-E	HSS	HSS-E	HSS	HSS-E	HSS-E
	T2	T2	T2	T2	T2	T2	T2

DC_{h8}	DC	OAL	LCF	Article no. 10 173 ...		Article no. 10 171 ...		Article no. 10 152 ...		Article no. 10 175 ...		Article no. 10 161 ...		Article no. 10 168 ...		Article no. 10 170 ...	
mm	inch	mm	mm	£		£		£		£		£		£		£	
0.20		19	2.5					3.88	00200 [1]			8.29	00200				
0.25		19	3.0					3.74	00250 [1]			17.71	00250				
0.30		19	3.0					2.62	00300 [1]			9.28	00300				
0.35		19	4.0					2.62	00350 [1]			5.84	00350				
0.40		20	5.0					2.22	00400 [1]			4.84	00400				
0.45		20	5.0					2.37	00450 [1]			5.14	00450				
0.50		22	6.0					1.94	00500 [1]			3.71	00500				
0.55		24	7.0					2.78	00550 [1]			9.01	00550				
0.60		24	7.0					1.82	00600 [1]			3.98	00600				
0.65		26	8.0					2.62	00650 [1]			6.28	00650				
0.70		28	9.0					1.67	00700 [1]			3.58	00700				
0.75		28	9.0					1.94	00750 [1]			3.85	00750				
0.80		30	10.0					1.67	00800 [1]			3.29	00800				
0.85		30	10.0					1.82	00850 [1]			3.71	00850				
0.90		32	11.0			4.16	009	1.67	00900 [1]			2.98	00900				
0.95		32	11.0					1.82	00950 [1]			3.71	00950				
1.00		34	12.0	5.98	010 [2]	4.16	010	1.54	01000 [1]	3.98	010	3.29	01000	3.41	010 [1]	7.26	010
1.05		34	12.0					1.67	01050 [1]			3.58	01050				
1.10		36	14.0	6.48	011 [2]	4.16	011	1.54	01100 [1]	3.98	011	2.92	01100	3.71	011 [1]	7.85	011
1.15		36	14.0					1.67	01150 [1]			3.29	01150				
1.20		38	16.0	6.36	012 [2]	4.71	012	1.54	01200 [1]	4.42	012	2.92	01200	3.71	012 [1]	7.85	012
1.25		38	16.0			4.43	125	1.67	01250 [1]			3.29	01250				
1.30		38	16.0	6.48	013 [2]	4.43	013	1.54	01300 [1]	4.38	013	2.92	01300	3.58	013 [1]	7.70	013
1.35		40	18.0					1.67	01350 [1]			3.29	01350				
1.40		40	18.0	6.55	014 [2]	4.16	014	1.54	01400 [1]	3.98	014	2.92	01400	3.71	014 [1]	7.85	014
1.45		40	18.0			4.16	145	1.54	01450 [1]			3.29	01450			10.25	901
1.50		40	18.0	6.17	015 [2]	3.88	015	1.38	01500 [1]	3.71	015	2.92	01500	3.41	015 [1]	7.26	015
1.55		43	20.0			4.16	155	1.54	01550 [1]			3.29	01550			12.04	902
1.60		43	20.0	6.17	016 [2]	4.16	016	1.27	01600 [1]	3.98	016	2.55	01600	3.41	016 [1]	7.26	016
1.65		43	20.0			4.29	165	1.54	01650 [1]			3.29	01650			12.22	903
1.70		43	20.0	6.62	017 [2]	4.29	017	1.27	01700 [1]	4.14	017	2.74	01700	3.41	017 [1]	7.26	017
1.75		46	22.0					1.54	01750 [1]			3.29	01750				
1.80		46	22.0	6.55	018 [2]	4.16	018	1.27	01800 [1]	3.98	018	2.74	01800	3.41	018 [1]	7.26	018
1.85		46	22.0					1.38	01850 [1]			3.29	01850			8.40	904
1.90		46	22.0	6.55	019 [2]	4.29	019	1.27	01900 [1]	4.14	019	2.74	01900	3.41	019 [1]	7.26	019
1.95		49	24.0					1.38	01950 [1]			2.98	01950				
2.00		49	24.0	6.36	020 [2]	3.85	020	0.97	02000 [1]	3.41	020	2.15	02000	2.98	020 [1]	6.42	020
2.05		49	24.0					1.38	02050 [1]			2.92	02050			8.98	905
2.10		49	24.0	6.62	021 [2]	4.71	021	1.27	02100 [1]	4.42	021	2.55	02100	3.41	021 [1]	6.84	021
2.15		53	27.0					1.38	02150 [1]			2.92	02150				
2.20		53	27.0	6.96	022 [2]	4.71	022	1.27	02200 [1]	4.42	022	2.55	02200	3.41	022 [1]	6.84	022
2.25		53	27.0					1.38	02250 [1]			2.92	02250				
2.30		53	27.0	6.74	023 [2]	4.71	023	1.27	02300 [1]	4.42	023	2.55	02300	3.41	023 [1]	6.84	023
2.35		53	27.0					1.82	02350 [1]			3.41	02350				
2.38	3/32	57	30.0	6.74	238 [2]	4.71	238										
2.40		57	30.0	6.36	024 [2]	4.71	024	1.27	02400	4.42	024	2.55	02400	3.41	024	6.84	024

Steel	●	●	●	○		●	●
Stainless steel	○	●		●		○	○
Cast iron	●	●	●	○		○	○
Non ferrous metals	○	●	○	○	●	○	○
Heat resistant alloys	○	○		○			
Hardened materials		○					

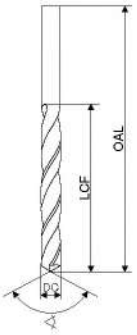
1) uncoated
2) self-centering

→ v_c Page 48+49

Continued on next page

Twist drill to DIN 338, short

≤ 5xD



UNI	UNI	N	VA	W	WTL	WTL
TiN	TiN	vap.			F.-nit	TiN

	130°	118°	118°	130°	130°	130°	130°
	HSS-E-PM	HSS-E	HSS	HSS-E	HSS	HSS-E	HSS-E
	T2	T2	T2	T2	T2	T2	T2
DC_{h8}	Article no. 10 173 ...	Article no. 10 171 ...	Article no. 10 152 ...	Article no. 10 175 ...	Article no. 10 161 ...	Article no. 10 168 ...	Article no. 10 170 ...

DC mm	DC inch	OAL mm	LCF mm	10 173 ... £		10 171 ... £		10 152 ... £		10 175 ... £		10 161 ... £		10 168 ... £		10 170 ... £	
2.45		57	30.0					1.67	02450			3.41	02450				
2.50		57	30.0	6.48	025 2)	3.98	025	1.27	02500	3.71	025	2.29	02500	2.98	025	6.57	025
2.55		57	30.0			4.71	255	1.82	02550			3.98	02550				
2.60		57	30.0	6.74	026 2)	4.71	026	1.27	02600	4.57	026	2.74	02600	3.41	026	6.84	026
2.65		57	30.0					1.94	02650			3.98	02650				
2.70		61	33.0	7.16	027 2)	4.71	027	1.27	02700	4.57	027	2.74	02700	3.58	027	7.56	027
2.75		61	33.0					1.67	02750			3.85	02750				
2.78	7/64	61	33.0	8.74	278 2)	5.56	278										
2.80		61	33.0	7.00	028 2)	4.71	028	1.27	02800	4.57	028	2.98	02800	3.58	028	7.70	028
2.85		61	33.0					1.82	02850			4.71	02850				
2.90		61	33.0	7.16	029 2)	4.84	029	1.27	02900	4.57	029	2.98	02900	3.58	029	7.70	029
2.95		61	33.0					1.67	02950			3.98	02950				
3.00		61	33.0	6.81	030 2)	3.98	030	1.12	03000	3.71	030	2.44	03000	3.29	030	6.84	030
3.05		65	36.0					1.54	03050			3.41	03050				
3.10		65	36.0	7.57	031 2)	4.84	031	1.38	03100	4.71	031	2.98	03100	3.58	031	7.56	031
3.15		65	36.0					1.54	03150			3.41	03150				
3.17	1/8	65	36.0	7.54	317 2)	4.57	317										
3.20		65	36.0	7.46	032 2)	4.38	032	1.38	03200	3.98	032	2.74	03200	3.71	032	7.85	032
3.25		65	36.0			4.99	325	1.54	03250			4.99	03250				
3.30		65	36.0	7.57	033 2)	4.38	033	1.38	03300	3.98	033	2.74	03300	3.71	033	7.99	033
3.35		65	36.0					1.67	03350			3.41	03350				
3.40		70	39.0	8.09	034 2)	5.12	034	1.38	03400	4.84	034	2.98	03400	4.14	034	8.85	034
3.45		70	39.0					1.67	03450			3.71	03450				
3.50		70	39.0	8.22	035 2)	4.38	035	1.27	03500	3.98	035	2.92	03500	3.58	035	7.56	035
3.55		70	39.0					1.67	03550			3.71	03550				
3.57	9/64	70	39.0	8.22	357 2)	5.26	357										
3.60		70	39.0	8.29	036 2)	5.26	036	1.54	03600	5.14	036	2.98	03600	4.14	036	8.68	036
3.65		70	39.0					1.67	03650			3.58	03650				
3.70		70	39.0	8.29	037 2)	5.26	037	1.54	03700	5.14	037	3.29	03700	4.14	037	8.85	037
3.75		70	39.0					1.67	03750			3.85	03750				
3.80		75	43.0	8.78	038 2)	5.56	038	1.54	03800	5.14	038	3.41	03800	4.42	038	9.74	038
3.85		75	43.0					1.82	03850			3.85	03850				
3.90		75	43.0	8.98	039 2)	5.82	039	1.67	03900	5.27	039	3.41	03900	4.71	039	10.18	039
3.95		75	43.0					1.82	03950			3.85	03950				
3.97	5/32	75	43.0	9.12	397 2)	6.10	397										
4.00		75	43.0	8.60	040 2)	4.57	040	1.27	04000	4.38	040	2.92	04000	3.85	040	8.29	040
4.05		75	43.0					1.94	04050			4.84	04050				
4.10		75	43.0	8.78	041 2)	5.53	041	1.67	04100	5.27	041	3.41	04100	4.71	041	10.18	041
4.15		75	43.0					1.94	04150			4.84	04150				
4.20		75	43.0	8.78	042 2)	5.53	042	1.54	04200	5.43	042	2.98	04200	4.38	042	9.42	042
4.25		75	43.0			5.84	425	1.94	04250			4.84	04250				
4.30		80	47.0	9.35	043 2)	5.82	043	1.67	04300	5.43	043	4.14	04300	4.84	043	10.54	043
4.35		80	47.0					2.50	04350			5.84	04350				
4.37	11/64	80	47.0	9.46	437 2)	6.23	437										
4.40		80	47.0	9.35	044 2)	5.84	044	1.67	04400	5.56	044	4.14	04400	4.84	044	10.54	044
4.45		80	47.0					2.50	04450								

Steel	●	●	●	○		●	●
Stainless steel	○	●		●		○	○
Cast iron	●	●	●	○		○	○
Non ferrous metals	○	●	○	○	●	○	○
Heat resistant alloys	○	○		○			
Hardened materials		○					

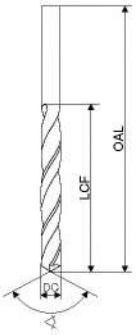
1) uncoated
2) self-centering

→ v_c Page 48+49

Continued on next page

Twist drill to DIN 338, short

≤ 5xD



UNI	UNI	N	VA	W	WTL	WTL
TiN	TiN	vap.			F.-nit	TiN

∢ 130°	∢ 118°	∢ 118°	∢ 130°	∢ 130°	∢ 130°	∢ 130°
HSS-E-PM	HSS-E	HSS	HSS-E	HSS	HSS-E	HSS-E
T2	T2	T2	T2	T2	T2	T2

DC_{h8}	DC	OAL	LCF	Article no. 10 173 ...		Article no. 10 171 ...		Article no. 10 152 ...		Article no. 10 175 ...		Article no. 10 161 ...		Article no. 10 168 ...		Article no. 10 170 ...	
mm	inch	mm	mm	£		£		£		£		£		£		£	
4.50		80	47.0	9.12	045 2)	5.82	045	1.67	04500	5.43	045	3.71	04500	4.57	045	9.42	045
4.55		80	47.0					2.50	04550			7.26	04550				
4.60		80	47.0	9.66	046 2)	6.23	046	1.67	04600	5.82	046	4.14	04600	5.14	046	11.12	046
4.65		80	47.0			6.37	465	2.50	04650			7.26	04650				
4.70		80	47.0	11.69	047 2)	6.42	047	1.67	04700	5.84	047	4.14	04700	5.14	047	11.12	047
4.75		80	47.0					3.32	04750			5.82	04750				
4.76	3/16	86	52.0	9.88	476 2)	6.37	476										
4.80		86	52.0	9.88	048 2)	6.23	048	1.82	04800	5.84	048	4.14	04800	5.14	048	11.12	048
4.85		86	52.0					4.29	04850			7.26	04850				
4.90		86	52.0	10.04	049 2)	6.37	049	1.82	04900	6.02	049	4.14	04900	5.27	049	11.26	049
4.95		86	52.0			6.37	495	2.78	04950			7.26	04950				
5.00		86	52.0	10.11	050 2)	5.56	050	1.54	05000	5.14	050	3.98	05000	4.71	050	10.12	050
5.05		86	52.0			6.37	505	2.92	05050			8.40	05050				
5.10		86	52.0	10.11	051 2)	6.37	051	3.32	05100	6.02	051	4.38	05100	5.27	051	11.26	051
5.15		86	52.0					2.92	05150								
5.16	13/64	86	52.0	11.02	516 2)	6.98	516										
5.20		86	52.0	10.41	052 2)	6.84	052	1.94	05200	6.28	052	4.42	05200	5.43	052	12.22	052
5.25		86	52.0					2.92	05250			9.84	05250				
5.30		86	52.0	11.02	053 2)	6.84	053	1.94	05300	6.28	053	4.42	05300	5.43	053	12.22	053
5.35		93	57.0					3.49	05350								
5.40		93	57.0	13.52	054 2)	7.43	054	2.22	05400	6.84	054	4.71	05400	5.84	054	12.70	054
5.45		93	57.0					6.37	05450			5.84	05450				
5.50		93	57.0	11.65	055 2)	7.61	055	2.10	05500	7.26	055	4.42	05500	5.43	055	11.85	055
5.55		93	57.0			8.68	555	3.60	05550			5.84	05550				
5.56	7/32	93	57.0	13.70	556 2)	8.68	556										
5.60		93	57.0	12.41	056 2)	7.56	056	2.22	05600	6.98	056	5.14	05600	6.02	056	13.11	056
5.65		93	57.0					3.74	05650			7.99	05650				
5.70		93	57.0	12.26	057 2)	7.56	057	2.22	05700	6.98	057	5.14	05700	6.02	057	13.11	057
5.75		93	57.0			7.56	575	4.29	05750			7.85	05750				
5.80		93	57.0	12.26	058 2)	7.56	058	2.22	05800	6.98	058	5.14	05800	6.02	058	13.26	058
5.85		93	57.0					3.74	05850			9.42	05850				
5.90		93	57.0	13.02	059 2)	7.56	059	2.37	05900	6.98	059	5.14	05900	6.57	059	14.11	059
5.95	15/64	93	57.0	15.94	595 2)	9.68	595	2.37	05950			5.14	05950				
6.00		93	57.0	11.78	060 2)	7.43	060	2.10	06000	6.84	060	5.14	06000	6.02	060	13.96	060
6.05		101	63.0					4.02	06050			11.26	06050				
6.10		101	63.0	13.32	061 2)	8.40	061	2.50	06100	7.85	061	5.14	06100	6.57	061	14.52	061
6.15		101	63.0					4.02	06150			8.40	06150				
6.20		101	63.0	13.13	062 2)	8.40	062	2.50	06200	7.85	062	5.14	06200	6.84	062	14.70	062
6.25		101	63.0					4.02	06250			8.88	06250				
6.30		101	63.0	14.50	063 2)	8.40	063	2.50	06300	7.85	063	5.43	06300	7.56	063	15.80	063
6.35	1/4	101	63.0	15.34	635 2)	8.98	635	2.62	06350			5.27	06350				
6.40		101	63.0	15.37	064 2)	8.98	064	2.62	06400	8.40	064	5.43	06400	7.56	064	15.98	064
6.45		101	63.0					4.43	06450								
6.50		101	63.0	14.15	065 2)	8.29	065	2.50	06500	7.70	065	5.27	06500	6.84	065	14.52	065
6.55		101	63.0					4.71	06550			11.68	06550				
6.60		101	63.0	15.56	066 2)	8.98	066	2.62	06600	8.40	066	6.28	06600	7.70	066	16.99	066

Steel	●	●	●	○		●	●
Stainless steel	○	●		●		○	○
Cast iron	●	●	●	○		○	○
Non ferrous metals	○	●	○	○	●	○	○
Heat resistant alloys	○	○		○			
Hardened materials		○					

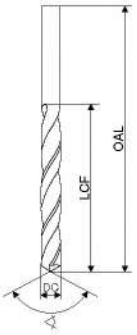
1) uncoated
2) self-centering

→ v_c Page 48+49

Continued on next page

Twist drill to DIN 338, short

≤ 5xD



	UNI	UNI	N	VA	W	WTL	WTL
	TiN	TiN	vap.			F.-nit	TiN
							
	◁ 130°	◁ 118°	◁ 118°	◁ 130°	◁ 130°	◁ 130°	◁ 130°
	HSS-E-PM	HSS-E	HSS	HSS-E	HSS	HSS-E	HSS-E
	T2	T2	T2	T2	T2	T2	T2

DC_{h8}	DC	OAL	LCF	Article no. 10 173 ...		Article no. 10 171 ...		Article no. 10 152 ...		Article no. 10 175 ...		Article no. 10 161 ...		Article no. 10 168 ...		Article no. 10 170 ...	
mm	inch	mm	mm	£		£		£		£		£		£		£	
6.65		101	63.0					8.43	06650			16.48	06650				
6.70		101	63.0	15.52	067 2)	8.98	067	2.78	06700	8.40	067	6.42	06700	7.70	067	16.99	067
6.75		109	69.0	20.96	675 2)	12.31	675	3.32	06750			9.84	06750				
6.80		109	69.0	15.94	068 2)	10.18	068	3.32	06800	9.28	068	6.84	06800	7.99	068	17.44	068
6.85		109	69.0					5.12	06850			17.02	06850				
6.90		109	69.0	16.27	069 2)	10.18	069	3.32	06900	9.28	069	6.84	06900	8.40	069	17.80	069
6.95		109	69.0					5.26	06950			17.02	06950				
7.00		109	69.0	15.94	070 2)	8.68	070	2.92	07000	7.99	070	6.02	07000	7.26	070	15.55	070
7.05		109	69.0					5.69	07050			9.74	07050				
7.10		109	69.0	18.36	071 2)	11.55	071	3.32	07100	10.83	071	8.27	07100	11.19	071	24.27	071
7.14	9/32	109	69.0	27.47	714 2)	17.25	714										
7.15		109	69.0					9.84	07150								
7.20		109	69.0	18.32	072 2)	11.55	072	3.49	07200	10.83	072	8.27	07200	11.19	072	24.66	072
7.25		109	69.0					9.42	07250			19.93	07250				
7.30		109	69.0	18.97	073 2)	11.55	073	3.49	07300	10.83	073	8.27	07300	11.19	073	24.27	073
7.35		109	69.0					5.69	07350								
7.40		109	69.0	18.54	074 2)	11.55	074	3.60	07400	10.83	074	8.27	07400	11.19	074	24.27	074
7.45		109	69.0			9.28	745	5.53	07450								
7.50		109	69.0	16.88	075 2)	9.28	075	3.32	07500	8.72	075	6.98	07500	8.29	075	17.80	075
7.55		117	75.0					6.51	07550								
7.60		117	75.0	20.48	076 2)	13.56	076	3.88	07600	13.11	076	9.16	07600	12.22	076	26.74	076
7.65		117	75.0					6.51	07650								
7.70		117	75.0	23.32	077 2)	13.96	077	3.88	07700	13.11	077	9.16	07700	12.22	077	26.74	077
7.75		117	75.0					5.82	07750			15.80	07750				
7.80		117	75.0	20.03	078 2)	13.56	078	3.88	07800	13.11	078	9.16	07800	12.22	078	26.74	078
7.85		117	75.0					6.51	07850								
7.90		117	75.0	23.96	079 2)	13.96	079	3.88	07900	13.11	079	10.54	07900	12.22	079	26.74	079
7.94	5/16	117	75.0	21.47	794 2)	13.56	794										
7.95		117	75.0					6.78	07950								
8.00		117	75.0	19.04	080 2)	11.26	080	3.32	08000	10.42	080	7.70	08000	9.28	080	20.39	080
8.05		117	75.0					6.93	08050			20.20	08050				
8.10		117	75.0	20.86	081 2)	13.56	081	4.02	08100	13.11	081	10.83	08100	12.70	081	28.61	081
8.15		117	75.0					7.07	08150			20.20	08150				
8.20		117	75.0	20.48	082 2)	14.52	082	4.02	08200	14.10	082	11.26	08200	13.26	082	29.22	082
8.25		117	75.0					4.84	08250			16.39	08250				
8.30		117	75.0	22.75	083 2)	14.52	083	4.43	08300	14.10	083	11.85	08300	14.11	083	30.78	083
8.35		117	75.0					7.61	08350								
8.40		117	75.0	22.91	084 2)	15.23	084	4.43	08400	14.52	084	11.85	08400	14.11	084	30.78	084
8.45		117	75.0					7.76	08450			27.54	08450				
8.50		117	75.0	19.60	085 2)	11.12	085	4.29	08500	10.28	085	8.88	08500	10.54	085	23.25	085
8.55		125	81.0					9.01	08550			19.91	08550				
8.60		125	81.0			24.86	086	4.84	08600	15.56	086	11.85	08600	15.99	086	34.58	086
8.65		125	81.0					16.06	08650								
8.70		125	81.0			24.86	087	4.84	08700	15.56	087	13.11	08700	15.80	087	35.32	087
8.73	11/32	125	81.0	21.24	873 2)	16.33	873										
8.75		125	81.0					8.02	08750			18.96	08750				

Steel	●	●	●	○		●	●
Stainless steel	○	●		●		○	○
Cast iron	●	●	●	○		○	○
Non ferrous metals	○	●	○	○	●	○	○
Heat resistant alloys	○	○		○			
Hardened materials		○					

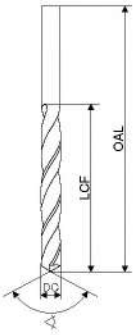
1) uncoated
2) self-centering

→ v_c Page 48+49

Continued on next page

Twist drill to DIN 338, short

≤ 5xD



UNI	UNI	N	VA	W	WTL	WTL
TiN	TiN	vap.			F.-nit	TiN

∢ 130°	∢ 118°	∢ 118°	∢ 130°	∢ 130°	∢ 130°	∢ 130°
HSS-E-PM	HSS-E	HSS	HSS-E	HSS	HSS-E	HSS-E
T2	T2	T2	T2	T2	T2	T2

DC_{h8}	DC	OAL	LCF	Article no. 10 173 ...		Article no. 10 171 ...		Article no. 10 152 ...		Article no. 10 175 ...		Article no. 10 161 ...		Article no. 10 168 ...		Article no. 10 170 ...	
mm	inch	mm	mm	£		£		£		£		£		£		£	
8.80		125	81.0	22.91	088 2)	17.30	088	4.99	08800	16.54	088	13.11	08800	15.80	088	35.32	088
8.90		125	81.0			21.36	089	5.12	08900	17.38	089	13.26	08900	15.98	089	35.90	089
8.95		125	81.0					16.74	08950								
9.00		125	81.0	21.57	090 2)	13.98	090	4.57	09000	13.66	090	9.74	09000	12.26	090	26.51	090
9.05		125	81.0					9.42	09050								
9.10		125	81.0			23.23	091	5.12	09100	18.39	091	14.70	09100	17.44	091	37.36	091
9.15		125	81.0					16.74	09150								
9.20		125	81.0			23.84	092	5.12	09200	19.39	092	14.70	09200	18.39	092	40.20	092
9.25		125	81.0					12.19	09250			22.97	09250				
9.30		125	81.0	24.90	093 2)	21.17	093	5.12	09300	20.50	093	14.70	09300	18.39	093	40.39	093
9.35		125	81.0			16.48	935	18.13	09350								
9.40		125	81.0			26.16	094	5.12	09400	21.95	094	14.70	09400	18.39	094	40.39	094
9.45		125	81.0					10.11	09450								
9.50		125	81.0	22.68	095 2)	16.48	095	5.12	09500	15.80	095	11.12	09500	13.11	095	28.38	095
9.55		133	87.0					11.34	09550								
9.60		133	87.0			23.66	096	5.69	09600	22.80	096	16.99	09600	19.24	096	43.16	096
9.65		133	87.0					11.34	09650								
9.70		133	87.0			27.79	097	5.69	09700	22.80	097	17.30	09700	21.36	097	46.18	097
9.75		133	87.0					7.47	09750								
9.80		133	87.0	27.02	098 2)	23.66	098	6.37	09800	22.80	098	17.30	09800	21.36	098	46.18	098
9.85		133	87.0					11.09	09850								
9.90		133	87.0			21.78	099	6.37	09900	22.80	099	17.59	09900	21.36	099	46.18	099
9.95		133	87.0					12.32	09950								
10.00		133	87.0	25.63	100 2)	16.57	100	5.41	10000	14.97	100	11.68	10000	14.70	100	33.13	100
10.05		133	87.0					15.64	10050			29.94	10050				
10.10		133	87.0			21.39	101	6.78	10100	25.71	101	17.89	10100	33.40	101	73.09	101
10.15		133	87.0					28.09	10150								
10.20		133	87.0	29.59	102 2)	22.41	102	6.93	10200	21.95	102	17.89	10200	20.39	102	44.75	102
10.25		133	87.0					9.28	10250			20.20	10250				
10.30		133	87.0			18.68	103	8.30	10300	33.64	103	17.89	10300	26.93	103	59.72	103
10.35		133	87.0					15.64	10350								
10.40		133	87.0			23.13	104	8.30	10400	33.64	104	17.89	10400	29.22	104	63.50	104
10.45		133	87.0					28.09	10450								
10.50		133	87.0	29.79	105 2)	23.25	105	7.07	10500	22.25	105	14.39	10500	19.05	105	41.70	105
10.55		133	87.0			25.48	955	19.93	10550								
10.60		133	87.0					8.72	10600	60.32	106	25.72	10600	29.22	106		
10.70		142	94.0					10.11	10700	44.05	107	29.48	10700	29.22	107	63.50	107
10.75		142	94.0					11.09	10750			33.91	10750				
10.80		142	94.0					9.84	10800	45.48	108	30.72	10800	27.38	108	61.02	108
10.90		142	94.0					10.38	10900	45.48	109	30.72	10900	35.32	109		
11.00		142	94.0	30.77	110 2)	25.48	110	8.02	11000	24.70	110	17.30	11000	23.25	110	48.74	110
11.10		142	94.0					10.38	11100	47.66	111	21.36	11100	33.64	111		
11.11	7/16	142	94.0	38.57	111 2)	49.13	111										
11.20		142	94.0			49.13	112	10.11	11200	47.66	112	27.04	11200	37.36	112	84.41	112
11.30		142	94.0			49.39	113			47.94	113			37.36	113		
11.40		142	94.0			49.39	114	10.67	11400	47.94	114	43.17	11400	37.36	114		

Steel	●	●	●	○		●	●
Stainless steel	○	●		●		○	○
Cast iron	●	●	●	○		○	○
Non ferrous metals	○	●	○	○	●	○	○
Heat resistant alloys	○	○		○			
Hardened materials		○					

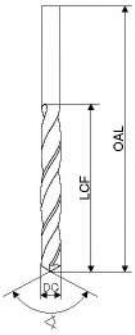
1) uncoated
2) self-centering

→ v_c Page 48+49

Continued on next page

Twist drill to DIN 338, short

≤ 5xD



	UNI	UNI	N	VA	W	WTL	WTL
	TiN	TiN	vap.			F.-nit	TiN
							
	◁ 130°	◁ 118°	◁ 118°	◁ 130°	◁ 130°	◁ 130°	◁ 130°
	HSS-E-PM	HSS-E	HSS	HSS-E	HSS	HSS-E	HSS-E
	T2	T2	T2	T2	T2	T2	T2

DC_{h8}	DC	OAL	LCF	Article no. 10 173 ...		Article no. 10 171 ...		Article no. 10 152 ...		Article no. 10 175 ...		Article no. 10 161 ...		Article no. 10 168 ...		Article no. 10 170 ...	
mm	inch	mm	mm	£		£		£		£		£		£		£	
11.50		142	94.0	34.14	115 2)	32.52	115	8.72	11500	31.55	115	19.24	11500	26.51	115	59.26	115
11.60		142	94.0			56.59	116	10.67	11600	54.78	116	29.94	11600	37.36	116		
11.70		142	94.0					11.09	11700	54.78	117	29.94	11700	37.36	117	84.41	117
11.80		142	94.0					11.21	11800	54.78	118	29.94	11800	40.39	118	88.77	118
11.90		151	101.0					12.32	11900	54.78	119	29.94	11900				
12.00		151	101.0	36.48	120 2)	36.26	120	9.84	12000	34.51	120	21.07	12000	28.38	120	61.58	120
12.15		151	101.0			37.22	121										
12.20		151	101.0					13.03	12200			35.75	12200				
12.25		151	101.0					14.28	12250								
12.30		151	101.0	65.48	123 2)	38.48	123										
12.50		151	101.0	37.96	125 2)	37.22	925	10.93	12500			21.07	12500	34.93	125	78.01	125
12.70		151	101.0	49.58	127 2)	29.19	127	12.19	12700			20.50	12700				
12.80		151	101.0					14.52	12800			37.64	12800	61.60	128	133.80	128
13.00		151	101.0	40.34	130 2)	39.70	130	12.04	13000			24.99	13000	34.93	130	77.44	130
13.10		151	101.0			50.22	131										
13.20		151	101.0					15.64	13200			45.76	13200				
13.30		160	108.0			50.22	133										
13.50		160	108.0	71.72	135 2)	50.22	135	13.85	13500			30.95	13500	46.89	135	104.31	135
13.80		160	108.0					19.93	13800			57.54	13800	54.34	138	118.53	138
14.00		160	108.0	48.87	140 2)	48.15	140	15.36	14000			29.65	14000	42.73	140	92.70	140
14.50		169	114.0					16.48	14500			39.23	14500	52.30	145	111.43	145
14.80		169	114.0											108.90	148	237.13	148
15.00		169	114.0					17.71	15000			35.17	15000	52.58	150	117.24	150
15.25		178	120.0					33.08	15250								
15.50		178	120.0					19.38	15500			49.54	15500	78.15	155	234.64	155
15.80		178	120.0					31.82	15800								
16.00		178	120.0					20.90	16000			46.94	16000	65.96	160	143.97	160
16.50		184	125.0					23.80	16500			78.15	16500				
17.00		184	125.0					25.20	17000			79.62	17000				
17.50		191	130.0					27.54	17500			156.88	17500				
18.00		191	130.0					29.33	18000			85.84	18000				
18.50		198	135.0					31.82	18500								
19.00		198	135.0					34.18	19000			97.93	19000				
19.50		205	140.0					36.26	19500								
20.00		205	140.0					39.70	20000			121.30	20000				

Steel	●	●	●	○		●	●
Stainless steel	○	●		●		○	○
Cast iron	●	●	●	○		○	○
Non ferrous metals	○	●	○	○	●	○	○
Heat resistant alloys	○	○		○			
Hardened materials		○					

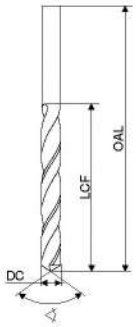
1) uncoated
2) self-centering

→ v_c Page 48+49

Twist drill to DIN 338, short

▲ Article no. 10 169 ... WTL-L – left-hand cutting drill

≤ 5xD



WTL
TiCN

130°
HSS-E

WTL-L
F.-nit

130°
HSS

DC_{h8}	OAL	LCF	T2 Article no. 10 172 ...		T2 Article no. 10 169 ...	
mm	mm	mm	£		£	
1.0	34	12			5.27	010 1)
1.3	38	16			5.43	013 1)
1.4	40	18			5.43	014 1)
1.5	40	18			4.38	015 1)
1.6	43	20			4.57	016 1)
1.7	43	20			4.57	017 1)
1.8	46	22			4.71	018 1)
1.9	46	22			4.71	019 1)
2.0	49	24			3.71	020 1)
2.1	49	24			4.42	021 1)
2.2	53	27			4.84	022 1)
2.3	53	27			4.57	023 1)
2.4	57	30			4.57	024
2.5	57	30			4.14	025
2.6	57	30			4.71	026
2.7	61	33			4.71	027
2.8	61	33			4.84	028
2.9	61	33			4.84	029
3.0	61	33	8.98	030	4.42	030
3.1	65	36	9.74	031	5.27	031
3.2	65	36	10.12	032	4.84	032
3.3	65	36	10.83	033	5.14	033
3.4	70	39	11.85	034	5.56	034
3.5	70	39	9.74	035	4.71	035
3.6	70	39	11.26	036	5.84	036
3.7	70	39	11.85	037	6.02	037
3.8	75	43	12.52	038	6.42	038
3.9	75	43	13.11	039	6.84	039
4.0	75	43	10.83	040	5.14	040
4.1	75	43	13.11	041	6.84	041
4.2	75	43	12.26	042	6.28	042
4.3	80	47	13.68	043	7.85	043
4.4	80	47	13.68	044	8.29	044
4.5	80	47	12.52	045	6.57	045
4.6	80	47	14.39	046	8.40	046
4.7	80	47	14.39	047	8.40	047
4.8	86	52	14.39	048	8.40	048
4.9	86	52	14.53	049	8.72	049
5.0	86	52	13.26	050	6.28	050
5.1	86	52	14.53	051	8.72	051
5.2	86	52	15.55	052	9.42	052
5.3	86	52	15.55	053	9.42	053
5.4	93	57	16.54	054	10.18	054
5.5	93	57	15.38	055	7.85	055
5.6	93	57	16.99	056	10.54	056
5.7	93	57	16.99	057	10.54	057
5.8	93	57	17.44	058	10.54	058
5.9	93	57	18.39	059	10.54	059
6.0	93	57	17.44	060	7.85	060
6.1	101	63	19.05	061	11.26	061
6.2	101	63	19.24	062	12.52	062
6.3	101	63	21.36	063	12.52	063
6.4	101	63	21.95	064	12.52	064
6.5	101	63	19.05	065	9.42	065
6.6	101	63	22.11	066	13.66	066
6.7	101	63	22.11	067	13.66	067
6.8	109	69	22.80	068	14.39	068
6.9	109	69	24.27	069	14.70	069
7.0	109	69	20.39	070	11.19	070
7.1	109	69	30.78	071	20.39	071
7.2	109	69	30.78	072	20.39	072
7.3	109	69			20.39	073
7.4	109	69	30.78	074	20.39	074
7.5	109	69	23.54	075	12.70	075
7.7	117	75	34.58	077	21.81	077
7.8	117	75	34.58	078	21.81	078
7.9	117	75			21.81	079
8.0	117	75	26.74	080	12.26	080
8.1	117	75	35.92	081	22.11	081
8.2	117	75	37.36	082	22.11	082
8.3	117	75			22.11	083
8.4	117	75	40.20	084	22.11	084
8.5	117	75	29.35	085	15.38	085
8.6	125	81	45.18	086	24.51	086
8.7	125	81	44.90	087	24.51	087
8.8	125	81	44.90	088	24.51	088
8.9	125	81	47.08	089	24.51	089
9.0	125	81	34.87	090	15.56	090
9.2	125	81			25.71	092
9.3	125	81			25.71	093
9.5	125	81	37.78	095	19.66	095
9.8	133	87			26.93	098
9.9	133	87			28.38	099
10.0	133	87	42.60	100	17.44	100
10.1	133	87			28.38	101
10.2	133	87	56.45	102	29.51	102
10.3	133	87			29.22	103
10.4	133	87			30.22	104
10.5	133	87	54.34	105	41.24	105
11.0	142	94	77.44	110	29.35	110
11.5	142	94	77.44	115	45.67	115
12.0	151	101	82.21	120	33.64	120
12.2	151	101			53.03	122
12.5	151	101			35.92	125
13.0	151	101			37.78	130
14.0	160	108			43.05	140
14.5	169	114			47.66	145
15.0	169	114			73.05	150
16.0	178	120			59.26	160

Steel	●	●
Stainless steel	○	
Cast iron		○
Non ferrous metals		○
Heat resistant alloys		

1) uncoated

→ v_c Page 49

Twist drill sets DIN 338, short

▲ in metal box
▲ in 0.1 mm steps

≤ 5xD

	N	UNI
	vap.	TiN
		
	Drill set type N HSS	Drill set type UNI TiN HSS-E
	T2	T2
$d_{1\ h8}$	Article no. 10 158 ...	Article no. 10 158 ...
mm	£	£
1,0 - 5,9	72.77 050	276.00 054
6,0 - 10,0	151.16 100	432.16 104
Steel	●	●
Stainless steel		●
Cast iron	●	●
Non ferrous metals		●
Heat resistant alloys		○

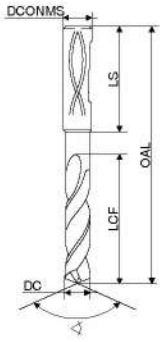
→ v_c Page 48

Set of type N vap. contains the drills of Art. No. 10 152 ...
Set of type UNI TiN contains the drills of Art. No. 10 171 ...

Twist drill with thro' coolant ~ DIN 338, short

- relief ground
- special point thinning
- wide chip flutes
- rounded flute edges
- for long chipping materials up to 1000 N/mm²

≤ 5xD



WNXi

E

130°

HSS-E

WNXi
TiN

E

130°

HSS-E

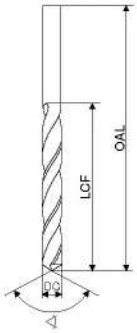
DC h8	OAL	LCF	DCONMS h6	LS	T2 Article no. 10 180 ...		T2 Article no. 10 181 ...	
mm	mm	mm	mm	mm	£		£	
5.0	82	44	6	38	58.69	050	87.16	050
5.5	82	44	6	38	102.39	055	88.50	055
6.0	82	44	6	38	57.68	060	83.67	060
6.5	91	53	8	38	61.14	065	92.11	065
6.8	91	53	8	38	63.34	068	94.13	068
7.0	91	53	8	38	65.10	070	93.57	070
7.5	91	53	8	38	109.71	075	95.00	075
7.8	91	53	8	38	65.10	078	96.91	078
8.0	91	53	8	38	61.47	080	91.24	080
8.5	103	61	10	42	67.70	085	100.40	085
9.0	103	61	10	42	68.29	090	100.06	090
9.5	103	61	10	42	68.28	095	103.29	095
10.0	103	61	10	42	66.24	100	98.49	100
10.2	118	71	12	47	73.40	102	110.98	102
10.5	118	71	12	47	73.40	105	111.72	105
11.0	118	71	12	47	132.53	110	113.88	110
11.5	118	71	12	47	79.32	115	117.39	115
12.0	118	71	12	47	71.55	120	107.67	120
12.5	124	77	14	47	87.66	125	135.68	125
13.0	124	77	14	47	90.67	130	137.72	130
13.5	124	77	14	47	92.70	135	139.75	135
14.0	124	77	14	47	87.31	140	132.78	140
14.5	133	83	16	50	107.96	145	163.73	145
15.0	133	83	16	50	107.16	150	166.50	150
15.5	133	83	16	50	111.85	155	169.97	155
16.0	133	83	16	50	105.91	160	162.25	160
16.5	143	93	18	50	132.35	165	196.55	165
17.0	143	93	18	50	134.23	170	203.55	170
17.5	143	93	18	50	138.29	175	210.50	175
18.0	143	93	18	50	130.31	180	193.07	180
18.5	153	101	20	52	156.88	185	235.20	185
19.0	153	101	20	52	158.62	190	238.68	190
19.5	153	101	20	52	278.64	195	242.16	195
20.0	153	101	20	52	153.55	200	231.72	200

Steel	●	●
Stainless steel	●	●
Cast iron	●	●
Non ferrous metals	○	○
Heat resistant alloys	○	○

→ v_c Page 49

Twist drills with coolant hole, factory standard, long

≤ 10xD



NC

130°

HSS

NC
TiAlN

130°

HSS

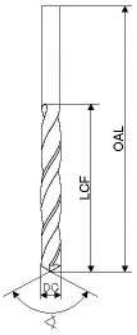
DC h8	OAL	LCF	T2 Article no. 10 223 ...		T2 Article no. 10 224 ...	
mm	mm	mm	£		£	
3.0	100	66	112.74	030	119.01	030
3.3	106	69	117.08	033	136.13	033
3.5	112	73	113.28	035	134.68	035
3.8	119	78			166.50	038
4.0	119	78	116.38	040	135.38	040
4.2	119	78	116.14	042	137.72	042
4.5	126	82	117.66	045	136.86	045
4.8	132	87			165.19	048
5.0	132	87	116.14	050	138.45	050
5.5	139	91	119.01	055	143.38	055
5.8	139	91			166.06	058
6.0	139	91	126.24	060	148.90	060
6.5	148	97	133.94	065	159.50	065
6.8	156	102	134.83	068	160.24	068
7.0	156	102	134.83	070	160.24	070
7.5	156	102	138.88	075	165.75	075
7.8	165	109			176.22	078
8.0	165	109	141.78	080	168.97	080
8.5	165	109	148.17	085	176.51	085
8.8	175	115			181.00	088
9.0	175	115	148.17	090	180.58	090
9.5	175	115	153.84	095	186.81	095
9.8	184	121			192.79	098
10.0	184	121	153.84	100	186.81	100
10.2	184	121	156.77	102	192.79	102
10.5	184	121	156.77	105	194.23	105
10.8	195	128			199.30	108
11.0	195	128	156.77	110	194.23	110
11.5	195	128	160.24	115	198.00	115
11.8	205	134			229.23	118
12.0	205	134	161.53	120	201.20	120
12.8	205	134			240.27	128
13.0	205	134	169.39	130	211.94	130

Steel	●	●
Stainless steel	○	○
Cast iron	●	●
Non ferrous metals	○	○
Heat resistant alloys	○	○

→ v_c Page 50

Twist drills, DIN 340, long

≤ 10xD



	UNI	WTL	WTL	WTL	WTW
	TiN	F-nit	F-nit	TiN	
					
	◁ 118°	◁ 130°	◁ 130°	◁ 130°	◁ 130°
	HSS-E	HSS-E	HSS	HSS	HSS
	T2	T2	T2	T2	T2
DC h8	Article no. 10 270 ...	Article no. 10 225 ...	Article no. 10 215 ...	Article no. 10 210 ...	Article no. 10 200 ...
mm	£	£	£	£	£

DC h8 mm	OAL mm	LCF mm	10 270 ... £		10 225 ... £		10 215 ... £		10 210 ... £		10 200 ... £	
1.0	56	33	7.53	010	8.29	010 1)	6.57	010 1)	14.52	010	6.02	010
1.1	60	37	8.41	011	10.12	011 1)	7.26	011 1)	16.99	011	6.57	011
1.2	65	41	9.39	012	9.74	012 1)	6.84	012 1)	14.52	012	6.02	012
1.3	65	41	9.25	013	9.42	013 1)	6.84	013 1)	15.12	013	5.82	013
1.4	70	45	9.14	014	8.98	014 1)	6.28	014 1)	13.68	014	5.43	014
1.5	70	45	7.95	015	7.85	015 1)	5.43	015 1)	11.85	015	5.43	015
1.6	76	50	9.39	016	8.68	016 1)	5.27	016 1)	11.62	016	5.00	016
1.7	76	50	10.26	017	8.72	017 1)	7.07	017 1)	11.62	017	4.84	017
1.8	80	53	9.79	018	8.72	018 1)	5.14	018 1)	11.12	018	4.84	018
1.9	80	53	10.47	019	7.99	019 1)	6.93	019 1)	11.19	019	4.84	019
2.0	85	56	7.77	020	6.28	020 1)	4.84	020 1)	10.42	020	4.14	020
2.1	85	56	8.97	021	7.56	021 1)	5.43	021 1)	12.22	021	4.84	021
2.2	90	59	9.14	022	7.70	022 1)	5.56	022 1)	12.26	022	4.84	022
2.3	90	59	8.97	023	7.70	023 1)	5.56	023 1)	12.67	023	4.84	023
2.4	95	62	8.30	024	7.85	024	5.82	024	12.70	024	4.84	024
2.5	95	62	7.95	025	6.57	025	5.00	025	11.19	025	4.38	025
2.6	95	62	9.14	026	7.85	026	5.82	026	12.70	026	4.84	026
2.7	100	66	9.67	027	11.21	027	5.84	027	13.08	027	4.84	027
2.8	100	66	9.25	028	7.99	028	5.84	028	13.08	028	4.84	028
2.9	100	66	9.67	029	7.99	029	5.84	029	13.11	029	4.84	029
3.0	100	66	8.57	030	6.84	030	5.14	030	11.12	030	4.57	030
3.1	106	69	10.26	031	8.29	031	6.84	031	14.70	031	6.02	031
3.2	106	69	9.50	032	7.99	032	5.82	032	12.67	032	4.84	032
3.3	106	69	10.08	033	8.68	033	6.57	033	14.10	033	5.43	033
3.4	112	73	10.47	034	8.40	034	6.84	034	15.12	034	6.02	034
3.5	112	73	10.26	035	7.99	035	5.84	035	12.70	035	5.14	035
3.6	112	73	10.62	036	12.04	036	10.11	036	16.10	036	6.28	036
3.7	112	73	10.33	037	8.72	037	6.98	037	15.56	037	6.57	037
3.8	119	78	9.93	038	8.68	038	7.26	038	15.56	038	6.57	038
3.9	119	78	11.13	039	8.85	039	7.26	039	15.55	039	6.84	039
4.0	119	78	10.87	040	8.72	040	6.42	040	13.68	040	5.56	040
4.1	119	78	11.06	041	8.98	041	7.43	041	15.98	041	6.84	041
4.2	119	78	10.62	042	9.42	042	7.26	042	15.56	042	5.84	042
4.3	126	82	11.85	043	9.74	043	7.99	043	17.38	043	7.56	043
4.4	126	82	10.47	044	9.68	044	11.09	044	18.25	044	7.70	044
4.5	126	82	11.13	045	10.12	045	7.26	045	15.80	045	6.84	045
4.6	126	82	10.73	046	10.18	046	8.27	046	18.25	046	7.70	046
4.7	126	82	12.42	047	10.54	047	11.09	047	18.25	047	7.85	047
4.8	132	87	12.09	048	11.12	048	8.27	048	18.25	048	7.99	048
4.9	132	87	12.25	049	11.62	049	8.72	049	25.31	049	8.29	049
5.0	132	87	12.42	050	10.12	050	7.70	050	16.54	050	6.57	050
5.1	132	87	13.73	051	11.85	051	11.90	051	19.47	051	8.40	051
5.2	132	87	13.47	052	12.26	052	9.42	052	20.39	052	8.68	052
5.3	132	87	14.82	053	12.67	053	12.73	053	20.67	053	8.85	053

Steel	●	●	●	●	
Stainless steel	○	●			
Cast iron	●	●	●	●	
Non ferrous metals	○	●	●	●	●
Heat resistant alloys					

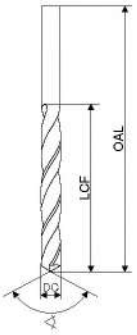
1) uncoated

→ v_c Page 50

Continued on next page

Twist drills, DIN 340, long

≤ 10xD



	UNI	WTL	WTL	WTL	WTW
	TiN	F-nit	F-nit	TiN	
	◁ 118°	◁ 130°	◁ 130°	◁ 130°	◁ 130°
	HSS-E	HSS-E	HSS	HSS	HSS
	T2	T2	T2	T2	T2
DC h8 / OAL / LCF	Article no. 10 270 ...	Article no. 10 225 ...	Article no. 10 215 ...	Article no. 10 210 ...	Article no. 10 200 ...
mm / mm / mm	£	£	£	£	£
5.4 / 139 / 91	16.19 054	12.52 054	9.68 054	21.95 054	8.98 054
5.5 / 139 / 91	12.90 055	12.22 055	8.85 055	19.82 055	8.40 055
5.6 / 139 / 91	16.87 056	13.11 056	10.83 056	23.84 056	13.56 056
5.7 / 139 / 91	18.63 057	13.26 057	11.12 057	24.70 057	10.18 057
5.8 / 139 / 91	16.36 058	13.66 058	11.62 058	24.51 058	10.54 058
5.9 / 139 / 91	18.24 059	13.68 059	11.85 059	26.31 059	10.83 059
6.0 / 139 / 91	15.50 060	12.67 060	9.42 060	20.39 060	8.72 060
6.1 / 148 / 97	18.39 061	14.52 061	17.02 061	27.50 061	12.67 061
6.2 / 148 / 97	16.49 062	14.39 062	13.08 062	27.95 062	12.52 062
6.3 / 148 / 97	18.39 063	14.53 063	17.71 063	28.78 063	12.70 063
6.4 / 148 / 97	16.72 064	15.38 064	18.96 064	31.08 064	13.26 064
6.5 / 148 / 97	16.07 065	13.96 065	10.28 065	22.80 065	9.74 065
6.6 / 148 / 97	18.52 066	15.99 066	14.52 066	31.65 066	13.66 066
6.7 / 148 / 97	19.00 067	15.98 067	19.93 067	32.20 067	13.68 067
6.8 / 156 / 102	20.39 068	17.44 068	15.99 068	35.02 068	14.52 068
6.9 / 156 / 102	21.13 069	17.80 069	21.46 069	34.51 069	14.39 069
7.0 / 156 / 102	19.18 070	15.55 070	12.22 070	26.74 070	11.68 070
7.1 / 156 / 102	18.52 071	18.39 071	21.73 071		14.53 071
7.2 / 156 / 102	21.21 072	18.96 072	16.54 072	36.35 072	21.32 072
7.3 / 156 / 102	22.17 073	19.24 073	22.70 073	37.36 073	21.46 073
7.4 / 156 / 102	22.97 074	28.66 074	22.98 074	36.91 074	21.73 074
7.5 / 156 / 102	23.37 075	18.39 075	14.70 075	32.54 075	13.96 075
7.6 / 165 / 109	25.08 076		23.54 076	37.93 076	15.98 076
7.7 / 165 / 109	23.69 077	22.11 077	24.07 077		16.39 077
7.8 / 165 / 109	26.10 078	22.80 078	18.25 078	39.34 078	16.54 078
7.9 / 165 / 109	25.17 079	23.25 079	24.49 079	37.94 079	23.80 079
8.0 / 165 / 109	21.37 080	17.25 080	14.10 080	30.95 080	13.08 080
8.1 / 165 / 109	23.55 081	33.50 081	18.39 081	40.63 081	17.38 081
8.2 / 165 / 109	25.69 082	24.70 082	18.82 082	41.70 082	17.54 082
8.3 / 165 / 109	27.23 083	24.51 083	25.31 083	42.13 083	17.80 083
8.4 / 165 / 109	29.27 084	25.71 084	19.82 084	42.60 084	25.60 084
8.5 / 165 / 109	25.08 085	21.95 085	18.25 085	39.76 085	16.95 085
8.6 / 175 / 115	24.90 086	26.31 086	27.26 086	44.17 086	19.05 086
8.7 / 175 / 115	25.17 087	26.74 087	20.50 087	44.62 087	
8.8 / 175 / 115	25.57 088	26.93 088	20.67 088	44.90 088	19.24 088
8.9 / 175 / 115	25.99 089	28.61 089	29.48 089	63.64 089	28.66 089
9.0 / 175 / 115	26.35 090	21.36 090	16.99 090	37.36 090	15.80 090
9.1 / 175 / 115	26.35 091	40.28 091	23.25 091	49.98 091	30.16 091
9.2 / 175 / 115	26.35 092	31.08 092	34.87 092		31.98 092
9.3 / 175 / 115	26.35 093	31.22 093	26.74 093		24.27 093
9.4 / 175 / 115	26.35 094	44.27 094			34.87 094
9.5 / 175 / 115	26.35 095	28.19 095	25.52 095	56.22 095	24.27 095
9.6 / 184 / 121	27.90 096		41.24 096		41.24 096
9.7 / 184 / 121	29.27 097	38.35 097	33.13 097	71.55 097	

Steel	●	●	●	●	
Stainless steel	○	●			
Cast iron	●	●	●	●	
Non ferrous metals	○	●	●	●	●
Heat resistant alloys					

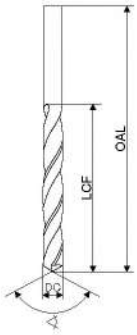
1) uncoated

→ v_c Page 50

Continued on next page

Twist drills, DIN 340, long

≤ 10xD



	UNI	WTL	WTL	WTL	WTW
	TiN	F-nit	F-nit	TiN	
	◁ 118°	◁ 130°	◁ 130°	◁ 130°	◁ 130°
	HSS-E	HSS-E	HSS	HSS	HSS
	T2	T2	T2	T2	T2
DC h8 / OAL / LCF	Article no. 10 270 ...	Article no. 10 225 ...	Article no. 10 215 ...	Article no. 10 210 ...	Article no. 10 200 ...
mm / mm / mm	£	£	£	£	£
9.8 / 184 / 121	31.27 098	38.35 098	35.02 098	76.56 098	31.22 098
9.9 / 184 / 121	33.98 099	38.35 099	48.97 099	108.90 099	
10.0 / 184 / 121	36.74 100	32.11 100	20.39 100	45.18 100	18.39 100
10.1 / 184 / 121	40.13 101		45.48 101	99.80 101	
10.2 / 184 / 121	42.87 102	41.26 102	35.92 102	79.10 102	80.39 102
10.3 / 184 / 121	46.25 103		54.78 103		54.34 103
10.4 / 184 / 121	46.25 104		65.82 104		78.46 104
10.5 / 184 / 121	46.95 105	43.05 105	36.35 105	81.94 105	35.90 105
10.6 / 184 / 121				150.21 106	
10.8 / 195 / 128		49.11 108	54.18 108		68.21 108
11.0 / 195 / 128	55.73 110	47.31 110	30.95 110	65.84 110	29.22 110
11.5 / 195 / 128	56.46 115	58.97 115	51.43 115	110.02 115	47.66 115
11.6 / 195 / 128					63.92 116
11.8 / 195 / 128		65.36 118	62.03 118		57.25 118
12.0 / 205 / 134	57.11 120	59.26 120	36.91 120	83.38 120	35.92 120
12.2 / 205 / 134					66.83 122
12.3 / 205 / 134					57.25 123
12.5 / 205 / 134	62.56 125		38.35 125	85.42 125	37.78 125
13.0 / 205 / 134	68.04 130		40.84 130	89.64 130	40.20 130
13.5 / 214 / 140	69.36 135		74.39 135		
14.0 / 214 / 140	72.11 140		68.29 140	153.55 140	67.84 140
Steel	●	●	●	●	
Stainless steel	○	●			
Cast iron	●	●	●	●	
Non ferrous metals	○	●	●	●	●
Heat resistant alloys					

1) uncoated

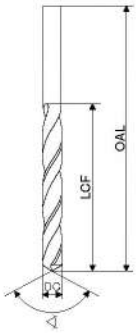
→ v_c Page 50

Twist drills, DIN 1869, extra-long, series 1

> 10xD

WTL

F.-nit



130°
HSS

DC h8	OAL	LCF	T2 Article no. 10 235 ... £	
mm	mm	mm		
2.0	125	85	8.98	020 1)
2.1	125	85	11.12	021 1)
2.2	135	90	11.12	022 1)
2.3	135	90	11.12	023 1)
2.4	140	95	11.68	024
2.5	140	95	8.98	025
2.6	140	95	11.68	026
2.7	150	100	12.26	027
2.8	150	100	12.26	028
2.9	150	100	12.26	029
3.0	150	100	10.42	030
3.1	155	105	12.70	031
3.2	155	105	12.70	032
3.3	155	105	12.70	033
3.4	165	115	13.08	034
3.5	165	115	10.42	035
3.6	165	115	13.08	036
3.7	165	115	14.11	037
3.8	175	120	14.11	038
3.9	175	120	14.11	039
4.0	175	120	10.54	040
4.1	175	120	14.11	041
4.2	175	120	14.39	042
4.3	185	125	15.99	043
4.4	185	125	15.99	044
4.5	185	125	11.26	045
4.6	185	125	15.99	046
4.7	185	125	16.57	047
4.8	195	135	16.54	048
4.9	195	135	17.25	049
5.0	195	135	12.22	050
5.1	195	135	17.80	051
5.2	195	135	18.39	052
5.3	195	135	18.39	053
5.4	205	140	18.39	054
5.5	205	140	13.11	055
5.6	205	140	18.39	056
5.7	205	140	19.05	057
5.8	205	140	18.96	058
5.9	205	140	18.96	059
6.0	205	140	13.11	060
6.1	215	150	20.39	061
6.2	215	150	20.50	062
6.3	215	150	21.95	063
6.4	215	150	22.11	064
6.5	215	150	17.80	065
6.6	215	150	22.11	066
6.7	215	150	23.54	067
6.8	225	155	23.09	068
6.9	225	155	24.70	069
7.0	225	155	19.05	070
7.1	225	155	37.78	071
7.3	225	155	37.78	073
7.4	225	155	37.78	074
7.5	225	155	21.36	075
7.7	240	165	29.51	077
7.8	240	165	31.08	078
7.9	240	165	31.22	079
8.0	240	165	23.09	080
8.1	240	165	35.49	081
8.2	240	165	35.49	082
8.3	240	165	35.49	083
8.4	240	165	37.36	084
8.5	240	165	29.78	085
8.6	250	175	53.57	086
8.7	250	175	40.20	087
8.8	250	175	42.29	088
9.0	250	175	32.41	090
9.2	250	175	47.94	092
9.4	250	175	51.43	094
9.5	250	175	37.48	095
9.6	265	185	52.87	096
9.7	265	185	52.87	097
9.8	265	185	53.75	098
9.9	265	185	53.75	099
10.0	265	185	33.40	100
10.5	265	185	59.26	105
11.0	280	195	43.62	110
11.5	280	195	53.60	115
12.0	295	205	50.84	120
12.5	295	205	62.18	125
13.0	295	205	61.91	130

Steel	●
Stainless steel	○
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	

1) uncoated

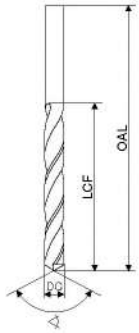
→ v_c Page 51

Twist drills, DIN 1869, extra-long, series 2

> 10xD

WTL

F-nit



HSS

DC h8	OAL	LCF	T2 Article no. 10 245 ...	
mm	mm	mm	£	
2.0	160	110	17.80	020 1)
2.5	180	120	17.80	025
3.0	190	130	14.10	030
3.5	210	145	13.96	035
4.0	220	150	14.70	040
4.5	235	160	15.99	045
5.0	245	170	15.99	050
5.5	260	180	19.24	055
6.0	260	180	18.96	060
6.5	275	190	21.81	065
7.0	290	200	24.27	070
7.5	290	200	28.61	075
8.0	305	210	28.19	080
8.5	305	210	44.17	085
9.0	320	220	43.16	090
9.5	320	220	49.17	095
10.0	340	235	45.48	100
10.5	340	235	65.96	105
11.0	365	250	64.37	110
11.5	365	250	74.39	115
12.0	375	260	72.53	120
12.5	375	260	72.53	125
13.0	375	260	75.25	130

Steel	●
Stainless steel	○
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	

1) uncoated

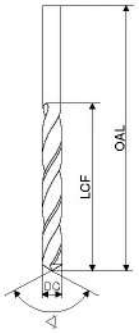
→ v_c Page 51

Twist drills, DIN 1869, extra-long, series 3

> 10xD

WTL

F-nit



HSS

DC h8	OAL	LCF	T2 Article no. 10 255 ...	
mm	mm	mm	£	
2.5	225	150	23.09	025
3.0	240	160	23.09	030
3.5	265	180	19.05	035
4.0	280	190	19.05	040
4.5	295	200	22.80	045
5.0	315	210	22.80	050
5.5	330	225	24.70	055
6.0	330	225	25.52	060
6.5	350	235	28.19	065
7.0	370	250	35.90	070
7.5	370	250	41.26	075
8.0	390	265	41.19	080
8.5	390	265	53.33	085
9.0	410	280	57.25	090
9.5	410	280	93.26	095
10.0	430	295	66.83	100
10.5	430	295	73.09	105
11.0	455	310	77.44	110
11.5	455	310	85.84	115
12.0	480	330	91.53	120
12.5	480	330	85.84	125
13.0	480	330	86.59	130

Steel	●
Stainless steel	○
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	

→ v_c Page 51

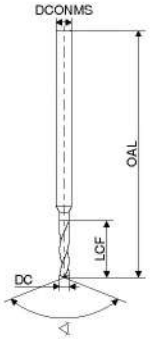
Micro drills, DIN 1899

- 4 facet
- with reinforced shank

Scope of supply:

- pack quantity 5 pieces
- price per piece

N



118°
HSS-E-PM

DC -0,004	OAL	LCF	DCONMS h8	T2 Article no. 10 103 ...	
mm	mm	mm	mm	£	
0.15	25	0.8	1.0	5.33	00150
0.20	25	1.5	1.0	4.38	00200
0.25	25	1.9	1.0	2.98	00250
0.30	25	1.9	1.0	3.34	00300
0.35	25	2.4	1.0	3.08	00350
0.40	25	3.0	1.0	3.08	00400
0.45	25	3.0	1.0	3.08	00450
0.50	25	3.4	1.0	3.08	00500
0.55	25	3.9	1.0	3.08	00550
0.60	25	3.9	1.0	3.08	00600
0.65	25	4.2	1.0	3.08	00650
0.70	25	4.8	1.0	2.98	00700
0.75	25	4.8	1.0	2.98	00750
0.80	25	5.3	1.5	3.08	00800
0.85	25	5.3	1.5	3.21	00850
0.90	25	6.0	1.5	3.21	00900
0.95	25	6.0	1.5	3.21	00950
1.00	25	6.8	1.5	3.21	01000
1.05	25	6.8	1.5	3.21	01050
1.10	25	7.6	1.5	3.21	01100
1.15	25	7.6	1.5	3.21	01150
1.20	25	8.5	1.5	3.21	01200
1.25	25	8.5	1.5	3.21	01250
1.30	25	8.5	1.5	3.29	01300
1.35	25	9.5	1.5	3.21	01350
1.40	25	9.5	1.5	3.21	01400
1.45	25	9.5	1.5	3.21	01450

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	○

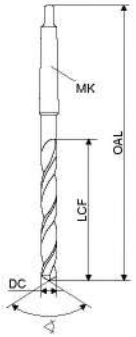
→ v_c Page 52

Twist drill, factory standard, short

≤ 3xD

WT

vap.



130°
HSS-E

DC h8	OAL	LCF	MK	T2 Article no. 10 285 ...	
mm	mm	mm		£	
10.0	138	57	1	43.28	100
10.5	138	57	1	62.27	105
11.0	142	61	1	37.78	110
11.5	142	61	1	49.32	115
12.0	147	66	1	43.73	120
12.5	147	66	1	47.08	125
13.0	147	66	1	45.48	130
13.5	168	70	2	56.88	135
14.0	168	70	2	56.45	140
14.5	172	74	2	60.56	145
15.0	172	74	2	60.14	150
15.5	176	78	2	90.07	155
16.0	176	78	2	56.88	160
16.5	179	81	2	91.53	165
17.0	179	81	2	59.72	170
17.5	183	85	2	95.90	175
18.0	183	85	2	63.41	180
18.5	186	88	2	96.78	185
19.0	186	88	2	70.60	190
19.5	212	91	3	114.34	195
20.0	212	91	3	81.94	200
21.0	216	95	3	90.49	210
22.0	219	98	3	96.78	220
23.0	222	101	3	103.14	230
24.0	225	104	3	105.47	240
25.0	225	104	3	109.82	250
26.0	256	107	4	152.53	260
27.0	259	110	4	162.99	270
28.0	259	110	4	166.61	280
30.0	263	114	4	182.02	300

Steel	●
Stainless steel	○
Cast iron	○
Non ferrous metals	○
Heat resistant alloys	○

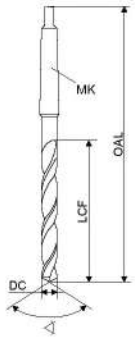
→ v_c Page 47

Twist drills, DIN 345

≤ 5xD

N
vap.

WTL
F.-nit



HSS

HSS-E

DC_{h8} mm	OAL mm	LCF mm	MK	T2 Article no. 10 265 ... £		T2 Article no. 10 280 ... £	
10.00	168	87	1	16.95	100	42.13	100
10.20	168	87	1	19.24	102	42.60	102
10.50	168	87	1	17.38	105	42.60	105
10.80	175	94	1	23.25	108	47.66	108
11.00	175	94	1	17.80	110	45.48	110
11.20	175	94	1	24.70	112		
11.50	175	94	1	20.67	115	55.22	115
11.80	175	94	1	26.31	118		
12.00	182	101	1	19.05	120	47.66	120
12.20	182	101	1	26.51	122	51.17	122
12.50	182	101	1	19.66	125	48.74	125
12.80	182	101	1	26.93	128		
13.00	182	101	1	20.39	130	53.47	130
13.20	182	101	1	27.38	132		
13.50	189	108	1	23.09	135	63.50	135
13.80	189	108	1	29.51	138		
14.00	189	108	1	21.95	140	56.45	140
14.25	212	114	2	32.08	142	85.42	142
14.50	212	114	2	22.80	145	66.83	145
14.75	212	114	2	34.87	147		
15.00	212	114	2	24.27	150	67.70	150
15.25	218	120	2	32.41	152	85.79	152
15.50	218	120	2	25.52	155	63.99	155
15.75	218	120	2	29.51	157	71.55	157
16.00	218	120	2	25.52	160	69.69	160
16.25	223	125	2	39.21	162		
16.50	223	125	2	28.19	165	71.55	165 1)
16.75	223	125	2	32.41	167		
17.00	223	125	2	29.22	170	67.70	170 1)
17.25	228	130	2	35.92	172	79.10	172 1)
17.50	228	130	2	29.35	175	74.39	175 1)
17.75	228	130	2	36.47	177	81.94	177 1)
18.00	228	130	2	30.78	180	77.85	180 1)
18.25	233	135	2	37.78	182		
18.50	233	135	2	33.64	185	74.39	185 1)
18.75	233	135	2	39.21	187		
19.00	233	135	2	33.98	190	79.10	190 1)
19.25	238	140	2	42.29	192		
19.50	238	140	2	38.35	195		
19.75	238	140	2	44.17	197		
20.00	238	140	2	35.90	200	86.72	200 1)
20.25	243	145	2	47.31	202		
20.50	243	145	2	37.36	205		
20.75	243	145	2	47.74	207		
21.00	243	145	2	40.69	210	102.57	210 1)
21.25	248	150	2	50.56	212		
21.50	248	150	2	46.65	215		
21.75	248	150	2	51.59	217		
22.00	248	150	2	45.18	220	110.26	220 1)
22.25	248	150	2	53.03	222		
22.50	253	155	2	47.74	225	135.68	225 1)
22.75	253	155	2	54.44	227		
23.00	253	155	2	52.87	230	127.26	230 1)
23.50	276	155	3	51.59	235		
23.75	281	160	3	72.34	237		
24.00	281	160	3	55.22	240	139.03	240 1)
24.50	281	160	3	57.25	245		
24.75	281	160	3	79.32	247		
25.00	281	160	3	60.72	250	141.05	250 1)
25.50	286	165	3	61.99	255		
25.75	286	165	3	82.21	257		
26.00	286	165	3	69.90	260	163.73	260 1)
26.50	286	165	3	66.28	265		
26.75	291	170	3	104.32	267		
27.00	291	170	3	68.28	270	189.15	270 1)
27.50	291	170	3	71.74	275		
27.75	291	170	3	102.12	277		
28.00	291	170	3	75.38	280		
28.50	296	175	3	94.31	285		
28.75	296	175	3	146.92	287		
29.00	296	175	3	81.54	290		
29.50	296	175	3	85.13	295		
29.75	296	175	3	108.52	297		
30.00	296	175	3	81.54	300		
30.50	301	180	3	101.56	305		
31.00	301	180	3	98.64	310		
31.50	301	180	3	112.01	315		
32.00	334	185	4	103.57	320		
32.50	334	185	4	119.28	325		
33.00	334	185	4	111.42	330		
33.50	334	185	4	123.48	335		
34.00	339	190	4	130.45	340		
34.50	339	190	4	143.97	345		
35.00	339	190	4	132.64	350		
35.50	339	190	4	153.27	355		
36.00	344	195	4	142.52	360		
36.50	344	195	4	160.24	365		
37.00	344	195	4	156.02	370		
37.50	344	195	4	175.78	375		
38.00	349	200	4	165.19	380		
38.50	349	200	4	198.30	385		
39.00	349	200	4	180.88	390		
39.50	349	200	4	226.77	395		
40.00	349	200	4	187.82	400		
41.00	354	205	4	202.08	410		
42.00	354	205	4	219.65	420		
43.00	359	210	4	233.86	430		
44.00	359	210	4	244.51	440		
45.00	359	210	4	255.10	450		
46.00	364	215	4	265.69	460		
47.00	364	215	4	283.28	470		
48.00	369	220	4	290.54	480		
49.00	369	220	4	304.63	490		
50.00	369	220	4	311.75	500		
51.00	412	225	5	375.51	510		
52.00	412	225	5	403.85	520		
53.00	412	225	5	586.87	530		
54.00	417	230	5	606.52	540		
55.00	417	230	5	616.35	550		
56.00	417	230	5	635.84	560		
57.00	422	235	5	665.16	570		
58.00	422	235	5	704.33	580		
59.00	422	235	5	743.35	590		
60.00	422	235	5	552.47	600		

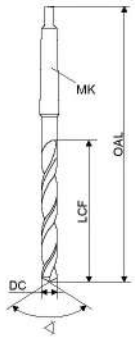
Steel	●	●
Stainless steel		○
Cast iron	●	○
Non ferrous metals	○	○
Heat resistant alloys		

1) vaporised

→ v_c Page 49

Twist drills, DIN 341, long

≤ 10xD



N
vap.

118°
HSS

WTL
F.-nit

130°
HSS-E

DC h8	OAL	LCF	MK	T2 Article no. 10 295 ...		T2 Article no. 10 297 ...	
mm	mm	mm		£		£	
10.00	197	116	1	23.09	100	57.70	100
10.20	197	116	1	26.31	102	54.93	102
10.50	197	116	1	31.69	105	61.86	105
10.80	206	125	1	40.96	108		
11.00	206	125	1	24.70	110	44.90	110
11.20	206	125	1	32.20	112	55.50	112
11.50	206	125	1	24.70	115	47.08	115
11.80	206	125	1	33.13	118	41.70	118
12.00	215	134	1	24.70	120	47.08	120
12.20	215	134	1	43.60	122	41.13	122
12.50	215	134	1	24.51	125	63.64	125
12.80	215	134	1	47.19	128	40.63	128
13.00	215	134	1	24.51	130	48.74	130
13.20	215	134	1	47.19	132		
13.50	223	142	1	27.75	135	50.75	135
13.80	223	142	1	45.48	138	46.65	138
14.00	223	142	1	27.50	140	57.25	140
14.25	245	147	2	43.05	142		
14.50	245	147	2	34.93	145	55.64	145
14.75	245	147	2	43.05	147		
15.00	245	147	2	34.51	150	58.97	150
15.25	251	153	2	43.05	152		
15.50	251	153	2	33.64	155	57.81	155
15.75	251	153	2	44.17	157		
16.00	251	153	2	35.92	160	60.03	160
16.25	257	159	2	48.74	162		
16.50	257	159	2	37.93	165	59.15	165 [1]
16.75	257	159	2	47.66	167		
17.00	257	159	2	38.36	170	68.29	170 [1]
17.25	263	165	2	71.82	172		
17.50	263	165	2	43.05	175	65.54	175 [1]
17.75	263	165	2	53.75	177		
18.00	263	165	2	42.60	180	69.69	180 [1]
18.25	269	171	2	64.08	182		
18.50	269	171	2	47.74	185	65.54	185 [1]
18.75	269	171	2	81.35	187		
19.00	269	171	2	47.94	190	79.10	190 [1]
19.25	275	177	2	65.84	192		
19.50	275	177	2	55.22	195	80.04	195 [1]
19.75	275	177	2	75.11	197		
20.00	275	177	2	52.46	200	86.14	200 [1]
20.50	282	184	2	65.82	205	84.70	205 [1]
21.00	282	184	2	60.03	210	101.27	210 [1]
21.50	289	191	2	69.69	215		
21.75	289	191	2	126.18	217		
22.00	289	191	2	65.54	220	110.02	220 [1]
22.50	296	198	2	72.34	225		
23.00	296	198	2	68.01	230		
23.50	319	198	3	81.11	235		
24.00	327	206	3	83.38	240	141.05	240 [1]
24.50	327	206	3	89.64	245		
25.00	327	206	3	82.51	250	146.43	250 [1]
25.50	335	214	3	98.61	255		
26.00	335	214	3	96.47	260	171.27	260 [1]
26.50	335	214	3	103.14	265		
27.00	343	222	3	103.14	270		
27.50	343	222	3	127.99	275		
28.00	343	222	3	114.91	280		
29.00	351	230	3	132.78	290		
29.50	351	230	3	148.61	295		
30.00	351	230	3	132.20	300		
30.50	360	239	3	169.25	305		
31.00	360	239	3	160.40	310		
31.50	360	239	3	178.83	315		
32.00	397	248	4	172.01	320		
33.00	397	248	4	172.01	330		
33.50	397	248	4	199.60	335		
34.00	406	257	4	213.12	340		
35.00	406	257	4	206.28	350		
36.00	416	267	4	237.22	360		
37.00	416	267	4	268.16	370		
37.50	416	267	4	288.78	375		
38.00	426	277	4	257.85	380		
39.00	426	277	4	275.12	390		
40.00	426	277	4	288.78	400		
42.00	436	287	4	326.71	420		
43.00	447	298	4	350.55	430		
44.00	447	298	4	350.55	440		
45.00	447	298	4	483.96	450		
50.00	470	321	4	481.26	500		

	T2	T2
Steel	●	●
Stainless steel		●
Cast iron	●	●
Non ferrous metals	○	●
Heat resistant alloys		

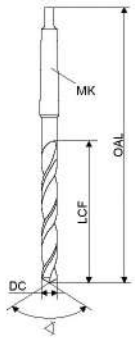
1) vaporised

→ v_c Page 50

Twist drills, DIN 1870, extra-long, series 1

> 10xD

WTL



HSS

DC h8	OAL	LCF	MK	T2 Article no. 10 305 ...		
mm	mm	mm		£		
10.0	285	185	1	44.62	100	1)
10.5	285	185	1	54.18	105	1)
11.0	300	195	1	50.75	110	1)
11.5	300	195	1	53.46	115	1)
12.0	310	205	1	57.81	120	1)
12.5	310	205	1	59.72	125	1)
13.0	310	205	1	59.15	130	1)
13.5	325	220	1	68.28	135	1)
14.0	325	220	1	67.70	140	1)
14.5	340	220	2	70.18	145	1)
15.0	340	220	2	73.81	150	1)
15.5	355	230	2	79.10	155	1)
16.0	355	230	2	75.82	160	1)
16.5	355	230	2	77.85	165	2)
17.0	355	230	2	77.69	170	2)
17.5	370	245	2	83.38	175	2)
18.0	370	245	2	86.14	180	2)
18.5	370	245	2	95.00	185	2)
19.0	370	245	2	97.02	190	2)
19.5	385	260	2	104.76	195	2)
20.0	385	260	2	110.86	200	2)
21.0	385	260	2	127.99	210	2)
22.0	405	270	2	134.09	220	2)
23.0	405	270	2	157.46	230	2)
24.0	440	290	3	175.48	240	2)
25.0	440	290	3	178.83	250	2)
26.0	440	290	3	192.62	260	2)
28.0	460	305	3	223.55	280	2)
30.0	460	305	3	257.85	300	2)

Steel	●
Stainless steel	○
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	

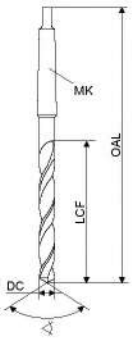
1) nitrided chamfer
2) vaporised

→ v_c Page 51

Twist drills, DIN 1870, extra-long, series 2

> 10xD

WTL



HSS

DC h8	OAL	LCF	MK	T2 Article no. 10 315 ...		
mm	mm	mm		£		
10.0	360	235	1	62.57	100	1)
10.5	360	235	1	106.11	105	1)
11.0	375	250	1	71.55	110	1)
11.5	375	250	1	77.85	115	1)
12.0	395	260	1	87.23	120	1)
13.0	395	260	1	92.97	130	1)
13.5	410	275	1	99.23	135	1)
14.0	410	275	1	99.23	140	1)
14.5	425	275	2	99.80	145	1)
15.0	425	275	2	98.61	150	1)
15.5	445	295	2	104.76	155	1)
16.0	445	295	2	103.14	160	1)
16.5	445	295	2	117.66	165	2)
17.0	445	295	2	110.86	170	2)
17.5	465	310	2	119.70	175	2)
18.0	465	310	2	124.50	180	2)
18.5	465	310	2	134.09	185	2)
19.0	465	310	2	136.25	190	2)
19.5	490	325	2	205.46	195	2)
20.0	490	325	2	153.55	200	2)
21.0	490	325	2	164.44	210	2)
22.0	515	345	2	195.97	220	2)
23.0	515	345	2	264.95	230	2)
24.0	555	365	3	223.55	240	2)
25.0	555	365	3	226.91	250	2)
26.0	555	365	3	264.68	260	2)
28.0	580	385	3	309.41	280	2)
30.0	580	385	3	357.64	300	2)

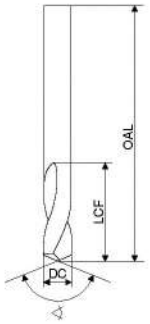
Steel	●
Stainless steel	○
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	

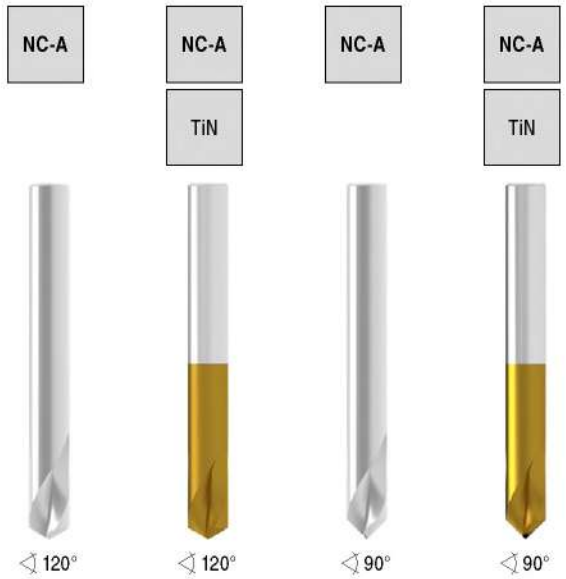
1) nitrided chamfer
2) vaporised

→ v_c Page 51

NC spot drills, factory standard

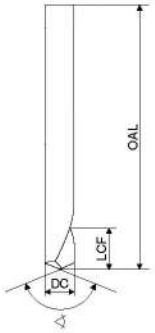
▲ helical flutes

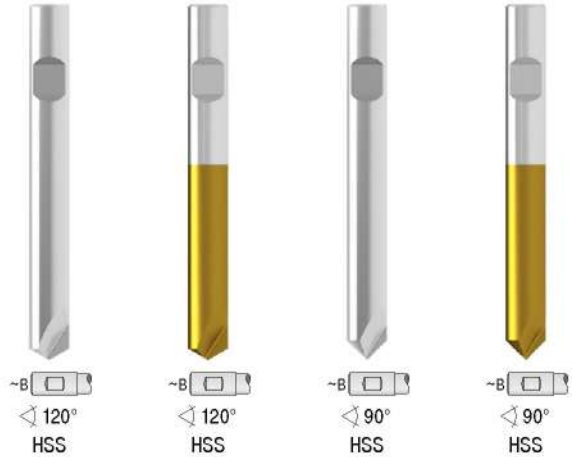




DC h6	OAL	LCF	T2 Article no. 10 510 ...		T2 Article no. 10 512 ...		T2 Article no. 10 520 ...		T2 Article no. 10 522 ...	
mm	mm	mm	£		£		£		£	
3	46	12.0	7.70	030	16.89	030	7.43	030	16.89	030
4	55	12.0	7.85	040	17.17	040	7.56	040	17.17	040
5	62	14.0	8.29	050	18.28	050	7.99	050	18.28	050
6	66	16.0	8.27	060	19.23	060	7.99	060	19.23	060
8	79	21.0	13.68	080	30.99	080	13.66	080	30.99	080
10	89	25.0	15.56	100	34.18	100	14.28	100	34.18	100
12	102	30.0	22.25	120	49.96	120	21.95	120	49.96	120
16	115	37.5	28.81	160	65.30	160	28.61	160	65.30	160
20	131	45.0	46.46	200	106.26	200	46.07	200	106.26	200

▲ with clamping flat to DIN 1835 B





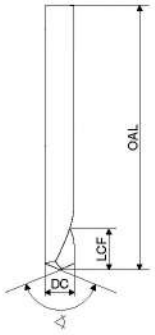
DC h6	OAL	LCF	T2 Article no. 10 511 ...		T2 Article no. 10 513 ...		T2 Article no. 10 521 ...		T2 Article no. 10 523 ...	
mm	mm	mm	£		£		£		£	
6	66	7.0	7.85	060	17.50	060	7.85	060	17.50	060
8	79	9.0	11.02	080	24.91	080	11.02	080	24.91	080
10	89	11.5	12.34	100	27.79	100	12.34	100	27.79	100
12	102	14.0	17.15	120	39.06	120	17.15	120	39.06	120
16	115	18.0	22.40	160	51.40	160	22.40	160	51.40	160
20	131	23.0	31.99	200	74.63	200	31.99	200	74.63	200

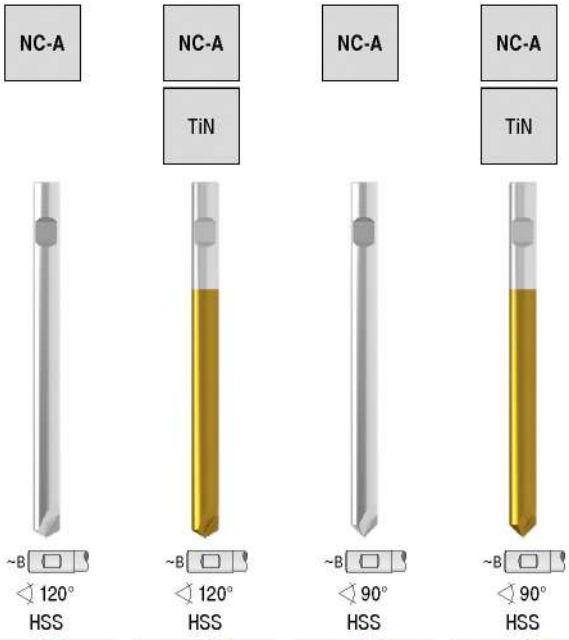
Steel	**15-35**	**25-55**	**15-35**	**25-55**
Stainless steel	10-15	20-25	10-15	20-25
Cast iron	**20-35**	**30-55**	**20-35**	**30-55**
Non ferrous metals	50-70	65-85	50-70	65-85
Heat resistant alloys				

Suitable only for spot drilling!

NC spot Drill Factory Standard Long

▲ with clamping flat to DIN 1835 B





DC h6	OAL	LCF	T2 Article no. 10 530 ...		T2 Article no. 10 532 ...		T2 Article no. 10 526 ...		T2 Article no. 10 528 ...	
mm	mm	mm	£		£		£		£	
6	93	7.0	9.61	060	21.81	060	9.61	060	21.81	060
8	117	9.0	14.97	080	34.38	080	14.97	080	34.38	080
10	133	11.5	16.54	100	37.98	100	16.54	100	37.98	100
12	151	14.0	19.65	120	45.05	120	19.65	120	45.05	120
16	178	18.0	29.96	160	69.71	160	29.96	160	69.71	160
20	205	23.0	41.58	200	97.75	200	41.58	200	97.75	200

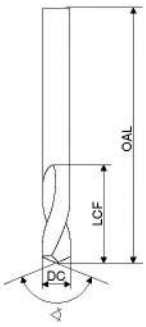
Steel	**15-35**	**25-55**	**15-35**	**25-55**
Stainless steel	10-15	20-25	10-15	20-25
Cast iron	**20-35**	**30-55**	**20-35**	**30-55**
Non ferrous metals	50-70	65-85	50-70	65-85
Heat resistant alloys				

Suitable only for spot drilling!

NC spot drills, factory standard, long

▲ helical flutes

NC-A



90°
HSS

DC h6	OAL	LCF	T2 Article no. 10 525 ...	
mm	mm	mm	£	
6.35	105	17	12.87	025
8.00	118	21	23.54	030
9.52	132	25	23.80	040
12.70	159	30	33.63	050
15.87	186	37	29.63	060
19.05	213	45	67.67	075

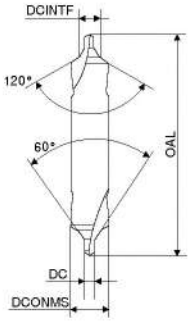
Steel	15-35
Stainless steel	10-15
Cast iron	20-35
Non ferrous metals	50-70
Heat resistant alloys	

Suitable only for spot drilling!

Centre drills, DIN 333, form B

▲ with protective countersink 120°

ZB ZB

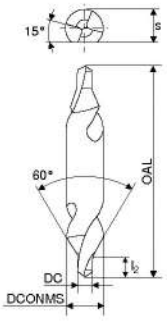


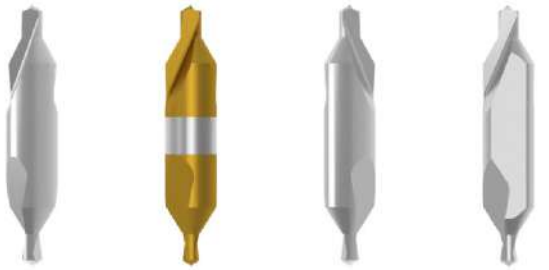
DC	DCONMS h8	DCINTF k12	OAL	Right-hand 118° HSS T2 Article no. 10 480 ...		Left-hand 118° HSS T2 Article no. 10 485 ...	
mm	mm	mm	mm	£		£	
1.00	4.0	2.12	35.5	7.61	100	23.54	100
1.25	5.0	2.65	40.0	8.43	125	27.54	125
1.60	6.3	3.35	45.0	7.89	160	20.90	160
2.00	8.0	4.25	50.0	8.43	200	22.14	200
2.50	10.0	5.30	56.0	10.38	250	23.09	250
3.15	11.2	6.70	62.0	15.10	315	30.32	315
4.00	14.0	8.50	69.0	19.82	400	46.36	400
5.00	18.0	10.60	77.0	25.71	500	49.39	500

Steel	15-35	15-35
Stainless steel	10-15	10-15
Cast iron	20-35	20-35
Non ferrous metals	50-70	50-70
Heat resistant alloys		

Centre drills, DIN 333, form A

ZB | ZB TiN | ZB | ZB



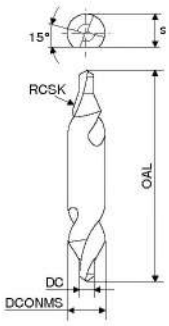


DC	s	DCONMS $_{h8}$	OAL	l_2	Right-hand ◁ 118° HSS T2 Article no. 10 415 ...		Right-hand ◁ 118° HSS T2 Article no. 10 425 ...		Left-hand ◁ 118° HSS T2 Article no. 10 435 ...		Right-hand ◁ 118° HSS-E T2 Article no. 10 445 ...	
mm	mm	mm	mm	mm	£		£		£		£	
0.50		3.15	25.0	0.8	5.41	050 [2]	13.03	050 [2]	7.61	050 [2]		
0.80		3.15	25.0	1.1	5.26	080 [2]	12.46	080 [2]	7.47	080 [2]		
1.00		3.15	31.5	1.3	4.84	100	11.50	100	6.78	100		
1.25		3.15	31.5	1.6	4.18	125	13.14	125	7.89	125		
1.60	3.25	4.00	35.5	2.0							8.30	160 [1]
1.60		4.00	35.5	2.0	4.43	160	10.83	160	7.26	160		
2.00	4.20	5.00	40.0	2.5							6.42	200 [1]
2.00		5.00	40.0	2.5	3.63	200	11.09	200	7.76	200		
2.50	5.35	6.30	45.0	3.1							7.26	250 [1]
2.50		6.30	45.0	3.1	4.18	250	13.03	250	8.30	250		
3.15	6.95	8.00	50.0	3.9							9.74	315 [1]
3.15		8.00	50.0	3.9	6.93	315	16.19	315	10.52	315		
4.00	8.40	10.00	56.0	5.0							18.54	400 [1]
4.00		10.00	56.0	5.0	10.67	400	25.48	400	13.85	400		
5.00	10.95	12.50	63.0	6.3							19.52	500 [1]
5.00		12.50	63.0	6.3	15.36	500	36.53	500	21.73	500		
6.30	14.00	16.00	71.0	8.0							45.37	630 [1]
6.30		16.00	71.0	8.0	22.41	630	54.23	630	31.82	630		

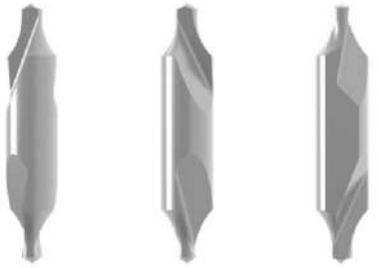
Steel	**15-35**	**25-55**	**15-35**	**15-35**
Stainless steel	10-15	20-25	10-15	10-15
Cast iron	**20-35**	**30-55**	**20-35**	**20-35**
Non ferrous metals	50-70	65-85	50-70	50-70
Heat resistant alloys				

1) with flat
2) Single ended

Centre drills, DIN 333, form R



ZB ZB ZB



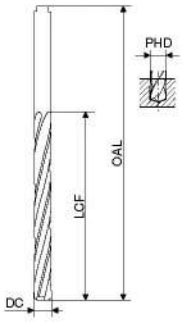
DC	s	DCONMS $_{h8}$	OAL	RCSK	Right-hand ◁ 118° HSS T2 Article no. 10 455 ...		Left-hand ◁ 118° HSS T2 Article no. 10 475 ...		Right-hand ◁ 118° HSS T2 Article no. 10 465 ...	
mm	mm	mm	mm	mm	£		£		£	
0.50		3.15	25.0	2.00	5.53	050 [2]				
0.80		3.15	25.0	2.50	5.41	080 [2]	10.83	080 [2]		
1.00		3.15	31.5	2.90	4.84	100	11.34	100		
1.25		3.15	31.5	3.15	5.53	125	10.28	125		
1.60	3.25	4.00	35.5	4.00					6.28	160 [1]
1.60		4.00	35.5	4.00	4.57	160	8.27	160		
2.00	4.20	5.00	40.0	5.00					6.42	200 [1]
2.00		5.00	40.0	5.00	4.84	200	8.40	200		
2.50	5.35	6.30	45.0	6.30					7.26	250 [1]
2.50		6.30	45.0	6.30	5.53	250	8.68	250		
3.15	6.95	8.00	50.0	8.00					9.42	315 [1]
3.15		8.00	50.0	8.00	7.07	315	12.22	315		
4.00	8.40	10.00	56.0	10.00					13.70	400 [1]
4.00		10.00	56.0	10.00	10.11	400	17.38	400		
5.00	10.95	12.50	63.0	12.50					19.52	500 [1]
5.00		12.50	63.0	12.50	15.52	500	34.46	500		
6.30	14.00	16.00	71.0	16.00					45.37	630 [1]
6.30		16.00	71.0	16.00	23.12	630				

Steel	**15-35**	**15-35**	**15-35**
Stainless steel	10-15	10-15	10-15
Cast iron	**20-35**	**20-35**	**20-35**
Non ferrous metals	50-70	50-70	50-70
Heat resistant alloys			

1) with flat
2) Single ended

Core drills (spiral countersinks)

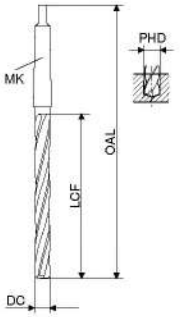
▲ with cylindrical shank, DIN 344



DC h8	OAL	LCF	PHD	T2 Article no. 10 226 ...	
mm	mm	mm	mm	£	
3.80	96	64	2.8	19.47	038
4.00	96	64	2.8	18.82	040
4.80	108	74	3.5	13.96	048
5.00	108	74	3.5	14.10	050
5.80	116	80	4.2	13.96	058
6.00	116	80	4.2	14.10	060
6.80	133	93	4.9	15.99	068
7.00	133	93	4.9	15.99	070
7.80	142	100	5.6	17.97	078
8.00	142	100	5.6	18.01	080
8.80	151	107	6.3	19.47	088
9.00	151	107	6.3	30.03	090
9.80	162	116	7.0	21.25	098
10.00	162	116	7.0	20.81	100
10.75	173	125	7.7	28.38	107
11.00	173	125	7.7	25.71	110
11.75	184	134	8.4	28.81	117
12.00	184	134	8.4	26.31	120

Steel	**15-35**
Stainless steel	10-15
Cast iron	**20-35**
Non ferrous metals	**50-80**
Heat resistant alloys	14-28

Core drills (spiral countersinks)



DC h8	OAL	LCF	PHD	MK	T2 Article no. 10 228 ...	
mm	mm	mm	mm		£	
10.00	168	87	7.0	1	25.71	100
10.75	175	94	7.7	1	30.22	107
11.00	175	94	7.7	1	43.03	110
11.75	182	101	8.4	1	30.22	117
12.00	182	101	8.4	1	43.03	120
12.75	182	101	9.1	1	33.56	127
13.00	182	101	9.1	1	29.35	130
13.75	189	108	9.8	1	33.51	137
14.00	189	108	9.8	1	29.78	140
14.75	212	114	10.5	2	37.36	147
15.00	212	114	10.5	2	33.51	150
15.75	218	120	11.2	2	39.37	157
16.00	218	120	11.2	2	35.02	160
16.75	223	125	11.9	2	41.19	167
17.00	223	125	11.9	2	37.36	170
17.75	228	130	12.6	2	43.16	177
18.00	228	130	12.6	2	37.36	180
18.70	233	135	13.3	2	43.60	187
19.00	233	135	13.3	2	42.73	190
19.70	238	140	14.0	2	43.60	197
20.00	238	140	14.0	2	42.73	200
20.70	243	145	14.6	2	49.75	207
21.00	243	145	14.6	2	49.98	210
21.70	248	150	15.3	2	50.99	217
22.00	248	150	15.3	2	50.42	220
22.70	253	155	16.0	2	55.43	227
23.00	253	155	16.0	2	54.87	230
23.70	281	160	16.6	3	57.73	237
24.00	281	160	16.6	3	56.88	240
24.70	281	160	17.3	3	61.58	247
25.00	281	160	17.3	3	61.60	250
25.70	286	165	18.0	3	64.42	257
26.00	286	165	18.0	3	64.95	260
26.70	291	170	18.6	3	76.56	267
27.00	291	170	18.6	3	75.11	270
27.70	291	170	19.3	3	75.82	277
28.00	291	170	19.3	3	75.71	280
28.70	296	175	20.0	3	82.94	287
29.00	296	175	20.0	3	83.83	290
29.70	296	175	20.5	3	88.20	297
30.00	296	175	20.5	3	86.72	300

Steel	**15-35**
Stainless steel	10-15
Cast iron	**20-35**
Non ferrous metals	**50-80**
Heat resistant alloys	14-28

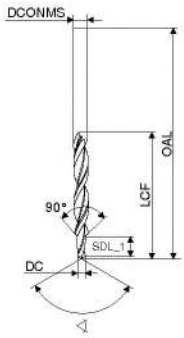
Stepped drills, DIN 8378

- countersinking angle 90°
- for tapping drill holes according to DIN 336, Table 1 with 90° chamfer and for through holes according to DIN EN 20273 – medium

DIN 8378

SB

vap.

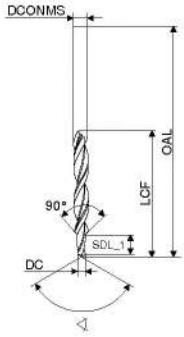


118°
HSS

For threads	DC h9	DCONMS h8	OAL	SDL_1	LCF	T2 Article no. 10 365 ...	
	mm	mm	mm	mm	mm	£	
M3	2.5	3.4	70	8.8	39	19.39	030
M4	3.3	4.5	80	11.4	47	21.25	040
M5	4.2	5.5	93	13.6	57	21.95	050
M6	5.0	6.6	101	16.5	63	24.51	060
M8	6.8	9.0	125	21.0	81	27.50	080
M10	8.5	11.0	142	25.5	94	35.90	100
M12	10.2	13.5	160	30.0	108	44.90	120

- for through holes according to DIN EN 20273 – fine
- with 90° screw head countersink

DIN 8374



118°
HSS

For threads	DC h9	DCONMS h8	OAL	SDL_1	LCF	T2 Article no. 10 355 ...	
	mm	mm	mm	mm	mm	£	
M3	3.2	6.0	93	9	57	22.80	030
M4	4.3	8.0	117	11	75	26.37	040
M5	5.3	10.0	133	13	87	33.13	050
M6	6.4	11.5	142	15	94	50.37	060
M8	8.4	15.0	169	19	114	62.47	080
M10	10.5	19.0	198	23	135	96.47	100

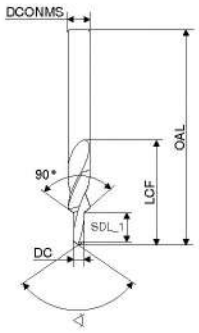
Steel	**10-30**
Stainless steel	10-15
Cast iron	**20-35**
Non ferrous metals	50-70
Heat resistant alloys	

Stepped drills, overall length to DIN 1897

- countersinking angle 90°
- for tapping drill holes according to DIN 336, Table 1 with 90° chamfer and for through holes according to DIN EN 20273 – medium

DIN 8378

SB

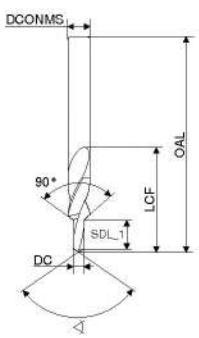


118°
HSS

For threads	DC h6	DCONMS h6	OAL	SDL_1	LCF	T2 Article no. 10 320 ...	
	mm	mm	mm	mm	mm	£	
M3	2.5	3.4	52	8.8	20	12.52	030
M4	3.3	4.5	58	11.4	24	12.70	040
M5	4.2	5.5	66	13.6	28	13.68	050
M6	5.0	6.6	70	16.5	31	14.52	060
M8	6.8	9.0	84	21.0	40	16.83	080
M10	8.5	11.0	95	25.5	47	21.81	100
M12	10.2	13.5	107	30.0	54	27.95	120

- for through holes according to DIN EN 20273 – fine
- with 90° screw head countersink

DIN 8374



118°
HSS

For threads	DC h6	DCONMS h6	OAL	SDL_1	LCF	T2 Article no. 10 330 ...	
	mm	mm	mm	mm	mm	£	
M3	3.2	6.0	66	9	28	14.52	030
M4	4.3	8.0	79	11	37	16.57	040
M5	5.3	10.0	89	13	43	20.39	050
M6	6.4	11.5	95	15	47	23.25	060
M8	8.4	15.0	111	19	56	26.37	080
M10	10.5	19.0	127	23	64	39.34	100

Steel	**10-30**
Stainless steel	10-15
Cast iron	**20-35**
Non ferrous metals	50-70
Heat resistant alloys	

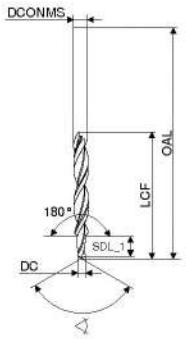
Stepped drills, DIN 8376

- countersinking angle 180°
- for through holes according to DIN EN 20273 – Medium
- for screw heads to DIN 974-1 – Series 1

DIN 8376

SB

vap.



HSS

For threads	DC h9	DCONMS h8	OAL	SDL_1	LCF	T2 Article no. 10 375 ...	
	mm	mm	mm	mm	mm	£	
M3	3.4	6	93	9	57	22.80	030 1)
M4	4.5	8	117	11	75	26.37	040
M5	5.5	10	133	13	87	31.65	050
M6	6.6	11	142	15	94	36.35	060
M8	9.0	15	169	19	114	46.65	080
M10	11.0	18	191	23	130	97.02	100

Steel	**10-30**
Stainless steel	10-15
Cast iron	**20-35**
Non ferrous metals	50-70
Heat resistant alloys	

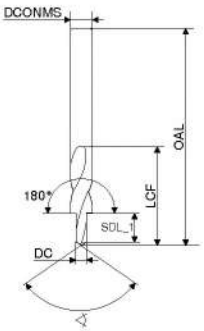
1) DCONMS not according to DIN 974-1

Stepped drills, factory standard, total length according to DIN 1897

- countersinking angle 180°
- for through holes according to DIN EN 20273 – Medium
- for screw heads to DIN 974-1 – Series 1

DIN 8376

SB



HSS

For threads	DC h6	DCONMS h6	OAL	SDL_1	LCF	T2 Article no. 10 340 ...	
	mm	mm	mm	mm	mm	£	
M3	3.4	6	66	9	28	14.10	030 1)
M4	4.5	8	79	11	37	15.98	040
M5	5.5	10	89	13	43	19.39	050
M6	6.6	11	95	15	47	22.80	060
M8	9.0	15	111	19	56	29.07	080
M10	11.0	18	123	23	62	42.60	100

Steel	**10-30**
Stainless steel	10-15
Cast iron	**20-35**
Non ferrous metals	50-70
Heat resistant alloys	

1) DCONMS not according to DIN 974-1

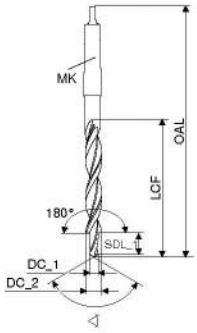
Stepped drills, DIN 8377

- countersinking angle 180°
- for through holes according to DIN EN 20273 – Medium
- for screw heads to DIN 974-1 – Series 1

DIN 8377

SB

vap.



HSS

For threads	DC_1 h9	DC_2	OAL	SDL_1	LCF	MK	T2 Article no. 10 405 ...	
	mm	mm	mm	mm	mm		£	
M5	5.5	10	168	13	87	1	45.47	**050**
M6	6.6	11	175	15	94	1	46.65	**060**
M8	9.0	15	212	19	114	2	61.47	**080**
M10	11.0	18	228	23	130	2	81.94	**100**
M12	13.5	20	238	27	140	2	99.23	**120**
M14	15.5	24	281	31	160	3	127.26	**140**
M16	17.5	26	286	35	165	3	149.20	**160**
M18	20.0	30	296	39	175	3	232.98	**180**
M20	22.0	33	334	43	185	4	202.95	**200**

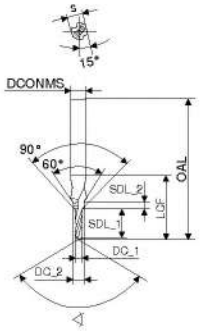
Steel	**10-30**
Stainless steel	10-15
Cast iron	**20-35**
Non ferrous metals	50-70
Heat resistant alloys	

Stepped drills for centring, factory standard

- with flat
- countersinking angle 60°
- special drill for creating tapping drill holes with centring, 60° countersinking angle according to DIN 332, sheet 2, form D.
- point thinning ≥ Ø 3,3 mm

SB

vap.



118°
HSS

T2

For threads	DC_1 h8	DCONMS h7	DC_2	s	OAL	SDL_1	LCF	SDL_2	Article no. 10 350 ...
	mm	mm	mm	mm	mm	mm	mm	mm	£	
M4	3.3	8.0	4.3	6.75	63	11.0	23	1.60	52.75	040
M5	4.2	10.0	5.3	8.45	67	13.0	27	2.15	60.03	050
M6	5.0	12.5	6.4	10.45	71	16.0	33	2.90	65.54	060
M8	6.8	14.0	8.4	12.50	88	19.5	41	3.50	62.03	080
M10	8.5	16.0	10.5	14.85	94	23.0	47	4.70	69.69	100
M12	10.2	20.0	13.0	18.45	105	28.0	59	6.50	91.92	120
M16	14.0	25.0	17.0	23.40	132	33.0	67	8.30	130.75	160
M20	17.5	31.5	21.0	29.35	145	38.0	77	10.35	175.48	200
M24	21.0	40.0	25.0	36.50	160	45.0	90	12.00	271.79	240

Steel	**10-30**
Stainless steel	10-15
Cast iron	**20-35**
Non ferrous metals	50-70
Heat resistant alloys	

Material examples referring to the cutting data tables

	Index	Material	Strength N/mm² / HB / HRC	Material number	Material designation	Material number	Material designation	Material number	Material designation
P	1.1	General construction steel	< 800 N/mm²	1.0402	EN3B				
	1.2	Free cutting steel	< 800 N/mm²	1.0711	EN1A				
	1.3	Hardened steel, non alloyed	< 800 N/mm²	1.0401	EN32C				
	1.4	Alloyed hardened steel	< 1000 N/mm²	1.7325	25 CD4				
	1.5	Tempering steel, unalloyed	< 850 N/mm²	1.5752	EN36	1.0535	EN9		
	1.6	Tempering steel, unalloyed	< 1000 N/mm²	1.6582	EN24				
	1.7	Tempering steel, alloyed	< 800 N/mm²	1.7225	EN19				
	1.8	Tempering steel, alloyed	< 1300 N/mm²	1.8515	EN40B				
	1.9	Steel castings	< 850 N/mm²	0.9650	G-X 260 Cr 27	1.6750	GS-20 NiCrMo 3 7	1.6582	GS-34 CrNiMo 6
	1.10	Nitriding steel	< 1000 N/mm²	1.8509	EN41B				
	1.11	Nitriding steel	< 1200 N/mm²	1.1186	EN8	1.1160	EN14A		
	1.12	Roller bearing steel	< 1200 N/mm²	1.3505	534A99				
	1.13	Spring steel	< 1200 N/mm²		EN45		EN47		EN43
	1.14	High-speed steel	< 1300 N/mm²	1.3343	M2	1.3249	M34		
	1.15	Cold working tool steel	< 1300 N/mm²	1.2379	D2	1.2311	P20		
	1.16	Hot working tool steel	< 1300 N/mm²	1.2344	H13				
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm²	1.4581	318				
	2.2	Stainless steel, ferritic	< 750 N/mm²	1.4000	403				
	2.3	Stainless steel, martensitic	< 900 N/mm²	1.4057	EN57				
	2.4	Stainless steel, ferritic / martensitic	<1100 N/mm²	1.4028	EN56B				
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm²	1.4542	17-4PH				
	2.6	Stainless steel, austenitic	< 750 N/mm²	1.4305	303	1.4401	316	1.4301	304
	2.7	Heat resistant steel	< 1100 N/mm²	1.4876	Incoloy 800				
K	3.1	Grey cast iron with lamellar graphite	100–350 N/mm²	0.6015	Grade 150	0.6020	Grade 220	0.6025	Grade 260
	3.2	Grey cast iron with lamellar graphite	300–500 N/mm²	0.6030	Grade 300	0.6035	Grade 350	0.6040	Grade 400
	3.3	Gray cast iron with spheroidal graphite	300–500 N/mm²	0.7040	SG 400-12	0.7043	SG 370-17	0.7050	SG 500-7
	3.4	Gray cast iron with spheroidal graphite	500–900 N/mm²	0.7060	SG 600-3	0.7070	SG 700-2	0.7080	SG 800-2
	3.5	White malleable cast iron	270–450 N/mm²	0.8035	GTW-35	0.8045	GTW-45		
	3.6	White malleable cast iron	500–650 N/mm²	0.8055	GTW-55	0.8065	GTW-65		
	3.7	Black malleable cast iron	300–450 N/mm²	0.8135	GTS-35	0.8145	GTS-45		
	3.8	Black malleable cast iron	500–800 N/mm²	0.8155	GTS-55	0.8170	GTS-70		
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm²	3.0255	1050 A	3.0275	1070 A	3.0285	1080 A (A8)
	4.2	Aluminium alloys < 0.5 % Si	< 500 N/mm²	3.1325	2017 A (AU4G)	3.4335	7005 (AZ5G)	3.4365	7075 (AZ5GU)
	4.3	Aluminium alloy 0.5–10 % Si	< 400 N/mm²	3.2315	A- G S1	3.2373	A-S9 G	3.2151	A-S 6 U4
	4.4	Aluminium alloys 10–15 % Si	< 400 N/mm²	3.2581	A-S12	3.2583	A-S12 U		
	4.5	Aluminum alloys > 15 % Si	< 400 N/mm²		A-S18	A-S17 U4			
	4.6	Copper (non alloyed, low alloyed)	< 350 N/mm²	2.0040	Cu-c1	2.0060	Cu-a1	2.0090	Cu-b1
	4.7	Copper wrought alloys	< 700 N/mm²	2.1247	Cub2 (Berylium Copper)	2.0855	CuN2S (Nickel Copper)	2.1310	CU-Fe2P
	4.8	Special copper alloys	< 200 HB	2.0916	Cu-A5	2.1525	Cu-S3 M		Ampco 8 (Cu-A6Fe2)
	4.9	Special copper alloys	< 300 HB	2.0978	Cu-Al11 Fe5 Ni5)		Ampco 18 (Cu- A10 Fe3)		
	4.10	Special copper alloys	> 300 HB	2.1247	Cu Be2		Ampco M4		
	4.11	Short-chipping brass, bronze, red bronze	< 600 N/mm²	2.0331	Cu Zn36 Pb1,5	2.0380	Cu Zn39 Pb2 (Ms 56)	2.0410	Cu Zn44 Pb2
	4.12	Long-chipping brass	< 600 N/mm²	2.0335	Cu Zn 36 (Ms63)	2.1293	Cu Cr1 Zr		
	4.13	Thermoplastics		PE	PVC	PS	Polystyrene		Plexiglas
	4.14	Duroplastics		PF	Bakelite		Pertinax		
	4.15	Fibre-reinforced plastics			Carbon Fibre		Fibreglass		Aramid Fibre (Kevlar)
	4.16	Magnesium and magnesium alloys	< 850 N/mm²	3.5812	Mg A7 Z1	3.5662	Mg A9	3.5105	Mg Tr3 Z2 Zn 1
	4.17	Graphite			R8500X		R8650		Technograph 15
	4.18	Tungsten and tungsten alloys			W-Ni Fe (Densimet)		W- Ni Cu (Inermet)		Denal
	4.19	Molybdenum and molybdenum alloys			TZM		MHQ		Mo W
S	5.1	Pure nickel		2.4066	Ni99 (Nickel 200)	2.4068	Lc Ni99 (Nickel 201)		
	5.2	Nickel alloys		1.3912	Fe-Ni36 (Invar)	1.3917	Fe -Ni42 (N42)	1.3922	Fe-Ni48 (N48)
	5.3	Nickel alloys	< 850 N/mm²	2.4375	Ni Cu30 Al (Monel K500)	2.4360	Ni Cu30Fe (Monel 400)	2.4668	
	5.4	Nickel molybdenum alloys		2.4600	Ni Mo30Cr2 (Hastelloy B4)	2.4617	Ni Mo28 (Hastelloy B2)	2.4819	Ni Mo16Cr16 Hastell. C276
	5.5	Nickel-chromium alloys	< 1300 N/mm²	2.4951	Ni Cr20TiAl (Nimonic 80A)	2.4858	Ni Cr21Mo (Inconel 825)	2.4856	Ni Cr22Mo9Nb Inconel 625
	5.6	Cobalt Chrome Alloys	< 1300 N/mm²	2.4964	Co Cr20 W15 Ni10		Co Cr20 Ni16 Mo7		Co Cr28 Mo 6
	5.7	Heat resistant alloys	< 1300 N/mm²	1.4718	Z45 C S 9-3	1.4747	Z80 CSN 20-02	1.4845	Z12 CN 25-20
	5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm²	2.4851	Ni Cr23Fe (Inconel 601)	2.4668	Ni Cr19NbMo (Inconel 718)	2.4602	Ni Cr21Mo14 Hastelloy C22
	5.9	Pure titanium	< 900 N/mm²	3.7025	T35 (Titanium Grade 1)	3.7034	T40 (Titanium Grade 2)	3.7064	T60 (Titanium Grade 4)
	5.10	Titanium alloys	< 700 N/mm²		T-A6-Nb7 (367)		T-A5-Sn2-Mo4-Cr4 (Ti17)		T-A3-V2,5 (Gr18)
	5.11	Titanium alloys	< 1200 N/mm²	3.7165	T-A6-V4 (Ta6V)		T-A4-3V-Mo2-Fe2 (SP700)		T-A5-Sn1-Zr1-V1-Mo (Gr32)
H	6.1	Tempered steel	< 45 HRC						
	6.2		46–55 HRC						
	6.3		56–60 HRC						
	6.4		61–65 HRC						
	6.5		65–70 HRC						

Cutting data standard values – Hole depth 3xD

	Type VX-TiN 10 122 ...		Type UNI-PM-TiN 10 113 ...		Type UNI-TiN 10 107 ...		Type N 10 105 ...		Type VA 10 130 ...		Type WNX 10 106 ...	
Index	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F
1.1	**33–38**	5-6	**37-42**	**5-6**	**33–38**	5-6	**22–27**	5-6			**22–27**	5-6
1.2	**40–44**	6	**44-47**	**6-7**	**40–44**	6	**26–34**	5-6			**22–30**	5-6
1.3	**44**	6	**47**	**4**	**44**	6	**30**	6	36	6	**30**	6
1.4	**18–22**	3-4	**20-25**	**4-5**	**18–22**	3-4			18-32	3-4	**15–18**	3-4
1.5	**40–44**	6	**47**	**6**	**40–44**	6	**25**	5			**25**	5
1.6	**26**	5	**44**	**5**	**26**	5	**16**	5			**20**	5
1.7	**27**	4	**30**	**4**	**27**	4					**18**	4
1.8	**22**	3	**25**	**3**	**22**	3					**15**	3
1.9	**20**	4	**22**	**4**	**20**	4					**18**	4
1.10	**22**	4	**25**	**4**	**22**	4			20	4	**18**	4
1.11	**16**	3	**20**	**4**	**16**	3			15	3	**13**	4
1.12	**20**	4	**25**	**4**	**20**	4	**16**	4			**18**	4
1.13	**9**	2	**10**	**2**	**9**	2			12	2	**6**	2
1.14	**13**	3	**16**	**3**	**13**	3					**12**	3
1.15	**15–20**	3-4	**17-22**	**4-5**	**15–20**	3-4	**12–16**	3-4			**13–18**	3-4
1.16	**15–20**	3-4	**17-22**	**4-5**	**15–20**	3-4	**12–16**	3-4			**13–18**	3-4
2.1	**20**	4	19	**4**	**20**	4			**18**	4	13	4
2.2	**18**	4	17	**4**	**18**	4			**15**	4	11	4
2.3	**18**	4	16	**4**	**18**	4			**14**	3	12	4
2.4	**18**	4	15	**4**	**18**	4					11	4
2.5	**15**	3	14	**3**	**15**	3			**13**	3	10	3
2.6	**16**	3	15	**3**	**16**	3			**12**	3	9	3
2.7	**12**	3	13	**3**	**12**	3					8	3
3.1	**45**	6	**50**	6	**45**	6	**34**	6			31	6
3.2	**40**	6	**44**	6	**40**	6	**26**	6			28	6
3.3	**40**	6	**44**	6	**40**	6	**25**	6			21	6
3.4	**30**	6	**33**	6	**30**	6	**20**	6			17	6
3.5	**42**	6	**44**	6	**42**	6	**26**	6	45	6	21	6
3.6	**35**	6	**33**	6	**35**	6	**23**	6	32	6	18	6
3.7	**32**	6	**44**	6	**32**	6	**22**	6			24	6
3.8	**30**	6	**33**	6	**30**	6	**21**	6			23	6
4.1	**70**	7			**70**	7			90	7	**70**	7
4.2	**70**	7			**70**	7			90	7	**70**	7
4.3	**85**	7			**85**	7			80	7	**50**	7
4.4	**70**	7			**70**	7			70	6	**50**	6
4.5	**70**	6			**70**	6			70	6	**50**	6
4.6	**88**	5	88	5	**88**	5			40	5	**60**	5
4.7	**44**	5	50	5	**44**	5			38	4	**40**	4
4.8	**50**	4	33	5	**50**	4			48	4	**36**	4
4.9	**45**	4	29	5	**45**	4			43	4	**35**	4
4.10	**40**	4	28	5	**40**	4			37	4	**32**	4
4.11	**77**	5	84	5	**77**	5	36-40	4				
4.12	**44**	5	46	5	**44**	5			40	5	**40**	5
4.13	**15**	4	27	5	**15**	4					**28**	4
4.14	**25**	4	22	4	**25**	4	18	4	20	4	**18**	4
4.15												
4.16	**70**	6			**70**	6					**70**	6
4.17												
4.18	**14**	3			**14**	3						
4.19	**18**	4			**18**	4						
5.1	8	2			8	2						
5.2	10	2			10	2						
5.3	8	1			8	1						
5.4	8	1	5	**2**	8	1						
5.5	8	2			8	2						
5.6	8	2			8	2						
5.7	10	2	10	**2**	10	2			7	2	6	2
5.8	8	1			8	1						
5.9	8	1			8	1						
5.10	12	2			12	2			10	2		
5.11	8	2			8	2			6	2		
6.1	8	1			8	1						
6.2												
6.3												
6.4												
6.5												

The cutting data depends extremely on the external conditions, e.g. stability of the tool and tool clamping, material and machine type. The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

	Type WT 10 109 ...		Type WT-TiN 10 110 ...		Type WTL-L 10 112 ...		Type WT-MK 10 285 ...	
Index	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F
1.1	**30–35**	5	**35–45**	5	**22–27**	5-6	**30–35**	5
1.2	**30–35**	5	**35–45**	5	**26–34**	5-6	**30–40**	5
1.3	**36**	4	**44**	4	**30**	6	**36**	6
1.4	**15–20**	3-4	**18–22**	3-4	**13–16**	3-4	**15–20**	3-4
1.5	**40**	5	**44**	5	**25–34**	5	**35–40**	5
1.6	**35**	4	**38**	4	**16**	5	**35**	4
1.7	**20**	4	**27**	4	**16**	4	**20**	4
1.8	**16**	3	**22**	3	**13**	3	**16**	3
1.9	**16**	3	**18**	3	**16**	4	**16**	3
1.10	**16**	4	**22**	4	**16**	4	**16**	4
1.11	**12**	3	**18**	3	**11**	4	**12**	3
1.12	**15**	4	**17**	4	**16**	4	**20**	4
1.13	**8**	2	**9**	2	**12**	2	**8**	2
1.14	**12**	3	**15**	3	**12**	3	**15**	3
1.15	**12–15**	3-4	**14–19**	3-4	**12–16**	3-4	**12–20**	3-4
1.16	**12–15**	3-4	**14–19**	3-4	**12–16**	3-4	**12–20**	3-4
2.1	16	4	18	4	12	4	16	4
2.2	14	4	15	4	10	3	14	4
2.3	15	3	17	3	11	3	15	3
2.4	14	3	15	3	10	3	14	3
2.5	13	3	15	3	9	3	13	3
2.6	12	3	14	3	8	3	12	3
2.7	11	3	13	3	7	3	11	3
3.1	35	6	40	6	30	6	35	6
3.2	30	6	35	6	25	6	30	6
3.3	30	6	33	6	25	6	30	6
3.4	25	6	27	6	20	6	25	6
3.5	30	6	36	6	26	6	30	6
3.6	28	6	34	6	23	6	28	6
3.7	26	6	30	6	22	6	26	6
3.8	24	6	28	6	21	6	24	6
4.1					**70**	7		
4.2					**70**	7		
4.3					**50**	7		
4.4					**50**	6		
4.5					**45**	6		
4.6					**60**	5		
4.7	38	5	40	5	**40**	4	38	5
4.8	38	4	40	4	**32**	4	38	4
4.9	25	4	32	4	**30**	4	25	4
4.10					**28**	4		
4.11								
4.12					**40**	5		
4.13					**28**	5		
4.14	20	4	25	4	**18**	4	20	4
4.15								
4.16					**70**	6		
4.17								
4.18								
4.19								
5.1								
5.2								
5.3	7	1	8	1			7	1
5.4	7	1	8	1			7	1
5.5	7	1	8	1			7	1
5.6	8	2	10	2			8	2
5.7								
5.8								
5.9	12	2	15	2			10	2
5.10	12	2	15	2			10	2
5.11	8	2	10	2			6	2
6.1	4	1	8	1	6	1-2	4	1
6.2			4	1				
6.3								
6.4								
6.5								

When drilling tough materials which tend to jam, chips should be removed at drilling depth ≥ 4xD and the cutting speed v_c should be reduced as follows: at drilling depths > 4xD by 10%, at drilling depths > 6xD by 15-20%. It is also recommended to use an emulsion for cooling.

v_c = Cutting speed in m/min.
F = Factor for feed selection
Feed approximate values see → **Page 53**

Cutting data standard values – Hole depth 5xD

	Type VX-TiN 10 124 ...		Type UNI-PM-TiN 10 173 ...		Type UNI-TiN 10 171 ...		Type N 10 152 ...		Type VA 10 175 ...		Type W 10 161 ...		Type WTL 10 168 ...	
Index	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F
1.1	**33–38**	5-6	**37-42**	**5-6**	**33–38**	5-6	**22–27**	5-6					**30–35**	5
1.2	**40–44**	5-6	**44-47**	**6-7**	**40–44**	5-6	**26–34**	5-6					**40**	5
1.3	**44**	6	**47**	**4**	**44**	6	**30**	6					**36**	5
1.4	**18–22**	3-4	**20-25**	**4-5**	**18–22**	3-4			16-28	3-4			**15–20**	3-4
1.5	**40–44**	6	**47**	**6**	**40–44**	6	**25**	5					**40**	5
1.6	**26**	5	**44**	**5**	**26**	5							**35**	4
1.7	**27**	4	**30**	**4**	**27**	4							**20**	4
1.8	**22**	3	**25**	**3**	**22**	3							**16**	3
1.9	**20**	4	**22**	**4**	**20**	4							**14**	3
1.10	**22**	4	**25**	**4**	**22**	4			18	4			**16**	4
1.11	**16**	3	**20**	**4**	**16**	3			15	3			**12**	3
1.12	**20**	4	**25**	**4**	**20**	4	**16**	4					**10**	3
1.13	**9**	2	**10**	**2**	**9**	2								
1.14	**13**	3	**16**	**3**	**13**	3							**15**	3
1.15	**15–20**	3-4	**17-22**	**4-5**	**15–20**	3-4	**12–16**	3-4					**15**	4
1.16	**15–20**	3-4	**17-22**	**4-5**	**15–20**	3-4	**12–16**	3-4					**12**	3
2.1	**20**	4	19	**4**	**20**	4			**16**	4			15	4
2.2	**18**	4	17	**4**	**18**	4			**14**	4			14	4
2.3	**18**	4	16	**4**	**18**	4			**13**	4			12	3
2.4	**18**	4	15	**4**	**18**	4			**14**	3			13	3
2.5	**15**	3	14	**3**	**15**	3			**12**	3				
2.6	**16**	3	15	**3**	**16**	3			**11**	3				
2.7	**12**	3	13	**3**	**12**	3			**10**	3				
3.1	**45**	6	**50**	6	**45**	6	**34**	6					36	6
3.2	**40**	6	**44**	6	**40**	6	**26**	6					28	6
3.3	**40**	6	**44**	6	**40**	6	**25**	6					30	6
3.4	**30**	6	**33**	6	**30**	6	**20**	6					22	6
3.5	**42**	6	**44**	6	**42**	6	**26**	6	42	6			28	6
3.6	**35**	6	**33**	6	**35**	6	**23**	6	30	6			23	6
3.7	**32**	6	**44**	6	**32**	6	**22**	6					20	6
3.8	**30**	6	**33**	6	**30**	6	**21**	6					18	6
4.1	**70**	7			**70**	7					**80**	7		
4.2	**70**	7			**70**	7			90	7	**80**	7		
4.3	**85**	7			**85**	7			90	7	**63**	7	70	7
4.4	**70**	7			**70**	7			70	6			55	6
4.5	**70**	6			**70**	6			70	6			55	6
4.6	**88**	5	88	5	**88**	5			55	5	**50**	5	40	5
4.7	**44**	5	50	5	**44**	5			44	4			36	5
4.8	**47**	4	33	5	**47**	4			36	4			28	4
4.9	**43**	4	29	5	**43**	4			30	4			22	4
4.10	**38**	4	28	5	**38**	4			30	3			20	4
4.11	**77**	5	84	5	**77**	5								
4.12	**44**	5	46	5	**44**	5			45	5			45	4
4.13	**15**	4	27	5	**15**	4					**28**	5		
4.14	**25**	4	22	4	**25**	4	18	4					20	4
4.15														
4.16	**70**	6			**70**	6								
4.17														
4.18	**14**	3			**14**	3			11	3				
4.19	**18**	4			**18**	4			13	4				
5.1	8	2			8	2								
5.2	10	2			10	2								
5.3	8	1			8	1								
5.4	8	1	5	**2**	8	1								
5.5	8	2			8	2								
5.6	8	2			8	2								
5.7	10	1	10	**2**	10	1			9	2				
5.8	8	1			8	1								
5.9	8	1			8	1								
5.10	12	2			12	2			10	2				
5.11	8	2			8	2								
6.1	8	1			8	1								
6.2														
6.3														
6.4														
6.5														

The cutting data depends extremely on the external conditions, e.g. stability of the tool and tool clamping, material and machine type. The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

	Type WTL-TiN 10 170 ...		Type WTL-TiCN 10 172 ...		Type WTL-L 10 169 ...		Type WNXi 10 180 ...		Type WNXi-TiN 10 181 ...		Type N-MK 10 265 ...		Type WTL-MK 10 280 ...	
Index	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F
1.1	**36–42**	5	**36–42**	6	**22–27**	5-6	**42–50**	6-7	**42–60**	6-7	**22–27**	5-6	**30–35**	5
1.2	**42–48**	5	**42–48**	6	**25–32**	5-6	**42–50**	6-7	**42–60**	6-7	**25–32**	5-6	**40**	5
1.3	**48**	4	**48**	7	**32**	6	**50**	7	**62**	7	**30**	6	**36**	6
1.4	**20–24**	3-4	**20–24**	4-5			**16–22**	4-5	**20–31**	4-5			**15–20**	3-4
1.5	**48**	5	**48**	6	**25**	5	**38–48**	6	**48–60**	6	**25**	5	**28–40**	5
1.6	**42**	4	**42**	5			**28**	5	**30**	5			**28**	4
1.7	**34**	4	**34**	5			**25**	5	**30**	5			**18–20**	4
1.8	**30**	3	**30**	4			**20**	4	**25**	4			**16**	3
1.9	**18**	3	**20**	4			**22**	5	**25**	5			**14**	3
1.10	**24**	4	**20**	5			**22**	5	**28**	5			**14–16**	4
1.11	**20**	3	**15**	4			**14**	4	**20**	4			**12**	3
1.12	**13**	3	**15**	4			**24**	5	**26**	5	**16**	4	**10**	3
1.13			**11**	3			**15**	3	**18**	3				
1.14	**17**	3	**17**	4			**18**	4	**20**	4			**10–15**	3
1.15	**18**	4	**21**	5	**16**	4	**16–24**	4-5	**18–30**	4-5	**12–16**	3-4	**15**	4
1.16	**14**	3	**15**	4			**16–24**	4-5	**18–30**	4-5	**12–16**	3-4	**12**	3
2.1	18	4	20	5			**20**	5	**25**	5			15	4
2.2	16	4	18	4			**18**	5	**22**	5			14	4
2.3	14	3	16	4			**16**	5	**20**	5			12	3
2.4	15	3	17	4			**18**	5	**22**	5			13	3
2.5							**15**	4	**19**	4				
2.6							**14**	4	**18**	4				
2.7							**12**	4	**17**	4				
3.1	45	6			32	6	**48**	7	**60**	7	**32**	6	36	6
3.2	36	6			25	6	**42**	7	**52**	7	**25**	6	28	6
3.3	40	6			28	6	**42**	7	**52**	7	**28**	6	30	6
3.4	28	6			20	6	**40**	7	**50**	7	**20**	6	22	6
3.5	36	6			25	6	**42**	7	**52**	7	**25**	6	28	6
3.6	30	6			22	6	**35**	7	**45**	7	**22**	6	23	6
3.7	25	6			18	6	**32**	7	**42**	7	**21**	6	20	6
3.8	22	6			16	6	**30**	7	**40**	7	**20**	6	18	6
4.1					80	7								
4.2					80	7								
4.3	85	7			63	7	95	7	120	7			70-80	7
4.4	70	6			50	6	75	8	95	8			60-70	6
4.5	70	6			50	6	75	8	95	8			60-70	6
4.6	88	5			32	5	78	6	98	6			40	5
4.7	45	5			50	5	55	6	62	6			36	5
4.8	32	4			15	4							28	4
4.9	25	4					42	5	48	5			22	4
4.10	22	4					38	5	44	5			20	4
4.11														
4.12					40	5	55	6	55	6			45	4
4.13							38	6	44	6	28	5		
4.14	24	4			16	4					18	4	18	4
4.15														
4.16														
4.17														
4.18							15	4	20	4				
4.19							18	4	22	5				
5.1							9	3	11	3				
5.2							11	3	13	3				
5.3							9	2	11	2				
5.4							9	2	11	2				
5.5							9	2	11	2				
5.6							11	3	13	3				
5.7							9	2	11	2				
5.8							9	3	11	3				
5.9							9	2	11	2				
5.10							14	3	17	3				
5.11							10	3	12	3				
6.1							8	3	10	3				
6.2							4	3	5	3				
6.3														
6.4														
6.5														

When drilling tough materials which tend to jam, chips should be removed at drilling depth ≥ 4xD and the cutting speed v_c should be reduced as follows: at drilling depths > 4xD by 10 %, at drilling depths > 6xD by 15-20 %. It is also recommended to use an emulsion for cooling.

v_c = Cutting speed in m/min.
F = Factor for feed selection
Feed approximate values see → **Page 53**

Cutting data standard values – Hole depth 10xD and over 10xD

	Hole depth 10xD													
	Type NC 10 223 ...		Type NC-TiALN 10 224 ...		Type UNI-TiN 10 270 ...		Type WTL 10 225 ...		Type WTL 10 215 ...		Type WTL-TiN 10 210 ...		Type WTW 10 200 ...	
Index	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F
1.1	**30–40**	5-6	**50–65**	6-7	**25–32**	5-6	**28–32**	5-6	**22–28**	5-6	**24–30**	5-6		
1.2	**30–40**	5-6	**50–65**	6-7	**28–35**	6	**28–32**	5-6	**22–28**	5-6	**28–32**	5-6		
1.3	**40**	6	**65**	7	**28**	6	**32**	6	**28**	6	**32**	6		
1.4	**12–17**	3-4	**18–25**	4-5	**12–14**	3-4	**13–18**	3-4			**10–14**	4		
1.5	**30–40**	5	**45–55**	6	**25–28**	6	**26–36**	5	**22**	5	**26–36**	5		
1.6	**22**	4	**35**	5	**15**	5	**24**	4-5			**24**	4		
1.7	**20**	3	**30**	4	**13**	4	**16**	4			**18**	4		
1.8	**14**	3	**20**	4	**12**	3	**12**	3						
1.9	**14**	3	**20**	4	**13**	4	**12**	3						
1.10	**14**	4	**20**	5	**13**	4	**14**	4			**12**	4		
1.11	**10**	3	**15**	4	**8**	3	**10**	3						
1.12	**10**	3	**15**	4			**8**	3			**8**	3		
1.13	**7**	2	**12**	3			**6**	2						
1.14	**10**	3	**15**	4	**10**	3	**12**	3						
1.15	**20**	4	**30**	4	**10–13**	3-4	**16**	8	**14**	4	**15**	4		
1.16	**10**	3	**15**	4	**10–13**	3-4	**8**	3			**8**	3		
2.1	14	4	20	4	13	4	**12**	4						
2.2	14	4	20	4			**13**	4						
2.3	12	3	18	3	12	4	**10**	3						
2.4	13	3	20	3			**11**	3						
2.5	11	3	16	3			**9**	3						
2.6	10	3	15	3	8-13	3-4	**8**	3						
2.7							**7**	2-3						
3.1	**40**	6	**65**	7	**32**	6	**28**	6	**28**	6	**36**	6-7		
3.2	**30**	6	**50**	7	**26**	6	**22**	6	**22**	6	**28**	6-7		
3.3	**35**	6	**60**	7	**28**	6	**30**	6	**22**	6	**28**	6-7		
3.4	**25**	6	**40**	7	**20**	6	**24**	6	**18**	6	**22**	6-7		
3.5	**30**	6	**50**	7	**28**	6	**24**	6	**22**	6	**28**	6-7		
3.6	**32**	6	**55**	7	**20**	6	**20**	6	**16**	6	**30**	6-7		
3.7	**24**	6	**36**	7	**28**	6	**16**	6	**14**	6	**20**	6-7		
3.8	**22**	6	**32**	7	**20**	6	**15**	6	**13**	6	**18**	6-7		
4.1					50	7							**65**	7
4.2	80	6	110	7	60	7							**65**	7
4.3	80	6	110	7	60	7	**70**	7	**55**	7	**70**	7		
4.4	75	7	95	8	50	6	**60**	6	**45**	6	**55**	6		
4.5	60	6	80	7	50	6	**60**	6	**45**	6	**55**	6		
4.6	60	5	60	6	24	5	**54**	5	**54**	5	**65**	5		
4.7	40	5	60	6			**30**	5	**28**	5	**36**	5		
4.8	36	4	55	5			**26**	4	**24**	4	**28**	4		
4.9	25	4	35	5			**22**	4	**20**	4	**22**	4		
4.10	23	4	30	5			**20**	4	**18**	4	**20**	4		
4.11					35-50	4-5								
4.12	50	5	65	5	28	5	**38**	5	**34**	5	**44**	5		
4.13	30	5	40	5	12	4							**22**	5
4.14					18	4	**16**	4	**14**	4	**18**	4		
4.15														
4.16					50	6							**63**	6
4.17														
4.18	8	2	10	3										
4.19	7	2	9	3										
5.1	8	2	11	2-3										
5.2	6	2	7	2-3										
5.3	6	1	7	2										
5.4	6	2	7	2										
5.5	6	1	7	2										
5.6	5	1	6	2										
5.7	5	1	6	2										
5.8	5	1	6	1										
5.9	5	1	6	1										
5.10	6	2	7	2-3										
5.11	6	1	7	2-3										
6.1	6	3	7	3										
6.2	4	2	5	2										
6.3														
6.4														
6.5														

The cutting data depends extremely on the external conditions, e.g. stability of the tool and tool clamping, material and machine type. The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

	Hole depth 10xD				Hole depth above 10xD									
	Type N-MK 10 295 ...		Type WTL-MK 10 297 ...		Type WTL-R1 10 235 ...		Type WTL-R2 10 245 ...		Type WTL-R3 10 255 ...		Type WTL-MK-R1 10 305 ...		Type WTL-MK-R2 10 315 ...	
Index	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F	v_c in m/min	F
1.1	**28–36**	5-6	**28–32**	5-6	**18–22**	4-5	**18–22**	4-5	**18–22**	4-5	**18–22**	4-5	**18–22**	4-5
1.2	**28–36**	5-6	**28–32**	5-6	**18–22**	4-5	**18–22**	4-5	**18–22**	4-5	**18–22**	4-5	**18–22**	4-5
1.3	**27**	6	**32**	6	**22**	4	**22**	4	**22**	4	**22**	4	**22**	4
1.4	**14**	4	**10–14**	3-4	**10**	3	**10**	3	**10**	3	**10**	3	**10**	3
1.5	**28–36**	5	**36**	5	**18–22**	4	**18–22**	4	**18–22**	4	**18–22**	4	**18–22**	4
1.6	**22**	4	**24**	4										
1.7	**18**	4	**16**	4	**12**	3	**12**	3	**12**	3	**12**	3	**12**	3
1.8			**12**	3										
1.9			**12**	3										
1.10	**12**	4	**12**	4	**8**	3	**8**	3	**8**	3	**8**	3	**8**	3
1.11			**8**	3										
1.12	**8**	3	**8**	3										
1.13			**6**	2										
1.14			**8**	3	**6**	2	**6**	2	**6**	2	**6**	2	**6**	2
1.15	**18**	4	**16**	4										
1.16	**8**	3	**8**	3										
2.1			**12**	4	8	3	8	3	8	3	8	3	8	3
2.2			**13**	4	8	3	8	3	8	3	8	3	8	3
2.3			**10**	3										
2.4			**11**	3										
2.5			**9**	3										
2.6			**8**	3										
2.7			**7**	2-3										
3.1	**36**	6-7	**28**	6	**22**	5	**22**	5	**22**	5	**22**	5	**22**	5
3.2	**28**	6-7	**22**	6	**18**	5	**18**	5	**18**	5	**18**	5	**18**	5
3.3	**28**	6-7	**30**	6	**20**	5	**20**	5	**20**	5	**20**	5	**20**	5
3.4	**22**	6-7	**24**	6	**14**	5	**14**	5	**14**	5	**14**	5	**14**	5
3.5	**28**	6-7	**22**	6	**18**	5	**18**	5	**18**	5	**18**	5	**18**	5
3.6	**30**	6-7	**20**	6	**16**	5	**16**	5	**16**	5	**16**	5	**16**	5
3.7	**20**	6-7	**16**	6	**14**	5	**14**	5	**14**	5	**14**	5	**14**	5
3.8	**18**	6-7	**15**	6	**12**	5	**12**	5	**12**	5	**12**	5	**12**	5
4.1														
4.2														
4.3	70	7	**70**	7	**45**	6	**45**	6	**45**	6	**45**	6	**45**	6
4.4	55	6	**60**	6	**36**	5	**36**	5	**36**	5	**36**	5	**36**	5
4.5	55	6	**50**	6	**36**	5	**36**	5	**36**	5	**36**	5	**36**	5
4.6	54	5	**54**	5	**22**	4	**22**	4	**22**	4	**22**	4	**22**	4
4.7	36	5	**30**	5	**20**	3	**20**	3	**20**	3	**20**	3	**20**	3
4.8	28	4	**26**	4	**22**	3	**22**	3	**22**	3	**22**	3	**22**	3
4.9	22	4	**22**	4	**22**	3	**22**	3	**22**	3	**22**	3	**22**	3
4.10	20	4	**20**	4	**20**	3	**20**	3	**20**	3	**20**	3	**20**	3
4.11														
4.12	36	4	**38**	5	**28**	4	**28**	4	**28**	4	**28**	4	**28**	4
4.13	22	5			**20**	3	**20**	3	**20**	3	**20**	3	**20**	3
4.14	14	4	**16**	4	**14**	4	**14**	4	**14**	4	**14**	4	**14**	4
4.15														
4.16					**55**	5	**55**	5	**55**	5	**55**	5	**55**	5
4.17														
4.18														
4.19														
5.1														
5.2														
5.3														
5.4														
5.5														
5.6														
5.7														
5.8														
5.9														
5.10														
5.11														
6.1														
6.2														
6.3														
6.4														
6.5														

When drilling tough materials which tend to jam, chips should be removed at drilling depth ≥ 4xD and the cutting speed v_c should be reduced as follows: at drilling depths > 4xD by 10 %, at drilling depths > 6xD by 15-20 %. It is also recommended to use an emulsion for cooling.

v_c = Cutting speed in m/min.
F = Factor for feed selection
Feed approximate values see → **Page 53**

Cutting data standard values – micro drills 10 103 ...

		Nominal Ø in mm						
		Ø 0,15	Ø 0,20-0,25	Ø 0,30-0,35	Ø 0,40-0,55	Ø 0,60-0,75	Ø 0,80-0,95	Ø 1,00-1,45
Index	v_c in m/min	f mm/rev.	f mm/rev.	f mm/rev.	f mm/rev.	f mm/rev.	f mm/rev.	f mm/rev.
1.1	18	0,009	0,011	0,015	0,019	0,026	0,031	0,050
1.2	18	0,007	0,009	0,011	0,014	0,020	0,024	0,041
1.3	18	0,009	0,011	0,015	0,019	0,026	0,031	0,050
1.4	14	0,005	0,007	0,009	0,011	0,015	0,020	0,035
1.5	18	0,007	0,009	0,011	0,014	0,020	0,024	0,041
1.6	14	0,005	0,007	0,009	0,011	0,015	0,020	0,035
1.7	14	0,005	0,007	0,009	0,011	0,015	0,020	0,035
1.8	12	0,004	0,005	0,007	0,009	0,012	0,016	0,029
1.9	12	0,004	0,005	0,007	0,008	0,012	0,016	0,029
1.10	14	0,005	0,007	0,009	0,011	0,015	0,020	0,035
1.11	12	0,004	0,005	0,007	0,008	0,012	0,016	0,029
1.12	14	0,005	0,007	0,009	0,011	0,015	0,020	0,035
1.13	8	0,003	0,004	0,005	0,007	0,009	0,013	0,024
1.14	14	0,004	0,005	0,007	0,008	0,012	0,016	0,029
1.15	12–14	0,004	0,006	0,008	0,007	0,010	0,014	0,026
1.16	12–14	0,004	0,006	0,008	0,007	0,010	0,014	0,026
2.1	12	0,005	0,007	0,009	0,011	0,015	0,020	0,035
2.2	10	0,005	0,007	0,009	0,011	0,015	0,020	0,035
2.3	6	0,004	0,005	0,007	0,008	0,012	0,016	0,029
2.4	6	0,004	0,005	0,007	0,008	0,012	0,016	0,029
2.5	6	0,004	0,006	0,008	0,007	0,010	0,014	0,026
2.6	6	0,004	0,005	0,007	0,008	0,012	0,016	0,029
2.7	6	0,004	0,005	0,007	0,008	0,012	0,016	0,029
3.1	25	0,009	0,011	0,015	0,019	0,026	0,031	0,050
3.2	22	0,009	0,011	0,015	0,019	0,026	0,031	0,050
3.3	18	0,009	0,011	0,015	0,019	0,026	0,031	0,050
3.4	22	0,009	0,011	0,015	0,019	0,026	0,031	0,050
3.5	22	0,009	0,011	0,015	0,019	0,026	0,031	0,050
3.6	20	0,009	0,011	0,015	0,019	0,026	0,031	0,050
3.7	22	0,004	0,005	0,007	0,008	0,012	0,016	0,029
3.8	20	0,009	0,011	0,015	0,019	0,026	0,031	0,050
4.1								
4.2								
4.3	26	0,012	0,014	0,019	0,024	0,034	0,038	0,060
4.4	24	0,012	0,014	0,019	0,024	0,034	0,038	0,060
4.5	18	0,009	0,011	0,015	0,019	0,026	0,031	0,050
4.6	42	0,007	0,009	0,011	0,014	0,020	0,024	0,041
4.7	38	0,007	0,009	0,011	0,014	0,020	0,024	0,041
4.8	45	0,009	0,011	0,015	0,019	0,026	0,031	0,050
4.9	35	0,007	0,009	0,011	0,014	0,020	0,024	0,041
4.10	30	0,007	0,009	0,011	0,014	0,02	0,024	0,041
4.11								
4.12	22	0,007	0,009	0,011	0,014	0,020	0,024	0,041
4.13	18	0,005	0,007	0,009	0,011	0,015	0,020	0,035
4.14	16	0,005	0,007	0,009	0,011	0,015	0,020	0,035
4.15								
4.16	75	0,009	0,011	0,015	0,019	0,026	0,031	0,050
4.17								
4.18	6	0,004	0,005	0,007	0,008	0,012	0,016	0,029
4.19	6	0,004	0,005	0,007	0,008	0,012	0,016	0,029
5.1	5	0,004	,0,005	0,007	0,008	0,012	0,016	0,029
5.2	5	0,004	0,005	0,007	0,008	0,012	0,016	0,029
5.3	5	0,004	0,005	0,007	0,008	0,012	0,016	0,029
5.4	5	0,004	0,005	0,007	0,008	0,012	0,016	0,029
5.5	5	0,004	0,005	0,007	0,008	0,012	0,016	0,029
5.6	5	0,004	0,005	0,007	0,008	0,012	0,016	0,029
5.7	6	0,005	0,007	0,009	0,011	0,015	0,020	0,035
5.8	5	0,004	0,005	0,007	0,008	0,012	0,016	0,029
5.9	5	0,004	0,005	0,007	0,008	0,012	0,016	0,029
5.10	4	0,003	0,004	0,005	0,007	0,009	0,013	0,024
5.11	4	0,003	0,004	0,005	0,007	0,009	0,013	0,024
6.1	3	0,002	0,003	0,004	0,005	0,007	0,010	0,020
6.2								
6.3								
6.4								
6.5								

The cutting data depends extremely on the external conditions, e.g. stability of the tool and tool clamping, material and machine type. The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

Feed rate guide values for HSS twist drills

Factor F	Drill diameter in mm															
	0,5	1	2	3	4	5	6	8	10	12	14	16	18	20	26	30
	Feed rate f in mm/rev.															
1	0,004	0,006	0,02	0,03	0,04	0,04	0,05	0,06	0,08	0,08	0,09	0,1	0,12	0,15	0,18	0,19
2	0,006	0,008	0,02	0,03	0,05	0,05	0,05	0,08	0,1	0,1	0,1	0,12	0,12	0,2	0,2	0,2
3	0,007	0,012	0,03	0,05	0,06	0,069	0,08	0,1	0,12	0,13	0,13	0,16	0,16	0,25	0,25	0,25
4	0,008	0,014	0,04	0,06	0,08	0,09	0,1	0,14	0,16	0,16	0,16	0,2	0,2	0,3	0,3	0,3
5	0,01	0,016	0,06	0,08	0,1	0,12	0,13	0,16	0,2	0,2	0,22	0,25	0,25	0,4	0,4	0,4
6	0,012	0,018	0,06	0,1	0,12	0,14	0,16	0,2	0,25	0,25	0,25	0,3	0,3	0,5	0,5	0,5
7	0,014	0,02	0,08	0,13	0,16	0,18	0,2	0,25	0,35	0,35	0,35	0,4	0,4	0,6	0,6	0,6
8	0,016	0,023	0,1	0,16	0,2	0,2	0,25	0,35	0,4	0,4	0,4	0,4	0,5	0,6	0,7	0,8
9	0,019	0,025	0,13	0,17	0,2	0,23	0,32	0,4	0,4	0,5	0,5	0,5	0,6	0,8	0,9	0,9

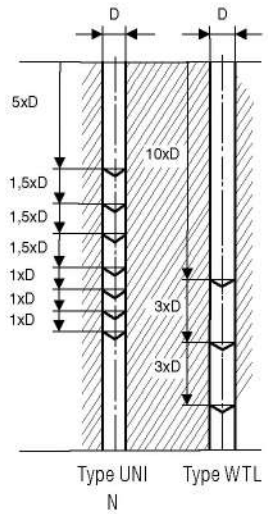
All the indicated data are guide values only and represent average values.

Speed for HSS drills

v_c m/min	Drill diameter in mm															
	2,0	2,5	3,15	4,0	5,0	6,3	8,0	10,0	12,5	16,0	20,0	25,0	31,5	40,0	50,0	63,0	80,0
	Speed in U/min																
80	12500	10000	8000	6300	5000	4000	3200	2500	2000	1600	1250	1000	800	630	500	400	320
63	10000	8000	6300	5000	4000	3200	2500	2000	1600	1250	1000	800	630	500	400	320	250
50	8000	6300	5000	4000	3200	2500	2000	1600	1250	1000	800	630	500	400	320	250	200
40	6300	5000	4000	3200	2500	2000	1600	1250	1000	800	630	500	400	320	250	200	160
32	5000	4000	3200	2500	2000	1600	1250	1000	800	630	500	400	320	250	200	160	125
25	4000	3200	2500	2000	1600	1250	1000	800	630	500	400	320	250	200	160	125	100
20	3200	2500	2000	1600	1250	1000	800	630	500	400	320	250	200	160	125	100	80
16	2500	2000	1600	1250	1000	800	630	500	400	320	250	200	160	125	100	80	63
12	2000	1600	1250	1000	800	630	500	400	320	250	200	160	125	100	80	63	50
10	1600	1250	1000	800	630	500	400	320	250	200	160	125	100	80	63	50	40
8	1250	1000	800	630	500	400	320	250	200	160	125	100	80	63	50	40	32
6	1000	800	630	500	400	320	250	200	160	125	100	80	63	50	40	32	25
5	800	630	500	400	320	250	200	160	125	100	80	63	50	40	32	25	20
4	630	500	400	320	250	200	160	125	100	80	63	50	40	32	25	20	16
3	500	400	320	250	200	160	125	100	80	63	50	40	32	25	20	16	12

Peck frequency for deep drilling

- drill must be sufficiently cooled
- by use of a drill with flat chip gullet profile (type WTL) chip transport is substantially improved
- for extremely deep drilling or when machining horizontally through coolant drills with internal coolant supply are recommended



Coatings

TiN

- TiN coating
- maximum application temperature: 450 °C

TiAlN

- TiAlN multilayer coating
- maximum application temperature: 900 °C

vap.

- vaporised
- vaporisation (vapour-deposition) prevents cold welds from forming on the tool and increases the surface hardness and thus the wear resistance

TiCN

- TiCN multilayer coating
- maximum application temperature: 450 °C

F.-nit

- titanium carbon nitride based PVD coating particularly suitable for steel machining
- applicable up to approx. 450 °C

New products for machining technicians

NEW WTX – Speed UNI

≤ 3xD | ≤ 5xD | ≤ 8xD

The new WTX – Speed UNI raises your productivity and increases process security thanks to a new geometry and new Dragonskin coating DPX14S.

NEW WTX – Feed UNI

≤ 5xD | ≤ 8xD | ≤ 12xD

The update means the WTX – Feed UNI is even more versatile and capable thanks to several geometrical changes and the tried-and-tested universal Dragonskin coating DPX74S. Now available from Ø 4.00 mm.

NEW WTX – Quattro 4F

≤ 5xD | ≤ 8xD | ≤ 12xD

The high-performance drill with four guide lands has been made even more capable through geometrical changes and the universal Dragonskin coating DPX74S.

NEW WTX – short step drill

The WTX short step drill with tried-and-tested universal Dragonskin coating DPX74S.

NEW WTX – Change UNI

The WTX – Change UNI exchangeable head with tried-and-tested universal Dragonskin coating DPX74S.

NEW WTX – AL

≤ 5xD | ≤ 8xD | ≤ 12xD

DLC-coated high-performance drill for aluminium machining.

NEW WTX – H

≤ 3xD

High-performance drill for hardened steels from 45 to 70 HRC.

Table of contents

WNT \ Performance

Premium quality tools for high performance.

The premium quality tools from the **WNT Performance** product line have been designed for specific applications and are distinguished by their outstanding performance. If you make high demands on the performance of your production and want to achieve the very best results, we recommend the Premium tools in this product line.

WNT \ Standard

Quality tools for standard applications.

The quality tools of the **WNT Standard** product line are high quality, powerful and reliable and enjoy the highest trust of our customers worldwide. Tools from this product line are the first choice for many standard applications and guarantee optimal results.

Symbol explanation

Shank

Version

Int. coolant supply

self-centering

▲ Pilot drilling
▲ min. 2xD

● = **Main Application**
○ = Extended application

Toolfinder

Steel/Universal

Product name	Tool type	Description	Int. coolant supply	Heads	1xD	3xD	5xD	8xD	12xD
Solid carbide drilling									
WTX	Speed UNI	▲ high performance drill for high cutting speeds ▲ using new DPX14S Dragonskin coating ▲ new cutting geometry	✓			21–24	38–42	55–58	
WTX	Feed UNI	▲ high feed drills with 3 cutting edges ▲ for difficult drilling conditions ▲ high positional accuracy	✓				38–42	55–58	63–65
WTX	UNI	▲ highest performance for all materials up to 1200 N/mm² ▲ suitable for volume production	✗ ✓			9–13 21–24	32–35 38–42	 55–58	
WPC	UNI	▲ quality tools for standard applications	✗ ✓			14–17 25–28	36 50–53	 59	 66
WTX	180	▲ for inclined surfaces up to 45° and flat bottom holes	✓			31	54		
WTX	Quattro 4F	▲ with additional guide land for best alignment accuracy, concentricity and positional accuracy	✗ ✓				32–35 38–42	 55–58	 63–65
	N	▲ uncoated solid carbide drills ▲ universal application	✗			20	37		
Mini-drill									
WTX	MINI	▲ standard shank Ø 3.0 mm ▲ optimal chip formation and removal thanks to WTX flute geometry	✗ ✓				70 71	 71	 72
Drill Reamers									
WTX	Finish BR/ BR100	▲ solid carbide high performance drill reamer ▲ excellent surface quality ▲ for blind and through holes	✓			73+74	74		
Stepped drills									
WTX	SB	▲ core hole plus countersink for thread forming and tapping	✗			75			
NC Spot Drill									
	NC-A	▲ spiral fluted ▲ 90°, 120°, 142°	✗		76+77				
Centre drills									
	ZB	▲ spiral fluted ▲ 120°	✗		78				
Exchange head drill									
WTX	Change Feed UNI	▲ three-edged exchangeable head drill with solid carbide drill head type Feed UNI from Ø 14.0 mm to 32.0 mm ▲ universal application (steel, cast iron)	✓	79+80		81	81	82	
WTX	Change UNI	▲ exchangeable head drill with type UNI solid carbide drill head from Ø 12.0 mm to 41.0 mm ▲ for steels < 700 N/mm²	✓	83–88	89	89	90	90	91
WTX	Change P	▲ exchangeable head drill with type P solid carbide drill head from Ø 12.0 mm to 41.0 mm ▲ for steels > 700 N/mm²	✓	83–88	89	89	90	90	91
Exchangeable head NC spot drill									
	NC-A	▲ NC spot drill – Exchange Head System ▲ 90°, 120°, 142°	✗	93					

✗ = without through coolant | ✓ = with thro' coolant

Toolfinder

	Product name	Tool type	Description	Int. coolant supply	Heads	1xD	3xD	5xD	8xD	12xD
Stainless steel	**Solid carbide drilling**									
	WTX	VA	▲ highest performance for corrosion and acid resistant steels and aluminium ▲ for volume production	✖ ✓			9–13 21–24	32–35 43–49	 60–62	
	WPC	VA	▲ quality tools for corrosion and acid-resistant steels and aluminum	✖ ✓			14–17 25–28	 50–53		
	WTX	Speed VA	▲ double the cutting speed in corrosion and acid-resistant steels and aluminum	✓				43–49		
	Exchange head drill									
	WTX	Change VA	▲ exchangeable head drill with solid carbide drill head type VA from Ø 12.0 mm to 32.0 mm	✓	83–88	89	89	90	90	91
Cast iron	**Solid carbide drilling**									
	WTX	GG	▲ highest performance in cast materials to 250 HB	✓				43–49	60–62	
	Exchange head drill									
	WTX	Change GG	▲ exchangeable head drill with solid carbide drill head type GG from Ø 12.0 mm to 32.0 mm	✓	83–88	89	89	90	90	91
Non-ferrous metals	**Solid carbide drilling**									
	WTX	AL	▲ solid carbide high performance drill, especially for the machining of aluminum, copper and brass ▲ for volume production	✓				43–49	60–62	63–65
	Exchange head drill									
	WTX	Change AL	▲ exchangeable head drill with solid carbide drill head type AL from Ø 12.0 mm to 32.0 mm	✓	83–88	89	89	90	90	91
Heat-resistant	**Solid carbide drilling**									
	WTX	Ti	▲ highest performance in titanium, titanium alloys and heat resistant alloys	✓			29+30	43–49		
Tempered steel	**Solid carbide drilling**									
	WTX	H	▲ highest performance in hardened steel from 46 to 70 HRC	✖ ✓			19 18			

	Product name	Tool type	Description	Int. coolant supply	16xD	20xD	25xD	30xD	40xD	50xD
	Deep Hole Drills									
Steel/ Universal	WTX	TB UNI	▲ solid carbide deep hole drill to 50xD without peck ▲ 4 facet geometry for excellent alignment accuracy	✓	67	67	68	68	69	69
Non-ferrous metals	WTX	TB ALU	▲ solid carbide deep hole drills, up to 30xD without pecking ▲ 6-facet head geometry for excellent alignment accuracy	✓	67	67	68	68		

✖ = without through coolant | ✓ = with thro' coolant

Overview Solid Carbide Drills

	Product name	Tool type	Length	Diameter in mm Ø DC	Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Hardened materials		coated ■	uncoated □	WNT \ Performance	WNT \ Standard
3xD without thro' coolant															
	WTX	UNI	≤ 3xD	3–25	●		●	○		○		■		9–13	
	WTX	VA	≤ 3xD	2–20	○	●	○	●		○		■		9–13	
	WPC	UNI	≤ 3xD	1–20	●		●	○				■			14–17
	WPC	VA	≤ 3xD	1–20	○	●	○	●		○		■			14–17
	WTX	H	≤ 3xD	2,55–14						●	up to 70 HRC	■		19	
		N	≤ 3xD	0,5–20	●	○	○	●	○				□		20
3xD with thro' coolant															
	WTX	Speed UNI	≤ 3xD	3–20	●		●	○		○		■		21–24	
	WTX	UNI	≤ 3xD	3–25	●	○	●	○		○		■		21–24	
	WTX	VA	≤ 3xD	3–20	○	●	○	●	○			■		21–24	
	WPC	UNI	≤ 3xD	1–20	●	○	●	○				■			25–28
	WPC	VA	≤ 3xD	1–20	○	●	○	●	●			■			25–28
	WTX	Ti	≤ 3xD	3–20		●			●			■		29+30	
	WTX	180	≤ 3xD	3–20	●	○	●	○		○		■		31	
	WTX	H	≤ 3xD	2,55–14	○		○			●	up to 58 HRC	■		18	
5xD without thro' coolant															
	WTX	UNI	≤ 5xD	3–20	●		●	○				■		32–35	
	WTX	Quattro 4F	≤ 5xD	3–20	●		●					■		32–35	
	WTX	VA	≤ 5xD	3–20	○	●	○	●		○		■		32–35	
	WPC	UNI	≤ 5xD	3–20	●		●	○				■			36
		N	≤ 5xD	0,5–16	●	○	○	●	○				□		37

Overview Solid Carbide Drills

5xD with thro‘ coolant

	Product name	Tool type	Length	Diameter in mm Ø DC	Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Hardened materials		coated ■ uncoated □	WNT \ Performance	WNT \ Standard
	WTX	Feed UNI	≤ 5xD	4–20	●	●	●	○			HA	■	38–42	
	WTX	Speed UNI	≤ 5xD	3–20	●	●	●	○		○	HA	■	38–42	
	WTX	UNI	≤ 5xD	3–25	●	○	●	○			HA HB HE	■	38–42	
	WTX	Quattro 4F	≤ 5xD	3–20	●	○	●	○			HA	■	38–42	
	WTX	Speed VA	≤ 5xD	3–20	○	●	○	○	○		HA	■	43–49	
	WTX	VA	≤ 5xD	3–20	○	●	○	●	○		HA HE	■	43–49	
	WTX	GG	≤ 5xD	3–20			●	●			HA	■	43–49	
	WTX	AL	≤ 5xD	2,5–20			○	●			HA	■	43–49	
	WTX	Ti	≤ 5xD	3–20		●			●		HA	■	43–49	
	WPC	UNI	≤ 5xD	1–20	●	○	●	○			HA HB	■	50–53	
	WPC	VA	≤ 5xD	1–20	○	●	○	●	●		HA HB	■	50–53	
	WTX	180	≤ 5xD	3–20	●	○	●			○	HA	■	54	

8xD with thro‘ coolant

	Product name	Tool type	Length	Diameter in mm Ø DC	Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Hardened materials		coated ■ uncoated □	WNT \ Performance	WNT \ Standard
	WTX	Feed UNI	≤ 8xD	4–20	●	●	●				HA	■	55–58	
	WTX	Speed UNI	≤ 8xD	3–20	●		●				HA	■	55–58	
	WTX	UNI	≤ 8xD	3–25	●		●	○			HA HB HE	■	55–58	
	WTX	Quattro 4F	≤ 8xD	3–20	●		●	○		○	HA	■	55–58	
	WPC	UNI	≤ 8xD	3–20	●	○	●	○			HA	■	59	
	WTX	VA	≤ 8xD	3–20	○	●	○	●	○		HA	■	60–62	
	WTX	GG	≤ 8xD	3–20			●	●			HA	■	60–62	
	WTX	AL	≤ 8xD	3–20			○	●			HA	■	60–62	

Overview Solid Carbide Drills

Product name	Tool type	Length	Diameter in mm Ø DC	Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Hardened materials		coated ■ uncoated □	WNT \ Performance	WNT \ Standard
12xD with thro' coolant													
WTX	Feed UNI	≤ 12xD	4–20	●	●	●	○			HA	■	63–65	
WTX	Quattro 4F	≤ 12xD	3–20	●		●	○			HA	■	63–65	
WTX	AL	≤ 12xD	3–20			○	●			HA	■	63–65	
WPC	UNI	≤ 12xD	3–18	●	○	●	○			HA	■		66
Deep Hole Drills													
WTX	TB UNI	≤ 16xD ≤ 20xD	2–12	●	●	●				HA	■	67	
WTX	TB UNI	≤ 25xD ≤ 30xD	2–12	●	●	●				HA	■	68	
WTX	TB UNI	≤ 40xD	3–9	●	●	●				HA	■	69	
WTX	TB UNI	≤ 50xD	3–6,8	●	●	●				HA	■	69	
WTX	TB ALU	≤ 16xD ≤ 20xD	2–12				●			HA	■	67	
WTX	TB ALU	≤ 25xD ≤ 30xD	2–12				●			HA	■	68	
Micro Drills 5xD/8xD/12xD													
WTX	MINI	≤ 5xD	0,1–2,9	●		●	○	○		HA	■	70	
WTX	MINI	≤ 5xD	1,0–2,9	●	●	●	●	●		HA	with thro' coolant ■	71	
WTX	MINI	≤ 8xD	1,0–2,9	●	●	●	●	●		HA	with thro' coolant ■	71	
WTX	MINI	≤ 12xD	1,0–2,9	●		●	●			HA	with thro' coolant ■	72	
Drill Reamers													
WTX	Finish BR100	≤ 3xD	3,97–12,02	●		●	○			HA	■	73	
WTX	Finish BR	≤ 3xD	4–16	●		●	○			HA	Tolerance H7 ■	74	
WTX	Finish BR	≤ 5xD	4–20	●		●	○			HA	Tolerance H7 ■	74	

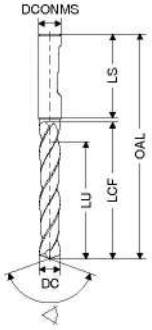
Overview Solid Carbide Drills

	Product name	Tool type	Point angle	Diameter in mm Ø DC	Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Hardened materials		coated ■	uncoated □	WNT \ Performance	WNT \ Standard
Stepped drills															
	WTX	SB		2,5–14	●		○	○			Thread cutting	■		75	
	WTX	SB		2,8–15	●		○	○			Thread forming	■		75	
NC Spot Drill															
		NC–A	◁ 90° ◁ 120° ◁ 142°	2–20	●		●	●					□	76	
		NC–A	◁ 90° ◁ 120° ◁ 142°	2–20	●		●					■		76	
		NC–A	◁ 90° ◁ 120° ◁ 142°	3–16	●		●				Long version	■		77	
Centre drills															
		ZB	◁ 120°	0,5–6,3	●		●	●					□	78	
Exchangeable head system – heads															
	WTX	Change Feed		14–32	●		●					■		79+80	
	WTX	Change UNI		12–41	●		●					■		83–88	
	WTX	Change P		12–41	●		●					■		83–88	
	WTX	Change VA		12–32	○	●	○					■		83–88	
	WTX	Change GG		12–32			●					■		83–88	
	WTX	Change ALU		12–32				●				■		83–88	
Exchangeable head system – holders 1xD/3xD/5xD/8xD/12xD															
	WTX	Change Feed		14–32										81+82	
	WTX	Change		12–41										89–91	
MultiChange NC spot drill															
		NC–A	◁ 90° ◁ 120° ◁ 142°	8–20	●	●	●	●				■		93	

WTX – High Performance Drill, DIN 6537

2

≤ 3xD



UNI	UNI	UNI	VA	VA
DPX74S	DPX74S	DPX74S	Ti700	Ti700
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN		

	HA	HB	HE	HA	HE
	140°	140°	140°	140°	140°
	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
	T7	T7	T7	T5	T5
DC m7	Article no. 11 777 ...	Article no. 11 778 ...	Article no. 11 776 ...	Article no. 10 731 ...	Article no. 10 732 ...
mm	£	£	£	£	£

DC m7	DCONMS h6	OAL	LCF	LU	LS	11 777 ... £		11 778 ... £		11 776 ... £		10 731 ... £		10 732 ... £	
mm	mm	mm	mm	mm	mm										
2.00	6	58	16	11	36							44.62	020	44.62	020
2.10	6	58	16	11	36							44.62	021	44.62	021
2.20	6	58	16	11	36							44.62	022	44.62	022
2.30	6	58	16	11	36							44.62	023	44.62	023
2.33	6	58	16	11	36							44.62	823		
2.40	6	58	16	11	36							44.62	024	44.62	024
2.43	6	58	16	11	36							44.62	824		
2.50	6	58	16	11	36							44.62	025	44.62	025
2.55	6	58	16	11	36							44.62	825		
2.60	6	58	16	11	36							44.62	026	44.62	026
2.62	6	58	16	11	36							44.62	826		
2.70	6	58	16	11	36							44.62	027	44.62	027
2.80	6	58	16	11	36							44.62	028	44.62	028
2.90	6	58	16	11	36							44.62	029	44.62	029
3.00	6	62	20	14	36	28.81	03000	28.81	03000	28.81	03000	58.94	030	58.94	030
3.10	6	62	20	14	36	28.81	03100	28.81	03100	28.81	03100	58.94	031	58.94	031
3.15	6	62	20	14	36	28.81	03150	28.81	03150	28.81	03150	58.94	831		
3.20	6	62	20	14	36	28.81	03200	28.81	03200	28.81	03200	58.94	032	58.94	032
3.22	6	62	20	14	36	28.81	03220	28.81	03220	28.81	03220	58.94	832		
3.25	6	62	20	14	36	28.81	03250	28.81	03250	28.81	03250	58.94	890		
3.30	6	62	20	14	36	28.81	03300	28.81	03300	28.81	03300	58.94	033	58.94	033
3.40	6	62	20	14	36	28.81	03400	28.81	03400	28.81	03400	58.94	034	58.94	034
3.50	6	62	20	14	36	28.81	03500	28.81	03500	28.81	03500	58.94	035	58.94	035
3.60	6	62	20	14	36	28.81	03600	28.81	03600	28.81	03600	58.94	036	58.94	036
3.70	6	62	20	14	36	28.81	03700	28.81	03700	28.81	03700	58.94	037	58.94	037
3.80	6	66	24	17	36	28.81	03800	28.81	03800	28.81	03800	58.94	038	58.94	038
3.85	6	66	24	17	36	28.81	03850	28.81	03850	28.81	03850	58.94	838		
3.90	6	66	24	17	36	28.81	03900	28.81	03900	28.81	03900	58.94	039	58.94	039
4.00	6	66	24	17	36	28.81	04000	28.81	04000	28.81	04000	58.94	040	58.94	040
4.10	6	66	24	17	36	28.81	04100	28.81	04100	28.81	04100	58.94	041	58.94	041
4.20	6	66	24	17	36	28.81	04200	28.81	04200	28.81	04200	58.94	042	58.94	042
4.25	6	66	24	17	36	28.81	04250	28.81	04250	28.81	04250				
4.30	6	66	24	17	36	28.81	04300	28.81	04300	28.81	04300	58.94	043	58.94	043
4.35	6	66	24	17	36	28.81	04350	28.81	04350	28.81	04350	58.94	843		
4.40	6	66	24	17	36	28.81	04400	28.81	04400	28.81	04400	58.94	044	58.94	044
4.45	6	66	24	17	36	28.81	04450	28.81	04450	28.81	04450	58.94	844		
4.50	6	66	24	17	36	28.81	04500	28.81	04500	28.81	04500	58.94	045	58.94	045
4.60	6	66	24	17	36	28.81	04600	28.81	04600	28.81	04600	58.94	046	58.94	046
4.65	6	66	24	17	36	28.81	04650	28.81	04650	28.81	04650	58.94	900	58.94	900
4.70	6	66	24	17	36	28.81	04700	28.81	04700	28.81	04700	58.94	047	58.94	047
4.80	6	66	28	20	36	28.81	04800	28.81	04800	28.81	04800	58.94	048	58.94	048
4.90	6	66	28	20	36	28.81	04900	28.81	04900	28.81	04900	58.94	049	58.94	049
4.95	6	66	28	20	36	28.81	04950	28.81	04950	28.81	04950				

Steel	●	●	●	○	○
Stainless steel				●	●
Cast iron	●	●	●	○	○
Non ferrous metals	○	○	○	●	●
Heat resistant alloys					
Hardened materials	○	○	○	○	○

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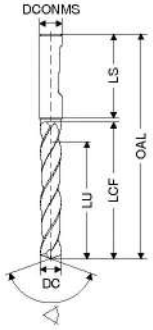
WTX – High Performance Drill, DIN 6537

≤ 3xD



UNI	UNI	UNI	VA	VA
DPX74S	DPX74S	DPX74S	Ti700	Ti700
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN		

	HA	HB	HE	HA	HE
	140°	140°	140°	140°	140°
	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
	T7	T7	T7	T5	T5
DC m7	Article no. 11 777 ...	Article no. 11 778 ...	Article no. 11 776 ...	Article no. 10 731 ...	Article no. 10 732 ...
mm	£	£	£	£	£

DC m7	DCONMS h6	OAL	LCF	LU	LS	11 777 ...	11 778 ...	11 776 ...	10 731 ...	10 732 ...
mm	mm	mm	mm	mm	mm	£	£	£	£	£
5.00	6	66	28	20	36	28.81 05000	28.81 05000	28.81 05000	58.94 050	58.94 050
5.05	6	66	28	20	36	28.81 05050	28.81 05050	28.81 05050		
5.10	6	66	28	20	36	28.81 05100	28.81 05100	28.81 05100	58.94 051	58.94 051
5.20	6	66	28	20	36	28.81 05200	28.81 05200	28.81 05200	58.94 052	58.94 052
5.30	6	66	28	20	36	28.81 05300	28.81 05300	28.81 05300	58.94 053	58.94 053
5.40	6	66	28	20	36	28.81 05400	28.81 05400	28.81 05400	58.94 054	58.94 054
5.50	6	66	28	20	36	28.81 05500	28.81 05500	28.81 05500	58.94 055	58.94 055
5.55	6	66	28	20	36	28.81 05550	28.81 05550	28.81 05550	58.94 902	58.94 902
5.60	6	66	28	20	36	28.81 05600	28.81 05600	28.81 05600	58.94 056	58.94 056
5.70	6	66	28	20	36	28.81 05700	28.81 05700	28.81 05700	58.94 057	58.94 057
5.75	6	66	28	20	36	28.81 05750	28.81 05750	28.81 05750	58.94 916	
5.80	6	66	28	20	36	28.81 05800	28.81 05800	28.81 05800	58.94 058	58.94 058
5.90	6	66	28	20	36	28.81 05900	28.81 05900	28.81 05900	58.94 059	58.94 059
5.95	6	66	28	20	36	28.81 05950	28.81 05950	28.81 05950	58.94 959	
6.00	6	66	28	20	36	28.81 06000	28.81 06000	28.81 06000	58.94 060	58.94 060
6.10	8	79	34	24	36	31.08 06100	31.08 06100	31.08 06100	74.87 061	74.87 061
6.20	8	79	34	24	36	31.08 06200	31.08 06200	31.08 06200	74.87 062	74.87 062
6.30	8	79	34	24	36	31.08 06300	31.08 06300	31.08 06300	74.87 063	74.87 063
6.40	8	79	34	24	36	31.08 06400	31.08 06400	31.08 06400	74.87 064	74.87 064
6.50	8	79	34	24	36	31.08 06500	31.08 06500	31.08 06500	74.87 065	74.87 065
6.60	8	79	34	24	36	31.08 06600	31.08 06600	31.08 06600	74.87 066	74.87 066
6.70	8	79	34	24	36	31.08 06700	31.08 06700	31.08 06700	74.87 067	74.87 067
6.80	8	79	34	24	36	31.08 06800	31.08 06800	31.08 06800	74.87 068	74.87 068
6.90	8	79	34	24	36	31.08 06900	31.08 06900	31.08 06900	74.87 069	74.87 069
7.00	8	79	34	24	36	31.08 07000	31.08 07000	31.08 07000	74.87 070	74.87 070
7.10	8	79	41	29	36	31.08 07100	31.08 07100	31.08 07100	74.87 071	74.87 071
7.20	8	79	41	29	36	31.08 07200	31.08 07200	31.08 07200	74.87 072	74.87 072
7.30	8	79	41	29	36	31.08 07300	31.08 07300	31.08 07300	74.87 073	74.87 073
7.40	8	79	41	29	36	31.08 07400	31.08 07400	31.08 07400	74.87 074	74.87 074
7.45	8	79	41	29	36	31.08 07450	31.08 07450	31.08 07450	74.87 924	
7.50	8	79	41	29	36	31.08 07500	31.08 07500	31.08 07500	74.87 075	74.87 075
7.60	8	79	41	29	36	31.08 07600	31.08 07600	31.08 07600	74.87 076	74.87 076
7.70	8	79	41	29	36	31.08 07700	31.08 07700	31.08 07700	74.87 077	74.87 077
7.80	8	79	41	29	36	31.08 07800	31.08 07800	31.08 07800	74.87 078	74.87 078
7.90	8	79	41	29	36	31.08 07900	31.08 07900	31.08 07900	74.87 079	74.87 079
8.00	8	79	41	29	36	31.08 08000	31.08 08000	31.08 08000	74.87 080	74.87 080
8.10	10	89	47	35	40	34.09 08100	34.09 08100	34.09 08100	89.24 081	89.24 081
8.20	10	89	47	35	40	34.09 08200	34.09 08200	34.09 08200	89.24 082	89.24 082
8.30	10	89	47	35	40	34.09 08300	34.09 08300	34.09 08300	89.24 083	89.24 083
8.40	10	89	47	35	40	34.09 08400	34.09 08400	34.09 08400	89.24 084	89.24 084
8.50	10	89	47	35	40	34.09 08500	34.09 08500	34.09 08500	89.24 085	89.24 085
8.60	10	89	47	35	40	34.09 08600	34.09 08600	34.09 08600	89.24 086	89.24 086
8.70	10	89	47	35	40	34.09 08700	34.09 08700	34.09 08700	89.24 087	89.24 087

Steel	●	●	●	○	○
Stainless steel				●	●
Cast iron	●	●	●	○	○
Non ferrous metals	○	○	○	●	●
Heat resistant alloys					
Hardened materials	○	○	○	○	○

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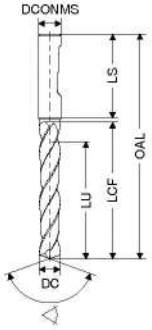
WTX – High Performance Drill, DIN 6537

≤ 3xD



UNI	UNI	UNI	VA	VA
DPX74S	DPX74S	DPX74S	Ti700	Ti700
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN		

HA	HB	HE	HA	HE
140°	140°	140°	140°	140°
Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
T7	T7	T7	T5	T5

DC_{m7}	$DCONMS_{h6}$	OAL	LCF	LU	LS	Article no. 11 777 ...		Article no. 11 778 ...		Article no. 11 776 ...		Article no. 10 731 ...		Article no. 10 732 ...	
mm	mm	mm	mm	mm	mm	£		£		£		£		£	
8.80	10	89	47	35	40	34.09	08800	34.09	08800	34.09	08800	89.24	088	89.24	088
8.90	10	89	47	35	40	34.09	08900	34.09	08900	34.09	08900	89.24	089	89.24	089
9.00	10	89	47	35	40	34.09	09000	34.09	09000	34.09	09000	89.24	090	89.24	090
9.10	10	89	47	35	40	34.09	09100	34.09	09100	34.09	09100	89.24	091	89.24	091
9.20	10	89	47	35	40	34.09	09200	34.09	09200	34.09	09200	89.24	092	89.24	092
9.30	10	89	47	35	40	34.09	09300	34.09	09300	34.09	09300	89.24	093	89.24	093
9.35	10	89	47	35	40	34.09	09350	34.09	09350	34.09	09350	89.24	930		
9.40	10	89	47	35	40	34.09	09400	34.09	09400	34.09	09400	89.24	094	89.24	094
9.45	10	89	47	35	40	34.09	09450	34.09	09450	34.09	09450	89.24	994		
9.50	10	89	47	35	40	34.09	09500	34.09	09500	34.09	09500	89.24	095	89.24	095
9.60	10	89	47	35	40	34.09	09600	34.09	09600	34.09	09600	89.24	096	89.24	096
9.70	10	89	47	35	40	34.09	09700	34.09	09700	34.09	09700	89.24	097	89.24	097
9.80	10	89	47	35	40	34.09	09800	34.09	09800	34.09	09800	89.24	098	89.24	098
9.90	10	89	47	35	40	34.09	09900	34.09	09900	34.09	09900	89.24	099	89.24	099
10.00	10	89	47	35	40	34.09	10000	34.09	10000	34.09	10000	89.24	100	89.24	100
10.10	12	102	55	40	45	49.39	10100	49.39	10100	49.39	10100	126.60	101	126.60	101
10.20	12	102	55	40	45	49.39	10200	49.39	10200	49.39	10200	126.60	102	126.60	102
10.30	12	102	55	40	45	49.39	10300	49.39	10300	49.39	10300	126.60	103	126.60	103
10.40	12	102	55	40	45	49.39	10400	49.39	10400	49.39	10400	126.60	104	126.60	104
10.50	12	102	55	40	45	49.39	10500	49.39	10500	49.39	10500	126.60	105	126.60	105
10.55	12	102	55	40	45	49.39	10550	49.39	10550	49.39	10550	126.60	932		
10.60	12	102	55	40	45	49.39	10600	49.39	10600	49.39	10600	126.60	106	126.60	106
10.70	12	102	55	40	45	49.39	10700	49.39	10700	49.39	10700	126.60	107	126.60	107
10.75	12	102	55	40	45	49.39	10750	49.39	10750	49.39	10750				
10.80	12	102	55	40	45	49.39	10800	49.39	10800	49.39	10800	126.60	108	126.60	108
10.90	12	102	55	40	45	49.39	10900	49.39	10900	49.39	10900	126.60	109	126.60	109
11.00	12	102	55	40	45	49.39	11000	49.39	11000	49.39	11000	126.60	110	126.60	110
11.10	12	102	55	40	45	49.39	11100	49.39	11100	49.39	11100	126.60	111	126.60	111
11.20	12	102	55	40	45	49.39	11200	49.39	11200	49.39	11200	126.60	112	126.60	112
11.25	12	102	55	40	45	49.39	11250	49.39	11250	49.39	11250	126.60	912		
11.30	12	102	55	40	45	49.39	11300	49.39	11300	49.39	11300	126.60	113	126.60	113
11.35	12	102	55	40	45	49.39	11350	49.39	11350	49.39	11350	126.60	913		
11.40	12	102	55	40	45	49.39	11400	49.39	11400	49.39	11400	126.60	114	126.60	114
11.45	12	102	55	40	45	49.39	11450	49.39	11450	49.39	11450	126.60	914		
11.50	12	102	55	40	45	49.39	11500	49.39	11500	49.39	11500	126.60	115	126.60	115
11.60	12	102	55	40	45	49.39	11600	49.39	11600	49.39	11600	126.60	116	126.60	116
11.70	12	102	55	40	45	49.39	11700	49.39	11700	49.39	11700	126.60	117	126.60	117
11.80	12	102	55	40	45	49.39	11800	49.39	11800	49.39	11800	126.60	118	126.60	118
11.90	12	102	55	40	45	49.39	11900	49.39	11900	49.39	11900	126.60	119	126.60	119
12.00	12	102	55	40	45	49.39	12000	49.39	12000	49.39	12000	126.60	120	126.60	120
12.15	14	107	60	43	45	64.42	12150	64.42	12150	64.42	12150	167.68	921		
12.25	14	107	60	43	45	64.42	12250	64.42	12250	64.42	12250				
12.50	14	107	60	43	45	64.42	12500	64.42	12500	64.42	12500	167.68	125	167.68	125

Steel	●	●	●	○	○
Stainless steel				●	●
Cast iron	●	●	●	○	○
Non ferrous metals	○	○	○	●	●
Heat resistant alloys					
Hardened materials	○	○	○	○	○

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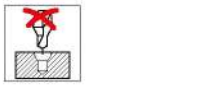
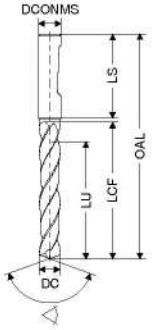
WTX – High Performance Drill, DIN 6537

≤ 3xD





UNI	UNI	UNI	VA	VA
DPX74S	DPX74S	DPX74S	Ti700	Ti700
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN		

	HA	HB	HE	HA	HE
	140°	140°	140°	140°	140°
	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
	T7	T7	T7	T5	T5
DC m7	Article no. 11 777 ...	Article no. 11 778 ...	Article no. 11 776 ...	Article no. 10 731 ...	Article no. 10 732 ...
mm	£	£	£	£	£

DC m7	DCONMS h6	OAL	LCF	LU	LS	11 777 ... £	11 778 ... £	11 776 ... £	10 731 ... £	10 732 ... £
mm	mm	mm	mm	mm	mm					
12.55	14	107	60	43	45	64.42 12550	64.42 12550	64.42 12550	167.68 925	
12.70	14	107	60	43	45	64.42 12700	64.42 12700	64.42 12700		
12.80	14	107	60	43	45	64.42 12800	64.42 12800	64.42 12800	167.68 128	167.68 128
12.90	14	107	60	43	45	64.42 12900	64.42 12900	64.42 12900		
13.00	14	107	60	43	45	64.42 13000	64.42 13000	64.42 13000	167.68 130	167.68 130
13.10	14	107	60	43	45	64.42 13100	64.42 13100	64.42 13100		
13.30	14	107	60	43	45	64.42 13300	64.42 13300	64.42 13300		
13.35	14	107	60	43	45	64.42 13350	64.42 13350	64.42 13350	167.68 933	
13.50	14	107	60	43	45	64.42 13500	64.42 13500	64.42 13500	167.68 135	167.68 135
13.70	14	107	60	43	45	64.42 13700	64.42 13700	64.42 13700		
13.80	14	107	60	43	45	64.42 13800	64.42 13800	64.42 13800	167.68 138	167.68 138
14.00	14	107	60	43	45	64.42 14000	64.42 14000	64.42 14000	167.68 140	167.68 140
14.20	16	115	65	45	48	83.97 14200	83.97 14200	83.97 14200		
14.50	16	115	65	45	48	83.97 14500	83.97 14500	83.97 14500	206.85 145	206.85 145
14.80	16	115	65	45	48	83.97 14800	83.97 14800	83.97 14800	206.85 148	206.85 148
15.00	16	115	65	45	48	83.97 15000	83.97 15000	83.97 15000	206.85 150	206.85 150
15.10	16	115	65	45	48	83.97 15100	83.97 15100	83.97 15100		
15.25	16	115	65	45	48	83.97 15250	83.97 15250	83.97 15250		
15.30	16	115	65	45	48	83.97 15300	83.97 15300	83.97 15300		
15.35	16	115	65	45	48	83.97 15350	83.97 15350	83.97 15350	206.85 953	
15.50	16	115	65	45	48	83.97 15500	83.97 15500	83.97 15500	206.85 155	206.85 155
15.60	16	115	65	45	48	83.97 15600	83.97 15600	83.97 15600		
15.80	16	115	65	45	48	83.97 15800	83.97 15800	83.97 15800	206.85 158	206.85 158
16.00	16	115	65	45	48	83.97 16000	83.97 16000	83.97 16000	206.85 160	206.85 160
16.05	18	123	73	51	48	163.85 16050	163.85 16050	163.85 16050	303.13 960	
16.50	18	123	73	51	48	163.85 16500	163.85 16500	163.85 16500	303.13 165	303.13 165
16.80	18	123	73	51	48	163.85 16800	163.85 16800	163.85 16800	303.13 168	303.13 168
16.90	18	123	73	51	48	163.85 16900	163.85 16900	163.85 16900		
17.00	18	123	73	51	48	163.85 17000	163.85 17000	163.85 17000	303.13 170	303.13 170
17.50	18	123	73	51	48	163.85 17500	163.85 17500	163.85 17500	303.13 175	303.13 175
17.60	18	123	73	51	48	163.85 17600	163.85 17600	163.85 17600		
17.80	18	123	73	51	48	163.85 17800	163.85 17800	163.85 17800	303.13 178	303.13 178
18.00	18	123	73	51	48	163.85 18000	163.85 18000	163.85 18000	303.13 180	303.13 180
18.50	20	131	79	55	50	182.02 18500	182.02 18500	182.02 18500	401.21 185	401.21 185
18.80	20	131	79	55	50	182.02 18800	182.02 18800	182.02 18800	401.21 188	401.21 188
18.90	20	131	79	55	50	182.02 18900	182.02 18900	182.02 18900		
19.00	20	131	79	55	50	182.02 19000	182.02 19000	182.02 19000	401.21 190	401.21 190
19.35	20	131	79	55	50	182.02 19350	182.02 19350	182.02 19350	401.21 993	
19.50	20	131	79	55	50	182.02 19500	182.02 19500	182.02 19500	401.21 195	401.21 195
19.60	20	131	79	55	50	182.02 19600	182.02 19600	182.02 19600		
19.80	20	131	79	55	50	182.02 19800	182.02 19800	182.02 19800	401.21 198	401.21 198
20.00	20	131	79	55	50	182.02 20000	182.02 20000	182.02 20000	401.21 200	401.21 200
20.50	25	151	93	66	56	328.90 20500	328.90 20500	328.90 20500		

Steel	●	●	●	○	○
Stainless steel				●	●
Cast iron	●	●	●	○	○
Non ferrous metals	○	○	○	●	●
Heat resistant alloys					
Hardened materials	○	○	○	○	○

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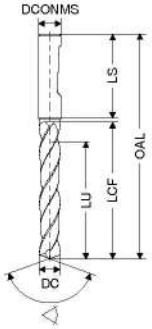
WTX – High Performance Drill, DIN 6537

≤ 3xD



	UNI	UNI	UNI	VA	VA
	DPX74S	DPX74S	DPX74S	Ti700	Ti700
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN		
					
	HA	HB	HE	HA	HE
	◁ 140°	◁ 140°	◁ 140°	◁ 140°	◁ 140°
	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
	T7	T7	T7	T5	T5

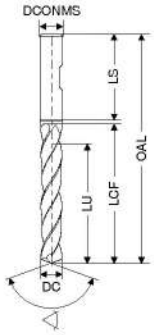
DC m7	DCONMS h6	OAL	LCF	LU	LS	Article no. 11 777 ...	Article no. 11 778 ...	Article no. 11 776 ...	Article no. 10 731 ...	Article no. 10 732 ...
mm	mm	mm	mm	mm	mm	£	£	£	£	£
21.00	25	151	93	66	56	328.90 21000	328.90 21000	328.90 21000		
21.50	25	151	93	66	56	328.90 21500	328.90 21500	328.90 21500		
22.00	25	151	93	66	56	328.90 22000	328.90 22000	328.90 22000		
22.50	25	153	96	72	56	328.90 22500	328.90 22500	328.90 22500		
23.00	25	153	96	72	56	328.90 23000	328.90 23000	328.90 23000		
23.50	25	153	96	72	56	328.90 23500	328.90 23500	328.90 23500		
24.00	25	153	96	72	56	328.90 24000	328.90 24000	328.90 24000		
24.50	25	153	96	75	56	328.90 24500	328.90 24500	328.90 24500		
25.00	25	153	96	75	56	328.90 25000	328.90 25000	328.90 25000		

Steel	●	●	●	○	○
Stainless steel				●	●
Cast iron	●	●	●	○	○
Non ferrous metals	○	○	○	●	●
Heat resistant alloys					
Hardened materials	○	○	○	○	○

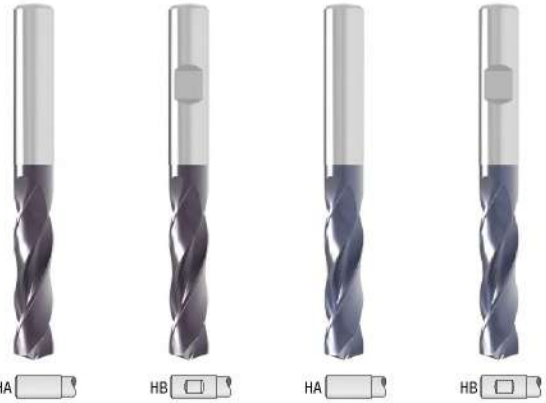
→ v_c Page 100+102

WPC – High Performance Drill, DIN 6537

≤ 3xD



UNI	UNI	VA	VA
TiAlN	TiAlN	TiAlN	TiAlN



140°
Solid carbide
T1

DC m7	DCONMS h6	OAL	LCF	LU	LS	Article no. 11 600 ...		Article no. 11 601 ...		Article no. 11 620 ...		Article no. 11 621 ...	
mm	mm	mm	mm	mm	mm	£		£		£		£	
1.00	4	45	5.0	4.5	32.0	20.35	010			19.79	010		
1.10	4	45	5.5	5.0	31.5	20.35	011			19.79	011		
1.20	4	45	6.0	5.4	31.0	20.35	012			19.79	012		
1.30	4	45	6.5	5.9	31.5	20.35	013			19.79	013		
1.40	4	45	7.0	6.3	30.0	20.35	014			19.79	014		
1.50	4	50	7.5	6.8	35.0	20.35	015			19.79	015		
1.60	4	50	8.0	7.2	34.5	20.35	016			19.79	016		
1.70	4	50	8.5	7.7	34.0	20.35	017			19.79	017		
1.80	4	50	9.0	8.1	33.5	20.35	018			19.79	018		
1.90	4	50	9.5	8.6	33.0	20.35	019			19.79	019		
2.00	6	58	14.0	11.0	36.0	20.35	020	20.35	020	24.39	020	20.35	020
2.10	6	58	14.0	11.0	36.0	20.35	021	20.35	021	24.39	021	20.35	021
2.20	6	58	14.0	11.0	36.0	20.35	022	20.35	022	24.39	022	20.35	022
2.30	6	58	14.0	11.0	36.0	20.35	023	20.35	023	24.39	023	20.35	023
2.40	6	58	14.0	11.0	36.0	20.35	024	20.35	024	24.39	024	20.35	024
2.50	6	58	14.0	11.0	36.0	20.35	025	20.35	025	24.39	025	20.35	025
2.60	6	58	14.0	11.0	36.0	20.35	026	20.35	026	24.39	026	20.35	026
2.70	6	58	14.0	11.0	36.0	20.35	027	20.35	027	24.39	027	20.35	027
2.80	6	58	14.0	11.0	36.0	20.35	028	20.35	028	24.39	028	20.35	028
2.90	6	58	14.0	11.0	36.0	20.35	029	20.35	029	24.39	029	20.35	029
3.00	6	62	20.0	14.0	36.0	19.79	030	20.35	030	19.79	030	20.35	030
3.10	6	62	20.0	14.0	36.0	19.79	031	20.35	031	19.79	031	20.35	031
3.20	6	62	20.0	14.0	36.0	19.79	032	20.35	032	19.79	032	20.35	032
3.30	6	62	20.0	14.0	36.0	19.79	033	20.35	033	19.79	033	20.35	033
3.40	6	62	20.0	14.0	36.0	19.79	034	20.35	034	19.79	034	20.35	034
3.50	6	62	20.0	14.0	36.0	19.79	035	20.35	035	19.79	035	20.35	035
3.60	6	62	20.0	14.0	36.0	19.79	036	20.35	036	19.79	036	20.35	036
3.70	6	62	20.0	14.0	36.0	19.79	037	20.35	037	19.79	037	20.35	037
3.80	6	66	24.0	17.0	36.0	19.79	038	20.35	038	19.79	038	20.35	038
3.90	6	66	24.0	17.0	36.0	19.79	039	20.35	039	19.79	039	20.35	039
4.00	6	66	24.0	17.0	36.0	19.79	040	20.35	040	19.79	040	20.35	040
4.10	6	66	24.0	17.0	36.0	19.79	041	20.35	041	19.79	041	20.35	041
4.20	6	66	24.0	17.0	36.0	19.79	042	20.35	042	19.79	042	20.35	042
4.30	6	66	24.0	17.0	36.0	19.79	043	20.35	043	19.79	043	20.35	043
4.40	6	66	24.0	17.0	36.0	19.79	044	20.35	044	19.79	044	20.35	044
4.50	6	66	24.0	17.0	36.0	19.79	045	20.35	045	19.79	045	20.35	045
4.60	6	66	24.0	17.0	36.0	19.79	046	20.35	046	19.79	046	20.35	046
4.65	6	66	24.0	17.0	36.0	19.79	900	20.35	900	19.79	900	20.35	900
4.70	6	66	24.0	17.0	36.0	19.79	047	20.35	047	19.79	047	20.35	047

Steel	●	●	○	○
Stainless steel			●	●
Cast iron	●	●	○	○
Non ferrous metals	○	○	●	●
Heat resistant alloys				
Hardened materials			○	○

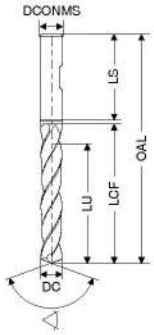
→ v_c Page 116+120

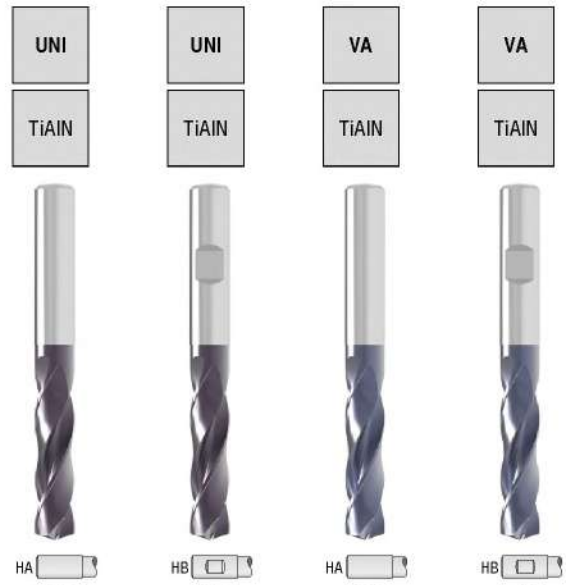
Continued on next page

WPC – High Performance Drill, DIN 6537

2

≤ 3xD





Solid carbide
T1

Solid carbide
T1

Solid carbide
T1

Solid carbide
T1

DC m7	DCONMS h6	OAL	LCF	LU	LS	Article no. 11 600 ...		Article no. 11 601 ...		Article no. 11 620 ...		Article no. 11 621 ...	
mm	mm	mm	mm	mm	mm	£		£		£		£	
4.80	6	66	28.0	20.0	36.0	19.79	048	20.35	048	19.79	048	20.35	048
4.90	6	66	28.0	20.0	36.0	19.79	049	20.35	049	19.79	049	20.35	049
5.00	6	66	28.0	20.0	36.0	19.79	050	20.35	050	19.79	050	20.35	050
5.10	6	66	28.0	20.0	36.0	19.79	051	20.35	051	19.79	051	20.35	051
5.20	6	66	28.0	20.0	36.0	19.79	052	20.35	052	19.79	052	20.35	052
5.30	6	66	28.0	20.0	36.0	19.79	053	20.35	053	19.79	053	20.35	053
5.40	6	66	28.0	20.0	36.0	19.79	054	20.35	054	19.79	054	20.35	054
5.50	6	66	28.0	20.0	36.0	19.79	055	20.35	055	19.79	055	20.35	055
5.55	6	66	28.0	20.0	36.0	19.79	902	20.35	902	19.79	902	20.35	902
5.60	6	66	28.0	20.0	36.0	19.79	056	20.35	056	19.79	056	20.35	056
5.70	6	66	28.0	20.0	36.0	19.79	057	20.35	057	19.79	057	20.35	057
5.80	6	66	28.0	20.0	36.0	19.79	058	20.35	058	19.79	058	20.35	058
5.90	6	66	28.0	20.0	36.0	19.79	059	20.35	059	19.79	059	20.35	059
6.00	6	66	28.0	20.0	36.0	19.79	060	20.35	060	19.79	060	20.35	060
6.10	8	79	34.0	24.0	36.0	20.35	061	20.35	061	20.35	061	20.35	061
6.20	8	79	34.0	24.0	36.0	20.35	062	20.35	062	20.35	062	20.35	062
6.30	8	79	34.0	24.0	36.0	20.35	063	20.35	063	20.35	063	20.35	063
6.40	8	79	34.0	24.0	36.0	20.35	064	20.35	064	20.35	064	20.35	064
6.50	8	79	34.0	24.0	36.0	20.35	065	20.35	065	20.35	065	20.35	065
6.60	8	79	34.0	24.0	36.0	20.35	066	20.35	066	20.35	066	20.35	066
6.70	8	79	34.0	24.0	36.0	20.35	067	20.35	067	20.35	067	20.35	067
6.80	8	79	34.0	24.0	36.0	20.35	068	20.35	068	20.35	068	20.35	068
6.90	8	79	34.0	24.0	36.0	20.35	069	20.35	069	20.35	069	20.35	069
7.00	8	79	34.0	24.0	36.0	20.35	070	20.35	070	20.35	070	20.35	070
7.10	8	79	41.0	29.0	36.0	20.35	071	20.35	071	20.35	071	20.35	071
7.20	8	79	41.0	29.0	36.0	20.35	072	20.35	072	20.35	072	20.35	072
7.30	8	79	41.0	29.0	36.0	20.35	073	20.35	073	20.35	073	20.35	073
7.40	8	79	41.0	29.0	36.0	20.35	074	20.35	074	20.35	074	20.35	074
7.50	8	79	41.0	29.0	36.0	20.35	075	20.35	075	20.35	075	20.35	075
7.55	8	79	41.0	29.0	36.0	20.35	975	20.35	975	20.35	975	20.35	975
7.60	8	79	41.0	29.0	36.0	20.35	076	20.35	076	20.35	076	20.35	076
7.70	8	79	41.0	29.0	36.0	20.35	077	20.35	077	20.35	077	20.35	077
7.80	8	79	41.0	29.0	36.0	20.35	078	20.35	078	20.35	078	20.35	078
7.90	8	79	41.0	29.0	36.0	20.35	079	20.35	079	20.35	079	20.35	079
8.00	8	79	41.0	29.0	36.0	20.35	080	20.35	080	20.35	080	20.35	080
8.10	10	89	47.0	35.0	40.0	21.78	081	23.25	081	21.78	081	23.25	081
8.20	10	89	47.0	35.0	40.0	21.78	082	23.25	082	21.78	082	23.25	082
8.30	10	89	47.0	35.0	40.0	21.78	083	23.25	083	21.78	083	23.25	083
8.40	10	89	47.0	35.0	40.0	21.78	084	23.25	084	21.78	084	23.25	084

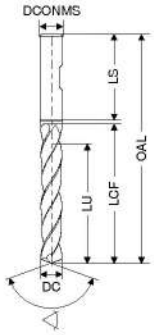
Steel	●	●	○	○
Stainless steel			●	●
Cast iron	●	●	○	○
Non ferrous metals	○	○	●	●
Heat resistant alloys				
Hardened materials			○	○

→ v_c Page 116+120

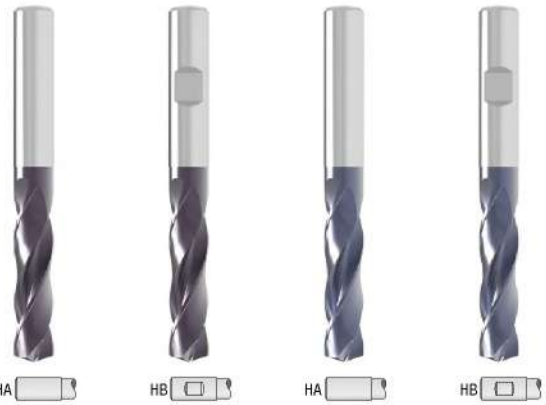
Continued on next page

WPC – High Performance Drill, DIN 6537

≤ 3xD



UNI	UNI	VA	VA
TiAlN	TiAlN	TiAlN	TiAlN



HA	HB	HA	HB
140°	140°	140°	140°
Solid carbide	Solid carbide	Solid carbide	Solid carbide
T1	T1	T1	T1

DC $_{m7}$	DCONMS $_{h6}$	OAL	LCF	LU	LS	Article no. 11 600 ...		Article no. 11 601 ...		Article no. 11 620 ...		Article no. 11 621 ...	
mm	mm	mm	mm	mm	mm	£		£		£		£	
8.50	10	89	47.0	35.0	40.0	21.78	085	23.25	085	21.78	085	23.25	085
8.60	10	89	47.0	35.0	40.0	21.78	086	23.25	086	21.78	086	23.25	086
8.70	10	89	47.0	35.0	40.0	21.78	087	23.25	087	21.78	087	23.25	087
8.80	10	89	47.0	35.0	40.0	21.78	088	23.25	088	21.78	088	23.25	088
8.90	10	89	47.0	35.0	40.0	21.78	089	23.25	089	21.78	089	23.25	089
9.00	10	89	47.0	35.0	40.0	21.78	090	23.25	090	21.78	090	23.25	090
9.10	10	89	47.0	35.0	40.0	21.78	091	23.25	091	21.78	091	23.25	091
9.20	10	89	47.0	35.0	40.0	21.78	092	23.25	092	21.78	092	23.25	092
9.25	10	89	47.0	35.0	40.0	21.78	925	23.25	925	21.78	925	23.25	925
9.30	10	89	47.0	35.0	40.0	21.78	093	23.25	093	21.78	093	23.25	093
9.40	10	89	47.0	35.0	40.0	21.78	094	23.25	094	21.78	094	23.25	094
9.50	10	89	47.0	35.0	40.0	21.78	095	23.25	095	21.78	095	23.25	095
9.60	10	89	47.0	35.0	40.0	21.78	096	23.25	096	21.78	096	23.25	096
9.70	10	89	47.0	35.0	40.0	21.78	097	23.25	097	21.78	097	23.25	097
9.80	10	89	47.0	35.0	40.0	21.78	098	23.25	098	21.78	098	23.25	098
9.90	10	89	47.0	35.0	40.0	21.78	099	23.25	099	21.78	099	23.25	099
10.00	10	89	47.0	35.0	40.0	21.78	100	23.25	100	21.78	100	23.25	100
10.10	12	102	55.0	40.0	45.0	33.40	101	34.87	101	33.40	101	34.87	101
10.20	12	102	55.0	40.0	45.0	33.40	102	34.87	102	33.40	102	34.87	102
10.30	12	102	55.0	40.0	45.0	33.40	103	34.87	103	33.40	103	34.87	103
10.40	12	102	55.0	40.0	45.0	33.40	104	34.87	104	33.40	104	34.87	104
10.50	12	102	55.0	40.0	45.0	33.40	105	34.87	105	33.40	105	34.87	105
10.60	12	102	55.0	40.0	45.0	33.40	106	34.87	106	33.40	106	34.87	106
10.70	12	102	55.0	40.0	45.0	33.40	107	34.87	107	33.40	107	34.87	107
10.80	12	102	55.0	40.0	45.0	33.40	108	34.87	108	33.40	108	34.87	108
10.90	12	102	55.0	40.0	45.0	33.40	109	34.87	109	33.40	109	34.87	109
11.00	12	102	55.0	40.0	45.0	33.40	110	34.87	110	33.40	110	34.87	110
11.10	12	102	55.0	40.0	45.0	33.40	111	34.87	111	33.40	111	34.87	111
11.20	12	102	55.0	40.0	45.0	33.40	112	34.87	112	33.40	112	34.87	112
11.30	12	102	55.0	40.0	45.0	33.40	113	34.87	113	33.40	113	34.87	113
11.40	12	102	55.0	40.0	45.0	33.40	114	34.87	114	33.40	114	34.87	114
11.50	12	102	55.0	40.0	45.0	33.40	115	34.87	115	33.40	115	34.87	115
11.60	12	102	55.0	40.0	45.0	33.40	116	34.87	116	33.40	116	34.87	116
11.70	12	102	55.0	40.0	45.0	33.40	117	34.87	117	33.40	117	34.87	117
11.80	12	102	55.0	40.0	45.0	33.40	118	34.87	118	33.40	118	34.87	118
11.90	12	102	55.0	40.0	45.0	33.40	119	34.87	119	33.40	119	34.87	119
12.00	12	102	55.0	40.0	45.0	33.40	120	34.87	120	33.40	120	34.87	120
12.25	14	107	60.0	43.0	45.0	45.05	122	45.05	122				
12.50	14	107	60.0	43.0	45.0	45.05	125	46.49	125	45.05	125	46.49	125

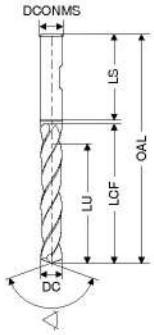
Steel	●	●	○	○
Stainless steel			●	●
Cast iron	●	●	○	○
Non ferrous metals	○	○	●	●
Heat resistant alloys				
Hardened materials			○	○

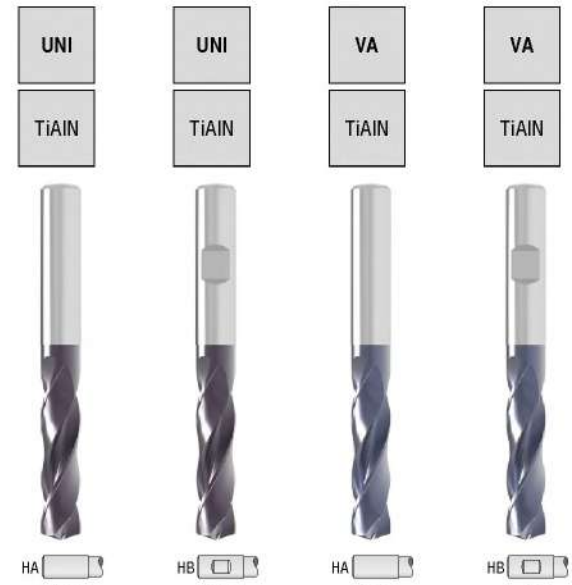
→ v_c Page 116+120

Continued on next page

WPC – High Performance Drill, DIN 6537

≤ 3xD





Solid carbide
T1

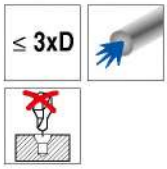
DC $_{m7}$	DCONMS $_{h6}$	OAL	LCF	LU	LS	Article no. 11 600 ...		Article no. 11 601 ...		Article no. 11 620 ...		Article no. 11 621 ...	
mm	mm	mm	mm	mm	mm	£		£		£		£	
12.70	14	107	60.0	43.0	45.0	45.05	127	46.49	127	45.05	127	46.49	127
12.80	14	107	60.0	43.0	45.0	45.05	128	45.05	128				
12.90	14	107	60.0	43.0	45.0	45.05	129	45.05	129				
13.00	14	107	60.0	43.0	45.0	45.05	130	46.49	130	45.05	130	46.49	130
13.30	14	107	60.0	43.0	45.0	45.05	133	45.05	133				
13.50	14	107	60.0	43.0	45.0	45.05	135	46.49	135	45.05	135	46.49	135
13.70	14	107	60.0	43.0	45.0	45.05	137	46.49	137	45.05	137	46.49	137
13.80	14	107	60.0	43.0	45.0	45.05	138	45.05	138				
14.00	14	107	60.0	43.0	45.0	45.05	140	46.49	140	45.05	140	46.49	140
14.20	16	115	65.0	45.0	48.0	59.54	142	59.54	142				
14.50	16	115	65.0	45.0	48.0	59.54	145	61.02	145	59.54	145	61.02	145
14.70	16	115	65.0	45.0	48.0	59.54	147	61.02	147	59.54	147	61.02	147
14.80	16	115	65.0	45.0	48.0	59.54	148	59.54	148				
15.00	16	115	65.0	45.0	48.0	59.54	150	61.02	150	59.54	150	61.02	150
15.25	16	115	65.0	45.0	48.0	59.54	152	59.54	152				
15.30	16	115	65.0	45.0	48.0	59.54	153	59.54	153				
15.50	16	115	65.0	45.0	48.0	59.54	155	61.02	155	59.54	155	61.02	155
15.70	16	115	65.0	45.0	48.0	59.54	157	61.02	157	59.54	157	61.02	157
15.80	16	115	65.0	45.0	48.0	59.54	158	59.54	158				
16.00	16	115	65.0	45.0	48.0	59.54	160	61.02	160	59.54	160	61.02	160
16.50	18	123	73.0	51.0	48.0	100.22	165	103.14	165	100.22	165	103.14	165
16.80	18	123	73.0	51.0	48.0	100.22	168	100.22	168				
17.00	18	123	73.0	51.0	48.0	100.22	170	103.14	170	100.22	170	103.14	170
17.50	18	123	73.0	51.0	48.0	100.22	175	103.14	175	100.22	175	103.14	175
17.80	18	123	73.0	51.0	48.0	100.22	178	100.22	178				
18.00	18	123	73.0	51.0	48.0	100.22	180	103.14	180	100.22	180	103.14	180
18.50	20	131	79.0	55.0	50.0	108.95	185	114.76	185	108.95	185	114.76	185
18.80	20	131	79.0	55.0	50.0	108.95	188	108.95	188				
19.00	20	131	79.0	55.0	50.0	108.95	190	114.76	190	108.95	190	114.76	190
19.50	20	131	79.0	55.0	50.0	108.95	195	114.76	195	108.95	195	114.76	195
19.80	20	131	79.0	55.0	50.0	108.95	198	108.95	198				
20.00	20	131	79.0	55.0	50.0	108.95	200	114.76	200	108.95	200	114.76	200

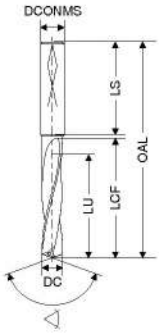
Steel	●	●	○	○
Stainless steel			●	●
Cast iron	●	●	○	○
Non ferrous metals	○	○	●	●
Heat resistant alloys				
Hardened materials			○	○

→ v_c Page 116+120

WTX – High Performance Drill, factory standard

- ▲ Special cutting edge geometry
- ▲ Special flute geometry
- ▲ Special core diameter
- ▲ 46–58 HRC





Solid carbide

NEW T4

DC h7	DCONMS h6	OAL	LCF	LU	LS	Article no. 10 776 ...
mm	mm	mm	mm	mm	mm	£
2.55	4	55	20	7.6	28	39.79 02550
2.60	4	55	20	7.8	28	39.79 02600
2.70	4	55	20	8.1	28	39.79 02700
2.80	4	55	20	8.4	28	39.79 02800
2.90	4	55	20	8.7	28	39.79 02900
3.00	6	62	20	9.0	36	57.38 03000
3.10	6	62	20	9.3	36	57.38 03100
3.20	6	62	20	9.6	36	57.38 03200
3.30	6	62	20	9.9	36	57.38 03300
3.40	6	62	20	10.2	36	57.38 03400
3.50	6	62	20	10.5	36	57.38 03500
3.60	6	62	20	10.8	36	57.38 03600
3.70	6	62	20	11.1	36	57.38 03700
3.80	6	66	24	11.4	36	57.38 03800
3.90	6	66	24	11.7	36	57.38 03900
4.00	6	66	24	12.0	36	57.38 04000
4.10	6	66	24	12.3	36	57.38 04100
4.20	6	66	24	12.6	36	57.38 04200
4.30	6	66	24	12.9	36	57.38 04300
4.40	6	66	24	13.2	36	57.38 04400
4.50	6	66	24	13.5	36	57.38 04500
4.60	6	66	24	13.8	36	57.38 04600
4.70	6	66	24	14.1	36	57.38 04700
4.80	6	66	28	14.4	36	57.38 04800
4.90	6	66	28	14.7	36	57.38 04900
5.00	6	66	28	15.0	36	57.38 05000
5.10	6	66	28	15.3	36	57.38 05100
5.20	6	66	28	15.6	36	57.38 05200
5.30	6	66	28	15.9	36	57.38 05300
5.40	6	66	28	16.2	36	57.38 05400
5.50	6	66	28	16.5	36	57.38 05500
5.60	6	66	28	16.8	36	57.38 05600
5.70	6	66	28	17.1	36	57.38 05700
5.80	6	66	28	17.4	36	57.38 05800
5.90	6	66	28	17.7	36	57.38 05900
6.00	6	66	28	18.0	36	57.38 06000
6.10	8	79	34	18.3	36	74.57 06100
6.20	8	79	34	18.6	36	74.57 06200
6.30	8	79	34	18.9	36	74.57 06300
6.40	8	79	34	19.2	36	74.57 06400
6.50	8	79	34	19.5	36	74.57 06500
6.60	8	79	34	19.8	36	74.57 06600
6.70	8	79	34	20.1	36	74.57 06700
6.80	8	79	34	20.4	36	74.57 06800
6.90	8	79	34	20.7	36	74.57 06900
7.00	8	79	34	21.0	36	74.57 07000
7.10	8	79	41	21.3	36	74.57 07100
7.20	8	79	41	21.6	36	74.57 07200
7.30	8	79	41	21.9	36	74.57 07300
7.40	8	79	41	22.2	36	74.57 07400
7.50	8	79	41	22.5	36	74.57 07500

NEW T4

DC h7	DCONMS h6	OAL	LCF	LU	LS	Article no. 10 776 ...
mm	mm	mm	mm	mm	mm	£
7.60	8	79	41	22.8	36	74.57 07600
7.70	8	79	41	23.1	36	74.57 07700
7.80	8	79	41	23.4	36	74.57 07800
7.90	8	79	41	23.7	36	74.57 07900
8.00	8	79	41	24.0	36	74.57 08000
8.10	10	89	47	24.3	40	95.80 08100
8.20	10	89	47	24.6	40	95.80 08200
8.30	10	89	47	24.9	40	95.80 08300
8.40	10	89	47	25.2	40	95.80 08400
8.50	10	89	47	25.5	40	95.80 08500
8.60	10	89	47	25.8	40	95.80 08600
8.70	10	89	47	26.1	40	95.80 08700
8.80	10	89	47	26.4	40	95.80 08800
8.90	10	89	47	26.7	40	95.80 08900
9.00	10	89	47	27.0	40	95.80 09000
9.10	10	89	47	27.3	40	95.80 09100
9.20	10	89	47	27.6	40	95.80 09200
9.30	10	89	47	27.9	40	95.80 09300
9.40	10	89	47	28.2	40	95.80 09400
9.50	10	89	47	28.5	40	95.80 09500
9.60	10	89	47	28.8	40	95.80 09600
9.70	10	89	47	29.1	40	95.80 09700
9.80	10	89	47	29.4	40	95.80 09800
9.90	10	89	47	29.7	40	95.80 09900
10.00	10	89	47	30.0	40	95.80 10000
10.10	12	102	55	30.3	45	136.81 10100
10.20	12	102	55	30.6	45	136.81 10200
10.30	12	102	55	30.9	45	136.81 10300
10.40	12	102	55	31.2	45	136.81 10400
10.50	12	102	55	31.5	45	136.81 10500
10.60	12	102	55	31.8	45	136.81 10600
10.70	12	102	55	32.1	45	136.81 10700
10.80	12	102	55	32.4	45	136.81 10800
10.90	12	102	55	32.7	45	136.81 10900
11.00	12	102	55	33.0	45	136.81 11000
11.10	12	102	55	33.3	45	136.81 11100
11.20	12	102	55	33.6	45	136.81 11200
11.30	12	102	55	33.9	45	136.81 11300
11.40	12	102	55	34.2	45	136.81 11400
11.50	12	102	55	34.5	45	136.81 11500
11.60	12	102	55	34.8	45	136.81 11600
11.70	12	102	55	35.1	45	136.81 11700
11.80	12	102	55	35.4	45	136.81 11800
11.90	12	102	55	35.7	45	136.81 11900
12.00	12	102	55	36.0	45	136.81 12000
12.10	14	107	60	36.3	45	176.78 12100
12.20	14	107	60	36.6	45	176.78 12200
12.30	14	107	60	36.9	45	176.78 12300
12.40	14	107	60	37.2	45	176.78 12400
12.50	14	107	60	37.5	45	176.78 12500
12.60	14	107	60	37.8	45	176.78 12600
12.70	14	107	60	38.1	45	176.78 12700
12.80	14	107	60	38.4	45	176.78 12800
12.90	14	107	60	38.7	45	176.78 12900
13.00	14	107	60	39.0	45	176.78 13000
13.10	14	107	60	39.3	45	176.78 13100
13.20	14	107	60	39.6	45	176.78 13200
13.30	14	107	60	39.9	45	176.78 13300
13.40	14	107	60	40.2	45	176.78 13400
13.50	14	107	60	40.5	45	176.78 13500
13.60	14	107	60	40.8	45	176.78 13600
13.70	14	107	60	41.1	45	176.78 13700
13.80	14	107	60	41.4	45	176.78 13800
13.90	14	107	60	41.7	45	176.78 13900
14.00	14	107	60	42.0	45	176.78 14000

Steel	○
Cast iron	○
Hardened < 45 HRC	●
Hardened 46–55 HRC	●
Hardened 56–60 HRC	○
Hardened 61–65 HRC	
Hardened 65–70 HRC	

→ v_c Page 111

WTX – High Performance Drill, factory standard

- ▲ Special cutting edge geometry
- ▲ Special flute geometry
- ▲ Special core diameter
- ▲ 46–70 HRC

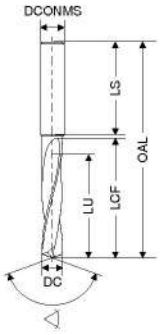
2

≤ 3xD

H

DPX64U

DRAGONSKIN



140°

Solid carbide

NEW T4

DC h7	DCONMS h6	OAL	LCF	LU	LS	Article no. 10 777 ...	
mm	mm	mm	mm	mm	mm	£	
2.55	4	55	20	7.6	28	49.73	02550
2.60	4	55	20	7.8	28	49.73	02600
2.70	4	55	20	8.1	28	49.73	02700
2.80	4	55	20	8.4	28	49.73	02800
2.90	4	55	20	8.7	28	49.73	02900
3.00	6	62	20	9.0	36	71.72	03000
3.10	6	62	20	9.3	36	71.72	03100
3.20	6	62	20	9.6	36	71.72	03200
3.30	6	62	20	9.9	36	71.72	03300
3.40	6	62	20	10.2	36	71.72	03400
3.50	6	62	20	10.5	36	71.72	03500
3.60	6	62	20	10.8	36	71.72	03600
3.70	6	62	20	11.1	36	71.72	03700
3.80	6	66	24	11.4	36	71.72	03800
3.90	6	66	24	11.7	36	71.72	03900
4.00	6	66	24	12.0	36	71.72	04000
4.10	6	66	24	12.3	36	71.72	04100
4.20	6	66	24	12.6	36	71.72	04200
4.30	6	66	24	12.9	36	71.72	04300
4.40	6	66	24	13.2	36	71.72	04400
4.50	6	66	24	13.5	36	71.72	04500
4.60	6	66	24	13.8	36	71.72	04600
4.70	6	66	24	14.1	36	71.72	04700
4.80	6	66	28	14.4	36	71.72	04800
4.90	6	66	28	14.7	36	71.72	04900
5.00	6	66	28	15.0	36	71.72	05000
5.10	6	66	28	15.3	36	71.72	05100
5.20	6	66	28	15.6	36	71.72	05200
5.30	6	66	28	15.9	36	71.72	05300
5.40	6	66	28	16.2	36	71.72	05400
5.50	6	66	28	16.5	36	71.72	05500
5.60	6	66	28	16.8	36	71.72	05600
5.70	6	66	28	17.1	36	71.72	05700
5.80	6	66	28	17.4	36	71.72	05800
5.90	6	66	28	17.7	36	71.72	05900
6.00	6	66	28	18.0	36	71.72	06000
6.10	8	79	34	18.3	36	93.21	06100
6.20	8	79	34	18.6	36	93.21	06200
6.30	8	79	34	18.9	36	93.21	06300
6.40	8	79	34	19.2	36	93.21	06400
6.50	8	79	34	19.5	36	93.21	06500
6.60	8	79	34	19.8	36	93.21	06600
6.70	8	79	34	20.1	36	93.21	06700
6.80	8	79	34	20.4	36	93.21	06800
6.90	8	79	34	20.7	36	93.21	06900
7.00	8	79	34	21.0	36	93.21	07000
7.10	8	79	41	21.3	36	93.21	07100
7.20	8	79	41	21.6	36	93.21	07200
7.30	8	79	41	21.9	36	93.21	07300
7.40	8	79	41	22.2	36	93.21	07400
7.50	8	79	41	22.5	36	93.21	07500

NEW T4

DC h7	DCONMS h6	OAL	LCF	LU	LS	Article no. 10 777 ...	
mm	mm	mm	mm	mm	mm	£	
7.60	8	79	41	22.8	36	93.21	07600
7.70	8	79	41	23.1	36	93.21	07700
7.80	8	79	41	23.4	36	93.21	07800
7.90	8	79	41	23.7	36	93.21	07900
8.00	8	79	41	24.0	36	93.21	08000
8.10	10	89	47	24.3	40	105.35	08100
8.20	10	89	47	24.6	40	105.35	08200
8.30	10	89	47	24.9	40	105.35	08300
8.40	10	89	47	25.2	40	105.35	08400
8.50	10	89	47	25.5	40	105.35	08500
8.60	10	89	47	25.8	40	105.35	08600
8.70	10	89	47	26.1	40	105.35	08700
8.80	10	89	47	26.4	40	105.35	08800
8.90	10	89	47	26.7	40	105.35	08900
9.00	10	89	47	27.0	40	105.35	09000
9.10	10	89	47	27.3	40	105.35	09100
9.20	10	89	47	27.6	40	105.35	09200
9.30	10	89	47	27.9	40	105.35	09300
9.40	10	89	47	28.2	40	105.35	09400
9.50	10	89	47	28.5	40	105.35	09500
9.60	10	89	47	28.8	40	105.35	09600
9.70	10	89	47	29.1	40	105.35	09700
9.80	10	89	47	29.4	40	105.35	09800
9.90	10	89	47	29.7	40	105.35	09900
10.00	10	89	47	30.0	40	105.35	10000
10.10	12	102	55	30.3	45	136.81	10100
10.20	12	102	55	30.6	45	136.81	10200
10.30	12	102	55	30.9	45	136.81	10300
10.40	12	102	55	31.2	45	136.81	10400
10.50	12	102	55	31.5	45	136.81	10500
10.60	12	102	55	31.8	45	136.81	10600
10.70	12	102	55	32.1	45	136.81	10700
10.80	12	102	55	32.4	45	136.81	10800
10.90	12	102	55	32.7	45	136.81	10900
11.00	12	102	55	33.0	45	136.81	11000
11.10	12	102	55	33.3	45	136.81	11100
11.20	12	102	55	33.6	45	136.81	11200
11.30	12	102	55	33.9	45	136.81	11300
11.40	12	102	55	34.2	45	136.81	11400
11.50	12	102	55	34.5	45	136.81	11500
11.60	12	102	55	34.8	45	136.81	11600
11.70	12	102	55	35.1	45	136.81	11700
11.80	12	102	55	35.4	45	136.81	11800
11.90	12	102	55	35.7	45	136.81	11900
12.00	12	102	55	36.0	45	136.81	12000
12.10	14	107	60	36.3	45	161.66	12100
12.20	14	107	60	36.6	45	161.66	12200
12.30	14	107	60	36.9	45	161.66	12300
12.40	14	107	60	37.2	45	161.66	12400
12.50	14	107	60	37.5	45	161.66	12500
12.60	14	107	60	37.8	45	161.66	12600
12.70	14	107	60	38.1	45	161.66	12700
12.80	14	107	60	38.4	45	161.66	12800
12.90	14	107	60	38.7	45	161.66	12900
13.00	14	107	60	39.0	45	161.66	13000
13.10	14	107	60	39.3	45	161.66	13100
13.20	14	107	60	39.6	45	161.66	13200
13.30	14	107	60	39.9	45	161.66	13300
13.40	14	107	60	40.2	45	161.66	13400
13.50	14	107	60	40.5	45	161.66	13500
13.60	14	107	60	40.8	45	161.66	13600
13.70	14	107	60	41.1	45	161.66	13700
13.80	14	107	60	41.4	45	161.66	13800
13.90	14	107	60	41.7	45	161.66	13900
14.00	14	107	60	42.0	45	161.66	14000

Hardened < 45 HRC	●
Hardened 46–55 HRC	●
Hardened 56–60 HRC	●
Hardened 61–65 HRC	●
Hardened 65–70 HRC	●

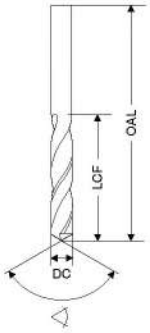
→ v_c Page 111

Twist drill similar to DIN 1897

- Rake angle 30°
- Shank Ø h7

≤ 3xD

N



118°
Solid carbide

DC h7	OAL	LCF	T3 Article no. 10 700 ...	
mm	mm	mm	£	
0.5	20	3.0	5.69	005
0.6	21	3.5	5.98	006
0.7	23	4.5	5.98	007
0.8	24	5.0	5.98	008
0.9	25	5.5	5.98	009
1.0	26	6.0	5.98	010
1.2	30	8.0	5.98	012
1.3	30	8.0	5.98	013
1.4	32	9.0	5.98	014
1.5	32	9.0	5.98	015
1.6	34	10.0	5.98	016
1.7	34	10.0	5.98	017
1.8	36	11.0	5.98	018
1.9	36	11.0	5.98	019
2.0	38	12.0	8.02	020
2.1	38	12.0	8.27	021
2.2	40	13.0	8.27	022
2.3	40	13.0	8.27	023
2.4	43	14.0	8.27	024
2.5	43	14.0	9.28	025
2.6	43	14.0	9.28	026
2.7	46	16.0	9.74	027
2.8	46	16.0	9.74	028
2.9	46	16.0	9.74	029
3.0	46	16.0	10.42	030
3.1	49	18.0	10.42	031
3.2	49	18.0	10.42	032
3.3	49	18.0	12.19	033
3.4	52	20.0	12.19	034
3.5	52	20.0	13.14	035
3.6	52	20.0	13.14	036
3.7	52	20.0	13.14	037
3.8	55	22.0	13.55	038
3.9	55	22.0	13.55	039
4.0	55	22.0	15.64	040
4.1	55	22.0	15.64	041
4.2	55	22.0	17.02	042
4.3	58	24.0	17.02	043
4.4	58	24.0	17.02	044
4.5	58	24.0	18.41	045
4.6	58	24.0	18.41	046
4.7	58	24.0	18.41	047
4.8	62	26.0	18.41	048
4.9	62	26.0	18.41	049
5.0	62	26.0	20.63	050
5.1	62	26.0	20.63	051
5.2	62	26.0	21.25	052
5.3	62	26.0	21.25	053
5.4	66	28.0	21.25	054
5.5	66	28.0	23.95	055
5.6	66	28.0	23.95	056
5.7	66	28.0	23.95	057
5.8	66	28.0	23.95	058
5.9	66	28.0	23.95	059
6.0	66	28.0	26.57	060
6.1	70	31.0	27.38	061
6.2	70	31.0	27.38	062
6.3	70	31.0	27.38	063
6.4	70	31.0	27.38	064
6.5	70	31.0	29.63	065
6.6	70	31.0	32.66	066
6.7	70	31.0	32.66	067
6.8	74	34.0	32.66	068
6.9	74	34.0	32.66	069
7.0	74	34.0	32.66	070
7.1	74	34.0	32.66	071
7.2	74	34.0	32.66	072
7.3	74	34.0	32.66	073
7.4	74	34.0	32.66	074
7.5	74	34.0	37.78	075
7.6	79	37.0	37.78	076
7.7	79	37.0	37.78	077
7.8	79	37.0	37.78	078
7.9	79	37.0	37.78	079
8.0	79	37.0	38.78	080
8.1	79	37.0	42.53	081
8.2	79	37.0	42.53	082
8.3	79	37.0	42.53	083
8.4	79	37.0	42.53	084
8.5	79	37.0	44.05	085
8.6	84	40.0	44.90	086
8.7	84	40.0	44.90	087
8.8	84	40.0	49.11	088
8.9	84	40.0	49.11	089
9.0	84	40.0	49.11	090
9.1	84	40.0	49.11	091
9.2	84	40.0	49.11	092
9.3	84	40.0	49.11	093
9.4	84	40.0	49.11	094
9.5	84	40.0	52.87	095
9.6	89	43.0	52.87	096
9.7	89	43.0	52.87	097
9.8	89	43.0	52.87	098
9.9	89	43.0	52.87	099
10.0	89	43.0	58.69	100
10.2	89	43.0	62.57	102
10.5	89	43.0	62.57	105
10.8	95	47.0	62.57	108
11.0	95	47.0	69.72	110
11.2	95	47.0	76.37	112
11.5	95	47.0	77.44	115
11.8	95	47.0	77.44	118
12.0	102	51.0	86.88	120
12.5	102	51.0	94.78	125
13.0	102	51.0	106.20	130
13.5	107	54.0	120.86	135
14.0	107	54.0	131.19	140
14.5	111	56.0	140.37	145
15.0	111	56.0	152.23	150
15.5	115	58.0	164.30	155
16.0	115	58.0	173.18	160
18.0	123	62.0	232.39	180
20.0	131	66.0	311.37	200

Steel	●
Stainless steel	○
Cast iron	○
Non ferrous metals	●
Heat resistant alloys	○

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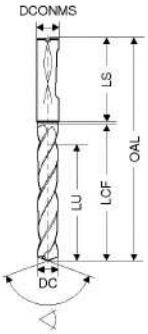
WTX – High Performance Drill, DIN 6537

≤ 3xD



Speed UNI	UNI	UNI	UNI	VA	VA
DPX14S	DPX74S	DPX74S	DPX74S	Ti700	Ti700
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN		

HA	HA	HB	HE	HA	HE
◁ 145°	◁ 140°	◁ 140°	◁ 140°	◁ 140°	◁ 140°
Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
NEW T4	T7	T7	T7	T5	T5

$DC_{m7/h7}$	$DCONMS_{h6}$	OAL	LCF	LU	LS	Article no. 10 781 ...	Article no. 11 780 ...	Article no. 11 781 ...	Article no. 11 779 ...	Article no. 10 734 ...	Article no. 10 733 ...
mm	mm	mm	mm	mm	mm	£	£	£	£	£	£
3.00	6	62	20	14	36	91.60 03000	43.16 03000	43.16 03000	43.16 03000	83.84 030	83.84 030
3.10	6	62	20	14	36	91.60 03100	43.16 03100	43.16 03100	43.16 03100	83.84 031	83.84 031
3.15	6	62	20	14	36		43.16 03150	43.16 03150	43.16 03150	83.84 831	
3.20	6	62	20	14	36	91.60 03200	43.16 03200	43.16 03200	43.16 03200	83.84 032	83.84 032
3.22	6	62	20	14	36		43.16 03220	43.16 03220	43.16 03220	83.84 832	
3.25	6	62	20	14	36		43.16 03250	43.16 03250	43.16 03250	83.84 890	
3.30	6	62	20	14	36	91.60 03300	43.16 03300	43.16 03300	43.16 03300	83.84 033	83.84 033
3.40	6	62	20	14	36	91.60 03400	43.16 03400	43.16 03400	43.16 03400	83.84 034	83.84 034
3.50	6	62	20	14	36	91.60 03500	43.16 03500	43.16 03500	43.16 03500	83.84 035	83.84 035
3.60	6	62	20	14	36	91.60 03600	43.16 03600	43.16 03600	43.16 03600	83.84 036	83.84 036
3.70	6	62	20	14	36	91.60 03700	43.16 03700	43.16 03700	43.16 03700	83.84 037	83.84 037
3.80	6	66	24	17	36	91.60 03800	43.16 03800	43.16 03800	43.16 03800	83.84 038	83.84 038
3.85	6	66	24	17	36		43.16 03850	43.16 03850	43.16 03850	83.84 838	
3.90	6	66	24	17	36	91.60 03900	43.16 03900	43.16 03900	43.16 03900	83.84 039	83.84 039
4.00	6	66	24	17	36	91.60 04000	43.16 04000	43.16 04000	43.16 04000	83.84 040	83.84 040
4.10	6	66	24	17	36	91.60 04100	43.16 04100	43.16 04100	43.16 04100	83.84 041	83.84 041
4.20	6	66	24	17	36	91.60 04200	43.16 04200	43.16 04200	43.16 04200	83.84 042	83.84 042
4.25	6	66	24	17	36		43.16 04250	43.16 04250	43.16 04250		
4.30	6	66	24	17	36	91.60 04300	43.16 04300	43.16 04300	43.16 04300	83.84 043	83.84 043
4.35	6	66	24	17	36		43.16 04350	43.16 04350	43.16 04350	83.84 843	
4.40	6	66	24	17	36	91.60 04400	43.16 04400	43.16 04400	43.16 04400	83.84 044	83.84 044
4.45	6	66	24	17	36		43.16 04450	43.16 04450	43.16 04450	83.84 844	
4.50	6	66	24	17	36	91.60 04500	43.16 04500	43.16 04500	43.16 04500	83.84 045	83.84 045
4.60	6	66	24	17	36	91.60 04600	43.16 04600	43.16 04600	43.16 04600	83.84 046	83.84 046
4.65	6	66	24	17	36	91.60 04650	43.16 04650	43.16 04650	43.16 04650	83.84 900	83.84 900
4.70	6	66	24	17	36	91.60 04700	43.16 04700	43.16 04700	43.16 04700	83.84 047	83.84 047
4.80	6	66	28	20	36	91.60 04800	43.16 04800	43.16 04800	43.16 04800	83.84 048	83.84 048
4.90	6	66	28	20	36	91.60 04900	43.16 04900	43.16 04900	43.16 04900	83.84 049	83.84 049
4.95	6	66	28	20	36		43.16 04950	43.16 04950	43.16 04950		
5.00	6	66	28	20	36	91.60 05000	43.16 05000	43.16 05000	43.16 05000	83.84 050	83.84 050
5.05	6	66	28	20	36		43.16 05050	43.16 05050	43.16 05050		
5.10	6	66	28	20	36	91.60 05100	43.16 05100	43.16 05100	43.16 05100	83.84 051	83.84 051
5.20	6	66	28	20	36	91.60 05200	43.16 05200	43.16 05200	43.16 05200	83.84 052	83.84 052
5.30	6	66	28	20	36	91.60 05300	43.16 05300	43.16 05300	43.16 05300	83.84 053	83.84 053
5.40	6	66	28	20	36	91.60 05400	43.16 05400	43.16 05400	43.16 05400	83.84 054	83.84 054
5.50	6	66	28	20	36	91.60 05500	43.16 05500	43.16 05500	43.16 05500	83.84 055	83.84 055
5.55	6	66	28	20	36	91.60 05550	43.16 05550	43.16 05550	43.16 05550	83.84 902	83.84 902
5.60	6	66	28	20	36	91.60 05600	43.16 05600	43.16 05600	43.16 05600	83.84 056	83.84 056
5.70	6	66	28	20	36	91.60 05700	43.16 05700	43.16 05700	43.16 05700	83.84 057	83.84 057
5.75	6	66	28	20	36		43.16 05750	43.16 05750	43.16 05750	83.84 916	
5.80	6	66	28	20	36	91.60 05800	43.16 05800	43.16 05800	43.16 05800	83.84 058	83.84 058
5.90	6	66	28	20	36	91.60 05900	43.16 05900	43.16 05900	43.16 05900	83.84 059	83.84 059

Steel	●	●	●	●	○	○
Stainless steel	●	○	○	○	●	●
Cast iron	●	●	●	●	○	○
Non ferrous metals	○	○	○	○	●	●
Heat resistant alloys					○	○
Hardened materials	○	○	○	○		

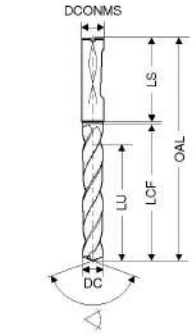
→ v_c Page 96–102

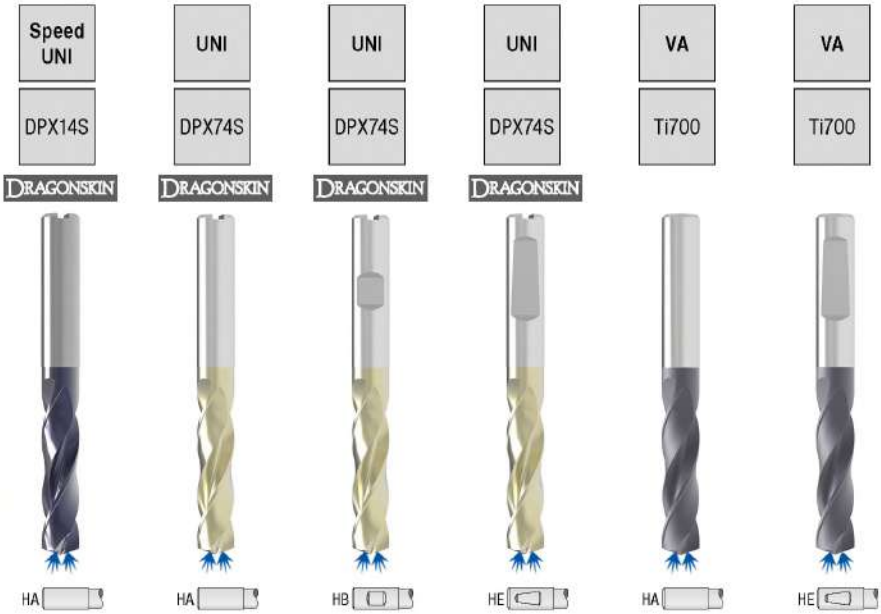
Ø DC_{m7} for Type UNI and VA / Ø DC_{h7} for Type Speed UNI

Continued on next page

WTX – High Performance Drill, DIN 6537

≤ 3xD





						145° Solid carbide		140° Solid carbide		140° Solid carbide		140° Solid carbide		140° Solid carbide		140° Solid carbide			
						NEW T4		T7		T7		T7		T5		T5			
$DC_{m7/h7}$	$DCONMS_{h6}$	OAL	LCF	LU	LS	Article no. 10 781 ...		Article no. 11 780 ...		Article no. 11 781 ...		Article no. 11 779 ...		Article no. 10 734 ...		Article no. 10 733 ...			
mm	mm	mm	mm	mm	mm	£		£		£		£		£		£			
5.95	6	66	28	20	36			43.16	05950	43.16	05950	43.16	05950	83.84	959				
6.00	6	66	28	20	36	91.60	06000	43.16	06000	43.16	06000	43.16	06000	83.84	060	83.84	060		
6.10	8	79	34	24	36	111.94	06100	56.37	06100	56.37	06100	56.37	06100	103.49	061	103.49	061		
6.20	8	79	34	24	36	111.94	06200	56.37	06200	56.37	06200	56.37	06200	103.49	062	103.49	062		
6.30	8	79	34	24	36	111.94	06300	56.37	06300	56.37	06300	56.37	06300	103.49	063	103.49	063		
6.40	8	79	34	24	36	111.94	06400	56.37	06400	56.37	06400	56.37	06400	103.49	064	103.49	064		
6.50	8	79	34	24	36	111.94	06500	56.37	06500	56.37	06500	56.37	06500	103.49	065	103.49	065		
6.60	8	79	34	24	36	111.94	06600	56.37	06600	56.37	06600	56.37	06600	103.49	066	103.49	066		
6.70	8	79	34	24	36	111.94	06700	56.37	06700	56.37	06700	56.37	06700	103.49	067	103.49	067		
6.80	8	79	34	24	36	111.94	06800	56.37	06800	56.37	06800	56.37	06800	103.49	068	103.49	068		
6.90	8	79	34	24	36	111.94	06900	56.37	06900	56.37	06900	56.37	06900	103.49	069	103.49	069		
7.00	8	79	34	24	36	111.94	07000	56.37	07000	56.37	07000	56.37	07000	103.49	070	103.49	070		
7.10	8	79	41	29	36	111.94	07100	56.37	07100	56.37	07100	56.37	07100	103.49	071	103.49	071		
7.20	8	79	41	29	36	111.94	07200	56.37	07200	56.37	07200	56.37	07200	103.49	072	103.49	072		
7.30	8	79	41	29	36	111.94	07300	56.37	07300	56.37	07300	56.37	07300	103.49	073	103.49	073		
7.40	8	79	41	29	36	111.94	07400	56.37	07400	56.37	07400	56.37	07400	103.49	074	103.49	074		
7.45	8	79	41	29	36			56.37	07450	56.37	07450	56.37	07450	103.49	924				
7.50	8	79	41	29	36	111.94	07500	56.37	07500	56.37	07500	56.37	07500	103.49	075	103.49	075		
7.60	8	79	41	29	36	111.94	07600	56.37	07600	56.37	07600	56.37	07600	103.49	076	103.49	076		
7.70	8	79	41	29	36	111.94	07700	56.37	07700	56.37	07700	56.37	07700	103.49	077	103.49	077		
7.80	8	79	41	29	36	111.94	07800	56.37	07800	56.37	07800	56.37	07800	103.49	078	103.49	078		
7.90	8	79	41	29	36	111.94	07900	56.37	07900	56.37	07900	56.37	07900	103.49	079	103.49	079		
8.00	8	79	41	29	36	111.94	08000	56.37	08000	56.37	08000	56.37	08000	102.81	080	102.81	080		
8.10	10	89	47	35	40	154.39	08100	64.42	08100	64.42	08100	64.42	08100	103.49	081	103.49	081		
8.20	10	89	47	35	40	154.39	08200	64.42	08200	64.42	08200	64.42	08200	103.49	082	103.49	082		
8.30	10	89	47	35	40	154.39	08300	64.42	08300	64.42	08300	64.42	08300	103.49	083	103.49	083		
8.40	10	89	47	35	40	154.39	08400	64.42	08400	64.42	08400	64.42	08400	103.49	084	103.49	084		
8.50	10	89	47	35	40	154.39	08500	64.42	08500	64.42	08500	64.42	08500	103.49	085	103.49	085		
8.60	10	89	47	35	40	154.39	08600	64.42	08600	64.42	08600	64.42	08600	103.49	086	103.49	086		
8.70	10	89	47	35	40	154.39	08700	64.42	08700	64.42	08700	64.42	08700	103.49	087	103.49	087		
8.80	10	89	47	35	40	154.39	08800	64.42	08800	64.42	08800	64.42	08800	103.49	088	103.49	088		
8.90	10	89	47	35	40	154.39	08900	64.42	08900	64.42	08900	64.42	08900	103.49	089	103.49	089		
9.00	10	89	47	35	40	154.39	09000	64.42	09000	64.42	09000	64.42	09000	103.49	090	103.49	090		
9.10	10	89	47	35	40	154.39	09100	64.42	09100	64.42	09100	64.42	09100	103.49	091	103.49	091		
9.20	10	89	47	35	40	154.39	09200	64.42	09200	64.42	09200	64.42	09200	119.55	092	119.55	092		
9.30	10	89	47	35	40	154.39	09300	64.42	09300	64.42	09300	64.42	09300	119.55	093	119.55	093		
9.35	10	89	47	35	40			64.42	09350	64.42	09350	64.42	09350	119.55	930				
9.40	10	89	47	35	40	154.39	09400	64.42	09400	64.42	09400	64.42	09400	119.55	094	119.55	094		
9.45	10	89	47	35	40			64.42	09450	64.42	09450	64.42	09450	119.55	994				
9.50	10	89	47	35	40	154.39	09500	64.42	09500	64.42	09500	64.42	09500	119.55	095	119.55	095		
9.60	10	89	47	35	40	154.39	09600	64.42	09600	64.42	09600	64.42	09600	119.55	096	119.55	096		
9.70	10	89	47	35	40	154.39	09700	64.42	09700	64.42	09700	64.42	09700	119.55	097	119.55	097		

Steel	●	●	●	●	○	○
Stainless steel	●	○	○	○	●	●
Cast iron	●	●	●	●	○	○
Non ferrous metals	○	○	○	○	●	●
Heat resistant alloys					○	○
Hardened materials	○	○	○	○		

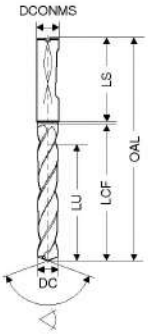
→ v_c Page 96–102

Ø DC_{m7} for Type UNI and VA / Ø DC_{h7} for Type Speed UNI

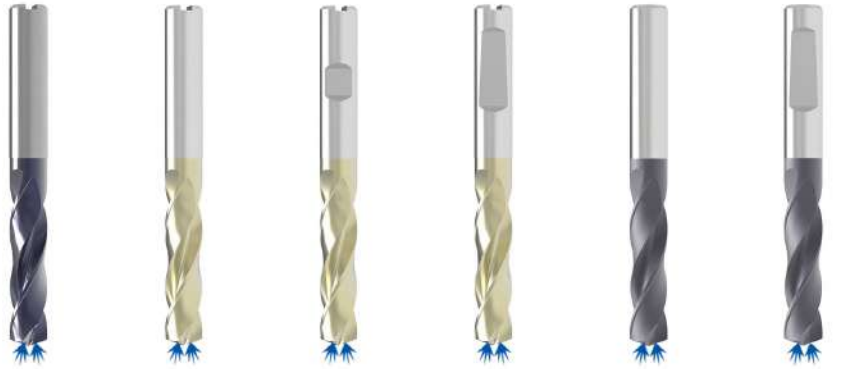
Continued on next page

WTX – High Performance Drill, DIN 6537

≤ 3xD



Speed UNI	UNI	UNI	UNI	VA	VA
DPX14S	DPX74S	DPX74S	DPX74S	Ti700	Ti700
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN		



						HA	HA	HB	HE	HA	HE
						◁ 145°	◁ 140°	◁ 140°	◁ 140°	◁ 140°	◁ 140°
						Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
						NEW T4	T7	T7	T7	T5	T5
DC m7/h7	DCONMS h6	OAL	LCF	LU	LS	Article no. 10 781 ...	Article no. 11 780 ...	Article no. 11 781 ...	Article no. 11 779 ...	Article no. 10 734 ...	Article no. 10 733 ...
mm	mm	mm	mm	mm	mm	£	£	£	£	£	£
9.80	10	89	47	35	40	154.39 09800	64.42 09800	64.42 09800	64.42 09800	119.55 098	119.55 098
9.90	10	89	47	35	40	154.39 09900	64.42 09900	64.42 09900	64.42 09900	119.55 099	119.55 099
10.00	10	89	47	35	40	154.39 10000	64.42 10000	64.42 10000	64.42 10000	119.55 100	119.55 100
10.10	12	102	55	40	45	194.49 10100	89.94 10100	89.94 10100	89.94 10100	165.88 101	165.88 101
10.20	12	102	55	40	45	194.49 10200	89.94 10200	89.94 10200	89.94 10200	165.88 102	165.88 102
10.30	12	102	55	40	45	194.49 10300	89.94 10300	89.94 10300	89.94 10300	165.88 103	165.88 103
10.40	12	102	55	40	45	194.49 10400	89.94 10400	89.94 10400	89.94 10400	165.88 104	165.88 104
10.50	12	102	55	40	45	194.49 10500	89.94 10500	89.94 10500	89.94 10500	165.88 105	165.88 105
10.55	12	102	55	40	45		89.94 10550	89.94 10550	89.94 10550	165.88 932	
10.60	12	102	55	40	45	194.49 10600	89.94 10600	89.94 10600	89.94 10600	165.88 106	165.88 106
10.70	12	102	55	40	45	194.49 10700	89.94 10700	89.94 10700	89.94 10700	165.88 107	165.88 107
10.75	12	102	55	40	45		89.94 10750	89.94 10750	89.94 10750		
10.80	12	102	55	40	45	194.49 10800	89.94 10800	89.94 10800	89.94 10800	165.88 108	165.88 108
10.90	12	102	55	40	45	194.49 10900	89.94 10900	89.94 10900	89.94 10900	165.88 109	165.88 109
11.00	12	102	55	40	45	194.49 11000	89.94 11000	89.94 11000	89.94 11000	165.88 110	165.88 110
11.10	12	102	55	40	45	194.49 11100	89.94 11100	89.94 11100	89.94 11100	165.88 111	165.88 111
11.20	12	102	55	40	45	194.49 11200	89.94 11200	89.94 11200	89.94 11200	165.88 112	165.88 112
11.25	12	102	55	40	45		89.94 11250	89.94 11250	89.94 11250	165.88 912	
11.30	12	102	55	40	45	194.49 11300	89.94 11300	89.94 11300	89.94 11300	165.88 113	165.88 113
11.35	12	102	55	40	45		89.94 11350	89.94 11350	89.94 11350	165.88 913	
11.40	12	102	55	40	45	194.49 11400	89.94 11400	89.94 11400	89.94 11400	165.88 114	165.88 114
11.45	12	102	55	40	45		89.94 11450	89.94 11450	89.94 11450	165.88 914	
11.50	12	102	55	40	45	194.49 11500	89.94 11500	89.94 11500	89.94 11500	165.88 115	165.88 115
11.60	12	102	55	40	45	194.49 11600	89.94 11600	89.94 11600	89.94 11600	165.88 116	165.88 116
11.70	12	102	55	40	45	194.49 11700	89.94 11700	89.94 11700	89.94 11700	165.88 117	165.88 117
11.80	12	102	55	40	45	194.49 11800	89.94 11800	89.94 11800	89.94 11800	165.88 118	165.88 118
11.90	12	102	55	40	45	194.49 11900	89.94 11900	89.94 11900	89.94 11900	165.88 119	165.88 119
12.00	12	102	55	40	45	194.49 12000	89.94 12000	89.94 12000	89.94 12000	165.88 120	165.88 120
12.15	14	107	60	43	45		127.39 12150	127.39 12150	127.39 12150	233.53 921	
12.25	14	107	60	43	45		127.39 12250	127.39 12250	127.39 12250		
12.50	14	107	60	43	45	317.70 12500	127.39 12500	127.39 12500	127.39 12500	233.53 125	233.53 125
12.55	14	107	60	43	45		127.39 12550	127.39 12550	127.39 12550	233.53 925	
12.70	14	107	60	43	45		127.39 12700	127.39 12700	127.39 12700		
12.80	14	107	60	43	45	317.70 12800	127.39 12800	127.39 12800	127.39 12800	233.53 128	233.53 128
12.90	14	107	60	43	45		127.39 12900	127.39 12900	127.39 12900		
13.00	14	107	60	43	45	317.70 13000	127.39 13000	127.39 13000	127.39 13000	233.53 130	233.53 130
13.10	14	107	60	43	45		127.39 13100	127.39 13100	127.39 13100		
13.30	14	107	60	43	45		127.39 13300	127.39 13300	127.39 13300		
13.35	14	107	60	43	45		127.39 13350	127.39 13350	127.39 13350	233.53 933	
13.50	14	107	60	43	45	317.70 13500	127.39 13500	127.39 13500	127.39 13500	233.53 135	233.53 135
13.70	14	107	60	43	45		127.39 13700	127.39 13700	127.39 13700		
13.80	14	107	60	43	45	317.70 13800	127.39 13800	127.39 13800	127.39 13800	233.53 138	233.53 138

Steel	●	●	●	●	○	○
Stainless steel	●	○	○	○	●	●
Cast iron	●	●	●	●	○	○
Non ferrous metals	○	○	○	○	●	●
Heat resistant alloys					○	○
Hardened materials	○	○	○	○		

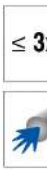
→ v_c Page 96–102

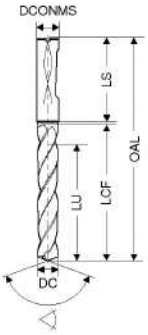
Ø DC_{m7} for Type UNI and VA / Ø DC_{h7} for Type Speed UNI

Continued on next page

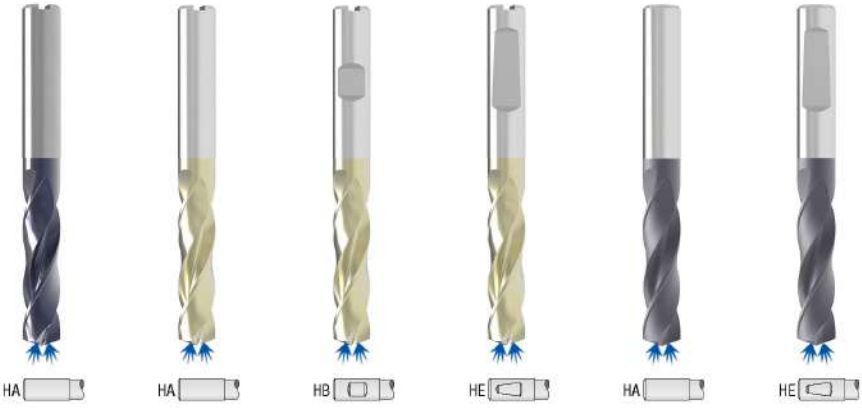
WTX – High Performance Drill, DIN 6537

≤ 3xD





Speed UNI	UNI	UNI	UNI	VA	VA
DPX14S	DPX74S	DPX74S	DPX74S	Ti700	Ti700
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN		



HA	HA	HB	HE	HA	HE
◁ 145°	◁ 140°	◁ 140°	◁ 140°	◁ 140°	◁ 140°
Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
NEW T4	T7	T7	T7	T5	T5
Article no. 10 781 ...	Article no. 11 780 ...	Article no. 11 781 ...	Article no. 11 779 ...	Article no. 10 734 ...	Article no. 10 733 ...

DC m7/h7	DCONMS h6	OAL	LCF	LU	LS	£	£	£	£	£	£
mm	mm	mm	mm	mm	mm						
14.00	14	107	60	43	45	317.70 14000	127.39 14000	127.39 14000	127.39 14000	233.53 140	233.53 140
14.20	16	115	65	45	48		149.92 14200	149.92 14200	149.92 14200		
14.50	16	115	65	45	48	399.34 14500	149.92 14500	149.92 14500	149.92 14500	295.94 145	295.94 145
14.80	16	115	65	45	48	399.34 14800	149.92 14800	149.92 14800	149.92 14800	295.94 148	295.94 148
15.00	16	115	65	45	48	399.34 15000	149.92 15000	149.92 15000	149.92 15000	295.94 150	295.94 150
15.10	16	115	65	45	48		149.92 15100	149.92 15100	149.92 15100		
15.25	16	115	65	45	48		149.92 15250	149.92 15250	149.92 15250		
15.30	16	115	65	45	48		149.92 15300	149.92 15300	149.92 15300		
15.35	16	115	65	45	48		149.92 15350	149.92 15350	149.92 15350	295.94 953	
15.50	16	115	65	45	48	399.34 15500	149.92 15500	149.92 15500	149.92 15500	295.94 155	295.94 155
15.60	16	115	65	45	48		149.92 15600	149.92 15600	149.92 15600		
15.80	16	115	65	45	48	399.34 15800	149.92 15800	149.92 15800	149.92 15800	295.94 158	295.94 158
16.00	16	115	65	45	48	399.34 16000	149.92 16000	149.92 16000	149.92 16000	295.94 160	295.94 160
16.05	18	123	73	51	48		243.32 16050	243.32 16050	243.32 16050	406.33 960	
16.50	18	123	73	51	48	537.42 16500	243.32 16500	243.32 16500	243.32 16500	406.33 165	406.33 165
16.80	18	123	73	51	48	537.42 16800	243.32 16800	243.32 16800	243.32 16800	406.33 168	406.33 168
16.90	18	123	73	51	48		243.32 16900	243.32 16900	243.32 16900		
17.00	18	123	73	51	48	537.42 17000	243.32 17000	243.32 17000	243.32 17000	406.33 170	406.33 170
17.50	18	123	73	51	48	537.42 17500	243.32 17500	243.32 17500	243.32 17500	406.33 175	406.33 175
17.60	18	123	73	51	48		243.32 17600	243.32 17600	243.32 17600		
17.80	18	123	73	51	48	537.42 17800	243.32 17800	243.32 17800	243.32 17800	406.33 178	406.33 178
18.00	18	123	73	51	48	537.42 18000	243.32 18000	243.32 18000	243.32 18000	406.33 180	406.33 180
18.50	20	131	79	55	50	654.71 18500	262.06 18500	262.06 18500	262.06 18500	504.43 185	504.43 185
18.80	20	131	79	55	50	654.71 18800	262.06 18800	262.06 18800	262.06 18800	504.43 188	504.43 188
18.90	20	131	79	55	50		262.06 18900	262.06 18900	262.06 18900		
19.00	20	131	79	55	50	654.71 19000	262.06 19000	262.06 19000	262.06 19000	504.43 190	504.43 190
19.35	20	131	79	55	50		262.06 19350	262.06 19350	262.06 19350	504.43 993	
19.50	20	131	79	55	50	654.71 19500	262.06 19500	262.06 19500	262.06 19500	504.43 195	504.43 195
19.60	20	131	79	55	50		262.06 19600	262.06 19600	262.06 19600		
19.80	20	131	79	55	50	654.71 19800	262.06 19800	262.06 19800	262.06 19800	504.43 198	504.43 198
20.00	20	131	79	55	50	654.71 20000	262.06 20000	262.06 20000	262.06 20000	504.43 200	504.43 200
20.50	25	151	93	66	56		578.57 20500	578.57 20500	578.57 20500		
21.00	25	151	93	66	56		578.57 21000	578.57 21000	578.57 21000		
21.50	25	151	93	66	56		578.57 21500	578.57 21500	578.57 21500		
22.00	25	151	93	66	56		578.57 22000	578.57 22000	578.57 22000		
22.50	25	153	96	72	56		578.57 22500	578.57 22500	578.57 22500		
23.00	25	153	96	72	56		578.57 23000	578.57 23000	578.57 23000		
23.50	25	153	96	72	56		578.57 23500	578.57 23500	578.57 23500		
24.00	25	153	96	72	56		578.57 24000	578.57 24000	578.57 24000		
24.50	25	153	96	75	56		578.57 24500	578.57 24500	578.57 24500		
25.00	25	153	96	75	56		578.57 25000	578.57 25000	578.57 25000		

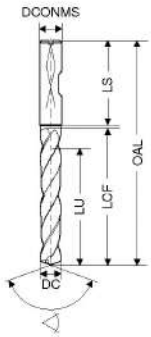
Steel	●	●	●	●	○	○
Stainless steel	●	○	○	○	●	●
Cast iron	●	●	●	●	○	○
Non ferrous metals	○	○	○	○	●	●
Heat resistant alloys					○	○
Hardened materials	○	○	○	○		

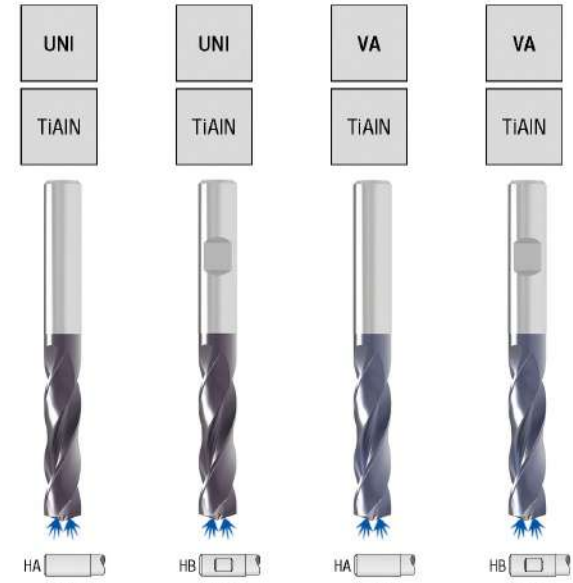
→ v_c Page 96–102

Ø DC_{m7} for Type UNI and VA / Ø DC_{h7} for Type Speed UNI

WPC – High Performance Drill, DIN 6537

≤ 3xD





140°
Solid carbide
T1

DC m7	DCONMS h6	OAL	LCF	LU	LS	Article no. 11 603 ...		Article no. 11 604 ...		Article no. 11 623 ...		Article no. 11 624 ...	
mm	mm	mm	mm	mm	mm	£		£		£		£	
1.00	4	45	6.0	4.5	32.0	25.89	010			25.89	010		
1.10	4	45	6.6	5.0	31.5	25.89	011			25.89	011		
1.20	4	45	7.2	5.4	31.0	25.89	012			25.89	012		
1.30	4	45	7.8	5.9	31.5	25.89	013			25.89	013		
1.40	4	45	8.4	6.3	30.0	25.89	014			25.89	014		
1.50	4	50	9.0	6.8	35.0	25.89	015			25.89	015		
1.60	4	50	9.6	7.2	34.5	25.89	016			25.89	016		
1.70	4	50	10.2	7.7	34.0	25.89	017			25.89	017		
1.80	4	50	10.8	8.1	33.5	25.89	018			25.89	018		
1.90	4	50	11.4	8.6	33.0	25.89	019			25.89	019		
2.00	4	50	12.0	9.0	33.0	25.89	020			25.89	020		
2.10	4	55	12.6	9.5	37.5	25.89	021			25.89	021		
2.20	4	55	13.2	9.9	37.0	25.89	022			25.89	022		
2.30	4	55	13.8	10.4	36.5	25.89	023			25.89	023		
2.40	4	55	14.4	10.8	36.0	25.89	024			25.89	024		
2.50	4	55	15.0	11.3	35.5	25.89	025			25.89	025		
2.60	4	55	15.6	11.7	35.5	25.89	026			25.89	026		
2.70	4	55	16.2	12.2	35.0	25.89	027			25.89	027		
2.80	4	55	16.8	12.6	34.0	25.89	028			25.89	028		
2.90	4	55	17.4	13.1	34.0	25.89	029			25.89	029		
3.00	6	62	20.0	14.0	36.0	25.89	030	26.16	030	25.89	030	26.16	030
3.10	6	62	20.0	14.0	36.0	25.89	031	26.16	031	25.89	031	26.16	031
3.20	6	62	20.0	14.0	36.0	25.89	032	26.16	032	25.89	032	26.16	032
3.25	6	62	20.0	14.0	36.0	26.16	890	26.16	890	35.66	03250		
3.30	6	62	20.0	14.0	36.0	25.89	033	26.16	033	25.89	033	26.16	033
3.40	6	62	20.0	14.0	36.0	25.89	034	26.16	034	25.89	034	26.16	034
3.50	6	62	20.0	14.0	36.0	25.89	035	26.16	035	25.89	035	26.16	035
3.60	6	62	20.0	14.0	36.0	25.89	036	26.16	036	25.89	036	26.16	036
3.70	6	62	20.0	14.0	36.0	25.89	037	26.16	037	25.89	037	26.16	037
3.80	6	66	24.0	17.0	36.0	25.89	038	26.16	038	25.89	038	26.16	038
3.90	6	66	24.0	17.0	36.0	25.89	039	26.16	039	25.89	039	26.16	039
4.00	6	66	24.0	17.0	36.0	26.16	040	27.61	040	26.16	040	27.61	040
4.10	6	66	24.0	17.0	36.0	26.16	041	27.61	041	26.16	041	27.61	041
4.20	6	66	24.0	17.0	36.0	26.16	042	27.61	042	26.16	042	27.61	042
4.30	6	66	24.0	17.0	36.0	26.16	043	27.61	043	26.16	043	27.61	043
4.40	6	66	24.0	17.0	36.0	26.16	044	27.61	044	26.16	044	27.61	044
4.50	6	66	24.0	17.0	36.0	26.16	045	27.61	045	26.16	045	27.61	045
4.60	6	66	24.0	17.0	36.0	26.16	046	27.61	046	26.16	046	27.61	046
4.65	6	66	24.0	17.0	36.0	26.16	900	27.61	900	26.16	900	27.61	900
4.70	6	66	24.0	17.0	36.0	26.16	047	27.61	047	26.16	047	27.61	047
4.80	6	66	28.0	20.0	36.0	26.16	048	27.61	048	26.16	048	27.61	048

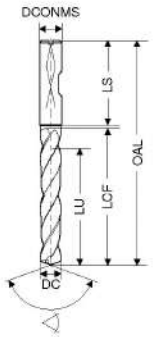
Steel	●	●	○	○
Stainless steel	○	○	●	●
Cast iron	●	●	○	○
Non ferrous metals	○	○	●	●
Heat resistant alloys			●	●

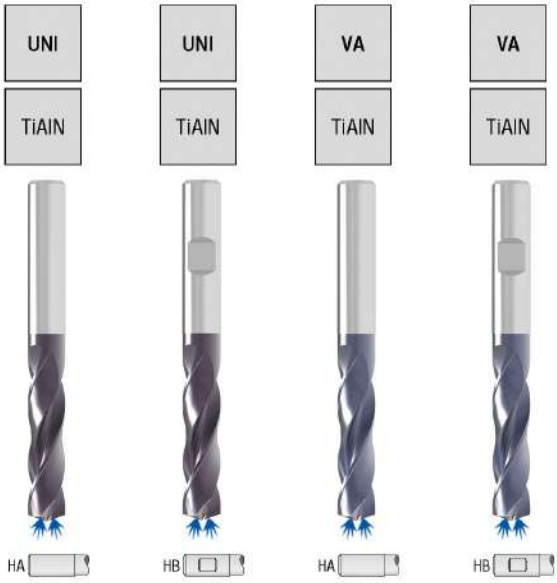
→ v_c Page 116+120

Continued on next page

WPC – High Performance Drill, DIN 6537

≤ 3xD





140°
Solid carbide
T1

DC m7	DCONMS h6	OAL	LCF	LU	LS	Article no. 11 603 ...		Article no. 11 604 ...		Article no. 11 623 ...		Article no. 11 624 ...	
mm	mm	mm	mm	mm	mm	£		£		£		£	
4.90	6	66	28.0	20.0	36.0	26.16	049	27.61	049	26.16	049	27.61	049
5.00	6	66	28.0	20.0	36.0	26.16	050	27.61	050	26.16	050	27.61	050
5.10	6	66	28.0	20.0	36.0	26.16	051	27.61	051	26.16	051	27.61	051
5.20	6	66	28.0	20.0	36.0	26.16	052	27.61	052	26.16	052	27.61	052
5.30	6	66	28.0	20.0	36.0	26.16	053	27.61	053	26.16	053	27.61	053
5.40	6	66	28.0	20.0	36.0	26.16	054	27.61	054	26.16	054	27.61	054
5.50	6	66	28.0	20.0	36.0	26.16	055	27.61	055	26.16	055	27.61	055
5.55	6	66	28.0	20.0	36.0	26.16	902	27.61	902	26.16	902	27.61	902
5.60	6	66	28.0	20.0	36.0	26.16	056	27.61	056	26.16	056	27.61	056
5.70	6	66	28.0	20.0	36.0	26.16	057	27.61	057	26.16	057	27.61	057
5.80	6	66	28.0	20.0	36.0	26.16	058	27.61	058	26.16	058	27.61	058
5.90	6	66	28.0	20.0	36.0	26.16	059	27.61	059	26.16	059	27.61	059
6.00	6	66	28.0	20.0	36.0	26.16	060	27.61	060	26.16	060	27.61	060
6.10	8	79	34.0	24.0	36.0	36.33	061	36.33	061	36.33	061	36.33	061
6.20	8	79	34.0	24.0	36.0	36.33	062	36.33	062	36.33	062	36.33	062
6.30	8	79	34.0	24.0	36.0	36.33	063	36.33	063	36.33	063	36.33	063
6.40	8	79	34.0	24.0	36.0	36.33	064	36.33	064	36.33	064	36.33	064
6.50	8	79	34.0	24.0	36.0	36.33	065	37.78	065	36.33	065	37.78	065
6.60	8	79	34.0	24.0	36.0	36.33	066	37.78	066	36.33	066	37.78	066
6.70	8	79	34.0	24.0	36.0	36.33	067	37.78	067	36.33	067	37.78	067
6.80	8	79	34.0	24.0	36.0	36.33	068	37.78	068	36.33	068	37.78	068
6.90	8	79	34.0	24.0	36.0	36.33	069	37.78	069	36.33	069	37.78	069
7.00	8	79	34.0	24.0	36.0	36.33	070	37.78	070	36.33	070	37.78	070
7.10	8	79	41.0	29.0	36.0	36.33	071	37.78	071	36.33	071	37.78	071
7.20	8	79	41.0	29.0	36.0	36.33	072	37.78	072	36.33	072	37.78	072
7.30	8	79	41.0	29.0	36.0	36.33	073	37.78	073	36.33	073	37.78	073
7.40	8	79	41.0	29.0	36.0	36.33	074	37.78	074	36.33	074	37.78	074
7.45	8	79	41.0	29.0	36.0	36.33	924	36.33	924	47.81	07450		
7.50	8	79	41.0	29.0	36.0	36.33	075	37.78	075	36.33	075	37.78	075
7.55	8	79	41.0	29.0	36.0	36.33	975	37.78	975	36.33	975	37.78	975
7.60	8	79	41.0	29.0	36.0	36.33	076	37.78	076	36.33	076	37.78	076
7.70	8	79	41.0	29.0	36.0	36.33	077	37.78	077	36.33	077	37.78	077
7.80	8	79	41.0	29.0	36.0	36.33	078	37.78	078	36.33	078	37.78	078
7.90	8	79	41.0	29.0	36.0	36.33	079	37.78	079	36.33	079	37.78	079
8.00	8	79	41.0	29.0	36.0	36.33	080	37.78	080	36.33	080	37.78	080
8.10	10	89	47.0	35.0	40.0	42.13	081	43.60	081	42.13	081	43.60	081
8.20	10	89	47.0	35.0	40.0	42.13	082	43.60	082	42.13	082	43.60	082
8.30	10	89	47.0	35.0	40.0	42.13	083	43.60	083	42.13	083	43.60	083
8.40	10	89	47.0	35.0	40.0	42.13	084	43.60	084	42.13	084	43.60	084
8.50	10	89	47.0	35.0	40.0	42.13	085	43.60	085	42.13	085	43.60	085
8.60	10	89	47.0	35.0	40.0	42.13	086	43.60	086	42.13	086	43.60	086

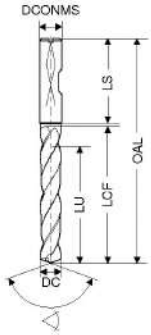
Steel	●	●	○	○
Stainless steel	○	○	●	●
Cast iron	●	●	○	○
Non ferrous metals	○	○	●	●
Heat resistant alloys			●	●

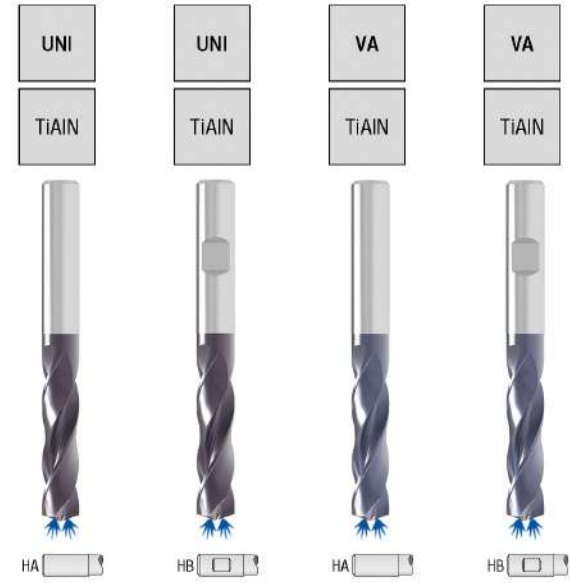
→ v_c Page 116+120

Continued on next page

WPC – High Performance Drill, DIN 6537

≤ 3xD





T1 T1 T1 T1

DC m7	DCONMS h6	OAL	LCF	LU	LS	Article no. 11 603 ...		Article no. 11 604 ...		Article no. 11 623 ...		Article no. 11 624 ...	
mm	mm	mm	mm	mm	mm	£		£		£		£	
8.70	10	89	47.0	35.0	40.0	42.13	087	43.60	087	42.13	087	43.60	087
8.80	10	89	47.0	35.0	40.0	42.13	088	43.60	088	42.13	088	43.60	088
8.90	10	89	47.0	35.0	40.0	42.13	089	43.60	089	42.13	089	43.60	089
9.00	10	89	47.0	35.0	40.0	42.13	090	43.60	090	42.13	090	43.60	090
9.10	10	89	47.0	35.0	40.0	42.13	091	43.60	091	42.13	091	43.60	091
9.20	10	89	47.0	35.0	40.0	42.13	092	43.60	092	42.13	092	43.60	092
9.25	10	89	47.0	35.0	40.0	42.13	925	43.60	925	42.13	925	43.60	925
9.30	10	89	47.0	35.0	40.0	42.13	093	43.60	093	42.13	093	43.60	093
9.35	10	89	47.0	35.0	40.0	42.13	930	42.13	930	55.31	09350		
9.40	10	89	47.0	35.0	40.0	42.13	094	43.60	094	42.13	094	43.60	094
9.50	10	89	47.0	35.0	40.0	42.13	095	43.60	095	42.13	095	43.60	095
9.60	10	89	47.0	35.0	40.0	42.13	096	43.60	096	42.13	096	43.60	096
9.70	10	89	47.0	35.0	40.0	42.13	097	43.60	097	42.13	097	43.60	097
9.80	10	89	47.0	35.0	40.0	42.13	098	43.60	098	42.13	098	43.60	098
9.90	10	89	47.0	35.0	40.0	42.13	099	43.60	099	42.13	099	43.60	099
10.00	10	89	47.0	35.0	40.0	42.13	100	43.60	100	42.13	100	43.60	100
10.10	12	102	55.0	40.0	45.0	59.54	101	62.47	101	59.54	101	62.47	101
10.20	12	102	55.0	40.0	45.0	59.54	102	62.47	102	59.54	102	62.47	102
10.30	12	102	55.0	40.0	45.0	59.54	103	62.47	103	59.54	103	62.47	103
10.40	12	102	55.0	40.0	45.0	59.54	104	62.47	104	59.54	104	62.47	104
10.50	12	102	55.0	40.0	45.0	59.54	105	62.47	105	59.54	105	62.47	105
10.60	12	102	55.0	40.0	45.0	59.54	106	62.47	106	59.54	106	62.47	106
10.70	12	102	55.0	40.0	45.0	59.54	107	62.47	107	59.54	107	62.47	107
10.75	12	102	55.0	40.0	45.0	59.54	904	59.54	904	78.69	10750		
10.80	12	102	55.0	40.0	45.0	59.54	108	62.47	108	59.54	108	62.47	108
10.90	12	102	55.0	40.0	45.0	59.54	109	62.47	109	59.54	109	62.47	109
11.00	12	102	55.0	40.0	45.0	59.54	110	62.47	110	59.54	110	62.47	110
11.10	12	102	55.0	40.0	45.0	59.54	111	62.47	111	59.54	111	62.47	111
11.20	12	102	55.0	40.0	45.0	59.54	112	62.47	112	59.54	112	62.47	112
11.25	12	102	55.0	40.0	45.0	59.54	912	59.54	912	78.15	11250		
11.30	12	102	55.0	40.0	45.0	59.54	113	62.47	113	59.54	113	62.47	113
11.40	12	102	55.0	40.0	45.0	59.54	114	62.47	114	59.54	114	62.47	114
11.50	12	102	55.0	40.0	45.0	59.54	115	62.47	115	59.54	115	62.47	115
11.60	12	102	55.0	40.0	45.0	59.54	116	62.47	116	59.54	116	62.47	116
11.70	12	102	55.0	40.0	45.0	59.54	117	62.47	117	59.54	117	62.47	117
11.80	12	102	55.0	40.0	45.0	59.54	118	62.47	118	59.54	118	62.47	118
11.90	12	102	55.0	40.0	45.0	59.54	119	62.47	119	59.54	119	62.47	119
12.00	12	102	55.0	40.0	45.0	59.54	120	62.47	120	59.54	120	62.47	120
12.25	14	107	60.0	43.0	45.0	84.25	122	84.25	122	106.57	12250		
12.50	14	107	60.0	43.0	45.0	84.25	125	87.16	125	84.25	125	87.16	125
12.70	14	107	60.0	43.0	45.0	84.25	127	87.16	127	84.25	127	87.16	127

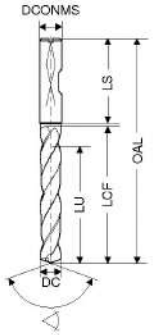
Steel	●	●	○	○
Stainless steel	○	○	●	●
Cast iron	●	●	○	○
Non ferrous metals	○	○	●	●
Heat resistant alloys			●	●

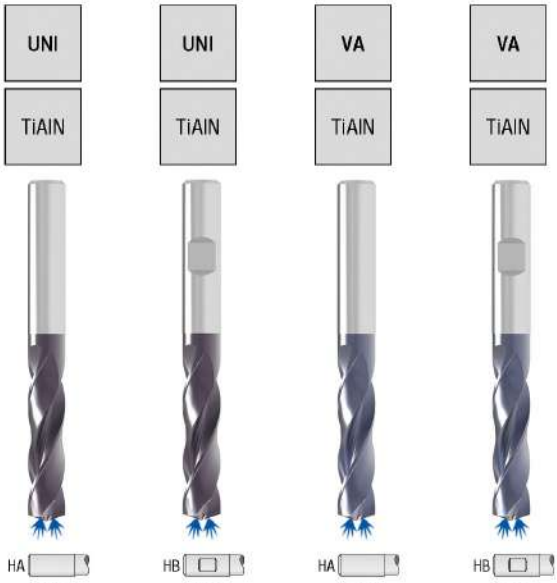
→ v_c Page 116+120

Continued on next page

WPC – High Performance Drill, DIN 6537

≤ 3xD





140°
Solid carbide
T1

DC m7	DCONMS h6	OAL	LCF	LU	LS	Article no. 11 603 ...		Article no. 11 604 ...		Article no. 11 623 ...		Article no. 11 624 ...	
mm	mm	mm	mm	mm	mm	£		£		£		£	
12.80	14	107	60.0	43.0	45.0	84.25	128	84.25	128				
12.90	14	107	60.0	43.0	45.0	84.25	129	84.25	129				
13.00	14	107	60.0	43.0	45.0	84.25	130	87.16	130	84.25	130	87.16	130
13.10	14	107	60.0	43.0	45.0	84.25	131	84.25	131				
13.30	14	107	60.0	43.0	45.0	84.25	133	84.25	133				
13.50	14	107	60.0	43.0	45.0	84.25	135	87.16	135	84.25	135	87.16	135
13.70	14	107	60.0	43.0	45.0	84.25	137	87.16	137	84.25	137	87.16	137
13.80	14	107	60.0	43.0	45.0	84.25	138	84.25	138				
14.00	14	107	60.0	43.0	45.0	84.25	140	87.16	140	84.25	140	87.16	140
14.20	16	115	65.0	45.0	48.0	103.14	142	103.14	142				
14.50	16	115	65.0	45.0	48.0	103.14	145	107.51	145	103.14	145	107.51	145
14.70	16	115	65.0	45.0	48.0	103.14	147	107.51	147	103.14	147	107.51	147
14.80	16	115	65.0	45.0	48.0	103.14	148	103.14	148				
15.00	16	115	65.0	45.0	48.0	103.14	150	107.51	150	103.14	150	107.51	150
15.10	16	115	65.0	45.0	48.0	103.14	151	103.14	151				
15.25	16	115	65.0	45.0	48.0	103.14	152	103.14	152				
15.30	16	115	65.0	45.0	48.0	103.14	153	103.14	153				
15.50	16	115	65.0	45.0	48.0	103.14	155	107.51	155	103.14	155	107.51	155
15.60	16	115	65.0	45.0	48.0	103.14	156	103.14	156				
15.70	16	115	65.0	45.0	48.0	103.14	157	107.51	157	103.14	157	107.51	157
15.80	16	115	65.0	45.0	48.0	103.14	158	103.14	158				
16.00	16	115	65.0	45.0	48.0	103.14	160	107.51	160	103.14	160	107.51	160
16.50	18	123	73.0	51.0	48.0	165.61	165	172.88	165	165.61	165	172.88	165
16.80	18	123	73.0	51.0	48.0	165.61	168	165.61	168				
16.90	18	123	73.0	51.0	48.0	165.61	169	165.61	169				
17.00	18	123	73.0	51.0	48.0	165.61	170	172.88	170	165.61	170	172.88	170
17.50	18	123	73.0	51.0	48.0	165.61	175	172.88	175	165.61	175	172.88	175
17.60	18	123	73.0	51.0	48.0	165.61	176	165.61	176				
17.80	18	123	73.0	51.0	48.0	165.61	178	165.61	178				
18.00	18	123	73.0	51.0	48.0	165.61	180	172.88	180	165.61	180	172.88	180
18.50	20	131	79.0	55.0	50.0	180.14	185	188.86	185	180.14	185	188.86	185
18.80	20	131	79.0	55.0	50.0	180.14	188	180.14	188				
18.90	20	131	79.0	55.0	50.0	180.14	189	180.14	189				
19.00	20	131	79.0	55.0	50.0	180.14	190	188.86	190	180.14	190	188.86	190
19.50	20	131	79.0	55.0	50.0	180.14	195	188.86	195	180.14	195	188.86	195
19.60	20	131	79.0	55.0	50.0	180.14	196	180.14	196				
19.80	20	131	79.0	55.0	50.0	180.14	198	180.14	198				
20.00	20	131	79.0	55.0	50.0	180.14	200	188.86	200	180.14	200	188.86	200

Steel	●	●	○	○
Stainless steel	○	○	●	●
Cast iron	●	●	○	○
Non ferrous metals	○	○	●	●
Heat resistant alloys			●	●

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WTX – High-performance drill, DIN 6537

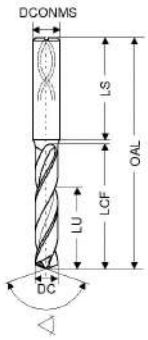
▲ Specialist for difficult to machine materials

≤ 3xD

Ti

DPA54

DRAGONSKIN



140°

Solid carbide

DC m7	DCONMS h6	OAL	LCF	LU	LS	T4 Article no. 10 786 ...	
mm	mm	mm	mm	mm	mm	£	
3.00	6	62	20	14	36	56.93	030
3.10	6	62	20	14	36	56.93	031
3.20	6	62	20	14	36	56.93	032
3.30	6	62	20	14	36	56.93	033
3.40	6	62	20	14	36	56.93	034
3.50	6	62	20	14	36	56.93	035
3.60	6	62	20	14	36	56.93	036
3.70	6	62	20	14	36	56.93	037
3.80	6	66	24	17	36	56.93	038
3.90	6	66	24	17	36	56.93	039
3.97	6	66	24	17	36	56.93	900
4.00	6	66	24	17	36	56.93	040
4.10	6	66	24	17	36	56.93	041
4.20	6	66	24	17	36	56.93	042
4.23	6	66	24	17	36	56.93	901
4.30	6	66	24	17	36	56.93	043
4.40	6	66	24	17	36	56.93	044
4.50	6	66	24	17	36	56.93	045
4.60	6	66	24	17	36	56.93	046
4.70	6	66	24	17	36	56.93	047
4.80	6	66	28	20	36	56.93	048
4.90	6	66	28	20	36	56.93	049
5.00	6	66	28	20	36	56.93	050
5.10	6	66	28	20	36	56.93	051
5.20	6	66	28	20	36	56.93	052
5.30	6	66	28	20	36	56.93	053
5.40	6	66	28	20	36	56.93	054
5.50	6	66	28	20	36	56.93	055
5.56	6	66	28	20	36	56.93	902
5.60	6	66	28	20	36	56.93	056
5.70	6	66	28	20	36	56.93	057
5.80	6	66	28	20	36	56.93	058
5.90	6	66	28	20	36	56.93	059
6.00	6	66	28	20	36	56.93	060
6.10	8	79	34	24	36	76.39	061
6.20	8	79	34	24	36	76.39	062
6.30	8	79	34	24	36	76.39	063
6.35	8	79	34	24	36	76.39	903
6.40	8	79	34	24	36	76.39	064
6.50	8	79	34	24	36	76.39	065
6.60	8	79	34	24	36	76.39	066
6.70	8	79	34	24	36	76.39	067
6.80	8	79	34	24	36	76.39	068
6.90	8	79	34	24	36	76.39	069
7.00	8	79	34	24	36	76.39	070
7.10	8	79	41	29	36	76.39	071
7.20	8	79	41	29	36	76.39	072
7.30	8	79	41	29	36	76.39	073
7.40	8	79	41	29	36	76.39	074
7.50	8	79	41	29	36	76.39	075
7.60	8	79	41	29	36	76.39	076
7.70	8	79	41	29	36	76.39	077
7.80	8	79	41	29	36	76.39	078
7.90	8	79	41	29	36	76.39	079
7.94	8	79	41	29	36	76.39	904
8.00	8	79	41	29	36	76.39	080
8.10	10	89	47	35	40	92.37	081
8.20	10	89	47	35	40	92.37	082
8.30	10	89	47	35	40	92.37	083
8.40	10	89	47	35	40	92.37	084
8.50	10	89	47	35	40	92.37	085
8.60	10	89	47	35	40	92.37	086
8.70	10	89	47	35	40	92.37	087
8.80	10	89	47	35	40	92.37	088
8.90	10	89	47	35	40	92.37	089
9.00	10	89	47	35	40	92.37	090
9.10	10	89	47	35	40	92.37	091
9.20	10	89	47	35	40	92.37	092
9.30	10	89	47	35	40	92.37	093
9.40	10	89	47	35	40	92.37	094
9.50	10	89	47	35	40	92.37	095
9.55	10	89	47	35	40	92.59	905
9.60	10	89	47	35	40	92.37	096
9.70	10	89	47	35	40	92.37	097
9.80	10	89	47	35	40	92.37	098
9.90	10	89	47	35	40	92.37	099
10.00	10	89	47	35	40	92.37	100
10.10	12	102	55	40	45	133.32	101
10.20	12	102	55	40	45	133.32	102
10.30	12	102	55	40	45	133.32	103
10.40	12	102	55	40	45	133.32	104
10.50	12	102	55	40	45	133.32	105
10.60	12	102	55	40	45	133.32	106
10.70	12	102	55	40	45	133.32	107
10.80	12	102	55	40	45	133.32	108
10.90	12	102	55	40	45	133.32	109
11.00	12	102	55	40	45	133.32	110
11.10	12	102	55	40	45	133.32	111
11.11	12	102	55	40	45	133.32	906
11.20	12	102	55	40	45	133.32	112
11.30	12	102	55	40	45	133.32	113
11.40	12	102	55	40	45	133.32	114
11.50	12	102	55	40	45	133.32	115
11.60	12	102	55	40	45	133.32	116
11.70	12	102	55	40	45	133.32	117
11.80	12	102	55	40	45	133.32	118
11.90	12	102	55	40	45	133.32	119
12.00	12	102	55	40	45	133.32	120
12.10	14	107	60	43	45	172.97	121
12.20	14	107	60	43	45	172.97	122
12.30	14	107	60	43	45	172.97	123
12.40	14	107	60	43	45	172.97	124
12.50	14	107	60	43	45	172.97	125
12.60	14	107	60	43	45	172.97	126
12.70	14	107	60	43	45	172.97	907
12.80	14	107	60	43	45	172.97	128
12.90	14	107	60	43	45	172.97	129
13.00	14	107	60	43	45	172.97	130
13.10	14	107	60	43	45	172.97	131
13.20	14	107	60	43	45	172.97	132
13.30	14	107	60	43	45	172.97	133
13.40	14	107	60	43	45	172.97	134
13.50	14	107	60	43	45	172.97	135
13.60	14	107	60	43	45	172.97	136
13.70	14	107	60	43	45	172.97	137
13.80	14	107	60	43	45	172.97	138
13.90	14	107	60	43	45	172.97	139

Steel	
Stainless steel	●
Cast iron	
Non ferrous metals	
Heat resistant alloys	●

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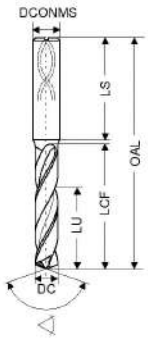
Continued on next page

WTX – High-performance drill, DIN 6537

▲ Specialist for difficult to machine materials

≤ 3xD



Ti

DPA54

DRAGONSKIN

140°

Solid carbide

DC m7	DCONMS h6	OAL	LCF	LU	LS	T4 Article no. 10 786 ...	
mm	mm	mm	mm	mm	mm	£	
14.0	14	107	60	43	45	172.97	140
14.1	16	115	65	45	48	205.39	141
14.2	16	115	65	45	48	205.39	142
14.3	16	115	65	45	48	205.39	143
14.4	16	115	65	45	48	205.39	144
14.5	16	115	65	45	48	205.39	145
14.6	16	115	65	45	48	205.39	146
14.7	16	115	65	45	48	205.39	147
14.8	16	115	65	45	48	205.39	148
14.9	16	115	65	45	48	205.39	149
15.0	16	115	65	45	48	205.39	150
15.1	16	115	65	45	48	205.39	151
15.2	16	115	65	45	48	205.39	152
15.3	16	115	65	45	48	205.39	153
15.4	16	115	65	45	48	205.39	154
15.5	16	115	65	45	48	205.39	155
15.6	16	115	65	45	48	205.39	156
15.7	16	115	65	45	48	205.39	157
15.8	16	115	65	45	48	205.39	158
15.9	16	115	65	45	48	205.39	159
16.0	16	115	65	45	48	205.39	160
16.1	18	123	73	51	48	205.39	161
16.2	18	123	73	51	48	205.39	162
16.3	18	123	73	51	48	205.39	163
16.4	18	123	73	51	48	205.39	164
16.5	18	123	73	51	48	288.28	165
16.6	18	123	73	51	48	288.28	166
16.7	18	123	73	51	48	288.28	167
16.8	18	123	73	51	48	288.28	168
16.9	18	123	73	51	48	288.28	169
17.0	18	123	73	51	48	288.28	170
17.1	18	123	73	51	48	288.28	171
17.2	18	123	73	51	48	288.28	172
17.3	18	123	73	51	48	288.28	173
17.4	18	123	73	51	48	288.28	174
17.5	18	123	73	51	48	288.28	175
17.6	18	123	73	51	48	288.28	176
17.7	18	123	73	51	48	288.28	177
17.8	18	123	73	51	48	288.28	178
17.9	18	123	73	51	48	288.28	179
18.0	18	123	73	51	48	288.28	180
18.1	20	131	79	55	50	360.34	181
18.2	20	131	79	55	50	360.34	182
18.3	20	131	79	55	50	360.34	183
18.4	20	131	79	55	50	360.34	184
18.5	20	131	79	55	50	360.34	185
18.6	20	131	79	55	50	360.34	186
18.7	20	131	79	55	50	360.34	187
18.8	20	131	79	55	50	360.34	188
18.9	20	131	79	55	50	360.34	189
19.0	20	131	79	55	50	360.34	190
19.1	20	131	79	55	50	360.34	191
19.2	20	131	79	55	50	360.34	192
19.3	20	131	79	55	50	360.34	193
19.4	20	131	79	55	50	360.34	194
19.5	20	131	79	55	50	360.34	195
19.6	20	131	79	55	50	360.34	196
19.7	20	131	79	55	50	360.34	197
19.8	20	131	79	55	50	360.34	198
19.9	20	131	79	55	50	360.34	199
20.0	20	131	79	55	50	360.34	200

Steel	
Stainless steel	●
Cast iron	
Non ferrous metals	
Heat resistant alloys	●

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WTX – High Performance Drill, DIN 6537

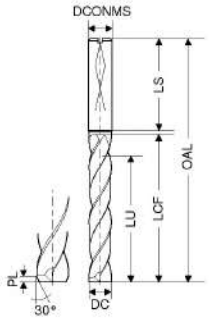
- ▲ universal application
- ▲ four guidance lands
- ▲ polished chip flutes
- ▲ Type ALU 3xD (10 722 ...) on request
- ▲ PL = corner chamfers

2

≤ 3xD

180

Ti800



180°
Solid carbide

DC m7	DCONMS h6	OAL	LCF	LU	LS	PL	T4 Article no. 10 720 ...	
mm	mm	mm	mm	mm	mm	mm	£	
3.00	6	62	20	14	36	0.15	73.88	030
3.10	6	62	20	14	36	0.16	73.88	031
3.20	6	62	20	14	36	0.16	73.88	032
3.30	6	62	20	14	36	0.17	73.88	033
3.40	6	62	20	14	36	0.17	73.88	034
3.50	6	62	20	14	36	0.18	73.88	035
3.60	6	62	20	14	36	0.18	73.88	036
3.70	6	62	20	14	36	0.19	73.88	037
3.80	6	66	24	17	36	0.19	73.88	038
3.90	6	66	24	17	36	0.20	73.88	039
4.00	6	66	24	17	36	0.20	73.88	040
4.10	6	66	24	17	36	0.21	73.88	041
4.20	6	66	24	17	36	0.21	73.88	042
4.30	6	66	24	17	36	0.22	73.88	043
4.40	6	66	24	17	36	0.22	73.88	044
4.50	6	66	24	17	36	0.23	73.88	045
4.60	6	66	24	17	36	0.23	73.88	046
4.65	6	66	24	17	36	0.23	73.88	900
4.70	6	66	24	17	36	0.24	73.88	047
4.80	6	66	28	20	36	0.24	73.88	048
4.90	6	66	28	20	36	0.25	73.88	049
5.00	6	66	28	20	36	0.25	73.88	050
5.10	6	66	28	20	36	0.26	73.88	051
5.20	6	66	28	20	36	0.26	73.88	052
5.30	6	66	28	20	36	0.27	73.88	053
5.40	6	66	28	20	36	0.27	73.88	054
5.50	6	66	28	20	36	0.28	73.88	055
5.55	6	66	28	20	36	0.28	73.88	902
5.60	6	66	28	20	36	0.28	73.88	056
5.70	6	66	28	20	36	0.29	73.88	057
5.80	6	66	28	20	36	0.29	73.88	058
5.90	6	66	28	20	36	0.30	73.88	059
6.00	6	66	28	20	36	0.30	73.88	060
6.10	8	79	34	24	36	0.31	90.62	061
6.20	8	79	34	24	36	0.31	90.62	062
6.30	8	79	34	24	36	0.32	90.62	063
6.40	8	79	34	24	36	0.32	90.62	064
6.50	8	79	34	24	36	0.33	90.62	065
6.60	8	79	34	24	36	0.33	90.62	066
6.70	8	79	34	24	36	0.34	90.62	067
6.80	8	79	34	24	36	0.34	90.62	068
6.90	8	79	34	24	36	0.35	90.62	069
7.00	8	79	34	24	36	0.35	90.62	070
7.10	8	79	41	29	36	0.36	90.62	071
7.20	8	79	41	29	36	0.36	90.62	072
7.30	8	79	41	29	36	0.37	90.62	073
7.40	8	79	41	29	36	0.37	90.62	074
7.50	8	79	41	29	36	0.38	90.62	075
7.60	8	79	41	29	36	0.38	90.62	076
7.70	8	79	41	29	36	0.39	90.62	077
7.80	8	79	41	29	36	0.39	90.62	078
7.90	8	79	41	29	36	0.40	90.62	079
8.00	8	79	41	29	36	0.40	90.62	080
8.10	10	89	47	35	40	0.41	125.22	081
8.20	10	89	47	35	40	0.41	125.22	082
8.30	10	89	47	35	40	0.42	125.22	083
8.40	10	89	47	35	40	0.42	125.22	084
8.50	10	89	47	35	40	0.43	125.22	085
8.60	10	89	47	35	40	0.43	125.22	086
8.70	10	89	47	35	40	0.44	125.22	087
8.80	10	89	47	35	40	0.44	125.22	088
8.90	10	89	47	35	40	0.45	125.22	089
9.00	10	89	47	35	40	0.45	125.22	090
9.10	10	89	47	35	40	0.46	125.22	091
9.20	10	89	47	35	40	0.46	125.22	092
9.30	10	89	47	35	40	0.47	125.22	093
9.40	10	89	47	35	40	0.47	125.22	094
9.50	10	89	47	35	40	0.48	125.22	095
9.60	10	89	47	35	40	0.48	125.22	096
9.70	10	89	47	35	40	0.49	125.22	097
9.80	10	89	47	35	40	0.49	125.22	098
9.90	10	89	47	35	40	0.50	125.22	099
10.00	10	89	47	35	40	0.50	125.22	100
10.10	12	100	53	38	45	0.51	131.30	101
10.20	12	100	53	38	45	0.51	157.72	102
10.30	12	100	53	38	45	0.52	157.72	103
10.40	12	100	53	38	45	0.52	157.72	104
10.50	12	100	53	38	45	0.53	157.72	105
10.60	12	100	53	38	45	0.53	157.72	106
10.70	12	100	53	38	45	0.54	157.72	107
10.80	12	100	53	38	45	0.54	157.72	108
10.90	12	100	53	38	45	0.55	157.72	109
11.00	12	100	53	38	45	0.55	157.72	110
11.10	12	100	53	38	45	0.56	157.72	111
11.20	12	100	53	38	45	0.56	157.72	112
11.30	12	100	53	38	45	0.57	157.72	113
11.40	12	100	53	38	45	0.57	157.72	114
11.50	12	100	53	38	45	0.58	157.72	115
11.60	12	100	53	38	45	0.58	157.72	116
11.70	12	100	53	38	45	0.59	157.72	117
11.80	12	100	53	38	45	0.59	157.72	118
11.90	12	100	53	38	45	0.60	157.72	119
12.00	12	100	53	38	45	0.60	157.72	120
12.50	14	105	58	41	45	0.63	255.94	125
12.80	14	105	58	41	45	0.64	255.94	128
13.00	14	105	58	41	45	0.65	255.94	130
13.50	14	105	58	41	45	0.68	255.94	135
13.80	14	105	58	41	45	0.69	255.94	138
14.00	14	105	58	41	45	0.70	255.94	140
14.50	16	113	63	43	48	0.73	268.37	145
14.80	16	113	63	43	48	0.74	333.43	148
15.00	16	113	63	43	48	0.75	333.43	150
15.50	16	113	63	43	48	0.78	333.43	155
15.80	16	113	63	43	48	0.79	333.43	158
16.00	16	113	63	43	48	0.80	333.43	160
16.50	18	121	71	49	48	0.83	356.09	165
16.80	18	121	71	49	48	0.84	434.42	168
17.00	18	121	71	49	48	0.85	434.42	170
17.50	18	121	71	49	48	0.88	434.42	175
17.80	18	121	71	49	48	0.89	434.42	178
18.00	18	121	71	49	48	0.90	434.42	180
18.50	20	129	77	53	50	0.93	434.42	185
18.80	20	129	77	53	50	0.94	434.42	188
19.00	20	129	77	53	50	0.95	434.42	190
19.50	20	129	77	53	50	0.98	434.42	195
19.80	20	129	77	53	50	0.99	434.42	198
20.00	20	129	77	53	50	1.00	434.42	200

Steel	●
Stainless steel	○
Cast iron	●
Non ferrous metals	○
Heat resistant alloys	
Hardened materials	○

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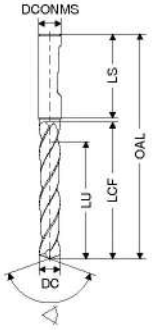
WTX – High Performance Drill, DIN 6537

≤ 5xD



UNI	UNI	UNI	Quattro 4F	VA	VA
DPX74S	DPX74S	DPX74S	DPX74S	Ti700	Ti700
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN		

	HA	HB	HE	HA	HA	HE
	140°	140°	140°	140°	140°	140°
	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
	T7	T7	T7	NEW T4	T4	T4
DC m7	Article no. 11 783 ...	Article no. 11 784 ...	Article no. 11 782 ...	Article no. 10 730 ...	Article no. 10 740 ...	Article no. 10 741 ...
mm	£	£	£	£	£	£

DC m7	DCONMS h6	OAL	LCF	LU	LS	11 783 ...	11 784 ...	11 782 ...	10 730 ...	10 740 ...	10 741 ...
mm	mm	mm	mm	mm	mm	£	£	£	£	£	£
3.00	6	66	28	23	36	35.97 03000	35.97 03000	35.97 03000	76.99 03000	69.30 030	69.30 030
3.10	6	66	28	23	36	35.97 03100	35.97 03100	35.97 03100	76.99 03100	69.30 031	69.30 031
3.15	6	66	28	23	36	35.97 03150	35.97 03150	35.97 03150			
3.20	6	66	28	23	36	35.97 03200	35.97 03200	35.97 03200	76.99 03200	69.30 032	69.30 032
3.22	6	66	28	23	36	35.97 03220	35.97 03220	35.97 03220			
3.25	6	66	28	23	36	35.97 03250	35.97 03250	35.97 03250			
3.30	6	66	28	23	36	35.97 03300	35.97 03300	35.97 03300	76.99 03300	69.30 033	69.30 033
3.40	6	66	28	23	36	35.97 03400	35.97 03400	35.97 03400	76.99 03400	69.30 034	69.30 034
3.50	6	66	28	23	36	35.97 03500	35.97 03500	35.97 03500	76.99 03500	69.30 035	69.30 035
3.60	6	66	28	23	36	35.97 03600	35.97 03600	35.97 03600	76.99 03600	69.30 036	69.30 036
3.70	6	66	28	23	36	35.97 03700	35.97 03700	35.97 03700	76.99 03700	69.30 037	69.30 037
3.80	6	74	36	29	36	35.97 03800	35.97 03800	35.97 03800	76.99 03800	69.30 038	69.30 038
3.85	6	74	36	29	36	35.97 03850	35.97 03850	35.97 03850			
3.90	6	74	36	29	36	35.97 03900	35.97 03900	35.97 03900	76.99 03900	69.30 039	69.30 039
4.00	6	74	36	29	36	35.97 04000	35.97 04000	35.97 04000	76.99 04000	69.30 040	69.30 040
4.10	6	74	36	29	36	35.97 04100	35.97 04100	35.97 04100	76.99 04100	69.30 041	69.30 041
4.20	6	74	36	29	36	35.97 04200	35.97 04200	35.97 04200	76.99 04200	69.30 042	69.30 042
4.25	6	74	36	29	36	35.97 04250	35.97 04250	35.97 04250			
4.30	6	74	36	29	36	35.97 04300	35.97 04300	35.97 04300	76.99 04300	69.30 043	69.30 043
4.35	6	74	36	29	36	35.97 04350	35.97 04350	35.97 04350			
4.40	6	74	36	29	36	35.97 04400	35.97 04400	35.97 04400	76.99 04400	69.30 044	69.30 044
4.45	6	74	36	29	36	35.97 04450	35.97 04450	35.97 04450			
4.50	6	74	36	29	36	35.97 04500	35.97 04500	35.97 04500	76.99 04500	69.30 045	69.30 045
4.60	6	74	36	29	36	35.97 04600	35.97 04600	35.97 04600	76.99 04600	69.30 046	69.30 046
4.65	6	74	36	29	36	35.97 04650	35.97 04650	35.97 04650			
4.70	6	74	36	29	36	35.97 04700	35.97 04700	35.97 04700	76.99 04700	69.30 047	69.30 047
4.80	6	82	44	35	36	35.97 04800	35.97 04800	35.97 04800	76.99 04800	69.30 048	69.30 048
4.90	6	82	44	35	36	35.97 04900	35.97 04900	35.97 04900	76.99 04900	69.30 049	69.30 049
4.95	6	82	44	35	36	35.97 04950	35.97 04950	35.97 04950			
5.00	6	82	44	35	36	35.97 05000	35.97 05000	35.97 05000	76.99 05000	69.30 050	69.30 050
5.05	6	82	44	35	36	35.97 05050	35.97 05050	35.97 05050			
5.10	6	82	44	35	36	35.97 05100	35.97 05100	35.97 05100	76.99 05100	69.30 051	69.30 051
5.20	6	82	44	35	36	35.97 05200	35.97 05200	35.97 05200	76.99 05200	69.30 052	69.30 052
5.30	6	82	44	35	36	35.97 05300	35.97 05300	35.97 05300	76.99 05300	69.30 053	69.30 053
5.40	6	82	44	35	36	35.97 05400	35.97 05400	35.97 05400	76.99 05400	69.30 054	69.30 054
5.50	6	82	44	35	36	35.97 05500	35.97 05500	35.97 05500	76.99 05500	69.30 055	69.30 055
5.55	6	82	44	35	36	35.97 05550	35.97 05550	35.97 05550			
5.60	6	82	44	35	36	35.97 05600	35.97 05600	35.97 05600	76.99 05600	69.30 056	69.30 056
5.70	6	82	44	35	36	35.97 05700	35.97 05700	35.97 05700	76.99 05700	69.30 057	69.30 057
5.75	6	82	44	35	36	35.97 05750	35.97 05750	35.97 05750			
5.80	6	82	44	35	36	35.97 05800	35.97 05800	35.97 05800	76.99 05800	69.30 058	69.30 058
5.90	6	82	44	35	36	35.97 05900	35.97 05900	35.97 05900	76.99 05900	69.30 059	69.30 059
5.95	6	82	44	35	36	35.97 05950	35.97 05950	35.97 05950			
6.00	6	82	44	35	36	35.97 06000	35.97 06000	35.97 06000	76.99 06000	83.84 060	83.84 060

Steel	●	●	●	●	○	○
Stainless steel					●	●
Cast iron	●	●	●	●	○	○
Non ferrous metals	○	○	○	○	●	●
Heat resistant alloys						
Hardened materials				○	○	○

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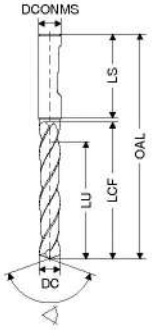
Continued on next page

WTX – High Performance Drill, DIN 6537

≤ 5xD



UNI	UNI	UNI	Quattro 4F	VA	VA
DPX74S	DPX74S	DPX74S	DPX74S	Ti700	Ti700
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN		

HA	HB	HE	HA	HA	HE
140°	140°	140°	140°	140°	140°
Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
T7	T7	T7	NEW T4	T4	T4

DC m7	DCONMS h6	OAL	LCF	LU	LS	Article no. 11 783 ... £		Article no. 11 784 ... £		Article no. 11 782 ... £		Article no. 10 730 ... £		Article no. 10 740 ... £		Article no. 10 741 ... £	
mm	mm	mm	mm	mm	mm												
6.10	8	91	53	43	36	39.08	06100	39.08	06100	39.08	06100	91.92	06100	83.84	061	83.84	061
6.20	8	91	53	43	36	39.08	06200	39.08	06200	39.08	06200	91.92	06200	83.84	062	83.84	062
6.30	8	91	53	43	36	39.08	06300	39.08	06300	39.08	06300	91.92	06300	83.84	063	83.84	063
6.40	8	91	53	43	36	39.08	06400	39.08	06400	39.08	06400	91.92	06400	83.84	064	83.84	064
6.50	8	91	53	43	36	39.08	06500	39.08	06500	39.08	06500	91.92	06500	83.84	065	83.84	065
6.60	8	91	53	43	36	39.08	06600	39.08	06600	39.08	06600	91.92	06600	83.84	066	83.84	066
6.70	8	91	53	43	36	39.08	06700	39.08	06700	39.08	06700	91.92	06700	83.84	067	83.84	067
6.80	8	91	53	43	36	39.08	06800	39.08	06800	39.08	06800	91.92	06800	83.84	068	83.84	068
6.90	8	91	53	43	36	39.08	06900	39.08	06900	39.08	06900	91.92	06900	83.84	069	83.84	069
7.00	8	91	53	43	36	39.08	07000	39.08	07000	39.08	07000	91.92	07000	83.84	070	83.84	070
7.10	8	91	53	43	36	39.08	07100	39.08	07100	39.08	07100	91.92	07100	83.84	071	83.84	071
7.20	8	91	53	43	36	39.08	07200	39.08	07200	39.08	07200	91.92	07200	83.84	072	83.84	072
7.30	8	91	53	43	36	39.08	07300	39.08	07300	39.08	07300	91.92	07300	83.84	073	83.84	073
7.40	8	91	53	43	36	39.08	07400	39.08	07400	39.08	07400	91.92	07400	83.84	074	83.84	074
7.45	8	91	53	43	36	39.08	07450	39.08	07450	39.08	07450						
7.50	8	91	53	43	36	39.08	07500	39.08	07500	39.08	07500	91.92	07500	83.84	075	83.84	075
7.60	8	91	53	43	36	39.08	07600	39.08	07600	39.08	07600	91.92	07600	83.84	076	83.84	076
7.70	8	91	53	43	36	39.08	07700	39.08	07700	39.08	07700	91.92	07700	83.84	077	83.84	077
7.80	8	91	53	43	36	39.08	07800	39.08	07800	39.08	07800	91.92	07800	83.84	078	83.84	078
7.90	8	91	53	43	36	39.08	07900	39.08	07900	39.08	07900	91.92	07900	83.84	079	83.84	079
8.00	8	91	53	43	36	39.08	08000	39.08	08000	39.08	08000	91.92	08000	83.84	080	83.84	080
8.10	10	103	61	49	40	42.01	08100	42.01	08100	42.01	08100	108.68	08100	98.09	081	98.09	081
8.20	10	103	61	49	40	42.01	08200	42.01	08200	42.01	08200	108.68	08200	98.09	082	98.09	082
8.30	10	103	61	49	40	42.01	08300	42.01	08300	42.01	08300	108.68	08300	98.09	083	98.09	083
8.40	10	103	61	49	40	42.01	08400	42.01	08400	42.01	08400	108.68	08400	98.09	084	98.09	084
8.50	10	103	61	49	40	42.01	08500	42.01	08500	42.01	08500	108.68	08500	98.09	085	98.09	085
8.60	10	103	61	49	40	42.01	08600	42.01	08600	42.01	08600	108.68	08600	98.09	086	98.09	086
8.70	10	103	61	49	40	42.01	08700	42.01	08700	42.01	08700	108.68	08700	98.09	087	98.09	087
8.80	10	103	61	49	40	42.01	08800	42.01	08800	42.01	08800	108.68	08800	98.09	088	98.09	088
8.90	10	103	61	49	40	42.01	08900	42.01	08900	42.01	08900	108.68	08900	98.09	089	98.09	089
9.00	10	103	61	49	40	42.01	09000	42.01	09000	42.01	09000	108.68	09000	98.09	090	98.09	090
9.10	10	103	61	49	40	42.01	09100	42.01	09100	42.01	09100	108.68	09100	98.09	091	98.09	091
9.20	10	103	61	49	40	42.01	09200	42.01	09200	42.01	09200	108.68	09200	98.09	092	98.09	092
9.30	10	103	61	49	40	42.01	09300	42.01	09300	42.01	09300	108.68	09300	98.09	093	98.09	093
9.35	10	103	61	49	40	42.01	09350	42.01	09350	42.01	09350						
9.40	10	103	61	49	40	42.01	09400	42.01	09400	42.01	09400	108.68	09400	98.09	094	98.09	094
9.45	10	103	61	49	40	42.01	09450	42.01	09450	42.01	09450						
9.50	10	103	61	49	40	42.01	09500	42.01	09500	42.01	09500	108.68	09500	98.09	095	98.09	095
9.60	10	103	61	49	40	42.01	09600	42.01	09600	42.01	09600	108.68	09600	98.09	096	98.09	096
9.70	10	103	61	49	40	42.01	09700	42.01	09700	42.01	09700	108.68	09700	98.09	097	98.09	097
9.80	10	103	61	49	40	42.01	09800	42.01	09800	42.01	09800	108.68	09800	98.09	098	98.09	098
9.90	10	103	61	49	40	42.01	09900	42.01	09900	42.01	09900	108.68	09900	98.09	099	98.09	099
10.00	10	103	61	49	40	42.01	10000	42.01	10000	42.01	10000	108.68	10000	98.09	100	98.09	100
10.10	12	118	71	56	45	60.97	10100	60.97	10100	60.97	10100	185.53	10100	139.05	101	139.05	101

Steel	●	●	●	●	○	○
Stainless steel					●	●
Cast iron	●	●	●	●	○	○
Non ferrous metals	○	○	○	○	●	●
Heat resistant alloys						
Hardened materials				○	○	○

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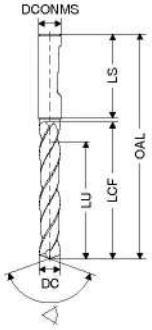
Continued on next page

WTX – High Performance Drill, DIN 6537

≤ 5xD



UNI	UNI	UNI	Quattro 4F	VA	VA
DPX74S	DPX74S	DPX74S	DPX74S	Ti700	Ti700
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN		

HA | HB | HE | HA | HA | HE

140° Solid carbide | 140° Solid carbide | 140° Solid carbide | 140° Solid carbide | 140° Solid carbide | 140° Solid carbide

T7 | T7 | T7 | NEW T4 | T4 | T4

DC m7	DCONMS h6	OAL	LCF	LU	LS	Article no. 11 783 ...		Article no. 11 784 ...		Article no. 11 782 ...		Article no. 10 730 ...		Article no. 10 740 ...		Article no. 10 741 ...	
mm	mm	mm	mm	mm	mm	£		£		£		£		£		£	
10.20	12	118	71	56	45	60.97	10200	60.97	10200	60.97	10200	185.53	10200	139.05	102	139.05	102
10.30	12	118	71	56	45	60.97	10300	60.97	10300	60.97	10300	185.53	10300	139.05	103	139.05	103
10.40	12	118	71	56	45	60.97	10400	60.97	10400	60.97	10400	185.53	10400	139.05	104	139.05	104
10.50	12	118	71	56	45	60.97	10500	60.97	10500	60.97	10500	185.53	10500	139.05	105	139.05	105
10.55	12	118	71	56	45	60.97	10550	60.97	10550	60.97	10550						
10.60	12	118	71	56	45	60.97	10600	60.97	10600	60.97	10600	185.53	10600	139.05	106	139.05	106
10.70	12	118	71	56	45	60.97	10700	60.97	10700	60.97	10700	185.53	10700	139.05	107	139.05	107
10.75	12	118	71	56	45	60.97	10750	60.97	10750	60.97	10750						
10.80	12	118	71	56	45	60.97	10800	60.97	10800	60.97	10800	185.53	10800	139.05	108	139.05	108
10.90	12	118	71	56	45	60.97	10900	60.97	10900	60.97	10900	185.53	10900	139.05	109	139.05	109
11.00	12	118	71	56	45	60.97	11000	60.97	11000	60.97	11000	185.53	11000	139.05	110	139.05	110
11.10	12	118	71	56	45	60.97	11100	60.97	11100	60.97	11100	185.53	11100	139.05	111	139.05	111
11.20	12	118	71	56	45	60.97	11200	60.97	11200	60.97	11200	185.53	11200	139.05	112	139.05	112
11.25	12	118	71	56	45	60.97	11250	60.97	11250	60.97	11250						
11.30	12	118	71	56	45	60.97	11300	60.97	11300	60.97	11300	185.53	11300	139.05	113	139.05	113
11.35	12	118	71	56	45	60.97	11350	60.97	11350	60.97	11350						
11.40	12	118	71	56	45	60.97	11400	60.97	11400	60.97	11400	185.53	11400	139.05	114	139.05	114
11.45	12	118	71	56	45	60.97	11450	60.97	11450	60.97	11450						
11.50	12	118	71	56	45	60.97	11500	60.97	11500	60.97	11500	185.53	11500	139.05	115	139.05	115
11.60	12	118	71	56	45	60.97	11600	60.97	11600	60.97	11600	185.53	11600	139.05	116	139.05	116
11.70	12	118	71	56	45	60.97	11700	60.97	11700	60.97	11700	185.53	11700	139.05	117	139.05	117
11.80	12	118	71	56	45	60.97	11800	60.97	11800	60.97	11800	185.53	11800	139.05	118	139.05	118
11.90	12	118	71	56	45	60.97	11900	60.97	11900	60.97	11900	185.53	11900	139.05	119	139.05	119
12.00	12	118	71	56	45	60.97	12000	60.97	12000	60.97	12000	185.53	12000	139.05	120	139.05	120
12.15	14	124	77	60	45	81.79	12150	81.79	12150	81.79	12150						
12.25	14	124	77	60	45	81.79	12250	81.79	12250	81.79	12250						
12.50	14	124	77	60	45	81.79	12500	81.79	12500	81.79	12500	205.84	12500	183.75	125	183.75	125
12.55	14	124	77	60	45	81.79	12550	81.79	12550	81.79	12550						
12.70	14	124	77	60	45	81.79	12700	81.79	12700	81.79	12700						
12.80	14	124	77	60	45	81.79	12800	81.79	12800	81.79	12800	205.84	12800	183.75	128	183.75	128
12.90	14	124	77	60	45	81.79	12900	81.79	12900	81.79	12900						
13.00	14	124	77	60	45	81.79	13000	81.79	13000	81.79	13000	205.84	13000	183.75	130	183.75	130
13.10	14	124	77	60	45	81.79	13100	81.79	13100	81.79	13100						
13.30	14	124	77	60	45	81.79	13300	81.79	13300	81.79	13300						
13.35	14	124	77	60	45	81.79	13350	81.79	13350	81.79	13350						
13.50	14	124	77	60	45	81.79	13500	81.79	13500	81.79	13500	205.84	13500	183.75	135	183.75	135
13.70	14	124	77	60	45	81.79	13700	81.79	13700	81.79	13700						
13.80	14	124	77	60	45	81.79	13800	81.79	13800	81.79	13800	205.84	13800	183.75	138	183.75	138
14.00	14	124	77	60	45	81.79	14000	81.79	14000	81.79	14000	205.84	14000	228.28	140	228.28	140
14.20	16	133	83	63	48	105.01	14200	105.01	14200	105.01	14200						
14.50	16	133	83	63	48	105.01	14500	105.01	14500	105.01	14500	282.69	14500	239.69	145	239.69	145
14.80	16	133	83	63	48	105.01	14800	105.01	14800	105.01	14800	282.69	14800	239.69	148	239.69	148
15.00	16	133	83	63	48	105.01	15000	105.01	15000	105.01	15000	282.69	15000	239.69	150	239.69	150
15.10	16	133	83	63	48	105.01	15100	105.01	15100	105.01	15100						

Steel	●	●	●	●	○	○
Stainless steel					●	●
Cast iron	●	●	●	●	○	○
Non ferrous metals	○	○	○	○	●	●
Heat resistant alloys						
Hardened materials				○	○	○

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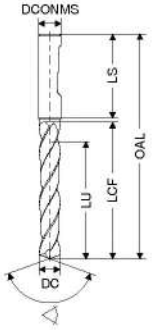
WTX – High Performance Drill, DIN 6537

2

≤ 5xD



UNI	UNI	UNI	Quattro 4F	VA	VA
DPX74S	DPX74S	DPX74S	DPX74S	Ti700	Ti700
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN		

	HA	HB	HE	HA	HA	HE
	140°	140°	140°	140°	140°	140°
	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
	T7	T7	T7	NEW T4	T4	T4
	Article no. 11 783 ...	Article no. 11 784 ...	Article no. 11 782 ...	Article no. 10 730 ...	Article no. 10 740 ...	Article no. 10 741 ...

DC m7	DCONMS h6	OAL	LCF	LU	LS	£		£		£		£		£		£	
mm	mm	mm	mm	mm	mm												
15.25	16	133	83	63	48	105.01	15250	105.01	15250	105.01	15250						
15.30	16	133	83	63	48	105.01	15300	105.01	15300	105.01	15300						
15.35	16	133	83	63	48	105.01	15350	105.01	15350	105.01	15350						
15.50	16	133	83	63	48	105.01	15500	105.01	15500	105.01	15500	282.69	15500	239.69	155	239.69	155
15.60	16	133	83	63	48	105.01	15600	105.01	15600	105.01	15600						
15.80	16	133	83	63	48	105.01	15800	105.01	15800	105.01	15800	282.69	15800	239.69	158	239.69	158
16.00	16	133	83	63	48	105.01	16000	105.01	16000	105.01	16000	282.69	16000	239.69	160	239.69	160
16.05	18	143	93	71	48	178.41	16050	178.41	16050	178.41	16050						
16.50	18	143	93	71	48	178.41	16500	178.41	16500	178.41	16500	409.94	16500	349.95	165	349.95	165
16.80	18	143	93	71	48	178.41	16800	178.41	16800	178.41	16800	409.94	16800	349.95	168	349.95	168
16.90	18	143	93	71	48	178.41	16900	178.41	16900	178.41	16900						
17.00	18	143	93	71	48	178.41	17000	178.41	17000	178.41	17000	409.94	17000	349.95	170	349.95	170
17.50	18	143	93	71	48	178.41	17500	178.41	17500	178.41	17500	409.94	17500	349.95	175	349.95	175
17.60	18	143	93	71	48	178.41	17600	178.41	17600	178.41	17600						
17.80	18	143	93	71	48	178.41	17800	178.41	17800	178.41	17800	409.94	17800	349.95	178	349.95	178
18.00	18	143	93	71	48	178.41	18000	178.41	18000	178.41	18000	409.94	18000	440.22	180	440.22	180
18.50	20	153	101	77	50	200.17	18500	200.17	18500	200.17	18500	499.57	18500	462.26	185	462.26	185
18.80	20	153	101	77	50	200.17	18800	200.17	18800	200.17	18800	499.57	18800	462.26	188	462.26	188
18.90	20	153	101	77	50	200.17	18900	200.17	18900	200.17	18900						
19.00	20	153	101	77	50	200.17	19000	200.17	19000	200.17	19000	499.57	19000	462.26	190	462.26	190
19.35	20	153	101	77	50	200.17	19350	200.17	19350	200.17	19350						
19.50	20	153	101	77	50	200.17	19500	200.17	19500	200.17	19500	499.57	19500	462.26	195	462.26	195
19.60	20	153	101	77	50	200.17	19600	200.17	19600	200.17	19600						
19.80	20	153	101	77	50	200.17	19800	200.17	19800	200.17	19800	499.57	19800	462.26	198	462.26	198
20.00	20	153	101	77	50	200.17	20000	200.17	20000	200.17	20000	499.57	20000	644.56	200	644.56	200

Steel	●	●	●	●	○	○
Stainless steel					●	●
Cast iron	●	●	●	●	○	○
Non ferrous metals	○	○	○	○	●	●
Heat resistant alloys						
Hardened materials				○	○	○

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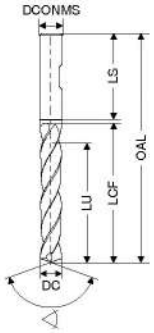
WPC – High Performance Drill, DIN 6537

≤ 5xD

UNI
TiAlN



HA
140°
Solid carbide

UNI
TiAlN

HB
140°
Solid carbide

DC m7	DCONMS h6	OAL	LCF	LU	LS	T1 Article no. 11 606 ...		T1 Article no. 11 607 ...	
mm	mm	mm	mm	mm	mm	£		£	
3.00	6	66	28	23	36	23.25	030	23.25	030
3.10	6	66	28	23	36	23.25	031	23.25	031
3.20	6	66	28	23	36	23.25	032	23.25	032
3.30	6	66	28	23	36	23.25	033	23.25	033
3.40	6	66	28	23	36	23.25	034	23.25	034
3.50	6	66	28	23	36	23.25	035	23.25	035
3.60	6	66	28	23	36	23.25	036	23.25	036
3.70	6	66	28	23	36	23.25	037	23.25	037
3.80	6	74	36	29	36	23.25	038	23.25	038
3.90	6	74	36	29	36	23.25	039	23.25	039
4.00	6	74	36	29	36	23.25	040	23.25	040
4.10	6	74	36	29	36	23.25	041	23.25	041
4.20	6	74	36	29	36	23.25	042	23.25	042
4.30	6	74	36	29	36	23.25	043	23.25	043
4.40	6	74	36	29	36	23.25	044	23.25	044
4.50	6	74	36	29	36	23.25	045	23.25	045
4.60	6	74	36	29	36	23.25	046	23.25	046
4.65	6	74	36	29	36	23.25	900	23.25	900
4.70	6	74	36	29	36	23.25	047	23.25	047
4.80	6	82	44	35	36	23.25	048	23.25	048
4.90	6	82	44	35	36	23.25	049	23.25	049
5.00	6	82	44	35	36	23.25	050	23.25	050
5.10	6	82	44	35	36	23.25	051	23.25	051
5.20	6	82	44	35	36	23.25	052	23.25	052
5.30	6	82	44	35	36	23.25	053	23.25	053
5.40	6	82	44	35	36	23.25	054	23.25	054
5.50	6	82	44	35	36	23.25	055	23.25	055
5.55	6	82	44	35	36	23.25	902	23.25	902
5.60	6	82	44	35	36	23.25	056	23.25	056
5.70	6	82	44	35	36	23.25	057	23.25	057
5.80	6	82	44	35	36	23.25	058	23.25	058
5.90	6	82	44	35	36	23.25	059	23.25	059
6.00	6	82	44	35	36	23.25	060	23.25	060
6.10	8	91	53	43	36	23.25	061	23.25	061
6.20	8	91	53	43	36	23.25	062	23.25	062
6.30	8	91	53	43	36	23.25	063	23.25	063
6.40	8	91	53	43	36	23.25	064	23.25	064
6.50	8	91	53	43	36	23.25	065	23.25	065
6.60	8	91	53	43	36	23.25	066	23.25	066
6.70	8	91	53	43	36	23.25	067	23.25	067
6.80	8	91	53	43	36	23.25	068	23.25	068
6.90	8	91	53	43	36	23.25	069	23.25	069
7.00	8	91	53	43	36	23.25	070	23.25	070
7.10	8	91	53	43	36	23.25	071	23.25	071
7.20	8	91	53	43	36	23.25	072	23.25	072
7.30	8	91	53	43	36	23.25	073	23.25	073
7.40	8	91	53	43	36	23.25	074	23.25	074
7.50	8	91	53	43	36	23.25	075	23.25	075
7.55	8	91	53	43	36	23.25	975	23.25	975
7.60	8	91	53	43	36	23.25	076	23.25	076
7.70	8	91	53	43	36	23.25	077	23.25	077
7.80	8	91	53	43	36	23.25	078	23.25	078
7.90	8	91	53	43	36	23.25	079	23.25	079
8.00	8	91	53	43	36	23.25	080	23.25	080
8.10	10	103	61	49	40	26.16	081	26.16	081
8.20	10	103	61	49	40	26.16	082	26.16	082
8.30	10	103	61	49	40	26.16	083	26.16	083
8.40	10	103	61	49	40	26.16	084	26.16	084
8.50	10	103	61	49	40	26.16	085	26.16	085
8.60	10	103	61	49	40	26.16	086	26.16	086
8.70	10	103	61	49	40	26.16	087	26.16	087
8.80	10	103	61	49	40	26.16	088	26.16	088
8.90	10	103	61	49	40	26.16	089	26.16	089
9.00	10	103	61	49	40	26.16	090	26.16	090
9.10	10	103	61	49	40	26.16	091	26.16	091
9.20	10	103	61	49	40	26.16	092	26.16	092
9.25	10	103	61	49	40	26.16	925	26.16	925
9.30	10	103	61	49	40	26.16	093	26.16	093
9.40	10	103	61	49	40	26.16	094	26.16	094
9.50	10	103	61	49	40	26.16	095	26.16	095
9.60	10	103	61	49	40	26.16	096	26.16	096
9.70	10	103	61	49	40	26.16	097	26.16	097
9.80	10	103	61	49	40	26.16	098	26.16	098
9.90	10	103	61	49	40	26.16	099	26.16	099
10.00	10	103	61	49	40	26.16	100	26.16	100
10.10	12	118	71	56	45	39.23	101	39.23	101
10.20	12	118	71	56	45	39.23	102	39.23	102
10.30	12	118	71	56	45	39.23	103	39.23	103
10.40	12	118	71	56	45	39.23	104	39.23	104
10.50	12	118	71	56	45	39.23	105	39.23	105
10.60	12	118	71	56	45	39.23	106	39.23	106
10.70	12	118	71	56	45	39.23	107	39.23	107
10.80	12	118	71	56	45	39.23	108	39.23	108
10.90	12	118	71	56	45	39.23	109	39.23	109
11.00	12	118	71	56	45	39.23	110	39.23	110
11.10	12	118	71	56	45	39.23	111	39.23	111
11.20	12	118	71	56	45	39.23	112	39.23	112
11.30	12	118	71	56	45	39.23	113	39.23	113
11.40	12	118	71	56	45	39.23	114	39.23	114
11.50	12	118	71	56	45	39.23	115	39.23	115
11.60	12	118	71	56	45	39.23	116	39.23	116
11.70	12	118	71	56	45	39.23	117	39.23	117
11.80	12	118	71	56	45	39.23	118	39.23	118
11.90	12	118	71	56	45	39.23	119	39.23	119
12.00	12	118	71	56	45	39.23	120	39.23	120
12.25	14	124	77	60	45	50.84	122	50.84	122
12.50	14	124	77	60	45	50.84	125	50.84	125
12.70	14	124	77	60	45	50.84	127	50.84	127
12.80	14	124	77	60	45	50.84	128	50.84	128
12.90	14	124	77	60	45	50.84	129	50.84	129
13.00	14	124	77	60	45	50.84	130	50.84	130
13.30	14	124	77	60	45	50.84	133	50.84	133
13.50	14	124	77	60	45	50.84	135	50.84	135
13.70	14	124	77	60	45	50.84	137	50.84	137
13.80	14	124	77	60	45	50.84	138	50.84	138
14.00	14	124	77	60	45	50.84	140	50.84	140
14.20	16	133	83	63	48	66.83	142	66.83	142
14.50	16	133	83	63	48	66.83	145	66.83	145
14.70	16	133	83	63	48	66.83	147	66.83	147
14.80	16	133	83	63	48	66.83	148	66.83	148
15.00	16	133	83	63	48	66.83	150	66.83	150
15.25	16	133	83	63	48	66.83	152	66.83	152
15.30	16	133	83	63	48	66.83	153	66.83	153
15.50	16	133	83	63	48	66.83	155	66.83	155
15.70	16	133	83	63	48	66.83	157	66.83	157
15.80	16	133	83	63	48	66.83	158	66.83	158
16.00	16	133	83	63	48	66.83	160	66.83	160
16.50	18	143	93	71	48	107.51	165	107.51	165
16.80	18	143	93	71	48	107.51	168	107.51	168
17.00	18	143	93	71	48	107.51	170	107.51	170
17.50	18	143	93	71	48	107.51	175	107.51	175
17.80	18	143	93	71	48	107.51	178	107.51	178
18.00	18	143	93	71	48	107.51	180	107.51	180
18.50	20	153	101	77	50	116.21	185	116.21	185
18.80	20	153	101	77	50	116.21	188	116.21	188
19.00	20	153	101	77	50	116.21	190	116.21	190
19.50	20	153	101	77	50	116.21	195	116.21	195
19.80	20	153	101	77	50	116.21	198	116.21	198
20.00	20	153	101	77	50	116.21	200	116.21	200

Steel	●	●
Stainless steel		
Cast iron	●	●
Non ferrous metals	○	○
Heat resistant alloys		

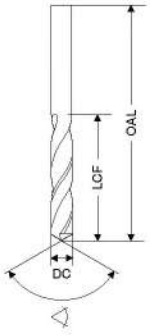
→ v_c Page 117

Twist drill similar to DIN 338

- Rake angle 30°
- Shank Ø h7

≤ 5xD

N



118°
Solid carbide

DC h7	OAL	LCF	T3 Article no. 10 710 ...	
mm	mm	mm	£	
0.5	22	6	5.69	005
0.6	24	7	5.69	006
0.7	28	9	5.69	007
0.8	30	10	5.69	008
0.9	32	11	5.69	009
1.0	34	12	5.69	010
1.1	36	14	6.56	011
1.2	38	16	6.56	012
1.3	38	16	6.56	013
1.4	40	18	6.56	014
1.5	40	18	6.56	015
1.6	43	20	6.56	016
1.7	43	20	7.26	017
1.8	46	22	7.70	018
1.9	46	22	7.70	019
2.0	49	24	9.42	020
2.1	49	24	9.68	021
2.2	53	27	9.68	022
2.3	53	27	9.68	023
2.4	57	30	9.68	024
2.5	57	30	11.26	025
2.6	57	30	11.26	026
2.7	61	33	12.37	027
2.8	61	33	13.11	028
2.9	61	33	13.11	029
3.0	61	33	13.08	030
3.1	65	36	13.08	031
3.2	65	36	13.08	032
3.3	65	36	14.52	033
3.4	70	39	14.52	034
3.5	70	39	15.99	035
3.6	70	39	15.99	036
3.7	70	39	15.99	037
3.8	75	43	15.99	038
3.9	75	43	15.99	039
4.0	75	43	19.05	040
4.1	75	43	18.13	041
4.2	75	43	19.65	042
4.3	80	47	20.64	043
4.4	80	47	20.64	044
4.5	80	47	22.11	045
4.6	80	47	22.11	046
4.7	80	47	22.11	047
4.8	86	52	22.52	048
4.9	86	52	22.52	049
5.0	86	52	26.31	050
5.1	86	52	26.31	051
5.2	86	52	26.31	052
5.3	86	52	27.55	053
5.4	93	57	32.41	054
5.5	93	57	32.41	055
5.6	93	57	32.41	056
5.7	93	57	32.41	057
5.8	93	57	32.41	058
5.9	93	57	32.41	059
6.0	93	57	35.32	060
6.1	101	63	36.99	061
6.2	101	63	36.99	062
6.3	101	63	36.99	063
6.4	101	63	36.99	064
6.5	101	63	42.29	065
6.6	109	69	42.29	066
6.8	109	69	48.32	068
7.0	109	69	48.32	070
7.5	109	69	52.30	075
7.8	117	75	57.68	078
8.0	117	75	57.68	080
8.5	117	75	64.85	085
8.8	125	81	78.60	088
9.0	125	81	78.60	090
9.5	125	81	85.42	095
9.8	133	87	94.31	098
10.0	133	87	94.31	100
10.2	133	87	99.05	102
10.5	133	87	102.91	105
11.0	142	94	119.99	110
11.5	142	94	133.26	115
12.0	151	101	155.43	120
13.0	151	101	168.93	130
14.0	160	108	181.09	140
16.0	178	120	245.93	160

Steel	●
Stainless steel	○
Cast iron	○
Non ferrous metals	●
Heat resistant alloys	○

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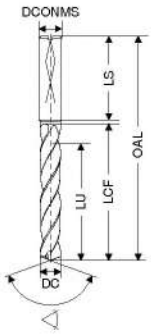
WTX – High Performance Drill, DIN 6537

≤ 5xD



Feed UNI = Three Cutting Edges

	Feed UNI	Speed UNI	UNI	UNI	UNI	Quattro 4F
	DPX74S	DPX14S	DPX74S	DPX74S	DPX74S	DPX74S
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
	HA	HA	HA	HB	HE	HA
	140° Solid carbide	145° Solid carbide	140° Solid carbide	140° Solid carbide	140° Solid carbide	140° Solid carbide
	NEW T4	NEW T4	T7	T7	T7	NEW T4
	Article no. 10 789 ...	Article no. 10 771 ...	Article no. 11 786 ...	Article no. 11 787 ...	Article no. 11 785 ...	Article no. 10 735 ...

DC m7/h7	DCONMS h6	OAL	LCF	LU	LS												
mm	mm	mm	mm	mm	mm	£		£		£		£		£		£	
3.00	6	66	28	23	36			110.41	03000	56.61	03000	56.61	03000	53.41	03000	110.56	03000
3.10	6	66	28	23	36			110.41	03100	56.61	03100	56.61	03100	53.41	03100	110.56	03100
3.15	6	66	28	23	36					56.61	03150	56.61	03150	53.41	03150		
3.20	6	66	28	23	36			110.41	03200	56.61	03200	56.61	03200	53.41	03200	110.56	03200
3.22	6	66	28	23	36					56.61	03220	56.61	03220	53.41	03220		
3.25	6	66	28	23	36					56.61	03250	56.61	03250	53.41	03250		
3.30	6	66	28	23	36			110.41	03300	56.61	03300	56.61	03300	53.41	03300	110.56	03300
3.40	6	66	28	23	36			110.41	03400	56.61	03400	56.61	03400	53.41	03400	110.56	03400
3.50	6	66	28	23	36			110.41	03500	56.61	03500	56.61	03500	53.41	03500	110.56	03500
3.60	6	66	28	23	36			110.41	03600	56.61	03600	56.61	03600	53.41	03600	110.56	03600
3.70	6	66	28	23	36			110.41	03700	56.61	03700	56.61	03700	53.41	03700	110.56	03700
3.80	6	74	36	29	36			110.41	03800	56.61	03800	56.61	03800	53.41	03800	110.56	03800
3.85	6	74	36	29	36					56.61	03850	56.61	03850	53.41	03850		
3.90	6	74	36	29	36			110.41	03900	56.61	03900	56.61	03900	53.41	03900	110.56	03900
4.00	6	74	36	29	36	90.03	04000	110.41	04000	56.61	04000	56.61	04000	53.41	04000	110.56	04000
4.10	6	74	36	29	36	90.03	04100	110.41	04100	56.61	04100	56.61	04100	53.41	04100	110.56	04100
4.20	6	74	36	29	36	90.03	04200	110.41	04200	56.61	04200	56.61	04200	53.41	04200	110.56	04200
4.25	6	74	36	29	36					56.61	04250	56.61	04250	53.41	04250		
4.30	6	74	36	29	36	90.03	04300	110.41	04300	56.61	04300	56.61	04300	53.41	04300	110.56	04300
4.35	6	74	36	29	36					56.61	04350	56.61	04350	53.41	04350		
4.40	6	74	36	29	36	90.03	04400	110.41	04400	56.61	04400	56.61	04400	53.41	04400	110.56	04400
4.45	6	74	36	29	36					56.61	04450	56.61	04450	53.41	04450		
4.50	6	74	36	29	36	90.03	04500	110.41	04500	56.61	04500	56.61	04500	53.41	04500	110.56	04500
4.60	6	74	36	29	36	90.03	04600	110.41	04600	56.61	04600	56.61	04600	53.41	04600	110.56	04600
4.65	6	74	36	29	36			110.41	04650	56.61	04650	56.61	04650	53.41	04650		
4.70	6	74	36	29	36	90.03	04700	110.41	04700	56.61	04700	56.61	04700	53.41	04700	110.56	04700
4.80	6	82	44	35	36	90.03	04800	110.41	04800	56.61	04800	56.61	04800	53.41	04800	110.56	04800
4.90	6	82	44	35	36	90.03	04900	110.41	04900	56.61	04900	56.61	04900	53.41	04900	110.56	04900
4.95	6	82	44	35	36					56.61	04950	56.61	04950	53.41	04950		
5.00	6	82	44	35	36	90.03	05000	110.41	05000	56.61	05000	56.61	05000	53.41	05000	110.56	05000
5.05	6	82	44	35	36					56.61	05050	56.61	05050	53.41	05050		
5.10	6	82	44	35	36	90.03	05100	110.41	05100	56.61	05100	56.61	05100	53.41	05100	110.56	05100
5.20	6	82	44	35	36	90.03	05200	110.41	05200	56.61	05200	56.61	05200	53.41	05200	110.56	05200
5.30	6	82	44	35	36	90.03	05300	110.41	05300	56.61	05300	56.61	05300	53.41	05300	110.56	05300
5.40	6	82	44	35	36	90.03	05400	110.41	05400	56.61	05400	56.61	05400	53.41	05400	110.56	05400
5.50	6	82	44	35	36	90.03	05500	110.41	05500	56.61	05500	56.61	05500	53.41	05500	110.56	05500

Steel	●	●	●	●	●	●
Stainless steel	●	●	○	○	○	○
Cast iron	●	●	●	●	●	●
Non ferrous metals	○	○	○	○	○	○
Heat resistant alloys						
Hardened materials		○	○	○	○	○

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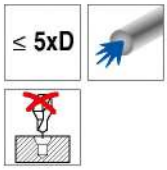
Ø DC_{m7} for Type UNI, Feed UNI and Quattro 4F/ Ø DC_{h7} for Type Speed UNI

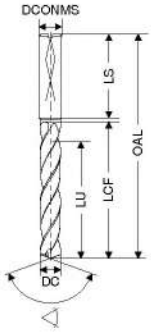
Continued on next page

WTX – High Performance Drill, DIN 6537

2

≤ 5xD





Feed UNI = Three Cutting Edges

Feed UNI	Speed UNI	UNI	UNI	UNI	Quattro 4F
DPX74S	DPX14S	DPX74S	DPX74S	DPX74S	DPX74S
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN

HA	HA	HA	HB	HE	HA
140°	145°	140°	140°	140°	140°
Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
NEW T4	NEW T4	T7	T7	T7	NEW T4
Article no. 10 789 ...	Article no. 10 771 ...	Article no. 11 786 ...	Article no. 11 787 ...	Article no. 11 785 ...	Article no. 10 735 ...

DC m7/h7	DCONMS h6	OAL	LCF	LU	LS	£	£	£	£	£	£
mm	mm	mm	mm	mm	mm						
5.55	6	82	44	35	36	90.03 05550	110.41 05550	66.28 05550	66.28 05550	53.41 05550	
5.60	6	82	44	35	36	90.03 05600	110.41 05600	56.61 05600	56.61 05600	53.41 05600	110.56 05600
5.70	6	82	44	35	36	90.03 05700	110.41 05700	56.61 05700	56.61 05700	53.41 05700	110.56 05700
5.75	6	82	44	35	36			56.61 05750	56.61 05750	53.41 05750	
5.80	6	82	44	35	36	90.03 05800	110.41 05800	56.61 05800	56.61 05800	53.41 05800	110.56 05800
5.90	6	82	44	35	36	90.03 05900	110.41 05900	56.61 05900	56.61 05900	53.41 05900	110.56 05900
5.95	6	82	44	35	36			56.61 05950	56.61 05950	53.41 05950	
6.00	6	82	44	35	36	90.03 06000	110.41 06000	56.61 06000	56.61 06000	53.41 06000	110.56 06000
6.10	8	91	53	43	36	100.76 06100	123.48 06100	63.82 06100	63.82 06100	60.97 06100	129.29 06100
6.20	8	91	53	43	36	100.76 06200	123.48 06200	63.82 06200	63.82 06200	60.97 06200	129.29 06200
6.30	8	91	53	43	36	100.76 06300	123.48 06300	63.82 06300	63.82 06300	60.97 06300	129.29 06300
6.40	8	91	53	43	36	100.76 06400	123.48 06400	63.82 06400	63.82 06400	60.97 06400	129.29 06400
6.50	8	91	53	43	36	100.76 06500	123.48 06500	63.82 06500	63.82 06500	60.97 06500	129.29 06500
6.60	8	91	53	43	36	100.76 06600	123.48 06600	63.82 06600	63.82 06600	60.97 06600	129.29 06600
6.70	8	91	53	43	36	100.76 06700	123.48 06700	63.82 06700	63.82 06700	60.97 06700	129.29 06700
6.80	8	91	53	43	36	100.76 06800	123.48 06800	63.82 06800	63.82 06800	60.97 06800	129.29 06800
6.90	8	91	53	43	36	100.76 06900	123.48 06900	63.82 06900	63.82 06900	60.97 06900	129.29 06900
7.00	8	91	53	43	36	100.76 07000	123.48 07000	63.82 07000	63.82 07000	60.97 07000	129.29 07000
7.10	8	91	53	43	36	100.76 07100	123.48 07100	63.82 07100	63.82 07100	60.97 07100	129.29 07100
7.20	8	91	53	43	36	100.76 07200	123.48 07200	63.82 07200	63.82 07200	60.97 07200	129.29 07200
7.30	8	91	53	43	36	100.76 07300	123.48 07300	63.82 07300	63.82 07300	60.97 07300	129.29 07300
7.40	8	91	53	43	36	100.76 07400	123.48 07400	63.82 07400	63.82 07400	60.97 07400	129.29 07400
7.45	8	91	53	43	36			63.82 07450	63.82 07450	63.82 07450	
7.50	8	91	53	43	36	100.76 07500	123.48 07500	63.82 07500	63.82 07500	60.97 07500	129.29 07500
7.60	8	91	53	43	36	100.76 07600	123.48 07600	63.82 07600	63.82 07600	60.97 07600	129.29 07600
7.70	8	91	53	43	36	100.76 07700	123.48 07700	63.82 07700	63.82 07700	60.97 07700	129.29 07700
7.80	8	91	53	43	36	100.76 07800	123.48 07800	63.82 07800	63.82 07800	60.97 07800	129.29 07800
7.90	8	91	53	43	36	100.76 07900	123.48 07900	63.82 07900	63.82 07900	60.97 07900	129.29 07900
8.00	8	91	53	43	36	100.76 08000	123.48 08000	63.82 08000	63.82 08000	60.97 08000	129.29 08000
8.10	10	103	61	49	40	145.76 08100	177.24 08100	73.97 08100	73.97 08100	68.80 08100	160.97 08100
8.20	10	103	61	49	40	145.76 08200	177.24 08200	73.97 08200	73.97 08200	68.80 08200	160.97 08200
8.30	10	103	61	49	40	145.76 08300	177.24 08300	73.97 08300	73.97 08300	68.80 08300	160.97 08300
8.40	10	103	61	49	40	145.76 08400	177.24 08400	73.97 08400	73.97 08400	68.80 08400	160.97 08400
8.50	10	103	61	49	40	145.76 08500	177.24 08500	73.97 08500	73.97 08500	68.80 08500	160.97 08500
8.60	10	103	61	49	40	145.76 08600	177.24 08600	73.97 08600	73.97 08600	68.80 08600	160.97 08600
8.70	10	103	61	49	40	145.76 08700	177.24 08700	73.97 08700	73.97 08700	68.80 08700	160.97 08700

Steel	●	●	●	●	●	●
Stainless steel	●	●	○	○	○	○
Cast iron	●	●	●	●	●	●
Non ferrous metals	○	○	○	○	○	○
Heat resistant alloys						
Hardened materials		○	○	○	○	○

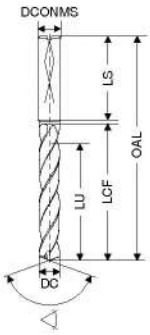
→ v_c Page 96-104

Ø DC_{m7} for Type UNI, Feed UNI and Quattro 4F/ Ø DC_{h7} for Type Speed UNI

Continued on next page

WTX – High Performance Drill, DIN 6537

≤ 5xD



Feed UNI = Three Cutting Edges

Feed UNI	Speed UNI	UNI	UNI	UNI	Quattro 4F
DPX74S	DPX14S	DPX74S	DPX74S	DPX74S	DPX74S
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN

	HA	HA	HA	HB	HE	HA
	140°	145°	140°	140°	140°	140°
	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
	NEW T4	NEW T4	T7	T7	T7	NEW T4
	Article no. 10 789 ...	Article no. 10 771 ...	Article no. 11 786 ...	Article no. 11 787 ...	Article no. 11 785 ...	Article no. 10 735 ...

DC m7/h7	DCONMS h6	OAL	LCF	LU	LS	£	£	£	£	£	£
mm	mm	mm	mm	mm	mm						
8.80	10	103	61	49	40	145.76 08800	177.24 08800	73.97 08800	73.97 08800	68.80 08800	160.97 08800
8.90	10	103	61	49	40	145.76 08900	177.24 08900	73.97 08900	73.97 08900	68.80 08900	160.97 08900
9.00	10	103	61	49	40	145.76 09000	177.24 09000	73.97 09000	73.97 09000	68.80 09000	160.97 09000
9.10	10	103	61	49	40	145.76 09100	177.24 09100	73.97 09100	73.97 09100	68.80 09100	160.97 09100
9.20	10	103	61	49	40	145.76 09200	177.24 09200	73.97 09200	73.97 09200	68.80 09200	160.97 09200
9.30	10	103	61	49	40	145.76 09300	177.24 09300	73.97 09300	73.97 09300	68.80 09300	160.97 09300
9.35	10	103	61	49	40			73.97 09350	73.97 09350	68.80 09350	
9.40	10	103	61	49	40	145.76 09400	177.24 09400	73.97 09400	73.97 09400	68.80 09400	160.97 09400
9.45	10	103	61	49	40			73.97 09450	73.97 09450	68.80 09450	
9.50	10	103	61	49	40	145.76 09500	177.24 09500	73.97 09500	73.97 09500	68.80 09500	160.97 09500
9.60	10	103	61	49	40	145.76 09600	177.24 09600	73.97 09600	73.97 09600	68.80 09600	160.97 09600
9.70	10	103	61	49	40	145.76 09700	177.24 09700	73.97 09700	73.97 09700	68.80 09700	160.97 09700
9.80	10	103	61	49	40	145.76 09800	177.24 09800	73.97 09800	73.97 09800	68.80 09800	160.97 09800
9.90	10	103	61	49	40	145.76 09900	177.24 09900	73.97 09900	73.97 09900	68.80 09900	160.97 09900
10.00	10	103	61	49	40	145.76 10000	177.24 10000	73.97 10000	73.97 10000	68.80 10000	160.97 10000
10.10	12	118	71	56	45	204.07 10100	249.85 10100	104.76 10100	104.76 10100	99.07 10100	228.35 10100
10.20	12	118	71	56	45	204.07 10200	249.85 10200	104.76 10200	104.76 10200	99.07 10200	228.35 10200
10.30	12	118	71	56	45	204.07 10300	249.85 10300	104.76 10300	104.76 10300	99.07 10300	228.35 10300
10.40	12	118	71	56	45	204.07 10400	249.85 10400	104.76 10400	104.76 10400	99.07 10400	228.35 10400
10.50	12	118	71	56	45	204.07 10500	249.85 10500	104.76 10500	104.76 10500	99.07 10500	228.35 10500
10.55	12	118	71	56	45			104.76 10550	104.76 10550	99.07 10550	
10.60	12	118	71	56	45	204.07 10600	249.85 10600	104.76 10600	104.76 10600	99.07 10600	228.35 10600
10.70	12	118	71	56	45	204.07 10700	249.85 10700	104.76 10700	104.76 10700	99.07 10700	228.35 10700
10.75	12	118	71	56	45			104.76 10750	104.76 10750	99.07 10750	
10.80	12	118	71	56	45	204.07 10800	249.85 10800	104.76 10800	104.76 10800	99.07 10800	228.35 10800
10.90	12	118	71	56	45	204.07 10900	249.85 10900	104.76 10900	104.76 10900	99.07 10900	228.35 10900
11.00	12	118	71	56	45	204.07 11000	249.85 11000	104.76 11000	104.76 11000	99.07 11000	228.35 11000
11.10	12	118	71	56	45	204.07 11100	249.85 11100	104.76 11100	104.76 11100	99.07 11100	228.35 11100
11.20	12	118	71	56	45	204.07 11200	249.85 11200	104.76 11200	104.76 11200	99.07 11200	228.35 11200
11.25	12	118	71	56	45			104.76 11250	104.76 11250	99.07 11250	
11.30	12	118	71	56	45	204.07 11300	249.85 11300	104.76 11300	104.76 11300	99.07 11300	228.35 11300
11.35	12	118	71	56	45			104.76 11350	104.76 11350	99.07 11350	
11.40	12	118	71	56	45	204.07 11400	249.85 11400	104.76 11400	104.76 11400	99.07 11400	228.35 11400
11.45	12	118	71	56	45			104.76 11450	104.76 11450	99.07 11450	
11.50	12	118	71	56	45	204.07 11500	249.85 11500	104.76 11500	104.76 11500	99.07 11500	228.35 11500
11.60	12	118	71	56	45	204.07 11600	249.85 11600	104.76 11600	104.76 11600	99.07 11600	228.35 11600

Steel	●	●	●	●	●	●
Stainless steel	●	●	○	○	○	○
Cast iron	●	●	●	●	●	●
Non ferrous metals	○	○	○	○	○	○
Heat resistant alloys						
Hardened materials		○	○	○	○	○

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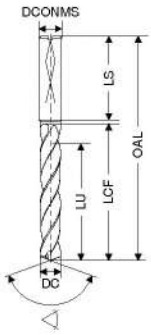
Ø DC_{m7} for Type UNI, Feed UNI and Quattro 4F/ **Ø DC_{h7}** for Type Speed UNI

Continued on next page

WTX – High Performance Drill, DIN 6537

≤ 5xD



Feed UNI = Three Cutting Edges

	Feed UNI	Speed UNI	UNI	UNI	UNI	Quattro 4F
	DPX74S	DPX14S	DPX74S	DPX74S	DPX74S	DPX74S
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
	HA	HA	HA	HB	HE	HA
	140°	145°	140°	140°	140°	140°
	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
	NEW T4	NEW T4	T7	T7	T7	NEW T4
DC m7/h7	Article no. 10 789 ...	Article no. 10 771 ...	Article no. 11 786 ...	Article no. 11 787 ...	Article no. 11 785 ...	Article no. 10 735 ...
mm	£	£	£	£	£	£

DC m7/h7	DCONMS h6	OAL	LCF	LU	LS	10 789 ...		10 771 ...		11 786 ...		11 787 ...		11 785 ...		10 735 ...	
mm	mm	mm	mm	mm	mm	£		£		£		£		£		£	
11.70	12	118	71	56	45	204.07	11700	249.85	11700	104.76	11700	104.76	11700	99.07	11700	228.35	11700
11.80	12	118	71	56	45	204.07	11800	249.85	11800	104.76	11800	104.76	11800	99.07	11800	228.35	11800
11.90	12	118	71	56	45	204.07	11900	249.85	11900	104.76	11900	104.76	11900	99.07	11900	228.35	11900
12.00	12	118	71	56	45	204.07	12000	249.85	12000	104.76	12000	104.76	12000	99.07	12000	228.35	12000
12.15	14	124	77	60	45					141.23	12150	141.23	12150	131.19	12150		
12.20	14	124	77	60	45			339.91	12200								
12.25	14	124	77	60	45					141.23	12250	141.23	12250	131.19	12250		
12.50	14	124	77	60	45	277.55	12500	339.91	12500	141.23	12500	141.23	12500	131.19	12500	308.83	12500
12.55	14	124	77	60	45					141.23	12550	141.23	12550	131.19	12550		
12.70	14	124	77	60	45					141.23	12700	141.23	12700	131.19	12700		
12.80	14	124	77	60	45	277.55	12800	339.91	12800	141.23	12800	141.23	12800	131.19	12800	308.83	12800
12.90	14	124	77	60	45					131.19	12900	131.19	12900	131.19	12900		
13.00	14	124	77	60	45	277.55	13000	339.91	13000	141.23	13000	141.23	13000	131.19	13000	308.83	13000
13.10	14	124	77	60	45					141.23	13100	141.23	13100	131.19	13100		
13.30	14	124	77	60	45					131.19	13300	131.19	13300	131.19	13300		
13.35	14	124	77	60	45					131.19	13350	131.19	13350	131.19	13350		
13.50	14	124	77	60	45	277.55	13500	339.91	13500	141.23	13500	141.23	13500	131.19	13500	308.83	13500
13.70	14	124	77	60	45					141.23	13700	141.23	13700	131.19	13700		
13.80	14	124	77	60	45	277.55	13800	339.91	13800	141.23	13800	141.23	13800	131.19	13800	308.83	13800
14.00	14	124	77	60	45	277.55	14000	339.91	14000	141.23	14000	141.23	14000	131.19	14000	308.83	14000
14.20	16	133	83	63	48			424.18	14200	163.85	14200	163.85	14200	163.85	14200		
14.50	16	133	83	63	48	346.34	14500	424.18	14500	176.53	14500	176.53	14500	163.85	14500	385.54	14500
14.80	16	133	83	63	48	346.34	14800	424.18	14800	176.53	14800	176.53	14800	163.85	14800	385.54	14800
15.00	16	133	83	63	48	346.34	15000	424.18	15000	176.53	15000	176.53	15000	163.85	15000	385.54	15000
15.10	16	133	83	63	48					176.53	15100	176.53	15100	163.85	15100		
15.20	16	133	83	63	48			424.18	15200								
15.25	16	133	83	63	48					176.53	15250	176.53	15250	163.85	15250		
15.30	16	133	83	63	48					171.65	15300	171.65	15300	163.85	15300		
15.35	16	133	83	63	48					171.65	15350	171.65	15350	163.85	15350		
15.50	16	133	83	63	48	346.34	15500	424.18	15500	176.53	15500	176.53	15500	163.85	15500	385.54	15500
15.60	16	133	83	63	48					176.53	15600	176.53	15600	163.85	15600		
15.80	16	133	83	63	48	346.34	15800	424.18	15800	176.53	15800	176.53	15800	163.85	15800	385.54	15800
16.00	16	133	83	63	48	346.34	16000	424.18	16000	176.53	16000	176.53	16000	163.85	16000	385.54	16000
16.05	18	143	93	71	48					274.55	16050	274.55	16050	254.80	16050		
16.50	18	143	93	71	48	455.96	16500	557.82	16500	274.55	16500	274.55	16500	254.80	16500	507.13	16500
16.80	18	143	93	71	48	455.96	16800	557.82	16800	274.55	16800	274.55	16800	254.80	16800	507.13	16800

Steel	●	●	●	●	●	●
Stainless steel	●	●	○	○	○	○
Cast iron	●	●	●	●	●	●
Non ferrous metals	○	○	○	○	○	○
Heat resistant alloys						
Hardened materials		○	○	○	○	○

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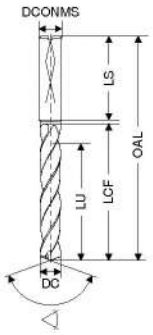
Ø DC_{m7} for Type UNI, Feed UNI and Quattro 4F/ Ø DC_{h7} for Type Speed UNI

Continued on next page

WTX – High Performance Drill, DIN 6537

≤ 5xD



Feed UNI = Three Cutting Edges

Feed UNI	Speed UNI	UNI	UNI	UNI	Quattro 4F
DPX74S	DPX14S	DPX74S	DPX74S	DPX74S	DPX74S
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN

HA	HA	HA	HB	HE	HA
140°	145°	140°	140°	140°	140°
Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
NEW T4	NEW T4	T7	T7	T7	NEW T4
Article no. 10 789 ...	Article no. 10 771 ...	Article no. 11 786 ...	Article no. 11 787 ...	Article no. 11 785 ...	Article no. 10 735 ...

DC m7/h7	DCONMS h6	OAL	LCF	LU	LS												
mm	mm	mm	mm	mm	mm	£		£		£		£		£		£	
16.90	18	143	93	71	48					274.55	16900	274.55	16900	254.80	16900		
17.00	18	143	93	71	48	455.96	17000	557.82	17000	274.55	17000	274.55	17000	254.80	17000	507.13	17000
17.50	18	143	93	71	48	455.96	17500	557.82	17500	274.55	17500	274.55	17500	254.80	17500	507.13	17500
17.60	18	143	93	71	48					274.55	17600	274.55	17600	254.80	17600		
17.80	18	143	93	71	48	455.96	17800	557.82	17800	274.55	17800	274.55	17800	254.80	17800	507.13	17800
18.00	18	143	93	71	48	455.96	18000	557.82	18000	274.55	18000	274.55	18000	254.80	18000	507.13	18000
18.50	20	153	101	77	50	590.06	18500	721.96	18500	317.89	18500	317.89	18500	282.11	18500	658.62	18500
18.80	20	153	101	77	50	590.06	18800	721.96	18800	317.89	18800	317.89	18800	282.11	18800	658.62	18800
18.90	20	153	101	77	50					317.89	18900	317.89	18900	282.11	18900		
19.00	20	153	101	77	50	590.06	19000	721.96	19000	317.89	19000	317.89	19000	282.11	19000	658.62	19000
19.35	20	153	101	77	50					317.89	19350	317.89	19350	282.11	19350		
19.50	20	153	101	77	50	590.06	19500	721.96	19500	317.89	19500	317.89	19500	282.11	19500	658.62	19500
19.60	20	153	101	77	50					317.89	19600	317.89	19600	282.11	19600		
19.80	20	153	101	77	50	590.06	19800	721.96	19800	317.89	19800	317.89	19800	282.11	19800	658.62	19800
20.00	20	153	101	77	50	590.06	20000	721.96	20000	317.89	20000	317.89	20000	282.11	20000	658.62	20000
20.50	25	200	135	110	56					817.03	20500	817.03	20500	546.03	20500		
21.00	25	200	135	110	56					817.03	21000	817.03	21000	546.03	21000		
21.50	25	200	135	110	56					817.03	21500	817.03	21500	546.03	21500		
22.00	25	200	135	110	56					817.03	22000	817.03	22000	546.03	22000		
22.50	25	200	140	120	56					817.03	22500	817.03	22500	546.03	22500		
23.00	25	200	140	120	56					817.03	23000	817.03	23000	546.03	23000		
23.50	25	200	140	120	56					817.03	23500	817.03	23500	546.03	23500		
24.00	25	200	140	120	56					817.03	24000	817.03	24000	546.03	24000		
24.50	25	200	140	120	56					817.03	24500	817.03	24500	546.03	24500		
25.00	25	200	140	120	56					817.03	25000	817.03	25000	546.03	25000		

Steel	●	●	●	●	●	●
Stainless steel	●	●	○	○	○	○
Cast iron	●	●	●	●	●	●
Non ferrous metals	○	○	○	○	○	○
Heat resistant alloys						
Hardened materials		○	○	○	○	○

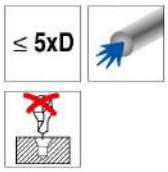
→ v_c Page 96–104

Ø DC_{m7} for Type UNI, Feed UNI and Quattro 4F/ Ø DC_{h7} for Type Speed UNI

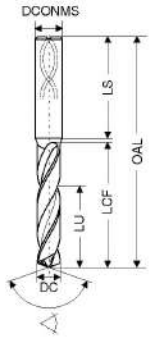
WTX – High-performance drill, DIN 6537

2

≤ 5xD



Speed VA	VA	VA	GG	AL	Ti
Ti800	Ti700	Ti700	Ti700	DLC	DPA54
					DRAGONSKIN



Type GG = Straight Fluted

HA | HA | HE | HA | HA | HA

135° Solid carbide | 140° Solid carbide | 140° Solid carbide | 130° Solid carbide | 135° Solid carbide | 140° Solid carbide

T4 | T4 | T4 | T4 | NEW T4 | T4

DC m7/h7	DCONMS h6	OAL	LCF	LU	LS	Article no. 10 773 ...		Article no. 10 745 ...		Article no. 10 746 ...		Article no. 10 749 ...		Article no. 10 791 ...		Article no. 10 787 ...	
mm	mm	mm	mm	mm	mm	£		£		£		£		£		£	
2.50	4	57	21	17	28									81.53	02500		
2.60	4	57	21	17	28									81.53	02600		
2.70	4	57	21	17	28									81.53	02700		
2.80	4	57	21	17	28									81.53	02800		
2.90	4	57	21	17	28									81.53	02900		
3.00	6	66	28	23	36	111.79	030	98.09	030	98.09	030	74.65	030	81.53	03000	72.44	030
3.10	6	66	28	23	36	111.79	031	98.09	031	98.09	031	74.65	031	81.53	03100	72.44	031
3.15	6	66	28	23	36			98.09	831								
3.20	6	66	28	23	36	111.79	032	98.09	032	98.09	032	74.65	032	81.53	03200	72.44	032
3.22	6	66	28	23	36			98.09	832								
3.25	6	66	28	23	36			98.09	890								
3.30	6	66	28	23	36	111.79	033	98.09	033	98.09	033	74.65	033	81.53	03300	72.44	033
3.40	6	66	28	23	36	111.79	034	98.09	034	98.09	034	74.65	034	81.53	03400	72.44	034
3.50	6	66	28	23	36	111.79	035	98.09	035	98.09	035	74.65	035	81.53	03500	72.44	035
3.60	6	66	28	23	36	111.79	036	98.09	036	98.09	036	74.65	036	81.53	03600	72.44	036
3.70	6	66	28	23	36	111.79	037	98.09	037	98.09	037	74.65	037	81.53	03700	72.44	037
3.80	6	74	36	29	36	111.79	038	98.09	038	98.09	038	74.65	038	78.67	03800	72.44	038
3.85	6	74	36	29	36			98.09	838								
3.90	6	74	36	29	36	111.79	039	98.09	039	98.09	039	74.65	039	78.67	03900	72.44	039
3.97	6	74	36	29	36											72.44	900
4.00	6	74	36	29	36	111.79	040	98.09	040	98.09	040	74.65	040	78.67	04000	72.44	040
4.10	6	74	36	29	36	111.79	041	98.09	041	98.09	041	74.65	041	78.67	04100	72.44	041
4.20	6	74	36	29	36	111.79	042	98.09	042	98.09	042	74.65	042	78.67	04200	72.44	042
4.23	6	74	36	29	36											72.44	901
4.30	6	74	36	29	36	111.79	043	98.09	043	98.09	043	74.65	043	78.67	04300	72.44	043
4.35	6	74	36	29	36			98.09	843								
4.40	6	74	36	29	36	111.79	044	98.09	044	98.09	044	74.65	044	78.67	04400	72.44	044
4.45	6	74	36	29	36			98.09	844								
4.50	6	74	36	29	36	111.79	045	98.09	045	98.09	045	74.65	045	78.67	04500	72.44	045
4.60	6	74	36	29	36	111.79	046	98.09	046	98.09	046	74.65	046	78.67	04600	72.44	046
4.65	6	74	36	29	36	111.79	900	98.09	900								
4.70	6	74	36	29	36	111.79	047	98.09	047	98.09	047	74.65	047	78.67	04700	72.44	047
4.80	6	82	44	35	36	111.79	048	98.09	048	98.09	048	74.65	048	79.03	04800	72.44	048
4.90	6	82	44	35	36	111.79	049	98.09	049	98.09	049	74.65	049	79.03	04900	72.44	049
5.00	6	82	44	35	36	111.79	050	98.09	050	98.09	050	74.65	050	79.03	05000	72.44	050
5.10	6	82	44	35	36	111.79	051	98.09	051	98.09	051	74.65	051	79.03	05100	72.44	051
5.20	6	82	44	35	36	111.79	052	98.09	052	98.09	052	74.65	052	79.03	05200	72.44	052
5.30	6	82	44	35	36	111.79	053	98.09	053	98.09	053	74.65	053	79.03	05300	72.44	053
5.40	6	82	44	35	36	111.79	054	98.09	054	98.09	054	74.65	054	79.03	05400	72.44	054
5.50	6	82	44	35	36	111.79	055	98.09	055	98.09	055	74.65	055	79.03	05500	72.44	055
5.55	6	82	44	35	36	111.79	902										

Steel	○	○	○			
Stainless steel	●	●	●			●
Cast iron	○	○	○	●	○	
Non ferrous metals	○	●	●	●	●	
Heat resistant alloys	○	○	○			●

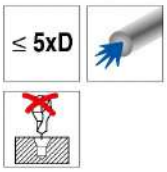
→ v_c Page 95–108

Ø DC_{m7} for Type VA, Ti and GG / Ø DC_{h7} for Type Speed VA and AL

Continued on next page

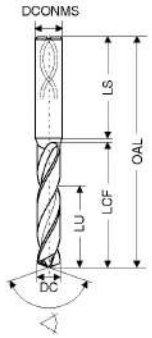
WTX – High-performance drill, DIN 6537

≤ 5xD



Speed VA	VA	VA	GG	AL	Ti
Ti800	Ti700	Ti700	Ti700	DLC	DPA54

DRAGONSKIN



Type GG = Straight Fluted

	HA	HA	HE	HA	HA	HA
	135°	140°	140°	130°	135°	140°
	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
	T4	T4	T4	T4	NEW T4	T4
DC $_{m7/h7}$	Article no. 10 773 ...	Article no. 10 745 ...	Article no. 10 746 ...	Article no. 10 749 ...	Article no. 10 791 ...	Article no. 10 787 ...

DC $_{m7/h7}$	DCONMS $_{h6}$	OAL	LCF	LU	LS	10 773 ... £		10 745 ... £		10 746 ... £		10 749 ... £		10 791 ... £		10 787 ... £	
mm	mm	mm	mm	mm	mm												
5.56	6	82	44	35	36											72.44	902
5.60	6	82	44	35	36	111.79	056	98.09	056	98.09	056	74.65	056	79.03	05600	72.44	056
5.70	6	82	44	35	36	111.79	057	98.09	057	98.09	057	74.65	057	79.03	05700	72.44	057
5.75	6	82	44	35	36			98.09	916								
5.80	6	82	44	35	36	111.79	058	98.09	058	98.09	058	74.65	058	79.03	05800	72.44	058
5.90	6	82	44	35	36	111.79	059	98.09	059	98.09	059	74.65	059	79.03	05900	72.44	059
5.95	6	82	44	35	36			98.09	959								
6.00	6	82	44	35	36	111.79	060	98.09	060	98.09	060	74.65	060	79.03	06000	72.44	060
6.10	8	91	53	43	36	125.15	061	115.95	061	115.95	061	82.42	061	88.20	06100	80.83	061
6.20	8	91	53	43	36	125.15	062	115.95	062	115.95	062	82.42	062	88.20	06200	80.83	062
6.30	8	91	53	43	36	125.15	063	115.95	063	115.95	063	82.42	063	88.20	06300	80.83	063
6.35	8	91	53	43	36											80.83	903
6.40	8	91	53	43	36	125.15	064	115.95	064	115.95	064	82.42	064	88.20	06400	80.83	064
6.50	8	91	53	43	36	125.15	065	115.95	065	115.95	065	82.42	065	88.20	06500	80.83	065
6.60	8	91	53	43	36	125.15	066	115.95	066	115.95	066	82.42	066	88.20	06600	80.83	066
6.70	8	91	53	43	36	125.15	067	115.95	067	115.95	067	82.42	067	88.20	06700	80.83	067
6.80	8	91	53	43	36	125.15	068	115.95	068	115.95	068	82.42	068	88.20	06800	80.83	068
6.90	8	91	53	43	36	125.15	069	115.95	069	115.95	069	82.42	069	88.20	06900	80.83	069
7.00	8	91	53	43	36	125.15	070	115.95	070	115.95	070	82.42	070	88.20	07000	80.83	070
7.10	8	91	53	43	36	125.15	071	115.95	071	115.95	071	82.42	071	88.20	07100	80.83	071
7.20	8	91	53	43	36	125.15	072	115.95	072	115.95	072	82.42	072	88.20	07200	80.83	072
7.30	8	91	53	43	36	125.15	073	115.95	073	115.95	073	82.42	073	88.20	07300	80.83	073
7.40	8	91	53	43	36	125.15	074	115.95	074	115.95	074	82.42	074	88.20	07400	80.83	074
7.45	8	91	53	43	36			115.95	924								
7.50	8	91	53	43	36	125.15	075	115.95	075	115.95	075	82.42	075	88.20	07500	80.83	075
7.60	8	91	53	43	36	125.15	076	115.95	076	115.95	076	82.42	076	88.20	07600	80.83	076
7.70	8	91	53	43	36	125.15	077	115.95	077	115.95	077	82.42	077	88.20	07700	80.83	077
7.80	8	91	53	43	36	125.15	078	115.95	078	115.95	078	82.42	078	88.20	07800	80.83	078
7.90	8	91	53	43	36	125.15	079	115.95	079	115.95	079	82.42	079	88.20	07900	80.83	079
7.94	8	91	53	43	36											80.83	904
8.00	8	91	53	43	36	125.15	080	115.95	080	115.95	080	82.42	080	88.20	08000	80.83	080
8.10	10	103	61	49	40	181.10	081	146.02	081	146.02	081	119.16	081	103.29	08100	94.65	081
8.20	10	103	61	49	40	181.10	082	146.02	082	146.02	082	119.16	082	103.29	08200	94.65	082
8.30	10	103	61	49	40	181.10	083	146.02	083	146.02	083	119.16	083	103.29	08300	94.65	083
8.40	10	103	61	49	40	181.10	084	146.02	084	146.02	084	119.16	084	103.29	08400	94.65	084
8.50	10	103	61	49	40	181.10	085	146.02	085	146.02	085	119.16	085	103.29	08500	94.65	085
8.60	10	103	61	49	40	181.10	086	146.02	086	146.02	086	119.16	086	103.29	08600	94.65	086
8.70	10	103	61	49	40	181.10	087	146.02	087	146.02	087	119.16	087	103.29	08700	94.65	087
8.80	10	103	61	49	40	181.10	088	146.02	088	146.02	088	119.16	088	103.29	08800	94.65	088
8.90	10	103	61	49	40	181.10	089	146.02	089	146.02	089	119.16	089	103.29	08900	94.65	089
9.00	10	103	61	49	40	181.10	090	146.02	090	146.02	090	119.16	090	103.29	09000	94.65	090

Steel	○	○	○			
Stainless steel	●	●	●			●
Cast iron	○	○	○	●	○	
Non ferrous metals	○	●	●	●	●	
Heat resistant alloys	○	○	○			●

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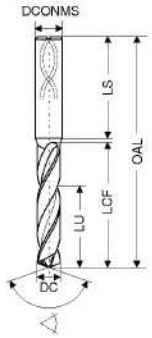
Ø DC_{m7} for Type VA, Ti and GG / Ø DC_{h7} for Type Speed VA and AL

Continued on next page

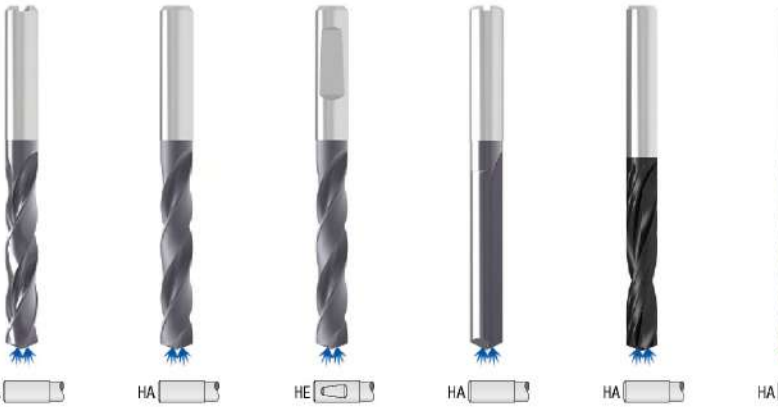
WTX – High-performance drill, DIN 6537

≤ 5xD

Speed VA	VA	VA	GG	AL	Ti
Ti800	Ti700	Ti700	Ti700	DLC	DPA54
					DRAGONSKIN



Type GG = Straight Fluted



	HA	HA	HE	HA	HA	HA
	135° Solid carbide	140° Solid carbide	140° Solid carbide	130° Solid carbide	135° Solid carbide	140° Solid carbide
	T4	T4	T4	T4	NEW T4	T4
DC $_{m7/h7}$	Article no. 10 773 ...	Article no. 10 745 ...	Article no. 10 746 ...	Article no. 10 749 ...	Article no. 10 791 ...	Article no. 10 787 ...
mm	£	£	£	£	£	£
9.10	181.10 091	146.02 091	146.02 091	119.16 091	103.29 09100	94.65 091
9.20	181.10 092	146.02 092	146.02 092	119.16 092	103.29 09200	94.65 092
9.30	181.10 093	146.02 093	146.02 093	119.16 093	103.29 09300	94.65 093
9.35		146.02 930				
9.40	181.10 094	146.02 094	146.02 094	119.16 094	103.29 09400	94.65 094
9.45		146.02 994				
9.50	181.10 095	146.02 095	146.02 095	119.16 095	103.29 09500	94.65 095
9.53						94.65 905
9.60	181.10 096	146.02 096	146.02 096	119.16 096	103.29 09600	94.65 096
9.70	181.10 097	146.02 097	146.02 097	119.16 097	103.29 09700	94.65 097
9.80	181.10 098	146.02 098	146.02 098	119.16 098	103.29 09800	94.65 098
9.90	181.10 099	146.02 099	146.02 099	119.16 099	103.29 09900	94.65 099
10.00	181.10 100	146.02 100	146.02 100	119.16 100	103.29 10000	94.65 100
10.10						132.13 101
10.10	253.86 101	198.30 101	198.30 101	163.50 101	144.11 10100	
10.20						132.13 102
10.20	253.86 102	198.30 102	198.30 102	163.50 102	144.11 10200	
10.30						132.13 103
10.30	253.86 103	198.30 103	198.30 103	163.50 103	144.11 10300	
10.40						132.13 104
10.40	253.86 104	198.30 104	198.30 104	163.50 104	144.11 10400	
10.50	253.86 105	198.30 105	198.30 105	163.50 105	144.11 10500	
10.50						132.13 105
10.55		198.30 932				
10.60	253.86 106	198.30 106	198.30 106	163.50 106	144.11 10600	
10.60						132.13 106
10.70						132.13 107
10.70	253.86 107	198.30 107	198.30 107	163.50 107	144.11 10700	
10.80						132.13 108
10.80	253.86 108	198.30 108	198.30 108	163.50 108	144.11 10800	
10.90						132.13 109
10.90	253.86 109	198.30 109	198.30 109	163.50 109		
11.00						132.13 110
11.00	253.86 110	198.30 110	198.30 110	163.50 110	144.11 11000	
11.10	253.86 111	198.30 111	198.30 111	163.50 111	144.11 11100	
11.10						132.13 111
11.11						132.13 906
11.20	253.86 112	198.30 112	198.30 112	163.50 112	144.11 11200	
11.20						132.13 112
11.25		198.30 912				
11.30	253.86 113	198.30 113	198.30 113	163.50 113	144.11 11300	

Steel	○	○	○			
Stainless steel	●	●	●			●
Cast iron	○	○	○	●	○	
Non ferrous metals	○	●	●	●	●	
Heat resistant alloys	○	○	○			●

→ v_c Page 95–108

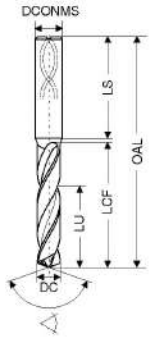
Ø DC_{m7} for Type VA, Ti and GG / Ø DC_{h7} for Type Speed VA and AL

Continued on next page

WTX – High-performance drill, DIN 6537

≤ 5xD

Speed VA	VA	VA	GG	AL	Ti
Ti800	Ti700	Ti700	Ti700	DLC	DPA54
					DRAGONSKIN



Type GG = Straight Fluted

	HA	HA	HE	HA	HA	HA
	135° Solid carbide	140° Solid carbide	140° Solid carbide	130° Solid carbide	135° Solid carbide	140° Solid carbide
	T4	T4	T4	T4	NEW T4	T4
DC m7/h7	DCONMS h6	OAL	LCF	LU	LS	Article no. 10 773 ...		Article no. 10 745 ...		Article no. 10 746 ...		Article no. 10 749 ...		Article no. 10 791 ...		Article no. 10 787 ...	
mm	mm	mm	mm	mm	mm	£		£		£		£		£		£	
11.30	12	118	71	54	45											132.13	113
11.35	12	118	71	56	45			198.30	913								
11.40	12	118	71	54	45											132.13	114
11.40	12	118	71	56	45	253.86	114	198.30	114	198.30	114	163.50	114	144.11	11400		
11.45	12	118	71	56	45			198.30	914								
11.50	12	118	71	56	45	253.86	115	198.30	115	198.30	115	163.50	115	144.11	11500		
11.50	12	118	71	54	45											132.13	115
11.60	12	118	71	54	45											132.13	116
11.60	12	118	71	56	45	253.86	116	198.30	116	198.30	116	163.50	116				
11.70	12	118	71	54	45											132.13	117
11.70	12	118	71	56	45	253.86	117	198.30	117	198.30	117	163.50	117	144.11	11700		
11.80	12	118	71	54	45											132.13	118
11.80	12	118	71	56	45	253.86	118	198.30	118	198.30	118	163.50	118	144.11	11800		
11.90	12	118	71	54	45											132.13	119
11.90	12	118	71	56	45	253.86	119	198.30	119	198.30	119	163.50	119				
12.00	12	118	71	54	45											132.13	120
12.00	12	118	71	56	45	253.86	120	198.30	120	198.30	120	163.50	120	144.11	12000		
12.10	14	124	77	58	45											183.78	121
12.15	14	124	77	60	45			273.27	921								
12.20	14	124	77	58	45											183.78	122
12.20	14	124	77	60	45									200.04	12200		
12.30	14	124	77	58	45											183.78	123
12.40	14	124	77	58	45											183.78	124
12.50	14	124	77	58	45											183.78	125
12.50	14	124	77	60	45	344.42	125	273.27	125	273.27	125	221.33	125	200.04	12500		
12.55	14	124	77	60	45			273.27	925								
12.60	14	124	77	58	45											183.78	126
12.60	14	124	77	60	45									200.04	12600		
12.70	14	124	77	58	45											183.78	907
12.80	14	124	77	58	45											183.78	128
12.80	14	124	77	60	45	344.42	128	273.27	128	273.27	128	221.33	128	200.04	12800		
12.90	14	124	77	58	45											183.78	129
13.00	14	124	77	58	45											183.78	130
13.00	14	124	77	60	45	344.42	130	273.27	130	273.27	130	221.33	130	200.04	13000		
13.10	14	124	77	58	45											183.78	131
13.20	14	124	77	58	45											183.78	132
13.30	14	124	77	58	45											183.78	133
13.35	14	124	77	60	45			273.27	933								
13.40	14	124	77	58	45											183.78	134
13.50	14	124	77	60	45	344.42	135	273.27	135	273.27	135	221.33	135	200.04	13500		
13.50	14	124	77	58	45											183.78	135

Steel	○	○	○			
Stainless steel	●	●	●			●
Cast iron	○	○	○	●	○	
Non ferrous metals	○	●	●	●	●	
Heat resistant alloys	○	○	○			●

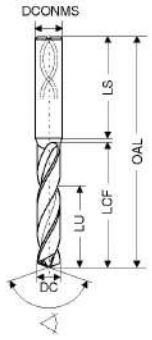
→ v_c Page 95–108

Ø DC_{m7} for Type VA, Ti and GG / Ø DC_{h7} for Type Speed VA and AL

Continued on next page

WTX – High-performance drill, DIN 6537

≤ 5xD



Type GG = Straight Fluted

Speed VA	VA	VA	GG	AL	Ti
Ti800	Ti700	Ti700	Ti700	DLC	DPA54
					DRAGONSKIN

	HA	HA	HE	HA	HA	HA
	135° Solid carbide	140° Solid carbide	140° Solid carbide	130° Solid carbide	135° Solid carbide	140° Solid carbide
	T4	T4	T4	T4	NEW T4	T4
DC $_{m7/h7}$ mm	DCONMS $_{h6}$ mm	OAL mm	LCF mm	LU mm	LS mm	Article no. 10 773 ... £		Article no. 10 745 ... £		Article no. 10 746 ... £		Article no. 10 749 ... £		Article no. 10 791 ... £		Article no. 10 787 ... £	
13.60	14	124	77	58	45											183.78	136
13.70	14	124	77	58	45											183.78	137
13.80	14	124	77	58	45											183.78	138
13.80	14	124	77	60	45	344.42	138	273.27	138	273.27	138	221.33	138	200.04	13800		
13.90	14	124	77	58	45											183.78	139
14.00	14	124	77	60	45	344.42	140	273.27	140	273.27	140	221.33	140	200.04	14000		
14.00	14	124	77	58	45											183.78	140
14.10	16	133	83	61	48											224.60	141
14.20	16	133	83	61	48											224.60	142
14.20	16	133	83	63	48									244.62	14200		
14.30	16	133	83	61	48											224.60	143
14.40	16	133	83	61	48											224.60	144
14.50	16	133	83	61	48											224.60	145
14.50	16	133	83	63	48	430.52	145	344.28	145	344.28	145	273.37	145	244.62	14500		
14.60	16	133	83	61	48											224.60	146
14.70	16	133	83	61	48											224.60	147
14.80	16	133	83	61	48											224.60	148
14.80	16	133	83	63	48	430.52	148	344.28	148	344.28	148	273.37	148	244.62	14800		
14.90	16	133	83	61	48											224.60	149
15.00	16	133	83	61	48											224.60	150
15.00	16	133	83	63	48	430.52	150	344.28	150	344.28	150	273.37	150	244.62	15000		
15.10	16	133	83	61	48											224.60	151
15.20	16	133	83	61	48											224.60	152
15.20	16	133	83	63	48									244.62	15200		
15.30	16	133	83	61	48											224.60	153
15.35	16	133	83	63	48			344.28	953								
15.40	16	133	83	61	48											224.60	154
15.50	16	133	83	61	48											224.60	155
15.50	16	133	83	63	48	430.52	155	344.28	155	344.28	155	273.37	155	244.62	15500		
15.60	16	133	83	61	48											224.60	156
15.70	16	133	83	61	48											224.60	157
15.80	16	133	83	61	48											224.60	158
15.80	16	133	83	63	48	430.52	158	344.28	158	344.28	158	273.37	158	244.62	15800		
15.90	16	133	83	61	48											224.60	159
16.00	16	133	83	61	48											224.60	160
16.00	16	133	83	63	48	430.52	160	344.28	160	344.28	160	273.37	160	244.62	16000		
16.05	18	143	93	71	48			475.31	960								
16.10	18	143	93	69	48											224.60	161
16.20	18	143	93	69	48											224.60	162
16.30	18	143	93	69	48											224.60	163
16.40	18	143	93	69	48											224.60	164

Steel	○	○	○			
Stainless steel	●	●	●			●
Cast iron	○	○	○	●	○	
Non ferrous metals	○	●	●	●	●	
Heat resistant alloys	○	○	○			●

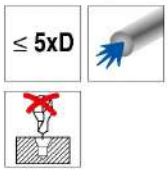
→ v_c Page 95–108

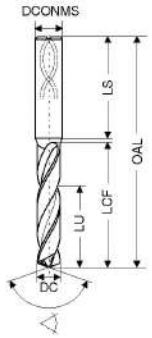
Ø DC_{m7} for Type VA, Ti and GG / Ø DC_{h7} for Type Speed VA and AL

Continued on next page

WTX – High-performance drill, DIN 6537

≤ 5xD





Type GG = Straight Fluted

Speed VA	VA	VA	GG	AL	Ti
Ti800	Ti700	Ti700	Ti700	DLC	DPA54
					DRAGONSKIN

	HA	HA	HE	HA	HA	HA
	135° Solid carbide	140° Solid carbide	140° Solid carbide	130° Solid carbide	135° Solid carbide	140° Solid carbide
	T4	T4	T4	T4	NEW T4	T4
DC m7/h7	Article no. 10 773 ...	Article no. 10 745 ...	Article no. 10 746 ...	Article no. 10 749 ...	Article no. 10 791 ...	Article no. 10 787 ...
mm	£	£	£	£	£	£

DC m7/h7	DCONMS h6	OAL	LCF	LU	LS	10 773 ... £		10 745 ... £		10 746 ... £		10 749 ... £		10 791 ... £		10 787 ... £	
mm	mm	mm	mm	mm	mm												
16.50	18	143	93	69	48											311.09	165
16.50	18	143	93	71	48	567.11	165	475.31	165	475.31	165	358.91	165	339.62	16500		
16.60	18	143	93	69	48											311.09	166
16.70	18	143	93	69	48											311.09	167
16.80	18	143	93	69	48											311.09	168
16.80	18	143	93	71	48	567.11	168	475.31	168	475.31	168	358.91	168				
16.90	18	143	93	69	48											311.09	169
17.00	18	143	93	71	48	567.11	170	475.31	170	475.31	170	358.91	170	339.62	17000		
17.00	18	143	93	69	48											311.09	170
17.10	18	143	93	69	48											311.09	171
17.20	18	143	93	69	48											311.09	172
17.30	18	143	93	69	48											311.09	173
17.40	18	143	93	69	48											311.09	174
17.50	18	143	93	69	48											311.09	175
17.50	18	143	93	71	48	567.11	175	475.31	175	475.31	175	358.91	175	339.62	17500		
17.60	18	143	93	69	48											311.09	176
17.70	18	143	93	69	48											311.09	177
17.80	18	143	93	69	48											311.09	178
17.80	18	143	93	71	48	567.11	178	475.31	178	475.31	178	358.91	178				
17.90	18	143	93	69	48											311.09	179
18.00	18	143	93	69	48											311.09	180
18.00	18	143	93	71	48	567.11	180	475.31	180	475.31	180	358.91	180	339.62	18000		
18.10	20	153	101	75	50											384.35	181
18.20	20	153	101	75	50											384.35	182
18.30	20	153	101	75	50											384.35	183
18.40	20	153	101	75	50											384.35	184
18.50	20	153	101	75	50											384.35	185
18.50	20	153	101	77	50	733.39	185	563.20	185	563.20	185	462.00	185	419.38	18500		
18.60	20	153	101	75	50											384.35	186
18.70	20	153	101	75	50											384.35	187
18.80	20	153	101	75	50											384.35	188
18.80	20	153	101	77	50	733.39	188	563.20	188	563.20	188	462.00	188				
18.90	20	153	101	75	50											384.35	189
19.00	20	153	101	75	50											384.35	190
19.00	20	153	101	77	50	733.39	190	563.20	190	563.20	190	462.00	190	419.38	19000		
19.10	20	153	101	75	50											384.35	191
19.20	20	153	101	75	50											384.35	192
19.30	20	153	101	75	50											384.35	193
19.35	20	153	101	77	50			563.20	993								
19.40	20	153	101	75	50											384.35	194
19.50	20	153	101	77	50	733.39	195	563.20	195	563.20	195	462.00	195	419.38	19500		

Steel	○	○	○			
Stainless steel	●	●	●			●
Cast iron	○	○	○	●	○	
Non ferrous metals	○	●	●	●	●	
Heat resistant alloys	○	○	○			●

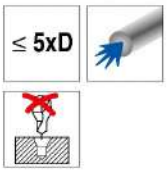
→ v_c Page 95–108

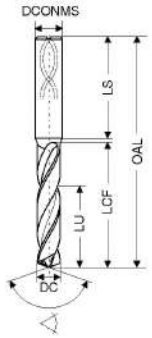
Ø DC_{m7} for Type VA, Ti and GG / Ø DC_{h7} for Type Speed VA and AL

Continued on next page

WTX – High-performance drill, DIN 6537

≤ 5xD





Type GG = Straight Fluted

	Speed VA	VA	VA	GG	AL	Ti
	Ti800	Ti700	Ti700	Ti700	DLC	DPA54
						DRAGONSKIN
						
	HA	HA	HE	HA	HA	HA
	◁ 135° Solid carbide	◁ 140° Solid carbide	◁ 140° Solid carbide	◁ 130° Solid carbide	◁ 135° Solid carbide	◁ 140° Solid carbide
	T4	T4	T4	T4	NEW T4	T4

DC m7/h7	DCONMS h6	OAL	LCF	LU	LS	Article no. 10 773 ...		Article no. 10 745 ...		Article no. 10 746 ...		Article no. 10 749 ...		Article no. 10 791 ...		Article no. 10 787 ...	
mm	mm	mm	mm	mm	mm	£		£		£		£		£		£	
19.50	20	153	101	75	50											384.35	195
19.60	20	153	101	75	50											384.35	196
19.70	20	153	101	75	50											384.35	197
19.80	20	153	101	77	50	733.39	198	563.20	198	563.20	198	462.00	198				
19.80	20	153	101	75	50											384.35	198
19.90	20	153	101	75	50											384.35	199
20.00	20	153	101	75	50											384.35	200
20.00	20	153	101	77	50	733.39	200	563.20	200	563.20	200	462.00	200	419.38	20000		

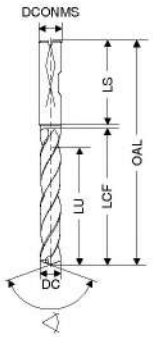
Steel	○	○	○			
Stainless steel	●	●	●			●
Cast iron	○	○	○	●	○	
Non ferrous metals	○	●	●	●	●	
Heat resistant alloys	○	○	○			●

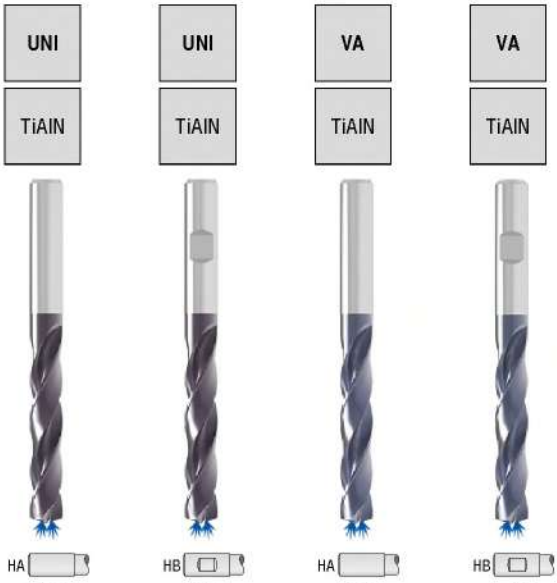
→ v_c Page 95–108

Ø DC_{m7} for Type VA, Ti and GG / Ø DC_{h7} for Type Speed VA and AL

WPC – High Performance Drill, DIN 6537

≤ 5xD





Solid carbide
T1

DC m7	DCONMS h6	OAL	LCF	LU	LS	Article no. 11 609 ...		Article no. 11 610 ...		Article no. 11 629 ...		Article no. 11 630 ...	
mm	mm	mm	mm	mm	mm	£		£		£		£	
1.00	4	45	8.0	6.5	30.0	34.39	010			34.39	010		
1.10	4	45	8.8	7.2	29.0	34.39	011			34.39	011		
1.20	4	45	9.6	7.8	29.0	34.39	012			34.39	012		
1.30	4	45	10.4	8.5	28.5	34.39	013			34.39	013		
1.40	4	45	11.2	9.1	28.0	34.39	014			34.39	014		
1.50	4	50	12.0	9.8	32.0	34.39	015			34.39	015		
1.60	4	50	12.8	10.4	31.0	34.39	016			34.39	016		
1.70	4	50	13.6	11.1	30.5	34.39	017			34.39	017		
1.80	4	50	14.4	11.7	30.0	34.39	018			34.39	018		
1.90	4	50	15.2	12.4	29.5	34.39	019			34.39	019		
2.00	4	50	16.0	13.0	29.0	34.39	020			34.39	020		
2.10	4	55	16.8	13.7	33.0	34.39	021			34.39	021		
2.20	4	55	17.6	14.3	32.5	34.39	022			34.39	022		
2.30	4	55	18.4	15.0	32.0	34.39	023			34.39	023		
2.40	4	55	19.2	15.6	31.5	34.39	024			34.39	024		
2.50	4	55	20.0	16.3	30.5	34.39	025			34.39	025		
2.60	4	55	20.8	16.9	30.0	34.39	026			34.39	026		
2.70	4	55	21.6	17.6	29.0	34.39	027			34.39	027		
2.80	4	55	22.4	18.2	29.0	34.39	028			34.39	028		
2.90	4	55	23.2	18.9	28.5	34.39	029			34.39	029		
3.00	6	66	28.0	23.0	36.0	34.39	030	35.00	030	34.39	030	35.00	030
3.10	6	66	28.0	23.0	36.0	34.39	031	35.00	031	34.39	031	35.00	031
3.20	6	66	28.0	23.0	36.0	34.39	032	35.00	032	34.39	032	35.00	032
3.25	6	66	28.0	23.0	36.0	34.87	890	34.87	890	47.87	03250		
3.30	6	66	28.0	23.0	36.0	34.39	033	35.00	033	34.39	033	35.00	033
3.40	6	66	28.0	23.0	36.0	34.39	034	35.00	034	34.39	034	35.00	034
3.50	6	66	28.0	23.0	36.0	34.39	035	35.00	035	34.39	035	35.00	035
3.60	6	66	28.0	23.0	36.0	34.39	036	35.00	036	34.39	036	35.00	036
3.70	6	66	28.0	23.0	36.0	34.39	037	35.00	037	34.39	037	35.00	037
3.80	6	74	36.0	29.0	36.0	34.39	038	35.00	038	34.39	038	35.00	038
3.90	6	74	36.0	29.0	36.0	34.39	039	35.00	039	34.39	039	35.00	039
4.00	6	74	36.0	29.0	36.0	34.87	040	36.33	040	34.87	040	36.33	040
4.10	6	74	36.0	29.0	36.0	34.87	041	36.33	041	34.87	041	36.33	041
4.20	6	74	36.0	29.0	36.0	34.87	042	36.33	042	34.87	042	36.33	042
4.30	6	74	36.0	29.0	36.0	34.87	043	36.33	043	34.87	043	36.33	043
4.40	6	74	36.0	29.0	36.0	34.87	044	36.33	044	34.87	044	36.33	044
4.50	6	74	36.0	29.0	36.0	34.87	045	36.33	045	34.87	045	36.33	045
4.60	6	74	36.0	29.0	36.0	34.87	046	36.33	046	34.87	046	36.33	046
4.65	6	74	36.0	29.0	36.0	34.87	900	36.33	900	34.87	900	36.33	900
4.70	6	74	36.0	29.0	36.0	34.87	047	36.33	047	34.87	047	36.33	047
4.80	6	82	44.0	35.0	36.0	34.87	048	36.33	048	34.87	048	36.33	048
4.90	6	82	44.0	35.0	36.0	34.87	049	36.33	049	34.87	049	36.33	049
5.00	6	82	44.0	35.0	36.0	34.87	050	36.33	050	34.87	050	36.33	050
5.10	6	82	44.0	35.0	36.0	34.87	051	36.33	051	34.87	051	36.33	051

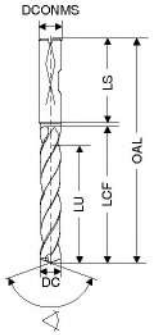
Steel	●	●	○	○
Stainless steel	○	○	●	●
Cast iron	●	●	○	○
Non ferrous metals	○	○	●	●
Heat resistant alloys			●	●

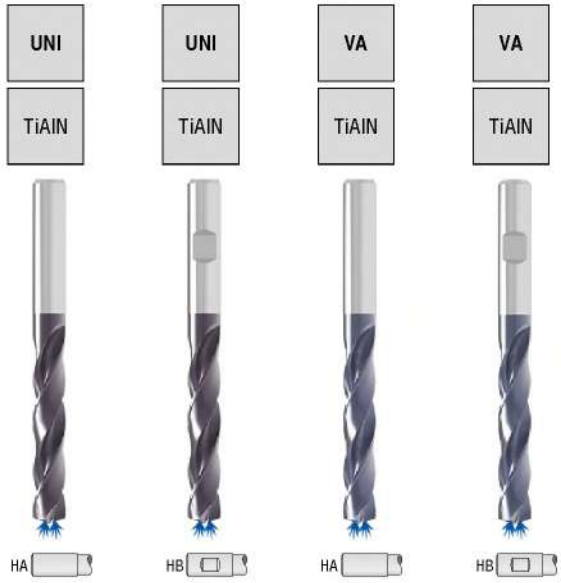
→ v_c Page 117+121

Continued on next page

WPC – High Performance Drill, DIN 6537

≤ 5xD





T1 T1 T1 T1

DC m7	DCONMS h6	OAL	LCF	LU	LS	Article no. 11 609 ...		Article no. 11 610 ...		Article no. 11 629 ...		Article no. 11 630 ...	
mm	mm	mm	mm	mm	mm	£		£		£		£	
5.20	6	82	44.0	35.0	36.0	34.87	052	36.33	052	34.87	052	36.33	052
5.30	6	82	44.0	35.0	36.0	34.87	053	36.33	053	34.87	053	36.33	053
5.40	6	82	44.0	35.0	36.0	34.87	054	36.33	054	34.87	054	36.33	054
5.50	6	82	44.0	35.0	36.0	34.87	055	36.33	055	34.87	055	36.33	055
5.55	6	82	44.0	35.0	36.0	34.87	902	36.33	902	34.87	902	36.33	902
5.60	6	82	44.0	35.0	36.0	34.87	056	36.33	056	34.87	056	36.33	056
5.70	6	82	44.0	35.0	36.0	34.87	057	36.33	057	34.87	057	36.33	057
5.80	6	82	44.0	35.0	36.0	34.87	058	36.33	058	34.87	058	36.33	058
5.90	6	82	44.0	35.0	36.0	34.87	059	36.33	059	34.87	059	36.33	059
6.00	6	82	44.0	35.0	36.0	34.87	060	36.33	060	34.87	060	36.33	060
6.10	8	91	53.0	43.0	36.0	39.23	061	36.83	061	39.23	061	39.23	061
6.20	8	91	53.0	43.0	36.0	39.23	062	36.83	062	39.23	062	39.23	062
6.30	8	91	53.0	43.0	36.0	39.23	063	36.83	063	39.23	063	39.23	063
6.40	8	91	53.0	43.0	36.0	39.23	064	36.83	064	39.23	064	39.23	064
6.50	8	91	53.0	43.0	36.0	39.23	065	40.69	065	39.23	065	40.69	065
6.60	8	91	53.0	43.0	36.0	39.23	066	40.69	066	39.23	066	40.69	066
6.70	8	91	53.0	43.0	36.0	39.23	067	40.69	067	39.23	067	40.69	067
6.80	8	91	53.0	43.0	36.0	39.23	068	40.69	068	39.23	068	40.69	068
6.90	8	91	53.0	43.0	36.0	39.23	069	40.69	069	39.23	069	40.69	069
7.00	8	91	53.0	43.0	36.0	39.23	070	40.69	070	39.23	070	40.69	070
7.10	8	91	53.0	43.0	36.0	39.23	071	40.69	071	39.23	071	40.69	071
7.20	8	91	53.0	43.0	36.0	39.23	072	40.69	072	39.23	072	40.69	072
7.30	8	91	53.0	43.0	36.0	39.23	073	40.69	073	39.23	073	40.69	073
7.40	8	91	53.0	43.0	36.0	39.23	074	40.69	074	39.23	074	40.69	074
7.45	8	91	53.0	43.0	36.0	39.23	924	39.23	924	55.05	07450		
7.50	8	91	53.0	43.0	36.0	39.23	075	40.69	075	39.23	075	40.69	075
7.55	8	91	53.0	43.0	36.0	39.23	975	40.69	975	39.23	975	40.69	975
7.60	8	91	53.0	43.0	36.0	39.23	076	40.69	076	39.23	076	40.69	076
7.70	8	91	53.0	43.0	36.0	39.23	077	40.69	077	39.23	077	40.69	077
7.80	8	91	53.0	43.0	36.0	39.23	078	40.69	078	39.23	078	40.69	078
7.90	8	91	53.0	43.0	36.0	39.23	079	40.69	079	39.23	079	40.69	079
8.00	8	91	53.0	43.0	36.0	39.23	080	40.69	080	39.23	080	40.69	080
8.10	10	103	61.0	49.0	40.0	45.05	081	46.49	081	45.05	081	45.05	081
8.20	10	103	61.0	49.0	40.0	45.05	082	46.49	082	45.05	082	45.05	082
8.30	10	103	61.0	49.0	40.0	45.05	083	46.49	083	45.05	083	45.05	083
8.40	10	103	61.0	49.0	40.0	45.05	084	46.49	084	45.05	084	45.05	084
8.50	10	103	61.0	49.0	40.0	45.05	085	46.49	085	45.05	085	45.05	085
8.60	10	103	61.0	49.0	40.0	45.05	086	46.49	086	45.05	086	45.05	086
8.70	10	103	61.0	49.0	40.0	45.05	087	46.49	087	45.05	087	45.05	087
8.80	10	103	61.0	49.0	40.0	45.05	088	46.49	088	45.05	088	45.05	088
8.90	10	103	61.0	49.0	40.0	45.05	089	46.49	089	45.05	089	45.05	089
9.00	10	103	61.0	49.0	40.0	45.05	090	46.49	090	45.05	090	45.05	090
9.10	10	103	61.0	49.0	40.0	45.05	091	46.49	091	45.05	091	45.05	091
9.20	10	103	61.0	49.0	40.0	45.05	092	46.49	092	45.05	092	45.05	092

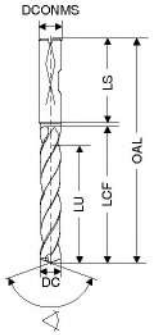
Steel	●	●	○	○
Stainless steel	○	○	●	●
Cast iron	●	●	○	○
Non ferrous metals	○	○	●	●
Heat resistant alloys			●	●

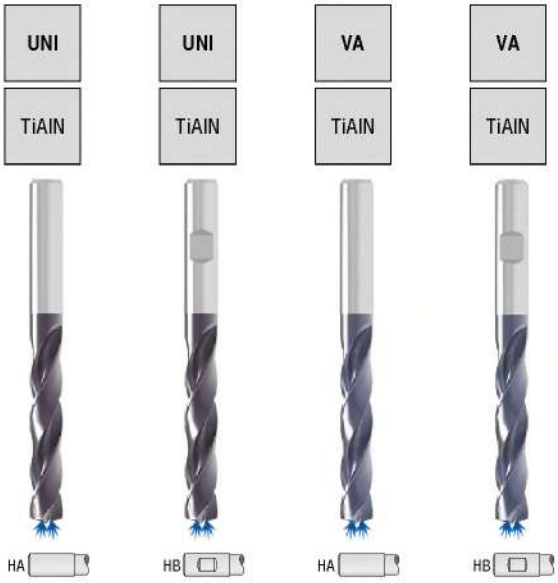
→ v_c Page 117+121

Continued on next page

WPC – High Performance Drill, DIN 6537

≤ 5xD





Solid carbide
T1

DC m7	DCONMS h6	OAL	LCF	LU	LS	Article no. 11 609 ...		Article no. 11 610 ...		Article no. 11 629 ...		Article no. 11 630 ...	
mm	mm	mm	mm	mm	mm	£		£		£		£	
9.25	10	103	61.0	49.0	40.0	45.05	925	46.49	925	45.05	925	45.05	925
9.30	10	103	61.0	49.0	40.0	45.05	093	46.49	093	45.05	093	45.05	093
9.35	10	103	61.0	49.0	40.0	45.05	930	45.05	930	61.34	09350		
9.40	10	103	61.0	49.0	40.0	45.05	094	46.49	094	45.05	094	45.05	094
9.50	10	103	61.0	49.0	40.0	45.05	095	46.49	095	45.05	095	45.05	095
9.60	10	103	61.0	49.0	40.0	45.05	096	46.49	096	45.05	096	45.05	096
9.70	10	103	61.0	49.0	40.0	45.05	097	46.49	097	45.05	097	45.05	097
9.80	10	103	61.0	49.0	40.0	45.05	098	46.49	098	45.05	098	45.05	098
9.90	10	103	61.0	49.0	40.0	45.05	099	46.49	099	45.05	099	45.05	099
10.00	10	103	61.0	49.0	40.0	45.05	100	46.49	100	45.05	100	45.05	100
10.10	12	118	71.0	56.0	45.0	65.36	101	68.29	101	65.36	101	68.29	101
10.20	12	118	71.0	56.0	45.0	65.36	102	68.29	102	65.36	102	68.29	102
10.30	12	118	71.0	56.0	45.0	65.36	103	68.29	103	65.36	103	68.29	103
10.40	12	118	71.0	56.0	45.0	65.36	104	68.29	104	65.36	104	68.29	104
10.50	12	118	71.0	56.0	45.0	65.36	105	68.29	105	65.36	105	68.29	105
10.60	12	118	71.0	56.0	45.0	65.36	106	68.29	106	65.36	106	68.29	106
10.70	12	118	71.0	56.0	45.0	65.36	107	68.29	107	65.36	107	68.29	107
10.75	12	118	71.0	56.0	45.0	65.36	904	65.36	904	89.12	10750		
10.80	12	118	71.0	56.0	45.0	65.36	108	68.29	108	65.36	108	68.29	108
10.90	12	118	71.0	56.0	45.0	65.36	109	68.29	109	65.36	109	68.29	109
11.00	12	118	71.0	56.0	45.0	65.36	110	68.29	110	65.36	110	68.29	110
11.10	12	118	71.0	56.0	45.0	65.36	111	68.29	111	65.36	111	68.29	111
11.20	12	118	71.0	56.0	45.0	65.36	112	68.29	112	65.36	112	68.29	112
11.25	12	118	71.0	56.0	45.0	65.36	912	65.36	912	88.35	11250		
11.30	12	118	71.0	56.0	45.0	65.36	113	68.29	113	65.36	113	68.29	113
11.40	12	118	71.0	56.0	45.0	65.36	114	68.29	114	65.36	114	68.29	114
11.50	12	118	71.0	56.0	45.0	65.36	115	68.29	115	65.36	115	68.29	115
11.60	12	118	71.0	56.0	45.0	65.36	116	68.29	116	65.36	116	68.29	116
11.70	12	118	71.0	56.0	45.0	65.36	117	68.29	117	65.36	117	68.29	117
11.80	12	118	71.0	56.0	45.0	65.36	118	68.29	118	65.36	118	68.29	118
11.90	12	118	71.0	56.0	45.0	65.36	119	68.29	119	65.36	119	68.29	119
12.00	12	118	71.0	56.0	45.0	65.36	120	68.29	120	65.36	120	68.29	120
12.25	14	124	77.0	60.0	45.0	88.61	122	88.61	122	122.13	12250		
12.50	14	124	77.0	60.0	45.0	88.61	125	92.97	125	88.61	125	92.97	125
12.70	14	124	77.0	60.0	45.0	88.61	127	92.97	127	88.61	127	92.97	127
12.80	14	124	77.0	60.0	45.0	88.61	128	88.61	128				
12.90	14	124	77.0	60.0	45.0	88.61	129	88.61	129				
13.00	14	124	77.0	60.0	45.0	88.61	130	92.97	130	88.61	130	92.97	130
13.10	14	124	77.0	60.0	45.0	88.61	131	88.61	131				
13.30	14	124	77.0	60.0	45.0	88.61	133	88.61	133				
13.50	14	124	77.0	60.0	45.0	88.61	135	92.97	135	88.61	135	92.97	135
13.70	14	124	77.0	60.0	45.0	88.61	137	92.97	137	88.61	137	92.97	137
13.80	14	124	77.0	60.0	45.0	88.61	138	88.61	138				
14.00	14	124	77.0	60.0	45.0	88.61	140	92.97	140	88.61	140	92.97	140

Steel	●	●	○	○
Stainless steel	○	○	●	●
Cast iron	●	●	○	○
Non ferrous metals	○	○	●	●
Heat resistant alloys			●	●

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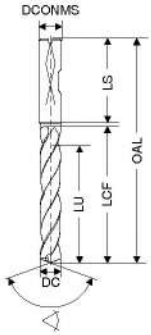
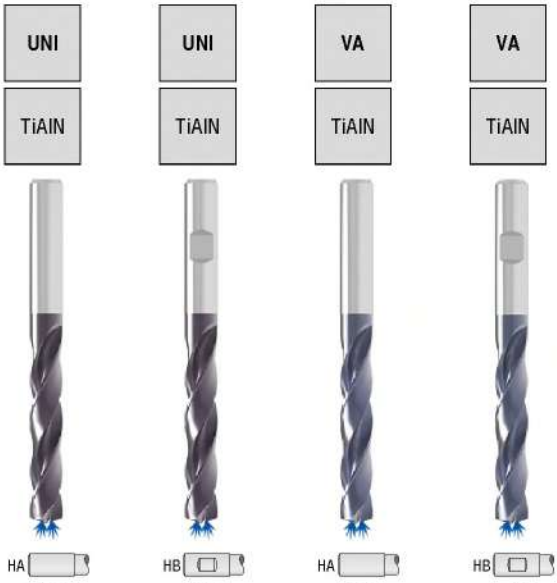
Continued on next page

WPC – High Performance Drill, DIN 6537

≤ 5xD





Solid carbide
T1

Solid carbide
T1

Solid carbide
T1

Solid carbide
T1

DC m7	DCONMS h6	OAL	LCF	LU	LS	Article no. 11 609 ...		Article no. 11 610 ...		Article no. 11 629 ...		Article no. 11 630 ...	
mm	mm	mm	mm	mm	mm	£		£		£		£	
14.20	16	133	83.0	63.0	48.0	110.41	142	110.41	142				
14.50	16	133	83.0	63.0	48.0	110.41	145	114.76	145	110.41	145	114.76	145
14.70	16	133	83.0	63.0	48.0	110.41	147	114.76	147	110.41	147	114.76	147
14.80	16	133	83.0	63.0	48.0	110.41	148	110.41	148				
15.00	16	133	83.0	63.0	48.0	110.41	150	114.76	150	110.41	150	114.76	150
15.10	16	133	83.0	63.0	48.0	110.41	151	110.41	151				
15.25	16	133	83.0	63.0	48.0	110.41	152	110.41	152				
15.30	16	133	83.0	63.0	48.0	110.41	153	110.41	153				
15.50	16	133	83.0	63.0	48.0	110.41	155	114.76	155	110.41	155	114.76	155
15.60	16	133	83.0	63.0	48.0	110.41	156	110.41	156				
15.70	16	133	83.0	63.0	48.0	110.41	157	114.76	157	110.41	157	114.76	157
15.80	16	133	83.0	63.0	48.0	110.41	158	110.41	158				
16.00	16	133	83.0	63.0	48.0	110.41	160	114.76	160	110.41	160	114.76	160
16.50	18	143	93.0	71.0	48.0	177.24	165	183.03	165	177.24	165	183.03	165
16.80	18	143	93.0	71.0	48.0	177.24	168	177.24	168				
16.90	18	143	93.0	71.0	48.0	177.24	169	177.24	169				
17.00	18	143	93.0	71.0	48.0	177.24	170	183.03	170	177.24	170	183.03	170
17.50	18	143	93.0	71.0	48.0	177.24	175	183.03	175	177.24	175	183.03	175
17.60	18	143	93.0	71.0	48.0	177.24	176	177.24	176				
17.80	18	143	93.0	71.0	48.0	177.24	178	177.24	178				
18.00	18	143	93.0	71.0	48.0	177.24	180	183.03	180	177.24	180	183.03	180
18.50	20	153	101.0	77.0	50.0	191.76	185	199.01	185	191.76	185	199.01	185
18.80	20	153	101.0	77.0	50.0	191.76	188	191.76	188				
18.90	20	153	101.0	77.0	50.0	191.76	189	191.76	189				
19.00	20	153	101.0	77.0	50.0	191.76	190	199.01	190	191.76	190	199.01	190
19.50	20	153	101.0	77.0	50.0	191.76	195	199.01	195	191.76	195	199.01	195
19.60	20	153	101.0	77.0	50.0	191.76	196	191.76	196				
19.80	20	153	101.0	77.0	50.0	191.76	198	191.76	198				
20.00	20	153	101.0	77.0	50.0	191.76	200	199.01	200	191.76	200	199.01	200
Steel						●		●		○		○	
Stainless steel						○		○		●		●	
Cast iron						●		●		○		○	
Non ferrous metals						○		○		●		●	
Heat resistant alloys										●		●	

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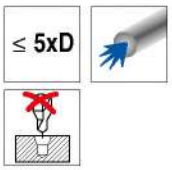
WTX – High Performance Drill, DIN 6537

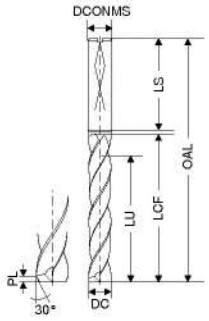
- ▲ universal application
- ▲ four guidance lands
- ▲ polished chip flutes
- ▲ Type ALU 5xD (10 723 ...) on request
- ▲ PL = corner chamfers

≤ 5xD



180

Ti800



Solid carbide

DC m7	DCONMS h6	OAL	LCF	LU	LS	PL	T4 Article no. 10 721 ...	
mm	mm	mm	mm	mm	mm	mm	£	
3.00	6	66	28	23	36	0.15	90.77	030
3.10	6	66	28	23	36	0.16	90.77	031
3.20	6	66	28	23	36	0.16	90.77	032
3.30	6	66	28	23	36	0.17	90.77	033
3.40	6	66	28	23	36	0.17	90.77	034
3.50	6	66	28	23	36	0.18	90.77	035
3.60	6	66	28	23	36	0.18	90.77	036
3.70	6	66	28	23	36	0.19	90.77	037
3.80	6	74	36	29	36	0.19	90.77	038
3.90	6	74	36	29	36	0.20	90.77	039
4.00	6	74	36	29	36	0.20	90.77	040
4.10	6	74	36	29	36	0.21	90.77	041
4.20	6	74	36	29	36	0.21	90.77	042
4.30	6	74	36	29	36	0.22	90.77	043
4.40	6	74	36	29	36	0.22	90.77	044
4.50	6	74	36	29	36	0.23	90.77	045
4.60	6	74	36	29	36	0.23	90.77	046
4.65	6	74	36	29	36	0.23	90.77	900
4.70	6	74	36	29	36	0.24	90.77	047
4.80	6	82	44	35	36	0.24	90.77	048
4.90	6	82	44	35	36	0.25	90.77	049
5.00	6	82	44	35	36	0.25	90.77	050
5.10	6	82	44	35	36	0.26	90.77	051
5.20	6	82	44	35	36	0.26	90.77	052
5.30	6	82	44	35	36	0.27	90.77	053
5.40	6	82	44	35	36	0.27	90.77	054
5.50	6	82	44	35	36	0.28	90.77	055
5.55	6	82	44	35	36	0.28	90.77	902
5.60	6	82	44	35	36	0.28	90.77	056
5.70	6	82	44	35	36	0.29	90.77	057
5.80	6	82	44	35	36	0.29	90.77	058
5.90	6	82	44	35	36	0.30	90.77	059
6.00	6	82	44	35	36	0.30	90.77	060
6.10	8	91	53	43	36	0.31	101.56	061
6.20	8	91	53	43	36	0.31	101.56	062
6.30	8	91	53	43	36	0.32	101.56	063
6.40	8	91	53	43	36	0.32	101.56	064
6.50	8	91	53	43	36	0.33	101.56	065
6.60	8	91	53	43	36	0.33	101.56	066
6.70	8	91	53	43	36	0.34	101.56	067
6.80	8	91	53	43	36	0.34	101.56	068
6.90	8	91	53	43	36	0.35	101.56	069
7.00	8	91	53	43	36	0.35	101.56	070
7.10	8	91	53	43	36	0.36	101.56	071
7.20	8	91	53	43	36	0.36	101.56	072
7.30	8	91	53	43	36	0.37	101.56	073
7.40	8	91	53	43	36	0.37	101.56	074
7.50	8	91	53	43	36	0.38	101.56	075
7.60	8	91	53	43	36	0.38	101.56	076
7.70	8	91	53	43	36	0.39	101.56	077
7.80	8	91	53	43	36	0.39	101.56	078
7.90	8	91	53	43	36	0.40	101.56	079
8.00	8	91	53	43	36	0.40	101.56	080
8.10	10	103	61	49	40	0.41	146.80	081
8.20	10	103	61	49	40	0.41	146.80	082
8.30	10	103	61	49	40	0.42	146.80	083
8.40	10	103	61	49	40	0.42	146.80	084
8.50	10	103	61	49	40	0.43	146.80	085
8.60	10	103	61	49	40	0.43	146.80	086
8.70	10	103	61	49	40	0.44	146.80	087
8.80	10	103	61	49	40	0.44	146.80	088
8.90	10	103	61	49	40	0.45	146.80	089
9.00	10	103	61	49	40	0.45	146.80	090
9.10	10	103	61	49	40	0.46	146.80	091
9.20	10	103	61	49	40	0.46	146.80	092
9.30	10	103	61	49	40	0.47	146.80	093
9.40	10	103	61	49	40	0.47	146.80	094
9.50	10	103	61	49	40	0.48	146.80	095
9.60	10	103	61	49	40	0.48	146.80	096
9.70	10	103	61	49	40	0.49	146.80	097
9.80	10	103	61	49	40	0.49	146.80	098
9.90	10	103	61	49	40	0.50	146.80	099
10.00	10	103	61	49	40	0.50	146.80	100
10.10	12	116	69	54	45	0.51	205.31	101
10.20	12	116	69	54	45	0.51	205.31	102
10.30	12	116	69	54	45	0.52	205.31	103
10.40	12	116	69	54	45	0.52	205.31	104
10.50	12	116	69	54	45	0.53	205.31	105
10.60	12	116	69	54	45	0.53	205.31	106
10.70	12	116	69	54	45	0.54	205.31	107
10.80	12	116	69	54	45	0.54	205.31	108
10.90	12	116	69	54	45	0.55	205.31	109
11.00	12	116	69	54	45	0.55	205.31	110
11.10	12	116	69	54	45	0.56	205.31	111
11.20	12	116	69	54	45	0.56	205.31	112
11.30	12	116	69	54	45	0.57	205.31	113
11.40	12	116	69	54	45	0.57	205.31	114
11.50	12	116	69	54	45	0.58	205.31	115
11.60	12	116	69	54	45	0.58	205.31	116
11.70	12	116	69	54	45	0.59	205.31	117
11.80	12	116	69	54	45	0.59	205.31	118
11.90	12	116	69	54	45	0.60	205.31	119
12.00	12	116	69	54	45	0.60	205.31	120
12.50	14	122	75	58	45	0.63	279.19	125
12.80	14	122	75	58	45	0.64	279.19	128
13.00	14	122	75	58	45	0.65	279.19	130
13.50	14	122	75	58	45	0.68	279.19	135
13.80	14	122	75	58	45	0.69	279.19	138
14.00	14	122	75	58	45	0.70	279.19	140
14.50	16	131	81	61	48	0.73	348.50	145
14.80	16	131	81	61	48	0.74	348.50	148
15.00	16	131	81	61	48	0.75	348.50	150
15.50	16	131	81	61	48	0.78	348.50	155
15.80	16	131	81	61	48	0.79	348.50	158
16.00	16	131	81	61	48	0.80	348.50	160
16.50	18	141	91	69	48	0.83	459.47	165
16.80	18	141	91	69	48	0.84	459.47	168
17.00	18	141	91	69	48	0.85	459.47	170
17.50	18	141	91	69	48	0.88	459.47	175
17.80	18	141	91	69	48	0.89	459.47	178
18.00	18	141	91	69	48	0.90	459.47	180
18.50	20	151	99	75	50	0.93	594.21	185
18.80	20	151	99	75	50	0.94	594.21	188
19.00	20	151	99	75	50	0.95	594.21	190
19.50	20	151	99	75	50	0.98	594.21	195
19.80	20	151	99	75	50	0.99	594.21	198
20.00	20	151	99	75	50	1.00	594.21	200

Steel	●
Stainless steel	○
Cast iron	●
Non ferrous metals	○
Heat resistant alloys	
Hardened materials	○

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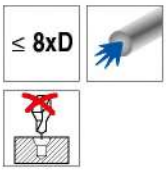
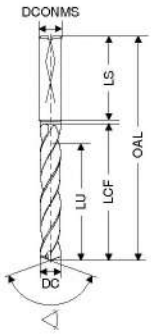
WTX – High Performance Drill, factory standard

2

≤ 8xD





Feed UNI = Three Cutting Edges

Feed UNI	Speed UNI	UNI	UNI	UNI	Quattro 4F
DPX74S	DPX14S	DPX74S	DPX74S	DPX74S	DPX74S
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN

	HA	HA	HA	HB	HE	HA
	◁ 135°	◁ 145°	◁ 135°	◁ 135°	◁ 135°	◁ 140°
	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
	NEW T4	NEW T4	T7	T7	T7	NEW T4
	Article no. 10 794 ...	Article no. 10 782 ...	Article no. 11 789 ...	Article no. 11 790 ...	Article no. 11 788 ...	Article no. 10 736 ...

DC m7/h7	DCONMS h6	OAL	LCF	LU	LS	£		£		£		£		£		£	
mm	mm	mm	mm	mm	mm												
3.00	6	72	34	29	36			169.25	03000	123.63	030	123.63	030	123.63	030	185.53	03000
3.10	6	72	34	29	36			169.25	03100	123.63	031	123.63	031	123.63	031	185.53	03100
3.20	6	72	34	29	36			169.25	03200	123.63	032	123.63	032	123.63	032	185.53	03200
3.30	6	72	34	29	36			169.25	03300	123.63	033	123.63	033	123.63	033	185.53	03300
3.40	6	72	34	29	36			169.25	03400	123.63	034	123.63	034	123.63	034	185.53	03400
3.50	6	72	34	29	36			169.25	03500	123.63	035	123.63	035	123.63	035	185.53	03500
3.60	6	72	34	29	36			169.25	03600	123.63	036	123.63	036	123.63	036	185.53	03600
3.70	6	72	34	29	36			169.25	03700	123.63	037	123.63	037	123.63	037	185.53	03700
3.80	6	81	43	36	36			169.25	03800	123.63	038	123.63	038	123.63	038	185.53	03800
3.90	6	81	43	36	36			169.25	03900	123.63	039	123.63	039	123.63	039	185.53	03900
4.00	6	81	43	36	36			169.25	04000	123.63	040	123.63	040	123.63	040	185.53	04000
4.00	6	95	57	48	36	142.27	04000										
4.10	6	81	43	36	36			169.25	04100	123.63	041	123.63	041	123.63	041	185.53	04100
4.10	6	95	57	48	36	142.27	04100										
4.20	6	81	43	36	36			169.25	04200	123.63	042	123.63	042	123.63	042	185.53	04200
4.20	6	95	57	48	36	142.27	04200										
4.30	6	81	43	36	36			169.25	04300	123.63	043	123.63	043	123.63	043	185.53	04300
4.30	6	95	57	48	36	142.27	04300										
4.40	6	81	43	36	36			169.25	04400	123.63	044	123.63	044	123.63	044	185.53	04400
4.40	6	95	57	48	36	142.27	04400										
4.50	6	81	43	36	36			169.25	04500	123.63	045	123.63	045	123.63	045	185.53	04500
4.50	6	95	57	48	36	142.27	04500										
4.60	6	81	43	36	36			169.25	04600	123.63	046	123.63	046	123.63	046	185.53	04600
4.60	6	95	57	48	36	142.27	04600										
4.65	6	81	43	36	36			169.25	04650								
4.70	6	81	43	36	36			169.25	04700	123.63	047	123.63	047	123.63	047	185.53	04700
4.70	6	95	57	48	36	142.27	04700										
4.80	6	95	57	48	36	142.27	04800	169.25	04800	123.63	048	123.63	048	123.63	048	185.53	04800
4.90	6	95	57	48	36	142.27	04900	169.25	04900	123.63	049	123.63	049	123.63	049	185.53	04900
5.00	6	95	57	48	36	142.27	05000	169.25	05000	123.63	050	123.63	050	123.63	050	185.53	05000
5.10	6	95	57	48	36	142.27	05100	169.25	05100	123.63	051	123.63	051	123.63	051	185.53	05100
5.20	6	95	57	48	36	142.27	05200	169.25	05200	123.63	052	123.63	052	123.63	052	185.53	05200
5.30	6	95	57	48	36	142.27	05300	169.25	05300	123.63	053	123.63	053	123.63	053	185.53	05300
5.40	6	95	57	48	36	142.27	05400	169.25	05400	123.63	054	123.63	054	123.63	054	185.53	05400
5.50	6	95	57	48	36	142.27	05500	169.25	05500	123.63	055	123.63	055	123.63	055	185.53	05500
5.55	6	95	57	48	36	142.27	05550	169.25	05550								

Steel	●	●	●	●	●	●
Stainless steel	●	●				
Cast iron	●	●	●	●	●	●
Non ferrous metals	○	○	○	○	○	○
Heat resistant alloys						
Hardened materials		○				○

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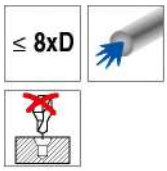
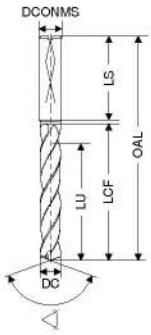
Ø DC_{m7} for Type UNI, Feed UNI and Quattro 4F/ Ø DC_{h7} for Type Speed UNI

Continued on next page

WTX – High Performance Drill, factory standard

≤ 8xD





Feed UNI = Three Cutting Edges

	Feed UNI	Speed UNI	UNI	UNI	UNI	Quattro 4F
	DPX74S	DPX14S	DPX74S	DPX74S	DPX74S	DPX74S
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
	HA	HA	HA	HB	HE	HA
	135°	145°	135°	135°	135°	140°
	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
	NEW T4	NEW T4	T7	T7	T7	NEW T4
	Article no. 10 794 ...	Article no. 10 782 ...	Article no. 11 789 ...	Article no. 11 790 ...	Article no. 11 788 ...	Article no. 10 736 ...

DC m7/h7	DCONMS h6	OAL	LCF	LU	LS	£	£	£	£	£	£
mm	mm	mm	mm	mm	mm						
5.60	6	95	57	48	36	142.27 05600	169.25 05600	123.63 056	123.63 056	123.63 056	185.53 05600
5.70	6	95	57	48	36	142.27 05700	169.25 05700	123.63 057	123.63 057	123.63 057	185.53 05700
5.80	6	95	57	48	36	142.27 05800	169.25 05800	123.63 058	123.63 058	123.63 058	185.53 05800
5.90	6	95	57	48	36	142.27 05900	169.25 05900	123.63 059	123.63 059	123.63 059	185.53 05900
6.00	6	95	57	48	36	142.27 06000	169.25 06000	123.63 060	123.63 060	123.63 060	185.53 06000
6.10	8	114	76	64	36	190.08 06100	227.13 06100	149.92 061	149.92 061	149.92 061	204.10 06100
6.20	8	114	76	64	36	190.08 06200	227.13 06200	149.92 062	149.92 062	149.92 062	204.10 06200
6.30	8	114	76	64	36	190.08 06300	227.13 06300	149.92 063	149.92 063	149.92 063	204.10 06300
6.40	8	114	76	64	36	190.08 06400	227.13 06400	149.92 064	149.92 064	149.92 064	204.10 06400
6.50	8	114	76	64	36	190.08 06500	227.13 06500	149.92 065	149.92 065	149.92 065	204.10 06500
6.60	8	114	76	64	36	190.08 06600	227.13 06600	149.92 066	149.92 066	149.92 066	204.10 06600
6.70	8	114	76	64	36	190.08 06700	227.13 06700	149.92 067	149.92 067	149.92 067	204.10 06700
6.80	8	114	76	64	36	190.08 06800	227.13 06800	149.92 068	149.92 068	149.92 068	204.10 06800
6.90	8	114	76	64	36	190.08 06900	227.13 06900	149.92 069	149.92 069	149.92 069	204.10 06900
7.00	8	114	76	64	36	190.08 07000	227.13 07000	149.92 070	149.92 070	149.92 070	204.10 07000
7.10	8	114	76	64	36	190.08 07100	227.13 07100	149.92 071	149.92 071	149.92 071	204.10 07100
7.20	8	114	76	64	36	190.08 07200	227.13 07200	149.92 072	149.92 072	149.92 072	204.10 07200
7.30	8	114	76	64	36	190.08 07300	227.13 07300	149.92 073	149.92 073	149.92 073	204.10 07300
7.40	8	114	76	64	36	190.08 07400	227.13 07400	149.92 074	149.92 074	149.92 074	204.10 07400
7.50	8	114	76	64	36	190.08 07500	227.13 07500	149.92 075	149.92 075	149.92 075	204.10 07500
7.60	8	114	76	64	36	190.08 07600	227.13 07600	149.92 076	149.92 076	149.92 076	204.10 07600
7.70	8	114	76	64	36	190.08 07700	227.13 07700	149.92 077	149.92 077	149.92 077	204.10 07700
7.80	8	114	76	64	36	190.08 07800	227.13 07800	149.92 078	149.92 078	149.92 078	204.10 07800
7.90	8	114	76	64	36	190.08 07900	227.13 07900	149.92 079	149.92 079	149.92 079	204.10 07900
8.00	8	114	76	64	36	190.08 08000	227.13 08000	149.92 080	149.92 080	149.92 080	204.10 08000
8.10	10	142	95	80	40	274.04 08100	328.09 08100	181.58 081	181.58 081	181.58 081	294.03 08100
8.20	10	142	95	80	40	274.04 08200	328.09 08200	181.58 082	181.58 082	181.58 082	294.03 08200
8.30	10	142	95	80	40	274.04 08300	328.09 08300	181.58 083	181.58 083	181.58 083	294.03 08300
8.40	10	142	95	80	40	274.04 08400	328.09 08400	181.58 084	181.58 084	181.58 084	294.03 08400
8.50	10	142	95	80	40	274.04 08500	328.09 08500	181.58 085	181.58 085	181.58 085	294.03 08500
8.60	10	142	95	80	40	274.04 08600	328.09 08600	181.58 086	181.58 086	181.58 086	294.03 08600
8.70	10	142	95	80	40	274.04 08700	328.09 08700	181.58 087	181.58 087	181.58 087	294.03 08700
8.80	10	142	95	80	40	274.04 08800	328.09 08800	181.58 088	181.58 088	181.58 088	294.03 08800
8.90	10	142	95	80	40	274.04 08900	328.09 08900	181.58 089	181.58 089	181.58 089	294.03 08900
9.00	10	142	95	80	40	274.04 09000	328.09 09000	181.58 090	181.58 090	181.58 090	294.03 09000
9.10	10	142	95	80	40	274.04 09100	328.09 09100	181.58 091	181.58 091	181.58 091	294.03 09100

Steel	●	●	●	●	●	●
Stainless steel	●	●				
Cast iron	●	●	●	●	●	●
Non ferrous metals	○	○	○	○	○	○
Heat resistant alloys						
Hardened materials		○				○

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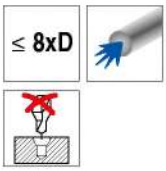
Ø DC_{m7} for Type UNI, Feed UNI and Quattro 4F/ **Ø DC_{h7}** for Type Speed UNI

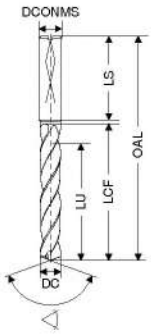
Continued on next page

WTX – High Performance Drill, factory standard

2

≤ 8xD





Feed UNI = Three Cutting Edges

Feed UNI	Speed UNI	UNI	UNI	UNI	Quattro 4F
DPX74S	DPX14S	DPX74S	DPX74S	DPX74S	DPX74S
DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN

HA	HA	HA	HB	HE	HA
135°	145°	135°	135°	135°	140°
Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
NEW T4	NEW T4	T7	T7	T7	NEW T4
Article no. 10 794 ...	Article no. 10 782 ...	Article no. 11 789 ...	Article no. 11 790 ...	Article no. 11 788 ...	Article no. 10 736 ...

DC m7/h7	DCONMS h6	OAL	LCF	LU	LS	£		£		£		£		£		£	
mm	mm	mm	mm	mm	mm												
9.20	10	142	95	80	40	274.04	09200	328.09	09200	181.58	092	181.58	092	181.58	092	294.03	09200
9.30	10	142	95	80	40	274.04	09300	328.09	09300	181.58	093	181.58	093	181.58	093	294.03	09300
9.40	10	142	95	80	40	274.04	09400	328.09	09400	181.58	094	181.58	094	181.58	094	294.03	09400
9.50	10	142	95	80	40	274.04	09500	328.09	09500	181.58	095	181.58	095	181.58	095	294.03	09500
9.60	10	142	95	80	40	274.04	09600	328.09	09600	181.58	096	181.58	096	181.58	096	294.03	09600
9.70	10	142	95	80	40	274.04	09700	328.09	09700	181.58	097	181.58	097	181.58	097	294.03	09700
9.80	10	142	95	80	40	274.04	09800	328.09	09800	181.58	098	181.58	098	181.58	098	294.03	09800
9.90	10	142	95	80	40	274.04	09900	328.09	09900	181.58	099	181.58	099	181.58	099	294.03	09900
10.00	10	142	95	80	40	274.04	10000	328.09	10000	181.58	100	181.58	100	181.58	100	294.03	10000
10.10	12	162	114	96	45	354.52	10100	423.11	10100	239.69	101	239.69	101	239.69	101	377.98	10100
10.20	12	162	114	96	45	354.52	10200	423.11	10200	239.69	102	239.69	102	239.69	102	377.98	10200
10.30	12	162	114	96	45	354.52	10300	423.11	10300	239.69	103	239.69	103	239.69	103	377.98	10300
10.40	12	162	114	96	45	354.52	10400	423.11	10400	239.69	104	239.69	104	239.69	104	377.98	10400
10.50	12	162	114	96	45	354.52	10500	423.11	10500	239.69	105	239.69	105	239.69	105	377.98	10500
10.60	12	162	114	96	45	354.52	10600	423.11	10600	239.69	106	239.69	106	239.69	106	377.98	10600
10.70	12	162	114	96	45	354.52	10700	423.11	10700	239.69	107	239.69	107	239.69	107	377.98	10700
10.80	12	162	114	96	45	354.52	10800	423.11	10800	239.69	108	239.69	108	239.69	108	377.98	10800
10.90	12	162	114	96	45	354.52	10900	423.11	10900	239.69	109	239.69	109	239.69	109	377.98	10900
11.00	12	162	114	96	45	354.52	11000	423.11	11000	239.69	110	239.69	110	239.69	110	377.98	11000
11.10	12	162	114	96	45	354.52	11100	423.11	11100	239.69	111	239.69	111	239.69	111	377.98	11100
11.20	12	162	114	96	45	354.52	11200	423.11	11200	239.69	112	239.69	112	239.69	112	377.98	11200
11.30	12	162	114	96	45	354.52	11300	423.11	11300	239.69	113	239.69	113	239.69	113	377.98	11300
11.40	12	162	114	96	45	354.52	11400	423.11	11400	239.69	114	239.69	114	239.69	114	377.98	11400
11.50	12	162	114	96	45	354.52	11500	423.11	11500	239.69	115	239.69	115	239.69	115	377.98	11500
11.60	12	162	114	96	45	354.52	11600	423.11	11600	239.69	116	239.69	116	239.69	116	377.98	11600
11.70	12	162	114	96	45	354.52	11700	423.11	11700	239.69	117	239.69	117	239.69	117	377.98	11700
11.80	12	162	114	96	45	354.52	11800	423.11	11800	239.69	118	239.69	118	239.69	118	377.98	11800
11.90	12	162	114	96	45	354.52	11900	423.11	11900	239.69	119	239.69	119	239.69	119	377.98	11900
12.00	12	162	114	96	45	354.52	12000	423.11	12000	239.69	120	239.69	120	239.69	120	377.98	12000
12.50	14	178	133	112	45	425.64	12500	507.74	12500			294.03	125	294.03	125	518.66	12500
12.50	14	178	131	112	45					294.03	125						
12.80	14	178	133	112	45	425.64	12800	507.74	12800			294.03	128	294.03	128	518.66	12800
12.80	14	178	131	112	45					294.03	128						
13.00	14	178	133	112	45	425.64	13000	507.74	13000			294.03	130	294.03	130	518.66	13000
13.00	14	178	131	112	45					294.03	130						
13.50	14	178	131	112	45					294.03	135						

Steel	●	●	●	●	●	●
Stainless steel	●	●				
Cast iron	●	●	●	●	●	●
Non ferrous metals	○	○	○	○	○	○
Heat resistant alloys						
Hardened materials		○				○

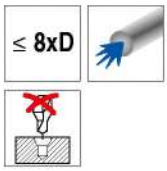
→ v_c Page 97–104

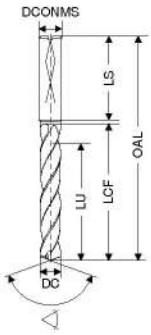
Ø DC_{m7} for Type UNI, Feed UNI and Quattro 4F/ Ø DC_{h7} for Type Speed UNI

Continued on next page

WTX – High Performance Drill, factory standard

≤ 8xD





Feed UNI = Three Cutting Edges

	Feed UNI	Speed UNI	UNI	UNI	UNI	Quattro 4F
	DPX74S	DPX14S	DPX74S	DPX74S	DPX74S	DPX74S
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
						
	HA	HA	HA	HB	HE	HA
	◁ 135°	◁ 145°	◁ 135°	◁ 135°	◁ 135°	◁ 140°
	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
	NEW T4	NEW T4	T7	T7	T7	NEW T4
	Article no. 10 794 ...	Article no. 10 782 ...	Article no. 11 789 ...	Article no. 11 790 ...	Article no. 11 788 ...	Article no. 10 736 ...

DC m7/h7	DCONMS h6	OAL	LCF	LU	LS	£		£		£		£		£		£	
mm	mm	mm	mm	mm	mm												
13.50	14	178	133	112	45	425.64	13500	507.74	13500			294.03	135	294.03	135	518.66	13500
13.80	14	178	133	112	45	425.64	13800	507.74	13800			294.03	138	294.03	138	518.66	13800
13.80	14	178	131	112	45					294.03	138						
14.00	14	178	133	112	45	425.64	14000	507.74	14000			294.03	140	294.03	140	518.66	14000
14.00	14	178	131	112	45					294.03	140						
14.50	16	203	152	128	48	573.74	14500	684.40	14500	364.90	145	364.90	145	364.90	145	654.11	14500
14.80	16	203	152	128	48	573.74	14800	684.40	14800	364.90	148	364.90	148	364.90	148	654.11	14800
15.00	16	203	152	128	48	573.74	15000	684.40	15000	364.90	150	364.90	150	364.90	150	654.11	15000
15.50	16	203	152	128	48	573.74	15500	684.40	15500	364.90	155	364.90	155	364.90	155	654.11	15500
15.80	16	203	152	128	48	573.74	15800	684.40	15800	364.90	158	364.90	158	364.90	158	654.11	15800
16.00	16	203	152	128	48	573.74	16000	684.40	16000	364.90	160	364.90	160	364.90	160	654.11	16000
16.50	18	222	171	144	48	804.63	16500	960.53	16500	462.26	165	462.26	165	462.26	165	939.09	16500
16.80	18	222	171	144	48	804.63	16800	960.53	16800	462.26	168	462.26	168	462.26	168	939.09	16800
17.00	18	222	171	144	48	804.63	17000	960.53	17000	462.26	170	462.26	170	462.26	170	939.09	17000
17.50	18	222	171	144	48	804.63	17500	960.53	17500	462.26	175	462.26	175	462.26	175	939.09	17500
17.80	18	222	171	144	48	804.63	17800	960.53	17800	462.26	178	462.26	178	462.26	178	939.09	17800
18.00	18	222	171	144	48	804.63	18000	960.53	18000	462.26	180	462.26	180	462.26	180	939.09	18000
18.50	20	243	190	160	50	1,013.38	18500	1,211.44	18500	542.57	185	542.57	185	542.57	185	1,184.95	18500
18.80	20	243	190	160	50	1,013.38	18800	1,211.44	18800	542.57	188	542.57	188	542.57	188	1,184.95	18800
19.00	20	243	190	160	50	1,013.38	19000	1,211.44	19000	542.57	190	542.57	190	542.57	190	1,184.95	19000
19.50	20	243	190	160	50	1,013.38	19500	1,211.44	19500	542.57	195	542.57	195	542.57	195	1,184.95	19500
19.80	20	243	190	160	50	1,013.38	19800	1,211.44	19800	542.57	198	542.57	198	542.57	198	1,184.95	19800
20.00	20	243	190	160	50	1,013.38	20000	1,211.44	20000	542.57	200	542.57	200	542.57	200	1,184.95	20000

Steel	●	●	●	●	●	●
Stainless steel	●	●				
Cast iron	●	●	●	●	●	●
Non ferrous metals	○	○	○	○	○	○
Heat resistant alloys						
Hardened materials		○				○

→ v_c Page 97–104

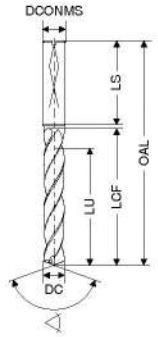
Ø DC_{m7} for Type UNI, Feed UNI and Quattro 4F/ **Ø DC_{h7}** for Type Speed UNI

WPC – High Performance Drill, factory standard

≤ 8xD

UNI

TiAlN



135°
Solid carbide

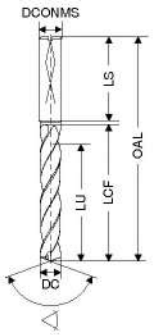
DC h7	DCONMS h6	OAL	LCF	LU	LS	T1 Article no. 11 612 ...	
mm	mm	mm	mm	mm	mm	£	
3.0	6	72	34	29	36	87.71	030
3.1	6	72	34	29	36	87.71	031
3.2	6	72	34	29	36	87.71	032
3.3	6	72	34	29	36	87.71	033
3.4	6	72	34	29	36	87.71	034
3.5	6	72	34	29	36	87.71	035
3.6	6	72	34	29	36	87.71	036
3.7	6	72	34	29	36	87.71	037
3.8	6	81	43	36	36	87.71	038
3.9	6	81	43	36	36	87.71	039
4.0	6	81	43	36	36	87.71	040
4.1	6	81	43	36	36	87.71	041
4.2	6	81	43	36	36	87.71	042
4.3	6	81	43	36	36	87.71	043
4.4	6	81	43	36	36	87.71	044
4.5	6	81	43	36	36	87.71	045
4.6	6	81	43	36	36	87.71	046
4.7	6	81	43	36	36	87.71	047
4.8	6	95	57	48	36	87.71	048
4.9	6	95	57	48	36	87.71	049
5.0	6	95	57	48	36	87.71	050
5.1	6	95	57	48	36	87.71	051
5.2	6	95	57	48	36	87.71	052
5.3	6	95	57	48	36	87.71	053
5.5	6	95	57	48	36	87.71	055
5.8	6	95	57	48	36	87.71	058
5.9	6	95	57	48	36	87.71	059
6.0	6	95	57	48	36	87.71	060
6.1	8	114	76	64	36	112.47	061
6.2	8	114	76	64	36	112.47	062
6.3	8	114	76	64	36	112.47	063
6.5	8	114	76	64	36	112.47	065
6.6	8	114	76	64	36	112.47	066
6.8	8	114	76	64	36	112.47	068
7.0	8	114	76	64	36	112.47	070
7.4	8	114	76	64	36	112.47	074
7.5	8	114	76	64	36	112.47	075
7.7	8	114	76	64	36	112.47	077
7.8	8	114	76	64	36	112.47	078
7.9	8	114	76	64	36	112.47	079
8.0	8	114	76	64	36	112.47	080
8.1	10	142	95	80	40	141.40	081
8.2	10	142	95	80	40	141.40	082
8.3	10	142	95	80	40	141.40	083
8.5	10	142	95	80	40	141.40	085
8.6	10	142	95	80	40	141.40	086
8.7	10	142	95	80	40	141.40	087
8.8	10	142	95	80	40	141.40	088
9.0	10	142	95	80	40	141.40	090
9.1	10	142	95	80	40	141.40	091
9.2	10	142	95	80	40	141.40	092
9.3	10	142	95	80	40	141.40	093
9.4	10	142	95	80	40	141.40	094
9.5	10	142	95	80	40	141.40	095
9.7	10	142	95	80	40	141.40	097
9.8	10	142	95	80	40	141.40	098
9.9	10	142	95	80	40	141.40	099
10.0	10	142	95	80	40	141.40	100
10.2	12	162	114	96	45	188.17	102
10.5	12	162	114	96	45	188.17	105
10.8	12	162	114	96	45	188.17	108
11.0	12	162	114	96	45	188.17	110
11.2	12	162	114	96	45	188.17	112
11.5	12	162	114	96	45	188.17	115
11.8	12	162	114	96	45	188.17	118
12.0	12	162	114	96	45	188.17	120
12.5	14	178	131	112	45	276.15	125
13.0	14	178	131	112	45	276.15	130
13.5	14	178	131	112	45	276.15	135
14.0	14	178	131	112	45	276.15	140
14.5	16	203	152	128	48	360.75	145
15.0	16	203	152	128	48	360.75	150
15.5	16	203	152	128	48	360.75	155
16.0	16	203	152	128	48	360.75	160
16.5	18	222	171	144	48	448.72	165
17.0	18	222	171	144	48	448.72	170
17.5	18	222	171	144	48	448.72	175
18.0	18	222	171	144	48	448.72	180
18.5	20	243	190	160	50	499.95	185
19.0	20	243	190	160	50	499.95	190
20.0	20	243	190	160	50	499.95	200

Steel	●
Stainless steel	○
Cast iron	●
Non ferrous metals	○
Heat resistant alloys	

→ v_c Page 118

WTX – High Performance Drill, factory standard

≤ 8xD



Type GG = Straight Fluted

	VA	GG	AL
	Ti700	Ti700	DLC
			
	HA	HA	HA
	140°	130°	135°
	Solid carbide	Solid carbide	Solid carbide
	T4	T4	NEW T4

DC $_{h7/m7}$	DCONMS $_{h6}$	OAL	LCF	LU	LS	Article no. 10 770 ...		Article no. 10 753 ...		Article no. 10 792 ...	
mm	mm	mm	mm	mm	mm	£		£		£	
3.0	6	72	34	29	36	139.88	030	144.46	030	137.72	03000
3.1	6	72	34	29	36	139.88	031	144.46	031	137.72	03100
3.2	6	72	34	29	36	139.88	032	144.46	032	137.72	03200
3.3	6	72	34	29	36	139.88	033	144.46	033	137.72	03300
3.4	6	72	34	29	36	139.88	034	144.46	034	137.72	03400
3.5	6	72	34	29	36	139.88	035	144.46	035	137.72	03500
3.6	6	72	34	29	36	139.88	036	144.46	036	137.72	03600
3.7	6	72	34	29	36	139.88	037	144.46	037	137.72	03700
3.8	6	81	43	36	36	139.88	038	144.46	038	137.72	03800
3.9	6	81	43	36	36	139.88	039	144.46	039	137.72	03900
4.0	6	81	43	36	36	139.88	040	144.46	040	137.72	04000
4.1	6	81	43	36	36	139.88	041	144.46	041	137.72	04100
4.2	6	81	43	36	36	139.88	042	144.46	042	137.72	04200
4.3	6	81	43	36	36	139.88	043	144.46	043	137.72	04300
4.4	6	81	43	36	36	139.88	044	144.46	044	137.72	04400
4.5	6	81	43	36	36	139.88	045	144.46	045	137.72	04500
4.6	6	81	43	36	36	139.88	046	144.46	046	137.72	04600
4.7	6	81	43	36	36	139.88	047	144.46	047	137.72	04700
4.8	6	95	57	48	36	139.88	048	144.46	048	137.72	04800
4.9	6	95	57	48	36	139.88	049	144.46	049	137.72	04900
5.0	6	95	57	48	36	139.88	050	144.46	050	137.72	05000
5.1	6	95	57	48	36	139.88	051	144.46	051	137.72	05100
5.2	6	95	57	48	36	139.88	052	144.46	052	137.72	05200
5.3	6	95	57	48	36	139.88	053	144.46	053	137.72	05300
5.4	6	95	57	48	36	139.88	054	144.46	054	137.72	05400
5.5	6	95	57	48	36	139.88	055	144.46	055	137.72	05500
5.6	6	95	57	48	36	139.88	056	144.46	056	137.72	05600
5.7	6	95	57	48	36	139.88	057	144.46	057	137.72	05700
5.8	6	95	57	48	36	139.88	058	144.46	058	137.72	05800
5.9	6	95	57	48	36	139.88	059	144.46	059	137.72	05900
6.0	6	95	57	48	36	139.88	060	144.46	060	137.72	06000
6.1	8	114	76	64	36	168.44	061	151.09	061	173.02	06100
6.2	8	114	76	64	36	168.44	062	151.09	062	173.02	06200
6.3	8	114	76	64	36	168.44	063	151.09	063	173.02	06300
6.4	8	114	76	64	36	168.44	064	151.09	064	173.02	06400
6.5	8	114	76	64	36	168.44	065	151.09	065	173.02	06500
6.6	8	114	76	64	36	168.44	066	151.09	066	173.02	06600
6.7	8	114	76	64	36	168.44	067	151.09	067	173.02	06700
6.8	8	114	76	64	36	168.44	068	151.09	068	173.02	06800
6.9	8	114	76	64	36	168.44	069	151.09	069	173.02	06900
7.0	8	114	76	64	36	168.44	070	151.09	070	173.02	07000
7.1	8	114	76	64	36	168.44	071	151.09	071	173.02	07100
7.2	8	114	76	64	36	168.44	072	151.09	072	173.02	07200
7.3	8	114	76	64	36	168.44	073	151.09	073	173.02	07300
7.4	8	114	76	64	36	168.44	074	151.09	074	173.02	07400

Steel	○		
Stainless steel	●		
Cast iron	○	●	○
Non ferrous metals	●	●	●
Heat resistant alloys	○		

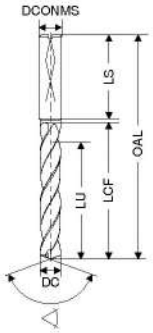
→ v_c Page 103–108

Ø DC_{m7} for Type VA and GG / Ø DC_{h7} for Type AL

Continued on next page

WTX – High Performance Drill, factory standard

≤ 8xD



Type GG = Straight Fluted

VA	GG	AL
Ti700	Ti700	DLC

140° Solid carbide T4

130° Solid carbide T4

135° Solid carbide NEW T4

DC $_{h7/m7}$	DCONMS $_{h6}$	OAL	LCF	LU	LS	Article no. 10 770 ...		Article no. 10 753 ...		Article no. 10 792 ...	
mm	mm	mm	mm	mm	mm	£		£		£	
7.5	8	114	76	64	36	168.44	075	151.09	075	173.02	07500
7.6	8	114	76	64	36	168.44	076	151.09	076	173.02	07600
7.7	8	114	76	64	36	168.44	077	151.09	077	173.02	07700
7.8	8	114	76	64	36	168.44	078	151.09	078	173.02	07800
7.9	8	114	76	64	36	168.44	079	151.09	079	173.02	07900
8.0	8	114	76	64	36	168.44	080	151.09	080	173.02	08000
8.1	10	142	95	80	40	243.65	081	210.02	081	219.65	08100
8.2	10	142	95	80	40	243.65	082	210.02	082	219.65	08200
8.3	10	142	95	80	40	243.65	083	210.02	083	219.65	08300
8.4	10	142	95	80	40	243.65	084	210.02	084	219.65	08400
8.5	10	142	95	80	40	243.65	085	210.02	085	219.65	08500
8.6	10	142	95	80	40	243.65	086	210.02	086	219.65	08600
8.7	10	142	95	80	40	243.65	087	210.02	087	219.65	08700
8.8	10	142	95	80	40	243.65	088	210.02	088	219.65	08800
8.9	10	142	95	80	40	243.65	089	210.02	089	219.65	08900
9.0	10	142	95	80	40	243.65	090	210.02	090	219.65	09000
9.1	10	142	95	80	40	243.65	091	210.02	091	219.65	09100
9.2	10	142	95	80	40	243.65	092	210.02	092	219.65	09200
9.3	10	142	95	80	40	243.65	093	210.02	093	219.65	09300
9.4	10	142	95	80	40	243.65	094	210.02	094	219.65	09400
9.5	10	142	95	80	40	243.65	095	210.02	095	219.65	09500
9.6	10	142	95	80	40	243.65	096	210.02	096	219.65	09600
9.7	10	142	95	80	40	243.65	097	210.02	097	219.65	09700
9.8	10	142	95	80	40	243.65	098	210.02	098	219.65	09800
9.9	10	142	95	80	40	243.65	099	210.02	099	219.65	09900
10.0	10	142	95	80	40	243.65	100	210.02	100	219.65	10000
10.1	12	162	114	96	45	312.93	101	267.65	101		
10.2	12	162	114	96	45	312.93	102	267.65	102	280.37	10200
10.3	12	162	114	96	45	312.93	103	267.65	103	280.37	10300
10.4	12	162	114	96	45	312.93	104	267.65	104	280.37	10400
10.5	12	162	114	96	45	312.93	105	267.65	105	280.37	10500
10.6	12	162	114	96	45	312.93	106	267.65	106		
10.7	12	162	114	96	45	312.93	107	267.65	107	280.37	10700
10.8	12	162	114	96	45	312.93	108	267.65	108	280.37	10800
10.9	12	162	114	96	45	312.93	109	267.65	109		
11.0	12	162	114	96	45	312.93	110	267.65	110	280.37	11000
11.1	12	162	114	96	45	312.93	111	267.65	111		
11.2	12	162	114	96	45	312.93	112	267.65	112	280.37	11200
11.3	12	162	114	96	45	312.93	113	267.65	113		
11.4	12	162	114	96	45	312.93	114	267.65	114		
11.5	12	162	114	96	45	312.93	115	267.65	115	280.37	11500
11.6	12	162	114	96	45	312.93	116	267.65	116	280.37	11600
11.7	12	162	114	96	45	312.93	117	267.65	117		
11.8	12	162	114	96	45	312.93	118	267.65	118	280.37	11800
11.9	12	162	114	96	45	312.93	119	267.65	119		

Steel	○		
Stainless steel	●		
Cast iron	○	●	○
Non ferrous metals	●	●	●
Heat resistant alloys	○		

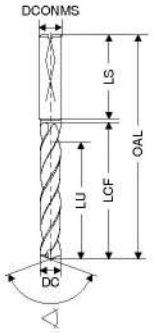
→ v_c Page 103–108

Ø DC$_{m7}$ for Type VA and GG / Ø DC$_{h7}$ for Type AL

Continued on next page

WTX – High Performance Drill, factory standard

≤ 8xD



Type GG = Straight Fluted

140° Solid carbide T4

130° Solid carbide T4

135° Solid carbide NEW T4

DC $_{h7/m7}$	DCONMS $_{h6}$	OAL	LCF	LU	LS	Article no. 10 770 ...		Article no. 10 753 ...		Article no. 10 792 ...	
mm	mm	mm	mm	mm	mm	£		£		£	
12.0	12	162	114	96	45	312.93	120	267.65	120	280.37	12000
12.2	14	178	131	112	45					355.32	12200
12.5	14	178	133	112	45	375.85	125	390.84	125		
12.5	14	178	131	112	45					355.32	12500
12.8	14	178	131	112	45					355.32	12800
12.8	14	178	133	112	45	375.85	128	390.84	128		
13.0	14	178	131	112	45					355.32	13000
13.0	14	178	133	112	45	375.85	130	390.84	130		
13.2	14	178	131	112	45					355.32	13200
13.5	14	178	131	112	45					355.32	13500
13.5	14	178	133	112	45	375.85	135	390.84	135		
13.8	14	178	131	112	45					355.32	13800
13.8	14	178	133	112	45	375.85	138	390.84	138		
14.0	14	178	133	112	45	375.85	140	390.84	140		
14.0	14	178	131	112	45					355.32	14000
14.2	16	203	152	128	48					507.13	14200
14.5	16	203	152	128	48	508.20	145	506.08	145	507.13	14500
14.8	16	203	152	128	48	508.20	148	506.08	148	507.13	14800
15.0	16	203	152	128	48	508.20	150	506.08	150	507.13	15000
15.2	16	203	152	128	48					507.13	15200
15.5	16	203	152	128	48	508.20	155	506.08	155	507.13	15500
15.8	16	203	152	128	48	508.20	158	506.08	158	507.13	15800
16.0	16	203	152	128	48	508.20	160	506.08	160	507.13	16000
16.2	18	222	171	144	48					621.01	16200
16.5	18	222	171	144	48	710.99	165	701.35	165	621.01	16500
16.8	18	222	171	144	48	710.99	168	701.35	168	621.01	16800
17.0	18	222	171	144	48	710.99	170	701.35	170	621.01	17000
17.2	18	222	171	144	48					621.01	17200
17.5	18	222	171	144	48	710.99	175	701.35	175	621.01	17500
17.8	18	222	171	144	48	710.99	178	701.35	178	621.01	17800
18.0	18	222	171	144	48	710.99	180	701.35	180	621.01	18000
18.2	20	243	190	160	50					757.41	18200
18.5	20	243	190	160	50	896.87	185	878.67	185	757.41	18500
18.8	20	243	190	160	50	896.87	188	878.67	188	757.41	18800
19.0	20	243	190	160	50	896.87	190	878.67	190	757.41	19000
19.1	20	243	190	160	50					757.41	19100
19.2	20	243	190	160	50					757.41	19200
19.5	20	243	190	160	50	896.87	195	878.67	195	757.41	19500
19.8	20	243	190	160	50	896.87	198	878.67	198	757.41	19800
20.0	20	243	190	160	50	896.87	200	878.67	200	757.41	20000

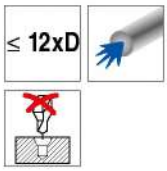
Steel	○		
Stainless steel	●		
Cast iron	○	●	○
Non ferrous metals	●	●	●
Heat resistant alloys	○		

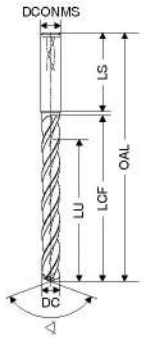
→ v_c Page 103-108

Ø DC_{m7} for Type VA and GG / **Ø DC_{h7}** for Type AL

WTX – High Performance Drill, factory standard

≤ 12xD

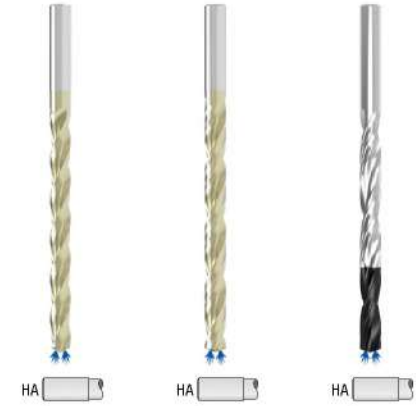




Feed UNI | Quattro 4F | AL

DPX74S | DPX74S | DLC

DRAGONSKIN | DRAGONSKIN



135° Solid carbide | 140° Solid carbide | 135° Solid carbide

DC $_{h7/m7}$	DCONMS $_{h6}$	OAL	LCF	LU	LS	NEW T4 Article no. 10 796 ...		NEW T4 Article no. 10 737 ...		NEW T4 Article no. 10 793 ...	
mm	mm	mm	mm	mm	mm	£		£		£	
3.0	6	92	54	48	36			226.62	03000	166.50	03000
3.1	6	92	54	48	36			226.62	03100	166.50	03100
3.2	6	92	54	48	36			226.62	03200	166.50	03200
3.3	6	92	54	48	36			226.62	03300	166.50	03300
3.4	6	92	54	48	36			226.62	03400	166.50	03400
3.5	6	92	54	48	36			226.62	03500	166.50	03500
3.6	6	92	54	48	36			226.62	03600	166.50	03600
3.7	6	92	54	48	36			226.62	03700	166.50	03700
3.8	6	102	64	58	36			226.62	03800	166.50	03800
3.9	6	102	64	58	36			226.62	03900	166.50	03900
4.0	6	102	64	58	36	190.89	04000	226.62	04000	166.50	04000
4.1	6	102	64	58	36	190.89	04100	226.62	04100	166.50	04100
4.2	6	102	64	58	36	190.89	04200	226.62	04200	166.50	04200
4.3	6	102	64	58	36	190.89	04300	226.62	04300	166.50	04300
4.4	6	102	64	58	36	190.89	04400	226.62	04400	166.50	04400
4.5	6	102	64	58	36	190.89	04500	226.62	04500	166.50	04500
4.6	6	102	64	58	36	190.89	04600	226.62	04600	166.50	04600
4.7	6	102	64	58	36	190.89	04700	226.62	04700	166.50	04700
4.8	6	116	78	70	36	190.89	04800	226.62	04800	166.50	04800
4.9	6	116	78	70	36	190.89	04900	226.62	04900	166.50	04900
5.0	6	116	78	70	36	190.89	05000	226.62	05000	166.50	05000
5.1	6	116	78	70	36	190.89	05100	226.62	05100	166.50	05100
5.2	6	116	78	70	36	190.89	05200	226.62	05200	166.50	05200
5.3	6	116	78	70	36	190.89	05300	226.62	05300	166.50	05300
5.4	6	116	78	70	36	190.89	05400	226.62	05400	166.50	05400
5.5	6	116	78	70	36	190.89	05500	226.62	05500	166.50	05500
5.6	6	116	78	70	36	190.89	05600	226.62	05600	166.50	05600
5.7	6	116	78	70	36	190.89	05700	226.62	05700	166.50	05700
5.8	6	116	78	70	36	190.89	05800	226.62	05800	166.50	05800
5.9	6	116	78	70	36	190.89	05900	226.62	05900	166.50	05900
6.0	6	116	78	70	36	190.89	06000	226.62	06000	166.50	06000
6.1	8	146	108	94	36	245.84	06100	237.65	06100	230.12	06100
6.2	8	146	108	94	36	245.84	06200	237.65	06200	230.12	06200
6.3	8	146	108	94	36	245.84	06300	237.65	06300	230.12	06300
6.4	8	146	108	94	36	245.84	06400	237.65	06400	230.12	06400
6.5	8	146	108	94	36	245.84	06500	237.65	06500	230.12	06500
6.6	8	146	108	94	36	245.84	06600	237.65	06600	230.12	06600
6.7	8	146	108	94	36	245.84	06700	237.65	06700	230.12	06700
6.8	8	146	108	94	36	245.84	06800	237.65	06800	230.12	06800
6.9	8	146	108	94	36	245.84	06900	237.65	06900	230.12	06900
7.0	8	146	108	94	36	245.84	07000	237.65	07000	230.12	07000
7.1	8	146	108	94	36	245.84	07100	237.65	07100	230.12	07100
7.2	8	146	108	94	36	245.84	07200	237.65	07200	230.12	07200

Steel	●	●	
Stainless steel	●		
Cast iron	●	●	○
Non ferrous metals	○	○	●
Heat resistant alloys			

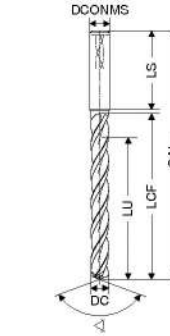
→ v_c Page 99-107

Ø DC_{m7} for Type Feed UNI and Quattro 4F / Ø DC_{h7} for Type AL

Continued on next page

WTX – High Performance Drill, factory standard

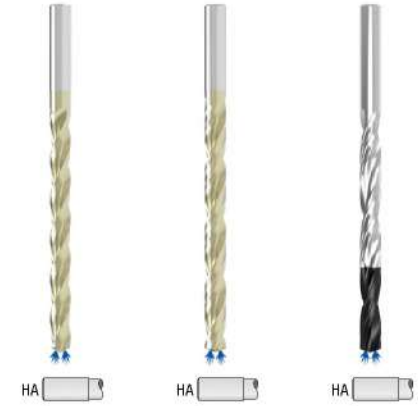
≤ 12xD



Feed UNI | Quattro 4F | AL

DPX74S | DPX74S | DLC

DRAGONSKIN | DRAGONSKIN



135° Solid carbide | 140° Solid carbide | 135° Solid carbide

DC $_{h7/m7}$	DCONMS $_{h6}$	OAL	LCF	LU	LS	NEW T4 Article no. 10 796 ...		NEW T4 Article no. 10 737 ...		NEW T4 Article no. 10 793 ...	
mm	mm	mm	mm	mm	mm	£		£		£	
7.3	8	146	108	94	36	245.84	07300	237.65	07300	230.12	07300
7.4	8	146	108	94	36	245.84	07400	237.65	07400	230.12	07400
7.5	8	146	108	94	36	245.84	07500	237.65	07500	230.12	07500
7.6	8	146	108	94	36	245.84	07600	237.65	07600	230.12	07600
7.7	8	146	108	94	36	245.84	07700	237.65	07700	230.12	07700
7.8	8	146	108	94	36	245.84	07800	237.65	07800	230.12	07800
7.9	8	146	108	94	36	245.84	07900	237.65	07900	230.12	07900
8.0	8	146	108	94	36	245.84	08000	237.65	08000	230.12	08000
8.1	10	162	120	110	40	320.34	08100	323.80	08100	292.15	08100
8.2	10	162	120	110	40	320.34	08200	323.80	08200	292.15	08200
8.3	10	162	120	110	40	320.34	08300	323.80	08300	292.15	08300
8.4	10	162	120	110	40	320.34	08400	323.80	08400	292.15	08400
8.5	10	162	120	110	40	320.34	08500	323.80	08500	292.15	08500
8.6	10	162	120	110	40	320.34	08600	323.80	08600	292.15	08600
8.7	10	162	120	110	40	320.34	08700	323.80	08700	292.15	08700
8.8	10	162	120	110	40	320.34	08800	323.80	08800	292.15	08800
8.9	10	162	120	110	40	320.34	08900	323.80	08900	292.15	08900
9.0	10	162	120	110	40	320.34	09000	323.80	09000	292.15	09000
9.1	10	162	120	110	40	320.34	09100	323.80	09100	292.15	09100
9.2	10	162	120	110	40	320.34	09200	323.80	09200	292.15	09200
9.3	10	162	120	110	40	320.34	09300	323.80	09300	292.15	09300
9.4	10	162	120	110	40	320.34	09400	323.80	09400	292.15	09400
9.5	10	162	120	110	40	320.34	09500	323.80	09500	292.15	09500
9.6	10	162	120	110	40	320.34	09600	323.80	09600	292.15	09600
9.7	10	162	120	110	40	320.34	09700	323.80	09700	292.15	09700
9.8	10	162	120	110	40	320.34	09800	323.80	09800	292.15	09800
9.9	10	162	120	110	40	320.34	09900	323.80	09900	292.15	09900
10.0	10	162	120	110	40	320.34	10000	323.80	10000	292.15	10000
10.1	12	204	156	142	45	417.87	10100	400.48	10100		
10.2	12	204	156	142	45	417.87	10200	400.48	10200	395.86	10200
10.3	12	204	156	142	45	417.87	10300	400.48	10300		
10.4	12	204	156	142	45	417.87	10400	400.48	10400		
10.5	12	204	156	142	45	417.87	10500	400.48	10500	395.86	10500
10.6	12	204	156	142	45	417.87	10600	400.48	10600		
10.7	12	204	156	142	45	417.87	10700	400.48	10700	395.86	10700
10.8	12	204	156	142	45	417.87	10800	400.48	10800	395.86	10800
10.9	12	204	156	142	45	417.87	10900	400.48	10900		
11.0	12	204	156	142	45	417.87	11000	400.48	11000	395.86	11000
11.1	12	204	156	142	45	417.87	11100	400.48	11100		
11.2	12	204	156	142	45	417.87	11200	400.48	11200	395.86	11200
11.3	12	204	156	142	45	417.87	11300	400.48	11300	395.86	11300
11.4	12	204	156	142	45	417.87	11400	400.48	11400		
11.5	12	204	156	142	45	417.87	11500	400.48	11500	395.86	11500

Steel	●	●	
Stainless steel	●		
Cast iron	●	●	○
Non ferrous metals	○	○	●
Heat resistant alloys			

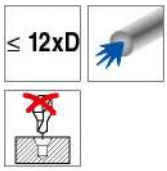
→ v_c Page 99-107

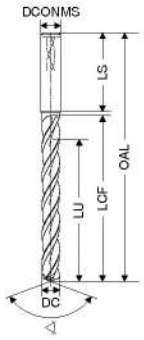
Ø DC_{m7} for Type Feed UNI and Quattro 4F / Ø DC_{h7} for Type AL

Continued on next page

WTX – High Performance Drill, factory standard

≤ 12xD





Feed UNI | DPX74S | DRAGONSKIN

135°
Solid carbide

Quattro 4F | DPX74S | DRAGONSKIN

140°
Solid carbide

AL | DLC

135°
Solid carbide

DC h7/m7	DCONMS h6	OAL	LCF	LU	LS	NEW T4 Article no. 10 796 ...		NEW T4 Article no. 10 737 ...		NEW T4 Article no. 10 793 ...	
mm	mm	mm	mm	mm	mm	£		£		£	
11.6	12	204	156	142	45	417.87	11600	400.48	11600		
11.7	12	204	156	142	45	417.87	11700	400.48	11700		
11.8	12	204	156	142	45	417.87	11800	400.48	11800	395.86	11800
11.9	12	204	156	142	45	417.87	11900	400.48	11900		
12.0	12	204	156	142	45	417.87	12000	400.48	12000	395.86	12000
12.1	14	230	182	166	45					557.98	12100
12.2	14	230	182	166	45					557.98	12200
12.5	14	230	182	166	45	535.66	12500	585.57	12500	557.98	12500
12.8	14	230	182	166	45	535.66	12800	585.57	12800	557.98	12800
13.0	14	230	182	166	45	535.66	13000	585.57	13000	557.98	13000
13.2	14	230	182	166	45					557.98	13200
13.5	14	230	182	166	45	535.66	13500	585.57	13500	557.98	13500
13.8	14	230	182	166	45	535.66	13800	585.57	13800	557.98	13800
14.0	14	230	182	166	45	535.66	14000	585.57	14000	557.98	14000
14.2	16	260	208	192	48					676.51	14200
14.5	16	260	208	192	48	696.43	14500	765.25	14500	676.51	14500
14.7	16	260	208	192	48					676.51	14700
14.8	16	260	208	192	48	696.43	14800	765.25	14800	676.51	14800
15.0	16	260	208	192	48	696.43	15000	765.25	15000	676.51	15000
15.2	16	260	208	192	48					676.51	15200
15.5	16	260	208	192	48	696.43	15500	765.25	15500	676.51	15500
15.7	16	260	208	192	48					676.51	15700
15.8	16	260	208	192	48	696.43	15800	765.25	15800	676.51	15800
16.0	16	260	208	192	48	696.43	16000	765.25	16000	676.51	16000
16.2	18	285	234	216	48					752.48	16200
16.5	18	285	234	216	48	898.88	16500	1,057.08	16500	752.48	16500
16.8	18	285	234	216	48	898.88	16800	1,057.08	16800	752.48	16800
17.0	18	285	234	216	48	898.88	17000	1,057.08	17000	752.48	17000
17.2	18	285	234	216	48					752.48	17200
17.5	18	285	234	216	48	898.88	17500	1,057.08	17500	752.48	17500
17.8	18	285	234	216	48	898.88	17800	1,057.08	17800	752.48	17800
18.0	18	285	234	216	48	898.88	18000	1,057.08	18000	752.48	18000
18.2	20	310	258	240	50					952.81	18200
18.5	20	310	258	240	50	1,099.04	18500	1,335.84	18500	952.81	18500
18.7	20	310	258	240	50					952.81	18700
18.8	20	310	258	240	50	1,099.04	18800	1,335.84	18800	952.81	18800
19.0	20	310	258	240	50	1,099.04	19000	1,335.84	19000	952.81	19000
19.2	20	310	258	240	50					952.81	19200
19.5	20	310	258	240	50	1,099.04	19500	1,335.84	19500	952.81	19500
19.8	20	310	258	240	50	1,099.04	19800	1,335.84	19800	952.81	19800
20.0	20	310	258	240	50	1,099.04	20000	1,335.84	20000	952.81	20000

Steel	●	●	
Stainless steel	●		
Cast iron	●	●	○
Non ferrous metals	○	○	●
Heat resistant alloys			

→ v_c Page 99–107

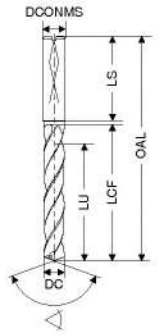
ⓘ Ø DC_{m7} for Type Feed UNI and Quattro 4F / Ø DC_{h7} for Type AL

WPC – High Performance Drill, factory standard

≤ 12xD

UNI

TiAlN



135°
Solid carbide

DC h7	DCONMS h6	OAL	LCF	LU	LS	T1 Article no. 11 615 ...	
mm	mm	mm	mm	mm	mm	£	
3.0	6	92	54	48	36	131.14	030
3.1	6	92	54	48	36	131.14	031
3.2	6	92	54	48	36	131.14	032
3.3	6	92	54	48	36	131.14	033
3.4	6	92	54	48	36	131.14	034
3.5	6	92	54	48	36	131.14	035
3.6	6	92	54	48	36	131.14	036
3.7	6	92	54	48	36	131.14	037
3.8	6	102	64	58	36	131.14	038
3.9	6	102	64	58	36	131.14	039
4.0	6	102	64	58	36	131.14	040
4.1	6	102	64	58	36	131.14	041
4.2	6	102	64	58	36	131.14	042
4.3	6	102	64	58	36	131.14	043
4.4	6	102	64	58	36	131.14	044
4.5	6	102	64	58	36	131.14	045
4.6	6	102	64	58	36	131.14	046
4.7	6	102	64	58	36	131.14	047
4.8	6	116	78	70	36	131.14	048
4.9	6	116	78	70	36	131.14	049
5.0	6	116	78	70	36	131.14	050
5.5	6	116	78	70	36	131.14	055
5.8	6	116	78	70	36	131.14	058
6.0	6	116	78	70	36	131.14	060
6.3	8	146	108	94	36	150.94	063
6.5	8	146	108	94	36	150.94	065
6.6	8	146	108	94	36	150.94	066
6.8	8	146	108	94	36	150.94	068
7.0	8	146	108	94	36	150.94	070
7.5	8	146	108	94	36	150.94	075
7.8	8	146	108	94	36	150.94	078
8.0	8	146	108	94	36	150.94	080
8.2	10	162	120	110	40	217.74	082
8.5	10	162	120	110	40	217.74	085
9.0	10	162	120	110	40	217.74	090
9.5	10	162	120	110	40	217.74	095
9.8	10	162	120	110	40	217.74	098
10.0	10	162	120	110	40	217.74	100
10.5	12	204	156	142	45	300.63	105
11.0	12	204	156	142	45	300.63	110
11.5	12	204	156	142	45	300.63	115
12.0	12	204	156	142	45	300.63	120
13.0	14	230	182	166	45	377.33	130
14.0	14	230	182	166	45	377.33	140
15.0	16	260	208	192	48	498.57	150
16.0	16	260	208	192	48	498.57	160
18.0	18	285	234	216	48	570.32	180

Steel	●
Stainless steel	○
Cast iron	●
Non ferrous metals	○
Heat resistant alloys	

→ v_c Page 118

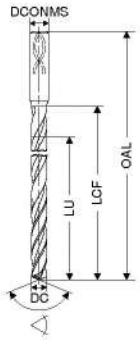
WTX – High performance deep hole drills

- up to 16xD without peck drilling
- pilot hole necessary
- excellent alignment precision
- secure chip evacuation

≤ 16xD

TB 16 UNI | TiAlN

TB 16 ALU | DLC



HA

135°

Solid carbide T7

DC h7	DCONMS h5	OAL	LCF	LU	Article no. 11 016 ...		Article no. 11 017 ...	
mm	mm	mm	mm	mm	£		£	
2.0	4	84	42	39	100.29	020	100.29	020
2.2	4	84	42	39	100.29	022	100.29	022
2.3	4	84	42	39	100.29	023	100.29	023
2.4	4	96	54	50	111.95	024	111.95	024
2.5	4	96	54	50	111.95	025	111.95	025
2.7	4	96	54	50	111.95	027	111.95	027
2.8	4	96	54	50	111.95	028	111.95	028
3.0	6	100	60	55	142.27	030	142.27	030
3.2	6	100	60	55	142.27	032	142.27	032
3.3	6	100	60	55	142.27	033	142.27	033
3.5	6	100	60	55	142.27	035	142.27	035
3.8	6	115	75	69	148.10	038	148.10	038
4.0	6	115	75	69	148.10	040	148.10	040
4.2	6	115	75	69	159.76	042	159.76	042
4.5	6	130	90	83	159.76	045	159.76	045
4.8	6	130	90	83	169.09	048	169.09	048
5.0	6	130	90	83	169.09	050	169.09	050
5.5	6	150	108	99	176.09	055	176.09	055
5.8	6	150	108	99	176.09	058	176.09	058
6.0	6	150	108	99	176.09	060	176.09	060
6.5	8	165	125	115	187.75	065	187.75	065
6.8	8	165	125	115	201.75	068	201.75	068
7.0	8	165	125	115	201.75	070	201.75	070
7.5	8	180	140	128	226.24	075	226.24	075
7.8	8	180	140	128	226.24	078	226.24	078
8.0	8	180	140	128	226.24	080	226.24	080
8.5	10	205	160	147	249.55	085	249.55	085
8.8	10	205	160	147	277.55	088	277.55	088
9.0	10	205	160	147	277.55	090	277.55	090
9.8	10	225	180	165	277.55	098	277.55	098
10.0	10	225	180	165	277.55	100	277.55	100
10.2	12	240	190	174	310.19	102	310.19	102
10.8	12	240	190	174	310.19	108	299.71	108
11.8	12	265	215	197	310.19	118	310.19	118
12.0	12	265	215	197	310.19	120	299.71	120

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	

→ v_c Page 122+124
→ Machining information: Page 134

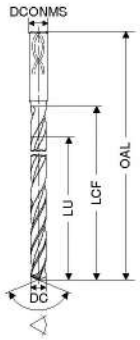
WTX – High performance deep hole drills

- up to 20xD without peck drilling
- pilot hole necessary
- excellent alignment precision
- secure chip evacuation

≤ 20xD

TB 20 UNI | TiAlN

TB 20 ALU | DLC



HA

135°

Solid carbide T7

DC h7	DCONMS h5	OAL	LCF	LU	Article no. 11 020 ...		Article no. 11 021 ...	
mm	mm	mm	mm	mm	£		£	
2.0	4	92	50	47	106.11	020	106.11	020
2.2	4	92	50	47	102.52	022	106.11	022
2.3	4	92	50	47	106.11	023	106.11	023
2.4	4	112	70	66	114.92	024	118.94	024
2.5	4	112	70	66	118.94	025	118.94	025
2.7	4	112	70	66	114.92	027	118.94	027
2.8	4	112	70	66	118.94	028	118.94	028
3.0	6	120	80	75	153.23	030	158.59	030
3.2	6	120	80	75	158.59	032	158.59	032
3.3	6	120	80	75	153.23	033	158.59	033
3.5	6	120	80	75	158.59	035	158.59	035
3.8	6	130	90	84	159.99	038	165.58	038
4.0	6	130	90	84	165.58	040	165.58	040
4.2	6	160	110	103	171.25	042	177.25	042
4.5	6	160	110	103	177.25	045	177.25	045
4.8	6	160	120	113	181.39	048	187.75	048
5.0	6	160	120	113	187.75	050	187.75	050
5.5	6	185	140	131	189.29	055	195.92	055
5.8	6	185	140	131	195.92	058	195.92	058
6.0	6	185	140	131	195.92	060	195.92	060
6.5	8	210	160	150	208.74	065	208.74	065
6.8	8	210	160	150	225.07	068	225.07	068
7.0	8	210	160	150	225.07	070	225.07	070
7.5	8	230	180	168	250.72	075	250.72	075
7.8	8	230	180	168	250.72	078	250.72	078
8.0	8	230	180	168	250.72	080	250.72	080
8.5	10	260	195	182	276.37	085	276.37	085
8.8	10	290	230	216	310.19	088	310.19	088
9.0	10	290	230	216	310.19	090	310.19	090
9.8	10	290	230	216	310.19	098	310.19	098
10.0	10	290	230	216	310.19	100	310.19	100
10.2	12	315	268	251	340.51	102	340.51	102
10.8	12	315	268	251	340.51	108	340.51	108
11.8	12	315	268	251	340.51	118	340.51	118
12.0	12	315	268	251	340.51	120	340.51	120

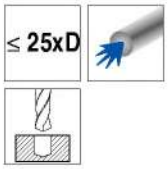
Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	

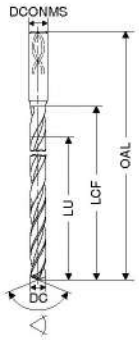
→ v_c Page 122+124
→ Machining information: Page 134

WTX – High performance deep hole drills

- up to 25xD without peck drilling
- pilot hole necessary
- excellent alignment precision
- secure chip evacuation

≤ 25xD





TB 25 UNI | TiAlN

TB 25 ALU | DLC

HA

135°

Solid carbide

T7

DC h7	DCONMS h5	OAL	LCF	LU	Article no. 11 025 ... £		Article no. 11 026 ... £	
mm	mm	mm	mm	mm				
2.0	4	104	60	57	113.12	020	113.12	020
2.2	4	104	60	57	113.12	022	113.12	022
2.3	4	104	60	57	113.12	023	113.12	023
2.4	4	125	80	76	128.28	024	128.28	024
2.5	4	125	80	76	128.28	025	128.28	025
2.7	4	125	80	76	128.28	027	128.28	027
2.8	4	125	80	76	128.28	028	128.28	028
3.0	6	135	98	93	184.25	030	184.25	030
3.2	6	135	98	93	184.25	032	184.25	032
3.3	6	150	110	105	204.07	033	202.92	033
3.5	6	150	110	105	204.07	035	202.92	035
3.8	6	160	120	114	209.90	038	209.90	038
4.0	6	160	120	114	209.90	040	209.90	040
4.2	6	160	120	114	209.90	042	209.90	042
4.5	6	180	135	128	219.24	045	219.24	045
4.8	6	180	135	128	219.24	048	219.24	048
5.0	6	180	135	128	219.24	050	219.24	050
5.5	6	205	168	159	235.56	055	235.56	055
5.8	6	205	168	159	235.56	058	235.56	058
6.0	6	205	168	159	235.56	060	235.56	060
6.5	8	240	200	190	262.39	065	262.39	065
6.8	8	240	200	190	262.39	068	262.39	068
7.0	8	240	200	190	262.39	070	262.39	070
7.5	8	260	220	208	291.54	075	291.54	075
7.8	8	260	220	208	291.54	078	291.54	078
8.0	8	260	220	208	291.54	080	291.54	080
8.5	10	285	240	227	328.84	085	328.84	085
8.8	10	310	268	254	356.84	088	356.84	088
9.0	10	310	268	254	356.84	090	356.84	090
9.8	10	310	268	254	356.84	098	356.84	098
10.0	10	310	268	254	356.84	100	356.84	100
10.2	12	375	325	308	429.15	102	429.15	102
10.8	12	375	325	308	429.15	108	429.15	108
11.8	12	375	325	308	429.15	118	429.15	118
12.0	12	375	325	308	429.15	120	429.15	120

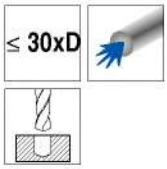
Steel	●	
Stainless steel	●	
Cast iron	●	
Non ferrous metals		●
Heat resistant alloys		

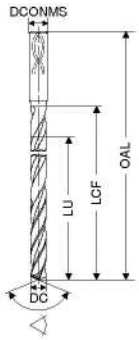
→ v_c Page 122+124
→ Machining information: Page 134

WTX – High performance deep hole drills

- up to 30xD without peck drilling
- pilot hole necessary
- excellent alignment precision
- secure chip evacuation

≤ 30xD





TB 30 UNI | TiAlN

TB 30 ALU | DLC

HA

135°

Solid carbide

T7

DC h7	DCONMS h5	OAL	LCF	LU	Article no. 11 030 ... £		Article no. 11 031 ... £	
mm	mm	mm	mm	mm				
2.0	4	115	70	67	120.12	020	120.12	020
2.2	4	115	70	67	120.12	022	120.12	022
2.3	4	115	70	67	120.12	023	120.12	023
2.4	4	138	90	86	139.94	024	139.94	024
2.5	4	138	90	86	139.94	025	139.94	025
2.7	4	138	90	86	139.94	027	139.94	027
2.8	4	138	90	86	139.94	028	139.94	028
3.0	6	150	105	100	235.56	030	235.56	030
3.2	6	150	105	100	235.56	032	235.56	032
3.3	6	185	135	130	242.57	033	242.57	033
3.5	6	185	135	130	242.57	035	242.57	035
3.8	6	185	135	130	242.57	038	242.57	038
4.0	6	185	135	130	242.57	040	242.57	040
4.2	6	185	135	130	242.57	042	242.57	042
4.5	6	215	165	158	249.55	045	249.55	045
4.8	6	215	165	158	249.55	048	249.55	048
5.0	6	215	165	158	249.55	050	249.55	050
5.5	6	230	180	171	261.22	055	261.22	055
5.8	6	230	180	171	261.22	058	261.22	058
6.0	6	230	180	171	261.22	060	261.22	060
6.5	8	280	215	205	286.87	065	286.87	065
6.8	8	280	230	220	299.69	068	299.69	068
7.0	8	280	230	220	299.69	070	299.69	070
7.5	8	280	230	220	299.69	075	299.69	075
7.8	8	315	265	253	333.51	078	333.51	078
8.0	8	315	265	253	333.51	080	333.51	080
8.5	10	350	295	282	384.84	085	384.84	085
8.8	10	380	330	316	404.65	088	404.65	088
9.0	10	380	330	316	404.65	090	404.65	090
9.8	10	380	330	316	404.65	098	404.65	098
10.0	10	380	330	316	404.65	100	404.65	100
10.2	12	430	380	365	516.61	102	516.61	102
10.8	12	430	380	365	516.61	108	516.61	108
11.8	12	430	380	365	516.61	118	516.61	118
12.0	12	430	380	365	516.61	120	516.61	120

Steel	●	
Stainless steel	●	
Cast iron	●	
Non ferrous metals		●
Heat resistant alloys		

→ v_c Page 122+124
→ Machining information: Page 134

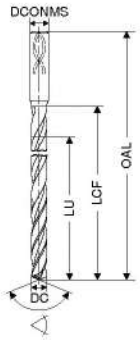
WTX – High performance deep hole drills

- up to 40xD without peck drilling
- pilot hole necessary
- excellent alignment precision
- secure chip evacuation

≤ 40xD

TB 40 UNI

TiAlN



Solid carbide

T7

DC $_{fg6}$	DCONMS $_{h5}$	OAL	LCF	LU	Article no. 11 040 ...	
mm	mm	mm	mm	mm	£	
3.0	6	195	150	146	299.69	030
4.0	6	220	175	169	299.69	040
4.2	6	245	200	194	331.19	042
4.5	6	245	200	194	331.19	045
4.8	6	275	230	223	353.34	048
5.0	6	275	230	223	353.34	050
5.5	6	305	260	251	380.16	055
5.8	6	305	260	251	380.16	058
6.0	6	305	260	251	380.16	060
6.5	8	345	300	290	409.32	065
6.8	8	345	300	290	409.32	068
7.0	8	345	300	290	409.32	070
7.5	8	385	340	328	454.79	075
7.8	8	385	340	328	454.79	078
8.0	8	385	340	328	454.79	080
8.5	10	430	380	367	501.44	085
8.8	10	430	380	367	501.44	088
9.0	10	430	380	367	501.44	090

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	
Heat resistant alloys	

→ v_c Page 123
→ Machining information: Page 134

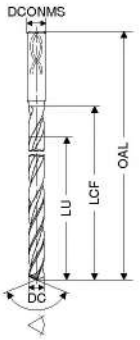
WTX – High performance deep hole drills

- up to 50xD without peck drilling
- pilot hole necessary
- excellent alignment precision
- secure chip evacuation

≤ 50xD

TB 50 UNI

TiAlN



Solid carbide

T7

DC $_{fg6}$	DCONMS $_{h5}$	OAL	LCF	LU	Article no. 11 050 ...	
mm	mm	mm	mm	mm	£	
3.0	6	220	175	170	406.99	030
4.0	6	265	220	214	406.99	040
4.2	6	290	245	238	452.46	042
4.5	6	290	245	238	452.46	045
4.8	6	320	275	268	510.77	048
5.0	6	320	275	268	510.77	050
5.5	6	355	310	302	574.91	055
5.8	6	355	315	306	583.08	058
6.0	6	355	315	306	583.08	060
6.5	8	395	350	340	648.38	065
6.8	8	425	380	370	703.19	068

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	
Heat resistant alloys	

→ v_c Page 123
→ Machining information: Page 134

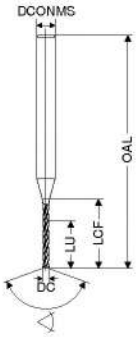
WTX – High Performance Drills

▲ standard shank Ø 3 mm h6 for use in heat shrink adapters

≤ 5xD

MINI

TiAlN



Solid carbide

DC +0,004	DCONMS h6	OAL	LCF	LU	T7 Article no. 11 770 ...	
mm	mm	mm	mm	mm	£	
0.10	3	38	1.2	1.0	37.96	00100
0.15	3	38	2.0	1.7	33.52	00150
0.20	3	38	3.5	3.0	29.31	00200
0.25	3	38	3.5	3.0	24.97	00250
0.30	3	38	5.5	5.0	20.53	00300
0.35	3	38	5.5	5.0	20.53	00350
0.40	3	38	7.0	6.0	20.53	00400
0.45	3	38	7.0	6.0	20.53	00450
0.50	3	38	7.0	6.0	20.53	00500
0.55	3	38	7.0	6.0	20.53	00550
0.60	3	38	7.0	6.0	20.53	00600
0.65	3	38	7.0	6.0	20.53	00650
0.70	3	38	10.5	8.0	20.53	00700
0.75	3	38	10.5	8.0	20.53	00750
0.80	3	38	10.5	8.0	20.53	00800
0.85	3	38	10.5	8.0	20.53	00850
0.90	3	38	10.5	8.0	20.53	00900
0.95	3	38	10.5	8.0	20.53	00950
0.97	3	38	10.5	8.0	20.53	00970
0.98	3	38	10.5	8.0	20.53	00980
0.99	3	38	10.5	8.0	20.53	00990
1.00	3	38	10.5	8.0	20.53	01000
1.01	3	38	10.5	8.0	20.53	01010
1.02	3	38	10.5	8.0	20.53	01020
1.03	3	38	10.5	8.0	20.53	01030
1.05	3	38	10.5	8.0	20.53	01050
1.10	3	38	10.5	8.0	20.53	01100
1.15	3	38	10.5	8.0	20.53	01150
1.20	3	38	10.5	8.0	20.53	01200
1.25	3	38	10.5	8.0	20.53	01250
1.30	3	38	10.5	8.0	20.53	01300
1.35	3	38	10.5	8.0	20.53	01350
1.40	3	38	10.5	8.0	20.53	01400
1.45	3	38	10.5	8.0	20.53	01450
1.47	3	38	10.5	8.0	20.53	01470
1.48	3	38	10.5	8.0	20.53	01480
1.49	3	38	10.5	8.0	20.53	01490
1.50	3	38	10.5	8.0	20.53	01500
1.51	3	38	10.5	8.0	20.53	01510
1.52	3	38	10.5	8.0	20.53	01520
1.53	3	38	10.5	8.0	20.53	01530
1.55	3	38	10.5	8.0	20.53	01550
1.60	3	38	10.5	8.0	20.53	01600
1.65	3	38	10.5	8.0	20.53	01650
1.70	3	38	10.5	8.0	20.53	01700
1.75	3	38	10.5	8.0	20.53	01750
1.80	3	38	10.5	8.0	20.53	01800
1.85	3	38	12.0	8.0	20.53	01850
1.90	3	38	12.0	8.0	20.53	01900
1.95	3	38	12.0	8.0	20.53	01950
1.97	3	38	12.0	8.0	20.53	01970
1.98	3	38	12.0	8.0	20.53	01980
1.99	3	38	12.0	8.0	20.53	01990
2.00	3	42	13.0	9.0	29.44	02000
2.01	3	42	13.0	9.0	29.44	02010
2.02	3	42	13.0	9.0	29.44	02020
2.03	3	42	13.0	9.0	29.44	02030
2.05	3	42	13.0	9.0	29.44	02050
2.10	3	42	13.0	9.0	29.44	02100
2.15	3	42	13.0	9.0	29.44	02150
2.20	3	46	15.0	10.0	33.15	02200
2.25	3	46	15.0	10.0	33.15	02250
2.30	3	46	15.0	10.0	33.15	02300
2.35	3	46	15.0	10.0	33.15	02350
2.40	3	46	15.0	10.0	33.15	02400
2.45	3	46	15.0	10.0	33.15	02450
2.47	3	46	15.0	10.0	33.15	02470
2.48	3	46	15.0	10.0	33.15	02480
2.49	3	46	15.0	10.0	33.15	02490
2.50	3	46	15.0	10.0	33.15	02500
2.51	3	46	15.0	10.0	33.15	02510
2.52	3	46	15.0	10.0	33.15	02520
2.53	3	46	15.0	10.0	33.15	02530
2.60	3	46	15.0	10.0	33.15	02600
2.70	3	46	15.0	10.0	33.15	02700
2.80	3	46	15.0	10.0	33.15	02800
2.90	3	46	15.0	10.0	33.15	02900

Steel	●
Stainless steel	
Cast iron	●
Non ferrous metals	○
Heat resistant alloys	○

→ v_c Page 110

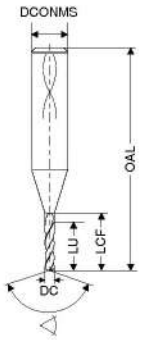
WTX – High Performance Drill, factory standard

▲ WTX flute geometry, optimises swarf control and chip evacuation
▲ all diameters with standard shank 3 mm

≤ 5xD

MINI

Ti700



Solid carbide

T4

DC +0,004	DCONMS -0,002/-0,005	OAL	LCF	LU	Article no. 10 775 ...	
mm	mm	mm	mm	mm	£	
1.0	3	55	8	5	129.73	010
1.1	3	55	12	8	129.73	011
1.2	3	55	12	8	129.73	012
1.3	3	55	12	8	129.73	013
1.4	3	55	12	8	129.73	014
1.5	3	55	12	8	129.73	015
1.6	3	68	16	11	138.29	016
1.7	3	68	16	11	138.29	017
1.8	3	68	16	11	138.29	018
1.9	3	68	16	11	138.29	019
2.0	3	68	16	11	138.29	020
2.1	3	74	20	14	141.78	021
2.2	3	74	20	14	141.78	022
2.3	3	74	20	14	141.78	023
2.4	3	74	20	14	141.78	024
2.5	3	74	20	14	141.78	025
2.6	3	81	23	16	147.00	026
2.7	3	81	23	16	147.00	027
2.8	3	81	23	16	147.00	028
2.9	3	81	23	16	147.00	029

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●

→ v_c Page 109

Coolant pressure 20–50 bar

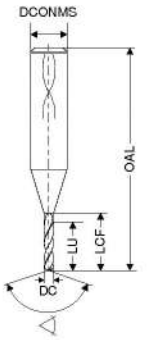
WTX – High Performance Drill, factory standard

▲ WTX flute geometry, optimises swarf control and chip evacuation
▲ all diameters with standard shank 3 mm

≤ 8xD

MINI

Ti700



Solid carbide

T4

DC +0,004	DCONMS -0,002/-0,005	OAL	LCF	LU	Article no. 10 778 ...	
mm	mm	mm	mm	mm	£	
1.0	3	55	11	8	138.29	010
1.1	3	55	17	13	138.29	011
1.2	3	55	17	13	138.29	012
1.3	3	55	17	13	138.29	013
1.4	3	55	17	13	138.29	014
1.5	3	55	17	13	138.29	015
1.6	3	68	22	17	147.00	016
1.7	3	68	22	17	147.00	017
1.8	3	68	22	17	147.00	018
1.9	3	68	22	17	147.00	019
2.0	3	68	22	17	147.00	020
2.1	3	74	28	22	150.36	021
2.2	3	74	28	22	150.36	022
2.3	3	74	28	22	150.36	023
2.4	3	74	28	22	150.36	024
2.5	3	74	28	22	150.36	025
2.6	3	81	32	25	155.43	026
2.7	3	81	32	25	155.43	027
2.8	3	81	32	25	155.43	028
2.9	3	81	32	25	155.43	029

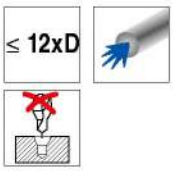
Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●

→ v_c Page 109

Coolant pressure 20–50 bar

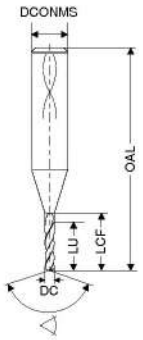
WTX – High Performance Drill, factory standard

- ▲ WTX flute geometry guarantees optimum swarf control and chip evacuation
- ▲ all diameters with standard shank 3 mm



MINI

Ti700



Solid carbide

T4

DC +0,004	DCONMS -0,002/-0,005	OAL	LCF	LU	Article no. 10 779 ...	
mm	mm	mm	mm	mm	£	
1.0	3	55	15	12	155.43	010
1.1	3	55	23	19	155.43	011
1.2	3	55	23	19	155.43	012
1.3	3	55	23	19	155.43	013
1.4	3	55	23	19	155.43	014
1.5	3	55	23	19	155.43	015
1.6	3	68	30	25	164.14	016
1.7	3	68	30	25	164.14	017
1.8	3	68	30	25	164.14	018
1.9	3	68	30	25	164.14	019
2.0	3	68	30	25	164.14	020
2.1	3	74	38	32	167.64	021
2.2	3	74	38	32	167.64	022
2.3	3	74	38	32	167.64	023
2.4	3	74	38	32	167.64	024
2.5	3	74	38	32	167.64	025
2.6	3	81	44	37	172.88	026
2.7	3	81	44	37	172.88	027
2.8	3	81	44	37	172.88	028
2.9	3	81	44	37	172.88	029

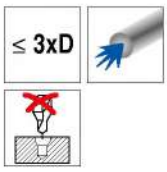
Steel	●
Stainless steel	
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	

→ v_c Page 109

Coolant pressure 20–50 bar

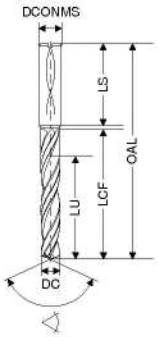
WTX – Drill-Reamer -1/100

- solid carbide high-performance drill-reaming tool
- drilling and reaming in one operation
- 2 drilling edges
- 4 reaming edges
- high feed rates
- good surface quality
- for blind holes and through holes



Finish BR100

Ti700



140°

Solid carbide

T4

DC ±0,003	DCONMS h6	OAL	LCF	LU	LS	Article no. 10 761 ...	
mm	mm	mm	mm	mm	mm	£	
3.97	6	66	24	17	36	135.26	03970
3.98	6	66	24	17	36	135.26	03980
3.99	6	66	24	17	36	135.26	03990
4.00	6	66	24	17	36	135.26	04000
4.01	6	66	24	17	36	135.26	04010
4.02	6	66	24	17	36	135.26	04020
4.97	6	66	24	17	36	135.26	04970
4.98	6	66	24	17	36	135.26	04980
4.99	6	66	24	17	36	135.26	04990
5.00	6	79	34	24	36	135.26	05000
5.01	6	79	34	24	36	135.26	05010
5.02	6	79	34	24	36	135.26	05020
5.97	6	79	34	24	36	135.26	05970
5.98	6	79	34	24	36	135.26	05980
5.99	6	79	34	24	36	135.26	05990
6.00	6	79	34	24	36	135.26	06000
6.01	6	79	34	24	36	135.26	06010
6.02	6	79	34	24	36	135.26	06020
7.97	8	79	34	24	36	135.26	07970
7.98	8	79	34	24	36	135.26	07980
7.99	8	79	34	24	36	135.26	07990
8.00	8	79	34	24	36	135.26	08000
8.01	8	79	34	24	36	135.26	08010
8.02	8	79	34	24	36	135.26	08020
9.97	10	89	47	35	40	156.77	09970
9.98	10	89	47	35	40	156.77	09980
9.99	10	89	47	35	40	156.77	09990
10.00	10	89	47	35	40	156.77	10000
10.01	10	89	47	35	40	156.77	10010
10.02	10	89	47	35	40	156.77	10020
11.97	12	102	55	40	45	223.27	11970
11.98	12	102	55	40	45	223.27	11980
11.99	12	102	55	40	45	223.27	11990
12.00	12	102	55	40	45	223.27	12000
12.01	12	102	55	40	45	223.27	12010
12.02	12	102	55	40	45	223.27	12020

Steel	●
Stainless steel	
Cast iron	●
Non ferrous metals	○
Heat resistant alloys	

→ v_c Page 112

Tolerances e.g. Ø 8 F7 = 8.02 mm						
Ø 4	3,97	U 7	**X 7**			
	3,98	**N 10**	**N 11**	R 7		
	3,99	M 8	**N 7**	**N 8**	**N 9**	
	4,00	**J 7**	**J 8**	JS 7	JS 8	JS 9
	4,01	**G 7**	**H 8**			
	4,02	**F 8**	**H 9**			
Ø 5	4,97	U 7	**X 7**			
	4,98	**N 10**	**N 11**	R 7		
	4,99	M 8	**N 7**	**N 8**	**N 9**	
	5,00	**J 7**	**J 8**	**JS 7**	**JS 8**	**JS 9**
	5,01	**G 7**	**H 8**			
	5,02	**F 8**	**H 9**			
Ø 6	5,97	U 7	**X 7**			
	5,98	**N 10**	**N 11**	R 7		
	5,99	M 8	**N 7**	**N 8**	**N 9**	
	6,00	**J 7**	**J 8**	**JS 7**	**JS 8**	**JS 9**
	6,01	**G 7**	**H 8**			
	6,02	**F 8**	**H 9**			
Ø 8	7,97	S 7	**U 7**			
	7,98	N 8	**N 10**	**N 11**	P 7	R 7
	7,99	K 8	M 6	M 7	**M 8**	N 9
	8,00	**J 7**	**J 8**	**JS 7**	**JS 8**	**JS 9**
	8,01	G 7	**H 8**			
	8,02	**F 7**	F 8	**H 9**		
Ø 10	9,97	S 7	**U 7**			
	9,98	N 8	**N 10**	**N 11**	P 7	R 7
	9,99	K 8	M 6	M 7	**M 8**	N 9
	10,00	**J 7**	**J 8**	**JS 7**	**JS 8**	**JS 9**
	10,01	G 7	**H 8**			
	10,02	**F 7**	F 8	H 9		
Ø 12	11,97	N 11	R 7	**S 7**		
	11,98	N 8	**N 9**	**N 10**	**P 7**	
	11,99	K 8	**M 6**	**M 7**	**M 8**	N 7
	12,00	**J 7**	**J 8**	**JS 7**	**JS 8**	
	12,01	G 6	**H 7**	H 8	**JS 9**	
	12,02	F 7				

Tolerance classes written in standard print are not optimally positioned in the tolerance field.

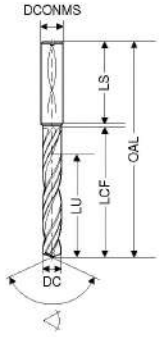
WTX – Drill-Reamer

- solid carbide high-performance drill-reaming tool
- drilling and reaming to tolerance H7 in one operation
- 2 drilling edges
- 4 reaming edges
- high feed rates
- good surface quality
- for blind holes and through holes
- optimum roundness – tolerance H7

≤ 3xD

Finish BR

Ti700



140°
Solid carbide

DC $_{H7}$	DCONMS $_{h6}$	OAL	LCF	LU	LS	T4 Article no. 10 760 ...	
mm	mm	mm	mm	mm	mm	£	
4	6	66	24	17	36	135.26	040
5	6	79	34	24	36	135.26	050
6	6	79	34	24	36	135.26	060
8	8	79	34	24	36	135.26	080
10	10	89	47	35	40	156.77	100
12	12	102	55	40	45	223.27	120
14	14	107	60	43	45	295.18	140
16	16	115	65	45	48	408.35	160

Steel	●
Stainless steel	
Cast iron	●
Non ferrous metals	○
Heat resistant alloys	

→ v_c Page 112

Special dimensions available upon request

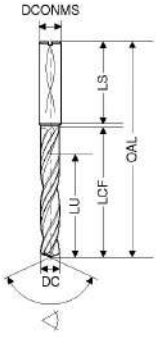
WTX – Drill-Reamer

- solid carbide high-performance drill-reaming tool
- drilling and reaming to tolerance H7 in one operation
- 2 drilling edges
- 4 reaming edges
- high feed rates
- good surface quality
- for blind holes and through holes
- optimum roundness – tolerance H7

≤ 5xD

Finish BR

Ti700



140°
Solid carbide

DC $_{H7}$	DCONMS $_{h6}$	OAL	LCF	LU	LS	T4 Article no. 10 762 ...	
mm	mm	mm	mm	mm	mm	£	
4	6	74	36	29	36	162.12	040
5	6	91	53	43	36	162.12	050
6	6	91	53	43	36	162.12	060
8	8	91	53	43	36	162.12	080
10	10	103	61	49	40	232.28	100
12	12	118	71	56	45	329.16	120
14	14	124	77	60	45	444.51	140
16	16	133	83	63	48	554.19	160
18	18	143	93	71	48	734.87	180
20	20	153	101	77	50	884.82	200

Steel	●
Stainless steel	
Cast iron	●
Non ferrous metals	○
Heat resistant alloys	

→ v_c Page 113

Special dimensions available upon request

WTX – Short 90° step drill

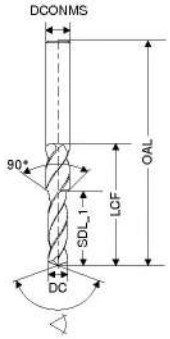
▲ for core hole plus countersink for thread cutting

≤ 3xD

SB

DPX74S

DRAGONSKIN



HA

140°

Solid carbide

NEW T4

For threads	DC m7	DCONMS h6	OAL	SDL_1	LCF	Article no. 10 767 ...	£	
	mm	mm	mm	mm	mm			
M3	2.5	6	62	8.8	20	51.47		02500
M4	3.3	6	62	11.4	24	63.06		03300
M5	4.2	6	66	13.6	28	64.95		04200
M6	5.0	8	79	16.5	34	91.92		05000
M8	6.8	10	89	21.0	47	133.23		06800
M10	8.5	12	102	25.5	55	176.33		08500
M12	10.2	14	107	30.0	60	226.91		10200
M14	12.0	16	115	34.5	65	259.14		12000
M16	14.0	18	123	38.5	73	291.56		14000

Steel	●
Stainless steel	
Cast iron	●
Non ferrous metals	○
Heat resistant alloys	

→ v_c Page 110

WTX – Short 90° step drill

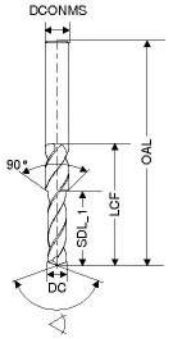
▲ for core hole plus countersink for thread forming

≤ 3xD

SB

DPX74S

DRAGONSKIN



HA

140°

Solid carbide

NEW T4

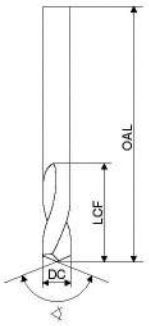
For threads	DC m7	DCONMS h6	OAL	SDL_1	LCF	Article no. 10 772 ...	£	
	mm	mm	mm	mm	mm			
M3	2.80	6	62	8.8	20	51.47		02800
M4	3.70	6	62	11.4	24	63.06		03700
M5	4.65	6	66	13.6	28	64.95		04650
M6	5.55	8	79	16.5	34	91.92		05550
M8	7.45	10	89	21.0	47	133.23		07450
M10	9.30	12	102	25.5	55	176.33		09300
M12	11.20	14	107	30.0	60	226.91		11200
M14	13.00	16	115	34.5	65	259.14		13000
M16	15.00	18	123	38.5	73	291.56		15000

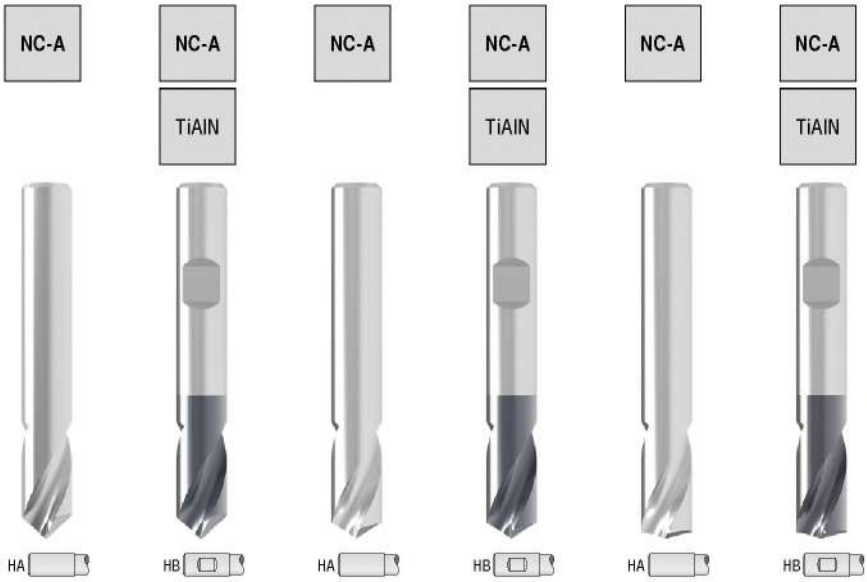
Steel	●
Stainless steel	
Cast iron	●
Non ferrous metals	○
Heat resistant alloys	

→ v_c Page 110

NC Spot Drill, factory standard

▲ spiral flute





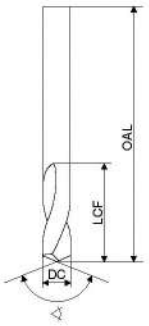
			◁ 90°		◁ 90°		◁ 120°		◁ 120°		◁ 142°		◁ 142°	
			Solid carbide		Solid carbide		Solid carbide		Solid carbide		Solid carbide		Solid carbide	
			T3		T3		T3		T3		T3		T3	
DC_{h5}	OAL	LCF	Article no. 10 702 ...		Article no. 10 716 ...		Article no. 10 703 ...		Article no. 10 717 ...		Article no. 10 704 ...		Article no. 10 718 ...	
mm	mm	mm	£		£		£		£		£		£	
2	32	6	22.00	002	21.63	002 1)	22.00	002	21.63	002 1)	22.00	002	21.63	002 1)
3	32	8	22.00	003	21.63	003 1)	22.00	003	21.63	003 1)	22.00	003	21.63	003 1)
4	40	10	17.25	004	22.81	004 1)	17.25	004	22.81	004 1)	17.25	004	22.81	004 1)
5	50	13	19.82	005	25.23	005 1)	19.82	005	25.23	005 1)	19.82	005	25.23	005 1)
6	50	13	22.11	006	27.62	006	22.11	006	27.62	006	22.11	006	27.62	006
8	60	23	33.98	008	38.43	008	33.98	008	38.43	008	33.98	008	38.43	008
10	70	24	47.66	010	50.45	010	47.66	010	50.45	010	47.66	010	50.45	010
12	70	24	68.73	012	66.06	012	68.73	012	66.06	012	68.73	012	66.06	012
14	75	26	79.03	014	97.28	014	79.03	014	97.28	014	79.03	014	97.28	014
16	75	29	115.35	016	112.91	016	115.35	016	112.91	016	115.35	016	112.91	016
18	100	35	223.72	018	202.99	018	223.72	018	202.99	018	223.72	018	202.99	018
20	100	35	187.82	020	213.80	020	187.82	020	213.80	020	187.82	020	213.80	020
Steel			●		●		●		●		●		●	
Stainless steel														
Cast iron			●		●		●		●		●		●	
Non ferrous metals			●				●				●			
Heat resistant alloys														

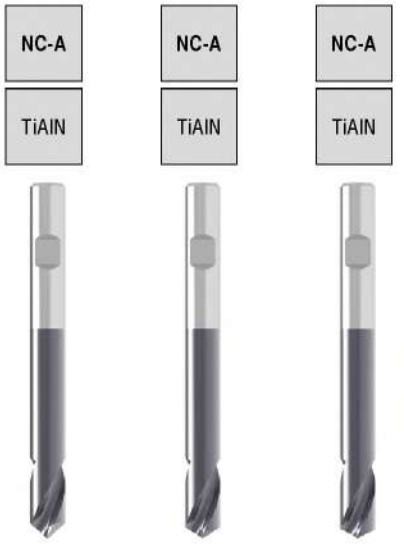
1) DIN 6535 HA Shank

→ v_c Page 125+126

NC Spot Drill, factory standard, long

▲ spiral flutes





DC_{h5}	OAL	LCF		90° Solid carbide T3 Article no. 10 724 ...		120° Solid carbide T3 Article no. 10 726 ...		142° Solid carbide T3 Article no. 10 727 ...	
mm	mm	mm		£		£		£	
3	66	8		22.81	003 [1]	22.81	003 [1]	22.81	003 [1]
4	74	10		26.42	004 [1]	26.42	004 [1]	26.42	004 [1]
6	82	13		33.63	006	33.63	006	33.63	006
8	91	23		49.25	008	49.25	008	49.25	008
10	103	24		68.47	010	68.47	010	68.47	010
12	118	24		103.30	012	103.30	012	103.30	012
16	133	29		193.38	016	193.38	016	193.38	016
Steel				●		●		●	
Stainless steel									
Cast iron				●		●		●	
Non ferrous metals									
Heat resistant alloys									

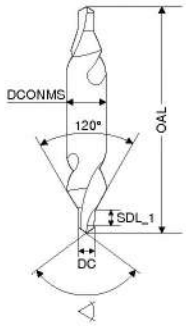
1) DIN 6535 HA Shank

→ v_c Page 126

Centre drills, DIN 333, form A

▲ spiral flutes

ZB



120°
Solid carbide
T3

DC_{k13}	$DCONMS_{h6}$	OAL	SDL_1	Article no. 10 708 ...	
mm	mm	mm	mm	£	
0.50	3.15	20.0	0.76	37.28	050 1)
0.80	3.15	20.0	1.07	37.28	080 1)
1.00	3.15	31.5	1.31	36.33	100
1.25	3.15	31.5	1.54	36.33	125
1.60	4.00	35.5	1.94	38.50	160
2.00	5.00	40.0	2.32	40.65	200
2.50	6.30	45.0	2.88	45.81	250
3.15	8.00	50.0	3.49	53.47	315
4.00	10.00	56.0	4.45	64.37	400
5.00	12.50	63.0	5.46	95.74	500
6.30	16.00	71.0	6.78	145.57	630

Steel	●
Stainless steel	
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	

1) Single ended

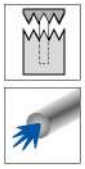
→ v_c Page 125

WTX – Drilling Head for Exchangeable drills

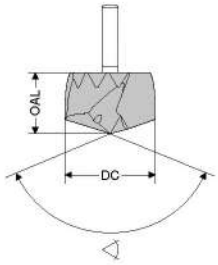
2

▲ extra long head type
▲ three-edged

Scope of supply:
Drill head incl. differential screw



Change Feed UNI
Ti750



140°
Solid carbide

DC m7	OAL	W2 Article no. 10 925 ...	
mm	mm	£	
14.0	13.5	102.22	140
14.1	13.5	102.22	141
14.2	13.5	102.22	142
14.3	13.5	102.22	143
14.4	13.5	102.22	144
14.5	14.0	102.22	145
14.6	14.0	102.22	146
14.7	14.0	102.22	147
14.8	14.0	102.22	148
14.9	14.0	102.22	149
15.0	14.4	102.22	150
15.1	14.4	102.22	151
15.2	14.4	102.22	152
15.3	14.4	102.22	153
15.4	14.4	102.22	154
15.5	15.4	114.49	155
15.6	15.4	114.49	156
15.7	15.4	114.49	157
15.8	15.4	114.49	158
15.9	15.4	114.49	159
16.0	15.4	114.49	160
16.1	15.4	114.49	161
16.2	15.4	114.49	162
16.3	15.4	114.49	163
16.4	15.4	114.49	164
16.5	16.3	114.49	165
16.6	16.3	114.49	166
16.7	16.3	114.49	167
16.8	16.3	114.49	168
16.9	16.3	114.49	169
17.0	16.3	114.49	170
17.1	16.3	114.49	171
17.2	16.3	114.49	172
17.3	16.3	114.49	173
17.4	16.3	114.49	174
17.5	17.2	129.95	175
17.6	17.2	129.95	176
17.7	17.2	129.95	177
17.8	17.2	129.95	178
17.9	17.2	129.95	179
18.0	17.2	129.95	180
18.1	17.2	129.95	181
18.2	17.2	129.95	182
18.3	17.2	129.95	183
18.4	17.2	129.95	184
18.5	18.2	129.95	185
18.6	18.2	129.95	186
18.7	18.2	129.95	187
18.8	18.2	129.95	188
18.9	18.2	129.95	189
19.0	18.2	129.95	190
19.1	18.2	129.95	191
19.2	18.2	129.95	192
19.3	18.2	129.95	193
19.4	18.2	129.95	194
19.5	19.1	149.10	195
19.6	19.1	149.10	196
19.7	19.1	149.10	197
19.8	19.1	149.10	198
19.9	19.1	149.10	199
20.0	19.1	149.10	200
20.1	19.1	149.10	201
20.2	19.1	149.10	202
20.3	19.1	149.10	203
20.4	19.1	149.10	204
20.5	20.0	149.10	205
20.6	20.0	149.10	206
20.7	20.0	149.10	207
20.8	20.0	149.10	208
20.9	20.0	149.10	209
21.0	20.0	149.10	210
21.1	20.0	149.10	211
21.2	20.0	149.10	212
21.3	20.0	149.10	213
21.4	20.0	149.10	214
21.5	21.0	149.10	215
21.6	21.0	149.10	216
21.7	21.0	149.10	217
21.8	21.0	149.10	218
21.9	21.0	149.10	219
22.0	21.0	149.10	220
22.1	21.0	149.10	221
22.2	21.0	149.10	222
22.3	21.0	149.10	223
22.4	21.0	149.10	224
22.5	21.9	165.88	225
22.6	21.9	165.88	226
22.7	21.9	165.88	227
22.8	21.9	165.88	228
22.9	21.9	165.88	229
23.0	21.9	165.88	230
23.1	21.9	165.88	231
23.2	21.9	165.88	232
23.3	21.9	165.88	233
23.4	21.9	165.88	234
23.5	22.8	165.88	235
23.6	22.8	165.88	236
23.7	22.8	165.88	237
23.8	22.8	165.88	238
23.9	22.8	165.88	239
24.0	22.8	165.88	240
24.1	22.8	165.88	241
24.2	22.8	165.88	242
24.3	22.8	165.88	243
24.4	22.8	165.88	244
24.5	23.8	188.02	245
24.6	23.8	188.02	246
24.7	23.8	188.02	247
24.8	23.8	188.02	248
24.9	23.8	188.02	249
25.0	23.8	188.02	250

Steel	●
Stainless steel	
Cast iron	●
Non ferrous metals	
Heat resistant alloys	

→ v_c Page 127

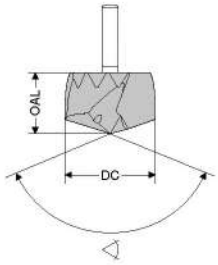
Continued on next page

WTX – Drilling Head for Exchangeable drills

- ▲ extra long head type
- ▲ three-edged

Scope of supply:
Drill head incl. differential screw

Change Feed UNI
Ti750



140°
Solid carbide

DC m7	OAL	W2 Article no. 10 925 ...	
mm	mm	£	
25.1	23.8	188.02	251
25.2	23.8	188.02	252
25.3	23.8	188.02	253
25.4	23.8	188.02	254
25.5	24.7	188.02	255
25.6	24.7	188.02	256
25.7	24.7	188.02	257
25.8	24.7	188.02	258
25.9	24.7	188.02	259
26.0	24.7	188.02	260
26.1	24.7	188.02	261
26.2	24.7	188.02	262
26.3	24.7	188.02	263
26.4	24.7	188.02	264
26.5	25.6	202.82	265
26.6	25.6	202.82	266
26.7	25.6	202.82	267
26.8	25.6	202.82	268
26.9	25.6	202.82	269
27.0	25.6	202.82	270
27.1	25.6	202.82	271
27.2	25.6	202.82	272
27.3	25.6	202.82	273
27.4	25.6	202.82	274
27.5	26.6	202.82	275
27.6	26.6	202.82	276
27.7	26.6	202.82	277
27.8	26.6	202.82	278
27.9	26.6	202.82	279
28.0	26.6	202.82	280
28.1	26.6	202.82	281
28.2	26.6	202.82	282
28.3	26.6	202.82	283
28.4	26.6	202.82	284
28.5	27.5	223.71	285
28.6	27.5	223.71	286
28.7	27.5	223.71	287
28.8	27.5	223.71	288
28.9	27.5	223.71	289
29.0	27.5	223.71	290
29.1	27.5	223.71	291
29.2	27.5	223.71	292
29.3	27.5	223.71	293
29.4	27.5	223.71	294
29.5	28.4	223.71	295
29.6	28.4	223.71	296
29.7	28.4	223.71	297
29.8	28.4	223.71	298
29.9	28.4	223.71	299
30.0	28.4	223.71	300
30.1	28.4	223.71	301
30.2	28.4	223.71	302
30.3	28.4	223.71	303
30.4	28.4	223.71	304
30.5	29.3	244.23	305
30.6	29.3	244.23	306
30.7	29.3	244.23	307
30.8	29.3	244.23	308
30.9	29.3	244.23	309
31.0	29.3	244.23	310
31.1	29.3	244.23	311
31.2	29.3	244.23	312
31.3	29.3	244.23	313
31.4	29.3	244.23	314
31.5	30.3	244.23	315
31.6	30.3	244.23	316
31.7	30.3	244.23	317
31.8	30.3	244.23	318
31.9	30.3	244.23	319
32.0	30.3	244.23	320

Steel	●
Stainless steel	
Cast iron	●
Non ferrous metals	
Heat resistant alloys	

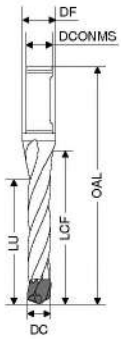
→ v_c Page 127

WTX – Holder for Exchangeable drills

Scope of supply:
Holder incl. blade holder and interchangeable blade

≤ 3xD

Change Feed



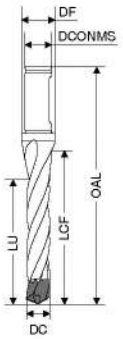
DC	DCONMS h6	OAL	LCF	LU	DF	torque moment	W1 Article no. 10 914 ...	
mm	mm	mm	mm	mm	mm	Nm	£	
14,00 - 14,49	16	120	72	48	20	0,7	266.86	140
14,50 - 14,99	16	122	74	49	20	0,7	266.86	145
15,00 - 15,49	16	124	76	51	25	0,7	266.86	150
15,50 - 16,49	20	131	81	54	25	0,7	275.73	155
16,50 - 17,49	20	135	85	58	25	0,7	275.73	165
17,50 - 18,49	20	140	90	61	25	1,3	275.73	175
18,50 - 19,49	25	150	94	64	31	1,3	324.82	185
19,50 - 20,49	25	155	99	68	31	2,0	327.74	195
20,50 - 21,49	25	159	103	71	31	2,0	358.88	205
21,50 - 22,49	25	164	108	74	31	2,0	358.88	215
22,50 - 23,49	25	168	112	78	31	2,0	393.27	225
23,50 - 24,49	25	173	117	81	31	2,0	393.27	235
24,50 - 25,49	32	182	122	84	38	3,1	442.57	245
25,50 - 26,49	32	186	126	87	38	3,1	442.57	255
26,50 - 27,49	32	191	131	91	38	3,1	442.57	265
27,50 - 28,49	32	195	135	94	38	3,1	442.57	275
28,50 - 29,49	32	200	140	97	38	5,6	510.05	285
29,50 - 30,49	32	204	144	101	38	5,6	510.05	295
30,50 - 31,49	32	209	149	104	38	5,6	557.95	305
31,50 - 32,49	32	213	153	107	38	5,6	557.95	315

WTX – Holder for Exchangeable drills

Scope of supply:
Holder incl. blade holder and interchangeable blade

≤ 5xD

Change Feed



DC	DCONMS h6	OAL	LCF	LU	DF	torque moment	W1 Article no. 10 916 ...	
mm	mm	mm	mm	mm	mm	Nm	£	
14,00 - 14,49	16	149	101	77	20	0,7	294.76	140
14,50 - 14,99	16	152	104	79	20	0,7	294.76	145
15,00 - 15,49	16	155	107	82	25	0,7	294.76	150
15,50 - 16,49	20	164	114	87	25	0,7	319.20	155
16,50 - 17,49	20	170	120	93	25	0,7	319.20	165
17,50 - 18,49	20	177	127	98	25	1,3	319.20	175
18,50 - 19,49	25	189	133	103	31	1,3	365.15	185
19,50 - 20,49	25	196	140	109	31	2,0	367.97	195
20,50 - 21,49	25	202	146	114	31	2,0	401.59	205
21,50 - 22,49	25	209	153	119	31	2,0	401.59	215
22,50 - 23,49	25	215	159	124	31	2,0	432.52	225
23,50 - 24,49	25	222	166	130	31	2,0	432.52	235
24,50 - 25,49	32	233	173	135	38	3,1	480.85	245
25,50 - 26,49	32	239	179	140	38	3,1	480.85	255
26,50 - 27,49	32	246	186	146	38	3,1	480.85	265
27,50 - 28,49	32	252	192	151	38	3,1	480.85	275
28,50 - 29,49	32	259	199	156	38	5,6	547.13	285
29,50 - 30,49	32	265	205	162	38	5,6	547.13	295
30,50 - 31,49	32	272	212	167	38	5,6	594.18	305
31,50 - 32,49	32	278	218	172	38	5,6	594.18	315

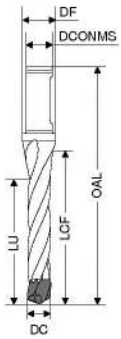
Spare parts DC	W1 Interchangeable blade Article no. 80 022 ... £		Y7  Blade holder Article no. 80 020 ... £		W1  Torque handle Article no. 80 023 ... £		W2  Differential screw Article no. 10 950 ... £	
14,00 - 14,49	20.49	007	33.52	025	342.19	012	6.71	064
14,50 - 14,99	20.49	007	33.52	025	342.19	012	6.71	064
15,00 - 15,49	20.49	007	33.52	025	342.19	012	6.71	064
15,50 - 16,49	20.49	007	33.52	025	342.19	012	6.71	064
16,50 - 17,49	20.49	007	33.52	025	342.19	012	6.71	064
17,50 - 18,49	20.49	008	33.52	025	366.26	060	6.71	065
18,50 - 19,49	20.49	008	33.52	025	366.26	060	6.71	065
19,50 - 20,49	23.84	010	33.52	025	366.26	060	6.71	066
20,50 - 21,49	23.84	010	33.52	025	366.26	060	6.71	066
21,50 - 22,49	23.84	010	33.52	025	366.26	060	6.71	066
22,50 - 23,49	23.84	010	33.52	025	366.26	060	6.71	066
23,50 - 24,49	23.84	010	33.52	025	366.26	060	6.71	066
24,50 - 25,49	38.51	015	33.52	025	366.26	060	6.71	067
25,50 - 26,49	38.51	015	33.52	025	366.26	060	6.71	067
26,50 - 27,49	38.51	015	33.52	025	366.26	060	6.71	067
27,50 - 28,49	38.51	015	33.52	025	366.26	060	6.71	067
28,50 - 29,49	38.51	015	33.52	025	366.26	060	6.71	068
29,50 - 30,49	38.51	015	33.52	025	366.26	060	6.71	068
30,50 - 31,49	38.51	015	33.52	025	366.26	060	6.71	068
31,50 - 32,49	38.51	015	33.52	025	366.26	060	6.71	068

WTX – Holder for Exchangeable drills

Scope of supply:
Holder incl. blade holder and interchangeable blade

≤ 8xD

Change Feed



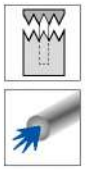
DC	DCONMS h6	OAL	LCF	LU	DF	torque moment	NEW W1 Article no. 10 917 ...	
mm	mm	mm	mm	mm	mm	Nm	£	
14,00 - 14,49	16	192	121	116	20	0,7	385.70	14000
14,50 - 14,99	16	197	125	120	20	0,7	385.70	14500
15,00 - 15,49	16	202	129	124	25	0,7	385.70	15000
15,50 - 16,49	20	213	137	132	25	0,7	414.36	15500
16,50 - 17,49	20	223	146	140	25	0,7	414.36	16500
17,50 - 18,49	20	232	154	148	25	1,3	414.36	17500
18,50 - 19,49	25	248	162	156	31	1,3	466.53	18500
19,50 - 20,49	25	257	171	164	31	2,0	472.93	19500
20,50 - 21,49	25	267	179	172	31	2,0	504.74	20500
21,50 - 22,49	25	276	187	180	31	2,0	504.74	21500
22,50 - 23,49	25	286	195	188	31	2,0	559.86	22500
23,50 - 24,49	25	295	204	196	31	2,0	559.86	23500
24,50 - 25,49	32	309	212	204	38	3,1	604.26	24500
25,50 - 26,49	32	319	220	212	38	3,1	604.26	25500
26,50 - 27,49	32	328	229	220	38	3,1	604.26	26500
27,50 - 28,49	32	338	237	228	38	3,1	604.26	27500
28,50 - 29,49	32	342	245	236	38	5,6	693.50	28500
29,50 - 30,49	32	352	254	244	38	5,6	693.50	29500
30,50 - 31,49	32	361	262	252	38	5,6	764.88	30500
31,50 - 32,49	32	371	270	260	38	5,6	764.88	31500

Spare parts DC	W1 Interchangeable blade Article no. 80 022 ... £		Y7  Blade holder Article no. 80 020 ... £		W1  Torque handle Article no. 80 023 ... £		W2  Differential screw Article no. 10 950 ... £	
14,00 - 14,49	20.49	007	33.52	025	342.19	012	6.71	064
14,50 - 14,99	20.49	007	33.52	025	342.19	012	6.71	064
15,00 - 15,49	20.49	007	33.52	025	342.19	012	6.71	064
15,50 - 16,49	20.49	007	33.52	025	342.19	012	6.71	064
16,50 - 17,49	20.49	007	33.52	025	342.19	012	6.71	064
17,50 - 18,49	20.49	008	33.52	025	366.26	060	6.71	065
18,50 - 19,49	20.49	008	33.52	025	366.26	060	6.71	065
19,50 - 20,49	23.84	010	33.52	025	366.26	060	6.71	066
20,50 - 21,49	23.84	010	33.52	025	366.26	060	6.71	066
21,50 - 22,49	23.84	010	33.52	025	366.26	060	6.71	066
22,50 - 23,49	23.84	010	33.52	025	366.26	060	6.71	066
23,50 - 24,49	23.84	010	33.52	025	366.26	060	6.71	066
24,50 - 25,49	38.51	015	33.52	025	366.26	060	6.71	067
25,50 - 26,49	38.51	015	33.52	025	366.26	060	6.71	067
26,50 - 27,49	38.51	015	33.52	025	366.26	060	6.71	067
27,50 - 28,49	38.51	015	33.52	025	366.26	060	6.71	067
28,50 - 29,49	38.51	015	33.52	025	366.26	060	6.71	068
29,50 - 30,49	38.51	015	33.52	025	366.26	060	6.71	068
30,50 - 31,49	38.51	015	33.52	025	366.26	060	6.71	068
31,50 - 32,49	38.51	015	33.52	025	366.26	060	6.71	068

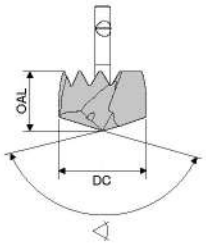
WTX – Drilling Head for Exchangeable drills

▲ extra long head type

2



Change UNI	Change P	Change VA	Change GG	Change AL
DPX74S	Ti750	Ti700	TiSi	TiB
DRAGONSKIN				



		◁ 140° Solid carbide NEW W2		◁ 138° Solid carbide W2		◁ 138° Solid carbide W2		◁ 140° Solid carbide W2		◁ 140° Solid carbide W2	
DC $_{h7/m7}$	OAL	Article no. 10 919 ...		Article no. 10 923 ...		Article no. 10 921 ...		Article no. 10 924 ...		Article no. 10 922 ...	
mm	mm	£		£		£		£		£	
12.0	10.7	120.57	12000	120.57	120	120.57	120	120.57	120	120.57	120
12.1	10.7	120.57	12100	120.57	121	120.57	121	120.57	121	120.57	121
12.2	10.7	120.57	12200	120.57	122	120.57	122	120.57	122	120.57	122
12.3	10.7	120.57	12300	120.57	123	120.57	123	120.57	123	120.57	123
12.4	10.7	120.57	12400	120.57	124	120.57	124	120.57	124	120.57	124
12.5	10.7	120.57	12500	120.57	125	120.57	125	120.57	125	120.57	125
12.6	10.7	120.57	12600	120.57	126	120.57	126	120.57	126	120.57	126
12.7	10.7	120.57	12700	120.57	127	120.57	127	120.57	127	120.57	127
12.8	10.7	120.57	12800	120.57	128	120.57	128	120.57	128	120.57	128
12.9	10.7	120.57	12900	120.57	129	120.57	129	120.57	129	120.57	129
13.0	10.7	120.57	13000	120.57	130	120.57	130	120.57	130	120.57	130
13.1	10.7	120.57	13100	120.57	131	120.57	131	120.57	131	120.57	131
13.2	10.7	120.57	13200	120.57	132	120.57	132	120.57	132	120.57	132
13.3	10.7	120.57	13300	120.57	133	120.57	133	120.57	133	120.57	133
13.4	10.7	120.57	13400	120.57	134	120.57	134	120.57	134	120.57	134
13.5	11.3	120.57	13500	120.57	135	120.57	135	120.57	135	120.57	135
13.6	11.3	120.57	13600	120.57	136	120.57	136	120.57	136	120.57	136
13.7	11.3	120.57	13700	120.57	137	120.57	137	120.57	137	120.57	137
13.8	11.3	120.57	13800	120.57	138	120.57	138	120.57	138	120.57	138
13.9	11.3	120.57	13900	120.57	139	120.57	139	120.57	139	120.57	139
14.0	11.3	120.57	14000	120.57	140	120.57	140	120.57	140	120.57	140
14.1	11.3	120.57	14100	120.57	141	120.57	141	120.57	141	120.57	141
14.2	11.3	120.57	14200	120.57	142	120.57	142	120.57	142	120.57	142
14.3	11.3	120.57	14300	120.57	143	120.57	143	120.57	143	120.57	143
14.4	11.3	120.57	14400	120.57	144	120.57	144	120.57	144	120.57	144
14.5	11.3	120.57	14500	120.57	145	120.57	145	120.57	145	120.57	145
14.6	11.3	120.57	14600	120.57	146	120.57	146	120.57	146	120.57	146
14.7	11.3	120.57	14700	120.57	147	120.57	147	120.57	147	120.57	147
14.8	11.3	120.57	14800	120.57	148	120.57	148	120.57	148	120.57	148
14.9	11.3	120.57	14900	120.57	149	120.57	149	120.57	149	120.57	149
15.0	11.3	120.57	15000	120.57	150	120.57	150	120.57	150	120.57	150
15.1	11.3	120.57	15100	120.57	151	120.57	151	120.57	151	120.57	151
15.2	11.3	120.57	15200	120.57	152	120.57	152	120.57	152	120.57	152
15.3	11.3	120.57	15300	120.57	153	120.57	153	120.57	153	120.57	153
15.4	11.3	120.57	15400	120.57	154	120.57	154	120.57	154	120.57	154
15.5	11.9	120.57	15500	120.57	155	120.57	155	120.57	155	120.57	155
15.6	11.9	120.57	15600	120.57	156	120.57	156	120.57	156	120.57	156
15.7	11.9	120.57	15700	120.57	157	120.57	157	120.57	157	120.57	157

Steel	●	●	○		
Stainless steel			●		
Cast iron	●	●	○	●	
Non ferrous metals					●
Heat resistant alloys					

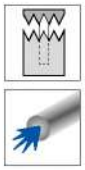
→ v_c Page 128–131

ℹ Ø DC_{m7} for Type UNI, P, GG und AL / Ø DC_{h7} for Type VA

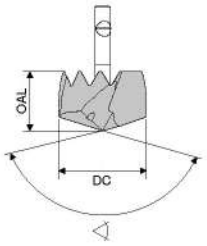
Continued on next page

WTX – Drilling Head for Exchangeable drills

▲ extra long head type



Change UNI	Change P	Change VA	Change GG	Change AL
DPX74S	Ti750	Ti700	TiSi	TiB
DRAGONSKIN				



DC h7/m7	OAL	140° Solid carbide NEW W2 Article no. 10 919 ...		138° Solid carbide W2 Article no. 10 923 ...		138° Solid carbide W2 Article no. 10 921 ...		140° Solid carbide W2 Article no. 10 924 ...		140° Solid carbide W2 Article no. 10 922 ...	
mm	mm	£		£		£		£		£	
15.8	11.9	120.57	15800	120.57	158	120.57	158	120.57	158	120.57	158
15.9	11.9	120.57	15900	120.57	159	120.57	159	120.57	159	120.57	159
16.0	11.9	120.57	16000	120.57	160	120.57	160	120.57	160	120.57	160
16.1	11.9	120.57	16100	120.57	161	120.57	161	120.57	161	120.57	161
16.2	11.9	120.57	16200	120.57	162	120.57	162	120.57	162	120.57	162
16.3	11.9	120.57	16300	120.57	163	120.57	163	120.57	163	120.57	163
16.4	11.9	120.57	16400	120.57	164	120.57	164	120.57	164	120.57	164
16.5	13.4	120.57	16500	120.57	165	120.57	165	120.57	165	120.57	165
16.6	13.4	120.57	16600	120.57	166	120.57	166	120.57	166	120.57	166
16.7	13.4	120.57	16700	120.57	167	120.57	167	120.57	167	120.57	167
16.8	13.4	120.57	16800	120.57	168	120.57	168	120.57	168	120.57	168
16.9	13.4	120.57	16900	120.57	169	120.57	169	120.57	169	120.57	169
17.0	13.4	120.57	17000	120.57	170	120.57	170	120.57	170	120.57	170
17.1	13.4	120.57	17100	120.57	171	120.57	171	120.57	171	120.57	171
17.2	13.4	120.57	17200	120.57	172	120.57	172	120.57	172	120.57	172
17.3	13.4	120.57	17300	120.57	173	120.57	173	120.57	173	120.57	173
17.4	13.4	120.57	17400	120.57	174	120.57	174	120.57	174	120.57	174
17.5	13.4	120.57	17500	120.57	175	120.57	175	120.57	175	120.57	175
17.6	13.4	120.57	17600	120.57	176	120.57	176	120.57	176	120.57	176
17.7	13.4	120.57	17700	120.57	177	120.57	177	120.57	177	120.57	177
17.8	13.4	120.57	17800	120.57	178	120.57	178	120.57	178	120.57	178
17.9	13.4	120.57	17900	120.57	179	120.57	179	120.57	179	120.57	179
18.0	13.4	120.57	18000	120.57	180	120.57	180	120.57	180	120.57	180
18.1	13.4	131.19	18100	131.19	181	131.19	181	131.19	181	131.19	181
18.2	13.4	131.19	18200	131.19	182	131.19	182	131.19	182	131.19	182
18.3	13.4	131.19	18300	131.19	183	131.19	183	131.19	183	131.19	183
18.4	13.4	131.19	18400	131.19	184	131.19	184	131.19	184	131.19	184
18.5	13.4	131.19	18500	131.19	185	131.19	185	131.19	185	131.19	185
18.6	13.4	131.19	18600	131.19	186	131.19	186	131.19	186	131.19	186
18.7	13.4	131.19	18700	131.19	187	131.19	187	131.19	187	131.19	187
18.8	13.4	131.19	18800	131.19	188	131.19	188	131.19	188	131.19	188
18.9	13.4	131.19	18900	131.19	189	131.19	189	131.19	189	131.19	189
19.0	13.4	131.19	19000	131.19	190	131.19	190	131.19	190	131.19	190
19.1	13.4	131.19	19100	131.19	191	131.19	191	131.19	191	131.19	191
19.2	13.4	131.19	19200	131.19	192	131.19	192	131.19	192	131.19	192
19.3	13.4	131.19	19300	131.19	193	131.19	193	131.19	193	131.19	193
19.4	13.4	131.19	19400	131.19	194	131.19	194	131.19	194	131.19	194
19.5	13.4	131.19	19500	131.19	195	131.19	195	131.19	195	131.19	195

Steel	●	●	○		
Stainless steel			●		
Cast iron	●	●	○	●	
Non ferrous metals					●
Heat resistant alloys					

→ v_c Page 128–131

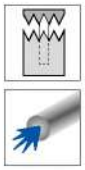
ℹ Ø DC_{m7} for Type UNI, P, GG und AL / Ø DC_{h7} for Type VA

Continued on next page

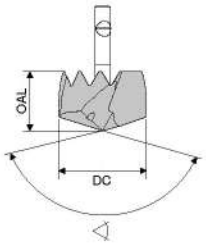
WTX – Drilling Head for Exchangeable drills

▲ extra long head type

2



Change UNI	Change P	Change VA	Change GG	Change AL
DPX74S	Ti750	Ti700	TiSi	TiB
DRAGONSKIN				



DC $_{h7/m7}$	OAL	◁ 140° Solid carbide NEW W2 Article no. 10 919 ...		◁ 138° Solid carbide W2 Article no. 10 923 ...		◁ 138° Solid carbide W2 Article no. 10 921 ...		◁ 140° Solid carbide W2 Article no. 10 924 ...		◁ 140° Solid carbide W2 Article no. 10 922 ...	
mm	mm	£		£		£		£		£	
19.6	13.4	131.19	19600	131.19	196	131.19	196	131.19	196	131.19	196
19.7	13.4	131.19	19700	131.19	197	131.19	197	131.19	197	131.19	197
19.8	13.4	131.19	19800	131.19	198	131.19	198	131.19	198	131.19	198
19.9	13.4	131.19	19900	131.19	199	131.19	199	131.19	199	131.19	199
20.0	13.4	131.19	20000	131.19	200	131.19	200	131.19	200	131.19	200
20.1	13.4	144.98	20100	144.98	201	144.98	201	144.98	201	109.31	201
20.2	13.4	144.98	20200	144.98	202	144.98	202	144.98	202	144.98	202
20.3	13.4	144.98	20300	144.98	203	144.98	203	144.98	203	144.98	203
20.4	13.4	144.98	20400	144.98	204	144.98	204	144.98	204	144.98	204
20.5	15.4	144.98	20500	144.98	205	144.98	205	144.98	205	144.98	205
20.6	15.4	144.98	20600	144.98	206	144.98	206	144.98	206	144.98	206
20.7	15.4	144.98	20700	144.98	207	144.98	207	144.98	207	144.98	207
20.8	15.4	144.98	20800	144.98	208	144.98	208	144.98	208	144.98	208
20.9	15.4	144.98	20900	144.98	209	144.98	209	144.98	209	144.98	209
21.0	15.4	144.98	21000	144.98	210	144.98	210	144.98	210	144.98	210
21.1	15.4	144.98	21100	144.98	211	144.98	211	144.98	211	144.98	211
21.2	15.4	144.98	21200	144.98	212	144.98	212	144.98	212	144.98	212
21.3	15.4	144.98	21300	144.98	213	144.98	213	144.98	213	144.98	213
21.4	15.4	144.98	21400	144.98	214	144.98	214	144.98	214	144.98	214
21.5	15.4	144.98	21500	144.98	215	144.98	215	144.98	215	144.98	215
21.6	15.4	144.98	21600	144.98	216	144.98	216	144.98	216	144.98	216
21.7	15.4	144.98	21700	144.98	217	144.98	217	144.98	217	144.98	217
21.8	15.4	144.98	21800	144.98	218	144.98	218	144.98	218	144.98	218
21.9	15.4	144.98	21900	144.98	219	144.98	219	144.98	219	144.98	219
22.0	15.4	144.98	22000	144.98	220	144.98	220	144.98	220	144.98	220
22.1	15.4	155.59	22100	155.59	221	155.59	221	155.59	221	155.59	221
22.2	15.4	155.59	22200	155.59	222	155.59	222	155.59	222	155.59	222
22.3	15.4	155.59	22300	155.59	223	155.59	223	155.59	223	155.59	223
22.4	15.4	155.59	22400	155.59	224	155.59	224	155.59	224	155.59	224
22.5	15.4	155.59	22500	155.59	225	155.59	225	155.59	225	155.59	225
22.6	15.4	155.59	22600	155.59	226	155.59	226	155.59	226	155.59	226
22.7	15.4	155.59	22700	155.59	227	155.59	227	155.59	227	155.59	227
22.8	15.4	155.59	22800	155.59	228	155.59	228	155.59	228	155.59	228
22.9	15.4	155.59	22900	155.59	229	155.59	229	155.59	229	155.59	229
23.0	15.4	155.59	23000	155.59	230	155.59	230	155.59	230	155.59	230
23.1	15.4	155.59	23100	155.59	231	155.59	231	155.59	231	155.59	231
23.2	15.4	155.59	23200	155.59	232	155.59	232	155.59	232	155.59	232
23.3	15.4	155.59	23300	155.59	233	155.59	233	155.59	233	155.59	233

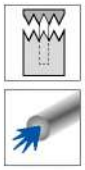
Steel	●	●	○		
Stainless steel			●		
Cast iron	●	●	○	●	
Non ferrous metals					●
Heat resistant alloys					

→ v_c Page 128–131

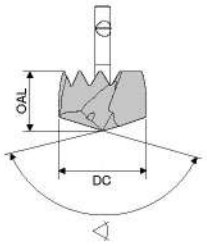
Ø DC_{m7} for Type UNI, P, GG und AL / **Ø DC_{h7}** for Type VA

WTX – Drilling Head for Exchangeable drills

▲ extra long head type



Change UNI	Change P	Change VA	Change GG	Change AL
DPX74S	Ti750	Ti700	TiSi	TiB
DRAGONSKIN				



DC h7/m7	OAL	140° Solid carbide NEW W2 Article no. 10 919 ...		138° Solid carbide W2 Article no. 10 923 ...		138° Solid carbide W2 Article no. 10 921 ...		140° Solid carbide W2 Article no. 10 924 ...		140° Solid carbide W2 Article no. 10 922 ...	
mm	mm	£		£		£		£		£	
23.4	15.4	155.59	23400	155.59	234	155.59	234	155.59	234	155.59	234
23.5	15.4	155.59	23500	155.59	235	155.59	235	155.59	235	155.59	235
23.6	15.4	155.59	23600	155.59	236	155.59	236	155.59	236	155.59	236
23.7	15.4	155.59	23700	155.59	237	155.59	237	155.59	237	155.59	237
23.8	15.4	155.59	23800	155.59	238	155.59	238	155.59	238	155.59	238
23.9	15.4	155.59	23900	155.59	239	155.59	239	155.59	239	155.59	239
24.0	15.4	155.59	24000	155.59	240	155.59	240	155.59	240	155.59	240
24.1	15.4	169.39	24100	162.99	241	179.99	241	162.99	241	179.99	241
24.2	15.4	169.39	24200	162.99	242	179.99	242	162.99	242	179.99	242
24.3	15.4	169.39	24300	162.99	243	179.99	243	162.99	243	179.99	243
24.4	15.4	169.39	24400	162.99	244	179.99	244	162.99	244	179.99	244
24.5	17.4	169.39	24500	169.39	245	179.99	245	169.39	245	179.99	245
24.6	17.4	169.39	24600	169.39	246	179.99	246	169.39	246	179.99	246
24.7	17.4	169.39	24700	169.39	247	179.99	247	169.39	247	179.99	247
24.8	17.4	169.39	24800	169.39	248	179.99	248	169.39	248	179.99	248
24.9	17.4	169.39	24900	169.39	249	179.99	249	169.39	249	179.99	249
25.0	17.4	169.39	25000	169.39	250	179.99	250	169.39	250	179.99	250
25.1	17.4	169.39	25100	169.39	251	179.99	251	169.39	251	179.99	251
25.2	17.4	169.39	25200	169.39	252	179.99	252	169.39	252	179.99	252
25.3	17.4	169.39	25300	169.39	253	179.99	253	169.39	253	179.99	253
25.4	17.4	169.39	25400	169.39	254	179.99	254	169.39	254	179.99	254
25.5	17.4	169.39	25500	169.39	255	179.99	255	169.39	255	179.99	255
25.6	17.4	179.99	25600	179.99	256	179.99	256	179.99	256	179.99	256
25.7	17.4	179.99	25700	179.99	257	179.99	257	179.99	257	179.99	257
25.8	17.4	179.99	25800	179.99	258	179.99	258	179.99	258	179.99	258
25.9	17.4	179.99	25900	179.99	259	179.99	259	179.99	259	179.99	259
26.0	17.4	179.99	26000	179.99	260	179.99	260	179.99	260	179.99	260
26.1	17.4	179.99	26100	179.99	261	179.99	261	179.99	261	179.99	261
26.2	17.4	179.99	26200	179.99	262	179.99	262	179.99	262	179.99	262
26.3	17.4	179.99	26300	179.99	263	179.99	263	179.99	263	179.99	263
26.4	17.4	179.99	26400	179.99	264	179.99	264	179.99	264	179.99	264
26.5	17.4	179.99	26500	179.99	265	179.99	265	179.99	265	179.99	265
26.6	17.4	179.99	26600	179.99	266	179.99	266	179.99	266	179.99	266
26.7	17.4	179.99	26700	179.99	267	179.99	267	179.99	267	179.99	267
26.8	17.4	179.99	26800	179.99	268	179.99	268	179.99	268	179.99	268
26.9	17.4	179.99	26900	179.99	269	179.99	269	179.99	269	179.99	269
27.0	17.4	179.99	27000	179.99	270	179.99	270	179.99	270	179.99	270
27.1	17.4	179.99	27100	179.99	271	179.99	271	179.99	271	179.99	271

Steel	●	●	○		
Stainless steel			●		
Cast iron	●	●	○	●	
Non ferrous metals					●
Heat resistant alloys					

→ v_c Page 128–131

ℹ Ø DC_{m7} for Type UNI, P, GG und AL / Ø DC_{h7} for Type VA

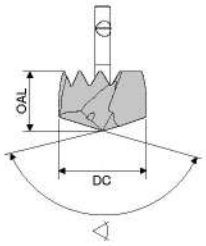
Continued on next page

WTX – Drilling Head for Exchangeable drills

▲ extra long head type

2

Change UNI	Change P	Change VA	Change GG	Change AL
DPX74S	Ti750	Ti700	TiSi	TiB
DRAGONSKIN				



		◁ 140° Solid carbide NEW W2		◁ 138° Solid carbide W2		◁ 138° Solid carbide W2		◁ 140° Solid carbide W2		◁ 140° Solid carbide W2	
$DC_{h7/m7}$	OAL	Article no. 10 919 ...		Article no. 10 923 ...		Article no. 10 921 ...		Article no. 10 924 ...		Article no. 10 922 ...	
mm	mm	£		£		£		£		£	
27.2	17.4	179.99	27200	179.99	272	179.99	272	179.99	272	179.99	272
27.3	17.4	179.99	27300	179.99	273	179.99	273	179.99	273	179.99	273
27.4	17.4	179.99	27400	179.99	274	179.99	274	179.99	274	179.99	274
27.5	17.4	179.99	27500	179.99	275	179.99	275	179.99	275	179.99	275
27.6	17.4	179.99	27600	179.99	276	179.99	276	179.99	276	179.99	276
27.7	17.4	179.99	27700	179.99	277	179.99	277	179.99	277	179.99	277
27.8	17.4	179.99	27800	179.99	278	179.99	278	179.99	278	179.99	278
27.9	17.4	179.99	27900	179.99	279	179.99	279	179.99	279	179.99	279
28.0	17.4	179.99	28000	179.99	280	179.99	280	179.99	280	179.99	280
28.1	17.4	196.85	28100	196.85	281	196.85	281	196.85	281	196.85	281
28.2	17.4	196.85	28200	196.85	282	196.85	282	196.85	282	196.85	282
28.3	17.4	196.85	28300	196.85	283	196.85	283	196.85	283	196.85	283
28.4	17.4	196.85	28400	196.85	284	196.85	284	196.85	284	196.85	284
28.5	18.4	196.85	28500	196.85	285	196.85	285	196.85	285	196.85	285
28.6	18.4	196.85	28600	196.85	286	196.85	286	196.85	286	196.85	286
28.7	18.4	196.85	28700	196.85	287	196.85	287	196.85	287	196.85	287
28.8	18.4	196.85	28800	196.85	288	196.85	288	196.85	288	196.85	288
28.9	18.4	196.85	28900	196.85	289	196.85	289	196.85	289	196.85	289
29.0	18.4	196.85	29000	196.85	290	196.85	290	196.85	290	196.85	290
29.1	18.4	196.85	29100	196.85	291	196.85	291	196.85	291	196.85	291
29.2	18.4	196.85	29200	196.85	292	196.85	292	196.85	292	196.85	292
29.3	18.4	196.85	29300	196.85	293	196.85	293	196.85	293	196.85	293
29.4	18.4	196.85	29400	196.85	294	196.85	294	196.85	294	196.85	294
29.5	18.4	196.85	29500	196.85	295	196.85	295	196.85	295	196.85	295
29.6	18.4	196.85	29600	196.85	296	196.85	296	196.85	296	196.85	296
29.7	18.4	196.85	29700	196.85	297	196.85	297	196.85	297	196.85	297
29.8	18.4	196.85	29800	196.85	298	196.85	298	196.85	298	196.85	298
29.9	18.4	196.85	29900	196.85	299	196.85	299	196.85	299	196.85	299
30.0	18.4	196.85	30000	196.85	300	196.85	300	196.85	300	196.85	300
30.1	18.4	219.65	30100	219.65	301	219.65	301	219.65	301	219.65	301
30.2	18.4	219.65	30200	219.65	302	219.65	302	219.65	302	219.65	302
30.3	18.4	219.65	30300	219.65	303	219.65	303	219.65	303	219.65	303
30.4	18.4	219.65	30400	219.65	304	219.65	304	219.65	304	219.65	304
30.5	18.4	219.65	30500	219.65	305	219.65	305	219.65	305	219.65	305
30.6	18.4	219.65	30600	219.65	306	219.65	306	219.65	306	219.65	306
30.7	18.4	219.65	30700	219.65	307	219.65	307	219.65	307	219.65	307
30.8	18.4	219.65	30800	219.65	308	219.65	308	219.65	308	219.65	308
30.9	18.4	219.65	30900	219.65	309	219.65	309	219.65	309	219.65	309

Steel	●	●	○		
Stainless steel			●		
Cast iron	●	●	○	●	
Non ferrous metals					●
Heat resistant alloys					

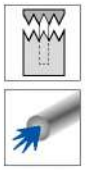
→ v_c Page 128–131

ⓘ Ø DC_{m7} for Type UNI, P, GG und AL / Ø DC_{h7} for Type VA

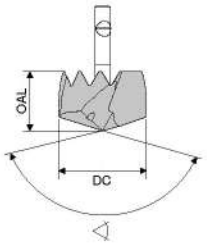
Continued on next page

WTX – Drilling Head for Exchangeable drills

▲ extra long head type



Change UNI	Change P	Change VA	Change GG	Change AL
DPX74S	Ti750	Ti700	TiSi	TiB
DRAGONSKIN				



		◁ 140° Solid carbide NEW W2		◁ 138° Solid carbide W2		◁ 138° Solid carbide W2		◁ 140° Solid carbide W2		◁ 140° Solid carbide W2	
DC $_{h7/m7}$	OAL	Article no. 10 919 ...		Article no. 10 923 ...		Article no. 10 921 ...		Article no. 10 924 ...		Article no. 10 922 ...	
mm	mm	£		£		£		£		£	
31.0	18.4	219.65	31000	219.65	310	219.65	310	219.65	310	219.65	310
31.1	18.4	219.65	31100	219.65	311	219.65	311	219.65	311	219.65	311
31.2	18.4	219.65	31200	219.65	312	219.65	312	219.65	312	219.65	312
31.3	18.4	219.65	31300	219.65	313	219.65	313	219.65	313	219.65	313
31.4	18.4	219.65	31400	219.65	314	219.65	314	219.65	314	219.65	314
31.5	18.4	219.65	31500	219.65	315	219.65	315	219.65	315	219.65	315
31.6	18.4	219.65	31600	219.65	316	219.65	316	219.65	316	219.65	316
31.7	18.4	219.65	31700	219.65	317	219.65	317	219.65	317	219.65	317
31.8	18.4	219.65	31800	219.65	318	219.65	318	219.65	318	219.65	318
31.9	18.4	219.65	31900	219.65	319	219.65	319	219.65	319	219.65	319
32.0	18.4	219.65	32000	219.65	320	219.65	320	219.65	320	219.65	320
32.5	24.3	235.11	32500	235.11	325						
33.0	24.3	235.11	33000	235.11	330						
33.5	24.3	235.11	33500	235.11	335						
34.0	24.3	235.11	34000	235.11	340						
34.5	24.3	235.11	34500	235.11	345						
35.0	24.3	235.11	35000	235.11	350						
35.5	26.3	268.90	35500	268.90	355						
36.0	26.3	268.90	36000	268.90	360						
36.5	26.3	268.90	36500	268.90	365						
37.0	26.3	268.90	37000	268.90	370						
37.5	26.3	268.90	37500	268.90	375						
38.0	26.3	268.90	38000	268.90	380						
38.5	26.3	292.29	38500	292.29	385						
39.0	26.3	292.29	39000	292.29	390						
39.5	26.3	292.29	39500	292.29	395						
40.0	26.3	292.29	40000	292.29	400						
40.5	26.3	292.29	40500	292.29	405						
41.0	26.3	292.29	41000	292.29	410						

Steel		●		●		○					
Stainless steel						●					
Cast iron		●		●		○		●			
Non ferrous metals										●	
Heat resistant alloys											

→ v_c Page 128–131

ⓘ Ø DC_{m7} for Type UNI, P, GG und AL / Ø DC_{h7} for Type VA

WTX – Holder for Exchangeable drills

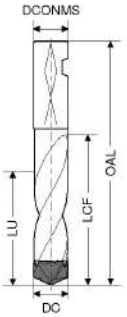
▲ with radial teeth

Scope of supply:

Holder incl. screw driver

≤ 1xD

Change



HB

DC	DCONMS h6	OAL	LCF	LU	torque moment	W1 Article no. 10 911 ...	
mm	mm	mm	mm	mm	Nm	£	
12,00 - 12,49	14	81	29	12.5	1,0	235.11	120
12,50 - 12,99	14	81	29	13.0	1,0	235.11	125
13,00 - 13,49	14	81	31	13.5	1,0	235.11	130
13,50 - 13,99	16	86	32	14.0	1,3	235.11	135
14,00 - 14,49	16	86	33	14.5	1,3	235.11	140
14,50 - 14,99	16	91	34	15.0	1,3	235.11	145
15,00 - 15,49	16	91	36	15.5	1,3	235.11	150
15,50 - 16,49	18	92	38	16.5	1,3	242.92	160
15,50 - 16,49	20	97	38	16.5	1,3	242.92	161
16,50 - 17,49	18	94	40	17.5	3,5	242.92	165
16,50 - 17,49	20	99	40	17.5	3,5	242.92	166
17,50 - 18,49	18	99	43	18.5	3,5	242.92	175
17,50 - 18,49	20	104	43	18.5	3,5	242.92	176
18,50 - 19,49	20	99	45	19.5	3,5	287.09	185
19,50 - 20,49	20	104	47	20.5	3,5	287.09	195
20,50 - 21,49	25	111	49	21.5	3,5	318.26	205
21,50 - 22,49	25	116	52	22.5	3,5	318.26	215
22,50 - 23,49	25	116	54	23.5	3,5	348.15	225
23,50 - 24,49	25	121	56	24.5	4,0	348.15	235
24,50 - 25,49	25	123	59	25.5	4,0	378.01	245
25,50 - 26,49	25	123	61	26.5	4,0	378.01	255
26,50 - 27,49	25	128	63	27.5	4,0	378.01	265
27,50 - 28,49	25	128	66	28.5	4,0	378.01	275
28,50 - 29,49	32	134	68	29.5	4,0	439.07	285
29,50 - 30,49	32	139	70	30.5	4,0	439.07	295
30,50 - 31,49	32	139	75	31.5	4,0	484.52	305
31,50 - 32,49	32	139	75	32.5	4,0	484.52	315
32,50 - 33,49	32	150	78	33.5	6,0	522.20	325
33,50 - 34,49	32	150	79	34.5	6,0	522.20	335
34,50 - 35,49	32	150	82	35.5	6,0	522.20	345
35,50 - 37,49	32	152	86	37.5	6,0	601.44	355
37,50 - 39,49	32	157	91	39.5	6,0	623.53	375
39,50 - 41,00	32	167	95	41.5	6,0	639.12	395

WTX – Holder for Exchangeable drills

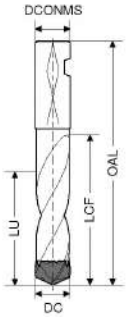
▲ with radial teeth

Scope of supply:

Holder incl. screw driver

≤ 3xD

Change



HB

DC	DCONMS h6	OAL	LCF	LU	torque moment	W1 Article no. 10 913 ...	
mm	mm	mm	mm	mm	Nm	£	
12,00 - 12,49	14	100	53	38.0	1,0	265.84	120
12,50 - 12,99	14	105	55	39.0	1,0	265.84	125
13,00 - 13,49	14	105	57	40.0	1,0	265.84	130
13,50 - 13,99	16	110	59	42.0	1,3	265.84	135
14,00 - 14,49	16	115	61	43.0	1,3	265.84	140
14,50 - 14,99	16	115	63	45.0	1,3	265.84	145
15,00 - 15,49	16	115	65	46.0	1,3	265.84	150
15,50 - 16,49	18	120	70	50.0	1,3	259.31	160
15,50 - 16,49	20	125	70	50.0	1,3	259.31	161
16,50 - 17,49	18	125	74	53.0	3,5	259.31	165
16,50 - 17,49	20	130	74	50.0	3,5	259.31	166
17,50 - 18,49	18	130	78	55.0	3,5	259.31	175
17,50 - 18,49	20	135	78	50.0	3,5	259.31	176
18,50 - 19,49	20	135	82	58.0	3,5	306.66	185
19,50 - 20,49	20	140	87	62.0	3,5	306.66	195
20,50 - 21,49	25	150	91	65.0	3,5	338.63	205
21,50 - 22,49	25	155	95	67.0	3,5	338.63	215
22,50 - 23,49	25	160	99	70.0	3,5	370.72	225
23,50 - 24,49	25	165	103	73.0	3,5	370.72	235
24,50 - 25,49	25	165	108	77.0	4,0	402.66	245
25,50 - 26,49	25	175	112	80.0	4,0	402.66	255
26,50 - 27,49	25	175	116	82.0	4,0	402.66	265
27,50 - 28,49	25	180	120	85.0	4,0	402.66	275
28,50 - 29,49	32	190	124	88.0	4,0	466.75	285
29,50 - 30,49	32	195	129	92.0	4,0	466.75	295
30,50 - 31,49	32	195	133	94.0	4,0	515.55	305
31,50 - 32,49	32	200	137	97.0	4,0	515.55	315
32,50 - 33,49	32	210	144	100.5	6,0	607.94	325
33,50 - 34,49	32	215	148	103.5	6,0	607.94	335
34,50 - 35,49	32	220	153	106.5	6,0	607.94	345
35,50 - 37,49	32	227	161	112.5	6,0	698.88	355
37,50 - 39,49	32	237	170	118.5	6,0	724.86	375
39,50 - 41,00	32	247	178	124.5	6,0	743.05	395

Spare parts for Exchangeable Head Drill-Ø

Y7

Screw driver

Article no. 80 950 ...

		£	
12,00 - 12,49	SW 1,3	3.59	132
12,50 - 13,49	SW 1,3	3.59	132
13,50 - 14,49	SW 1,5	4.67	133
14,50 - 16,49	SW 1,5	4.67	133
16,50 - 20,49	SW 2	4.45	134
20,50 - 24,49	SW 2	4.45	134
24,50 - 28,49	SW 2,5	4.17	135
28,50 - 32,49	SW 2,5	4.17	135
32,50 - 35,49	SW 3	4.17	136
35,50 - 39,49	SW 3	4.17	136
39,50 - 41,00	SW 3	4.17	136

W1

Grub screw

Article no. 10 950 ...

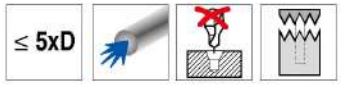
	£	
M2,5 x 0,45 x 5	4.16	025
M2,5 x 0,45 x 6	4.16	026
M3 x 0,5 x 6	4.16	031
M3 x 0,5 x 7	4.29	030
M4 x 0,5 x 7,5	4.29	040
M4 x 0,5 x 10	4.29	041
M5 x 0,5 x 11	4.29	050
M5 x 0,5 x 14	4.29	051
M6 x 0,5 x 16	7.67	060
M6 x 0,5 x 18	7.67	061
M6 x 0,5 x 20	7.67	062

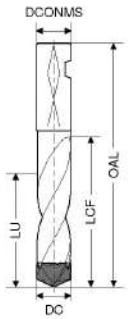
WTX – Holder for Exchangeable drills

▲ with radial teeth

Scope of supply:

Holder incl. screw driver





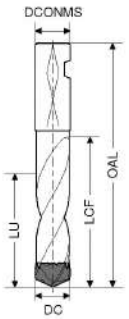
DC	DCONMS h6	OAL	LCF	LU	torque moment	W1 Article no. 10 915 ...	
mm	mm	mm	mm	mm	Nm	£	
12,00 - 12,49	14	125	78	62.0	1,0	299.26	120
12,50 - 12,99	14	130	81	65.0	1,0	299.26	125
13,00 - 13,49	14	130	84	67.0	1,0	299.26	130
13,50 - 13,99	16	140	88	70.0	1,3	299.26	135
14,00 - 14,49	16	140	90	72.0	1,3	299.26	140
14,50 - 14,99	16	145	94	75.0	1,3	299.26	145
15,00 - 15,49	16	145	96	77.0	1,3	299.26	150
15,50 - 16,49	18	155	103	82.0	1,3	306.66	160
15,50 - 16,49	20	160	103	82.0	1,3	306.66	161
16,50 - 17,49	18	160	109	87.0	3,5	306.66	165
16,50 - 17,49	20	165	109	87.0	3,5	306.66	166
17,50 - 18,49	18	165	115	92.0	3,5	306.66	175
17,50 - 18,49	20	170	115	92.0	3,5	306.66	176
18,50 - 19,49	20	175	121	97.0	3,5	355.47	185
19,50 - 20,49	20	180	128	102.0	3,5	355.47	195
20,50 - 21,49	25	195	134	107.0	3,5	385.98	205
21,50 - 22,49	25	200	140	112.0	3,5	385.98	215
22,50 - 23,49	25	205	146	117.0	3,5	419.52	225
23,50 - 24,49	25	210	152	122.0	3,5	419.52	235
24,50 - 25,49	25	220	159	127.0	4,0	451.50	245
25,50 - 26,49	25	225	165	132.0	4,0	451.50	255
26,50 - 27,49	25	230	171	137.0	4,0	451.50	265
27,50 - 28,49	25	240	177	142.0	4,0	451.50	275
28,50 - 29,49	32	250	183	146.0	4,0	515.55	285
29,50 - 30,49	32	255	190	152.0	4,0	515.55	295
30,50 - 31,49	32	260	196	157.0	4,0	562.89	305
31,50 - 32,49	32	265	202	162.0	4,0	562.89	315
32,50 - 33,49	32	275	210	167.5	6,0	687.18	325
33,50 - 34,49	32	285	217	172.5	6,0	687.18	335
34,50 - 35,49	32	290	224	177.5	6,0	687.18	345
35,50 - 37,49	32	302	236	187.5	6,0	772.90	355
37,50 - 39,49	32	317	249	197.5	6,0	801.51	375
39,50 - 41,00	32	327	261	207.5	6,0	819.67	395

WTX – Holder for Exchangeable drills

▲ with radial teeth

Scope of supply:

Holder incl. screw driver



DC	DCONMS h6	OAL	LCF	LU	torque moment	W1 Article no. 10 918 ...	
mm	mm	mm	mm	mm	Nm	£	
12,00 - 12,49	14	165	116	100	1,0	380.60	120
12,50 - 12,99	14	170	121	104	1,0	380.60	125
13,00 - 13,49	14	175	126	108	1,0	380.60	130
13,50 - 13,99	16	180	129	111	1,3	380.60	135
14,00 - 14,49	16	185	134	115	1,3	380.60	140
14,50 - 14,99	16	190	139	120	1,3	380.60	145
15,00 - 15,49	16	195	144	124	1,3	380.60	150
15,50 - 16,49	18	205	152	131	1,3	387.87	160
15,50 - 16,49	20	210	152	131	1,3	387.87	161
16,50 - 17,49	18	215	161	138	3,5	387.87	165
16,50 - 17,49	20	220	161	138	3,5	387.87	166
17,50 - 18,49	18	220	171	147	3,5	387.87	175
17,50 - 18,49	20	225	171	147	3,5	387.87	176
18,50 - 19,49	20	235	180	155	3,5	445.97	185
19,50 - 20,49	20	240	189	163	3,5	445.97	195
20,50 - 21,49	25	260	198	170	3,5	485.19	205
21,50 - 22,49	25	270	207	178	3,5	485.19	215
22,50 - 23,49	25	275	217	187	3,5	544.75	225
23,50 - 24,49	25	285	226	194	3,5	544.75	235
24,50 - 25,49	25	295	235	202	4,0	623.17	245
25,50 - 26,49	25	305	244	210	4,0	623.17	255
26,50 - 27,49	25	315	253	218	4,0	623.17	265
27,50 - 28,49	25	325	263	226	4,0	623.17	275
28,50 - 29,49	32	340	272	234	4,0	720.51	285
29,50 - 30,49	32	345	281	242	4,0	720.51	295
30,50 - 31,49	32	355	290	249	4,0	798.97	305
31,50 - 32,00	32	360	299	257	4,0	798.97	315

Screw driver

Grub screw

Spare parts for Exchangeable Head Drill-Ø		Y7 Article no. 80 950 ... £			W1 Article no. 10 950 ... £	
12,00 - 12,49	SW 1,3	3.59	132	M2,5 x 0,45 x 5	4.16	025
12,50 - 13,49	SW 1,3	3.59	132	M2,5 x 0,45 x 6	4.16	026
13,50 - 14,49	SW 1,5	4.67	133	M3 x 0,5 x 6	4.16	031
14,50 - 16,49	SW 1,5	4.67	133	M3 x 0,5 x 7	4.29	030
16,50 - 20,49	SW 2	4.45	134	M4 x 0,5 x 7,5	4.29	040
20,50 - 24,49	SW 2	4.45	134	M4 x 0,5 x 10	4.29	041
24,50 - 28,49	SW 2,5	4.17	135	M5 x 0,5 x 11	4.29	050
28,50 - 32,49	SW 2,5	4.17	135	M5 x 0,5 x 14	4.29	051
32,50 - 35,49	SW 3	4.17	136	M6 x 0,5 x 16	7.67	060
35,50 - 39,49	SW 3	4.17	136	M6 x 0,5 x 18	7.67	061
39,50 - 41,00	SW 3	4.17	136	M6 x 0,5 x 20	7.67	062

WTX – Holder for Exchangeable drills

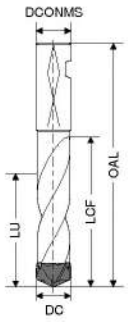
2

▲ with radial teeth

Scope of supply:
Holder incl. screw driver

≤ 12xD

Change



HB

DC	DCONMS h6	OAL	LCF	LU	torque moment	NEW W1 Article no. 10 912 ...	
mm	mm	mm	mm	mm	Nm	£	
12,00 - 12,49	14	210	162	150	1,0	502.79	12000
12,50 - 12,99	14	216	168	156	1,0	502.79	12500
13,00 - 13,49	14	223	175	162	1,0	502.79	13000
13,50 - 13,99	16	235	182	168	1,3	502.79	13500
14,00 - 14,49	16	242	189	174	1,3	502.79	14000
14,50 - 14,99	16	248	195	180	1,3	502.79	14500
15,00 - 15,49	16	255	202	186	1,3	502.79	15000
15,50 - 16,49	18	262	209	198	1,3	547.71	15500
16,50 - 17,49	18	275	222	210	3,5	547.71	16500
17,50 - 18,49	18	289	236	222	3,5	547.71	17500
18,50 - 19,49	20	304	249	234	3,5	663.65	18500
19,50 - 20,49	20	318	236	246	3,5	663.65	19500
20,50 - 21,49	25	337	276	258	3,5	716.89	20500
21,50 - 22,49	25	351	290	270	3,5	716.89	21500
22,50 - 23,49	25	364	303	282	3,5	796.57	22500
23,50 - 24,49	25	378	317	294	3,5	796.57	23500
24,50 - 25,49	25	391	330	306	4,0	902.92	24500
25,50 - 26,49	25	405	344	318	4,0	902.92	25500
26,50 - 27,49	25	418	357	330	4,0	902.92	26500
27,50 - 28,49	25	432	371	342	4,0	902.92	27500
28,50 - 29,49	32	449	384	354	4,0	1,035.49	28500
29,50 - 30,49	32	463	398	366	4,0	1,035.49	29500
30,50 - 31,49	32	476	411	378	4,0	1,141.96	30500
31,50 - 32,00	32	490	425	390	4,0	1,141.96	31500

Screw driver

Grub screw

Spare parts for Exchangeable Head Drill-Ø		Y7 Article no. 80 950 ... £			W1 Article no. 10 950 ... £	
12,00 - 12,49	SW 1,3	3.59	132	M2,5 x 0,45 x 5	4.16	025
12,50 - 13,49	SW 1,3	3.59	132	M2,5 x 0,45 x 6	4.16	026
13,50 - 14,49	SW 1,5	4.67	133	M3 x 0,5 x 6	4.16	031
14,50 - 16,49	SW 1,5	4.67	133	M3 x 0,5 x 7	4.29	030
16,50 - 20,49	SW 2	4.45	134	M4 x 0,5 x 7,5	4.29	040
20,50 - 24,49	SW 2	4.45	134	M4 x 0,5 x 10	4.29	041
24,50 - 28,49	SW 2,5	4.17	135	M5 x 0,5 x 11	4.29	050
28,50 - 32,49	SW 2,5	4.17	135	M5 x 0,5 x 14	4.29	051
32,50 - 35,49	SW 3	4.17	136	M6 x 0,5 x 16	7.67	060
35,50 - 39,49	SW 3	4.17	136	M6 x 0,5 x 18	7.67	061
39,50 - 41,00	SW 3	4.17	136	M6 x 0,5 x 20	7.67	062

MultiChange Programme Overview

The highly stable „MultiChange" exchangeable head system enables an extremely fast tool change. Designed to be durable and for a very high radial run-out accuracy, this exchangeable head system is probably the most stable and precise exchangeable head system on the market. The following chapters contain suitable exchangeable heads for almost every application.

Reaming and countersinking

- Through hole reamers
  Ø 8–30.2 mm incl. special diameters / ZEFP* 4–6
- Blind hold reamers
  Ø 12.2–30.2 mm incl. special diameters / ZEFP* 6

→ **Chapter 4, Reaming and countersinking**

*ZEFP = Number of teeth

Solid carbide milling cutters

- PCD shoulder mills
  Ø 8, 10, 12, 16, 20 mm / ZEFP* 2
- Solid carbide shoulder mills
  Type N, PCR-UNI, PCR-ALU / Ø 8, 10, 12, 16, 20 mm / ZEFP* 3+4
- Solid carbide rough and finish milling cutters
  Ø 8, 10, 12, 16, 20 mm / ZEFP* 4–6
- Solid carbide finish milling cutters
  Ø 8, 10, 12, 16, 20 mm / ZEFP* 6
- Solid carbide high-feed cutters
  Ø 8, 10, 12, 16, 20 mm / ZEFP* 6
- Solid carbide ball-nosed end mills
  Ø 10, 12, 16, 20 mm / ZEFP* 4
- Solid carbide torus bull nose milling cutters
  Ø 8, 10, 12, 16, 20 mm / ZEFP* 3+4
- Solid carbide quarter round cutter
  Ø 8, 10, 12, 16, 20 mm
- Solid carbide deburring cutters
  Ø 10, 12, 16, 20 mm / ZEFP* 4+6

→ **Chapter 14, Solid carbide milling cutters**

*ZEFP = Number of teeth

Tool holder

- Steel holder, extra short
  Cylindrical / Tapered 87°
  Length 60–90 mm
  for KLG: 8, 10, 12, 16, 20 mm

- Short holder steel/Solid carbide
  Cylindrical
  Length 85–120 mm
  for KLG: 8, 10, 12, 16, 20 mm

- Holder steel/Solid carbide, short
  87° taper
  Length 85–120 mm
  for KLG: 8, 10, 12, 16, 20 mm

- Solid carbide holder, medium
  Cylindrical / Tapered 87°
  Length 110–150 mm
  for KLG: 8, 10, 12, 16, 20 mm

- Holder steel/Solid carbide, long
  Cylindrical
  Length 150–200 mm
  for KLG: 8, 10, 12, 16, 20 mm

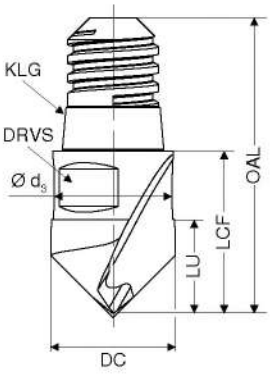
- Holder steel/Solid carbide, long
  87° taper
  Length 150–200 mm
  for KLG: 8, 10, 12, 16, 20 mm

- Steel/Solid carbide holder, extra long
  Cylindrical
  Length 200–250 mm
  for KLG: 16 and 20 mm

→ **Chapter 17, Accessories**

MultiChange – NC Spot Drill

▲ KLG = Coupling Size
▲ TQX = Torque Moment
▲ NOF = No. of cutting edges



DC mm	KLG	LU mm	d_3 mm	LCF mm	OAL mm	NOF	DRVS mm	TQX Nm	$a_{p\,max}$ mm	◁ 90° Solid carbide T7 Article no. 10 709 ... £		◁ 120° Solid carbide T7 Article no. 10 712 ... £		◁ 142° Solid carbide T7 Article no. 10 714 ... £	
8	06	6.0	7.8	11	20.4	2	6	5.0	4	32.30	**080**	32.30	**080**	32.30	**080**
10	08	7.5	9.8	13	26.9	2	8	12.5	5	35.80	**100**	35.80	**100**	35.80	**100**
12	10	9.0	11.8	16	30.1	2	10	15.0	6	45.93	**120**	45.93	**120**	45.93	**120**
16	12	12.0	15.8	20	37.3	2	13	20.0	8	64.97	**160**	64.97	**160**	64.97	**160**
20	16	15.0	19.8	25	47.2	2	16	25.0	10	94.50	**200**	94.50	**200**	94.50	**200**

Steel	●	●	●
Stainless steel	●	●	●
Cast iron	●	●	●
Non ferrous metals	●	●	●
Heat resistant alloys			

→ v_c Page 125

Torque wrench should be used for coupling sizes 06 and 08.

For unstable applications, the cutting data should be reduced.

Material examples referring to the cutting data tables

	Index	Material	Strength N/mm² / HB / HRC	Material number	Material designation	Material number	Material designation	Material number	Material designation
P	1.1	General construction steel	< 800 N/mm²	1.0402	EN3B				
	1.2	Free cutting steel	< 800 N/mm²	1.0711	EN1A				
	1.3	Hardened steel, non alloyed	< 800 N/mm²	1.0401	EN32C				
	1.4	Alloyed hardened steel	< 1000 N/mm²	1.7325	25 CD4				
	1.5	Tempering steel, unalloyed	< 850 N/mm²	1.5752	EN36	1.0535	EN9		
	1.6	Tempering steel, unalloyed	< 1000 N/mm²	1.6582	EN24				
	1.7	Tempering steel, alloyed	< 800 N/mm²	1.7225	EN19				
	1.8	Tempering steel, alloyed	< 1300 N/mm²	1.8515	EN40B				
	1.9	Steel castings	< 850 N/mm²	0.9650	G-X 260 Cr 27	1.6750	GS-20 NiCrMo 3 7	1.6582	GS-34 CrNiMo 6
	1.10	Nitriding steel	< 1000 N/mm²	1.8509	EN41B				
	1.11	Nitriding steel	< 1200 N/mm²	1.1186	EN8	1.1160	EN14A		
	1.12	Roller bearing steel	< 1200 N/mm²	1.3505	534A99				
	1.13	Spring steel	< 1200 N/mm²		EN45		EN47		EN43
	1.14	High-speed steel	< 1300 N/mm²	1.3343	M2	1.3249	M34		
	1.15	Cold working tool steel	< 1300 N/mm²	1.2379	D2	1.2311	P20		
	1.16	Hot working tool steel	< 1300 N/mm²	1.2344	H13				
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm²	1.4581	318				
	2.2	Stainless steel, ferritic	< 750 N/mm²	1.4000	403				
	2.3	Stainless steel, martensitic	< 900 N/mm²	1.4057	EN57				
	2.4	Stainless steel, ferritic / martensitic	<1100 N/mm²	1.4028	EN56B				
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm²	1.4542	17-4PH				
	2.6	Stainless steel, austenitic	< 750 N/mm²	1.4305	303	1.4401	316	1.4301	304
	2.7	Heat resistant steel	< 1100 N/mm²	1.4876	Incoloy 800				
K	3.1	Grey cast iron with lamellar graphite	100–350 N/mm²	0.6015	Grade 150	0.6020	Grade 220	0.6025	Grade 260
	3.2	Grey cast iron with lamellar graphite	300–500 N/mm²	0.6030	Grade 300	0.6035	Grade 350	0.6040	Grade 400
	3.3	Gray cast iron with spheroidal graphite	300–500 N/mm²	0.7040	SG 400-12	0.7043	SG 370-17	0.7050	SG 500-7
	3.4	Gray cast iron with spheroidal graphite	500–900 N/mm²	0.7060	SG 600-3	0.7070	SG 700-2	0.7080	SG 800-2
	3.5	White malleable cast iron	270–450 N/mm²	0.8035	GTW-35	0.8045	GTW-45		
	3.6	White malleable cast iron	500–650 N/mm²	0.8055	GTW-55	0.8065	GTW-65		
	3.7	Black malleable cast iron	300–450 N/mm²	0.8135	GTS-35	0.8145	GTS-45		
	3.8	Black malleable cast iron	500–800 N/mm²	0.8155	GTS-55	0.8170	GTS-70		
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm²	3.0255	1050 A	3.0275	1070 A	3.0285	1080 A (A8)
	4.2	Aluminium alloys < 0.5 % Si	< 500 N/mm²	3.1325	2017 A (AU4G)	3.4335	7005 (AZ5G)	3.4365	7075 (AZ5GU)
	4.3	Aluminium alloy 0.5–10 % Si	< 400 N/mm²	3.2315	A- G S1	3.2373	A-S9 G	3.2151	A-S 6 U4
	4.4	Aluminium alloys 10–15 % Si	< 400 N/mm²	3.2581	A-S12	3.2583	A-S12 U		
	4.5	Aluminum alloys > 15 % Si	< 400 N/mm²		A-S18	A-S17 U4			
	4.6	Copper (non alloyed, low alloyed)	< 350 N/mm²	2.0040	Cu-c1	2.0060	Cu-a1	2.0090	Cu-b1
	4.7	Copper wrought alloys	< 700 N/mm²	2.1247	Cub2 (Berylium Copper)	2.0855	CuN2S (Nickel Copper)	2.1310	CU-Fe2P
	4.8	Special copper alloys	< 200 HB	2.0916	Cu-A5	2.1525	Cu-S3 M		Ampco 8 (Cu-A6Fe2)
	4.9	Special copper alloys	< 300 HB	2.0978	Cu-Al11 Fe5 Ni5)		Ampco 18 (Cu- A10 Fe3)		
	4.10	Special copper alloys	> 300 HB	2.1247	Cu Be2		Ampco M4		
	4.11	Short-chipping brass, bronze, red bronze	< 600 N/mm²	2.0331	Cu Zn36 Pb1,5	2.0380	Cu Zn39 Pb2 (Ms 56)	2.0410	Cu Zn44 Pb2
	4.12	Long-chipping brass	< 600 N/mm²	2.0335	Cu Zn 36 (Ms63)	2.1293	Cu Cr1 Zr		
	4.13	Thermoplastics		PE	PVC	PS	Polystyrene		Plexiglas
	4.14	Duroplastics		PF	Bakelite		Pertinax		
	4.15	Fibre-reinforced plastics			Carbon Fibre		Fibreglass		Aramid Fibre (Kevlar)
	4.16	Magnesium and magnesium alloys	< 850 N/mm²	3.5812	Mg A7 Z1	3.5662	Mg A9	3.5105	Mg Tr3 Z2 Zn 1
	4.17	Graphite			R8500X		R8650		Technograph 15
	4.18	Tungsten and tungsten alloys			W-Ni Fe (Densimet)		W- Ni Cu (Inermet)		Denal
	4.19	Molybdenum and molybdenum alloys			TZM		MHQ		Mo W
S	5.1	Pure nickel		2.4066	Ni99 (Nickel 200)	2.4068	Lc Ni99 (Nickel 201)		
	5.2	Nickel alloys		1.3912	Fe-Ni36 (Invar)	1.3917	Fe -Ni42 (N42)	1.3922	Fe-Ni48 (N48)
	5.3	Nickel alloys	< 850 N/mm²	2.4375	Ni Cu30 Al (Monel K500)	2.4360	Ni Cu30Fe (Monel 400)	2.4668	
	5.4	Nickel molybdenum alloys		2.4600	Ni Mo30Cr2 (Hastelloy B4)	2.4617	Ni Mo28 (Hastelloy B2)	2.4819	Ni Mo16Cr16 Hastell. C276
	5.5	Nickel-chromium alloys	< 1300 N/mm²	2.4951	Ni Cr20TiAl (Nimonic 80A)	2.4858	Ni Cr21Mo (Inconel 825)	2.4856	Ni Cr22Mo9Nb Inconel 625
	5.6	Cobalt Chrome Alloys	< 1300 N/mm²	2.4964	Co Cr20 W15 Ni10		Co Cr20 Ni16 Mo7		Co Cr28 Mo 6
	5.7	Heat resistant alloys	< 1300 N/mm²	1.4718	Z45 C S 9-3	1.4747	Z80 CSN 20-02	1.4845	Z12 CN 25-20
	5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm²	2.4851	Ni Cr23Fe (Inconel 601)	2.4668	Ni Cr19NbMo (Inconel 718)	2.4602	Ni Cr21Mo14 Hastelloy C22
	5.9	Pure titanium	< 900 N/mm²	3.7025	T35 (Titanium Grade 1)	3.7034	T40 (Titanium Grade 2)	3.7064	T60 (Titanium Grade 4)
	5.10	Titanium alloys	< 700 N/mm²		T-A6-Nb7 (367)		T-A5-Sn2-Mo4-Cr4 (Ti17)		T-A3-V2,5 (Gr18)
	5.11	Titanium alloys	< 1200 N/mm²	3.7165	T-A6-V4 (Ta6V)		T-A4-3V-Mo2-Fe2 (SP700)		T-A5-Sn1-Zr1-V1-Mo (Gr32)
H	6.1	Tempered steel	< 45 HRC						
	6.2		46–55 HRC						
	6.3		56–60 HRC						
	6.4		61–65 HRC						
	6.5		65–70 HRC						

Cutting data standard values – WTX – Ti

	Drilling depth 3xD Ti 10 786 ...						Drilling depth 5xD Ti 10 787 ...					
Index	v_c m/min with through coolant	Ø 4-5 f mm/rev.	Ø 5-8 f mm/rev.	Ø 8-12 f mm/rev.	Ø 12-16 f mm/rev.	Ø 16-20 f mm/rev.	v_c m/min with through coolant	Ø 4-5 f mm/rev.	Ø 5-8 f mm/rev.	Ø 8-12 f mm/rev.	Ø 12-16 f mm/rev.	Ø 16-20 f mm/rev.
1.1												
1.2												
1.3												
1.4												
1.5												
1.6												
1.7												
1.8												
1.9												
1.10												
1.11												
1.12												
1.13												
1.14												
1.15												
1.16												
2.1	75	0,08	0,12	0,15	0,2	0,25	75	0,08	0,12	0,15	0,2	0,25
2.2	75	0,08	0,12	0,15	0,2	0,25	75	0,08	0,12	0,15	0,2	0,25
2.3	65	0,08	0,12	0,15	0,2	0,25	65	0,08	0,12	0,15	0,2	0,25
2.4	65	0,08	0,12	0,15	0,2	0,25	65	0,08	0,12	0,15	0,2	0,25
2.5	70	0,08	0,12	0,15	0,2	0,25	70	0,08	0,12	0,15	0,2	0,25
2.6	70	0,08	0,12	0,15	0,2	0,25	70	0,08	0,12	0,15	0,2	0,25
2.7	40	0,04	0,08	0,12	0,16	0,2	40	0,04	0,08	0,12	0,16	0,2
3.1												
3.2												
3.3												
3.4												
3.5												
3.6												
3.7												
3.8												
4.1												
4.2												
4.3												
4.4												
4.5												
4.6												
4.7												
4.8												
4.9												
4.10												
4.11												
4.12												
4.13												
4.14												
4.15												
4.16												
4.17												
4.18												
4.19												
5.1	35	0,04	0,08	0,12	0,16	0,2	35	0,04	0,08	0,12	0,16	0,2
5.2	35	0,04	0,08	0,12	0,16	0,2	35	0,04	0,08	0,12	0,16	0,2
5.3	35	0,04	0,08	0,12	0,16	0,2	35	0,04	0,08	0,12	0,16	0,2
5.4	35	0,04	0,08	0,12	0,16	0,2	35	0,04	0,08	0,12	0,16	0,2
5.5	35	0,04	0,08	0,12	0,16	0,2	35	0,04	0,08	0,12	0,16	0,2
5.6	35	0,04	0,08	0,12	0,16	0,2	35	0,04	0,08	0,12	0,16	0,2
5.7	35	0,04	0,08	0,12	0,16	0,2	35	0,04	0,08	0,12	0,16	0,2
5.8	35	0,04	0,08	0,12	0,16	0,2	35	0,04	0,08	0,12	0,16	0,2
5.9	45	0,04	0,08	0,12	0,16	0,2	45	0,04	0,08	0,12	0,16	0,2
5.10	40	0,04	0,08	0,12	0,16	0,2	40	0,04	0,08	0,12	0,16	0,2
5.11	35	0,04	0,08	0,12	0,16	0,2	35	0,04	0,08	0,12	0,16	0,2
6.1												
6.2												
6.3												
6.4												
6.5												

The cutting data depends extremely on the external conditions, the material and machine type.
The indicated values are possible values which have to be increased or reduced according to the application conditions.

Cutting data standard values – WTX – Speed

Index	Drilling depth 3xD Speed UNI 10 781 ...						Drilling depth 5xD Speed UNI 10 771 ...					
	v_c m/min with through coolant	Ø 3-5 f mm/rev.	Ø 5-8 f mm/rev.	Ø 8-12 f mm/rev.	Ø 12-16 f mm/rev.	Ø 16-20 f mm/rev.	v_c m/min with through coolant	Ø 3-5 f mm/rev.	Ø 5-8 f mm/rev.	Ø 8-12 f mm/rev.	Ø 12-16 f mm/rev.	Ø 16-20 f mm/rev.
1.1	**200**	0,15	0,20	0,26	0,31	0,35	**200**	0,14	0,19	0,24	0,29	0,32
1.2	**240**	0,25	0,33	0,42	0,50	0,56	**240**	0,23	0,30	0,38	0,46	0,52
1.3	**200**	0,19	0,25	0,33	0,39	0,44	**200**	0,18	0,23	0,30	0,36	0,40
1.4	**160**	0,17	0,22	0,29	0,35	0,39	**160**	0,15	0,20	0,26	0,32	0,36
1.5	**180**	0,19	0,25	0,33	0,39	0,44	**180**	0,18	0,23	0,30	0,36	0,40
1.6	**160**	0,17	0,22	0,29	0,35	0,39	**160**	0,15	0,20	0,26	0,32	0,36
1.7	**160**	0,17	0,22	0,29	0,35	0,39	**160**	0,15	0,20	0,26	0,32	0,36
1.8	**120**	0,14	0,18	0,23	0,28	0,31	**120**	0,13	0,17	0,22	0,26	0,29
1.9	**180**	0,19	0,25	0,33	0,39	0,44	**180**	0,18	0,23	0,30	0,36	0,40
1.10	**120**	0,14	0,18	0,23	0,28	0,31	**120**	0,13	0,17	0,22	0,26	0,29
1.11	**100**	0,12	0,16	0,21	0,25	0,28	**100**	0,11	0,15	0,19	0,23	0,26
1.12	**120**	0,14	0,18	0,23	0,28	0,31	**120**	0,13	0,17	0,22	0,26	0,29
1.13	**120**	0,14	0,18	0,23	0,28	0,31	**120**	0,13	0,17	0,22	0,26	0,29
1.14	**100**	0,12	0,16	0,21	0,25	0,28	**100**	0,11	0,15	0,19	0,23	0,26
1.15	**100**	0,14	0,18	0,23	0,28	0,31	**100**	0,13	0,17	0,22	0,26	0,29
1.16	**100**	0,14	0,18	0,23	0,28	0,31	**100**	0,13	0,17	0,22	0,26	0,29
2.1	**65**	0,09	0,12	0,15	0,19	0,23	**65**	0,09	0,12	0,15	0,19	0,23
2.2	**65**	0,09	0,12	0,15	0,19	0,23	**65**	0,09	0,12	0,15	0,19	0,23
2.3	**65**	0,09	0,12	0,15	0,19	0,23	**65**	0,09	0,12	0,15	0,19	0,23
2.4	**65**	0,09	0,12	0,15	0,19	0,23	**65**	0,09	0,12	0,15	0,19	0,23
2.5	**60**	0,08	0,10	0,13	0,16	0,20	**60**	0,08	0,10	0,13	0,16	0,20
2.6	**65**	0,09	0,12	0,15	0,19	0,23	**65**	0,09	0,12	0,15	0,19	0,23
2.7	**60**	0,08	0,10	0,13	0,16	0,20	**60**	0,08	0,10	0,13	0,16	0,20
3.1	**140**	0,24	0,31	0,39	0,47	0,54	**140**	0,24	0,31	0,39	0,47	0,54
3.2	**100**	0,21	0,27	0,35	0,42	0,47	**100**	0,21	0,27	0,35	0,42	0,47
3.3	**120**	0,27	0,35	0,45	0,54	0,60	**120**	0,27	0,35	0,45	0,54	0,60
3.4	**75**	0,21	0,27	0,35	0,42	0,47	**75**	0,21	0,27	0,35	0,42	0,47
3.5	**170**	0,30	0,39	0,49	0,59	0,67	**170**	0,30	0,39	0,49	0,59	0,67
3.6	**140**	0,27	0,35	0,45	0,54	0,60	**140**	0,27	0,35	0,45	0,54	0,60
3.7	**170**	0,27	0,35	0,45	0,54	0,60	**170**	0,27	0,35	0,45	0,54	0,60
3.8	**140**	0,21	0,27	0,35	0,42	0,47	**140**	0,21	0,27	0,35	0,42	0,47
4.1												
4.2												
4.3												
4.4												
4.5												
4.6												
4.7												
4.8												
4.9												
4.10												
4.11	200	0,24	0,31	0,39	0,47	0,54	200	0,24	0,31	0,39	0,47	0,54
4.12	200	0,21	0,27	0,35	0,42	0,47	200	0,21	0,27	0,35	0,42	0,47
4.13												
4.14												
4.15												
4.16												
4.17												
4.18												
4.19												
5.1												
5.2												
5.3												
5.4												
5.5												
5.6												
5.7												
5.8												
5.9												
5.10												
5.11												
6.1	50	0,10	0,13	0,17	0,20	0,23	50	0,09	0,12	0,15	0,19	0,21
6.2	40	0,06	0,08	0,11	0,13	0,15	40	0,06	0,08	0,10	0,12	0,13
6.3												
6.4												
6.5												

The cutting data depends extremely on the external conditions, the material and machine type.
The indicated values are possible values which have to be increased or reduced according to the application conditions.

Index	Drilling depth 8xD Speed UNI 10 782 ...					
	v_c m/min with through coolant	Ø 3-5 f mm/rev.	Ø 5-8 f mm/rev.	Ø 8-12 f mm/rev.	Ø 12-16 f mm/rev.	Ø 16-20 f mm/rev.
1.1	170	0,13	0,17	0,22	0,26	0,30
1.2	205	0,23	0,30	0,38	0,46	0,52
1.3	170	0,18	0,23	0,30	0,36	0,40
1.4	135	0,15	0,20	0,26	0,32	0,36
1.5	155	0,18	0,23	0,30	0,36	0,40
1.6	135	0,15	0,20	0,26	0,32	0,36
1.7	135	0,15	0,20	0,26	0,32	0,36
1.8	100	0,13	0,17	0,22	0,26	0,29
1.9	155	0,18	0,23	0,30	0,36	0,40
1.10	100	0,13	0,17	0,22	0,26	0,29
1.11	85	0,11	0,15	0,19	0,23	0,26
1.12	100	0,13	0,17	0,22	0,26	0,29
1.13	100	0,13	0,17	0,22	0,26	0,29
1.14	85	0,11	0,15	0,19	0,23	0,26
1.15	85	0,13	0,17	0,22	0,26	0,29
1.16	85	0,13	0,17	0,22	0,26	0,29
2.1	65	0,09	0,12	0,15	0,19	0,23
2.2	65	0,09	0,12	0,15	0,19	0,23
2.3	65	0,09	0,12	0,15	0,19	0,23
2.4	65	0,09	0,12	0,15	0,19	0,23
2.5	60	0,08	0,10	0,13	0,16	0,20
2.6	65	0,09	0,12	0,15	0,19	0,23
2.7	60	0,08	0,10	0,13	0,16	0,20
3.1	125	0,24	0,31	0,39	0,47	0,54
3.2	100	0,21	0,27	0,35	0,42	0,47
3.3	120	0,27	0,35	0,45	0,54	0,60
3.4	75	0,21	0,27	0,35	0,42	0,47
3.5	170	0,30	0,39	0,49	0,59	0,67
3.6	140	0,27	0,35	0,45	0,54	0,60
3.7	170	0,27	0,35	0,45	0,54	0,60
3.8	140	0,21	0,27	0,35	0,42	0,47
4.1						
4.2						
4.3						
4.4						
4.5						
4.6						
4.7						
4.8						
4.9						
4.10						
4.11	200	0,24	0,31	0,39	0,47	0,54
4.12	200	0,21	0,27	0,35	0,42	0,47
4.13						
4.14						
4.15						
4.16						
4.17						
4.18						
4.19						
5.1						
5.2						
5.3						
5.4						
5.5						
5.6						
5.7						
5.8						
5.9						
5.10						
5.11						
6.1	40	0,10	0,13	0,17	0,20	0,23
6.2	30	0,06	0,08	0,11	0,13	0,15
6.3						
6.4						
6.5						

Index	Drilling depth 5xD Speed VA 10 773 ...					
	v_c m/min with through coolant	Ø 3-5 f mm/rev.	Ø 5-8 f mm/rev.	Ø 8-12 f mm/rev.	Ø 12-16 f mm/rev.	Ø 16-20 f mm/rev.
1.1	200	0,10	0,13	0,17	0,20	0,23
1.2	240	0,17	0,21	0,27	0,33	0,37
1.3	200	0,13	0,17	0,21	0,26	0,29
1.4	160	0,11	0,14	0,19	0,23	0,25
1.5	180	0,13	0,17	0,21	0,26	0,29
1.6	160	0,11	0,14	0,19	0,23	0,25
1.7	160	0,11	0,14	0,19	0,23	0,25
1.8	120	0,09	0,12	0,15	0,18	0,21
1.9	180	0,13	0,17	0,21	0,26	0,29
1.10	120	0,09	0,12	0,15	0,18	0,21
1.11	100	0,08	0,11	0,14	0,16	0,18
1.12	120	0,09	0,12	0,15	0,18	0,21
1.13	120	0,09	0,12	0,15	0,18	0,21
1.14	100	0,08	0,11	0,14	0,16	0,18
1.15	100	0,09	0,12	0,15	0,18	0,21
1.16	100	0,09	0,12	0,15	0,18	0,21
2.1	90	0,10	0,13	0,17	0,20	0,23
2.2	75	0,08	0,11	0,14	0,18	0,20
2.3	90	0,08	0,10	0,13	0,16	0,18
2.4	60	0,08	0,10	0,13	0,16	0,18
2.5	65	0,08	0,10	0,13	0,16	0,18
2.6	75	0,08	0,11	0,14	0,18	0,20
2.7	50	0,07	0,09	0,12	0,14	0,16
3.1	140	0,17	0,22	0,28	0,34	0,38
3.2	100	0,15	0,20	0,25	0,30	0,34
3.3	120	0,19	0,25	0,32	0,38	0,43
3.4	75	0,15	0,20	0,25	0,30	0,34
3.5	170	0,22	0,28	0,35	0,42	0,48
3.6	140	0,19	0,25	0,32	0,38	0,43
3.7	170	0,19	0,25	0,32	0,38	0,43
3.8	140	0,15	0,20	0,25	0,30	0,34
4.1						
4.2						
4.3						
4.4						
4.5						
4.6						
4.7						
4.8						
4.9						
4.10						
4.11	200	0,24	0,31	0,39	0,47	0,54
4.12	200	0,21	0,27	0,35	0,42	0,47
4.13						
4.14						
4.15						
4.16						
4.17						
4.18						
4.19						
5.1	50	0,06	0,08	0,10	0,12	0,13
5.2	25	0,06	0,08	0,10	0,12	0,13
5.3	25	0,06	0,08	0,10	0,12	0,13
5.4	25	0,06	0,08	0,10	0,12	0,13
5.5	25	0,06	0,08	0,10	0,12	0,13
5.6	25	0,06	0,08	0,10	0,12	0,13
5.7	50	0,06	0,08	0,10	0,12	0,13
5.8	15	0,06	0,08	0,10	0,12	0,13
5.9	50	0,12	0,16	0,20	0,25	0,28
5.10	40	0,15	0,19	0,25	0,31	0,35
5.11	40	0,12	0,16	0,20	0,25	0,28
6.1						
6.2						
6.3						
6.4						
6.5						

Cutting data standard values – WTX – Feed

		Drilling depth 5xD Feed UNI 10 789 ...							
Index	v_c m/min with through coolant	Ø 4–6 f mm/rev.	Ø 6–7 f mm/rev.	Ø 7–8 f mm/rev.	Ø 8–10 f mm/rev.	Ø 10–12 f mm/rev.	Ø 12–15 f mm/rev.	Ø 15–17 f mm/rev.	Ø 17–20 f mm/rev.
1.1	100	0,27	0,31	0,35	0,40	0,44	0,49	0,54	0,56
1.2	120	0,45	0,51	0,57	0,64	0,71	0,78	0,86	0,90
1.3	100	0,35	0,40	0,44	0,50	0,55	0,61	0,67	0,70
1.4	80	0,30	0,35	0,39	0,44	0,49	0,54	0,59	0,62
1.5	90	0,35	0,40	0,44	0,50	0,55	0,61	0,67	0,70
1.6	80	0,30	0,35	0,39	0,44	0,49	0,54	0,59	0,62
1.7	80	0,30	0,35	0,39	0,44	0,49	0,54	0,59	0,62
1.8	60	0,25	0,28	0,32	0,36	0,40	0,44	0,48	0,50
1.9	90	0,35	0,40	0,44	0,50	0,55	0,61	0,67	0,70
1.10	60	0,25	0,28	0,32	0,36	0,40	0,44	0,48	0,50
1.11	50	0,22	0,25	0,28	0,32	0,35	0,39	0,43	0,45
1.12	60	0,25	0,28	0,32	0,36	0,40	0,44	0,48	0,50
1.13	60	0,25	0,28	0,32	0,36	0,40	0,44	0,48	0,50
1.14	50	0,22	0,25	0,28	0,32	0,35	0,39	0,43	0,45
1.15	50	0,25	0,28	0,32	0,36	0,40	0,44	0,48	0,50
1.16	50	0,25	0,28	0,32	0,36	0,40	0,44	0,48	0,50
2.1	65	0,14	0,16	0,18	0,21	0,23	0,26	0,28	0,30
2.2	55	0,12	0,14	0,16	0,18	0,20	0,22	0,25	0,27
2.3	65	0,11	0,13	0,14	0,17	0,18	0,20	0,23	0,24
2.4	45	0,11	0,13	0,14	0,17	0,18	0,20	0,23	0,24
2.5	40	0,11	0,13	0,14	0,17	0,18	0,20	0,23	0,24
2.6	55	0,12	0,14	0,16	0,18	0,20	0,22	0,25	0,27
2.7	40	0,10	0,12	0,13	0,15	0,17	0,18	0,20	0,21
3.1	120	0,38	0,42	0,47	0,53	0,59	0,65	0,71	0,76
3.2	85	0,33	0,38	0,42	0,48	0,52	0,58	0,64	0,67
3.3	110	0,43	0,48	0,54	0,61	0,67	0,74	0,81	0,86
3.4	75	0,33	0,38	0,42	0,48	0,52	0,58	0,64	0,67
3.5	140	0,47	0,53	0,59	0,67	0,73	0,81	0,89	0,95
3.6	115	0,43	0,48	0,54	0,61	0,67	0,74	0,81	0,86
3.7	140	0,43	0,48	0,54	0,61	0,67	0,74	0,81	0,86
3.8	115	0,33	0,38	0,42	0,48	0,52	0,58	0,64	0,67
4.1	300	0,32	0,34	0,36	0,42	0,46	0,50	0,55	0,60
4.2	300	0,32	0,34	0,36	0,42	0,46	0,50	0,55	0,60
4.3	250	0,40	0,44	0,48	0,54	0,58	0,65	0,71	0,79
4.4	220	0,40	0,44	0,48	0,54	0,58	0,65	0,71	0,79
4.5	180	0,40	0,44	0,48	0,54	0,58	0,65	0,71	0,79
4.6									
4.7									
4.8	120	0,29	0,31	0,35	0,40	0,44	0,48	0,52	0,58
4.9	200	0,38	0,48	0,56	0,66	0,72	0,78	0,84	1,00
4.10	200	0,38	0,48	0,56	0,66	0,72	0,78	0,84	1,00
4.11	200	0,38	0,48	0,56	0,66	0,72	0,78	0,84	1,00
4.12	200	0,38	0,48	0,56	0,66	0,72	0,78	0,84	1,00
4.13									
4.14									
4.15									
4.16									
4.17									
4.18									
4.19									
5.1									
5.2									
5.3									
5.4									
5.5									
5.6									
5.7									
5.8									
5.9									
5.10									
5.11									
6.1									
6.2									
6.3									
6.4									
6.5									

The cutting data depends extremely on the external conditions, the material and machine type.
The indicated values are possible values which have to be increased or reduced according to the application conditions.

Index	v_c m/min with through coolant	Hole depth 8xD and 12xD Feed UNI 10 794 ..., 10 796 ... Ø 4-6 f mm/rev.	Ø 6-7 f mm/rev.	Ø 7-8 f mm/rev.	Ø 8-10 f mm/rev.	Ø 10-12 f mm/rev.	Ø 12-15 f mm/rev.	Ø 15-17 f mm/rev.	Ø 17-20 f mm/rev.
1.1	90	0,27	0,31	0,35	0,40	0,44	0,49	0,54	0,56
1.2	110	0,45	0,51	0,57	0,64	0,71	0,78	0,86	0,90
1.3	90	0,35	0,40	0,44	0,50	0,55	0,61	0,67	0,70
1.4	70	0,30	0,35	0,39	0,44	0,49	0,54	0,59	0,62
1.5	80	0,35	0,40	0,44	0,50	0,55	0,61	0,67	0,70
1.6	70	0,30	0,35	0,39	0,44	0,49	0,54	0,59	0,62
1.7	70	0,30	0,35	0,39	0,44	0,49	0,54	0,59	0,62
1.8	55	0,25	0,28	0,32	0,36	0,40	0,44	0,48	0,50
1.9	80	0,35	0,40	0,44	0,50	0,55	0,61	0,67	0,70
1.10	55	0,25	0,28	0,32	0,36	0,40	0,44	0,48	0,50
1.11	45	0,22	0,25	0,28	0,32	0,35	0,39	0,43	0,45
1.12	55	0,25	0,28	0,32	0,36	0,40	0,44	0,48	0,50
1.13	55	0,25	0,28	0,32	0,36	0,40	0,44	0,48	0,50
1.14	45	0,22	0,25	0,28	0,32	0,35	0,39	0,43	0,45
1.15	45	0,25	0,28	0,32	0,36	0,40	0,44	0,48	0,50
1.16	45	0,25	0,28	0,32	0,36	0,40	0,44	0,48	0,50
2.1	60	0,14	0,16	0,18	0,21	0,23	0,26	0,28	0,30
2.2	50	0,12	0,14	0,16	0,18	0,20	0,22	0,25	0,27
2.3	60	0,11	0,13	0,14	0,17	0,18	0,20	0,23	0,24
2.4	40	0,11	0,13	0,14	0,17	0,18	0,20	0,23	0,24
2.5	35	0,11	0,13	0,14	0,17	0,18	0,20	0,23	0,24
2.6	50	0,12	0,14	0,16	0,18	0,20	0,22	0,25	0,27
2.7	35	0,10	0,12	0,13	0,15	0,17	0,18	0,20	0,21
3.1	110	0,38	0,42	0,47	0,53	0,59	0,65	0,71	0,76
3.2	75	0,33	0,38	0,42	0,48	0,52	0,58	0,64	0,67
3.3	100	0,43	0,48	0,54	0,61	0,67	0,74	0,81	0,86
3.4	65	0,33	0,38	0,42	0,48	0,52	0,58	0,64	0,67
3.5	130	0,47	0,53	0,59	0,67	0,73	0,81	0,89	0,95
3.6	110	0,43	0,48	0,54	0,61	0,67	0,74	0,81	0,86
3.7	130	0,43	0,48	0,54	0,61	0,67	0,74	0,81	0,86
3.8	110	0,33	0,38	0,42	0,48	0,52	0,58	0,64	0,67
4.1	300	0,32	0,34	0,36	0,42	0,46	0,50	0,55	0,60
4.2	300	0,32	0,34	0,36	0,42	0,46	0,50	0,55	0,60
4.3	250	0,40	0,44	0,48	0,54	0,58	0,65	0,71	0,79
4.4	220	0,40	0,44	0,48	0,54	0,58	0,65	0,71	0,79
4.5	180	0,40	0,44	0,48	0,54	0,58	0,65	0,71	0,79
4.6									
4.7									
4.8	120	0,29	0,31	0,35	0,40	0,44	0,48	0,52	0,58
4.9	200	0,38	0,48	0,56	0,66	0,72	0,78	0,84	1,00
4.10	200	0,38	0,48	0,56	0,66	0,72	0,78	0,84	1,00
4.11	200	0,38	0,48	0,56	0,66	0,72	0,78	0,84	1,00
4.12	200	0,38	0,48	0,56	0,66	0,72	0,78	0,84	1,00
4.13									
4.14									
4.15									
4.16									
4.17									
4.18									
4.19									
5.1									
5.2									
5.3									
5.4									
5.5									
5.6									
5.7									
5.8									
5.9									
5.10									
5.11									
6.1									
6.2									
6.3									
6.4									
6.5									

Cutting data standard values – WTX – UNI

Index	Drilling depth 3xD UNI 11 776 ..., 11 777 ..., 11 778 ..., 11 779 ..., 11 780 ..., 11 781 ...							
	v_c m/min without through coolant	v_c m/min with through coolant	Ø 3–5 f mm/rev.	Ø 5–8 f mm/rev.	Ø 8–12 f mm/rev.	Ø 12–16 f mm/rev.	Ø 16–20 f mm/rev.	Ø 20–25 f mm/rev.
1.1	**110**	**125**	0,14	0,17	0,22	0,26	0,30	0,32
1.2	**130**	**150**	0,23	0,28	0,35	0,42	0,48	0,51
1.3	**110**	**125**	0,18	0,21	0,28	0,33	0,37	0,40
1.4	**90**	**100**	0,15	0,19	0,24	0,29	0,33	0,35
1.5	**100**	**115**	0,18	0,21	0,28	0,33	0,37	0,40
1.6	**90**	**100**	0,15	0,19	0,24	0,29	0,33	0,35
1.7	**90**	**100**	0,15	0,19	0,24	0,29	0,33	0,35
1.8	**65**	**75**	0,12	0,15	0,20	0,24	0,27	0,28
1.9	**100**	**115**	0,18	0,21	0,28	0,33	0,37	0,40
1.10	**65**	**75**	0,12	0,15	0,20	0,24	0,27	0,28
1.11	**55**	**65**	0,11	0,14	0,18	0,21	0,24	0,26
1.12	**65**	**75**	0,12	0,15	0,20	0,24	0,27	0,28
1.13	**65**	**75**	0,12	0,15	0,20	0,24	0,27	0,28
1.14	**55**	**65**	0,11	0,14	0,18	0,21	0,24	0,26
1.15	**55**	**65**	0,12	0,15	0,20	0,24	0,27	0,28
1.16	**55**	**65**	0,12	0,15	0,20	0,24	0,27	0,28
2.1		50	0,10	0,12	0,15	0,19	0,21	0,23
2.2		45	0,08	0,10	0,13	0,16	0,19	0,21
2.3		45	0,07	0,09	0,12	0,15	0,17	0,18
2.4		35	0,07	0,09	0,12	0,15	0,17	0,18
2.5		35	0,07	0,09	0,12	0,15	0,17	0,18
2.6		50	0,08	0,10	0,13	0,16	0,19	0,21
2.7		35	0,07	0,08	0,11	0,13	0,15	0,16
3.1	**70**	**90**	0,20	0,24	0,31	0,37	0,42	0,46
3.2	**50**	**60**	0,18	0,21	0,28	0,33	0,37	0,40
3.3	**60**	**80**	0,23	0,28	0,35	0,42	0,48	0,51
3.4	**45**	**55**	0,18	0,21	0,28	0,33	0,37	0,40
3.5	**90**	**110**	0,25	0,30	0,39	0,46	0,53	0,58
3.6	**75**	**90**	0,23	0,28	0,35	0,42	0,48	0,51
3.7	**90**	**110**	0,23	0,28	0,35	0,42	0,48	0,51
3.8	**75**	**90**	0,18	0,21	0,28	0,33	0,37	0,40
4.1								
4.2								
4.3								
4.4								
4.5								
4.6								
4.7								
4.8								
4.9								
4.10								
4.11	120	200	0,18	0,22	0,28	0,34	0,38	0,42
4.12	120	200	0,16	0,20	0,25	0,30	0,34	0,36
4.13								
4.14								
4.15								
4.16								
4.17	240		0,12	0,15	0,20	0,24	0,27	0,29
4.18								
4.19								
5.1								
5.2								
5.3								
5.4								
5.5								
5.6								
5.7								
5.8								
5.9								
5.10								
5.11								
6.1	40	55	0,09	0,11	0,14	0,17	0,19	0,21
6.2	25	35	0,06	0,08	0,10	0,12	0,13	0,14
6.3								
6.4								
6.5								

The cutting data depends extremely on the external conditions, the material and machine type.
The indicated values are possible values which have to be increased or reduced according to the application conditions.

Index	Drilling depth 5xD UNI 11 782 ..., 11 783 ..., 11 784 ..., 11 785 ..., 11 786 ..., 11 787 ...								Drilling depth 8xD UNI 11 788 ..., 11 789 ..., 11 790 ...					
	v_c m/min without through coolant	v_c m/min with through coolant	Ø 3-5 f mm/rev.	Ø 5-8 f mm/rev.	Ø 8-12 f mm/rev.	Ø 12-16 f mm/rev.	Ø 16-20 f mm/rev.	Ø 20-25 f mm/rev.	v_c m/min with through coolant	Ø 3-5 f mm/rev.	Ø 5-8 f mm/rev.	Ø 8-12 f mm/rev.	Ø 12-16 f mm/rev.	Ø 16-20 f mm/rev.
1.1	**90**	**125**	0,13	0,17	0,22	0,26	0,30	0,32	**110**	0,13	0,17	0,22	0,26	0,30
1.2	**110**	**150**	0,21	0,28	0,35	0,42	0,48	0,51	**130**	0,21	0,28	0,35	0,42	0,48
1.3	**90**	**125**	0,16	0,21	0,28	0,33	0,37	0,40	**110**	0,16	0,21	0,28	0,33	0,37
1.4	**75**	**100**	0,14	0,19	0,24	0,29	0,33	0,35	**90**	0,14	0,19	0,24	0,29	0,33
1.5	**80**	**115**	0,16	0,21	0,28	0,33	0,37	0,40	**100**	0,16	0,21	0,28	0,33	0,37
1.6	**75**	**100**	0,14	0,19	0,24	0,29	0,33	0,35	**90**	0,14	0,19	0,24	0,29	0,33
1.7	**75**	**100**	0,14	0,19	0,24	0,29	0,33	0,35	**90**	0,14	0,19	0,24	0,29	0,33
1.8	**55**	**75**	0,12	0,15	0,20	0,24	0,27	0,28	**65**	0,12	0,15	0,20	0,24	0,27
1.9	**80**	**115**	0,16	0,21	0,28	0,33	0,37	0,40	**100**	0,16	0,21	0,28	0,33	0,37
1.10	**55**	**75**	0,12	0,15	0,20	0,24	0,27	0,28	**65**	0,12	0,15	0,20	0,24	0,27
1.11	**45**	**65**	0,10	0,14	0,18	0,21	0,24	0,26	**55**	0,10	0,14	0,18	0,21	0,24
1.12	**55**	**75**	0,12	0,15	0,20	0,24	0,27	0,28	**65**	0,12	0,15	0,20	0,24	0,27
1.13	**55**	**75**	0,12	0,15	0,20	0,24	0,27	0,28	**65**	0,12	0,15	0,20	0,24	0,27
1.14	**45**	**65**	0,10	0,14	0,18	0,21	0,24	0,26	**55**	0,10	0,14	0,18	0,21	0,24
1.15	**45**	**65**	0,12	0,15	0,20	0,24	0,27	0,28	**55**	0,12	0,15	0,20	0,24	0,27
1.16	**45**	**65**	0,12	0,15	0,20	0,24	0,27	0,28	**55**	0,12	0,15	0,20	0,24	0,27
2.1		50	0,09	0,12	0,15	0,19	0,21	0,23						
2.2		45	0,08	0,10	0,13	0,16	0,19	0,21						
2.3		45	0,07	0,09	0,12	0,15	0,17	0,18						
2.4		35	0,07	0,09	0,12	0,15	0,17	0,18						
2.5		35	0,07	0,09	0,12	0,15	0,17	0,18						
2.6		50	0,08	0,10	0,13	0,16	0,19	0,21						
2.7		35	0,06	0,08	0,11	0,13	0,15	0,16						
3.1	**75**	**90**	0,17	0,22	0,28	0,34	0,38	0,42	**80**	0,17	0,22	0,28	0,34	0,38
3.2	**55**	**60**	0,15	0,20	0,25	0,30	0,34	0,36	**55**	0,15	0,20	0,25	0,30	0,34
3.3	**70**	**80**	0,19	0,25	0,32	0,38	0,43	0,47	**70**	0,19	0,25	0,32	0,38	0,43
3.4	**45**	**55**	0,15	0,20	0,25	0,30	0,34	0,36	**50**	0,15	0,20	0,25	0,30	0,34
3.5	**90**	**110**	0,22	0,28	0,35	0,42	0,48	0,52	**95**	0,22	0,28	0,35	0,42	0,48
3.6	**75**	**90**	0,19	0,25	0,32	0,38	0,43	0,47	**80**	0,19	0,25	0,32	0,38	0,43
3.7	**90**	**110**	0,19	0,25	0,32	0,38	0,43	0,47	**95**	0,19	0,25	0,32	0,38	0,43
3.8	**75**	**90**	0,15	0,20	0,25	0,30	0,34	0,36	**80**	0,15	0,20	0,25	0,30	0,34
4.1														
4.2														
4.3														
4.4														
4.5														
4.6														
4.7														
4.8														
4.9														
4.10														
4.11	100	200	0,17	0,22	0,28	0,34	0,38	0,42	200	0,17	0,22	0,28	0,34	0,38
4.12	100	200	0,15	0,20	0,25	0,30	0,34	0,36	200	0,15	0,20	0,25	0,30	0,34
4.13														
4.14														
4.15														
4.16														
4.17														
4.18														
4.19														
5.1														
5.2														
5.3														
5.4														
5.5														
5.6														
5.7														
5.8														
5.9														
5.10														
5.11														
6.1		55	0,08	0,11	0,14	0,17	0,19	0,21						
6.2														
6.3														
6.4														
6.5														

Cutting data standard values – WTX – VA

Index	Drilling depth 3xD VA 10 731 ..., 10 732 ..., 10 733 ..., 10 734 ...							Drilling depth 5xD VA 10 740 ..., 10 741 ..., 10 745 ..., 10 746 ...						
	v_c m/min without through coolant	v_c m/min with through coolant	Ø 2–5 f mm/rev.	Ø 5–8 f mm/rev.	Ø 8–12 f mm/rev.	Ø 12–16 f mm/rev.	Ø 16–20 f mm/rev.	v_c m/min without through coolant	v_c m/min with through coolant	Ø 2–5 f mm/rev.	Ø 5–8 f mm/rev.	Ø 8–12 f mm/rev.	Ø 12–16 f mm/rev.	Ø 16–20 f mm/rev.
1.1	90	90	0,09	0,12	0,16	0,19	0,22	90	90	0,09	0,12	0,16	0,19	0,22
1.2	105	105	0,15	0,20	0,26	0,31	0,35	105	105	0,15	0,20	0,26	0,31	0,35
1.3	90	90	0,11	0,16	0,20	0,24	0,27	90	90	0,11	0,16	0,20	0,24	0,27
1.4	70	70	0,10	0,14	0,18	0,21	0,24	70	70	0,10	0,14	0,18	0,21	0,24
1.5	80	80	0,11	0,16	0,20	0,24	0,27	80	80	0,11	0,16	0,20	0,24	0,27
1.6	70	70	0,10	0,14	0,18	0,21	0,24	70	70	0,10	0,14	0,18	0,21	0,24
1.7	70	70	0,10	0,14	0,18	0,21	0,24	70	70	0,10	0,14	0,18	0,21	0,24
1.8	55	55	0,08	0,11	0,14	0,17	0,19	55	55	0,08	0,11	0,14	0,17	0,19
1.9	80	80	0,11	0,16	0,20	0,24	0,27	80	80	0,11	0,16	0,20	0,24	0,27
1.10	55	55	0,08	0,11	0,14	0,17	0,19	55	55	0,08	0,11	0,14	0,17	0,19
1.11	45	45	0,07	0,10	0,13	0,15	0,17	45	45	0,07	0,10	0,13	0,15	0,17
1.12	55	55	0,08	0,11	0,14	0,17	0,19	55	55	0,08	0,11	0,14	0,17	0,19
1.13	55	55	0,08	0,11	0,14	0,17	0,19	55	55	0,08	0,11	0,14	0,17	0,19
1.14	45	45	0,07	0,10	0,13	0,15	0,17	45	45	0,07	0,10	0,13	0,15	0,17
1.15	45	45	0,08	0,11	0,14	0,17	0,19	45	45	0,08	0,11	0,14	0,17	0,19
1.16	45	45	0,08	0,11	0,14	0,17	0,19	45	45	0,08	0,11	0,14	0,17	0,19
2.1	**30**	**60**	0,08	0,11	0,14	0,17	0,19	**30**	**60**	0,08	0,11	0,14	0,17	0,19
2.2	**25**	**50**	0,06	0,09	0,12	0,15	0,17	**25**	**50**	0,06	0,09	0,12	0,15	0,17
2.3	**30**	**60**	0,06	0,08	0,11	0,13	0,15	**30**	**60**	0,06	0,08	0,11	0,13	0,15
2.4	**20**	**40**	0,06	0,08	0,11	0,13	0,15	**20**	**40**	0,06	0,08	0,11	0,13	0,15
2.5	**18**	**35**	0,06	0,08	0,11	0,13	0,15	**18**	**35**	0,06	0,08	0,11	0,13	0,15
2.6	**25**	**50**	0,06	0,09	0,12	0,15	0,17	**25**	**50**	0,06	0,09	0,12	0,15	0,17
2.7	**18**	**35**	0,05	0,08	0,10	0,12	0,13	**18**	**35**	0,05	0,08	0,10	0,12	0,13
3.1	90	100	0,16	0,22	0,28	0,34	0,38	80	100	0,16	0,22	0,28	0,34	0,38
3.2	65	70	0,14	0,20	0,25	0,30	0,34	60	70	0,14	0,20	0,25	0,30	0,34
3.3	80	90	0,18	0,25	0,32	0,38	0,43	70	90	0,18	0,25	0,32	0,38	0,43
3.4	50	60	0,14	0,20	0,25	0,30	0,34	50	60	0,14	0,20	0,25	0,30	0,34
3.5	110	120	0,20	0,28	0,35	0,42	0,48	100	120	0,20	0,28	0,35	0,42	0,48
3.6	90	100	0,18	0,25	0,32	0,38	0,43	80	100	0,18	0,25	0,32	0,38	0,43
3.7	110	120	0,18	0,25	0,32	0,38	0,43	95	120	0,18	0,25	0,32	0,38	0,43
3.8	90	100	0,14	0,20	0,25	0,30	0,34	80	100	0,14	0,20	0,25	0,30	0,34
4.1	**240**	**320**	0,11	0,15	0,20	0,24	0,27	**160**	**320**	0,11	0,15	0,20	0,24	0,27
4.2	**180**	**240**	0,11	0,15	0,20	0,24	0,27	**120**	**240**	0,11	0,15	0,20	0,24	0,27
4.3	**150**	**200**	0,14	0,20	0,25	0,30	0,34	**100**	**200**	0,14	0,20	0,25	0,30	0,34
4.4	**120**	**160**	0,11	0,15	0,20	0,24	0,27	**80**	**160**	0,11	0,15	0,20	0,24	0,27
4.5	**90**	**120**	0,10	0,14	0,18	0,22	0,24	**60**	**120**	0,10	0,14	0,18	0,22	0,24
4.6	**240**	**320**	0,10	0,14	0,18	0,22	0,24	**200**	**320**	0,10	0,14	0,18	0,22	0,24
4.7	**210**	**280**	0,10	0,14	0,18	0,22	0,24	**175**	**280**	0,10	0,14	0,18	0,22	0,24
4.8	**120**	**160**	0,10	0,14	0,18	0,22	0,24	**100**	**160**	0,10	0,14	0,18	0,22	0,24
4.9	**150**	**200**	0,10	0,14	0,18	0,22	0,24	**125**	**200**	0,10	0,14	0,18	0,22	0,24
4.10	**120**	**160**	0,10	0,14	0,18	0,22	0,24	**100**	**160**	0,10	0,14	0,18	0,22	0,24
4.11	**120**	**160**	0,16	0,22	0,28	0,34	0,38	**120**	**160**	0,16	0,22	0,28	0,34	0,38
4.12	**120**	**160**	0,14	0,20	0,25	0,30	0,34	**120**	**160**	0,14	0,20	0,25	0,30	0,34
4.13	**80**	**120**	0,05	0,08	0,10	0,12	0,13	**60**	**120**	0,05	0,08	0,10	0,12	0,13
4.14	**100**	**150**	0,09	0,12	0,16	0,19	0,22	**75**	**150**	0,09	0,12	0,16	0,19	0,22
4.15	**80**	**120**	0,09	0,12	0,16	0,19	0,22	**60**	**120**	0,09	0,12	0,16	0,19	0,22
4.16	**150**	**300**	0,11	0,15	0,20	0,24	0,27		**300**	0,11	0,15	0,20	0,24	0,27
4.17	400		0,11	0,15	0,20	0,24	0,27	400		0,11	0,15	0,20	0,24	0,27
4.18		**40**	0,06	0,09	0,12	0,15	0,17		**40**	0,06	0,09	0,12	0,15	0,17
4.19		**40**	0,05	0,08	0,10	0,12	0,13		**40**	0,05	0,08	0,10	0,12	0,13
5.1		40	0,05	0,08	0,10	0,12	0,13		40	0,05	0,08	0,10	0,12	0,13
5.2		20	0,05	0,08	0,10	0,12	0,13		20	0,05	0,08	0,10	0,12	0,13
5.3		20	0,05	0,08	0,10	0,12	0,13		20	0,05	0,08	0,10	0,12	0,13
5.4		20	0,05	0,08	0,10	0,12	0,13		20	0,05	0,08	0,10	0,12	0,13
5.5		20	0,05	0,08	0,10	0,12	0,13		20	0,05	0,08	0,10	0,12	0,13
5.6		18	0,05	0,08	0,10	0,12	0,13		18	0,05	0,08	0,10	0,12	0,13
5.7		15	0,05	0,08	0,10	0,12	0,13		15	0,05	0,08	0,10	0,12	0,13
5.8		10	0,05	0,08	0,10	0,12	0,13		10	0,05	0,08	0,10	0,12	0,13
5.9		20	0,05	0,08	0,10	0,12	0,13		20	0,05	0,08	0,10	0,12	0,13
5.10		25	0,05	0,08	0,10	0,12	0,13		25	0,05	0,08	0,10	0,12	0,13
5.11		20	0,05	0,08	0,10	0,12	0,13		20	0,05	0,08	0,10	0,12	0,13
6.1	30		0,05	0,08	0,10	0,10	0,10	20		0,05	0,08	0,10	0,10	0,10
6.2	22		0,04	0,06	0,07	0,07	0,07	15		0,04	0,06	0,07	0,07	0,07
6.3														
6.4														
6.5														

The cutting data depends extremely on the external conditions, the material and machine type.
The indicated values are possible values which have to be increased or reduced according to the application conditions.

	Drilling depth 8xD VA 10 770 ...					
Index	v_c m/min with through coolant	Ø 3-5 f mm/rev.	Ø 5-8 f mm/rev.	Ø 8-12 f mm/rev.	Ø 12-16 f mm/rev.	Ø 16-20 f mm/rev.
1.1	75	0,09	0,12	0,16	0,19	0,22
1.2	90	0,15	0,20	0,26	0,31	0,35
1.3	75	0,11	0,16	0,20	0,24	0,27
1.4	60	0,10	0,14	0,18	0,21	0,24
1.5	70	0,11	0,16	0,20	0,24	0,27
1.6	60	0,10	0,14	0,18	0,21	0,24
1.7	60	0,10	0,14	0,18	0,21	0,24
1.8	45	0,08	0,11	0,14	0,17	0,19
1.9	70	0,11	0,16	0,20	0,24	0,27
1.10	45	0,08	0,11	0,14	0,17	0,19
1.11	40	0,07	0,10	0,13	0,15	0,17
1.12	45	0,08	0,11	0,14	0,17	0,19
1.13	45	0,08	0,11	0,14	0,17	0,19
1.14	40	0,07	0,10	0,13	0,15	0,17
1.15	40	0,08	0,11	0,14	0,17	0,19
1.16	40	0,08	0,11	0,14	0,17	0,19
2.1	**50**	0,08	0,11	0,14	0,17	0,19
2.2	**45**	0,06	0,09	0,12	0,15	0,17
2.3	**50**	0,06	0,08	0,11	0,13	0,15
2.4	**35**	0,06	0,08	0,11	0,13	0,15
2.5	**30**	0,06	0,08	0,11	0,13	0,15
2.6	**45**	0,06	0,09	0,12	0,15	0,17
2.7	**30**	0,05	0,08	0,10	0,12	0,13
3.1	85	0,16	0,22	0,28	0,34	0,38
3.2	60	0,14	0,20	0,25	0,30	0,34
3.3	75	0,18	0,25	0,32	0,38	0,43
3.4	50	0,14	0,20	0,25	0,30	0,34
3.5	100	0,20	0,28	0,35	0,42	0,48
3.6	85	0,18	0,25	0,32	0,38	0,43
3.7	100	0,18	0,25	0,32	0,38	0,43
3.8	85	0,14	0,20	0,25	0,30	0,34
4.1	**270**	0,11	0,15	0,20	0,24	0,27
4.2	**205**	0,11	0,15	0,20	0,24	0,27
4.3	**170**	0,14	0,20	0,25	0,30	0,34
4.4	**135**	0,11	0,15	0,20	0,24	0,27
4.5	**100**	0,10	0,14	0,18	0,22	0,24
4.6	**270**	0,10	0,14	0,18	0,22	0,24
4.7	**240**	0,10	0,14	0,18	0,22	0,24
4.8	**135**	0,10	0,14	0,18	0,22	0,24
4.9	**170**	0,10	0,14	0,18	0,22	0,24
4.10	**135**	0,10	0,14	0,18	0,22	0,24
4.11	**135**	0,16	0,22	0,28	0,34	0,38
4.12	**135**	0,14	0,20	0,25	0,30	0,34
4.13	**100**	0,05	0,08	0,10	0,12	0,13
4.14	**130**	0,09	0,12	0,16	0,19	0,22
4.15	**100**	0,09	0,12	0,16	0,19	0,22
4.16	**255**	0,11	0,15	0,20	0,24	0,27
4.17						
4.18	**35**	0,06	0,09	0,12	0,15	0,17
4.19	**35**	0,05	0,08	0,10	0,12	0,13
5.1	35	0,05	0,08	0,10	0,12	0,13
5.2	15	0,05	0,08	0,10	0,12	0,13
5.3	15	0,05	0,08	0,10	0,12	0,13
5.4	15	0,05	0,08	0,10	0,12	0,13
5.5	15	0,05	0,08	0,10	0,12	0,13
5.6	15	0,05	0,08	0,10	0,12	0,13
5.7	15	0,05	0,08	0,10	0,12	0,13
5.8	10	0,05	0,08	0,10	0,12	0,13
5.9	15	0,05	0,08	0,10	0,12	0,13
5.10	20	0,05	0,08	0,10	0,12	0,13
5.11	15	0,05	0,08	0,10	0,12	0,13
6.1						
6.2						
6.3						
6.4						
6.5						

Cutting data standard values – WTX – Quattro 4F

	Drilling depth 5xD Quattro 4F 10 730 ..., 10 735...							Drilling depth 8xD Quattro 4F 10 736 ...					
Index	v_c m/min without through coolant	v_c m/min with through coolant	Ø 3-5 f mm/rev.	Ø 5-8 f mm/rev.	Ø 8-12 f mm/rev.	Ø 12-16 f mm/rev.	Ø 16-20 f mm/rev.	v_c m/min with through coolant	Ø 3-5 f mm/rev.	Ø 5-8 f mm/rev.	Ø 8-12 f mm/rev.	Ø 12-16 f mm/rev.	Ø 16-20 f mm/rev.
1.1	**90**	**125**	0,13	0,17	0,22	0,26	0,30	**110**	0,13	0,17	0,22	0,26	0,30
1.2	**110**	**150**	0,21	0,28	0,35	0,42	0,48	**130**	0,21	0,28	0,35	0,42	0,48
1.3	**90**	**125**	0,16	0,21	0,28	0,33	0,37	**110**	0,16	0,21	0,28	0,33	0,37
1.4	**75**	**100**	0,14	0,19	0,24	0,29	0,33	**90**	0,14	0,19	0,24	0,29	0,33
1.5	**80**	**115**	0,16	0,21	0,28	0,33	0,37	**100**	0,16	0,21	0,28	0,33	0,37
1.6	**75**	**100**	0,14	0,19	0,24	0,29	0,33	**90**	0,14	0,19	0,24	0,29	0,33
1.7	**75**	**100**	0,14	0,19	0,24	0,29	0,33	**90**	0,14	0,19	0,24	0,29	0,33
1.8	**55**	**75**	0,12	0,15	0,20	0,24	0,27	**65**	0,12	0,15	0,20	0,24	0,27
1.9	**80**	**115**	0,16	0,21	0,28	0,33	0,37	**100**	0,16	0,21	0,28	0,33	0,37
1.10	**55**	**75**	0,12	0,15	0,20	0,24	0,27	**65**	0,12	0,15	0,20	0,24	0,27
1.11	**45**	**65**	0,10	0,14	0,18	0,21	0,24	**55**	0,10	0,14	0,18	0,21	0,24
1.12	**55**	**75**	0,12	0,15	0,20	0,24	0,27	**65**	0,12	0,15	0,20	0,24	0,27
1.13	**55**	**75**	0,12	0,15	0,20	0,24	0,27	**65**	0,12	0,15	0,20	0,24	0,27
1.14	**45**	**65**	0,10	0,14	0,18	0,21	0,24	**55**	0,10	0,14	0,18	0,21	0,24
1.15	**45**	**65**	0,12	0,15	0,20	0,24	0,27	**55**	0,12	0,15	0,20	0,24	0,27
1.16	**45**	**65**	0,12	0,15	0,20	0,24	0,27	**55**	0,12	0,15	0,20	0,24	0,27
2.1		50	0,09	0,12	0,15	0,19	0,21						
2.2		45	0,08	0,10	0,13	0,16	0,19						
2.3		45	0,07	0,09	0,12	0,15	0,17						
2.4		35	0,07	0,09	0,12	0,15	0,17						
2.5		35	0,07	0,09	0,12	0,15	0,17						
2.6		50	0,08	0,10	0,13	0,16	0,19						
2.7		35	0,06	0,08	0,11	0,13	0,15						
3.1	**75**	**90**	0,17	0,22	0,28	0,34	0,38	**80**	0,17	0,22	0,28	0,34	0,38
3.2	**55**	**60**	0,15	0,20	0,25	0,30	0,34	**55**	0,15	0,20	0,25	0,30	0,34
3.3	**70**	**80**	0,19	0,25	0,32	0,38	0,43	**70**	0,19	0,25	0,32	0,38	0,43
3.4	**45**	**55**	0,15	0,20	0,25	0,30	0,34	**50**	0,15	0,20	0,25	0,30	0,34
3.5	**90**	**110**	0,22	0,28	0,35	0,42	0,48	**95**	0,22	0,28	0,35	0,42	0,48
3.6	**75**	**90**	0,19	0,25	0,32	0,38	0,43	**80**	0,19	0,25	0,32	0,38	0,43
3.7	**90**	**110**	0,19	0,25	0,32	0,38	0,43	**95**	0,19	0,25	0,32	0,38	0,43
3.8	**75**	**90**	0,15	0,20	0,25	0,30	0,34	**80**	0,15	0,20	0,25	0,30	0,34
4.1													
4.2													
4.3													
4.4													
4.5													
4.6													
4.7													
4.8													
4.9													
4.10													
4.11	120	200	0,17	0,22	0,28	0,34	0,38	200	0,17	0,22	0,28	0,34	0,38
4.12	120	200	0,15	0,20	0,25	0,30	0,34	200	0,15	0,20	0,25	0,30	0,34
4.13													
4.14													
4.15													
4.16													
4.17	240		0,12	0,15	0,20	0,24	0,27						
4.18													
4.19													
5.1													
5.2													
5.3													
5.4													
5.5													
5.6													
5.7													
5.8													
5.9													
5.10													
5.11													
6.1	40	55	0,08	0,11	0,14	0,17	0,19	55	0,08	0,11	0,14	0,17	0,19
6.2	20	35	0,06	0,08	0,10	0,12	0,13						
6.3													
6.4													
6.5													

The cutting data depends extremely on the external conditions, the material and machine type.
The indicated values are possible values which have to be increased or reduced according to the application conditions.

		Drilling depth 12xD Quattro 4F 10 737 ...				
Index	v_c m/min with through coolant	Ø 3-5 f mm/rev.	Ø 5-8 f mm/rev.	Ø 8-12 f mm/rev.	Ø 12-16 f mm/rev.	Ø 16-20 f mm/rev.
1.1	100	0,12	0,15	0,20	0,24	0,27
1.2	120	0,19	0,25	0,32	0,38	0,43
1.3	100	0,15	0,20	0,25	0,30	0,34
1.4	80	0,13	0,17	0,22	0,27	0,30
1.5	90	0,15	0,20	0,25	0,30	0,34
1.6	80	0,13	0,17	0,22	0,27	0,30
1.7	80	0,13	0,17	0,22	0,27	0,30
1.8	60	0,10	0,14	0,18	0,22	0,24
1.9	90	0,15	0,20	0,25	0,30	0,34
1.10	60	0,10	0,14	0,18	0,22	0,24
1.11	50	0,09	0,12	0,16	0,19	0,22
1.12	60	0,10	0,14	0,18	0,22	0,24
1.13	60	0,10	0,14	0,18	0,22	0,24
1.14	50	0,09	0,12	0,16	0,19	0,22
1.15	50	0,10	0,14	0,18	0,22	0,24
1.16	50	0,10	0,14	0,18	0,22	0,24
2.1						
2.2						
2.3						
2.4						
2.5						
2.6						
2.7						
3.1	80	0,17	0,22	0,28	0,34	0,38
3.2	55	0,15	0,20	0,25	0,30	0,34
3.3	70	0,19	0,25	0,32	0,38	0,43
3.4	50	0,15	0,20	0,25	0,30	0,34
3.5	95	0,22	0,28	0,35	0,42	0,48
3.6	80	0,19	0,25	0,32	0,38	0,43
3.7	95	0,19	0,25	0,32	0,38	0,43
3.8	80	0,15	0,20	0,25	0,30	0,34
4.1						
4.2						
4.3						
4.4						
4.5						
4.6						
4.7						
4.8						
4.9						
4.10						
4.11	200	0,17	0,22	0,28	0,34	0,38
4.12	200	0,15	0,20	0,25	0,30	0,34
4.13						
4.14						
4.15						
4.16						
4.17						
4.18						
4.19						
5.1						
5.2						
5.3						
5.4						
5.5						
5.6						
5.7						
5.8						
5.9						
5.10						
5.11						
6.1						
6.2						
6.3						
6.4						
6.5						

Cutting data standard values – WTX – AL

Index	Drilling depth 5xD AL 10 791 ...						Drilling depth 8xD AL 10 792 ...					
	v_c m/min with through coolant	Ø 3–5 f mm/rev.	Ø 5–8 f mm/rev.	Ø 8–12 f mm/rev.	Ø 12–16 f mm/rev.	Ø 16–20 f mm/rev.	v_c m/min with through coolant	Ø 3–5 f mm/rev.	Ø 5–8 f mm/rev.	Ø 8–12 f mm/rev.	Ø 12–16 f mm/rev.	Ø 16–20 f mm/rev.
1.1												
1.2												
1.3												
1.4												
1.5												
1.6												
1.7												
1.8												
1.9												
1.10												
1.11												
1.12												
1.13												
1.14												
1.15												
1.16												
2.1												
2.2												
2.3												
2.4												
2.5												
2.6												
2.7												
3.1	105	0,23	0,33	0,42	0,52	0,58	105	0,23	0,33	0,42	0,52	0,58
3.2	100	0,23	0,33	0,42	0,52	0,58	100	0,23	0,33	0,42	0,52	0,58
3.3	105	0,2	0,25	0,35	0,4	0,46	105	0,2	0,25	0,35	0,4	0,46
3.4	100	0,2	0,25	0,35	0,4	0,46	100	0,2	0,25	0,35	0,4	0,46
3.5	105	0,2	0,25	0,35	0,4	0,46	105	0,2	0,25	0,35	0,4	0,46
3.6	100	0,2	0,25	0,35	0,4	0,46	100	0,2	0,25	0,35	0,4	0,46
3.7	105	0,2	0,25	0,35	0,4	0,46	105	0,2	0,25	0,35	0,4	0,46
3.8	100	0,2	0,25	0,35	0,4	0,46	100	0,2	0,25	0,35	0,4	0,46
4.1	**360**	0,3	0,4	0,5	0,6	0,65	**330**	0,3	0,4	0,5	0,6	0,65
4.2	**400**	0,3	0,4	0,5	0,6	0,65	**360**	0,3	0,4	0,5	0,6	0,65
4.3	**360**	0,35	0,45	0,55	0,65	0,7	**330**	0,35	0,45	0,55	0,65	0,7
4.4	**350**	0,3	0,4	0,5	0,6	0,65	**320**	0,3	0,4	0,5	0,6	0,65
4.5	**300**	0,3	0,4	0,5	0,6	0,65	**300**	0,3	0,4	0,5	0,6	0,65
4.6	**160**	0,23	0,3	0,38	0,45	0,52	**130**	0,23	0,3	0,38	0,45	0,52
4.7	**200**	0,23	0,3	0,38	0,45	0,52	**170**	0,23	0,3	0,38	0,45	0,52
4.8												
4.9												
4.10												
4.11	**200**	0,23	0,3	0,38	0,45	0,52	**170**	0,23	0,3	0,38	0,45	0,52
4.12	**160**	0,23	0,3	0,38	0,45	0,52	**130**	0,23	0,3	0,38	0,45	0,52
4.13												
4.14												
4.15												
4.16												
4.17												
4.18												
4.19												
5.1												
5.2												
5.3												
5.4												
5.5												
5.6												
5.7												
5.8												
5.9												
5.10												
5.11												
6.1												
6.2												
6.3												
6.4												
6.5												

The cutting data depends extremely on the external conditions, the material and machine type.
The indicated values are possible values which have to be increased or reduced according to the application conditions.

Index	Drilling depth 12xD AL 10 793 ...					
	v_c m/min with through coolant	Ø 3-5 f mm/rev.	Ø 5-8 f mm/rev.	Ø 8-12 f mm/rev.	Ø 12-16 f mm/rev.	Ø 16-20 f mm/rev.
1.1						
1.2						
1.3						
1.4						
1.5						
1.6						
1.7						
1.8						
1.9						
1.10						
1.11						
1.12						
1.13						
1.14						
1.15						
1.16						
2.1						
2.2						
2.3						
2.4						
2.5						
2.6						
2.7						
3.1	105	0,23	0,33	0,42	0,52	0,58
3.2	100	0,23	0,33	0,42	0,52	0,58
3.3	105	0,2	0,25	0,35	0,4	0,46
3.4	100	0,2	0,25	0,35	0,4	0,46
3.5	105	0,2	0,25	0,35	0,4	0,46
3.6	100	0,2	0,25	0,35	0,4	0,46
3.7	105	0,2	0,25	0,35	0,4	0,46
3.8	100	0,2	0,25	0,35	0,4	0,46
4.1	**330**	0,3	0,4	0,5	0,6	0,65
4.2	**360**	0,3	0,4	0,5	0,6	0,65
4.3	**330**	0,35	0,45	0,55	0,65	0,7
4.4	**320**	0,3	0,4	0,5	0,6	0,65
4.5	**300**	0,3	0,4	0,5	0,6	0,65
4.6	**130**	0,23	0,3	0,38	0,45	0,52
4.7	**170**	0,23	0,3	0,38	0,45	0,52
4.8						
4.9						
4.10						
4.11	**170**	0,23	0,3	0,38	0,45	0,52
4.12	**130**	0,23	0,3	0,38	0,45	0,52
4.13						
4.14						
4.15						
4.16						
4.17						
4.18						
4.19						
5.1						
5.2						
5.3						
5.4						
5.5						
5.6						
5.7						
5.8						
5.9						
5.10						
5.11						
6.1						
6.2						
6.3						
6.4						
6.5						

Cutting data standard values – WTX – GG

Index	Drilling depth 5xD GG 10 749 ...						Drilling depth 8xD GG 10 753 ...					
	v_c m/min with through coolant	Ø 3–5 f mm/rev.	Ø 5–8 f mm/rev.	Ø 8–12 f mm/rev.	Ø 12–16 f mm/rev.	Ø 16–20 f mm/rev.	v_c m/min with through coolant	Ø 3–5 f mm/rev.	Ø 5–8 f mm/rev.	Ø 8–12 f mm/rev.	Ø 12–16 f mm/rev.	Ø 16–20 f mm/rev.
1.1												
1.2												
1.3												
1.4												
1.5												
1.6												
1.7												
1.8												
1.9												
1.10												
1.11												
1.12												
1.13												
1.14												
1.15												
1.16												
2.1												
2.2												
2.3												
2.4												
2.5												
2.6												
2.7												
3.1	**100**	0,15	0,18	0,25	0,30	0,34	**100**	0,14	0,16	0,22	0,27	0,31
3.2	**70**	0,13	0,16	0,23	0,27	0,30	**70**	0,12	0,14	0,20	0,24	0,27
3.3	**90**	0,17	0,21	0,29	0,35	0,39	**90**	0,16	0,18	0,26	0,31	0,35
3.4	**60**	0,13	0,16	0,23	0,27	0,30	**60**	0,12	0,14	0,20	0,24	0,27
3.5	**120**	0,19	0,23	0,32	0,38	0,43	**120**	0,17	0,20	0,28	0,34	0,38
3.6	**100**	0,17	0,21	0,29	0,35	0,39	**100**	0,16	0,18	0,26	0,31	0,35
3.7	**120**	0,17	0,21	0,29	0,35	0,39	**120**	0,16	0,18	0,26	0,31	0,35
3.8	**100**	0,13	0,16	0,23	0,27	0,30	**100**	0,12	0,14	0,20	0,24	0,27
4.1												
4.2	**300**	0,12	0,14	0,20	0,24	0,27	**300**	0,12	0,14	0,20	0,24	0,27
4.3	**250**	0,15	0,18	0,25	0,30	0,34	**250**	0,15	0,18	0,25	0,30	0,34
4.4	**200**	0,12	0,14	0,20	0,24	0,27	**200**	0,12	0,14	0,20	0,24	0,27
4.5	**150**	0,10	0,13	0,18	0,22	0,24	**150**	0,10	0,13	0,18	0,22	0,24
4.6												
4.7												
4.8	**200**	0,10	0,13	0,18	0,22	0,24	**200**	0,10	0,13	0,18	0,22	0,24
4.9	**250**	0,10	0,13	0,18	0,22	0,24	**250**	0,10	0,13	0,18	0,22	0,24
4.10	**200**	0,10	0,13	0,18	0,22	0,24	**200**	0,10	0,13	0,18	0,22	0,24
4.11	**200**	0,17	0,20	0,28	0,34	0,38	**200**	0,17	0,20	0,28	0,34	0,38
4.12	**200**	0,15	0,18	0,25	0,30	0,34	**200**	0,15	0,18	0,25	0,30	0,34
4.13	**120**	0,06	0,07	0,10	0,12	0,13	**120**	0,06	0,07	0,10	0,12	0,13
4.14	**150**	0,09	0,11	0,16	0,19	0,22	**150**	0,09	0,11	0,16	0,19	0,22
4.15	**120**	0,09	0,11	0,16	0,19	0,22	**120**	0,09	0,11	0,16	0,19	0,22
4.16	**300**	0,12	0,14	0,20	0,24	0,27	**300**	0,12	0,14	0,20	0,24	0,27
4.17	**400**	0,12	0,14	0,20	0,24	0,27	**400**	0,12	0,14	0,20	0,24	0,27
4.18												
4.19												
5.1												
5.2												
5.3												
5.4												
5.5												
5.6												
5.7												
5.8												
5.9												
5.10												
5.11												
6.1												
6.2												
6.3												
6.4												
6.5												

The cutting data depends extremely on the external conditions, the material and machine type.
The indicated values are possible values which have to be increased or reduced according to the application conditions.

Cutting data standard values – WTX – Mini

Index	Drilling depth 5xD MINI 10 775 ...				Drilling depth 8xD MINI 10 778 ...				Drilling depth 12xD MINI 10 779 ...			
	v_c m/min with through coolant	Ø 1,0–1,5 f mm/rev.	Ø 1,6–2,0 f mm/rev.	Ø 2,1–2,9 f mm/rev.	v_c m/min with through coolant	Ø 1,0–1,5 f mm/rev.	Ø 1,6–2,0 f mm/rev.	Ø 2,1–2,9 f mm/rev.	v_c m/min with through coolant	Ø 1,0–1,5 f mm/rev.	Ø 1,6–2,0 f mm/rev.	Ø 2,1–2,9 f mm/rev.
1.1	80	0,07	0,08	0,09	80	0,06	0,07	0,08	70	0,06	0,06	0,07
1.2	95	0,12	0,14	0,16	95	0,11	0,12	0,14	85	0,10	0,11	0,13
1.3	90	0,09	0,10	0,12	90	0,08	0,09	0,11	70	0,07	0,08	0,10
1.4	65	0,08	0,09	0,10	65	0,07	0,08	0,09	60	0,06	0,07	0,08
1.5	70	0,09	0,10	0,12	70	0,08	0,09	0,11	65	0,07	0,08	0,10
1.6	65	0,08	0,09	0,10	65	0,07	0,08	0,09	55	0,06	0,07	0,08
1.7	65	0,08	0,09	0,10	65	0,07	0,08	0,09	55	0,06	0,07	0,08
1.8	50	0,06	0,07	0,08	50	0,06	0,06	0,07	40	0,05	0,06	0,07
1.9	70	0,09	0,10	0,12	70	0,08	0,09	0,11	60	0,07	0,08	0,10
1.10	50	0,06	0,07	0,08	50	0,06	0,06	0,07	40	0,05	0,06	0,07
1.11	40	0,06	0,06	0,07	40	0,05	0,06	0,07	35	0,04	0,05	0,06
1.12	50	0,06	0,07	0,08	50	0,06	0,06	0,07	40	0,05	0,06	0,07
1.13	50	0,06	0,07	0,08	50	0,06	0,06	0,07	40	0,05	0,06	0,07
1.14	40	0,06	0,06	0,07	40	0,05	0,06	0,07	35	0,04	0,05	0,06
1.15	40	0,06	0,07	0,08	40	0,06	0,06	0,07	35	0,05	0,06	0,07
1.16	40	0,06	0,07	0,08	40	0,06	0,06	0,07	35	0,05	0,06	0,07
2.1	50	0,05	0,06	0,06	50	0,04	0,05	0,06				
2.2	40	0,04	0,05	0,06	40	0,04	0,04	0,05				
2.3	50	0,04	0,04	0,05	50	0,03	0,04	0,05				
2.4	32	0,04	0,04	0,05	32	0,03	0,04	0,05				
2.5	28	0,04	0,04	0,05	28	0,03	0,04	0,05				
2.6	40	0,04	0,05	0,06	40	0,04	0,04	0,05				
2.7	28	0,03	0,04	0,05	28	0,03	0,04	0,04				
3.1	90	0,11	0,12	0,14	90	0,10	0,11	0,13	80	0,09	0,10	0,11
3.2	65	0,09	0,10	0,12	65	0,08	0,09	0,11	55	0,07	0,08	0,10
3.3	80	0,12	0,14	0,16	80	0,11	0,12	0,14	70	0,10	0,11	0,13
3.4	55	0,09	0,10	0,12	55	0,08	0,09	0,11	50	0,07	0,08	0,10
3.5	100	0,14	0,16	0,18	100	0,13	0,14	0,16	95	0,11	0,13	0,14
3.6	90	0,12	0,14	0,16	90	0,11	0,12	0,14	80	0,10	0,11	0,13
3.7	105	0,12	0,14	0,16	105	0,11	0,12	0,14	95	0,10	0,11	0,13
3.8	90	0,09	0,10	0,12	90	0,08	0,09	0,11	80	0,07	0,08	0,10
4.1												
4.2	180	0,07	0,08	0,09	180	0,06	0,07	0,08	180	0,06	0,06	0,07
4.3	150	0,09	0,10	0,12	150	0,08	0,09	0,11	150	0,07	0,08	0,10
4.4	120	0,07	0,08	0,09	120	0,06	0,07	0,08	120	0,06	0,06	0,07
4.5	90	0,06	0,07	0,08	90	0,06	0,06	0,07	90	0,05	0,06	0,07
4.6												
4.7												
4.8	120	0,06	0,07	0,08	120	0,06	0,06	0,07	120	0,05	0,06	0,07
4.9	150	0,06	0,07	0,08	150	0,06	0,06	0,07	150	0,05	0,06	0,07
4.10	120	0,06	0,07	0,08	120	0,06	0,06	0,07	120	0,05	0,06	0,07
4.11	120	0,11	0,12	0,14	120	0,10	0,11	0,13	160	0,09	0,10	0,11
4.12	120	0,09	0,10	0,12	120	0,08	0,09	0,11	160	0,07	0,08	0,10
4.13	100	0,03	0,04	0,05	100	0,03	0,04	0,04	96	0,03	0,03	0,04
4.14	125	0,06	0,06	0,07	125	0,05	0,06	0,07	120	0,04	0,05	0,06
4.15	120	0,06	0,06	0,07	110	0,05	0,06	0,07	95	0,04	0,05	0,06
4.16	180	0,07	0,08	0,09	180	0,06	0,07	0,08	180	0,06	0,06	0,07
4.17									320	0,06	0,06	0,07
4.18	30	0,04	0,05	0,06	30	0,04	0,04	0,05				
4.19	32	0,03	0,04	0,05	32	0,03	0,04	0,04				
5.1	35	0,03	0,04	0,05	35	0,03	0,04	0,04				
5.2	16	0,03	0,04	0,05	16	0,03	0,04	0,04				
5.3	16	0,03	0,04	0,05	16	0,03	0,04	0,04				
5.4	16	0,03	0,04	0,05	16	0,03	0,04	0,04				
5.5	16	0,03	0,04	0,05	16	0,03	0,04	0,04				
5.6	15	0,03	0,04	0,05	15	0,03	0,04	0,04				
5.7	12	0,03	0,04	0,05	12	0,03	0,04	0,04				
5.8	8	0,03	0,04	0,05	8	0,03	0,04	0,04				
5.9	16	0,03	0,04	0,05	16	0,03	0,04	0,04				
5.10	20	0,03	0,04	0,05	20	0,03	0,04	0,04				
5.11	16	0,03	0,04	0,05	16	0,03	0,04	0,04				
6.1												
6.2												
6.3												
6.4												
6.5												

Coolant pressure 20–50 bar. High coolant pressure can lead to stiffening of the tool and may result in tool breakage with minimum radial force. The coolant system should be operated with a filter of 20–25 microns in order to avoid a possible blockage of the coolant channels. The cutting values are highly dependent on the external conditions, the material and the machine. The values shown represent possible cutting data which may have to be corrected up or down depending on application.

Cutting data standard values – WTX – Mini, WTX – SB

Index	Drilling depth 5xD Mini 11 770 ...				
	v_c m/min without through coolant	< Ø 1,0	> Ø 1,0–1,5	> Ø 1,5–2,0	> Ø 2,0–2,9
		f mm/rev.	f mm/rev.	f mm/rev.	f mm/rev.
1.1	70	0,01	0,015	0,03	0,05
1.2	70	0,01	0,015	0,03	0,05
1.3	75	0,01	0,015	0,03	0,05
1.4	65	0,01	0,015	0,03	0,05
1.5	65	0,02	0,03	0,04	0,06
1.6	65	0,01	0,015	0,03	0,05
1.7	65	0,02	0,03	0,04	0,06
1.8	50	0,01	0,015	0,03	0,05
1.9					
1.10	65	0,01	0,015	0,03	0,05
1.11	65	0,01	0,015	0,03	0,05
1.12	50	0,01	0,015	0,03	0,05
1.13					
1.14					
1.15	50	0,01	0,015	0,03	0,05
1.16	50	0,01	0,015	0,03	0,05
2.1					
2.2					
2.3					
2.4					
2.5					
2.6					
2.7					
3.1	70	0,01	0,015	0,03	0,05
3.2	70	0,01	0,015	0,03	0,05
3.3	70	0,01	0,015	0,03	0,05
3.4	70	0,01	0,015	0,03	0,05
3.5	70	0,01	0,015	0,03	0,05
3.6	70	0,01	0,015	0,03	0,05
3.7	70	0,01	0,015	0,03	0,05
3.8	70	0,01	0,015	0,03	0,05
4.1	200	0,01	0,015	0,03	0,05
4.2	200	0,01	0,015	0,03	0,05
4.3	160	0,01	0,015	0,03	0,05
4.4	130	0,01	0,015	0,03	0,05
4.5	130	0,01	0,015	0,03	0,05
4.6	100	0,01	0,015	0,03	0,05
4.7	100	0,01	0,015	0,03	0,05
4.8					
4.9					
4.10					
4.11	70	0,01	0,015	0,03	0,05
4.12	120	0,01	0,015	0,03	0,05
4.13					
4.14					
4.15					
4.16	200	0,01	0,015	0,03	0,05
4.17					
4.18					
4.19					
5.1					
5.2					
5.3					
5.4					
5.5					
5.6					
5.7					
5.8					
5.9	30	0,01	0,015	0,03	0,05
5.10	20	0,01	0,015	0,03	0,05
5.11	20	0,01	0,015	0,03	0,05
6.1					
6.2					
6.3					
6.4					
6.5					

Index	Drilling depth 3xD SB 10 767 ..., 10 772 ...				
	v_c m/min without through coolant	Ø 2–5	Ø 5–8	Ø 8–12	Ø 12–16
		f mm/rev.	f mm/rev.	f mm/rev.	f mm/rev.
1.1	100	0,11	0,15	0,20	0,24
1.2	120	0,19	0,25	0,32	0,38
1.3	100	0,14	0,20	0,25	0,30
1.4	80	0,12	0,17	0,22	0,27
1.5	90	0,14	0,20	0,25	0,30
1.6	80	0,12	0,17	0,22	0,27
1.7	80	0,12	0,17	0,22	0,27
1.8	60	0,10	0,14	0,18	0,22
1.9	90	0,14	0,20	0,25	0,30
1.10	60	0,10	0,14	0,18	0,22
1.11	50	0,09	0,12	0,16	0,19
1.12	60	0,10	0,14	0,18	0,22
1.13	60	0,10	0,14	0,18	0,22
1.14	50	0,09	0,12	0,16	0,19
1.15	50	0,10	0,14	0,18	0,22
1.16	50	0,10	0,14	0,18	0,22
2.1					
2.2					
2.3					
2.4					
2.5					
2.6					
2.7					
3.1	70	0,17	0,22	0,28	0,34
3.2	50	0,14	0,20	0,25	0,30
3.3	60	0,19	0,25	0,32	0,38
3.4	45	0,14	0,20	0,25	0,30
3.5	90	0,21	0,28	0,35	0,42
3.6	75	0,19	0,25	0,32	0,38
3.7	90	0,19	0,25	0,32	0,38
3.8	75	0,14	0,20	0,25	0,30
4.1					
4.2					
4.3					
4.4					
4.5					
4.6					
4.7					
4.8					
4.9					
4.10					
4.11	120	0,17	0,22	0,28	0,34
4.12	120	0,14	0,20	0,25	0,30
4.13					
4.14					
4.15					
4.16					
4.17	240	0,11	0,15	0,20	0,24
4.18					
4.19					
5.1					
5.2					
5.3					
5.4					
5.5					
5.6					
5.7					
5.8					
5.9					
5.10					
5.11					
6.1					
6.2					
6.3					
6.4					
6.5					

The cutting data depends extremely on the external conditions, the material and machine type.
The indicated values are possible values which have to be increased or reduced according to the application conditions.

Cutting data standard values – WTX – H

Index	Drilling depth 3xD H 10 776 ...								Drilling depth 3xD H 10 777 ...							
	v_c m/min with through coolant	Ø 2–3 f mm/rev.	Ø 3–4 f mm/rev.	Ø 4–5 f mm/rev.	Ø 5–6 f mm/rev.	Ø 6–8 f mm/rev.	Ø 8–12 f mm/rev.	Ø 12–16 f mm/rev.	v_c m/min without through coolant	Ø 2–3 f mm/rev.	Ø 3–4 f mm/rev.	Ø 4–5 f mm/rev.	Ø 5–6 f mm/rev.	Ø 6–8 f mm/rev.	Ø 8–12 f mm/rev.	Ø 12–16 f mm/rev.
1.1	120	0,1	0,14	0,18	0,21	0,24	0,3	0,35								
1.2	120	0,1	0,14	0,18	0,21	0,24	0,3	0,35								
1.3	120	0,1	0,14	0,18	0,21	0,24	0,3	0,35								
1.4	100	0,09	0,13	0,16	0,19	0,22	0,28	0,34								
1.5	110	0,09	0,13	0,16	0,19	0,22	0,28	0,34								
1.6	100	0,08	0,12	0,15	0,18	0,21	0,27	0,32								
1.7	100	0,09	0,13	0,16	0,19	0,22	0,28	0,34								
1.8	85	0,08	0,12	0,15	0,18	0,21	0,27	0,32								
1.9																
1.10	100	0,08	0,12	0,15	0,18	0,21	0,27	0,32								
1.11	100	0,08	0,12	0,15	0,18	0,21	0,27	0,32								
1.12																
1.13	30	0,045	0,06	0,08	0,1	0,12	0,15	0,2								
1.14																
1.15	60	0,045	0,06	0,08	0,1	0,12	0,15	0,2								
1.16	80	0,08	0,12	0,15	0,18	0,21	0,27	0,32								
2.1																
2.2																
2.3																
2.4																
2.5																
2.6																
2.7																
3.1	115	0,15	0,19	0,23	0,27	0,335	0,425	0,52								
3.2	95	0,15	0,19	0,23	0,27	0,335	0,425	0,52								
3.3	95	0,125	0,155	0,18	0,2	0,25	0,35	0,4								
3.4	90	0,125	0,155	0,18	0,2	0,25	0,35	0,4								
3.5	95	0,125	0,155	0,18	0,2	0,25	0,35	0,4								
3.6	90	0,125	0,155	0,18	0,2	0,25	0,35	0,4								
3.7	95	0,125	0,155	0,18	0,2	0,25	0,35	0,4								
3.8	90	0,125	0,155	0,18	0,2	0,25	0,35	0,4								
4.1																
4.2																
4.3																
4.4																
4.5																
4.6																
4.7																
4.8																
4.9																
4.10																
4.11																
4.12																
4.13																
4.14																
4.15																
4.16																
4.17																
4.18																
4.19																
5.1																
5.2																
5.3																
5.4																
5.5																
5.6																
5.7																
5.8																
5.9																
5.10																
5.11																
6.1	28	0,02	0,03	0,04	0,055	0,08	0,12	0,16	28	0,05	0,06	0,07	0,08	0,09	0,11	0,13
6.2	20	0,02	0,03	0,04	0,055	0,08	0,12	0,16	28	0,05	0,06	0,07	0,08	0,09	0,11	0,13
6.3	20	0,02	0,03	0,04	0,055	0,08	0,12	0,16	20	0,05	0,06	0,07	0,08	0,09	0,11	0,13
6.4									16	0,04	0,04	0,049	0,055	0,065	0,075	0,09
6.5									10	0,04	0,04	0,049	0,055	0,065	0,075	0,09

The cutting data depends extremely on the external conditions, the material and machine type.
The indicated values are possible values which have to be increased or reduced according to the application conditions.

Cutting data standard values – WTX – BR

		Drilling depth 3xD BR 10 760 ..., 10 761 ...							
Index	v_c m/min with through coolant	Ø 4 f mm/rev.	Ø 5 f mm/rev.	Ø 6 f mm/rev.	Ø 8 f mm/rev.	Ø 10 f mm/rev.	Ø 12 f mm/rev.	Ø 14 f mm/rev.	Ø 16 f mm/rev.
1.1									
1.2	90	0,13	0,16	0,19	0,23	0,26	0,28	0,31	0,33
1.3	75	0,10	0,12	0,15	0,18	0,20	0,22	0,24	0,26
1.4	60	0,09	0,11	0,13	0,15	0,18	0,20	0,21	0,23
1.5	70	0,10	0,12	0,15	0,18	0,20	0,22	0,24	0,26
1.6	60	0,09	0,11	0,13	0,15	0,18	0,20	0,21	0,23
1.7	60	0,09	0,11	0,13	0,15	0,18	0,20	0,21	0,23
1.8	45	0,07	0,09	0,11	0,13	0,14	0,16	0,17	0,18
1.9	70	0,10	0,12	0,15	0,18	0,20	0,22	0,24	0,26
1.10	45	0,07	0,09	0,11	0,13	0,14	0,16	0,17	0,18
1.11	40	0,06	0,08	0,09	0,11	0,13	0,14	0,15	0,16
1.12	45	0,07	0,09	0,11	0,13	0,14	0,16	0,17	0,18
1.13	45	0,07	0,09	0,11	0,13	0,14	0,16	0,17	0,18
1.14	35	0,06	0,08	0,09	0,11	0,13	0,14	0,15	0,16
1.15	35	0,07	0,09	0,11	0,13	0,14	0,16	0,17	0,18
1.16	35	0,07	0,09	0,11	0,13	0,14	0,16	0,17	0,18
2.1									
2.2									
2.3									
2.4									
2.5									
2.6									
2.7									
3.1	80	0,11	0,14	0,17	0,20	0,22	0,25	0,27	0,29
3.2	55	0,10	0,12	0,15	0,18	0,20	0,22	0,24	0,26
3.3	70	0,13	0,16	0,19	0,23	0,26	0,28	0,31	0,33
3.4	50	0,10	0,12	0,15	0,18	0,20	0,22	0,24	0,26
3.5	90	0,14	0,18	0,21	0,25	0,28	0,31	0,34	0,36
3.6	80	0,13	0,16	0,19	0,23	0,26	0,28	0,31	0,33
3.7	95	0,13	0,16	0,19	0,23	0,26	0,28	0,31	0,33
3.8	80	0,10	0,12	0,15	0,18	0,20	0,22	0,24	0,26
4.1									
4.2									
4.3	125	0,10	0,12	0,15	0,18	0,20	0,22	0,24	0,26
4.4	100	0,08	0,10	0,12	0,14	0,16	0,18	0,19	0,21
4.5	75	0,07	0,09	0,11	0,13	0,14	0,16	0,17	0,18
4.6									
4.7									
4.8	100	0,07	0,09	0,11	0,13	0,14	0,16	0,17	0,18
4.9	125	0,07	0,09	0,11	0,13	0,14	0,16	0,17	0,18
4.10	100	0,07	0,09	0,11	0,13	0,14	0,16	0,17	0,18
4.11	100	0,11	0,14	0,17	0,20	0,22	0,25	0,27	0,29
4.12									
4.13									
4.14									
4.15									
4.16									
4.17									
4.18									
4.19									
5.1									
5.2									
5.3									
5.4									
5.5									
5.6									
5.7									
5.8									
5.9									
5.10									
5.11									
6.1									
6.2									
6.3									
6.4									
6.5									

The cutting data is highly dependent on external conditions, such as stability of the tool and workpiece clamping, material and machine type!
The values indicated represent possible cutting data which may need to be corrected depending on operating conditions!

		Drilling depth 5xD BR 10 762 ...									
Index	v_c m/min with through coolant	Ø 4 f mm/rev.	Ø 5 f mm/rev.	Ø 6 f mm/rev.	Ø 8 f mm/rev.	Ø 10 f mm/rev.	Ø 12 f mm/rev.	Ø 14 f mm/rev.	Ø 16 f mm/rev.	Ø 18 f mm/rev.	Ø 20 f mm/rev.
1.1											
1.2	90	0,13	0,15	0,18	0,23	0,26	0,28	0,31	0,33	0,36	0,40
1.3	75	0,11	0,13	0,15	0,18	0,20	0,22	0,24	0,26	0,27	0,30
1.4	60	0,09	0,10	0,12	0,15	0,18	0,20	0,21	0,23	0,24	0,27
1.5	70	0,11	0,13	0,15	0,18	0,20	0,22	0,24	0,26	0,27	0,30
1.6	60	0,09	0,10	0,12	0,15	0,18	0,20	0,21	0,23	0,24	0,27
1.7	60	0,09	0,10	0,12	0,15	0,18	0,20	0,21	0,23	0,24	0,27
1.8	45	0,08	0,09	0,11	0,13	0,14	0,16	0,17	0,18	0,19	0,21
1.9	70	0,11	0,13	0,15	0,18	0,20	0,22	0,24	0,26	0,27	0,30
1.10	45	0,08	0,09	0,11	0,13	0,14	0,16	0,17	0,18	0,19	0,21
1.11	40	0,07	0,08	0,09	0,11	0,13	0,14	0,15	0,16	0,16	0,18
1.12	45	0,08	0,09	0,11	0,13	0,14	0,16	0,17	0,18	0,19	0,21
1.13	45	0,08	0,09	0,11	0,13	0,14	0,16	0,17	0,18	0,19	0,21
1.14	35	0,07	0,08	0,09	0,11	0,13	0,14	0,15	0,16	0,16	0,18
1.15	35	0,08	0,09	0,11	0,13	0,14	0,16	0,17	0,18	0,19	0,21
1.16	35	0,08	0,09	0,11	0,13	0,14	0,16	0,17	0,18	0,19	0,21
2.1											
2.2											
2.3											
2.4											
2.5											
2.6											
2.7											
3.1	80	0,12	0,13	0,16	0,20	0,22	0,25	0,27	0,29	0,31	0,34
3.2	55	0,11	0,13	0,15	0,18	0,20	0,22	0,24	0,26	0,27	0,30
3.3	70	0,13	0,15	0,18	0,23	0,26	0,28	0,31	0,33	0,36	0,40
3.4	50	0,11	0,13	0,15	0,18	0,20	0,22	0,24	0,26	0,27	0,30
3.5	90	0,13	0,15	0,18	0,25	0,28	0,31	0,34	0,36	0,39	0,43
3.6	80	0,13	0,15	0,18	0,23	0,26	0,28	0,31	0,33	0,36	0,40
3.7	95	0,13	0,15	0,18	0,23	0,26	0,28	0,31	0,33	0,36	0,40
3.8	80	0,11	0,13	0,15	0,18	0,20	0,22	0,24	0,26	0,27	0,30
4.1											
4.2											
4.3	125	0,11	0,13	0,15	0,18	0,20	0,22	0,24	0,26	0,27	0,30
4.4	100	0,09	0,10	0,12	0,14	0,16	0,18	0,19	0,21	0,23	0,25
4.5	75	0,08	0,09	0,11	0,13	0,14	0,16	0,17	0,18	0,19	0,21
4.6											
4.7											
4.8	100	0,08	0,09	0,11	0,13	0,14	0,16	0,17	0,18	0,19	0,21
4.9	125	0,08	0,09	0,11	0,13	0,14	0,16	0,17	0,18	0,19	0,21
4.10	100	0,08	0,09	0,11	0,13	0,14	0,16	0,17	0,18	0,19	0,21
4.11	100	0,12	0,13	0,16	0,20	0,22	0,25	0,27	0,29	0,31	0,34
4.12											
4.13											
4.14											
4.15											
4.16											
4.17											
4.18											
4.19											
5.1											
5.2											
5.3											
5.4											
5.5											
5.6											
5.7											
5.8											
5.9											
5.10											
5.11											
6.1											
6.2											
6.3											
6.4											
6.5											

Cutting data standard values – WTX – 180

	Drilling depth 3xD Type 180 10 720 ...						
Index	v_c m/min with through coolant	Ø 3–5 f mm/rev.	Ø 5–8 f mm/rev.	Ø 8–12 f mm/rev.	Ø 12–16 f mm/rev.	Ø 16–20 f mm/rev.	Ø 20–25 f mm/rev.
1.1	**100**	0,12	0,15	0,20	0,24	0,27	0,29
1.2	**120**	0,21	0,25	0,32	0,38	0,43	0,47
1.3	**100**	0,16	0,20	0,25	0,30	0,34	0,36
1.4	**80**	0,14	0,17	0,22	0,27	0,30	0,32
1.5	**90**	0,16	0,20	0,25	0,30	0,34	0,36
1.6	**80**	0,14	0,17	0,22	0,27	0,30	0,32
1.7	**80**	0,14	0,17	0,22	0,27	0,30	0,32
1.8	**60**	0,11	0,14	0,18	0,22	0,24	0,26
1.9	**90**	0,16	0,20	0,25	0,30	0,34	0,36
1.10	**60**	0,11	0,14	0,18	0,22	0,24	0,26
1.11	**50**	0,10	0,12	0,16	0,19	0,22	0,23
1.12	**60**	0,11	0,14	0,18	0,22	0,24	0,26
1.13	**60**	0,11	0,14	0,18	0,22	0,24	0,26
1.14	**50**	0,10	0,12	0,16	0,19	0,22	0,23
1.15	**50**	0,11	0,14	0,18	0,22	0,24	0,26
1.16	**50**	0,11	0,14	0,18	0,22	0,24	0,26
2.1	60	0,09	0,11	0,14	0,17	0,19	0,21
2.2	50	0,07	0,09	0,12	0,15	0,17	0,19
2.3	60	0,07	0,08	0,11	0,13	0,15	0,17
2.4	40	0,07	0,08	0,11	0,13	0,15	0,17
2.5	35	0,07	0,08	0,11	0,13	0,15	0,17
2.6	50	0,07	0,09	0,12	0,15	0,17	0,19
2.7	35	0,06	0,08	0,10	0,12	0,13	0,14
3.1	**90**	0,18	0,22	0,28	0,34	0,38	0,42
3.2	**65**	0,16	0,20	0,25	0,30	0,34	0,36
3.3	**80**	0,21	0,25	0,32	0,38	0,43	0,47
3.4	**55**	0,16	0,20	0,25	0,30	0,34	0,36
3.5	**110**	0,23	0,28	0,35	0,42	0,48	0,52
3.6	**90**	0,21	0,25	0,32	0,38	0,43	0,47
3.7	**110**	0,21	0,25	0,32	0,38	0,43	0,47
3.8	**90**	0,16	0,20	0,25	0,30	0,34	0,36
4.1							
4.2							
4.3							
4.4							
4.5							
4.6							
4.7							
4.8							
4.9							
4.10							
4.11	160	0,18	0,22	0,28	0,34	0,38	0,42
4.12	160	0,16	0,20	0,25	0,30	0,34	0,36
4.13							
4.14							
4.15							
4.16							
4.17							
4.18							
4.19							
5.1							
5.2							
5.3							
5.4							
5.5							
5.6							
5.7							
5.8							
5.9							
5.10							
5.11							
6.1	50	0,07	0,09	0,11	0,14	0,15	0,17
6.2	30	0,05	0,06	0,08	0,10	0,11	0,12
6.3							
6.4							
6.5							

Index	v_c m/min with through coolant	Drilling depth 5xD Type 180 10 721 ... Ø 3–5 f mm/rev.	Ø 5–8 f mm/rev.	Ø 8–12 f mm/rev.	Ø 12–16 f mm/rev.	Ø 16–20 f mm/rev.
1.1	90	0,09	0,12	0,16	0,19	0,22
1.2	110	0,16	0,20	0,26	0,31	0,35
1.3	90	0,12	0,16	0,20	0,24	0,27
1.4	75	0,10	0,14	0,18	0,21	0,24
1.5	80	0,12	0,16	0,20	0,24	0,27
1.6	75	0,10	0,14	0,18	0,21	0,24
1.7	75	0,10	0,14	0,18	0,21	0,24
1.8	55	0,08	0,11	0,14	0,17	0,19
1.9	85	0,12	0,16	0,20	0,24	0,27
1.10	60	0,08	0,11	0,14	0,17	0,19
1.11	50	0,07	0,10	0,13	0,15	0,17
1.12	60	0,08	0,11	0,14	0,17	0,19
1.13	60	0,08	0,11	0,14	0,17	0,19
1.14	50	0,07	0,10	0,13	0,15	0,17
1.15	50	0,08	0,11	0,14	0,17	0,19
1.16	50	0,08	0,11	0,14	0,17	0,19
2.1	60	0,07	0,09	0,11	0,14	0,15
2.2	50	0,06	0,07	0,10	0,12	0,14
2.3	60	0,05	0,07	0,09	0,11	0,12
2.4	40	0,05	0,07	0,09	0,11	0,12
2.5	35	0,05	0,07	0,09	0,11	0,12
2.6	50	0,06	0,07	0,10	0,12	0,14
2.7	35	0,05	0,06	0,08	0,10	0,11
3.1	90	0,14	0,18	0,22	0,27	0,31
3.2	65	0,12	0,16	0,20	0,24	0,27
3.3	80	0,16	0,20	0,26	0,31	0,35
3.4	55	0,12	0,16	0,20	0,24	0,27
3.5	110	0,17	0,22	0,28	0,34	0,38
3.6	90	0,16	0,20	0,26	0,31	0,35
3.7	110	0,16	0,20	0,26	0,31	0,35
3.8	90	0,12	0,16	0,20	0,24	0,27
4.1						
4.2						
4.3						
4.4						
4.5						
4.6						
4.7						
4.8						
4.9						
4.10						
4.11	160	0,17	0,22	0,28	0,34	0,38
4.12	160	0,15	0,20	0,25	0,30	0,34
4.13						
4.14						
4.15						
4.16						
4.17						
4.18						
4.19						
5.1						
5.2						
5.3						
5.4						
5.5						
5.6						
5.7						
5.8						
5.9						
5.10						
5.11						
6.1	50	0,06	0,08	0,10	0,12	0,13
6.2	30	0,04	0,05	0,07	0,08	0,09
6.3						
6.4						
6.5						

Application Note:

Spot drilling with reduced feedrate

1. Feedrate f [mm/U] should be multiplied by correction factor A_k
2. Drill with reduced feed rate until tool is fully engaged in workpiece by approximately 0.25xD
3. Retract from the hole at double the feed rate f in mm/U – only with inclined surfaces

   This operation is necessary in order to achieve maximum performance of the drill!
4. Drill the hole with feed rate f [mm/U] without pecking for chip evacuation

Correction factor A_k for f [mm/U] when spot drilling		
Inclination workpiece surface	A_k to 3xD (10 720 ...)	A_k to 5xD (10 721 ...)
15°	0,5	0,25
30°	0,4	not recommended
45°	0,25	not recommended

For drilling on flat surfaces (inclination 0°) with the WTX – 180 5xD, we recommend the use of a pilot drill (WTX – UNI 3xD).

Cutting data standard values – WPC – UNI

			Drilling depth 3xD UNI 11 600 ..., 11 601 ..., 11 603 ..., 11 604 ...							
Index	v_c m/min without through coolant	v_c m/min with through coolant	Ø 1-1,5 f mm/rev.	Ø 1,5-2 f mm/rev.	Ø 2-3 f mm/rev.	Ø 3-5 f mm/rev.	Ø 5-8 f mm/rev.	Ø 8-12 f mm/rev.	Ø 12-16 f mm/rev.	Ø 16-20 f mm/rev.
1.1	**100**	**100**	0,05	0,06	0,08	0,12	0,17	0,22	0,26	0,28
1.2	**120**	**120**	0,10	0,11	0,14	0,19	0,27	0,35	0,42	0,45
1.3	**100**	**100**	0,07	0,09	0,11	0,15	0,21	0,28	0,33	0,35
1.4	**80**	**80**	0,05	0,07	0,09	0,13	0,18	0,24	0,29	0,31
1.5	**90**	**90**	0,07	0,09	0,11	0,15	0,21	0,28	0,33	0,35
1.6	**80**	**80**	0,05	0,07	0,09	0,13	0,18	0,24	0,29	0,31
1.7	**80**	**80**	0,05	0,07	0,09	0,13	0,18	0,24	0,29	0,31
1.8	**60**	**60**	0,04	0,06	0,07	0,10	0,15	0,20	0,24	0,25
1.9	**90**	**90**	0,07	0,09	0,11	0,15	0,21	0,28	0,33	0,35
1.10	**60**	**60**	0,04	0,06	0,07	0,10	0,15	0,20	0,24	0,25
1.11	**50**	**50**	0,04	0,05	0,06	0,09	0,13	0,18	0,21	0,22
1.12	**60**	**60**	0,04	0,06	0,07	0,10	0,15	0,20	0,24	0,25
1.13	**60**	**60**	0,04	0,06	0,07	0,10	0,15	0,20	0,24	0,25
1.14	**50**	**50**	0,04	0,05	0,06	0,09	0,13	0,18	0,21	0,22
1.15	**50**	**50**	0,04	0,06	0,07	0,10	0,15	0,20	0,24	0,25
1.16	**50**	**50**	0,04	0,06	0,07	0,10	0,15	0,20	0,24	0,25
2.1		45	0,04	0,04	0,06	0,08	0,12	0,16	0,18	0,20
2.2		40	0,03	0,04	0,05	0,07	0,10	0,13	0,16	0,18
2.3		45	0,03	0,03	0,04	0,06	0,09	0,12	0,15	0,16
2.4		30	0,03	0,03	0,04	0,06	0,09	0,12	0,15	0,16
2.5		25	0,03	0,03	0,04	0,06	0,09	0,12	0,15	0,16
2.6		40	0,03	0,04	0,05	0,07	0,10	0,13	0,16	0,18
2.7		25	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
3.1	**70**	**80**	0,09	0,10	0,13	0,17	0,24	0,31	0,37	0,40
3.2	**50**	**55**	0,07	0,09	0,11	0,15	0,21	0,28	0,33	0,35
3.3	**60**	**70**	0,10	0,11	0,14	0,19	0,27	0,35	0,42	0,45
3.4	**45**	**50**	0,07	0,09	0,11	0,15	0,21	0,28	0,33	0,35
3.5	**90**	**95**	0,11	0,13	0,16	0,21	0,30	0,39	0,46	0,49
3.6	**75**	**80**	0,10	0,11	0,14	0,19	0,27	0,35	0,42	0,45
3.7	**90**	**95**	0,10	0,11	0,14	0,19	0,27	0,35	0,42	0,45
3.8	**75**	**80**	0,07	0,09	0,11	0,15	0,21	0,28	0,33	0,35
4.1										
4.2										
4.3										
4.4										
4.5										
4.6										
4.7										
4.8										
4.9										
4.10										
4.11	120	200	0,09	0,10	0,13	0,17	0,24	0,31	0,37	0,40
4.12	120	200	0,07	0,09	0,11	0,15	0,21	0,28	0,33	0,35
4.13										
4.14										
4.15										
4.16										
4.17	240		0,05	0,06	0,08	0,12	0,17	0,22	0,26	0,28
4.18										
4.19										
5.1										
5.2										
5.3										
5.4										
5.5										
5.6										
5.7										
5.8										
5.9										
5.10										
5.11										
6.1										
6.2										
6.3										
6.4										
6.5										

The cutting data is strongly influenced by external conditions, such as the stability of the tool and workpiece clamping, material and type of machine.
The specified values represent guideline cutting data that must be corrected according to the usage conditions.

Index	v_c m/min without through coolant	v_c m/min with through coolant	Drilling depth 5xD UNI 11 606 ..., 11 607 ..., 11 609 ..., 11 610 ... Ø 1-1,5 f mm/rev.	Ø 1,5-2 f mm/rev.	Ø 2-3 f mm/rev.	Ø 3-5 f mm/rev.	Ø 5-8 f mm/rev.	Ø 8-12 f mm/rev.	Ø 12-16 f mm/rev.	Ø 16-20 f mm/rev.
1.1	80	100	0,05	0,06	0,08	0,12	0,17	0,22	0,26	0,28
1.2	96	120	0,10	0,11	0,14	0,19	0,27	0,35	0,42	0,45
1.3	80	100	0,07	0,09	0,11	0,15	0,21	0,28	0,33	0,35
1.4	64	80	0,05	0,07	0,09	0,13	0,18	0,24	0,29	0,31
1.5	72	90	0,07	0,09	0,11	0,15	0,21	0,28	0,33	0,35
1.6	64	80	0,05	0,07	0,09	0,13	0,18	0,24	0,29	0,31
1.7	64	80	0,05	0,07	0,09	0,13	0,18	0,24	0,29	0,31
1.8	48	60	0,04	0,06	0,07	0,10	0,15	0,20	0,24	0,25
1.9	72	90	0,07	0,09	0,11	0,15	0,21	0,28	0,33	0,35
1.10	48	60	0,04	0,06	0,07	0,10	0,15	0,20	0,24	0,25
1.11	40	50	0,04	0,05	0,06	0,09	0,13	0,18	0,21	0,22
1.12	48	60	0,04	0,06	0,07	0,10	0,15	0,20	0,24	0,25
1.13	48	60	0,04	0,06	0,07	0,10	0,15	0,20	0,24	0,25
1.14	40	50	0,04	0,05	0,06	0,09	0,13	0,18	0,21	0,22
1.15	40	50	0,04	0,06	0,07	0,10	0,15	0,20	0,24	0,25
1.16	40	50	0,04	0,06	0,07	0,10	0,15	0,20	0,24	0,25
2.1		45	0,04	0,04	0,06	0,08	0,12	0,16	0,18	0,20
2.2		40	0,03	0,04	0,05	0,07	0,10	0,13	0,16	0,18
2.3		45	0,03	0,03	0,04	0,06	0,09	0,12	0,15	0,16
2.4		30	0,03	0,03	0,04	0,06	0,09	0,12	0,15	0,16
2.5		25	0,03	0,03	0,04	0,06	0,09	0,12	0,15	0,16
2.6		40	0,03	0,04	0,05	0,07	0,10	0,13	0,16	0,18
2.7		25	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
3.1	65	80	0,09	0,10	0,13	0,17	0,24	0,31	0,37	0,40
3.2	46	55	0,07	0,09	0,11	0,15	0,21	0,28	0,33	0,35
3.3	59	70	0,10	0,11	0,14	0,19	0,27	0,35	0,42	0,45
3.4	40	50	0,07	0,09	0,11	0,15	0,21	0,28	0,33	0,35
3.5	78	95	0,11	0,13	0,16	0,21	0,30	0,39	0,46	0,49
3.6	65	80	0,10	0,11	0,14	0,19	0,27	0,35	0,42	0,45
3.7	78	95	0,10	0,11	0,14	0,19	0,27	0,35	0,42	0,45
3.8	65	80	0,07	0,09	0,11	0,15	0,21	0,28	0,33	0,35
4.1										
4.2										
4.3										
4.4										
4.5										
4.6										
4.7										
4.8										
4.9										
4.10										
4.11	100	200	0,09	0,10	0,13	0,17	0,24	0,31	0,37	0,40
4.12	100	200	0,07	0,09	0,11	0,15	0,21	0,28	0,33	0,35
4.13										
4.14										
4.15										
4.16										
4.17	240		0,05	0,06	0,08	0,12	0,17	0,22	0,26	0,28
4.18										
4.19										
5.1										
5.2										
5.3										
5.4										
5.5										
5.6										
5.7										
5.8										
5.9										
5.10										
5.11										
6.1										
6.2										
6.3										
6.4										
6.5										

Cutting data standard values – WPC – UNI

	Drilling depth 8xD UNI 11 612 ...						Drilling depth 12xD UNI 11 615 ...					
Index	v_c m/min with through coolant	Ø 3-5 f mm/rev.	Ø 5-8 f mm/rev.	Ø 8-12 f mm/rev.	Ø 12-16 f mm/rev.	Ø 16-20 f mm/rev.	v_c m/min with through coolant	Ø 3-5 f mm/rev.	Ø 5-8 f mm/rev.	Ø 8-12 f mm/rev.	Ø 12-16 f mm/rev.	Ø 16-18 f mm/rev.
1.1	**90**	0,10	0,14	0,18	0,22	0,24	**80**	0,10	0,14	0,18	0,22	0,24
1.2	**110**	0,17	0,23	0,29	0,35	0,39	**100**	0,17	0,23	0,29	0,35	0,38
1.3	**90**	0,13	0,18	0,23	0,27	0,30	**80**	0,13	0,18	0,23	0,27	0,30
1.4	**70**	0,12	0,15	0,20	0,24	0,27	**65**	0,12	0,15	0,20	0,24	0,26
1.5	**80**	0,13	0,18	0,23	0,27	0,30	**70**	0,13	0,18	0,23	0,27	0,30
1.6	**70**	0,12	0,15	0,20	0,24	0,27	**65**	0,12	0,15	0,20	0,24	0,26
1.7	**70**	0,12	0,15	0,20	0,24	0,27	**65**	0,12	0,15	0,20	0,24	0,26
1.8	**55**	0,09	0,13	0,16	0,19	0,22	**50**	0,09	0,13	0,16	0,19	0,21
1.9	**80**	0,13	0,18	0,23	0,27	0,30	**70**	0,13	0,18	0,23	0,27	0,30
1.10	**55**	0,09	0,13	0,16	0,19	0,22	**50**	0,09	0,13	0,16	0,19	0,21
1.11	**45**	0,08	0,11	0,14	0,17	0,19	**40**	0,08	0,11	0,14	0,17	0,19
1.12	**55**	0,09	0,13	0,16	0,19	0,22	**50**	0,09	0,13	0,16	0,19	0,21
1.13	**55**	0,09	0,13	0,16	0,19	0,22	**50**	0,09	0,13	0,16	0,19	0,21
1.14	**45**	0,08	0,11	0,14	0,17	0,19	**40**	0,08	0,11	0,14	0,17	0,19
1.15	**45**	0,09	0,13	0,16	0,19	0,22	**40**	0,09	0,13	0,16	0,19	0,21
1.16	**45**	0,09	0,13	0,16	0,19	0,22	**40**	0,09	0,13	0,16	0,19	0,21
2.1	45	0,07	0,10	0,13	0,15	0,17	40	0,07	0,10	0,13	0,15	0,17
2.2	40	0,06	0,08	0,11	0,13	0,15	35	0,06	0,08	0,11	0,13	0,15
2.3	45	0,06	0,08	0,10	0,12	0,14	40	0,06	0,08	0,10	0,12	0,13
2.4	30	0,06	0,08	0,10	0,12	0,14	25	0,06	0,08	0,10	0,12	0,13
2.5	25	0,06	0,08	0,10	0,12	0,14	25	0,06	0,08	0,10	0,12	0,13
2.6	40	0,06	0,08	0,11	0,13	0,15	35	0,06	0,08	0,11	0,13	0,15
2.7	25	0,05	0,07	0,09	0,11	0,12	25	0,05	0,07	0,09	0,11	0,12
3.1	**80**	0,15	0,20	0,25	0,30	0,34	**70**	0,15	0,20	0,25	0,30	0,33
3.2	**55**	0,13	0,18	0,23	0,27	0,30	**50**	0,13	0,18	0,23	0,27	0,30
3.3	**70**	0,17	0,23	0,29	0,35	0,39	**65**	0,17	0,23	0,29	0,35	0,38
3.4	**50**	0,13	0,18	0,23	0,27	0,30	**45**	0,13	0,18	0,23	0,27	0,30
3.5	**95**	0,19	0,25	0,32	0,38	0,43	**85**	0,19	0,25	0,32	0,38	0,42
3.6	**80**	0,17	0,23	0,29	0,35	0,39	**70**	0,17	0,23	0,29	0,35	0,38
3.7	**95**	0,17	0,23	0,29	0,35	0,39	**85**	0,17	0,23	0,29	0,35	0,38
3.8	**80**	0,13	0,18	0,23	0,27	0,30	**70**	0,13	0,18	0,23	0,27	0,30
4.1												
4.2												
4.3												
4.4												
4.5												
4.6												
4.7												
4.8												
4.9												
4.10												
4.11	200	0,17	0,22	0,28	0,34	0,38	180	0,17	0,22	0,28	0,34	0,37
4.12	200	0,15	0,20	0,25	0,30	0,34	180	0,15	0,20	0,25	0,30	0,33
4.13												
4.14												
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4.16												
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5.1												
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Recommended application for WPC 8xD and 12xD

The following application notes should be observed for optimum machining results.

1. For 8xD and 12xD tools a pilot hole is recommended. The pilot hole can be drilled with the WPC 3xD drills. The tolerance of the 3xD drill (m7) and the tolerance of the 8xD and 12xD drill (h7) are matched accordingly.

2. Alternatively, with cutting speed and feedrate both reduced by 50 % the 8xD and 12xD tool can drill to a depth of 1xD. Then, with normal feed and speed values continue drilling. Note: when accelerating to normal speed, the spindle must not stop for gear changes!

3. The cutting data is highly dependent on external conditions, such as stability of the tool and workpiece clamping, material and machine type! The values indicated represent possible cutting data which may need to be corrected depending on operating conditions !

Cutting data standard values – Type N – Twist drills

Index	Drilling depth 3xD Type N (similar DIN 1897) 10 700 ...							Drilling depth 5xD Type N (similar DIN 338) 10 710 ...					
	v_c m/min without through coolant	Ø 0,5-3 f mm/rev.	Ø 3-5 f mm/rev.	Ø 5-8 f mm/rev.	Ø 8-12 f mm/rev.	Ø 12-16 f mm/rev.	Ø 16-20 f mm/rev.	v_c m/min without through coolant	Ø 0,5-3 f mm/rev.	Ø 3-5 f mm/rev.	Ø 5-8 f mm/rev.	Ø 8-12 f mm/rev.	Ø 12-16 f mm/rev.
1.1	**40–60**	0,01-0,06	0,05-0,08	0,08-0,13	0,1-0,15	0,15-0,2	0,15-0,2	**40–60**	0,01-0,06	0,05-0,08	0,08-0,13	0,1-0,15	0,15-0,2
1.2	**40–60**	0,01-0,06	0,05-0,08	0,08-0,13	0,1-0,15	0,15-0,2	0,15-0,2	**40–60**	0,01-0,06	0,05-0,08	0,08-0,13	0,1-0,15	0,15-0,2
1.3	**40–60**	0,01-0,06	0,05-0,08	0,08-0,13	0,1-0,15	0,15-0,2	0,15-0,2	**40–60**	0,01-0,06	0,05-0,08	0,08-0,13	0,1-0,15	0,15-0,2
1.4	**40–60**	0,01-0,06	0,05-0,08	0,08-0,13	0,1-0,15	0,15-0,2	0,15-0,2	**40–60**	0,01-0,06	0,05-0,08	0,08-0,13	0,1-0,15	0,15-0,2
1.5	**40–60**	0,01-0,06	0,05-0,08	0,08-0,13	0,1-0,15	0,15-0,2	0,15-0,2	**40–60**	0,01-0,06	0,05-0,08	0,08-0,13	0,1-0,15	0,15-0,2
1.6	**40–60**	0,01-0,06	0,05-0,08	0,08-0,13	0,1-0,15	0,15-0,2	0,15-0,2	**40–60**	0,01-0,06	0,05-0,08	0,08-0,13	0,1-0,15	0,15-0,2
1.7	**40–60**	0,01-0,06	0,05-0,08	0,08-0,13	0,1-0,15	0,15-0,2	0,15-0,2	**40–60**	0,01-0,06	0,05-0,08	0,08-0,13	0,1-0,15	0,15-0,2
1.8													
1.9													
1.10													
1.11													
1.12													
1.13	**25**	0,01-0,03	0,02-0,05	0,04-0,06	0,05-0,08	0,08-0,1	0,08-0,1	**25**	0,01-0,03	0,02-0,05	0,04-0,06	0,05-0,08	0,08-0,1
1.14													
1.15													
1.16													
2.1	20-30	0,01-0,05	0,04-0,06	0,05-0,1	0,08-0,12	0,1-0,16	0,1-0,16	20-30	0,01-0,05	0,04-0,06	0,05-0,1	0,08-0,12	0,1-0,16
2.2	20-30	0,01-0,05	0,04-0,06	0,05-0,1	0,08-0,12	0,1-0,16	0,1-0,16	20-30	0,01-0,05	0,04-0,06	0,05-0,1	0,08-0,12	0,1-0,16
2.3	20-30	0,01-0,05	0,04-0,06	0,05-0,1	0,08-0,12	0,1-0,16	0,1-0,16	20-30	0,01-0,05	0,04-0,06	0,05-0,1	0,08-0,12	0,1-0,16
2.4	20-30	0,01-0,05	0,04-0,06	0,05-0,1	0,08-0,12	0,1-0,16	0,1-0,16	20-30	0,01-0,05	0,04-0,06	0,05-0,1	0,08-0,12	0,1-0,16
2.5	20-30	0,01-0,05	0,04-0,06	0,05-0,1	0,08-0,12	0,1-0,16	0,1-0,16	20-30	0,01-0,05	0,04-0,06	0,05-0,1	0,08-0,12	0,1-0,16
2.6	20-30	0,01-0,05	0,04-0,06	0,05-0,1	0,08-0,12	0,1-0,16	0,1-0,16	20-30	0,01-0,05	0,04-0,06	0,05-0,1	0,08-0,12	0,1-0,16
2.7	20-30	0,01-0,05	0,04-0,06	0,05-0,1	0,08-0,12	0,1-0,16	0,1-0,16	20-30	0,01-0,05	0,04-0,06	0,05-0,1	0,08-0,12	0,1-0,16
3.1	40-80	0,01-0,06	0,05-0,07	0,06-0,12	0,1-0,16	0,15-0,2	0,15-0,2	40-80	0,01-0,06	0,05-0,07	0,06-0,12	0,1-0,16	0,15-0,2
3.2	40-80	0,01-0,06	0,05-0,07	0,06-0,12	0,1-0,16	0,15-0,2	0,15-0,2	40-80	0,01-0,06	0,05-0,07	0,06-0,12	0,1-0,16	0,15-0,2
3.3	40-80	0,01-0,06	0,05-0,07	0,06-0,12	0,1-0,16	0,15-0,2	0,15-0,2	40-80	0,01-0,06	0,05-0,07	0,06-0,12	0,1-0,16	0,15-0,2
3.4	40-80	0,01-0,06	0,05-0,07	0,06-0,12	0,1-0,16	0,15-0,2	0,15-0,2	40-80	0,01-0,06	0,05-0,07	0,06-0,12	0,1-0,16	0,15-0,2
3.5	40-60	0,01-0,06	0,05-0,07	0,06-0,12	0,1-0,16	0,15-0,2	0,15-0,2	40-60	0,01-0,06	0,05-0,07	0,06-0,12	0,1-0,16	0,15-0,2
3.6	40-60	0,01-0,06	0,05-0,07	0,06-0,12	0,1-0,16	0,15-0,2	0,15-0,2	40-60	0,01-0,06	0,05-0,07	0,06-0,12	0,1-0,16	0,15-0,2
3.7	40-60	0,01-0,06	0,05-0,07	0,06-0,12	0,1-0,16	0,15-0,2	0,15-0,2	40-60	0,01-0,06	0,05-0,07	0,06-0,12	0,1-0,16	0,15-0,2
3.8	40-60	0,01-0,06	0,05-0,07	0,06-0,12	0,1-0,16	0,15-0,2	0,15-0,2	40-60	0,01-0,06	0,05-0,07	0,06-0,12	0,1-0,16	0,15-0,2
4.1	**200**	0,01	0,03	0,07	0,11	0,15	0,2	**200**	0,01	0,03	0,07	0,11	0,15
4.2	**200**	0,01	0,03	0,07	0,11	0,15	0,2	**200**	0,01	0,03	0,07	0,11	0,15
4.3	**180**	0,01	0,03	0,07	0,11	0,15	0,2	**180**	0,01	0,03	0,07	0,11	0,15
4.4	**160**	0,01	0,03	0,07	0,11	0,15	0,2	**160**	0,01	0,03	0,07	0,11	0,15
4.5	**130**	0,01	0,03	0,07	0,11	0,15	0,2	**130**	0,01	0,03	0,07	0,11	0,15
4.6	**100**	0,007	0,02	0,06	0,11	0,16	0,2	**100**	0,007	0,02	0,06	0,11	0,16
4.7	**120**	0,007	0,02	0,06	0,11	0,16	0,2	**120**	0,007	0,02	0,06	0,11	0,16
4.8													
4.9													
4.10													
4.11	**160**	0,007	0,02	0,06	0,11	0,16	0,2	**160**	0,007	0,02	0,06	0,11	0,16
4.12	**120**	0,007	0,02	0,06	0,11	0,16	0,2	**120**	0,007	0,02	0,06	0,11	0,16
4.13	**50**	0,013	0,04	0,08	0,12	0,16	0,2	**50**	0,013	0,04	0,08	0,12	0,16
4.14	**70**	0,013	0,04	0,08	0,12	0,16	0,2	**70**	0,013	0,04	0,08	0,12	0,16
4.15													
4.16	**200**	0,01	0,03	0,07	0,11	0,15	0,2	**200**	0,01	0,03	0,07	0,11	0,15
4.17													
4.18													
4.19													
5.1													
5.2													
5.3													
5.4													
5.5													
5.6													
5.7													
5.8													
5.9	30	0,003	0,01	0,03	0,06	0,08	0,1	30	0,003	0,01	0,03	0,06	0,08
5.10	20	0,003	0,01	0,03	0,06	0,08	0,1	20	0,003	0,01	0,03	0,06	0,08
5.11	20	0,003	0,01	0,03	0,06	0,08	0,1	20	0,003	0,01	0,03	0,06	0,08
6.1													
6.2													
6.3													
6.4													
6.5													

The cutting data is highly dependent on external conditions, such as stability of the tool and workpiece clamping, material and machine type!
The values indicated represent possible cutting data which may need to be corrected depending on operating conditions!

Cutting data standard values – WPC – VA

Index	Drilling depth 3xD VA 11 620 ..., 11 621 ..., 11 623 ..., 11 624 ...									
	v_c m/min without through coolant	v_c m/min with through coolant	Ø 1-1,5 f mm/rev.	Ø 1,5-2 f mm/rev.	Ø 2-3 f mm/rev.	Ø 3-5 f mm/rev.	Ø 5-8 f mm/rev.	Ø 8-12 f mm/rev.	Ø 12-16 f mm/rev.	Ø 16-20 f mm/rev.
1.1	90	90	0,04	0,05	0,06	0,09	0,13	0,18	0,21	0,22
1.2	105	105	0,08	0,09	0,11	0,15	0,22	0,28	0,33	0,36
1.3	90	90	0,06	0,07	0,09	0,12	0,17	0,22	0,26	0,28
1.4	70	70	0,04	0,06	0,07	0,10	0,15	0,19	0,23	0,25
1.5	80	80	0,06	0,07	0,09	0,12	0,17	0,22	0,26	0,28
1.6	70	70	0,04	0,06	0,07	0,10	0,15	0,19	0,23	0,25
1.7	70	70	0,04	0,06	0,07	0,10	0,15	0,19	0,23	0,25
1.8	55	55	0,04	0,04	0,06	0,08	0,12	0,16	0,19	0,20
1.9	80	80	0,06	0,07	0,09	0,12	0,17	0,22	0,26	0,28
1.10	55	55	0,04	0,04	0,06	0,08	0,12	0,16	0,19	0,20
1.11	45	45	0,03	0,04	0,05	0,07	0,11	0,14	0,17	0,18
1.12	55	55	0,04	0,04	0,06	0,08	0,12	0,16	0,19	0,20
1.13	55	55	0,04	0,04	0,06	0,08	0,12	0,16	0,19	0,20
1.14	45	45	0,03	0,04	0,05	0,07	0,11	0,14	0,17	0,18
1.15	45	45	0,04	0,04	0,06	0,08	0,12	0,16	0,19	0,20
1.16	45	45	0,04	0,04	0,06	0,08	0,12	0,16	0,19	0,20
2.1	**30**	**60**	0,04	0,04	0,06	0,08	0,12	0,16	0,18	0,20
2.2	**25**	**50**	0,03	0,04	0,05	0,07	0,10	0,13	0,16	0,18
2.3	**30**	**60**	0,03	0,03	0,04	0,06	0,09	0,12	0,15	0,16
2.4	**20**	**40**	0,03	0,03	0,04	0,06	0,09	0,12	0,15	0,16
2.5	**18**	**35**	0,03	0,03	0,04	0,06	0,09	0,12	0,15	0,16
2.6	**25**	**50**	0,03	0,04	0,05	0,07	0,10	0,13	0,16	0,18
2.7	**18**	**35**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
3.1	90	100	0,09	0,10	0,13	0,17	0,24	0,31	0,37	0,40
3.2	65	70	0,07	0,09	0,11	0,15	0,21	0,28	0,33	0,35
3.3	80	90	0,10	0,11	0,14	0,19	0,27	0,35	0,42	0,45
3.4	50	60	0,07	0,09	0,11	0,15	0,21	0,28	0,33	0,35
3.5	110	120	0,11	0,13	0,16	0,21	0,30	0,39	0,46	0,49
3.6	90	100	0,10	0,11	0,14	0,19	0,27	0,35	0,42	0,45
3.7	110	120	0,10	0,11	0,14	0,19	0,27	0,35	0,42	0,45
3.8	90	100	0,07	0,09	0,11	0,15	0,21	0,28	0,33	0,35
4.1	**240**	**320**	0,05	0,06	0,08	0,12	0,17	0,22	0,26	0,28
4.2	**180**	**240**	0,05	0,06	0,08	0,12	0,17	0,22	0,26	0,28
4.3	**150**	**200**	0,07	0,09	0,11	0,15	0,21	0,28	0,33	0,35
4.4	**120**	**160**	0,05	0,06	0,08	0,12	0,17	0,22	0,26	0,28
4.5	**90**	**120**	0,04	0,06	0,07	0,10	0,15	0,20	0,24	0,25
4.6	**240**	**320**	0,04	0,06	0,07	0,10	0,15	0,20	0,24	0,25
4.7	**210**	**280**	0,04	0,06	0,07	0,10	0,15	0,20	0,24	0,25
4.8	**120**	**160**	0,04	0,06	0,07	0,10	0,15	0,20	0,24	0,25
4.9	**150**	**200**	0,04	0,06	0,07	0,10	0,15	0,20	0,24	0,25
4.10	**120**	**160**	0,04	0,06	0,07	0,10	0,15	0,20	0,24	0,25
4.11	**120**	**160**	0,09	0,10	0,13	0,17	0,24	0,31	0,37	0,40
4.12	**120**	**160**	0,07	0,09	0,11	0,15	0,21	0,28	0,33	0,35
4.13	**80**	**120**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
4.14	**100**	**150**	0,04	0,05	0,06	0,09	0,13	0,18	0,21	0,22
4.15	**80**	**120**	0,04	0,05	0,06	0,09	0,13	0,18	0,21	0,22
4.16	**150**	**300**	0,05	0,06	0,08	0,12	0,17	0,22	0,26	0,28
4.17	**400**		0,05	0,06	0,08	0,12	0,17	0,22	0,26	0,28
4.18		**40**	0,03	0,04	0,05	0,07	0,10	0,13	0,16	0,18
4.19		**40**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
5.1		**40**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
5.2		**20**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
5.3		**20**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
5.4		**20**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
5.5		**20**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
5.6		**18**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
5.7		**15**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
5.8		**10**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
5.9		**20**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
5.10		**25**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
5.11		**20**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
6.1	30		0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
6.2	22		0,02	0,02	0,03	0,04	0,06	0,08	0,09	0,10
6.3										
6.4										
6.5										

The cutting data depends extremely on the external conditions, such as stability of the tool and workpiece clamping, material and machine type.
The indicated values are possible values which have to be increased or reduced according to the application conditions.

Cutting data standard values – WPC – VA

		Drilling depth 5xD VA 11 629 ..., 11 630 ...							
Index	v_c m/min with through coolant	Ø 1-1,5	Ø 1,5-2	Ø 2-3	Ø 3-5	Ø 5-8	Ø 8-12	Ø 12-16	Ø 16-20
		f mm/rev.	f mm/rev.	f mm/rev.	f mm/rev.	f mm/rev.	f mm/rev.	f mm/rev.	f mm/rev.
1.1	90	0,04	0,05	0,06	0,09	0,13	0,18	0,21	0,22
1.2	105	0,08	0,09	0,11	0,15	0,22	0,28	0,33	0,36
1.3	90	0,06	0,07	0,09	0,12	0,17	0,22	0,26	0,28
1.4	70	0,04	0,06	0,07	0,10	0,15	0,19	0,23	0,25
1.5	80	0,06	0,07	0,09	0,12	0,17	0,22	0,26	0,28
1.6	70	0,04	0,06	0,07	0,10	0,15	0,19	0,23	0,25
1.7	70	0,04	0,06	0,07	0,10	0,15	0,19	0,23	0,25
1.8	55	0,04	0,04	0,06	0,08	0,12	0,16	0,19	0,20
1.9	80	0,06	0,07	0,09	0,12	0,17	0,22	0,26	0,28
1.10	55	0,04	0,04	0,06	0,08	0,12	0,16	0,19	0,20
1.11	45	0,03	0,04	0,05	0,07	0,11	0,14	0,17	0,18
1.12	55	0,04	0,04	0,06	0,08	0,12	0,16	0,19	0,20
1.13	55	0,04	0,04	0,06	0,08	0,12	0,16	0,19	0,20
1.14	45	0,03	0,04	0,05	0,07	0,11	0,14	0,17	0,18
1.15	45	0,04	0,04	0,06	0,08	0,12	0,16	0,19	0,20
1.16	45	0,04	0,04	0,06	0,08	0,12	0,16	0,19	0,20
2.1	**60**	0,04	0,04	0,06	0,08	0,12	0,16	0,18	0,20
2.2	**50**	0,03	0,04	0,05	0,07	0,10	0,13	0,16	0,18
2.3	**60**	0,03	0,03	0,04	0,06	0,09	0,12	0,15	0,16
2.4	**40**	0,03	0,03	0,04	0,06	0,09	0,12	0,15	0,16
2.5	**35**	0,03	0,03	0,04	0,06	0,09	0,12	0,15	0,16
2.6	**50**	0,03	0,04	0,05	0,07	0,10	0,13	0,16	0,18
2.7	**35**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
3.1	100	0,09	0,10	0,13	0,17	0,24	0,31	0,37	0,40
3.2	70	0,07	0,09	0,11	0,15	0,21	0,28	0,33	0,35
3.3	90	0,10	0,11	0,14	0,19	0,27	0,35	0,42	0,45
3.4	60	0,07	0,09	0,11	0,15	0,21	0,28	0,33	0,35
3.5	120	0,11	0,13	0,16	0,21	0,30	0,39	0,46	0,49
3.6	100	0,10	0,11	0,14	0,19	0,27	0,35	0,42	0,45
3.7	120	0,10	0,11	0,14	0,19	0,27	0,35	0,42	0,45
3.8	100	0,07	0,09	0,11	0,15	0,21	0,28	0,33	0,35
4.1	**320**	0,05	0,06	0,08	0,12	0,17	0,22	0,26	0,28
4.2	**240**	0,05	0,06	0,08	0,12	0,17	0,22	0,26	0,28
4.3	**200**	0,07	0,09	0,11	0,15	0,21	0,28	0,33	0,35
4.4	**160**	0,05	0,06	0,08	0,12	0,17	0,22	0,26	0,28
4.5	**120**	0,04	0,06	0,07	0,10	0,15	0,20	0,24	0,25
4.6	**320**	0,04	0,06	0,07	0,10	0,15	0,20	0,24	0,25
4.7	**280**	0,04	0,06	0,07	0,10	0,15	0,20	0,24	0,25
4.8	**160**	0,04	0,06	0,07	0,10	0,15	0,20	0,24	0,25
4.9	**200**	0,04	0,06	0,07	0,10	0,15	0,20	0,24	0,25
4.10	**160**	0,04	0,06	0,07	0,10	0,15	0,20	0,24	0,25
4.11	**160**	0,09	0,10	0,13	0,17	0,24	0,31	0,37	0,40
4.12	**160**	0,07	0,09	0,11	0,15	0,21	0,28	0,33	0,35
4.13	**120**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
4.14	**150**	0,04	0,05	0,06	0,09	0,13	0,18	0,21	0,22
4.15	**120**	0,04	0,05	0,06	0,09	0,13	0,18	0,21	0,22
4.16	**300**	0,05	0,06	0,08	0,12	0,17	0,22	0,26	0,28
4.17	**300**	0,05	0,06	0,08	0,12	0,17	0,22	0,26	0,28
4.18	**40**	0,03	0,04	0,05	0,07	0,10	0,13	0,16	0,18
4.19	**40**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
5.1	**40**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
5.2	**20**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
5.3	**20**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
5.4	**20**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
5.5	**20**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
5.6	**18**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
5.7	**15**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
5.8	**10**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
5.9	**20**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
5.10	**25**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
5.11	**20**	0,02	0,03	0,04	0,06	0,08	0,11	0,13	0,14
6.1									
6.2									
6.3									
6.4									
6.5									

The cutting data is highly dependent on external conditions, such as stability of the tool and workpiece clamping, material and machine type!
The values indicated represent possible cutting data which may need to be corrected depending on operating conditions!

Cutting data standard values – WTX – TB UNI

	WTX-TB16 UNI	WTX-TB20 UNI	WTX-TB25 UNI	WTX-TB30 UNI	Hole depth TB UNI 11 016 ..., 11 020 ..., 11 025 ..., 11 030 ...			
Index	v_c m/min	v_c m/min	v_c m/min	v_c m/min	Ø 2-3 f mm/rev.	Ø > 3-5 f mm/rev.	Ø > 5-8 f mm/rev.	Ø > 8-12 f mm/rev.
1.1	100	95	85	80	0,075	0,1	0,15	0,2
1.2	100	95	85	80	0,075	0,1	0,15	0,2
1.3	105	100	90	85	0,1	0,14	0,2	0,275
1.4	95	90	80	75	0,075	0,1	0,15	0,2
1.5	95	90	80	75	0,1	0,14	0,2	0,275
1.6	95	90	80	75	0,075	0,1	0,15	0,2
1.7	95	90	80	75	0,1	0,14	0,2	0,275
1.8	75	70	65	60	0,075	0,1	0,15	0,2
1.9	75	70	65	60	0,075	0,1	0,15	0,2
1.10	95	90	80	75	0,075	0,1	0,15	0,2
1.11	95	90	80	75	0,075	0,1	0,15	0,2
1.12	75	70	65	60	0,075	0,1	0,15	0,2
1.13								
1.14								
1.15								
1.16	75	70	65	60	0,075	0,1	0,15	0,2
2.1	75	70	65	60	0,05	0,08	0,12	0,15
2.2	75	70	65	60	0,05	0,08	0,12	0,15
2.3	50	45	45	40	0,05	0,08	0,12	0,15
2.4	50	45	45	40	0,05	0,08	0,12	0,15
2.5	55	50	50	45	0,05	0,08	0,12	0,15
2.6	55	50	50	45	0,05	0,08	0,12	0,15
2.7								
3.1	105	100	90	85	0,15	0,23	0,335	0,425
3.2	100	95	85	80	0,15	0,23	0,335	0,425
3.3	105	100	90	85	0,125	0,2	0,25	0,35
3.4	100	95	85	80	0,125	0,2	0,25	0,35
3.5	105	100	90	85	0,125	0,2	0,25	0,35
3.6	100	95	85	80	0,125	0,2	0,25	0,35
3.7	105	100	90	85	0,125	0,2	0,25	0,35
3.8	100	95	85	80	0,125	0,2	0,25	0,35
4.1								
4.2								
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4.6								
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Cutting data standard values – WTX – TB UNI

Index	WTX-TB40 UNI	WTX-TB50 UNI	Hole depth 40xD / 50xD TB UNI 11 040 ..., 11 050 ...			
			Ø 2-3	Ø > 3-5	Ø > 5-8	Ø > 8-9
	v_c m/min	v_c m/min	f mm/rev.	f mm/rev.	f mm/rev.	f mm/rev.
1.1	65	55	0,05	0,08	0,12	0,15
1.2	65	55	0,05	0,08	0,12	0,15
1.3	70	60	0,075	0,1	0,15	0,2
1.4	60	50	0,05	0,08	0,12	0,15
1.5	60	50	0,075	0,1	0,15	0,2
1.6	60	50	0,05	0,08	0,12	0,15
1.7	60	50	0,075	0,1	0,15	0,2
1.8	50	45	0,05	0,08	0,12	0,15
1.9	50	55	0,05	0,08	0,12	0,15
1.10	60	50	0,05	0,08	0,12	0,15
1.11	60	50	0,05	0,08	0,12	0,15
1.12	50	45	0,05	0,08	0,12	0,15
1.13						
1.14						
1.15						
1.16	50	45	0,05	0,08	0,12	0,15
2.1	50	45	0,04	0,06	0,09	0,11
2.2	50	45	0,04	0,06	0,09	0,11
2.3	35	30	0,04	0,06	0,09	0,11
2.4	35	30	0,04	0,06	0,09	0,11
2.5	40	35	0,04	0,06	0,09	0,11
2.6	40	35	0,04	0,06	0,09	0,11
2.7						
3.1	70	60	0,125	0,2	0,25	0,35
3.2	65	55	0,125	0,2	0,25	0,35
3.3	70	60	0,1	0,14	0,2	0,275
3.4	65	55	0,1	0,14	0,2	0,275
3.5	70	60	0,1	0,14	0,2	0,275
3.6	65	55	0,1	0,14	0,2	0,275
3.7	70	60	0,1	0,14	0,2	0,275
3.8	65	55	0,1	0,14	0,2	0,275
4.1						
4.2						
4.3						
4.4						
4.5						
4.6						
4.7						
4.8						
4.9						
4.10						
4.11						
4.12						
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4.18						
4.19						
5.1						
5.2						
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5.4						
5.5						
5.6						
5.7						
5.8						
5.9						
5.10						
5.11						
6.1						
6.2						
6.3						
6.4						
6.5						

The cutting data depends extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced according to the application conditions.

All solid carbide WTX deep hole drills must be used with a pilot bore. The tool must never be run at high speed while not engaged in a material. Please refer to the strategy for the production of deep holes on → **Page 134**

Cutting data standard values – WTX – TB ALU

	WTX-TB16 ALU	WTX-TB20 ALU	WTX-TB25 ALU	Hole depth 16xD / 20xD / 25xD TB ALU 11 017 ..., 11 021 ..., 11 026 ...				WTX-TB30 ALU	Hole depth TB ALU 11 031 ...			
Index	v_c m/min	v_c m/min	v_c m/min	Ø 2-3 f mm/rev.	Ø > 3-5 f mm/rev.	Ø > 5-8 f mm/rev.	Ø > 8-12 f mm/rev.	v_c m/min	Ø 2-3 f mm/rev.	Ø > 3-5 f mm/rev.	Ø > 5-8 f mm/rev.	Ø > 8-12 f mm/rev.
1.1												
1.2												
1.3												
1.4												
1.5												
1.6												
1.7												
1.8												
1.9												
1.10												
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1.14												
1.15												
1.16												
2.1												
2.2												
2.3												
2.4												
2.5												
2.6												
2.7												
3.1												
3.2												
3.3												
3.4												
3.5												
3.6												
3.7												
3.8												
4.1	**160**	**150**	**130**	0,125	0,2	0,25	0,35	**120**	0,08	0,15	0,21	0,27
4.2	**160**	**150**	**130**	0,125	0,2	0,25	0,35	**120**	0,08	0,15	0,21	0,27
4.3	**160**	**150**	**130**	0,15	0,23	0,3	0,38	**120**	0,15	0,23	0,3	0,38
4.4	**140**	**130**	**120**	0,125	0,2	0,25	0,35	**110**	0,08	0,15	0,21	0,27
4.5	**140**	**130**	**120**	0,125	0,2	0,25	0,35	**110**	0,08	0,15	0,21	0,27
4.6	**90**	**80**	**75**	0,125	0,2	0,25	0,35	**70**	0,08	0,15	0,21	0,27
4.7	**90**	**80**	**75**	0,125	0,2	0,25	0,35	**70**	0,08	0,15	0,21	0,27
4.8												
4.9												
4.10												
4.11	**115**	**100**	**90**	0,125	0,2	0,25	0,35	**80**	0,08	0,15	0,21	0,27
4.12	**115**	**100**	**90**	0,125	0,2	0,25	0,35	**80**	0,08	0,15	0,21	0,27
4.13												
4.14												
4.15												
4.16												
4.17												
4.18												
4.19												
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5.8												
5.9												
5.10												
5.11												
6.1												
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6.4												
6.5												

The cutting data depends extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced according to the application conditions.

All solid carbide WTX deep hole drills must be used with a pilot bore. The tool must never be run at high speed while not engaged in a material. Please refer to the strategy for the production of deep holes on → **Page 134**

Cutting data standard values – Solid Carbide NC Spot Drills, Centre Drills

Index	Solid Carbide NC Spot Drills MultiChange 10 709 ..., 10 712 ..., 10 714 ...						Solid Carbide NC Spot Drills ZB & NC-A 10 708 ..., 10 704 ..., 10 703 ..., 10 702 ...				
	v_c m/min	Ø 8	Ø 10	Ø 12	Ø 16	Ø 20	v_c m/min without through coolant	Ø 2–5	Ø 5–8	Ø 8–12	Ø 12–20
		f mm/rev.	f mm/rev.	f mm/rev.	f mm/rev.	f mm/rev.		f mm/rev.	f mm/rev.	f mm/rev.	f mm/rev.
1.1	40–130	0,180	0,200	0,220	0,280	0,300	80	0,14	0,2	0,27	0,35
1.2	40–130	0,215	0,235	0,260	0,330	0,355	80	0,14	0,2	0,27	0,35
1.3	40–130	0,180	0,200	0,220	0,280	0,300	75	0,14	0,2	0,27	0,35
1.4	40–130	0,165	0,180	0,200	0,255	0,275	70	0,14	0,2	0,27	0,35
1.5	40–130	0,195	0,220	0,240	0,305	0,325	65	0,14	0,2	0,27	0,35
1.6	40–130	0,165	0,180	0,200	0,255	0,275	65	0,1	0,15	0,2	0,26
1.7	40–130	0,195	0,220	0,240	0,305	0,325	65	0,14	0,2	0,27	0,35
1.8	40–130	0,130	0,145	0,160	0,205	0,220	65	0,1	0,15	0,2	0,26
1.9	40–130	0,180	0,200	0,220	0,280	0,300					
1.10	40–130	0,130	0,145	0,160	0,205	0,220	65	0,1	0,15	0,2	0,26
1.11	40–130	0,115	0,125	0,140	0,180	0,190	65	0,1	0,15	0,2	0,26
1.12	40–130	0,130	0,145	0,160	0,205	0,220					
1.13	40–130	0,130	0,145	0,160	0,205	0,220					
1.14	40–130	0,000	0,000	0,000	0,000	0,000					
1.15	40–130	0,115	0,125	0,140	0,180	0,190	50	0,1	0,15	0,2	0,26
1.16	40–130	0,115	0,125	0,140	0,180	0,190	50	0,1	0,15	0,2	0,26
2.1	20–40	0,145	0,165	0,180	0,230	0,245					
2.2	20–40	0,130	0,145	0,160	0,205	0,220					
2.3	20–40	0,130	0,145	0,160	0,205	0,220					
2.4	20–40	0,100	0,110	0,120	0,155	0,165					
2.5	20–40	0,115	0,125	0,140	0,180	0,190					
2.6	20–40	0,115	0,125	0,140	0,180	0,190					
2.7	20–40	0,100	0,110	0,120	0,155	0,165					
3.1	60–80	0,215	0,235	0,260	0,330	0,355	70	0,12	0,17	0,22	0,3
3.2	60–80	0,180	0,200	0,220	0,280	0,300	70	0,1	0,15	0,2	0,26
3.3	60–80	0,195	0,220	0,240	0,305	0,325	70	0,1	0,15	0,2	0,26
3.4	60–80	0,165	0,180	0,200	0,255	0,275	70	0,1	0,15	0,2	0,26
3.5	60–80	0,195	0,220	0,240	0,305	0,325	70	0,1	0,15	0,2	0,26
3.6	60–80	0,180	0,200	0,220	0,280	0,300	70	0,1	0,15	0,2	0,26
3.7	60–80	0,195	0,220	0,240	0,305	0,325	70	0,1	0,15	0,2	0,26
3.8	60–80	0,165	0,180	0,200	0,255	0,275	70	0,1	0,15	0,2	0,26
4.1	90–300	0,310	0,345	0,380	0,485	0,520	200	0,03	0,07	0,11	0,15
4.2	90–300	0,310	0,345	0,380	0,485	0,520	200	0,03	0,07	0,11	0,15
4.3	90–300	0,295	0,325	0,360	0,460	0,490	180	0,03	0,07	0,11	0,15
4.4	90–300	0,280	0,310	0,340	0,435	0,465	160	0,03	0,07	0,11	0,15
4.5	90–300	0,245	0,275	0,300	0,380	0,410	130	0,03	0,07	0,11	0,15
4.6	90–300	0,195	0,220	0,240	0,305	0,325	100	0,02	0,06	0,11	0,15
4.7	90–300	0,180	0,200	0,220	0,280	0,300	120	0,02	0,06	0,11	0,15
4.8	90–300	0,145	0,165	0,180	0,230	0,245					
4.9	90–300	0,115	0,125	0,140	0,180	0,190					
4.10	90–300	0,115	0,125	0,140	0,180	0,190					
4.11	90–300	0,215	0,235	0,260	0,330	0,355	160	0,02	0,06	0,11	0,15
4.12	90–300	0,215	0,235	0,260	0,330	0,355	120	0,02	0,06	0,11	0,15
4.13											
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The cutting data is highly dependent on external conditions, such as stability of the tool and workpiece clamping, material and machine type!
The values indicated represent possible cutting data which may need to be corrected depending on operating conditions!

Cutting data standard values – Solid Carbide NC-A TiAlN

Index	Solid Carbide NC Spot Drill Type NC-A TiAlN 10 716 ..., 10 717 ..., 10 718 ...					Solid Carbide NC Spot Drills, long Type NC-A TiAlN 10 724 ..., 10 726 ..., 10 727 ...				
	v_c m/min	> Ø 2–5 f mm/rev.	> Ø 5–8 f mm/rev.	> Ø 8–12 f mm/rev.	> Ø 12–20 f mm/rev.	v_c m/min	> Ø 2–5 f mm/rev.	> Ø 5–8 f mm/rev.	> Ø 8–12 f mm/rev.	> Ø 12–20 f mm/rev.
1.1	70	0,1	0,15	0,2	0,26	70	0,1	0,15	0,2	0,26
1.2	70	0,1	0,15	0,2	0,26	70	0,1	0,15	0,2	0,26
1.3	75	0,14	0,2	0,275	0,35	75	0,14	0,2	0,275	0,35
1.4	65	0,14	0,2	0,275	0,35	65	0,14	0,2	0,275	0,35
1.5	65	0,14	0,2	0,275	0,35	65	0,14	0,2	0,275	0,35
1.6	65	0,1	0,15	0,2	0,26	65	0,1	0,15	0,2	0,26
1.7	65	0,14	0,2	0,275	0,35	65	0,14	0,2	0,275	0,35
1.8	50	0,1	0,15	0,2	0,26	50	0,1	0,15	0,2	0,26
1.9										
1.10	65	0,1	0,15	0,2	0,26	65	0,1	0,15	0,2	0,26
1.11	65	0,1	0,15	0,2	0,26	65	0,1	0,15	0,2	0,26
1.12	50	0,1	0,15	0,2	0,26	50	0,1	0,15	0,2	0,26
1.13										
1.14										
1.15	50	0,1	0,15	0,2	0,26	50	0,1	0,15	0,2	0,26
1.16	50	0,1	0,15	0,2	0,26	50	0,1	0,15	0,2	0,26
2.1										
2.2										
2.3										
2.4										
2.5										
2.6										
2.7										
3.1	70	0,125	0,175	0,225	0,3	70	0,125	0,175	0,225	0,3
3.2	70	0,1	0,15	0,2	0,26	70	0,1	0,15	0,2	0,26
3.3	70	0,1	0,15	0,2	0,26	70	0,1	0,15	0,2	0,26
3.4	70	0,1	0,15	0,2	0,26	70	0,1	0,15	0,2	0,26
3.5	70	0,1	0,15	0,2	0,26	70	0,1	0,15	0,2	0,26
3.6	70	0,1	0,15	0,2	0,26	70	0,1	0,15	0,2	0,26
3.7	70	0,1	0,15	0,2	0,26	70	0,1	0,15	0,2	0,26
3.8	70	0,1	0,15	0,2	0,26	70	0,1	0,15	0,2	0,26
4.1										
4.2										
4.3										
4.4										
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6.5										

The cutting data is highly dependent on external conditions, such as stability of the tool and workpiece clamping, material and machine type!
The values indicated represent possible cutting data which may need to be corrected depending on operating conditions!

Cutting data standard values – WTX – Change Feed

Index	Change Feed UNI 10 925 ...							
	v_c m/min with through coolant	v_c m/min With external coolant	v_c m/min MMS	> Ø 14,0 f mm/rev.	>Ø 17,5 f mm/rev.	>Ø 21,5 f mm/rev.	>Ø 26,0 f mm/rev.	Ø 32,0 f mm/rev.
1.1	90	80	80	0,42	0,46	0,51	0,54	0,55
1.2	90	80	80	0,42	0,46	0,51	0,54	0,55
1.3	90	80	80	0,42	0,46	0,51	0,54	0,55
1.4	90	75	75	0,49	0,55	0,60	0,64	0,66
1.5	90	80	80	0,42	0,46	0,51	0,54	0,55
1.6	80	70	70	0,52	0,58	0,64	0,68	0,69
1.7	90	75	75	0,49	0,55	0,60	0,64	0,66
1.8	65	55	55	0,39	0,43	0,48	0,50	0,51
1.9	90	75	75	0,49	0,55	0,60	0,64	0,66
1.10	90	75	75	0,49	0,55	0,60	0,64	0,66
1.11	65	55	55	0,39	0,43	0,48	0,50	0,51
1.12	70	60	60	0,44	0,49	0,54	0,58	0,59
1.13	55	50	50	0,36	0,40	0,44	0,47	0,48
1.14	55	50	50	0,36	0,40	0,44	0,47	0,48
1.15	55	50	50	0,36	0,40	0,44	0,47	0,48
1.16	70	60	60	0,44	0,49	0,54	0,58	0,59
2.1								
2.2								
2.3								
2.4								
2.5								
2.6								
2.7								
3.1	110	75	75	0,69	0,77	0,85	0,91	0,93
3.2	90	70	70	0,55	0,61	0,67	0,72	0,73
3.3	145	90	110	0,64	0,71	0,78	0,83	0,85
3.4	90	70	70	0,55	0,61	0,67	0,72	0,73
3.5	80	70	70	0,59	0,66	0,72	0,77	0,78
3.6	70	65	65	0,47	0,52	0,57	0,61	0,62
3.7	80	70	70	0,59	0,66	0,72	0,77	0,78
3.8	70	65	65	0,47	0,52	0,57	0,61	0,62
4.1								
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4.4								
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5.7								
5.8								
5.9								
5.10								
5.11								
6.1								
6.2								
6.3								
6.4								
6.5								

The cutting data is highly dependent on external conditions, such as stability of the tool and workpiece clamping, material and machine type!
The values indicated represent possible cutting data which may need to be corrected depending on operating conditions!

Cutting data standard values – WTX – Change

Index	v_c m/min	Change UNI 10 919 ... > Ø 12-15,7 f mm/rev.	> Ø 15,7-20 f mm/rev.	> Ø 20-25 f mm/rev.	> Ø 25-32 f mm/rev.	> Ø 32-41 f mm/rev.
1.1	100	0,22	0,26	0,29	0,32	0,40
1.2	120	0,35	0,41	0,47	0,51	0,64
1.3	100	0,28	0,32	0,36	0,40	0,50
1.4	80	0,24	0,28	0,32	0,35	0,44
1.5	90	0,28	0,32	0,36	0,40	0,50
1.6	80	0,24	0,28	0,32	0,35	0,44
1.7	80	0,24	0,28	0,32	0,35	0,44
1.8	60	0,20	0,23	0,26	0,28	0,35
1.9	90	0,28	0,32	0,36	0,40	0,50
1.10	60	0,20	0,23	0,26	0,28	0,35
1.11	50	0,18	0,21	0,23	0,26	0,32
1.12	60	0,20	0,23	0,26	0,28	0,35
1.13	60	0,20	0,23	0,26	0,28	0,35
1.14	50	0,18	0,21	0,23	0,26	0,32
1.15	50	0,20	0,23	0,26	0,28	0,35
1.16	50	0,20	0,23	0,26	0,28	0,35
2.1						
2.2						
2.3						
2.4						
2.5						
2.6						
2.7						
3.1	90	0,34	0,40	0,46	0,51	0,64
3.2	60	0,30	0,35	0,40	0,44	0,55
3.3	80	0,39	0,45	0,51	0,57	0,71
3.4	55	0,30	0,35	0,40	0,44	0,55
3.5	110	0,43	0,50	0,58	0,63	0,78
3.6	90	0,39	0,45	0,51	0,57	0,71
3.7	110	0,39	0,45	0,51	0,57	0,71
3.8	90	0,30	0,35	0,40	0,44	0,55
4.1						
4.2						
4.3						
4.4						
4.5						
4.6						
4.7						
4.8						
4.9						
4.10						
4.11						
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4.16						
4.17						
4.18						
4.19						
5.1						
5.2						
5.3						
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5.5						
5.6						
5.7						
5.8						
5.9						
5.10						
5.11						
6.1						
6.2						
6.3						
6.4						
6.5						

The cutting data is highly dependent on external conditions, such as stability of the tool and workpiece clamping, material and machine type!
The values indicated represent possible cutting data which may need to be corrected depending on operating conditions!

Index	v_c m/min	Change P 10 923 ... > Ø 12-15,7 f mm/rev.	> Ø 15,7-20 f mm/rev.	> Ø 20-25 f mm/rev.	> Ø 25-32 f mm/rev.	> Ø 32-41 f mm/rev.
1.1	110	0,25	0,28	0,33	0,40	0,46
1.2	130	0,40	0,45	0,54	0,64	0,73
1.3	110	0,32	0,35	0,41	0,49	0,57
1.4	90	0,28	0,31	0,37	0,44	0,50
1.5	100	0,32	0,35	0,41	0,49	0,57
1.6	90	0,28	0,31	0,37	0,44	0,50
1.7	90	0,28	0,31	0,37	0,44	0,50
1.8	65	0,23	0,25	0,30	0,35	0,40
1.9	100	0,32	0,35	0,41	0,49	0,57
1.10	65	0,23	0,25	0,30	0,35	0,40
1.11	55	0,21	0,23	0,26	0,31	0,37
1.12	65	0,23	0,25	0,30	0,35	0,40
1.13	65	0,23	0,25	0,30	0,35	0,40
1.14	55	0,21	0,23	0,26	0,31	0,37
1.15	55	0,21	0,23	0,26	0,31	0,37
1.16	55	0,21	0,23	0,26	0,31	0,37
2.1						
2.2						
2.3						
2.4						
2.5						
2.6						
2.7						
3.1	100	0,37	0,42	0,51	0,60	0,70
3.2	65	0,33	0,37	0,44	0,52	0,60
3.3	90	0,43	0,47	0,56	0,67	0,78
3.4	60	0,33	0,37	0,44	0,52	0,60
3.5	120	0,47	0,53	0,64	0,76	0,86
3.6	100	0,43	0,47	0,56	0,67	0,78
3.7	120	0,43	0,47	0,56	0,67	0,78
3.8	100	0,33	0,37	0,44	0,52	0,60
4.1						
4.2						
4.3						
4.4						
4.5						
4.6						
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5.8						
5.9						
5.10						
5.11						
6.1						
6.2						
6.3						
6.4						
6.5						

For through holes, the feed must be reduced by approx. 30 % when exiting the hole. For more accurate positioning, precentre with a 142° NC spot drill.
With Type VA 5xD and 8xD, enter the hole with reduced feed of 0.05–0.06 mm/revolution.

Cutting data standard values – WTX – Change

Index	Change VA 10 921 ...					Change GG 10 924 ...				
	v_c m/min	> Ø 12–15,7 f mm/rev.	> Ø 15,7–20 f mm/rev.	> Ø 20–25 f mm/rev.	> Ø 25–32 f mm/rev.	v_c m/min	> Ø 12–15,7 f mm/rev.	> Ø 15,7–20 f mm/rev.	> Ø 20–25 f mm/rev.	> Ø 25–32 f mm/rev.
1.1	100	0,22	0,26	0,29	0,32					
1.2	120	0,35	0,41	0,47	0,51					
1.3	100	0,28	0,32	0,36	0,40					
1.4	80	0,24	0,28	0,32	0,35					
1.5	90	0,28	0,32	0,36	0,40					
1.6	80	0,24	0,28	0,32	0,35					
1.7	80	0,24	0,28	0,32	0,35					
1.8	60	0,20	0,23	0,26	0,28					
1.9	90	0,28	0,32	0,36	0,40					
1.10	60	0,20	0,23	0,26	0,28					
1.11	50	0,18	0,21	0,23	0,26					
1.12	60	0,20	0,23	0,26	0,28					
1.13	60	0,20	0,23	0,26	0,28					
1.14	50	0,18	0,21	0,23	0,26					
1.15	50	0,20	0,23	0,26	0,28					
1.16	50	0,20	0,23	0,26	0,28					
2.1	**60**	0,17	0,19	0,23	0,27					
2.2	**50**	0,15	0,17	0,20	0,24					
2.3	**60**	0,13	0,15	0,18	0,22					
2.4	**40**	0,13	0,15	0,18	0,22					
2.5	**35**	0,13	0,15	0,18	0,22					
2.6	**50**	0,15	0,17	0,20	0,24					
2.7	**35**	0,12	0,13	0,16	0,19					
3.1	90	0,34	0,40	0,46	0,51	**110**	0,44	0,49	0,60	0,71
3.2	60	0,30	0,35	0,40	0,44	**75**	0,39	0,43	0,52	0,62
3.3	80	0,39	0,45	0,51	0,57	**100**	0,51	0,56	0,66	0,79
3.4	55	0,30	0,35	0,40	0,44	**70**	0,39	0,43	0,52	0,62
3.5	110	0,43	0,50	0,58	0,63	**135**	0,56	0,62	0,75	0,89
3.6	90	0,39	0,45	0,51	0,57	**110**	0,51	0,56	0,66	0,79
3.7	110	0,39	0,45	0,51	0,57	**135**	0,51	0,56	0,66	0,79
3.8	90	0,30	0,35	0,40	0,44	**110**	0,39	0,43	0,52	0,62
4.1										
4.2										
4.3										
4.4										
4.5										
4.6										
4.7										
4.8										
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4.19										
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5.9										
5.10										
5.11										
6.1										
6.2										
6.3										
6.4										
6.5										

The cutting data is highly dependent on external conditions, such as stability of the tool and workpiece clamping, material and machine type!
The values indicated represent possible cutting data which may need to be corrected depending on operating conditions!

Index	v_c m/min	Change AL 10 922 ... > Ø 12-15,7 f mm/rev.	> Ø 15,7-20 f mm/rev.	> Ø 20-25 f mm/rev.	> Ø 25-32 f mm/rev.
1.1					
1.2					
1.3					
1.4					
1.5					
1.6					
1.7					
1.8					
1.9					
1.10					
1.11					
1.12					
1.13					
1.14					
1.15					
1.16					
2.1					
2.2					
2.3					
2.4					
2.5					
2.6					
2.7					
3.1					
3.2					
3.3					
3.4					
3.5					
3.6					
3.7					
3.8					
4.1	350	0,30	0,37	0,50	0,65
4.2	300	0,30	0,37	0,50	0,65
4.3	250	0,37	0,46	0,63	0,82
4.4	200	0,30	0,37	0,50	0,65
4.5	150	0,27	0,33	0,45	0,59
4.6	180	0,27	0,33	0,45	0,59
4.7	140	0,27	0,33	0,45	0,59
4.8	140	0,27	0,33	0,45	0,59
4.9	130	0,27	0,33	0,45	0,59
4.10	120	0,27	0,33	0,45	0,59
4.11	200	0,42	0,52	0,71	0,93
4.12	200	0,37	0,46	0,63	0,82
4.13					
4.14					
4.15					
4.16					
4.17					
4.18					
4.19					
5.1					
5.2					
5.3					
5.4					
5.5					
5.6					
5.7					
5.8					
5.9					
5.10					
5.11					
6.1					
6.2					
6.3					
6.4					
6.5					

With through-holes the feedrate should be reduced at the break out by approx. 30 %. Use 142° NC Spot Drill to ensure positional accuracy.
Use reduced feedrate of 0.05-0.06 mm/U when using type VA 5xD and 8xD drill.

Type overview – WTX high performance drilling tools

- good self-centring
- optimum swarf control
- precise radial run-out
- excellent alignment precision
- high-quality surface finish
- close drilling tolerances
- limited hardening of peripheral zones of the material
- good chip evacuation even with large drilling depths

For all products that are marked with the video icon, a relevant product video can be viewed at **cutting.tools/uk/type-overview-wtx/**

UNI DRAGONSKIN

- high-performance solid carbide drill for universal application, for all materials up to 1200 N/mm²

Feed UNI DRAGONSKIN

- solid carbide high feed drills with 3 cutting edges
- very good positional accuracy

Speed UNI DRAGONSKIN

- for double the cutting speed
- asymetric point geometry permits performance improvement when drilling steel and cast iron by up to 60 %

Quattro 4F DRAGONSKIN

- with additional guide land for best alignment accuracy, concentricity and positional accuracy

180

- for inclined surfaces up to 45° and flat bottom holes

TB

- solid carbide deep hole drill, up to 50xD without peck drilling
- 4 or 6 facet head geometry for excellent alignment accuracy

VA

- first choice for corrosion and acid resistant seels
- for volume production

AL

- solid carbide high performance drill specailly for the machining of aluminium, copper and brass
- 6 facet geometry for excellent hole quality

GG

- for cast materials to 250 HB
- straight flutes

Ti DRAGONSKIN

- specialist for cost effective machining of Titanium, Titanium Alloys and Heat Resistant Alloys

H DRAGONSKIN

- high-performance drill for hardened steels from 45 to 70 HRC

MINI

- solid carbide micro drill for the precise manufacture of very small holes from Ø 0.1 mm to 2.9 mm

Change

- replaceable head drills with the performance level of a solid carbide drill, from Ø 12.0 mm to 41.0 mm

BR

- solid carbide high performance drill reamer
- drill and ream in one operation

Change Feed

- exchangeable head drill with three cutting edges for even greater performance, from Ø 14.0 mm to 32.0 mm

SB DRAGONSKIN

- core hole plus countersink for tapping and thread forming

Important application criteria for WTX drills

Axial offset
The axial run-out of the axis between a rotating work piece and a stationary tool must not exceed 0.04 mm. A larger run-out reduces tool life and drilling quality and can lead to tool breakage.

Run-out
The concentricity error when the tool is rotating should not exceed 0.015 mm.

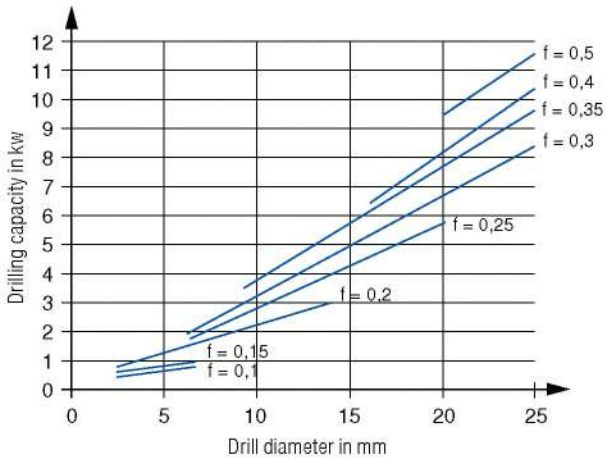
With internally cooled tools the coolant pressure should be min. 20 bar – see diagram bottom right
High-quality semi-synthetic or emulsion coolants with min. 10 % oil content and EP additives are recommended. This allows better life, and achieves higher tolerance accuracy and better surface quality. A fine filter system is recommended to prevent possible clogging of the coolant channels.

Drilling into solid
Due to the geometric design of the solid carbide drills, they are suitable for drilling into solid material.
With solid carbide drills ≤ 12xD drilling can be carried out in solid material without the need for centering and spot drilling operations.

Flute run-out
When using WTX drills a safety margin of at least 1 to 1.5xD must be maintained between the work piece and the flute outlet groove of the drill to ensure optimum chip evacuation and prevent chip clogging and tool fracture.

Peck drilling
Pecking should be avoided as there is a very high risk of fracture caused by chips left behind or flushed into the hole.

Feed rate f in mm/rev.
Drilling capacity relative to the diameter: v_c = 80 m/min.
Tensile strength of the material = 600 N/mm²



Secondary tools
If a smaller diameter WTX drill is used as a following tool in the same hole, it should have a smaller drill point angle to ensure that it centres properly.

Interrupted Cuts
Reduce the feedrate on entry to and from cross holes

Drill exit
To avoid severe burr formation, reduce v_c and f.

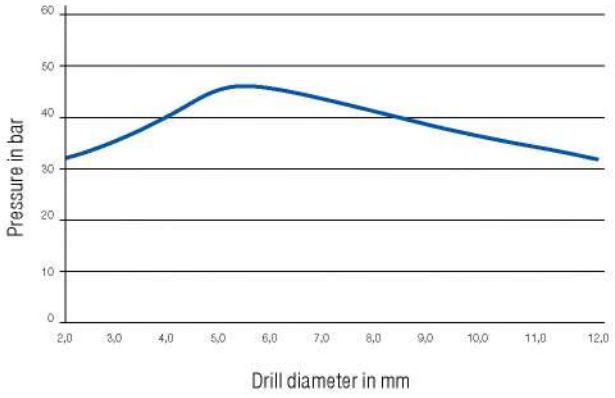
Workpiece clamping
To avoid tool breakages, care must be taken to ensure a proper workpiece clamping without vibration or workpiece deflection.

Tool holding
With optimum clamping high alignment accuracy and tolerances (IT7-8) are possible.
Due to the high surface quality reaming operations can often be dispensed with.

Machine Requirements
Please note the performance diagram (below left)

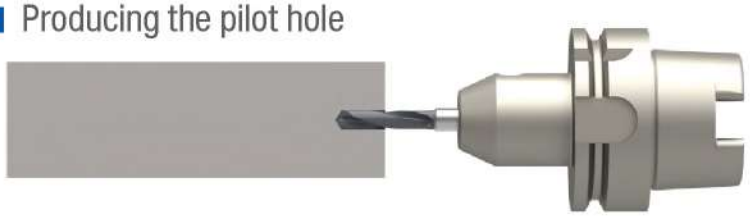
Cutting data table
To control the chip length (comma chip) the feed rates should be no lower than the lower limits quoted in the cutting data table.

Coolant pressure



Strategy for the production of deep holes with the WTX solid carbide deep hole drill

1 Producing the pilot hole



- For the pilot hole, we recommend a WTX drill 3xD / 5xD with the same nominal diameter
- The pilot hole should be 0.01–0.03 mm larger in diameter and at least 3xD deep.
- From a hole depth of 40xD, we recommend a pilot hole of 12xD with our WTX Quattro 4F.

2 Movement of the deep hole drill into the pilot hole

- Move the WTX deep hole drill without coolant pressure and with reduced speed (n = 200–300 rpm) into the pilot hole at a feed of v_f = 1000 mm/min
- Approx. 2 mm before reaching the bottom of the hole (end of the pilot hole), stop the feed, switch on the coolant and wait for a short time until the recommended pressure is reached. Then increase the spindle speed to the recommended speed as smoothly as possible.

3 Drilling to required depth without pecking

- Reduce feed rate for cross holes and at drill exit by 50 %.

4 Retracting the drill

- Retract the drill to approximately the depth of the pilot hole.
- Reduce the rpm to a low speed (n = 200–300 U/min).
- Use normal rapid feed (V_f = 3000 mm/min) when exiting the hole.

For horizontal deep drilling operations from 40xD, move the deep hole drill into the hole counter-clockwise at 200 rpm. This prevents sagging of the deep hole drill.

It is essential to ensure that deep hole drills never run unsupported at full speed in the machine!

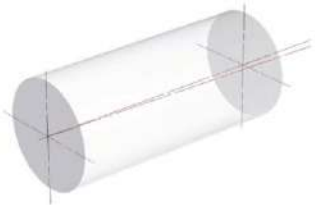
Application notes for WTX – Change Feed and WTX – Change exchangeable head drills

Coolant conditions

Coolant pressure dependent on drilling depth:

with thro' coolant		with external cooling		without coolant supply
				
1xD: 8 bar	✓	1xD: 8 bar	✓	
3xD: 8 bar	✓	3xD: 8 bar	✓	
5xD: 12 bar	✓	5xD: 12 bar	✗	max. bore depth: 3xD
8xD: 25 bar	✓	8xD: 25 bar	✗	
12xD: 25 bar	✓	12xD: 25 bar	✗	

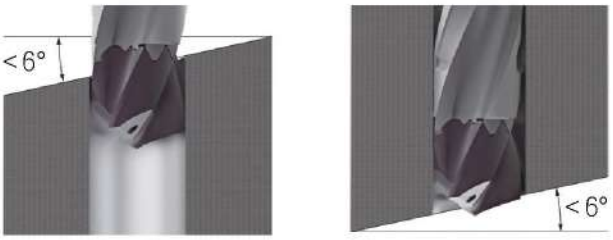
Runout accuracy



max. 0,02 mm

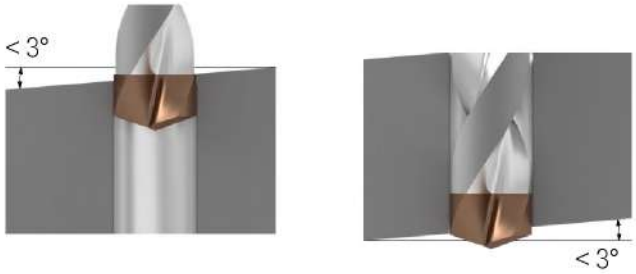
max. 0,04 mm

Max. entry and exit angle for the WTX – Change Feed



When entering and exiting angled surfaces, reduce v_f by 50 %.

Max. entry and exit angle for the WTX – Change



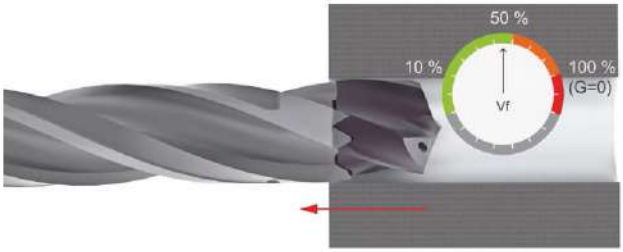
When entering and exiting angled surfaces, reduce v_f by 50 %.

Exiting a through hole

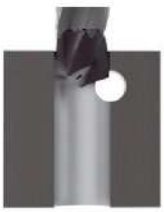
▲ WTX Change Feed and WTX Change

Do not retract at rapid feedrate

For withdrawal, a rate of 5 times the value of the feed rate is recommended.



Machining situations

Offset cross hole point is engaged	*Offset cross hole point is not engaged*	*Breakthrough at counterbore*	*Hole on centre and smaller Ø*	*Hole on centre and same Ø*	*Hole on centre and larger Ø*
					
WTX – Change Feed ✓	*WTX – Change Feed* ✗	*WTX – Change Feed* ✓	*WTX – Change Feed* ✓	*WTX – Change Feed* ✗	*WTX – Change Feed* ✗
WTX – Change ✓	*WTX – Change* ✗	*WTX – Change* ✗	*WTX – Change* ✓	*WTX – Change* ✗	*WTX – Change* ✗

Recommendations for solid carbide drilling operations

Reasons for ...	Solutions ...
... Built-up edge	
v_c too low	Increase v_c
Too much material taken off at main cutting edge	Reduce cut
Uncoated cutting edge	Coating
... Corners broken off	
Unstable conditions	Change clamping
Run out too high	Optimize radial run-out
Interrupted cut	Reduce feed rate
... Heavy flank wear	
v_c too low	Reduce v_c
Feed rate too low	Increase feed rate
Clearance angle too small	Increase clearance angle
... Scoring on the tool flanks	
Unstable conditions	Change clamping
Run out too high	Correct radial run-out
Interrupted cut	Reduce feed rate
Abrasive materials	Thicker emulsion or oil
... Round chamfer wear	
Unstable conditions	More stable clamping
Run out too high	Check radial run-out
Back taper too small	Increase back taper
Wrong emulsion or too thin emulsion	Thicker emulsion or oil
... Material broken off at main cutting edge	
Unstable conditions	More stable clamping
Interrupted cut	Reduce feed rate
Wrong type of tool	Optimize tool
Max. tool life has been exceeded	Change tool earlier
... Heavy wear at chisel edge	
v_c too low	Increase v_c
Feed rate too high	Reduce feed rate
Too much material taken off at main cutting edge	Optimize cutting edge
... Material broken off at intersections, drill point and main cutting edge	
Clearance angle too small	Increase clearance angle
Too much material taken off at main cutting edge	Optimize cutting edge
Wrong tool	Other tool
... Plastic deformation of cutting corner	
v_c too high	Reduce v_c
Insufficient emulsion	Increase amount of coolant
Wrong or no corner chamfer	Correct corner chamfer
... Poor surface quality	
Run out too high	Check radial run-out
Insufficient cooling	More emulsion
Unstable conditions	Change toolholding
... Heavy burring on hole exit	
Feed too high	Reduce feed rate
Excessive honing of main cutting edge	Reduce cutting edge

Coatings

Ti800
- AlTiN nanolayer coating
- Maximum application temperature: 1100 °C

Ti700
- TiAlN multilayer coating
- Maximum application temperature: 1100 °C

TiAlN
- TiAlN multilayer coating
- Maximum application temperature: 900 °C

TiB
- TiB monolayer coating
- Specially for aluminium machining
- Maximum application temperature: 900 °C

TiSi
- TiSi multilayer coating
- Maximum application temperature: 800 °C

Ti1050
- Ti multilayer coating
- HV0.005 = 3300
- Coefficient of friction (against steel) = 0.3–0.5
- Maximum application temperature: 900 °C

Ti750
- TiAlN nanolayer coating
- Maximum application temperature: 1000 °C

DLC
- Diamond-like carbon coating
- Specially for machining non-ferrous metals
- Maximum application temperature: 400 °C

DPX74S DRAGONSKIN
- Special TiAlN nanolayer coating
- Maximum application temperature: 1000 °C

DPA54 DRAGONSKIN
- Special multilayer coating
- High hardness and heat resistance
- Maximum application temperature: 800 °C

DPX64S DRAGONSKIN
- TiAlN monolayer coating
- Perfected for hardened materials
- Optimised coating and surface structure
- Maximum application temperature: 800 °C

DPX14S DRAGONSKIN
- TiAlN nanolayer coating
- Coefficient of friction (dry, against steel) = 0.35
- Maximum application temperature: 1000 °C

DPX64U DRAGONSKIN
- Special TiAlN monolayer coating
- Perfected for hardened materials
- Optimised coating and surface structure
- Maximum application temperature: 800 °C

New products for machining technicians

NEW KUB Pentron

- Ø 14–46 mm
- Cyl. shank, ABS, PSC
- 2xD, 3xD, 4xD, 5xD

6–18

NEW KUB 100

- Ø 14–27 mm
- Cyl. shank
- 3xD

27

NEW KUB Trigon

- Ø 14–44 mm
- Combi shank, ABS
- 2xD, 3xD, 4xD

29–34

NEW Indexable inserts for KUB Pentron

BK8425
- Universal PVD grade

BK6115
- Wear resistant
  CVD-coated indexable insert

19

NEW Indexable inserts for KUB Trigon

BK8425
- Universal PVD grade

BK6115
- Wear resistant
  CVD-coated indexable insert

35

Programme Extension

MaxiDrill 900

- Expansion to include intermediate Ø for 4xD and 5xD

20–26

List of contents

KOMET \ Performance

Premium quality tools for high performance.

The premium quality tools from the **KOMET Performance** product line have been designed for specific applications and are distinguished by their outstanding performance. If you make high demands on the performance of your production and want to achieve the very best results, we recommend the Premium tools in this product line.

KOMET \ Standard

Quality tools for standard applications.

The quality tools of the **KOMET Standard** product line are high quality, high performance, reliable and enjoy the highest level of trust among our customers worldwide. Tools from this product line are the first choice for many standard applications and guarantee optimal results.

Symbol explanation

Shank

C Cylindrical shank with clamping flat
Guarantees optimum clamping of the tool and can be clamped in every standard adapter

K Drill with combi shank
This drill shank has two clamping flats (DIN 6535HE, DIN 6595) that guarantee pull-out protection and good face contact of the drill. Both Weldon and Whistle Notch adapters can be used.

ABS Drill with ABS connection
The ABS connection from Komet is a modular coupling system for rotating tools and stationary tools, and offers a number of advantages, such as improved force transmission

PSC Drill with polygonal shank
The polygonal shank offers the best rigidity during the transmission of force from the drill to the adapter. The tapered polygonal shape easily absorbs torsional forces and bending forces

Version

Drill with thro' coolant supply
The tried-and-tested thro' coolant system guarantees a reduction in heat at the cutting edges of the tool as well as improved chip removal

Designation		Pages
Adjuster with ABS connection		38

Adapters can be found in → **Chapter 16 Adapters.**

Application tips – eccentric sleeves

Users of rotating tools can now enjoy greater flexibility.
Using the eccentric sleeves, you can vary and adjust the diameter of the hole by +/- 0.3 mm with ease.

Two types of eccentric sleeve are available:
One for use with the new indexable insert drill adapter and one for use with the existing Weldon adapter.
The difference lies solely in the design and position of the slots for the adapter's clamping screws.
There are four sizes per type, which are tailored to the shank diameter.

Eccentric sleeve for indexable insert drill adapter

Eccentric sleeve for Weldon adapter

Toolfinder

● = **Main Application**
○ = Extended application
- = Not possible

KUB Pentron

The specialist for large hole depths

- ▲ The all-rounder for process-secure drilling under a wide variety of conditions
- ▲ Ideal for extreme machining situations

Boring depth	Drilling through a transverse hole	Stack plate drilling	Drilling on uneven surfaces	Drilling	Spot drilling an edge	Spot drilling a convex surface	Spot drilling angled surfaces	Spot drilling a pointed contour	Chain drilling	Drilling through a centre or pre-op
2xD	●	●	●	○	●	●	●	●	●	●
3xD	●	●	●	○	●	●	●	●	●	●
4xD	●	○	○	-	●	●	●	●	○	●
5xD	●	○	○	-	●	○	●	○	-	○
3xD	●	●	●	○	●	●	●	●	●	●
4xD	●	○	○	-	●	●	●	●	○	●
5xD	●	○	○	-	●	○	●	○	-	○
3xD	●	●	●	○	●	●	●	●	●	●

MaxiDrill 900

The specialist for high productivity in rough machining

- ▲ Provides perfect drilling quality even under enormous loads
- ▲ Ideal for large drilling depths: The high feed rates increase productivity
- ▲ For stable machining situations

2xD	●	●	●	○	●	●	●	●	○	●
3xD	●	●	●	○	●	●	●	●	○	●
4xD	●	○	○	○	●	●	●	●	○	●
5xD	●	○	○	○	●	●	●	●	○	●

KUB 100

Ideal for robust machining situations

- ▲ The high performance all-rounder for outstanding productivity and reliability
- ▲ Offers consistent hole quality and a constant diameter across all materials and feed rates

3xD	●	●	●	○	●	●	●	●	●	●

KUB Trigon

The solution for unstable conditions and high accuracy

- ▲ Ideal for machining under unstable conditions
- ▲ Well-suited to machining on less powerful machines
- ▲ The first choice for creating dimensionally accurate holes

2xD	●	-	●	○	○	●	●	○	●	○
3xD	○	-	○	○	○	○	○	○	○	○
4xD	○	-	○	-	-	○	○	-	○	○
2xD	●	-	●	○	○	●	●	○	●	○
3xD	○	-	○	○	○	○	○	○	○	○
4xD	○	-	○	-	-	○	○	-	○	○

MaxiDrill Classic

The drilling tool for universal application

- ▲ Ideal for use on machines with limited power
- ▲ Suitable for use under unstable conditions

2xD	●	-	●	-	-	○	○	-	-	●
3xD	●	-	●	-	-	○	○	-	-	●
4xD	●	-	●	-	-	○	○	-	-	●

Shank	Diameter Ø	KOMET \ Performance	KOMET \ Standard	Insert type		No. of cutting edges	Grade	Steel	Stainless steel	Cast iron	Non ferrous metals	Heat resistant alloys	Hardened materials	KOMET \ Performance
		Pages												Pages
C	14–46	6+7			SOGX	4	-01 BK6115	●		●			○	19
C	14–46	8+9			SOGX	4	-01 BK8425	●	●	●				19
C	14–46	10+11			SOGX	4	-01 BK7935	●	●	○	○	○		🛒
C	14–46	12+13			SOGX	4	-01 BK7710				●	○		🛒
ABS	14–30	14												
ABS	14–30	15												
ABS	14–30	16												
PSC	14–30	17+18												
C	12–63	20+21			SONT	2 / 4	-M30 CTCP420 -M30 DCX1420	●	○	●				28
C	12–63	22+23												
C	12–54	24+25			SONT	2 / 4	-M30 CTPP430 -M30 CCN1430	●	●	○	○	○		28
C	12–41	26												
					SONT	2 / 4	-M30 CTCP420 -M30 DCX1420	●	○	●				28
C	14–27	27												
					SONT	2 / 4	-M30 CTPP430 -M30 CCN1430	●	●	○	○	○		28
K	14–44	29			WOEX	3	-01 BK8425	●	●	●				35
K	14–44	30			WOEX	3	-03 BK8425	●	●	●				35
K	14–35	31			WOEX	3	-13 BK8425	●	●	●				35
ABS	14–44	32			WOEX	3	-01 BK6115	●		●			○	35
ABS	14–44	33			WOEX	3	-01 BK7935	●	●	○	○	○		🛒
ABS	14–44	34			WOEX	3	-01 BK62			●			○	🛒
					WOEX	3	-11 BK77				●	●		🛒
C	14–53		🛒											
C	14–50		🛒											
C	18–50		🛒											

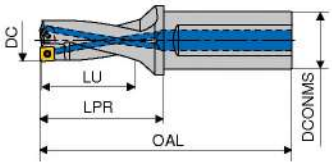
🛒 MaxiDrill Classic and specialised indexable inserts can be found in our online shop at cuttingtools.ceratizit.com

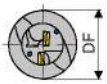
KUB Pentron

Scope of supply:
Indexable Insert Drill incl. clamping screws

≤ 2xD

C





Designation	KOMET no.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW 2B Article no. 10 872 ... £	
KUB-P.2D.140.R.04-C20	U4201400	14.0	20	30	91	28	41	0,38	SOGX 040204	307.27	14001
KUB-P.2D.145.R.04-C20	U4201450	14.5	20	30	94	30	44	0,38	SOGX 040204	290.27	14501
KUB-P.2D.150.R.04-C20	U4201500	15.0	20	30	94	30	44	0,38	SOGX 040204	290.27	15001
KUB-P.2D.155.R.04-C20	U4201550	15.5	20	30	98	32	48	0,38	SOGX 040204	290.27	15501
KUB-P.2D.160.R.04-C20	U4201600	16.0	20	30	98	32	48	0,38	SOGX 040204	290.27	16001
KUB-P.2D.165.R.05-C20	U4201650	16.5	20	30	101	34	51	0,62	SOGX 050204	290.27	16501
KUB-P.2D.170.R.05-C20	U4201700	17.0	20	30	101	34	51	0,62	SOGX 050204	295.91	17001
KUB-P.2D.175.R.05-C25	U4211750	17.5	25	30	109	36	53	0,62	SOGX 050204	295.91	17502
KUB-P.2D.180.R.05-C25	U4211800	18.0	25	30	109	36	53	0,62	SOGX 050204	295.91	18002
KUB-P.2D.185.R.06-C25	U4211850	18.5	25	30	112	38	56	1,01	SOGX 060206	295.91	18502
KUB-P.2D.190.R.06-C25	U4211900	19.0	25	30	112	38	56	1,01	SOGX 060206	302.55	19002
KUB-P.2D.195.R.06-C25	U4211950	19.5	25	30	114	40	58	1,01	SOGX 060206	302.55	19502
KUB-P.2D.200.R.06-C25	U4212000	20.0	25	30	114	40	58	1,01	SOGX 060206	302.55	20002
KUB-P.2D.205.R.07-C25	U4212050	20.5	25	30	117	42	61	1,01	SOGX 07T208	322.36	20502
KUB-P.2D.210.R.07-C25	U4212100	21.0	25	30	117	42	61	1,01	SOGX 07T208	322.36	21002
KUB-P.2D.215.R.07-C25	U4212150	21.5	25	30	119	44	63	1,01	SOGX 07T208	322.36	21502
KUB-P.2D.220.R.07-C25	U4212200	22.0	25	30	119	44	63	1,01	SOGX 07T208	322.36	22002
KUB-P.2D.225.R.07-C25	U4212250	22.5	25	30	122	46	66	1,01	SOGX 07T208	322.36	22502
KUB-P.2D.230.R.07-C25	U4212300	23.0	25	30	122	46	66	1,01	SOGX 07T208	322.36	23002
KUB-P.2D.235.R.08-C32	U4222350	23.5	32	39	128	48	68	1,28	SOGX 080308	349.82	23503
KUB-P.2D.240.R.08-C32	U4222400	24.0	32	39	128	48	68	1,28	SOGX 080308	349.82	24003
KUB-P.2D.245.R.08-C32	U4222450	24.5	32	39	131	50	71	1,28	SOGX 080308	349.82	24503
KUB-P.2D.250.R.08-C32	U4222500	25.0	32	39	131	50	71	1,28	SOGX 080308	349.82	25003
KUB-P.2D.255.R.08-C32	U4222550	25.5	32	39	133	52	73	1,28	SOGX 080308	349.82	25503
KUB-P.2D.260.R.08-C32	U4222600	26.0	32	39	133	52	73	1,28	SOGX 080308	349.82	26003
KUB-P.2D.265.R.09-C32	U4222650	26.5	32	39	136	54	76	2,25	SOGX 09T308	369.64	26503
KUB-P.2D.270.R.09-C32	U4222700	27.0	32	39	136	54	76	2,25	SOGX 09T308	369.64	27003
KUB-P.2D.275.R.09-C32	U4222750	27.5	32	39	138	56	78	2,25	SOGX 09T308	369.64	27503
KUB-P.2D.280.R.09-C32	U4222800	28.0	32	39	138	56	78	2,25	SOGX 09T308	369.64	28003
KUB-P.2D.285.R.09-C32	U4222850	28.5	32	39	141	58	81	2,25	SOGX 09T308	369.64	28503
KUB-P.2D.290.R.09-C32	U4222900	29.0	32	39	141	58	81	2,25	SOGX 09T308	369.64	29003
KUB-P.2D.295.R.09-C32	U4222950	29.5	32	39	143	60	83	2,25	SOGX 09T308	369.64	29503
KUB-P.2D.300.R.09-C32	U4223000	30.0	32	39	143	60	83	2,25	SOGX 09T308	369.64	30003
KUB-P.2D.310.R.10-C40	U4233100	31.0	40	50	154	62	86	2,8	SOGX 100408	401.82	31004
KUB-P.2D.320.R.10-C40	U4233200	32.0	40	50	156	64	88	2,8	SOGX 100408	401.82	32004
KUB-P.2D.330.R.10-C40	U4233300	33.0	40	50	159	66	91	2,8	SOGX 100408	401.82	33004
KUB-P.2D.340.R.11-C40	U4233400	34.0	40	50	161	68	93	2,8	SOGX 110408	420.73	34004
KUB-P.2D.350.R.11-C40	U4233500	35.0	40	50	164	70	96	2,8	SOGX 110408	420.73	35004
KUB-P.2D.360.R.11-C40	U4233600	36.0	40	50	166	72	98	2,8	SOGX 110408	420.73	36004
KUB-P.2D.370.R.11-C40	U4233700	37.0	40	50	169	74	101	2,8	SOGX 110408	420.73	37004
KUB-P.2D.380.R.12-C40	U4233800	38.0	40	50	171	76	103	6,25	SOGX 120408	433.00	38004
KUB-P.2D.390.R.12-C40	U4233900	39.0	40	50	174	78	106	6,25	SOGX 120408	433.00	39004
KUB-P.2D.400.R.12-C40	U4234000	40.0	40	50	176	80	108	6,25	SOGX 120408	433.00	40004
KUB-P.2D.410.R.12-C40	U4234100	41.0	40	50	179	82	111	6,25	SOGX 120408	433.00	41004
KUB-P.2D.420.R.12-C40	U4234200	42.0	40	50	181	84	113	6,25	SOGX 120408	433.00	42004

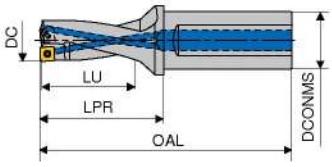
Continued on next page

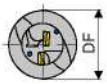
KUB Pentron

Scope of supply:
Indexable Insert Drill incl. clamping screws

≤ 2xD

C





3

Designation	KOMET no.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW 2B Article no. 10 872 ... £	
KUB-P.2D.430.R.13-C40	U4234300	43.0	40	50	184	86	116	6,25	SOGX 130508	433.00	**43004**
KUB-P.2D.440.R.13-C40	U4234400	44.0	40	50	186	88	118	6,25	SOGX 130508	433.00	**44004**
KUB-P.2D.450.R.13-C40	U4234500	45.0	40	50	189	90	121	6,25	SOGX 130508	433.00	**45004**
KUB-P.2D.460.R.13-C40	U4234600	46.0	40	50	191	92	123	6,25	SOGX 130508	433.00	**46004**

Y7

Screwdriver

Y7

Key D

2B

Clamping screw

Spare parts DC		Article no. 80 950 ... £			Article no. 80 950 ... £			Article no. 10 950 ... £	
14 - 16	T05 - IP	7.67	**057**				M1,8x3,8 - 05IP	2.15	**10100**
16,5 - 18				T06 - IP	13.68	**123**	M2,0x4,3 - 06IP	2.15	**10000**
18,5 - 23				T06 - IP	13.68	**123**	M2,2x5,5 - 06IP	2.15	**10700**
23,5 - 26				T08 - IP	13.49	**125**	M2,5x6,3 - 08IP	2.15	**10800**
26,5 - 30				T08 - IP	13.49	**125**	M3,0x7,6 - 08IP	2.15	**10200**
31 - 37				T15 - IP	15.77	**128**	M3,5x7,5 - 15IP	2.15	**10300**
38 - 46				T20 - IP	16.56	**129**	M4,5x10,0 - 20IP	2.15	**10400**

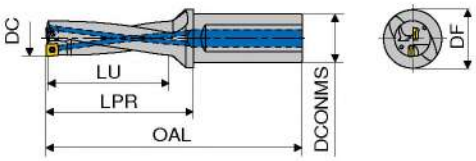
Suitable adapters can be found in → **Chapter 16 Adapters.**

KUB Pentron

Scope of supply:
Indexable Insert Drill incl. clamping screws

≤ 3xD

C



Designation	KOMET no.	DC	DCONMS	DF	OAL	LU	LPR	torque moment	Insert	NEW 2B Article no. 10 873 ...
		mm	mm	mm	mm	mm	mm	Nm		£
KUB-P.3D.140.R.04-C20	U4301400	14.0	20	30	105	42	55	0,38	SOGX 040204	301.64 14001
KUB-P.3D.145.R.04-C20	U4301450	14.5	20	30	109	45	59	0,38	SOGX 040204	301.64 14501
KUB-P.3D.150.R.04-C20	U4301500	15.0	20	30	109	45	59	0,38	SOGX 040204	301.64 15001
KUB-P.3D.155.R.04-C20	U4301550	15.5	20	30	114	48	64	0,38	SOGX 040204	301.64 15501
KUB-P.3D.160.R.04-C20	U4301600	16.0	20	30	114	48	64	0,38	SOGX 040204	301.64 16001
KUB-P.3D.165.R.05-C20	U4301650	16.5	20	30	118	51	68	0,62	SOGX 050204	301.64 16501
KUB-P.3D.170.R.05-C20	U4301700	17.0	20	30	118	51	68	0,62	SOGX 050204	309.18 17001
KUB-P.3D.175.R.05-C25	U4311750	17.5	25	30	127	54	71	0,62	SOGX 050204	309.18 17501
KUB-P.3D.180.R.05-C25	U4311800	18.0	25	30	127	54	71	0,62	SOGX 050204	309.18 18001
KUB-P.3D.185.R.06-C25	U4311850	18.5	25	30	131	57	75	1,01	SOGX 060206	309.18 18501
KUB-P.3D.190.R.06-C25	U4311900	19.0	25	30	131	57	75	1,01	SOGX 060206	318.64 19001
KUB-P.3D.195.R.06-C25	U4311950	19.5	25	30	134	60	78	1,01	SOGX 060206	318.64 19501
KUB-P.3D.200.R.06-C25	U4312000	20.0	25	30	134	60	78	1,01	SOGX 060206	318.64 20001
KUB-P.3D.205.R.07-C25	U4312050	20.5	25	30	138	63	82	1,01	SOGX 07T208	339.45 20501
KUB-P.3D.210.R.07-C25	U4312100	21.0	25	30	138	63	82	1,01	SOGX 07T208	339.45 21001
KUB-P.3D.215.R.07-C25	U4312150	21.5	25	30	141	66	85	1,01	SOGX 07T208	339.45 21501
KUB-P.3D.220.R.07-C25	U4312200	22.0	25	30	141	66	85	1,01	SOGX 07T208	339.45 22002
KUB-P.3D.225.R.07-C25	U4312250	22.5	25	30	145	69	89	1,01	SOGX 07T208	339.45 22502
KUB-P.3D.230.R.07-C25	U4312300	23.0	25	30	145	69	89	1,01	SOGX 07T208	339.45 23002
KUB-P.3D.235.R.08-C32	U4322350	23.5	32	39	152	72	92	1,28	SOGX 080308	367.82 23503
KUB-P.3D.240.R.08-C32	U4322400	24.0	32	39	152	72	92	1,28	SOGX 080308	367.82 24003
KUB-P.3D.245.R.08-C32	U4322450	24.5	32	39	156	75	96	1,28	SOGX 080308	367.82 24503
KUB-P.3D.250.R.08-C32	U4322500	25.0	32	39	156	75	96	1,28	SOGX 080308	367.82 25003
KUB-P.3D.255.R.08-C32	U4322550	25.5	32	39	159	78	99	1,28	SOGX 080308	367.82 25503
KUB-P.3D.260.R.08-C32	U4322600	26.0	32	39	159	78	99	1,28	SOGX 080308	367.82 26003
KUB-P.3D.265.R.09-C32	U4322650	26.5	32	39	163	81	103	2,25	SOGX 09T308	386.73 26503
KUB-P.3D.270.R.09-C32	U4322700	27.0	32	39	163	81	103	2,25	SOGX 09T308	386.73 27003
KUB-P.3D.275.R.09-C32	U4322750	27.5	32	39	166	84	106	2,25	SOGX 09T308	386.73 27503
KUB-P.3D.280.R.09-C32	U4322800	28.0	32	39	166	84	106	2,25	SOGX 09T308	386.73 28003
KUB-P.3D.285.R.09-C32	U4322850	28.5	32	39	170	87	110	2,25	SOGX 09T308	386.73 28503
KUB-P.3D.290.R.09-C32	U4322900	29.0	32	39	170	87	110	2,25	SOGX 09T308	386.73 29003
KUB-P.3D.295.R.09-C32	U4322950	29.5	32	39	173	90	113	2,25	SOGX 09T308	386.73 29503
KUB-P.3D.300.R.09-C32	U4323000	30.0	32	39	173	90	113	2,25	SOGX 09T308	386.73 30003
KUB-P.3D.310.R.10-C40	U4333100	31.0	40	50	185	93	117	2,8	SOGX 100408	421.64 31004
KUB-P.3D.320.R.10-C40	U4333200	32.0	40	50	188	96	120	2,8	SOGX 100408	421.64 32004
KUB-P.3D.330.R.10-C40	U4333300	33.0	40	50	192	99	124	2,8	SOGX 100408	421.64 33004
KUB-P.3D.340.R.11-C40	U4333400	34.0	40	50	195	102	127	2,8	SOGX 110408	441.55 34004
KUB-P.3D.350.R.11-C40	U4333500	35.0	40	50	199	105	131	2,8	SOGX 110408	441.55 35004
KUB-P.3D.360.R.11-C40	U4333600	36.0	40	50	202	108	134	2,8	SOGX 110408	441.55 36004
KUB-P.3D.370.R.11-C40	U4333700	37.0	40	50	206	111	138	2,8	SOGX 110408	441.55 37004
KUB-P.3D.380.R.12-C40	U4333800	38.0	40	50	209	114	141	6,25	SOGX 120408	454.73 38004
KUB-P.3D.390.R.12-C40	U4333900	39.0	40	50	213	117	145	6,25	SOGX 120408	454.73 39004
KUB-P.3D.400.R.12-C40	U4334000	40.0	40	50	216	120	148	6,25	SOGX 120408	454.73 40004
KUB-P.3D.410.R.12-C40	U4334100	41.0	40	50	220	123	152	6,25	SOGX 120408	454.73 41004
KUB-P.3D.420.R.12-C40	U4334200	42.0	40	50	223	126	155	6,25	SOGX 120408	454.73 42004

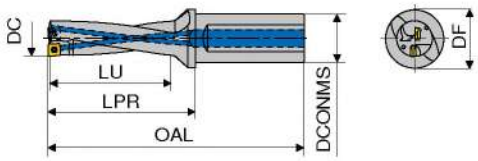
Continued on next page

KUB Pentron

Scope of supply:
Indexable Insert Drill incl. clamping screws

≤ 3xD

C



Designation	KOMET no.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW 2B Article no. 10 873 ... £	
KUB-P.3D.430.R.13-C40	U4334300	43.0	40	50	227	129	159	6,25	SOGX 130508	454.73	**43004**
KUB-P.3D.440.R.13-C40	U4334400	44.0	40	50	230	132	162	6,25	SOGX 130508	454.73	**44004**
KUB-P.3D.450.R.13-C40	U4334500	45.0	40	50	234	135	166	6,25	SOGX 130508	454.73	**45004**
KUB-P.3D.460.R.13-C40	U4334600	46.0	40	50	237	138	169	6,25	SOGX 130508	454.73	**46004**

Spare parts DC		Y7 Screwdriver Article no. 80 950 ... £		Y7 Key D Article no. 80 950 ... £		2B Clamping screw Article no. 10 950 ... £	
14 - 16	T05 - IP	7.67	**057**			M1,8x3,8 - 05IP	2.15 **10100**
16,5 - 18				T06 - IP	13.68 **123**	M2,0x4,3 - 06IP	2.15 **10000**
18,5 - 23				T06 - IP	13.68 **123**	M2,2x5,5 - 06IP	2.15 **10700**
23,5 - 26				T08 - IP	13.49 **125**	M2,5x6,3 - 08IP	2.15 **10800**
26,5 - 30				T08 - IP	13.49 **125**	M3,0x7,6 - 08IP	2.15 **10200**
31 - 37				T15 - IP	15.77 **128**	M3,5x7,5 - 15IP	2.15 **10300**
38 - 46				T20 - IP	16.56 **129**	M4,5x10,0 - 20IP	2.15 **10400**

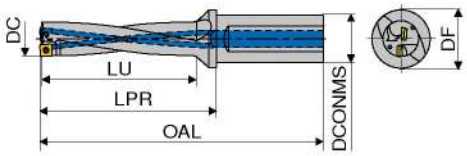
Suitable adapters can be found in → **Chapter 16 Adapters.**

KUB Pentron

Scope of supply:
Indexable Insert Drill incl. clamping screws

≤ 4xD

C



Designation	KOMET no.	DC	DCONMS	DF	OAL	LU	LPR	torque moment	Insert	NEW 2B Article no. 10 874 ... £	
		mm	mm	mm	mm	mm	mm	Nm			
KUB-P.4D.140.R.04-C20	U4401400	14.0	20	30	119	56	69	0,38	SOGX 040204	384.82	14001
KUB-P.4D.145.R.04-C20	U4401450	14.5	20	30	124	60	74	0,38	SOGX 040204	384.82	14501
KUB-P.4D.150.R.04-C20	U4401500	15.0	20	30	124	60	74	0,38	SOGX 040204	384.82	15001
KUB-P.4D.155.R.04-C20	U4401550	15.5	20	30	130	64	80	0,38	SOGX 040204	384.82	15501
KUB-P.4D.160.R.04-C20	U4401600	16.0	20	30	130	64	80	0,38	SOGX 040204	384.82	16001
KUB-P.4D.165.R.05-C20	U4401650	16.5	20	30	135	68	85	0,62	SOGX 050204	384.82	16501
KUB-P.4D.170.R.05-C20	U4401700	17.0	20	30	135	68	85	0,62	SOGX 050204	395.18	17001
KUB-P.4D.175.R.05-C25	U4411750	17.5	25	30	145	72	89	0,62	SOGX 050204	395.18	17502
KUB-P.4D.180.R.05-C25	U4411800	18.0	25	30	145	72	89	0,62	SOGX 050204	395.18	18002
KUB-P.4D.185.R.06-C25	U4411850	18.5	25	30	150	76	94	1,01	SOGX 060206	395.18	18502
KUB-P.4D.190.R.06-C25	U4411900	19.0	25	30	150	76	94	1,01	SOGX 060206	406.55	19002
KUB-P.4D.195.R.06-C25	U4411950	19.5	25	30	154	80	98	1,01	SOGX 060206	406.55	19502
KUB-P.4D.200.R.06-C25	U4412000	20.0	25	30	154	80	98	1,01	SOGX 060206	406.55	20002
KUB-P.4D.205.R.07-C25	U4412050	20.5	25	30	159	84	103	1,01	SOGX 07T208	421.64	20502
KUB-P.4D.210.R.07-C25	U4412100	21.0	25	30	159	84	103	1,01	SOGX 07T208	421.64	21002
KUB-P.4D.215.R.07-C25	U4412150	21.5	25	30	163	88	107	1,01	SOGX 07T208	421.64	21502
KUB-P.4D.220.R.07-C25	U4412200	22.0	25	30	163	88	107	1,01	SOGX 07T208	421.64	22002
KUB-P.4D.225.R.07-C25	U4412250	22.5	25	30	168	92	112	1,01	SOGX 07T208	421.64	22502
KUB-P.4D.230.R.07-C25	U4412300	23.0	25	30	168	92	112	1,01	SOGX 07T208	421.64	23002
KUB-P.4D.235.R.08-C32	U4422350	23.5	32	39	176	96	116	1,28	SOGX 080308	437.73	23503
KUB-P.4D.240.R.08-C32	U4422400	24.0	32	39	176	96	116	1,28	SOGX 080308	437.73	24003
KUB-P.4D.245.R.08-C32	U4422450	24.5	32	39	181	100	121	1,28	SOGX 080308	437.73	24503
KUB-P.4D.250.R.08-C32	U4422500	25.0	32	39	181	100	121	1,28	SOGX 080308	437.73	25003
KUB-P.4D.255.R.08-C32	U4422550	25.5	32	39	185	104	125	1,28	SOGX 080308	437.73	25503
KUB-P.4D.260.R.08-C32	U4422600	26.0	32	39	185	104	125	1,28	SOGX 080308	437.73	26003
KUB-P.4D.265.R.09-C32	U4422650	26.5	32	39	190	108	130	2,25	SOGX 09T308	494.45	26503
KUB-P.4D.270.R.09-C32	U4422700	27.0	32	39	190	108	130	2,25	SOGX 09T308	494.45	27003
KUB-P.4D.275.R.09-C32	U4422750	27.5	32	39	194	112	134	2,25	SOGX 09T308	494.45	27503
KUB-P.4D.280.R.09-C32	U4422800	28.0	32	39	194	112	134	2,25	SOGX 09T308	494.45	28003
KUB-P.4D.285.R.09-C32	U4422850	28.5	32	39	199	116	139	2,25	SOGX 09T308	494.45	28503
KUB-P.4D.290.R.09-C32	U4422900	29.0	32	39	199	116	139	2,25	SOGX 09T308	494.45	29003
KUB-P.4D.295.R.09-C32	U4422950	29.5	32	39	203	120	143	2,25	SOGX 09T308	494.45	29503
KUB-P.4D.300.R.09-C32	U4423000	30.0	32	39	203	120	143	2,25	SOGX 09T308	494.45	30003
KUB-P.4D.310.R.10-C40	U4433100	31.0	40	50	216	124	148	2,8	SOGX 100408	523.82	31004
KUB-P.4D.320.R.10-C40	U4433200	32.0	40	50	220	128	152	2,8	SOGX 100408	523.82	32004
KUB-P.4D.330.R.10-C40	U4433300	33.0	40	50	225	132	157	2,8	SOGX 100408	523.82	33004
KUB-P.4D.340.R.11-C40	U4433400	34.0	40	50	229	136	161	2,8	SOGX 110408	538.91	34004
KUB-P.4D.350.R.11-C40	U4433500	35.0	40	50	234	140	166	2,8	SOGX 110408	538.91	35004
KUB-P.4D.360.R.11-C40	U4433600	36.0	40	50	238	144	170	2,8	SOGX 110408	538.91	36004
KUB-P.4D.370.R.11-C40	U4433700	37.0	40	50	243	148	175	2,8	SOGX 110408	538.91	37004
KUB-P.4D.380.R.12-C40	U4433800	38.0	40	50	247	152	179	6,25	SOGX 120408	555.91	38004
KUB-P.4D.390.R.12-C40	U4433900	39.0	40	50	252	156	184	6,25	SOGX 120408	555.91	39004
KUB-P.4D.400.R.12-C40	U4434000	40.0	40	50	256	160	188	6,25	SOGX 120408	555.91	40004
KUB-P.4D.410.R.12-C40	U4434100	41.0	40	50	261	164	193	6,25	SOGX 120408	555.91	41004
KUB-P.4D.420.R.12-C40	U4434200	42.0	40	50	265	168	197	6,25	SOGX 120408	555.91	42004

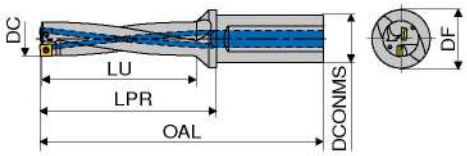
Continued on next page

KUB Pentron

Scope of supply:
Indexable Insert Drill incl. clamping screws

≤ 4xD

C



Designation	KOMET no.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW 2B Article no. 10 874 ... £	
KUB-P.4D.430.R.13-C40	U4434300	43.0	40	50	270	172	202	6,25	SOGX 130508	597.55	**43004**
KUB-P.4D.440.R.13-C40	U4434400	44.0	40	50	274	176	206	6,25	SOGX 130508	597.55	**44004**
KUB-P.4D.450.R.13-C40	U4434500	45.0	40	50	279	180	211	6,25	SOGX 130508	597.55	**45004**
KUB-P.4D.460.R.13-C40	U4434600	46.0	40	50	283	184	215	6,25	SOGX 130508	597.55	**46004**

Y7

Screwdriver

Y7

Key D

2B

Clamping screw

Spare parts DC		Article no. 80 950 ... £			Article no. 80 950 ... £			Article no. 10 950 ... £	
14 - 16	T05 - IP	7.67	**057**				M1,8x3,8 - 05IP	2.15	**10100**
16,5 - 18				T06 - IP	13.68	**123**	M2,0x4,3 - 06IP	2.15	**10000**
18,5 - 23				T06 - IP	13.68	**123**	M2,2x5,5 - 06IP	2.15	**10700**
23,5 - 26				T08 - IP	13.49	**125**	M2,5x6,3 - 08IP	2.15	**10800**
26,5 - 30				T08 - IP	13.49	**125**	M3,0x7,6 - 08IP	2.15	**10200**
31 - 37				T15 - IP	15.77	**128**	M3,5x7,5 - 15IP	2.15	**10300**
38 - 46				T20 - IP	16.56	**129**	M4,5x10,0 - 20IP	2.15	**10400**

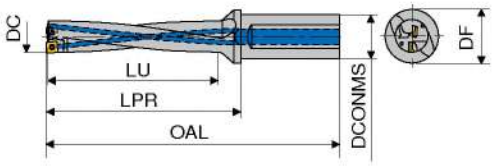
Suitable adapters can be found in → **Chapter 16 Adapters.**

KUB Pentron

Scope of supply:
Indexable Insert Drill incl. clamping screws

≤ 5xD

C



Designation	KOMET no.	DC	DCONMS	DF	OAL	LU	LPR	torque moment	Insert	NEW 2B Article no. 10 875 ...
		mm	mm	mm	mm	mm	mm	Nm		£
KUB-P.5D.140.R.04-C20	U4501400	14.0	20	30	133	70	83	0,38	SOGX 040204	416.00 14001
KUB-P.5D.145.R.04-C20	U4501450	14.5	20	30	139	75	89	0,38	SOGX 040204	416.00 14501
KUB-P.5D.150.R.04-C20	U4501500	15.0	20	30	139	75	89	0,38	SOGX 040204	416.00 15001
KUB-P.5D.155.R.04-C20	U4501550	15.5	20	30	146	80	96	0,38	SOGX 040204	416.00 15501
KUB-P.5D.160.R.04-C20	U4501600	16.0	20	30	146	80	96	0,38	SOGX 040204	416.00 16001
KUB-P.5D.165.R.05-C20	U4501650	16.5	20	30	152	85	102	0,62	SOGX 050204	416.00 16501
KUB-P.5D.170.R.05-C20	U4501700	17.0	20	30	152	85	102	0,62	SOGX 050204	428.27 17001
KUB-P.5D.175.R.05-C25	U4511750	17.5	25	30	163	90	107	0,62	SOGX 050204	428.27 17502
KUB-P.5D.180.R.05-C25	U4511800	18.0	25	30	163	90	107	0,62	SOGX 050204	428.27 18002
KUB-P.5D.185.R.06-C25	U4511850	18.5	25	30	169	95	113	1,01	SOGX 060206	428.27 18502
KUB-P.5D.190.R.06-C25	U4511900	19.0	25	30	169	95	113	1,01	SOGX 060206	437.73 19002
KUB-P.5D.195.R.06-C25	U4511950	19.5	25	30	174	100	118	1,01	SOGX 060206	437.73 19502
KUB-P.5D.200.R.06-C25	U4512000	20.0	25	30	174	100	118	1,01	SOGX 060206	437.73 20002
KUB-P.5D.205.R.07-C25	U4512050	20.5	25	30	180	105	124	1,01	SOGX 07T208	453.82 20502
KUB-P.5D.210.R.07-C25	U4512100	21.0	25	30	180	105	124	1,01	SOGX 07T208	453.82 21002
KUB-P.5D.215.R.07-C25	U4512150	21.5	25	30	185	110	129	1,01	SOGX 07T208	453.82 21502
KUB-P.5D.220.R.07-C25	U4512200	22.0	25	30	185	110	129	1,01	SOGX 07T208	453.82 22002
KUB-P.5D.225.R.07-C25	U4512250	22.5	25	30	191	115	135	1,01	SOGX 07T208	453.82 22502
KUB-P.5D.230.R.07-C25	U4512300	23.0	25	30	191	115	135	1,01	SOGX 07T208	453.82 23002
KUB-P.5D.235.R.08-C32	U4522350	23.5	32	39	200	120	140	1,28	SOGX 080308	468.91 23503
KUB-P.5D.240.R.08-C32	U4522400	24.0	32	39	200	120	140	1,28	SOGX 080308	468.91 24003
KUB-P.5D.245.R.08-C32	U4522450	24.5	32	39	206	125	146	1,28	SOGX 080308	468.91 24503
KUB-P.5D.250.R.08-C32	U4522500	25.0	32	39	206	125	146	1,28	SOGX 080308	468.91 25003
KUB-P.5D.255.R.08-C32	U4522550	25.5	32	39	211	130	151	1,28	SOGX 080308	468.91 25503
KUB-P.5D.260.R.08-C32	U4522600	26.0	32	39	211	130	151	1,28	SOGX 080308	468.91 26003
KUB-P.5D.265.R.09-C32	U4522650	26.5	32	39	217	135	157	2,25	SOGX 09T308	528.55 26503
KUB-P.5D.270.R.09-C32	U4522700	27.0	32	39	217	135	157	2,25	SOGX 09T308	528.55 27003
KUB-P.5D.275.R.09-C32	U4522750	27.5	32	39	222	140	162	2,25	SOGX 09T308	528.55 27503
KUB-P.5D.280.R.09-C32	U4522800	28.0	32	39	222	140	162	2,25	SOGX 09T308	528.55 28003
KUB-P.5D.285.R.09-C32	U4522850	28.5	32	39	228	145	168	2,25	SOGX 09T308	528.55 28503
KUB-P.5D.290.R.09-C32	U4522900	29.0	32	39	228	145	168	2,25	SOGX 09T308	528.55 29003
KUB-P.5D.295.R.09-C32	U4522950	29.5	32	39	233	150	173	2,25	SOGX 09T308	528.55 29503
KUB-P.5D.300.R.09-C32	U4523000	30.0	32	39	233	150	173	2,25	SOGX 09T308	528.55 30003
KUB-P.5D.310.R.10-C40	U4533100	31.0	40	50	247	155	179	2,8	SOGX 100408	565.36 31004
KUB-P.5D.320.R.10-C40	U4533200	32.0	40	50	252	160	184	2,8	SOGX 100408	565.36 32004
KUB-P.5D.330.R.10-C40	U4533300	33.0	40	50	258	165	190	2,8	SOGX 100408	565.36 33004
KUB-P.5D.340.R.11-C40	U4533400	34.0	40	50	263	170	195	2,8	SOGX 110408	581.45 34004
KUB-P.5D.350.R.11-C40	U4533500	35.0	40	50	269	175	201	2,8	SOGX 110408	581.45 35004
KUB-P.5D.360.R.11-C40	U4533600	36.0	40	50	274	180	206	2,8	SOGX 110408	581.45 36004
KUB-P.5D.370.R.11-C40	U4533700	37.0	40	50	280	185	212	2,8	SOGX 110408	581.45 37004
KUB-P.5D.380.R.12-C40	U4533800	38.0	40	50	285	190	217	6,25	SOGX 120408	597.55 38004
KUB-P.5D.390.R.12-C40	U4533900	39.0	40	50	291	195	223	6,25	SOGX 120408	597.55 39004
KUB-P.5D.400.R.12-C40	U4534000	40.0	40	50	296	200	228	6,25	SOGX 120408	597.55 40004
KUB-P.5D.410.R.12-C40	U4534100	41.0	40	50	302	205	234	6,25	SOGX 120408	597.55 41004
KUB-P.5D.420.R.12-C40	U4534200	42.0	40	50	307	210	239	6,25	SOGX 120408	597.55 42004

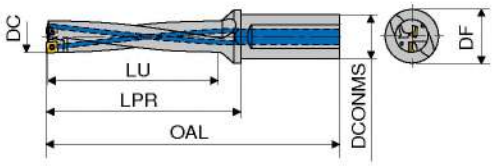
Continued on next page

KUB Pentron

Scope of supply:
Indexable Insert Drill incl. clamping screws

≤ 5xD

C



Designation	KOMET no.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW 2B Article no. 10 875 ... £	
KUB-P.5D.430.R.13-C40	U4534300	43.0	40	50	313	215	245	6,25	SOGX 130508	651.45	**43004**
KUB-P.5D.440.R.13-C40	U4534400	44.0	40	50	318	220	250	6,25	SOGX 130508	651.45	**44004**
KUB-P.5D.450.R.13-C40	U4534500	45.0	40	50	324	225	256	6,25	SOGX 130508	651.45	**45004**
KUB-P.5D.460.R.13-C40	U4534600	46.0	40	50	329	230	261	6,25	SOGX 130508	651.45	**46004**

Y7

Screwdriver

Y7

Key D

2B

Clamping screw

Spare parts DC		Article no. 80 950 ... £			Article no. 80 950 ... £			Article no. 10 950 ... £	
14 - 16	T05 - IP	7.67	**057**				M1,8x3,8 - 05IP	2.15	**10100**
16,5 - 18				T06 - IP	13.68	**123**	M2,0x4,3 - 06IP	2.15	**10000**
18,5 - 23				T06 - IP	13.68	**123**	M2,2x5,5 - 06IP	2.15	**10700**
23,5 - 26				T08 - IP	13.49	**125**	M2,5x6,3 - 08IP	2.15	**10800**
26,5 - 30				T08 - IP	13.49	**125**	M3,0x7,6 - 08IP	2.15	**10200**
31 - 37				T15 - IP	15.77	**128**	M3,5x7,5 - 15IP	2.15	**10300**
38 - 46				T20 - IP	16.56	**129**	M4,5x10,0 - 20IP	2.15	**10400**

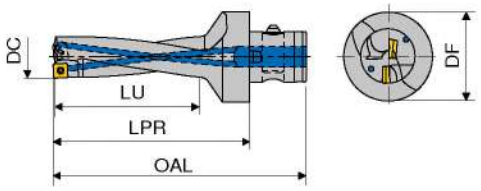
Suitable adapters can be found in → **Chapter 16 Adapters.**

KUB Pentron

Scope of supply:
Indexable Insert Drill incl. clamping screws

≤ 3xD

ABS



Designation	KOMET no.	DC mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW 2B Article no. 10 873 ... £	
KUB-P.3D.140.R.04-ABS50	U4351400	14.0	50	100	42	69	0,38	SOGX 040204	367.82	14095
KUB-P.3D.145.R.04-ABS50	U4351450	14.5	50	104	45	73	0,38	SOGX 040204	367.82	14595
KUB-P.3D.150.R.04-ABS50	U4351500	15.0	50	104	45	73	0,38	SOGX 040204	367.82	15095
KUB-P.3D.155.R.04-ABS50	U4351550	15.5	50	109	48	78	0,38	SOGX 040204	367.82	15595
KUB-P.3D.160.R.04-ABS50	U4351600	16.0	50	109	48	78	0,38	SOGX 040204	367.82	16095
KUB-P.3D.165.R.05-ABS50	U4351650	16.5	50	113	51	82	0,62	SOGX 050204	367.82	16595
KUB-P.3D.170.R.05-ABS50	U4351700	17.0	50	113	51	82	0,62	SOGX 050204	376.27	17095
KUB-P.3D.175.R.05-ABS50	U4351750	17.5	50	116	54	85	0,62	SOGX 050204	376.27	17595
KUB-P.3D.180.R.05-ABS50	U4351800	18.0	50	116	54	85	0,62	SOGX 050204	376.27	18095
KUB-P.3D.185.R.06-ABS50	U4351850	18.5	50	120	57	89	1,01	SOGX 060206	376.27	18595
KUB-P.3D.190.R.06-ABS50	U4351900	19.0	50	120	57	89	1,01	SOGX 060206	385.73	19095
KUB-P.3D.195.R.06-ABS50	U4351950	19.5	50	123	60	92	1,01	SOGX 060206	385.73	19595
KUB-P.3D.200.R.06-ABS50	U4352000	20.0	50	123	60	92	1,01	SOGX 060206	385.73	20095
KUB-P.3D.205.R.07-ABS50	U4352050	20.5	50	126	63	95	1,01	SOGX 07T208	397.09	20595
KUB-P.3D.210.R.07-ABS50	U4352100	21.0	50	126	63	95	1,01	SOGX 07T208	397.09	21095
KUB-P.3D.215.R.07-ABS50	U4352150	21.5	50	129	66	98	1,01	SOGX 07T208	397.09	21595
KUB-P.3D.220.R.07-ABS50	U4352200	22.0	50	129	66	98	1,01	SOGX 07T208	397.09	22095
KUB-P.3D.225.R.07-ABS50	U4352250	22.5	50	132	69	101	1,01	SOGX 07T208	397.09	22595
KUB-P.3D.230.R.07-ABS50	U4352300	23.0	50	132	69	101	1,01	SOGX 07T208	397.09	23095
KUB-P.3D.235.R.08-ABS50	U4352350	23.5	50	135	72	104	1,28	SOGX 080308	409.36	23595
KUB-P.3D.240.R.08-ABS50	U4352400	24.0	50	135	72	104	1,28	SOGX 080308	409.36	24095
KUB-P.3D.245.R.08-ABS50	U4352450	24.5	50	139	75	108	1,28	SOGX 080308	409.36	24595
KUB-P.3D.250.R.08-ABS50	U4352500	25.0	50	139	75	108	1,28	SOGX 080308	409.36	25095
KUB-P.3D.255.R.08-ABS50	U4352550	25.5	50	142	78	111	1,28	SOGX 080308	409.36	25595
KUB-P.3D.260.R.08-ABS50	U4352600	26.0	50	142	78	111	1,28	SOGX 080308	409.36	26095
KUB-P.3D.265.R.09-ABS50	U4352650	26.5	50	146	81	115	2,25	SOGX 09T308	458.55	26595
KUB-P.3D.270.R.09-ABS50	U4352700	27.0	50	146	81	115	2,25	SOGX 09T308	458.55	27095
KUB-P.3D.275.R.09-ABS50	U4352750	27.5	50	149	84	118	2,25	SOGX 09T308	458.55	27595
KUB-P.3D.280.R.09-ABS50	U4352800	28.0	50	149	84	118	2,25	SOGX 09T308	458.55	28095
KUB-P.3D.285.R.09-ABS50	U4352850	28.5	50	153	87	122	2,25	SOGX 09T308	458.55	28595
KUB-P.3D.290.R.09-ABS50	U4352900	29.0	50	153	87	122	2,25	SOGX 09T308	458.55	29095
KUB-P.3D.295.R.09-ABS50	U4352950	29.5	50	156	90	125	2,25	SOGX 09T308	458.55	29595
KUB-P.3D.300.R.09-ABS50	U4353000	30.0	50	156	90	125	2,25	SOGX 09T308	458.55	30095

	Y7  Screwdriver		Y7  Key D		2B  Clamping screw	
Spare parts DC	**Article no. 80 950 ...**		**Article no. 80 950 ...**		**Article no. 10 950 ...**	
	£		£		£	
14 - 16	T05 - IP	7.67 057			M1,8x3,8 - 05IP	2.15 10100
16,5 - 18			T06 - IP	13.68 123	M2,0x4,3 - 06IP	2.15 10000
18,5 - 23			T06 - IP	13.68 123	M2,2x5,5 - 06IP	2.15 10700
23,5 - 26			T08 - IP	13.49 125	M2,5x6,3 - 08IP	2.15 10800
26,5 - 30			T08 - IP	13.49 125	M3,0x7,6 - 08IP	2.15 10200

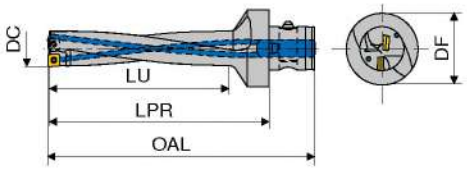
Suitable adapters can be found in → **Chapter 16 Adapters.**

KUB Pentron

Scope of supply:
Indexable Insert Drill incl. clamping screws

≤ 4xD

ABS



Designation	KOMET no.	DC mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW 2B Article no. 10 874 ... £	
KUB-P.4D.140.R.04-ABS50	U4451400	14.0	50	114	56	83	0,38	SOGX 040204	437.73	14095
KUB-P.4D.145.R.04-ABS50	U4451450	14.5	50	119	60	88	0,38	SOGX 040204	437.73	14595
KUB-P.4D.150.R.04-ABS50	U4451500	15.0	50	119	60	88	0,38	SOGX 040204	437.73	15095
KUB-P.4D.155.R.04-ABS50	U4451550	15.5	50	125	64	94	0,38	SOGX 040204	437.73	15595
KUB-P.4D.160.R.04-ABS50	U4451600	16.0	50	125	64	94	0,38	SOGX 040204	437.73	16095
KUB-P.4D.165.R.05-ABS50	U4451650	16.5	50	130	68	99	0,62	SOGX 050204	437.73	16595
KUB-P.4D.170.R.05-ABS50	U4451700	17.0	50	130	68	99	0,62	SOGX 050204	450.00	17095
KUB-P.4D.175.R.05-ABS50	U4451750	17.5	50	134	72	103	0,62	SOGX 050204	450.00	17595
KUB-P.4D.180.R.05-ABS50	U4451800	18.0	50	134	72	103	0,62	SOGX 050204	450.00	18095
KUB-P.4D.185.R.06-ABS50	U4451850	18.5	50	139	76	108	1,01	SOGX 060206	450.00	18595
KUB-P.4D.190.R.06-ABS50	U4451900	19.0	50	139	76	108	1,01	SOGX 060206	458.55	19095
KUB-P.4D.195.R.06-ABS50	U4451950	19.5	50	143	80	112	1,01	SOGX 060206	458.55	19595
KUB-P.4D.200.R.06-ABS50	U4452000	20.0	50	143	80	112	1,01	SOGX 060206	458.55	20095
KUB-P.4D.205.R.07-ABS50	U4452050	20.5	50	147	84	116	1,01	SOGX 07T208	476.55	20595
KUB-P.4D.210.R.07-ABS50	U4452100	21.0	50	147	84	116	1,01	SOGX 07T208	476.55	21095
KUB-P.4D.215.R.07-ABS50	U4452150	21.5	50	151	88	120	1,01	SOGX 07T208	476.55	21595
KUB-P.4D.220.R.07-ABS50	U4452200	22.0	50	151	88	120	1,01	SOGX 07T208	476.55	22095
KUB-P.4D.225.R.07-ABS50	U4452250	22.5	50	155	92	124	1,01	SOGX 07T208	476.55	22595
KUB-P.4D.230.R.07-ABS50	U4452300	23.0	50	155	92	124	1,01	SOGX 07T208	476.55	23095
KUB-P.4D.235.R.08-ABS50	U4452350	23.5	50	159	96	128	1,28	SOGX 080308	490.73	23595
KUB-P.4D.240.R.08-ABS50	U4452400	24.0	50	159	96	128	1,28	SOGX 080308	490.73	24095
KUB-P.4D.245.R.08-ABS50	U4452450	24.5	50	164	100	133	1,28	SOGX 080308	490.73	24595
KUB-P.4D.250.R.08-ABS50	U4452500	25.0	50	164	100	133	1,28	SOGX 080308	490.73	25095
KUB-P.4D.255.R.08-ABS50	U4452550	25.5	50	168	104	137	1,28	SOGX 080308	490.73	25595
KUB-P.4D.260.R.08-ABS50	U4452600	26.0	50	168	104	137	1,28	SOGX 080308	490.73	26095
KUB-P.4D.265.R.09-ABS50	U4452650	26.5	50	173	108	142	2,25	SOGX 09T308	550.27	26595
KUB-P.4D.270.R.09-ABS50	U4452700	27.0	50	173	108	142	2,25	SOGX 09T308	550.27	27095
KUB-P.4D.275.R.09-ABS50	U4452750	27.5	50	177	112	146	2,25	SOGX 09T308	550.27	27595
KUB-P.4D.280.R.09-ABS50	U4452800	28.0	50	177	112	146	2,25	SOGX 09T308	550.27	28095
KUB-P.4D.285.R.09-ABS50	U4452850	28.5	50	182	116	151	2,25	SOGX 09T308	550.27	28595
KUB-P.4D.290.R.09-ABS50	U4452900	29.0	50	182	116	151	2,25	SOGX 09T308	550.27	29095
KUB-P.4D.295.R.09-ABS50	U4452950	29.5	50	186	120	155	2,25	SOGX 09T308	550.27	29595
KUB-P.4D.300.R.09-ABS50	U4453000	30.0	50	186	120	155	2,25	SOGX 09T308	550.27	30095

Y7

Screwdriver

Y7

Key D

2B

Clamping screw

Spare parts DC		Article no. 80 950 ... £			Article no. 80 950 ... £			Article no. 10 950 ... £	
14 - 16	T05 - IP	7.67	057				M1,8x3,8 - 05IP	2.15	10100
16,5 - 18				T06 - IP	13.68	123	M2,0x4,3 - 06IP	2.15	10000
18,5 - 23				T06 - IP	13.68	123	M2,2x5,5 - 06IP	2.15	10700
23,5 - 26				T08 - IP	13.49	125	M2,5x6,3 - 08IP	2.15	10800
26,5 - 30				T08 - IP	13.49	125	M3,0x7,6 - 08IP	2.15	10200

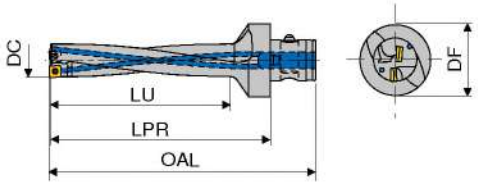
Suitable adapters can be found in → **Chapter 16 Adapters.**

KUB Pentron

Scope of supply:
Indexable Insert Drill incl. clamping screws

≤ 5xD

ABS



Designation	KOMET no.	DC mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW 2B Article no. 10 875 ... £	
KUB-P.5D.140.R.04-ABS50	U4551400	14.0	50	128	70	97	0,38	SOGX 040204	468.91	14095
KUB-P.5D.145.R.04-ABS50	U4551450	14.5	50	134	75	103	0,38	SOGX 040204	468.91	14595
KUB-P.5D.150.R.04-ABS50	U4551500	15.0	50	134	75	103	0,38	SOGX 040204	468.91	15095
KUB-P.5D.155.R.04-ABS50	U4551550	15.5	50	141	80	110	0,38	SOGX 040204	468.91	15595
KUB-P.5D.160.R.04-ABS50	U4551600	16.0	50	141	80	110	0,38	SOGX 040204	468.91	16095
KUB-P.5D.165.R.05-ABS50	U4551650	16.5	50	147	85	116	0,62	SOGX 050204	468.91	16595
KUB-P.5D.170.R.05-ABS50	U4551700	17.0	50	147	85	116	0,62	SOGX 050204	481.27	17095
KUB-P.5D.175.R.05-ABS50	U4551750	17.5	50	152	90	121	0,62	SOGX 050204	481.27	17595
KUB-P.5D.180.R.05-ABS50	U4551800	18.0	50	152	90	121	0,62	SOGX 050204	481.27	18095
KUB-P.5D.185.R.06-ABS50	U4551850	18.5	50	158	95	127	1,01	SOGX 060206	481.27	18595
KUB-P.5D.190.R.06-ABS50	U4551900	19.0	50	158	95	127	1,01	SOGX 060206	490.73	19095
KUB-P.5D.195.R.06-ABS50	U4551950	19.5	50	163	100	132	1,01	SOGX 060206	490.73	19595
KUB-P.5D.200.R.06-ABS50	U4552000	20.0	50	163	100	132	1,01	SOGX 060206	490.73	20095
KUB-P.5D.205.R.07-ABS50	U4552050	20.5	50	168	105	137	1,01	SOGX 07T208	507.73	20595
KUB-P.5D.210.R.07-ABS50	U4552100	21.0	50	168	105	137	1,01	SOGX 07T208	507.73	21095
KUB-P.5D.215.R.07-ABS50	U4552150	21.5	50	173	110	142	1,01	SOGX 07T208	507.73	21595
KUB-P.5D.220.R.07-ABS50	U4552200	22.0	50	173	110	142	1,01	SOGX 07T208	507.73	22095
KUB-P.5D.225.R.07-ABS50	U4552250	22.5	50	178	115	147	1,01	SOGX 07T208	507.73	22595
KUB-P.5D.230.R.07-ABS50	U4552300	23.0	50	178	115	147	1,01	SOGX 07T208	507.73	23095
KUB-P.5D.235.R.08-ABS50	U4552350	23.5	50	183	120	152	1,28	SOGX 080308	523.82	23595
KUB-P.5D.240.R.08-ABS50	U4552400	24.0	50	183	120	152	1,28	SOGX 080308	523.82	24095
KUB-P.5D.245.R.08-ABS50	U4552450	24.5	50	189	125	158	1,28	SOGX 080308	523.82	24595
KUB-P.5D.250.R.08-ABS50	U4552500	25.0	50	189	125	158	1,28	SOGX 080308	523.82	25095
KUB-P.5D.255.R.08-ABS50	U4552550	25.5	50	194	130	163	1,28	SOGX 080308	523.82	25595
KUB-P.5D.260.R.08-ABS50	U4552600	26.0	50	194	130	163	1,28	SOGX 080308	523.82	26095
KUB-P.5D.265.R.09-ABS50	U4552650	26.5	50	200	135	169	2,25	SOGX 09T308	581.45	26595
KUB-P.5D.270.R.09-ABS50	U4552700	27.0	50	200	135	169	2,25	SOGX 09T308	581.45	27095
KUB-P.5D.275.R.09-ABS50	U4552750	27.5	50	205	140	174	2,25	SOGX 09T308	581.45	27595
KUB-P.5D.280.R.09-ABS50	U4552800	28.0	50	205	140	174	2,25	SOGX 09T308	581.45	28095
KUB-P.5D.285.R.09-ABS50	U4552850	28.5	50	211	145	180	2,25	SOGX 09T308	581.45	28595
KUB-P.5D.290.R.09-ABS50	U4552900	29.0	50	211	145	180	2,25	SOGX 09T308	581.45	29095
KUB-P.5D.295.R.09-ABS50	U4552950	29.5	50	216	150	185	2,25	SOGX 09T308	581.45	29595
KUB-P.5D.300.R.09-ABS50	U4553000	30.0	50	216	150	185	2,25	SOGX 09T308	581.45	30095

Y7

Screwdriver

Y7

Key D

2B

Clamping screw

Spare parts DC		Article no. 80 950 ... £			Article no. 80 950 ... £			Article no. 10 950 ... £	
14 - 16	T05 - IP	7.67	057				M1,8x3,8 - 05IP	2.15	10100
16,5 - 18				T06 - IP	13.68	123	M2,0x4,3 - 06IP	2.15	10000
18,5 - 23				T06 - IP	13.68	123	M2,2x5,5 - 06IP	2.15	10700
23,5 - 26				T08 - IP	13.49	125	M2,5x6,3 - 08IP	2.15	10800
26,5 - 30				T08 - IP	13.49	125	M3,0x7,6 - 08IP	2.15	10200

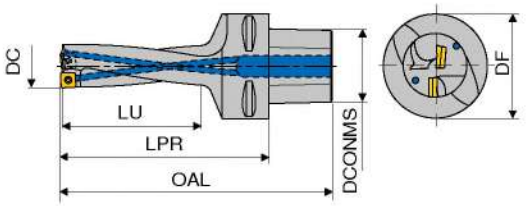
Suitable adapters can be found in → **Chapter 16 Adapters.**

KUB Pentron

Scope of supply:
Indexable Insert Drill incl. clamping screws

≤ 3xD

PSC



Designation	KOMET no.	DC	DCONMS	DF	OAL	LU	LPR	torque moment	Insert	NEW 2B Article no. 10 873 ... £	
		mm	mm	mm	mm	mm	mm	Nm			
KUB-P.3D.140.R.04-PSC50	U4061400	14.0	24.25	50	103	42	73	0,38	SOGX 040204	399.91	14055
KUB-P.3D.145.R.04-PSC50	U4061450	14.5	24.25	50	107	45	77	0,38	SOGX 040204	399.91	14555
KUB-P.3D.150.R.04-PSC50	U4061500	15.0	24.25	50	107	45	77	0,38	SOGX 040204	399.91	15055
KUB-P.3D.155.R.04-PSC50	U4061550	15.5	24.25	50	112	48	82	0,38	SOGX 040204	399.91	15555
KUB-P.3D.160.R.04-PSC50	U4061600	16.0	24.25	50	112	48	82	0,38	SOGX 040204	399.91	16055
KUB-P.3D.160.R.04-PSC63	U4071600	16.0	30.30	63	124	48	86	0,38	SOGX 040204	399.91	16056
KUB-P.3D.165.R.05-PSC50	U4061650	16.5	24.25	50	116	51	86	0,62	SOGX 050204	409.36	16555
KUB-P.3D.170.R.05-PSC50	U4061700	17.0	24.25	50	116	51	86	0,62	SOGX 050204	409.36	17055
KUB-P.3D.175.R.05-PSC50	U4061750	17.5	24.25	50	119	54	89	0,62	SOGX 050204	409.36	17555
KUB-P.3D.180.R.05-PSC50	U4061800	18.0	24.25	50	119	54	89	0,62	SOGX 050204	409.36	18055
KUB-P.3D.165.R.05-PSC63	U4071650	16.5	30.30	63	128	51	90	0,62	SOGX 050204	409.36	16556
KUB-P.3D.170.R.05-PSC63	U4071700	17.0	30.30	63	128	51	90	0,62	SOGX 050204	409.36	17056
KUB-P.3D.175.R.05-PSC63	U4071750	17.5	30.30	63	131	54	93	0,62	SOGX 050204	409.36	17556
KUB-P.3D.180.R.05-PSC63	U4071800	18.0	30.30	63	131	54	93	0,62	SOGX 050204	409.36	18056
KUB-P.3D.185.R.06-PSC50	U4061850	18.5	24.25	50	123	57	93	1,01	SOGX 060206	409.36	18555
KUB-P.3D.190.R.06-PSC50	U4061900	19.0	24.25	50	123	57	93	1,01	SOGX 060206	419.82	19055
KUB-P.3D.195.R.06-PSC50	U4061950	19.5	24.25	50	126	60	96	1,01	SOGX 060206	419.82	19555
KUB-P.3D.200.R.06-PSC50	U4062000	20.0	24.25	50	126	60	96	1,01	SOGX 060206	419.82	20055
KUB-P.3D.185.R.06-PSC63	U4071850	18.5	30.30	63	135	57	97	1,01	SOGX 060206	409.36	18556
KUB-P.3D.190.R.06-PSC63	U4071900	19.0	30.30	63	135	57	97	1,01	SOGX 060206	419.82	19056
KUB-P.3D.195.R.06-PSC63	U4071950	19.5	30.30	63	138	60	100	1,01	SOGX 060206	419.82	19556
KUB-P.3D.200.R.06-PSC63	U4072000	20.0	30.30	63	138	60	100	1,01	SOGX 060206	419.82	20056
KUB-P.3D.205.R.07-PSC50	U4062050	20.5	24.25	50	130	63	100	1,01	SOGX 07T208	432.09	20555
KUB-P.3D.210.R.07-PSC50	U4062100	21.0	24.25	50	130	63	100	1,01	SOGX 07T208	432.09	21055
KUB-P.3D.215.R.07-PSC50	U4062150	21.5	24.25	50	133	66	103	1,01	SOGX 07T208	432.09	21555
KUB-P.3D.220.R.07-PSC50	U4062200	22.0	24.25	50	133	66	103	1,01	SOGX 07T208	432.09	22055
KUB-P.3D.225.R.07-PSC50	U4062250	22.5	24.25	50	137	69	107	1,01	SOGX 07T208	432.09	22555
KUB-P.3D.230.R.07-PSC50	U4062300	23.0	24.25	50	137	69	107	1,01	SOGX 07T208	432.09	23055
KUB-P.3D.205.R.07-PSC63	U4072050	20.5	30.30	63	142	63	104	1,01	SOGX 07T208	432.09	20556
KUB-P.3D.210.R.07-PSC63	U4072100	21.0	30.30	63	142	63	104	1,01	SOGX 07T208	432.09	21056
KUB-P.3D.215.R.07-PSC63	U4072150	21.5	30.30	63	145	66	107	1,01	SOGX 07T208	432.09	21556
KUB-P.3D.220.R.07-PSC63	U4072200	22.0	30.30	63	145	66	107	1,01	SOGX 07T208	432.09	22056
KUB-P.3D.225.R.07-PSC63	U4072250	22.5	30.30	63	149	69	111	1,01	SOGX 07T208	432.09	22556
KUB-P.3D.230.R.07-PSC63	U4072300	23.0	30.30	63	149	69	111	1,01	SOGX 07T208	432.09	23056
KUB-P.3D.235.R.08-PSC50	U4062350	23.5	24.25	50	140	72	110	1,28	SOGX 080308	445.27	23555
KUB-P.3D.240.R.08-PSC50	U4062400	24.0	24.25	50	140	72	110	1,28	SOGX 080308	445.27	24055
KUB-P.3D.245.R.08-PSC50	U4062450	24.5	24.25	50	144	75	114	1,28	SOGX 080308	445.27	24555
KUB-P.3D.250.R.08-PSC50	U4062500	25.0	24.25	50	144	75	114	1,28	SOGX 080308	445.27	25055
KUB-P.3D.255.R.08-PSC50	U4062550	25.5	24.25	50	147	78	117	1,28	SOGX 080308	445.27	25555
KUB-P.3D.260.R.08-PSC50	U4062600	26.0	24.25	50	147	78	117	1,28	SOGX 080308	445.27	26055
KUB-P.3D.235.R.08-PSC63	U4072350	23.5	30.30	63	152	72	114	1,28	SOGX 080308	445.27	23556
KUB-P.3D.240.R.08-PSC63	U4072400	24.0	30.30	63	152	72	114	1,28	SOGX 080308	445.27	24056
KUB-P.3D.245.R.08-PSC63	U4072450	24.5	30.30	63	156	75	118	1,28	SOGX 080308	445.27	24556
KUB-P.3D.250.R.08-PSC63	U4072500	25.0	30.30	63	156	75	118	1,28	SOGX 080308	445.27	25056
KUB-P.3D.255.R.08-PSC63	U4072550	25.5	30.30	63	159	78	121	1,28	SOGX 080308	445.27	25556
KUB-P.3D.260.R.08-PSC63	U4072600	26.0	30.30	63	159	78	121	1,28	SOGX 080308	445.27	26056
KUB-P.3D.265.R.09-PSC50	U4062650	26.5	24.25	50	151	81	121	2,25	SOGX 09T308	498.27	26555
KUB-P.3D.270.R.09-PSC50	U4062700	27.0	24.25	50	151	81	121	2,25	SOGX 09T308	498.27	27055
KUB-P.3D.275.R.09-PSC50	U4062750	27.5	24.25	50	154	84	124	2,25	SOGX 09T308	498.27	27555

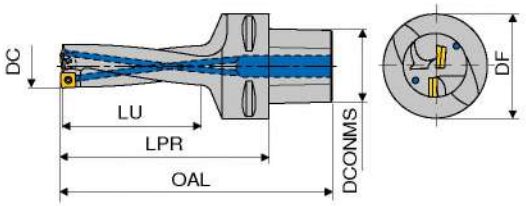
Continued on next page

KUB Pentron

Scope of supply:
Indexable Insert Drill incl. clamping screws

≤ 3xD

PSC



Designation	KOMET no.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW 2B Article no. 10 873 ... £	
KUB-P.3D.280.R.09-PSC50	U4062800	28.0	24.25	50	154	84	124	2,25	SOGX 09T308	498.27	28055
KUB-P.3D.285.R.09-PSC50	U4062850	28.5	24.25	50	158	87	128	2,25	SOGX 09T308	498.27	28555
KUB-P.3D.290.R.09-PSC50	U4062900	29.0	24.25	50	158	87	128	2,25	SOGX 09T308	498.27	29055
KUB-P.3D.295.R.09-PSC50	U4062950	29.5	24.25	50	161	90	131	2,25	SOGX 09T308	498.27	29555
KUB-P.3D.300.R.09-PSC50	U4063000	30.0	24.25	50	161	90	131	2,25	SOGX 09T308	498.27	30055
KUB-P.3D.265.R.09-PSC63	U4072650	26.5	30.30	63	163	81	125	2,25	SOGX 09T308	498.27	26556
KUB-P.3D.270.R.09-PSC63	U4072700	27.0	30.30	63	163	81	125	2,25	SOGX 09T308	498.27	27056
KUB-P.3D.275.R.09-PSC63	U4072750	27.5	30.30	63	166	84	128	2,25	SOGX 09T308	498.27	27556
KUB-P.3D.280.R.09-PSC63	U4072800	28.0	30.30	63	166	84	128	2,25	SOGX 09T308	498.27	28056
KUB-P.3D.285.R.09-PSC63	U4072850	28.5	30.30	63	170	87	132	2,25	SOGX 09T308	498.27	28556
KUB-P.3D.290.R.09-PSC63	U4072900	29.0	30.30	63	170	87	132	2,25	SOGX 09T308	498.27	29056
KUB-P.3D.295.R.09-PSC63	U4072950	29.5	30.30	63	173	90	135	2,25	SOGX 09T308	498.27	29556
KUB-P.3D.300.R.09-PSC63	U4073000	30.0	30.30	63	173	90	135	2,25	SOGX 09T308	498.27	30056

Y7

Screwdriver

Y7

Key D

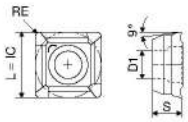
2B

Clamping screw

Spare parts DC		Article no. 80 950 ... £			Article no. 80 950 ... £			Article no. 10 950 ... £	
14 - 16	T05 - IP	7.67	057				M1,8x3,8 - 05IP	2.15	10100
16,5 - 18				T06 - IP	13.68	123	M2,0x4,3 - 06IP	2.15	10000
18,5 - 23				T06 - IP	13.68	123	M2,2x5,5 - 06IP	2.15	10700
23,5 - 26				T08 - IP	13.49	125	M2,5x6,3 - 08IP	2.15	10800
26,5 - 30				T08 - IP	13.49	125	M3,0x7,6 - 08IP	2.15	10200

SOGX

Designation	L	IC	D1	S
	mm	mm	mm	mm
SOGX 0402..	4.8	4.8	2.05	2.20
SOGX 0502..	5.5	5.5	2.30	2.40
SOGX 0602..	6.2	6.2	2.60	2.75
SOGX 07T2..	7.1	7.1	2.60	2.97
SOGX 0803..	8.0	8.0	2.85	3.40
SOGX 09T3..	8.9	8.9	3.40	3.90
SOGX 1004..	9.8	9.8	4.10	4.20
SOGX 1104..	10.9	10.9	4.10	4.50
SOGX 1204..	12.0	12.0	5.20	4.80
SOGX 1305..	13.2	13.2	5.20	5.20



3

SOGX

			-01 BK8425	-01 BK6115
				
			SOGX	SOGX
			NEW 1A	NEW 1A
ISO	KOMET no.	RE	Article no. 10 820 ...	Article no. 10 820 ...
		mm	£	£
040204	W8010010.046115	0.4		14.65 40401
040204	W8010010.048425	0.4	14.65 30401	
050204	W8012010.046115	0.4		14.75 40501
050204	W8012010.048425	0.4	14.75 30501	
060206	W8018010.066115	0.6		14.85 40601
060206	W8018010.068425	0.6	14.85 30601	
07T208	W8020010.086115	0.8		14.94 40701
07T208	W8020010.088425	0.8	14.94 30701	
080308	W8024010.086115	0.8		15.04 40801
080308	W8024010.088425	0.8	15.04 30801	
09T308	W8028010.086115	0.8		15.60 40901
09T308	W8028010.088425	0.8	15.60 30901	
100408	W8032010.086115	0.8		16.07 41001
100408	W8032010.088425	0.8	16.07 31001	
110408	W8038010.086115	0.8		16.55 41101
110408	W8038010.088425	0.8	16.55 31101	
120408	W8042010.086115	0.8		17.40 41201
120408	W8042010.088425	0.8	17.40 31201	
130508	W8046010.086115	0.8		20.24 41301
130508	W8046010.088425	0.8	20.24 31301	
Steel			●	●
Stainless steel			●	
Cast iron			●	●
Non ferrous metals				
Heat resistant alloys				
hardened materials				○

→ v_c/f_z Page 40–42

BK6115-01 is exclusively recommended for use on the peripheral cutting edge!

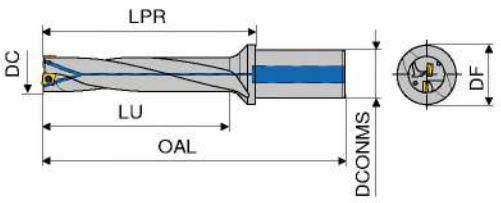
Specialised indexable inserts for machining aluminium or stainless steels (BK7935, BK7710, BK6425) can be found in our online shop at cuttingtools.ceratizit.com

MaxiDrill 900

Scope of supply:
Indexable Insert Drill including clamping screws and key

≤ 2xD

C



2B/41

Designation	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	Article no. 10 852 ... £	
MD900.2D.120.R.03-C20	12.0	20	28	90	24	40	0,4	SONT 031804	221.64	120
MD900.2D.125.R.03-C20	12.5	20	28	91	25	41	0,4	SONT 031804	221.64	125
MD900.2D.130.R.03-C20	13.0	20	28	92	26	42	0,4	SONT 031804	221.64	130
MD900.2D.135.R.03-C20	13.5	20	28	93	27	43	0,4	SONT 031804	221.64	135
MD900.2D.140.R.04-C20	14.0	20	30	96	28	46	0,7	SONT 042105	235.91	140
MD900.2D.145.R.04-C20	14.5	20	30	97	29	47	0,7	SONT 042105	235.91	145
MD900.2D.150.R.04-C20	15.0	20	30	98	30	48	0,7	SONT 042105	235.91	150
MD900.2D.155.R.04-C20	15.5	20	30	99	31	49	0,7	SONT 042105	235.91	155
MD900.2D.160.R.05-C20	16.0	20	30	100	32	50	0,7	SONT 052306	235.91	160
MD900.2D.165.R.05-C20	16.5	20	30	101	33	51	0,7	SONT 052306	235.91	165
MD900.2D.170.R.05-C20	17.0	20	30	102	34	52	0,7	SONT 052306	251.09	170
MD900.2D.175.R.05-C20	17.5	20	30	103	35	53	0,7	SONT 052306	251.09	175
MD900.2D.180.R.06-C25	18.0	25	32	111	36	55	1	SONT 062506	251.09	180
MD900.2D.185.R.06-C25	18.5	25	32	112	37	56	1	SONT 062506	251.09	185
MD900.2D.190.R.06-C25	19.0	25	32	113	38	57	1	SONT 062506	269.82	190
MD900.2D.195.R.06-C25	19.5	25	32	114	39	58	1	SONT 062506	269.82	195
MD900.2D.200.R.06-C25	20.0	25	32	115	40	59	1	SONT 062506	269.82	200
MD900.2D.205.R.06-C25	20.5	25	32	116	41	60	1	SONT 062506	269.82	205
MD900.2D.210.R.07-C25	21.0	25	32	118	42	62	1	SONT 072907	269.82	210
MD900.2D.220.R.07-C25	22.0	25	32	120	44	64	1	SONT 072907	269.82	220
MD900.2D.230.R.07-C25	23.0	25	32	122	46	66	1	SONT 072907	278.27	230
MD900.2D.240.R.08-C32	24.0	32	40	132	48	72	1,2	SONT 083308	278.27	240
MD900.2D.250.R.08-C32	25.0	32	40	134	50	74	1,2	SONT 083308	278.27	250
MD900.2D.260.R.08-C32	26.0	32	40	136	52	76	1,2	SONT 083308	308.09	260
MD900.2D.270.R.08-C32	27.0	32	40	138	54	78	1,2	SONT 083308	308.09	270
MD900.2D.280.R.09-C32	28.0	32	40	140	56	80	2,2	SONT 093808	308.09	280
MD900.2D.290.R.09-C32	29.0	32	40	142	58	82	2,2	SONT 093808	308.09	290
MD900.2D.300.R.09-C32	30.0	32	40	144	60	84	2,2	SONT 093808	308.09	300
MD900.2D.310.R.09-C32	31.0	32	40	146	62	86	2,2	SONT 093808	334.18	310
MD900.2D.320.R.09-C32	32.0	32	40	148	64	88	2,2	SONT 093808	334.18	320
MD900.2D.330.R.10-C40	33.0	40	50	163	66	93	3,2	SONT 104408	334.18	330
MD900.2D.340.R.10-C40	34.0	40	50	165	68	95	3,2	SONT 104408	334.18	340
MD900.2D.350.R.10-C40	35.0	40	50	167	70	97	3,2	SONT 104408	341.73	350
MD900.2D.360.R.10-C40	36.0	40	50	169	72	99	3,2	SONT 104408	341.73	360
MD900.2D.370.R.12-C40	37.0	40	56	174	74	104	3,2	SONT 124810	352.82	370
MD900.2D.380.R.12-C40	38.0	40	56	176	76	106	3,2	SONT 124810	352.82	380
MD900.2D.390.R.12-C40	39.0	40	56	178	78	108	3,2	SONT 124810	352.82	390
MD900.2D.400.R.12-C40	40.0	40	56	180	80	110	3,2	SONT 124810	352.82	400
MD900.2D.410.R.12-C40	41.0	40	56	182	82	112	3,2	SONT 124810	352.82	410

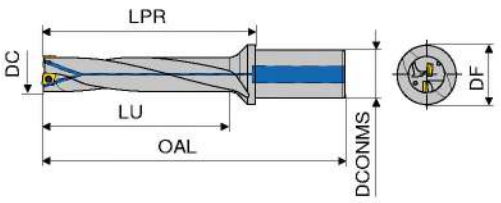
Continued on next page

MaxiDrill 900

Scope of supply:
Indexable Insert Drill including clamping screws and key

≤ 2xD

C



Designation	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	2B/41 Article no. 10 852 ... £	
MD900.2D.420.R.13-C40	42.0	40	60	187	84	117	5	SONT 135012	370.64	420
MD900.2D.430.R.13-C40	43.0	40	60	189	86	119	5	SONT 135012	370.64	430
MD900.2D.440.R.13-C40	44.0	40	60	191	88	121	5	SONT 135012	370.64	440
MD900.2D.450.R.13-C40	45.0	40	60	193	90	123	5	SONT 135012	370.64	450
MD900.2D.460.R.13-C40	46.0	40	60	195	92	125	5	SONT 135012	370.64	460
MD900.2D.470.R.15-C40	47.0	40	60	198	94	128	5	SONT 155312	389.36	470
MD900.2D.480.R.15-C40	48.0	40	60	200	96	130	5	SONT 155312	389.36	480
MD900.2D.490.R.15-C40	49.0	40	60	202	98	132	5	SONT 155312	420.09	490
MD900.2D.500.R.15-C40	50.0	40	60	204	100	134	5	SONT 155312	420.09	500
MD900.2D.520.R.15-C40	51.0	40	60	206	102	136	5	SONT 155312	431.36	510
MD900.2D.510.R.15-C40	52.0	40	60	208	104	138	5	SONT 155312	431.36	520
MD900.2D.530.R.15-C40	53.0	40	60	210	106	140	5	SONT 155312	431.36	530
MD900.2D.540.R.15-C40	54.0	40	60	212	108	142	5	SONT 155312	431.36	540
MD900.2D.550.R.17-C40	55.0	40	60	215	110	145	5	SONT 175612	431.36	550
MD900.2D.560.R.17-C40	56.0	40	60	217	112	147	5	SONT 175612	447.18	560
MD900.2D.570.R.17-C40	57.0	40	60	219	114	149	5	SONT 175612	447.18	570
MD900.2D.580.R.17-C40	58.0	40	60	221	116	151	5	SONT 175612	447.18	580
MD900.2D.590.R.17-C40	59.0	40	60	223	118	153	5	SONT 175612	447.18	590
MD900.2D.600.R.17-C40	60.0	40	62	225	120	155	5	SONT 175612	447.18	600
MD900.2D.610.R.17-C40	61.0	40	62	227	122	157	5	SONT 175612	447.18	610
MD900.2D.620.R.17-C40	62.0	40	64	229	124	159	5	SONT 175612	447.18	620
MD900.2D.630.R.17-C40	63.0	40	64	231	126	161	5	SONT 175612	447.18	630

Y7

Key D

2A/28

Clamping screw

Spare parts DC		Article no. 80 950 ... £			Article no. 70 950 ... £	
12 - 13,5	T06 - IP	13.68	123	M1,8x3,6 - IP	3.35	862
14 - 17,5	T06 - IP	13.68	123	M2x4,3 - IP	2.98	863
18 - 23	T07 - IP	13.49	124	M2,2x5 - IP	2.89	856
24 - 27	T08 - IP	13.49	125	M2,5x6 - IP	3.72	857
28 - 32	T09 - IP	14.77	126	M3x7 - IP	2.85	819
33 - 41	T15 - IP	15.77	128	M3,5x8,6 - IP	2.85	859
42 - 63	T20 - IP	16.56	129	M4,5x10,5 - IP	2.85	864

Suitable adapters can be found in → **Chapter 16 Adapters.**

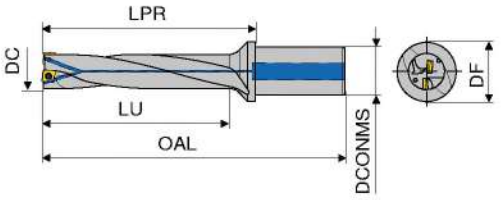
MaxiDrill 900

Scope of supply:

Indexable Insert Drill including clamping screws and key

≤ 3xD

C



2B/41

Designation	DC	DCONMS	DF	OAL	LU	LPR	torque moment	Insert	Article no. 10 853 ...	
	mm	mm	mm	mm	mm	mm	Nm		£	
MD900.3D.120.R.03-C20	12.0	20	28	102	36.0	52	0,4	SONT 031804	236.09	120
MD900.3D.125.R.03-C20	12.5	20	28	104	37.5	54	0,4	SONT 031804	236.09	125
MD900.3D.130.R.03-C20	13.0	20	28	105	39.0	55	0,4	SONT 031804	236.09	130
MD900.3D.135.R.03-C20	13.5	20	28	107	40.5	57	0,4	SONT 031804	236.09	135
MD900.3D.140.R.04-C20	14.0	20	30	109	42.0	59	0,7	SONT 042105	248.64	140
MD900.3D.145.R.04-C20	14.5	20	30	111	44.0	61	0,7	SONT 042105	248.64	145
MD900.3D.150.R.04-C20	15.0	20	30	112	45.0	62	0,7	SONT 042105	248.64	150
MD900.3D.155.R.04-C20	15.5	20	30	114	47.0	64	0,7	SONT 042105	254.55	155
MD900.3D.160.R.05-C20	16.0	20	30	115	48.0	65	0,7	SONT 052306	254.55	160
MD900.3D.165.R.05-C20	16.5	20	30	117	50.0	67	0,7	SONT 052306	254.55	165
MD900.3D.170.R.05-C20	17.0	20	30	118	51.0	68	0,7	SONT 052306	264.36	170
MD900.3D.175.R.05-C20	17.5	20	30	120	53.0	70	0,7	SONT 052306	264.36	175
MD900.3D.180.R.06-C25	18.0	25	32	128	54.0	72	1	SONT 062506	264.36	180
MD900.3D.185.R.06-C25	18.5	25	32	130	56.0	74	1	SONT 062506	264.36	185
MD900.3D.190.R.06-C25	19.0	25	32	131	57.0	75	1	SONT 062506	284.00	190
MD900.3D.195.R.06-C25	19.5	25	32	133	59.0	77	1	SONT 062506	284.00	195
MD900.3D.200.R.06-C25	20.0	25	32	134	60.0	78	1	SONT 062506	284.00	200
MD900.3D.205.R.06-C25	20.5	25	32	136	62.0	80	1	SONT 062506	284.00	205
MD900.3D.210.R.07-C25	21.0	25	32	138	63.0	82	1	SONT 072907	284.00	210
MD900.3D.215.R.07-C25	21.5	25	32	140	65.0	84	1	SONT 072907	284.00	215
MD900.3D.220.R.07-C25	22.0	25	32	141	66.0	85	1	SONT 072907	284.00	220
MD900.3D.225.R.07-C25	22.5	25	32	143	68.0	87	1	SONT 072907	292.82	225
MD900.3D.230.R.07-C25	23.0	25	32	144	69.0	88	1	SONT 072907	292.82	230
MD900.3D.235.R.07-C25	23.5	25	32	146	71.0	90	1	SONT 072907	292.82	235
MD900.3D.240.R.08-C32	24.0	32	40	155	72.0	95	1,2	SONT 083308	292.82	240
MD900.3D.245.R.08-C32	24.5	32	40	157	74.0	97	1,2	SONT 083308	292.82	245
MD900.3D.250.R.08-C32	25.0	32	40	158	75.0	98	1,2	SONT 083308	292.82	250
MD900.3D.255.R.08-C32	25.5	32	40	160	77.0	100	1,2	SONT 083308	292.82	255
MD900.3D.260.R.08-C32	26.0	32	40	161	78.0	101	1,2	SONT 083308	324.27	260
MD900.3D.265.R.08-C32	26.5	32	40	163	80.0	103	1,2	SONT 083308	324.27	265
MD900.3D.270.R.08-C32	27.0	32	40	164	81.0	104	1,2	SONT 083308	324.27	270
MD900.3D.275.R.08-C32	27.5	32	40	166	83.0	106	1,2	SONT 083308	324.27	275
MD900.3D.280.R.09-C32	28.0	32	40	167	84.0	107	2,2	SONT 093808	324.27	280
MD900.3D.285.R.09-C32	28.5	32	40	169	86.0	109	2,2	SONT 093808	324.27	285
MD900.3D.290.R.09-C32	29.0	32	40	170	87.0	110	2,2	SONT 093808	324.27	290
MD900.3D.295.R.09-C32	29.5	32	40	172	89.0	112	2,2	SONT 093808	324.27	295
MD900.3D.300.R.09-C32	30.0	32	40	173	90.0	113	2,2	SONT 093808	324.27	300
MD900.3D.305.R.09-C32	30.5	32	40	175	92.0	115	2,2	SONT 093808	324.27	305
MD900.3D.310.R.09-C32	31.0	32	40	176	93.0	116	2,2	SONT 093808	351.82	310
MD900.3D.315.R.09-C32	31.5	32	40	178	95.0	118	2,2	SONT 093808	351.82	315
MD900.3D.320.R.09-C32	32.0	32	40	179	96.0	119	2,2	SONT 093808	351.82	320
MD900.3D.325.R.10-C40	32.5	40	50	192	98.0	124	3,2	SONT 104408	351.82	325
MD900.3D.330.R.10-C40	33.0	40	50	193	99.0	125	3,2	SONT 104408	351.82	330
MD900.3D.335.R.10-C40	33.5	40	50	195	101.0	127	3,2	SONT 104408	351.82	335
MD900.3D.340.R.10-C40	34.0	40	50	196	102.0	128	3,2	SONT 104408	351.82	340
MD900.3D.345.R.10-C40	34.5	40	50	198	104.0	130	3,2	SONT 104408	351.82	345
MD900.3D.350.R.10-C40	35.0	40	50	199	105.0	131	3,2	SONT 104408	359.64	350

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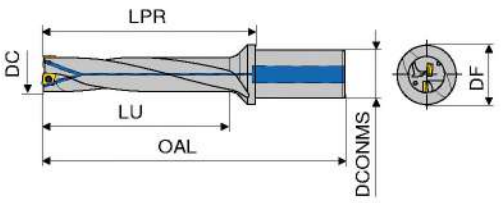
MaxiDrill 900

Scope of supply:
Indexable Insert Drill including clamping screws and key

≤ 3xD

C



Designation	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	2B/41 Article no. 10 853 ... £	
MD900.3D.355.R.10-C40	35.5	40	50	201	107.0	133	3,2	SONT 104408	359.64	355
MD900.3D.360.R.10-C40	36.0	40	50	202	108.0	134	3,2	SONT 104408	359.64	360
MD900.3D.365.R.10-C40	36.5	40	50	204	110.0	136	3,2	SONT 104408	359.64	365
MD900.3D.370.R.12-C40	37.0	40	56	211	111.0	141	3,2	SONT 124810	371.45	370
MD900.3D.380.R.12-C40	38.0	40	56	214	114.0	144	3,2	SONT 124810	371.45	380
MD900.3D.390.R.12-C40	39.0	40	56	217	117.0	147	3,2	SONT 124810	371.45	390
MD900.3D.400.R.12-C40	40.0	40	56	220	120.0	150	3,2	SONT 124810	371.45	400
MD900.3D.410.R.12-C40	41.0	40	56	223	123.0	153	3,2	SONT 124810	371.45	410
MD900.3D.420.R.13-C40	42.0	40	60	229	126.0	159	5	SONT 135012	390.09	420
MD900.3D.430.R.13-C40	43.0	40	60	232	129.0	162	5	SONT 135012	390.09	430
MD900.3D.440.R.13-C40	44.0	40	60	235	132.0	165	5	SONT 135012	390.09	440
MD900.3D.450.R.13-C40	45.0	40	60	238	135.0	168	5	SONT 135012	390.09	450
MD900.3D.460.R.13-C40	46.0	40	60	241	138.0	171	5	SONT 135012	390.09	460
MD900.3D.470.R.15-C40	47.0	40	60	245	141.0	175	5	SONT 155312	409.73	470
MD900.3D.480.R.15-C40	48.0	40	60	248	144.0	178	5	SONT 155312	409.73	480
MD900.3D.490.R.15-C40	49.0	40	60	251	147.0	181	5	SONT 155312	442.18	490
MD900.3D.500.R.15-C40	50.0	40	60	254	150.0	184	5	SONT 155312	442.18	500
MD900.3D.510.R.15-C40	51.0	40	60	257	153.0	187	5	SONT 155312	454.00	510
MD900.3D.520.R.15-C40	52.0	40	60	260	156.0	190	5	SONT 155312	454.00	520
MD900.3D.530.R.15-C40	53.0	40	60	263	159.0	193	5	SONT 155312	454.00	530
MD900.3D.540.R.15-C40	54.0	40	60	266	162.0	196	5	SONT 155312	454.00	540
MD900.3D.550.R.17-C40	55.0	40	60	270	165.0	200	5	SONT 175612	454.00	550
MD900.3D.560.R.17-C40	56.0	40	60	273	168.0	203	5	SONT 175612	470.73	560
MD900.3D.570.R.17-C40	57.0	40	60	276	171.0	206	5	SONT 175612	470.73	570
MD900.3D.580.R.17-C40	58.0	40	60	279	174.0	209	5	SONT 175612	470.73	580
MD900.3D.590.R.17-C40	59.0	40	60	282	177.0	212	5	SONT 175612	470.73	590
MD900.3D.600.R.17-C40	60.0	40	62	285	180.0	215	5	SONT 175612	470.73	600
MD900.3D.610.R.17-C40	61.0	40	62	288	183.0	218	5	SONT 175612	470.73	610
MD900.3D.620.R.17-C40	62.0	40	64	291	186.0	221	5	SONT 175612	470.73	620
MD900.3D.630.R.17-C40	63.0	40	64	294	189.0	224	5	SONT 175612	470.73	630

Y7

Key D

2A/28

Clamping screw

Spare parts DC		Article no. 80 950 ... £		Article no. 70 950 ... £	
12 - 13,5	T06 - IP	13.68	123	M1,8x3,6 - IP	3.35	862
14 - 17,5	T06 - IP	13.68	123	M2x4,3 - IP	2.98	863
18 - 23,5	T07 - IP	13.49	124	M2,2x5 - IP	2.89	856
24 - 27,5	T08 - IP	13.49	125	M2,5x6 - IP	3.72	857
28 - 32	T09 - IP	14.77	126	M3x7 - IP	2.85	819
32,5 - 41	T15 - IP	15.77	128	M3,5x8,6 - IP	2.85	859
42 - 63	T20 - IP	16.56	129	M4,5x10,5 - IP	2.85	864

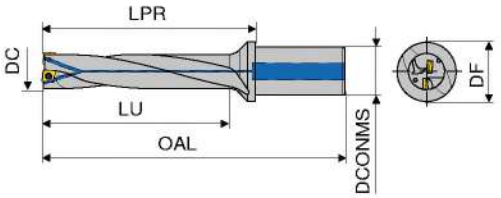
Suitable adapters can be found in → **Chapter 16 Adapters.**

MaxiDrill 900

Scope of supply:
Indexable Insert Drill including clamping screws and key

≤ 4xD

C



2B/41

Designation	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	Article no. 10 854 ... £	
MD900.4D.120.R.03-C20	12.0	20	28	114	48	64	0,4	SONT 031804	325.64	120
MD900.4D.125.R.03-C20	12.5	20	28	116	50	66	0,4	SONT 031804	325.64	125
MD900.4D.130.R.03-C20	13.0	20	28	118	52	68	0,4	SONT 031804	325.64	130
MD900.4D.135.R.03-C20	13.5	20	28	120	54	70	0,4	SONT 031804	325.64	135
MD900.4D.140.R.04-C20	14.0	20	30	123	56	73	0,7	SONT 042105	335.09	140
MD900.4D.145.R.04-C20	14.5	20	30	125	58	75	0,7	SONT 042105	335.09	145
MD900.4D.150.R.04-C20	15.0	20	30	127	60	77	0,7	SONT 042105	335.09	150
MD900.4D.155.R.04-C20	15.5	20	30	129	62	79	0,7	SONT 042105	335.09	155
MD900.4D.160.R.05-C20	16.0	20	30	131	64	81	0,7	SONT 052306	342.91	160
MD900.4D.165.R.05-C20	16.5	20	30	133	66	83	0,7	SONT 052306	342.91	165
MD900.4D.170.R.05-C20	17.0	20	30	135	68	85	0,7	SONT 052306	355.82	170
MD900.4D.175.R.05-C20	17.5	20	30	137	70	87	0,7	SONT 052306	355.82	175
MD900.4D.180.R.06-C25	18.0	25	32	146	72	90	1	SONT 062506	355.82	180
MD900.4D.185.R.06-C25	18.5	25	32	148	74	92	1	SONT 062506	355.82	185
MD900.4D.190.R.06-C25	19.0	25	32	150	76	94	1	SONT 062506	382.27	190
MD900.4D.195.R.06-C25	19.5	25	32	152	78	96	1	SONT 062506	382.27	195
MD900.4D.200.R.06-C25	20.0	25	32	154	80	98	1	SONT 062506	382.27	200
MD900.4D.205.R.06-C25	20.5	25	32	156	82	100	1	SONT 062506	382.27	205
MD900.4D.210.R.07-C25	21.0	25	32	159	84	103	1	SONT 072907	382.27	210
MD900.4D.220.R.07-C25	22.0	25	32	163	88	107	1	SONT 072907	382.27	220
MD900.4D.230.R.07-C25	23.0	25	32	167	92	111	1	SONT 072907	395.00	230
MD900.4D.240.R.08-C32	24.0	32	40	179	96	119	1,2	SONT 083308	395.00	240
MD900.4D.250.R.08-C32	25.0	32	40	183	100	123	1,2	SONT 083308	395.00	250
MD900.4D.260.R.08-C32	26.0	32	40	187	104	127	1,2	SONT 083308	436.36	260
MD900.4D.270.R.08-C32	27.0	32	40	191	108	131	1,2	SONT 083308	436.36	270
MD900.4D.280.R.09-C32	28.0	32	40	195	112	135	2,2	SONT 093808	436.36	280
MD900.4D.290.R.09-C32	29.0	32	40	199	116	139	2,2	SONT 093808	436.36	290
MD900.4D.300.R.09-C32	30.0	32	40	203	120	143	2,2	SONT 093808	436.36	300
MD900.4D.310.R.09-C32	31.0	32	40	207	124	147	2,2	SONT 093808	473.64	310
MD900.4D.320.R.09-C32	32.0	32	40	211	128	151	2,2	SONT 093808	473.64	320
MD900.4D.330.R.10-C40	33.0	40	50	228	132	158	3,2	SONT 104408	473.64	330
MD900.4D.340.R.10-C40	34.0	40	50	232	136	162	3,2	SONT 104408	473.64	340
MD900.4D.350.R.10-C40	35.0	40	50	236	140	166	3,2	SONT 104408	483.55	350
MD900.4D.360.R.10-C40	36.0	40	50	240	144	170	3,2	SONT 104408	483.55	360
MD900.4D.370.R.12-C40	37.0	40	56	248	148	178	3,2	SONT 124810	500.18	370
MD900.4D.380.R.12-C40	38.0	40	56	252	152	182	3,2	SONT 124810	500.18	380
MD900.4D.390.R.12-C40	39.0	40	56	256	156	186	3,2	SONT 124810	500.18	390
MD900.4D.400.R.12-C40	40.0	40	56	260	160	190	3,2	SONT 124810	500.18	400
MD900.4D.410.R.12-C40	41.0	40	56	264	164	194	3,2	SONT 124810	500.18	410

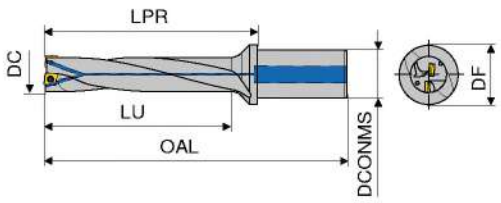
Continued on next page

MaxiDrill 900

Scope of supply:
Indexable Insert Drill including clamping screws and key

≤ 4xD

C



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Designation	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	2B/41 Article no. 10 854 ... £	
MD900.4D.420.R.13-C40	42.0	40	60	271	168	201	5	SONT 135012	524.73	420
MD900.4D.430.R.13-C40	43.0	40	60	275	172	205	5	SONT 135012	524.73	430
MD900.4D.440.R.13-C40	44.0	40	60	279	176	209	5	SONT 135012	524.73	440
MD900.4D.450.R.13-C40	45.0	40	60	283	180	213	5	SONT 135012	524.73	450
MD900.4D.460.R.13-C40	46.0	40	60	287	184	217	5	SONT 135012	524.73	460
MD900.4D.470.R.15-C40	47.0	40	60	292	188	222	5	SONT 155312	553.27	470
MD900.4D.480.R.15-C40	48.0	40	60	296	192	226	5	SONT 155312	553.27	480
MD900.4D.490.R.15-C40	49.0	40	60	300	196	230	5	SONT 155312	553.27	490
MD900.4D.500.R.15-C40	50.0	40	60	304	200	234	5	SONT 155312	553.27	500
MD900.4D.510.R.15-C40	51.0	40	60	308	204	238	5	SONT 155312	553.27	510
MD900.4D.520.R.15-C40	52.0	40	60	312	208	242	5	SONT 155312	553.27	520
MD900.4D.530.R.15-C40	53.0	40	60	316	212	246	5	SONT 155312	553.27	530
MD900.4D.540.R.15-C40	54.0	40	60	320	216	250	5	SONT 155312	553.27	540

Y7

Key D

2A/28

Clamping screw

Spare parts DC		Article no. 80 950 ... £			Article no. 70 950 ... £	
12 - 13	T06 - IP	13.68	123	M1,8x3,6 - IP	3.35	862
14 - 17	T06 - IP	13.68	123	M2x4,3 - IP	2.98	863
18 - 23	T07 - IP	13.49	124	M2,2x5 - IP	2.89	856
24 - 27	T08 - IP	13.49	125	M2,5x6 - IP	3.72	857
28 - 32	T09 - IP	14.77	126	M3x7 - IP	2.85	819
33 - 41	T15 - IP	15.77	128	M3,5x8,6 - IP	2.85	859
42 - 54	T20 - IP	16.56	129	M4,5x10,5 - IP	2.85	864

Suitable adapters can be found in → **Chapter 16 Adapters.**

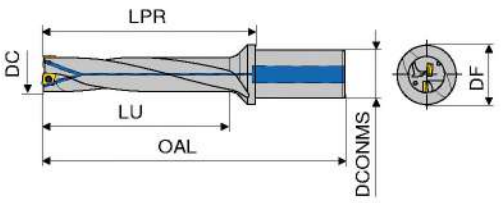
MaxiDrill 900

Scope of supply:

Indexable Insert Drill including clamping screws and key

≤ 5xD

C



Designation	DC	DCONMS	DF	OAL	LU	LPR	torque moment	Insert	2B/41 Article no. 10 855 ...	
	mm	mm	mm	mm	mm	mm	Nm		£	
MD900.5D.120.R.03-C20	12.0	20	28	126	60.0	76.0	0,4	SONT 031804	389.27	120
MD900.5D.125.R.03-C20	12.5	20	28	128	62.5	78.0	0,4	SONT 031804	389.27	125
MD900.5D.130.R.03-C20	13.0	20	28	131	65.0	81.0	0,4	SONT 031804	389.27	130
MD900.5D.135.R.03-C20	13.5	20	28	132	67.5	82.0	0,4	SONT 031804	389.27	135
MD900.5D.140.R.04-C20	14.0	20	30	137	70.0	87.0	0,7	SONT 042105	398.00	140
MD900.5D.145.R.04-C20	14.5	20	30	139	72.5	89.0	0,7	SONT 042105	398.00	145
MD900.5D.150.R.04-C20	15.0	20	30	142	75.0	92.0	0,7	SONT 042105	398.00	150
MD900.5D.155.R.04-C20	15.5	20	30	144	77.5	94.5	0,7	SONT 042105	398.00	155
MD900.5D.160.R.05-C20	16.0	20	30	147	80.0	97.0	0,7	SONT 052306	407.82	160
MD900.5D.165.R.05-C20	16.5	20	30	149	82.5	99.0	0,7	SONT 052306	407.82	165
MD900.5D.170.R.05-C20	17.0	20	30	152	85.0	102.0	0,7	SONT 052306	422.55	170
MD900.5D.175.R.05-C20	17.5	20	30	154	87.5	104.0	0,7	SONT 052306	422.55	175
MD900.5D.180.R.06-C25	18.0	25	32	164	90.0	108.0	1	SONT 062506	422.55	180
MD900.5D.185.R.06-C25	18.5	25	32	166	92.5	110.0	1	SONT 062506	422.55	185
MD900.5D.190.R.06-C25	19.0	25	32	169	95.0	113.0	1	SONT 062506	454.00	190
MD900.5D.195.R.06-C25	19.5	25	32	171	97.5	115.0	1	SONT 062506	454.00	195
MD900.5D.200.R.06-C25	20.0	25	32	174	100.0	118.0	1	SONT 062506	454.00	200
MD900.5D.205.R.06-C25	20.5	25	32	175	102.5	119.0	1	SONT 062506	454.00	205
MD900.5D.210.R.07-C25	21.0	25	32	180	105.0	124.0	1	SONT 072907	454.00	210
MD900.5D.220.R.07-C25	22.0	25	32	184	110.0	128.0	1	SONT 072907	454.00	220
MD900.5D.230.R.07-C25	23.0	25	32	189	115.0	133.0	1	SONT 072907	470.18	230
MD900.5D.240.R.08-C32	24.0	32	40	203	120.0	143.0	1,2	SONT 083308	470.18	240
MD900.5D.250.R.08-C32	25.0	32	40	208	125.0	148.0	1,2	SONT 083308	470.18	250
MD900.5D.260.R.08-C32	26.0	32	40	212	130.0	152.0	1,2	SONT 083308	518.91	260
MD900.5D.270.R.08-C32	27.0	32	40	217	135.0	157.0	1,2	SONT 083308	518.91	270
MD900.5D.280.R.09-C32	28.0	32	40	221	140.0	161.0	2,2	SONT 093808	518.91	280
MD900.5D.290.R.09-C32	29.0	32	40	226	145.0	166.0	2,2	SONT 093808	518.91	290
MD900.5D.300.R.09-C32	30.0	32	40	230	150.0	170.0	2,2	SONT 093808	518.91	300
MD900.5D.310.R.09-C32	31.0	32	40	235	155.0	175.0	2,2	SONT 093808	562.09	310
MD900.5D.320.R.09-C32	32.0	32	40	239	160.0	179.0	2,2	SONT 093808	562.09	320
MD900.5D.330.R.10-C40	33.0	40	50	259	165.0	191.0	3,2	SONT 104408	562.09	330
MD900.5D.340.R.10-C40	34.0	40	50	264	170.0	196.0	3,2	SONT 104408	562.09	340
MD900.5D.350.R.10-C40	35.0	40	50	269	175.0	201.0	3,2	SONT 104408	574.82	350
MD900.5D.360.R.10-C40	36.0	40	50	274	180.0	206.0	3,2	SONT 104408	574.82	360
MD900.5D.370.R.12-C40	37.0	40	56	285	185.0	215.0	3,2	SONT 124810	594.55	370
MD900.5D.380.R.12-C40	38.0	40	56	290	190.0	220.0	3,2	SONT 124810	594.55	380
MD900.5D.390.R.12-C40	39.0	40	56	295	195.0	225.0	3,2	SONT 124810	594.55	390
MD900.5D.400.R.12-C40	40.0	40	56	300	200.0	230.0	3,2	SONT 124810	594.55	400
MD900.5D.410.R.12-C40	41.0	40	56	305	205.0	235.0	3,2	SONT 124810	594.55	410

Y7

Key D

2A/28

Clamping screw

Spare parts DC		Article no. 80 950 ... £			Article no. 70 950 ... £	
12 - 13	T06 - IP	13.68	123	M1,8x3,6 - IP	3.35	862
14 - 17	T06 - IP	13.68	123	M2x4,3 - IP	2.98	863
18 - 23	T07 - IP	13.49	124	M2,2x5 - IP	2.89	856
24 - 27	T08 - IP	13.49	125	M2,5x6 - IP	3.72	857
28 - 32	T09 - IP	14.77	126	M3x7 - IP	2.85	819
33 - 41	T15 - IP	15.77	128	M3,5x8,6 - IP	2.85	859

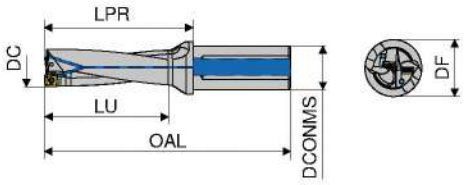
Suitable adapters can be found in → **Chapter 16 Adapters.**

KUB 100

Scope of supply:
Indexable Insert Drill incl. clamping screws

≤ 3xD

C



Designation	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW 2B Article no. 10 881 ... £	
KUB-100.3D.140.R.04-C20	14.0	20	30	105	42	55	0,7	SONT 042105	328.09	99140
KUB-100.3D.150.R.04-C20	15.0	20	30	109	45	59	0,7	SONT 042105	328.09	99150
KUB-100.3D.160.R.05-C20	16.0	20	30	114	48	64	0,7	SONT 052306	328.09	99160
KUB-100.3D.165.R.05-C20	16.5	20	30	118	51	68	0,7	SONT 052306	328.09	99165
KUB-100.3D.170.R.05-C20	17.0	20	30	118	51	68	0,7	SONT 052306	336.55	99170
KUB-100.3D.175.R.05-C25	17.5	25	30	127	54	71	0,7	SONT 052306	336.55	99175
KUB-100.3D.180.R.06-C25	18.0	25	30	127	54	71	1	SONT 062506	336.55	99180
KUB-100.3D.185.R.06-C25	18.5	25	30	131	57	75	1	SONT 062506	336.55	99185
KUB-100.3D.190.R.06-C25	19.0	25	30	131	57	75	1	SONT 062506	346.00	99190
KUB-100.3D.195.R.06-C25	19.5	25	30	134	60	78	1	SONT 062506	346.00	99195
KUB-100.3D.200.R.06-C25	20.0	25	30	134	60	78	1	SONT 062506	346.00	99200
KUB-100.3D.210.R.07-C25	21.0	25	30	138	63	82	1	SONT 072907	368.73	99210
KUB-100.3D.220.R.07-C25	22.0	25	30	141	66	85	1	SONT 072907	368.73	99220
KUB-100.3D.230.R.07-C25	23.0	25	30	145	69	89	1	SONT 072907	368.73	99230
KUB-100.3D.240.R.08-C32	24.0	32	39	152	72	92	1,2	SONT 083308	399.91	99240
KUB-100.3D.250.R.08-C32	25.0	32	39	156	75	96	1,2	SONT 083308	399.91	99250
KUB-100.3D.260.R.08-C32	26.0	32	39	159	78	99	1,2	SONT 083308	399.91	99260
KUB-100.3D.270.R.08-C32	27.0	32	39	163	81	103	1,2	SONT 083308	420.73	99270


Key D

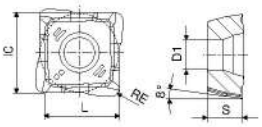

Clamping screw

Spare parts DC	Y7 Article no. 80 950 ...	£		2A/28 Article no. 70 950 ...	£	
14 - 17,5	T06 - IP	13.68	123	M2x4,3 - IP	2.98	863
18 - 23	T07 - IP	13.49	124	M2,2x5 - IP	2.89	856
24 - 27	T08 - IP	13.49	125	M2,5x6 - IP	3.72	857

Suitable adapters can be found in → **Chapter 16 Adapters.**

SONT

Designation	IC	D1	L	S
	mm	mm	mm	mm
SONT 0318..	5.4	2.10	3.8	1.80
SONT 0421..	4.6	2.25	4.2	2.10
SONT 0523..	5.3	2.25	4.8	2.30
SONT 0625..	5.9	2.50	5.5	2.50
SONT 0729..	6.5	2.50	6.1	2.90
SONT 0833..	7.7	2.90	7.3	3.30
SONT 0938..	8.9	3.50	8.5	3.80
SONT 1044..	10.1	4.10	9.6	4.40
SONT 1248..	11.6	4.10	11.0	4.80
SONT 1350..	13.0	5.30	12.2	5.00
SONT 1553..	15.2	5.30	14.4	5.30
SONT 1756..	17.5	5.30	16.7	5.60



SONT

		-M30 CTPP430	-M30 CTPP430	-M30 CTCP420	-M30 CTCP420
		-M30 CCN1430	-M30 CCN1430	-M30 DCX1420	-M30 DCX1420
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
					
		SONT 1A/08	SONT 1A/08	SONT 1A/08	SONT 1A/08
ISO	RE	Article no. 10 830 ...	Article no. 10 830 ...	Article no. 10 830 ...	Article no. 10 830 ...
	mm	£	£	£	£
031804	0.4	11.01 103 [1]		11.01 703 [1]	
042105	0.5		12.62 104		12.62 704
052306	0.6		12.79 105		12.79 705
062506	0.6		13.00 106		13.00 706
072907	0.7		13.29 107		13.29 707
083308	0.8		13.58 108		13.58 708
093808	0.8		13.91 109		13.91 709
104408	0.8		14.57 110		14.57 710
124810	1.0		15.44 112		15.44 712
135012	1.2		16.35 113		16.35 713
155312	1.2		18.54 115		18.54 715
175612	1.2		19.65 117		19.65 717
Steel		●	●	●	●
Stainless steel		●	●	○	○
Cast iron		○	○	●	●
Non ferrous metals		○	○		
Heat resistant alloys		○	○		
hardened materials					

1) two usable cutting edges

→ v_c/f_z Page 43–46

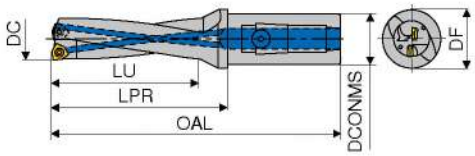
CTCP420 -M30 (DCX1420) is exclusively recommended for use on the peripheral cutting edge!

KUB Trigon

Scope of supply:
Indexable Insert Drill incl. clamping screws

≤ 2xD

K



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Designation	KOMET no.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW 2B Article no. 10 892 ... £	
KUB-T.2D.140.R.03-K20	V4331404	14	20	30	102	28	52	0,62	WOEX 030204	275.09	14011
KUB-T.2D.150.R.03-K20	V4331504	15	20	30	104	30	54	0,62	WOEX 030204	275.09	15011
KUB-T.2D.160.R.03-K20	V4331602	16	20	30	106	32	56	0,62	WOEX 030204	275.09	16011
KUB-T.2D.170.R.03-K20	V4331702	17	20	30	108	34	58	0,62	WOEX 030204	275.09	17011
KUB-T.2D.180.R.03-K20	V4331802	18	20	30	110	36	60	0,62	WOEX 030204	275.09	18011
KUB-T.2D.190.R.03-K20	V4331902	19	20	30	112	38	62	0,62	WOEX 030204	275.09	19011
KUB-T.2D.200.R.04-K25	V4432002	20	25	30	120	40	64	1,01	WOEX 040304	278.00	20012
KUB-T.2D.210.R.04-K25	V4432102	21	25	30	122	42	66	1,01	WOEX 040304	278.00	21012
KUB-T.2D.220.R.04-K25	V4432202	22	25	30	124	44	68	1,01	WOEX 040304	278.00	22012
KUB-T.2D.230.R.04-K25	V4432302	23	25	30	126	46	70	1,01	WOEX 040304	278.00	23012
KUB-T.2D.240.R.04-K25	V4432402	24	25	30	128	48	72	1,01	WOEX 040304	278.00	24012
KUB-T.2D.250.R.05-K32	V4532502	25	32	39	134	50	74	1,28	WOEX 05T304	301.64	25013
KUB-T.2D.260.R.05-K32	V4532602	26	32	39	136	52	76	1,28	WOEX 05T304	301.64	26013
KUB-T.2D.270.R.05-K32	V4532702	27	32	39	138	54	78	1,28	WOEX 05T304	301.64	27013
KUB-T.2D.280.R.05-K32	V4532802	28	32	39	140	56	80	1,28	WOEX 05T304	301.64	28013
KUB-T.2D.290.R.05-K32	V4532902	29	32	39	142	58	82	1,28	WOEX 05T304	301.64	29013
KUB-T.2D.300.R.05-K32	V4533002	30	32	39	149	60	89	1,28	WOEX 05T304	301.64	30013
KUB-T.2D.310.R.05-K32	V4533102	31	32	39	151	62	91	1,28	WOEX 05T304	301.64	31013
KUB-T.2D.320.R.05-K32	V4533202	32	32	39	153	64	93	1,28	WOEX 05T304	301.64	32013
KUB-T.2D.330.R.05-K32	V4533302	33	32	39	155	66	95	1,28	WOEX 05T304	301.64	33013
KUB-T.2D.340.R.05-K32	V4533402	34	32	39	157	68	97	1,28	WOEX 05T304	301.64	34013
KUB-T.2D.350.R.05-K32	V4533502	35	32	39	159	70	99	1,28	WOEX 05T304	301.64	35013
KUB-T.2D.360.R.05-K32	V4533602	36	32	39	161	72	101	1,28	WOEX 05T304	301.64	36013
KUB-T.2D.370.R.06-K32	V4533702	37	32	39	173	74	113	2,8	WOEX 06T304	314.82	37013
KUB-T.2D.380.R.06-K32	V4533802	38	32	39	175	76	115	2,8	WOEX 06T304	314.82	38013
KUB-T.2D.390.R.06-K32	V4533902	39	32	39	177	78	117	2,8	WOEX 06T304	314.82	39013
KUB-T.2D.400.R.06-K32	V4534002	40	32	39	179	80	119	2,8	WOEX 06T304	314.82	40013
KUB-T.2D.410.R.06-K32	V4534102	41	32	39	181	82	121	2,8	WOEX 06T304	314.82	41013
KUB-T.2D.420.R.06-K32	V4534202	42	32	39	183	84	123	2,8	WOEX 06T304	314.82	42013
KUB-T.2D.430.R.06-K32	V4534302	43	32	39	185	86	125	2,8	WOEX 06T304	314.82	43013
KUB-T.2D.440.R.06-K32	V4534402	44	32	39	187	88	127	2,8	WOEX 06T304	314.82	44013

Spare parts DC	Y7 Key D Article no. 80 950 ...	£		2B Clamping screw Article no. 10 950 ...	£	
14 - 19	T06 - IP	13.68	123	M2,0x4,3 - 06IP	2.15	10000
20 - 24	T06 - IP	13.68	123	M2,2x5,5 - 06IP	2.15	10700
25 - 36	T08 - IP	13.49	125	M2,5x7,2 - 10IP	2.15	10500
37 - 44	T10 - IP	15.31	127	M3,5x7,3 - 10IP	2.15	10600

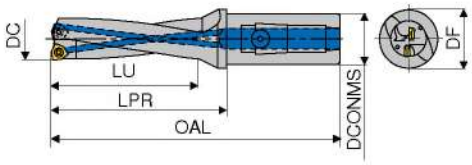
Suitable adapters can be found in → **Chapter 16 Adapters.**

KUB Trigon

Scope of supply:
Indexable Insert Drill incl. clamping screws

≤ 3xD

K



Designation	KOMET no.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW 2B Article no. 10 893 ... £	
KUB-T.3D.140.R.03-K20	V4371404	14	20	30	116	42	66	0,62	WOEX 030204	288.36	14011
KUB-T.3D.150.R.03-K20	V4371504	15	20	30	119	45	69	0,62	WOEX 030204	288.36	15011
KUB-T.3D.160.R.03-K20	V4371602	16	20	30	122	48	72	0,62	WOEX 030204	288.36	16011
KUB-T.3D.170.R.03-K20	V4371702	17	20	30	125	51	75	0,62	WOEX 030204	288.36	17011
KUB-T.3D.180.R.03-K20	V4371802	18	20	30	128	54	78	0,62	WOEX 030204	288.36	18011
KUB-T.3D.190.R.03-K20	V4371902	19	20	30	131	57	81	0,62	WOEX 030204	288.36	19011
KUB-T.3D.200.R.04-K25	V4472002	20	25	30	140	60	84	1,01	WOEX 040304	309.18	20012
KUB-T.3D.210.R.04-K25	V4472102	21	25	30	143	63	87	1,01	WOEX 040304	309.18	21012
KUB-T.3D.220.R.04-K25	V4472202	22	25	30	146	66	90	1,01	WOEX 040304	309.18	22012
KUB-T.3D.230.R.04-K25	V4472302	23	25	30	149	69	93	1,01	WOEX 040304	309.18	23012
KUB-T.3D.240.R.04-K25	V4472402	24	25	30	152	72	96	1,01	WOEX 040304	309.18	24012
KUB-T.3D.250.R.05-K32	V4572502	25	32	39	159	75	99	1,28	WOEX 05T304	336.55	25013
KUB-T.3D.260.R.05-K32	V4572602	26	32	39	162	78	102	1,28	WOEX 05T304	336.55	26013
KUB-T.3D.270.R.05-K32	V4572702	27	32	39	165	81	105	1,28	WOEX 05T304	336.55	27013
KUB-T.3D.280.R.05-K32	V4572802	28	32	39	168	84	108	1,28	WOEX 05T304	336.55	28013
KUB-T.3D.290.R.05-K32	V4572902	29	32	39	171	87	111	1,28	WOEX 05T304	336.55	29013
KUB-T.3D.300.R.05-K32	V4573002	30	32	39	179	90	119	1,28	WOEX 05T304	336.55	30013
KUB-T.3D.310.R.05-K32	V4573102	31	32	39	182	93	122	1,28	WOEX 05T304	336.55	31013
KUB-T.3D.320.R.05-K32	V4573202	32	32	39	185	96	125	1,28	WOEX 05T304	336.55	32013
KUB-T.3D.330.R.05-K32	V4573302	33	32	39	188	99	128	1,28	WOEX 05T304	336.55	33013
KUB-T.3D.340.R.05-K32	V4573402	34	32	39	191	102	131	1,28	WOEX 05T304	336.55	34013
KUB-T.3D.350.R.05-K32	V4573502	35	32	39	194	105	134	1,28	WOEX 05T304	336.55	35013
KUB-T.3D.360.R.05-K32	V4573602	36	32	39	197	108	137	1,28	WOEX 05T304	336.55	36013
KUB-T.3D.370.R.06-K32	V4573702	37	32	39	210	111	150	2,8	WOEX 06T304	364.91	37013
KUB-T.3D.380.R.06-K32	V4573802	38	32	39	213	114	153	2,8	WOEX 06T304	364.91	38013
KUB-T.3D.390.R.06-K32	V4573902	39	32	39	216	117	156	2,8	WOEX 06T304	364.91	39013
KUB-T.3D.400.R.06-K32	V4574002	40	32	39	219	120	159	2,8	WOEX 06T304	364.91	40013
KUB-T.3D.410.R.06-K32	V4574102	41	32	39	222	123	162	2,8	WOEX 06T304	364.91	41013
KUB-T.3D.420.R.06-K32	V4574202	42	32	39	225	126	165	2,8	WOEX 06T304	364.91	42013
KUB-T.3D.430.R.06-K32	V4574302	43	32	39	228	129	168	2,8	WOEX 06T304	364.91	43013
KUB-T.3D.440.R.06-K32	V4574402	44	32	39	231	132	171	2,8	WOEX 06T304	364.91	44013

Key D

Clamping screw

Spare parts DC	Y7 Article no. 80 950 ...	£		2B Article no. 10 950 ...	£	
14 - 19	T06 - IP	13.68	123	M2,0x4,3 - 06IP	2.15	10000
20 - 24	T06 - IP	13.68	123	M2,2x5,5 - 06IP	2.15	10700
25 - 36	T08 - IP	13.49	125	M2,5x7,2 - 10IP	2.15	10500
37 - 44	T10 - IP	15.31	127	M3,5x7,3 - 10IP	2.15	10600

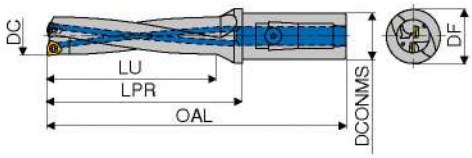
Suitable adapters can be found in → **Chapter 16 Adapters.**

KUB Trigon

Scope of supply:
Indexable Insert Drill incl. clamping screws

≤ 4xD

K



Designation	KOMET no.	DC mm	DCONMS mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW 2B Article no. 10 894 ... £	
KUB-T.4D.140.R.03-K20	V4391404	14	20	30	130	56	80	0,62	WOEX 030204	316.73	14011
KUB-T.4D.150.R.03-K20	V4391504	15	20	30	134	60	84	0,62	WOEX 030204	316.73	15011
KUB-T.4D.160.R.03-K20	V4391602	16	20	30	138	64	88	0,62	WOEX 030204	316.73	16011
KUB-T.4D.170.R.03-K20	V4391702	17	20	30	142	68	92	0,62	WOEX 030204	316.73	17011
KUB-T.4D.180.R.03-K20	V4391802	18	20	30	146	72	96	0,62	WOEX 030204	316.73	18011
KUB-T.4D.190.R.03-K20	V4391902	19	20	30	150	76	100	0,62	WOEX 030204	316.73	19011
KUB-T.4D.200.R.04-K25	V4492002	20	25	30	160	80	104	1,01	WOEX 040304	340.36	20012
KUB-T.4D.210.R.04-K25	V4492102	21	25	30	164	84	108	1,01	WOEX 040304	340.36	21012
KUB-T.4D.220.R.04-K25	V4492202	22	25	30	168	88	112	1,01	WOEX 040304	340.36	22012
KUB-T.4D.230.R.04-K25	V4492302	23	25	30	172	92	116	1,01	WOEX 040304	340.36	23012
KUB-T.4D.240.R.04-K25	V4492402	24	25	30	176	96	120	1,01	WOEX 040304	340.36	24012
KUB-T.4D.250.R.05-K32	V4592502	25	32	39	184	100	124	1,28	WOEX 05T304	348.91	25013
KUB-T.4D.260.R.05-K32	V4592602	26	32	39	188	104	128	1,28	WOEX 05T304	348.91	26013
KUB-T.4D.270.R.05-K32	V4592702	27	32	39	192	108	132	1,28	WOEX 05T304	348.91	27013
KUB-T.4D.280.R.05-K32	V4592802	28	32	39	196	112	136	1,28	WOEX 05T304	348.91	28013
KUB-T.4D.290.R.05-K32	V4592902	29	32	39	200	116	140	1,28	WOEX 05T304	367.82	29013
KUB-T.4D.300.R.05-K32	V4593002	30	32	39	209	120	149	1,28	WOEX 05T304	367.82	30013
KUB-T.4D.310.R.05-K32	V4593102	31	32	39	213	124	153	1,28	WOEX 05T304	367.82	31013
KUB-T.4D.320.R.05-K32	V4593202	32	32	39	217	128	157	1,28	WOEX 05T304	367.82	32013
KUB-T.4D.330.R.05-K32	V4593302	33	32	39	221	132	161	1,28	WOEX 05T304	367.82	33013
KUB-T.4D.340.R.05-K32	V4593402	34	32	39	225	136	165	1,28	WOEX 05T304	367.82	34013
KUB-T.4D.350.R.05-K32	V4593502	35	32	39	229	140	169	1,28	WOEX 05T304	367.82	35013

Key D

Clamping screw

Spare parts DC	Y7 Article no. 80 950 ...	£		2B Article no. 10 950 ...	£	
14 - 19	T06 - IP	13.68	123	M2,0x4,3 - 06IP	2.15	10000
20 - 24	T06 - IP	13.68	123	M2,2x5,5 - 06IP	2.15	10700
25 - 35	T08 - IP	13.49	125	M2,5x7,2 - 10IP	2.15	10500

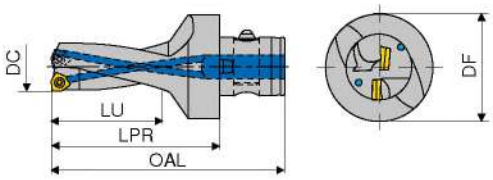
Suitable adapters can be found in → **Chapter 16 Adapters.**

KUB Trigon

Scope of supply:
Indexable Insert Drill incl. clamping screws

≤ 2xD

ABS



Designation	KOMET no.	DC mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW 2B Article no. 10 892 ... £	
KUB-T.2D.140.R.03-ABS50	V3031403	14	50	94	28	63	0,62	WOEX 030204	324.27	14095
KUB-T.2D.150.R.03-ABS50	V3031503	15	50	96	30	65	0,62	WOEX 030204	324.27	15095
KUB-T.2D.160.R.03-ABS50	V3031601	16	50	98	32	67	0,62	WOEX 030204	324.27	16095
KUB-T.2D.170.R.03-ABS50	V3031701	17	50	100	34	69	0,62	WOEX 030204	324.27	17095
KUB-T.2D.180.R.03-ABS50	V3031801	18	50	102	36	71	0,62	WOEX 030204	324.27	18095
KUB-T.2D.190.R.03-ABS50	V3031901	19	50	104	38	73	0,62	WOEX 030204	324.27	19095
KUB-T.2D.200.R.04-ABS50	V3032001	20	50	106	40	75	1,01	WOEX 040304	326.18	20095
KUB-T.2D.210.R.04-ABS50	V3032101	21	50	108	42	77	1,01	WOEX 040304	326.18	21095
KUB-T.2D.220.R.04-ABS50	V3032201	22	50	110	44	79	1,01	WOEX 040304	326.18	22095
KUB-T.2D.230.R.04-ABS50	V3032301	23	50	112	46	81	1,01	WOEX 040304	326.18	23095
KUB-T.2D.240.R.04-ABS50	V3032401	24	50	114	48	83	1,01	WOEX 040304	326.18	24095
KUB-T.2D.250.R.05-ABS50	V3032501	25	50	116	50	85	1,28	WOEX 05T304	330.91	25095
KUB-T.2D.260.R.05-ABS50	V3032601	26	50	118	52	87	1,28	WOEX 05T304	330.91	26095
KUB-T.2D.270.R.05-ABS50	V3032701	27	50	120	54	89	1,28	WOEX 05T304	330.91	27095
KUB-T.2D.280.R.05-ABS50	V3032801	28	50	122	56	91	1,28	WOEX 05T304	330.91	28095
KUB-T.2D.290.R.05-ABS50	V3032901	29	50	124	58	93	1,28	WOEX 05T304	330.91	29095
KUB-T.2D.300.R.05-ABS50	V3033001	30	50	131	60	100	1,28	WOEX 05T304	330.91	30095
KUB-T.2D.310.R.05-ABS50	V3033101	31	50	133	62	102	1,28	WOEX 05T304	330.91	31095
KUB-T.2D.320.R.05-ABS50	V3033201	32	50	135	64	104	1,28	WOEX 05T304	330.91	32095
KUB-T.2D.330.R.05-ABS50	V3033301	33	50	137	66	106	1,28	WOEX 05T304	330.91	33095
KUB-T.2D.340.R.05-ABS50	V3033401	34	50	139	68	108	1,28	WOEX 05T304	330.91	34095
KUB-T.2D.350.R.05-ABS50	V3033501	35	50	141	70	110	1,28	WOEX 05T304	330.91	35095
KUB-T.2D.360.R.05-ABS50	V3033601	36	50	143	72	112	1,28	WOEX 05T304	330.91	36095
KUB-T.2D.370.R.06-ABS50	V3033701	37	50	155	74	124	2,8	WOEX 06T304	347.91	37095
KUB-T.2D.380.R.06-ABS50	V3033801	38	50	157	76	126	2,8	WOEX 06T304	347.91	38095
KUB-T.2D.390.R.06-ABS50	V3033901	39	50	159	78	128	2,8	WOEX 06T304	347.91	39095
KUB-T.2D.400.R.06-ABS50	V3034001	40	50	161	80	130	2,8	WOEX 06T304	347.91	40095
KUB-T.2D.410.R.06-ABS50	V3034101	41	50	163	82	132	2,8	WOEX 06T304	347.91	41095
KUB-T.2D.420.R.06-ABS50	V3034201	42	50	165	84	134	2,8	WOEX 06T304	347.91	42095
KUB-T.2D.430.R.06-ABS50	V3034301	43	50	167	86	136	2,8	WOEX 06T304	347.91	43095
KUB-T.2D.440.R.06-ABS50	V3034401	44	50	169	88	138	2,8	WOEX 06T304	347.91	44095

Spare parts DC	Y7 Key D Article no. 80 950 ...	£		2B Clamping screw Article no. 10 950 ...	£	
14 - 19	T06 - IP	13.68	123	M2,0x4,3 - 06IP	2.15	10000
20 - 24	T06 - IP	13.68	123	M2,2x5,5 - 06IP	2.15	10700
25 - 36	T08 - IP	13.49	125	M2,5x7,2 - 10IP	2.15	10500
37 - 44	T10 - IP	15.31	127	M3,5x7,3 - 10IP	2.15	10600

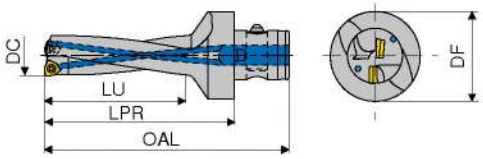
Suitable adapters can be found in → **Chapter 16 Adapters.**

KUB Trigon

Scope of supply:
Indexable Insert Drill incl. clamping screws

≤ 3xD

ABS



Designation	KOMET no.	DC mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW 2B Article no. 10 893 ... £	
KUB-T.3D.140.R.03-ABS50	V3071403	14	50	108	42	77	0,62	WOEX 030204	356.45	14095
KUB-T.3D.150.R.03-ABS50	V3071503	15	50	111	45	80	0,62	WOEX 030204	356.45	15095
KUB-T.3D.160.R.03-ABS50	V3071601	16	50	114	48	83	0,62	WOEX 030204	356.45	16095
KUB-T.3D.170.R.03-ABS50	V3071701	17	50	117	51	86	0,62	WOEX 030204	356.45	17095
KUB-T.3D.180.R.03-ABS50	V3071801	18	50	120	54	89	0,62	WOEX 030204	356.45	18095
KUB-T.3D.190.R.03-ABS50	V3071901	19	50	123	57	92	0,62	WOEX 030204	356.45	19095
KUB-T.3D.200.R.04-ABS50	V3072001	20	50	126	60	95	1,01	WOEX 040304	363.09	20095
KUB-T.3D.210.R.04-ABS50	V3072101	21	50	129	63	98	1,01	WOEX 040304	363.09	21095
KUB-T.3D.220.R.04-ABS50	V3072201	22	50	132	66	101	1,01	WOEX 040304	363.09	22095
KUB-T.3D.230.R.04-ABS50	V3072301	23	50	135	69	104	1,01	WOEX 040304	363.09	23095
KUB-T.3D.240.R.04-ABS50	V3072401	24	50	138	72	107	1,01	WOEX 040304	363.09	24095
KUB-T.3D.250.R.05-ABS50	V3072501	25	50	141	75	110	1,28	WOEX 05T304	371.55	25095
KUB-T.3D.260.R.05-ABS50	V3072601	26	50	144	78	113	1,28	WOEX 05T304	371.55	26095
KUB-T.3D.270.R.05-ABS50	V3072701	27	50	147	81	116	1,28	WOEX 05T304	371.55	27095
KUB-T.3D.280.R.05-ABS50	V3072801	28	50	150	84	119	1,28	WOEX 05T304	371.55	28095
KUB-T.3D.290.R.05-ABS50	V3072901	29	50	153	87	122	1,28	WOEX 05T304	371.55	29095
KUB-T.3D.300.R.05-ABS50	V3073001	30	50	161	90	130	1,28	WOEX 05T304	371.55	30095
KUB-T.3D.310.R.05-ABS50	V3073101	31	50	164	93	133	1,28	WOEX 05T304	371.55	31095
KUB-T.3D.320.R.05-ABS50	V3073201	32	50	167	96	136	1,28	WOEX 05T304	371.55	32095
KUB-T.3D.330.R.05-ABS50	V3073301	33	50	170	99	139	1,28	WOEX 05T304	371.55	33095
KUB-T.3D.340.R.05-ABS50	V3073401	34	50	173	102	142	1,28	WOEX 05T304	371.55	34095
KUB-T.3D.350.R.05-ABS50	V3073501	35	50	176	105	145	1,28	WOEX 05T304	371.55	35095
KUB-T.3D.360.R.05-ABS50	V3073601	36	50	179	108	148	1,28	WOEX 05T304	371.55	36095
KUB-T.3D.370.R.06-ABS50	V3073701	37	50	192	111	161	2,8	WOEX 06T304	403.73	37095
KUB-T.3D.380.R.06-ABS50	V3073801	38	50	195	114	164	2,8	WOEX 06T304	403.73	38095
KUB-T.3D.390.R.06-ABS50	V3073901	39	50	198	117	167	2,8	WOEX 06T304	403.73	39095
KUB-T.3D.400.R.06-ABS50	V3074001	40	50	201	120	170	2,8	WOEX 06T304	403.73	40095
KUB-T.3D.410.R.06-ABS50	V3074101	41	50	204	123	173	2,8	WOEX 06T304	403.73	41095
KUB-T.3D.420.R.06-ABS50	V3074201	42	50	207	126	176	2,8	WOEX 06T304	403.73	42095
KUB-T.3D.430.R.06-ABS50	V3074301	43	50	210	129	179	2,8	WOEX 06T304	403.73	43095
KUB-T.3D.440.R.06-ABS50	V3074401	44	50	213	132	182	2,8	WOEX 06T304	403.73	44095

Spare parts DC		Y7 Key D Article no. 80 950 ... £			2B Clamping screw Article no. 10 950 ... £	
14 - 19	T06 - IP	13.68	123	M2,0x4,3 - 06IP	2.15	10000
20 - 24	T06 - IP	13.68	123	M2,2x5,5 - 06IP	2.15	10700
25 - 36	T08 - IP	13.49	125	M2,5x7,2 - 10IP	2.15	10500
37 - 44	T10 - IP	15.31	127	M3,5x7,3 - 10IP	2.15	10600

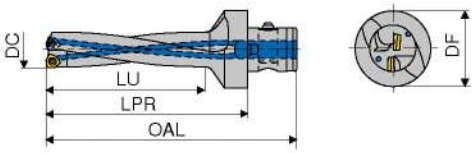
Suitable adapters can be found in → **Chapter 16 Adapters.**

KUB Trigon

Scope of supply:
Indexable Insert Drill incl. clamping screws

≤ 4xD

ABS



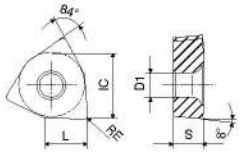
Designation	KOMET no.	DC mm	DF mm	OAL mm	LU mm	LPR mm	torque moment Nm	Insert	NEW 2B Article no. 10 894 ... £	
KUB-T.4D.140.R.03-ABS50	V3091403	14	50	122	56	91	0,62	WOEX 030204	392.36	14095
KUB-T.4D.150.R.03-ABS50	V3091503	15	50	126	60	95	0,62	WOEX 030204	392.36	15095
KUB-T.4D.160.R.03-ABS50	V3091601	16	50	130	64	99	0,62	WOEX 030204	392.36	16095
KUB-T.4D.170.R.03-ABS50	V3091701	17	50	134	68	103	0,62	WOEX 030204	392.36	17095
KUB-T.4D.180.R.03-ABS50	V3091801	18	50	138	72	107	0,62	WOEX 030204	392.36	18095
KUB-T.4D.190.R.03-ABS50	V3091901	19	50	142	76	111	0,62	WOEX 030204	392.36	19095
KUB-T.4D.200.R.04-ABS50	V3092001	20	50	146	80	115	1,01	WOEX 040304	399.91	20095
KUB-T.4D.210.R.04-ABS50	V3092101	21	50	150	84	119	1,01	WOEX 040304	399.91	21095
KUB-T.4D.220.R.04-ABS50	V3092201	22	50	154	88	123	1,01	WOEX 040304	399.91	22095
KUB-T.4D.230.R.04-ABS50	V3092301	23	50	158	92	127	1,01	WOEX 040304	399.91	23095
KUB-T.4D.240.R.04-ABS50	V3092401	24	50	162	96	131	1,01	WOEX 040304	399.91	24095
KUB-T.4D.250.R.05-ABS50	V3092501	25	50	166	100	135	1,28	WOEX 05T304	408.45	25095
KUB-T.4D.260.R.05-ABS50	V3092601	26	50	170	104	139	1,28	WOEX 05T304	408.45	26095
KUB-T.4D.270.R.05-ABS50	V3092701	27	50	174	108	143	1,28	WOEX 05T304	408.45	27095
KUB-T.4D.280.R.05-ABS50	V3092801	28	50	178	112	147	1,28	WOEX 05T304	408.45	28095
KUB-T.4D.290.R.05-ABS50	V3092901	29	50	182	116	151	1,28	WOEX 05T304	408.45	29095
KUB-T.4D.300.R.05-ABS50	V3093001	30	50	191	120	160	1,28	WOEX 05T304	408.45	30095
KUB-T.4D.310.R.05-ABS50	V3093101	31	50	195	124	164	1,28	WOEX 05T304	408.45	31095
KUB-T.4D.320.R.05-ABS50	V3093201	32	50	199	128	168	1,28	WOEX 05T304	408.45	32095
KUB-T.4D.330.R.05-ABS50	V3093301	33	50	203	132	172	1,28	WOEX 05T304	408.45	33095
KUB-T.4D.340.R.05-ABS50	V3093401	34	50	207	136	176	1,28	WOEX 05T304	408.45	34095
KUB-T.4D.350.R.05-ABS50	V3093501	35	50	211	140	180	1,28	WOEX 05T304	408.45	35095
KUB-T.4D.360.R.05-ABS50	V3093601	36	50	215	144	184	1,28	WOEX 05T304	408.45	36095
KUB-T.4D.370.R.06-ABS50	V3093701	37	50	229	148	198	2,8	WOEX 06T304	443.45	37095
KUB-T.4D.380.R.06-ABS50	V3093801	38	50	233	152	202	2,8	WOEX 06T304	443.45	38095
KUB-T.4D.390.R.06-ABS50	V3093901	39	50	237	156	206	2,8	WOEX 06T304	443.45	39095
KUB-T.4D.400.R.06-ABS50	V3094001	40	50	241	160	210	2,8	WOEX 06T304	443.45	40095
KUB-T.4D.410.R.06-ABS50	V3094101	41	50	245	164	214	2,8	WOEX 06T304	443.45	41095
KUB-T.4D.420.R.06-ABS50	V3094201	42	50	249	168	218	2,8	WOEX 06T304	443.45	42095
KUB-T.4D.430.R.06-ABS50	V3094301	43	50	253	172	222	2,8	WOEX 06T304	443.45	43095
KUB-T.4D.440.R.06-ABS50	V3094401	44	50	257	176	226	2,8	WOEX 06T304	443.45	44095

Spare parts DC	Y7  Key D Article no. 80 950 ... £		2B  Clamping screw Article no. 10 950 ... £	
14 - 19	T06 - IP	13.68 123	M2,0x4,3 - 06IP	2.15 10000
20 - 24	T06 - IP	13.68 123	M2,2x5,5 - 06IP	2.15 10700
25 - 36	T08 - IP	13.49 125	M2,5x7,2 - 10IP	2.15 10500
37 - 44	T10 - IP	15.31 127	M3,5x7,3 - 10IP	2.15 10600

Suitable adapters can be found in → **Chapter 16 Adapters.**

WOEX

Designation	L	IC	S	D1
	mm	mm	mm	mm
WOEX 0302..	3.2	5.00	2.30	2.30
WOEX 0403..	4.1	6.35	3.18	2.55
WOEX 05T3..	5.3	8.00	3.80	2.85
WOEX 06T3..	6.6	10.00	3.80	4.05



WOEX

ISO	KOMET no.	RE	-01 BK8425		-03 BK8425		-13 BK8425		-01 BK6115	
										
			WOEX		WOEX		WOEX		WOEX	
			NEW 1A		NEW 1A		NEW 1A		NEW 1A	
			Article no. 10 821 ...		Article no. 10 821 ...		Article no. 10 821 ...		Article no. 10 821 ...	
		mm	£		£		£		£	
030204	W2910030.048425	0.4			10.59	30303				
030204	W2910130.048425	0.4					12.48	30313		
030204	W2910010.048425	0.4	10.31	30301						
030204	W2910010.046115	0.4							14.94	40301
040304	W2918130.048425	0.4					12.57	30413		
040304	W2918030.048425	0.4			11.25	30403				
040304	W2918010.048425	0.4	10.96	30401						
040304	W2918010.046115	0.4							15.04	40401
05T304	W2924130.048425	0.4					12.85	30513		
05T304	W2924030.048425	0.4			15.88	30503				
05T304	W2924010.048425	0.4	11.25	30501						
05T304	W2924010.046115	0.4							14.46	40501
06T304	W2934130.048425	0.4					14.18	30613		
06T304	W2934030.048425	0.4			16.64	30603				
06T304	W2934010.048425	0.4	12.57	30601						
06T304	W2934010.046115	0.4							16.07	40601
Steel			●		●		●		●	
Stainless steel			●		●		●			
Cast iron			●		●		●		●	
Non ferrous metals										
Heat resistant alloys										
hardened materials									○	

→ v_c/f_z Page 47–50

BK8425 -03 and BK6115 -01 are exclusively recommended for use on the peripheral cutting edge!

Specialised indexable inserts for machining aluminium or stainless steels (BK7935, BK62, BK77) can be found in our online shop at cuttingtools.ceratizit.com

Application tips – eccentric sleeves

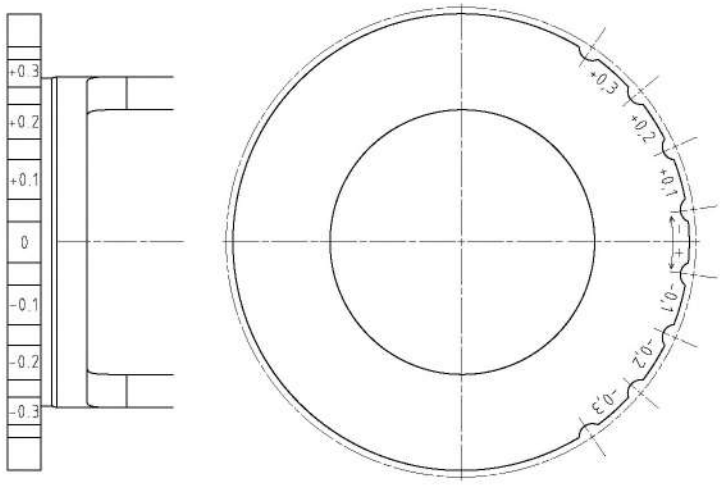
Users of rotating tools can now enjoy greater flexibility.
Using the eccentric sleeves, you can vary and adjust the diameter of the hole by +/- 0.3 mm with ease.

Two types of eccentric sleeve are available:
One for use with the new indexable insert drill adapter and one for use with the existing Weldon adapter.
The difference lies solely in the design and position of the slots for the adapter's clamping screws.
There are four sizes per type, which are tailored to the shank diameter.

Eccentric sleeve for indexable insert drill adapter

Eccentric sleeve for Weldon adapter

A scale is engraved on every eccentric sleeve (radially and on the face),
so that the user can adjust the bore diameter according to requirements.



Side view *End view*

Instructions for use

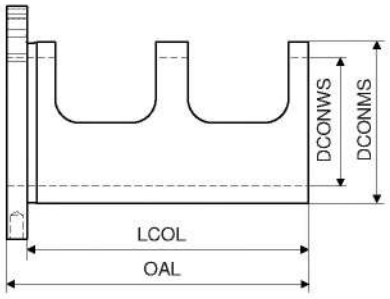
1. Position the sleeve in the respective adapter and insert the indexable insert drill.
2. Set the sleeve to the zero position. → The „0" must align with the clamping screws on the adapter.
3. Clamp the adapter's clamping screws.
4. Drill.
5. Measure the bore diameter.
6. Loosen the clamping screws.
7. Correct the bore diameter using the sleeve. → Observe the scale on the sleeve. The value must align with the clamping screws on the adapter.
8. Clamp the clamping screws.
9. Drill.

A scale is engraved on every eccentric sleeve (radially and on the face).

Owing to the radial adjustment of the drill axis, the feed rate should be reduced by approx. 30 % for longer drilling tools (4xD and 5xD).

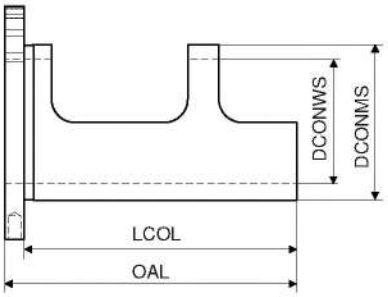
3

Eccentric sleeve – indexable insert drill adapter



Designation	DCONWS	DCONMS	OAL	LCOL	2A/28 Article no. 10 870 ...	
	mm	mm	mm	mm	£	
EHB.D20.D25	20	25	61	56	142.00	120
EHB.D25.D32	25	32	65	60	154.45	125
EHB.D32.D40	32	40	75	70	168.73	132
EHB.D40.D50	40	50	85	80	184.91	140

Eccentric sleeve – standard Weldon adapter

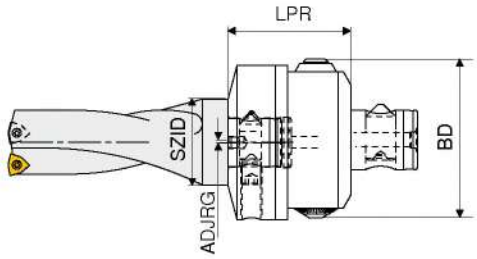


Designation	DCONWS	DCONMS	OAL	LCOL	2A/28 Article no. 10 871 ...	
	mm	mm	mm	mm	£	
EHW.D20.D25	20	25	61	56	142.00	120
EHW.D25.D32	25	32	65	60	154.45	125
EHW.D32.D40	32	40	75	70	168.73	132
EHW.D40.D50	40	50	85	80	184.91	140

Application tips for eccentric sleeves can be found on → **Page 36.**

Adjuster with ABS connection

- Precise adjustment using micrometric adjusting spindle
- Max. adjustment range 3 mm on diameter
- Graduation of scale 1 line 0.02 mm on diameter
- Stable clamping of the top section after adjustment using four clamping screws arranged on the face



AD

Adapter	KOMET no.	BD mm	LPR mm	ADJRG mm	SZID	NEW W4 Article no. 84 210 ... £	
ABS 50	M0100001	70	57	1.5	ABS 50	1,086.07	**05097**

Material examples referring to the cutting data tables

	Index	Material	Strength N/mm² / HB / HRC	Material number	Material designation	Material number	Material designation	Material number	Material designation
P	1.1	General construction steel	< 800 N/mm²	1.0402	EN3B				
	1.2	Free cutting steel	< 800 N/mm²	1.0711	EN1A				
	1.3	Hardened steel, non alloyed	< 800 N/mm²	1.0401	EN32C				
	1.4	Alloyed hardened steel	< 1000 N/mm²	1.7325	25 CD4				
	1.5	Tempering steel, unalloyed	< 850 N/mm²	1.5752	EN36	1.0535	EN9		
	1.6	Tempering steel, unalloyed	< 1000 N/mm²	1.6582	EN24				
	1.7	Tempering steel, alloyed	< 800 N/mm²	1.7225	EN19				
	1.8	Tempering steel, alloyed	< 1300 N/mm²	1.8515	EN40B				
	1.9	Steel castings	< 850 N/mm²	0.9650	G-X 260 Cr 27	1.6750	GS-20 NiCrMo 3 7	1.6582	GS-34 CrNiMo 6
	1.10	Nitriding steel	< 1000 N/mm²	1.8509	EN41B				
	1.11	Nitriding steel	< 1200 N/mm²	1.1186	EN8	1.1160	EN14A		
	1.12	Roller bearing steel	< 1200 N/mm²	1.3505	534A99				
	1.13	Spring steel	< 1200 N/mm²		EN45		EN47		EN43
	1.14	High-speed steel	< 1300 N/mm²	1.3343	M2	1.3249	M34		
	1.15	Cold working tool steel	< 1300 N/mm²	1.2379	D2	1.2311	P20		
	1.16	Hot working tool steel	< 1300 N/mm²	1.2344	H13				
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm²	1.4581	318				
	2.2	Stainless steel, ferritic	< 750 N/mm²	1.4000	403				
	2.3	Stainless steel, martensitic	< 900 N/mm²	1.4057	EN57				
	2.4	Stainless steel, ferritic / martensitic	<1100 N/mm²	1.4028	EN56B				
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm²	1.4542	17-4PH				
	2.6	Stainless steel, austenitic	< 750 N/mm²	1.4305	303	1.4401	316	1.4301	304
	2.7	Heat resistant steel	< 1100 N/mm²	1.4876	Incoloy 800				
K	3.1	Grey cast iron with lamellar graphite	100–350 N/mm²	0.6015	Grade 150	0.6020	Grade 220	0.6025	Grade 260
	3.2	Grey cast iron with lamellar graphite	300–500 N/mm²	0.6030	Grade 300	0.6035	Grade 350	0.6040	Grade 400
	3.3	Gray cast iron with spheroidal graphite	300–500 N/mm²	0.7040	SG 400-12	0.7043	SG 370-17	0.7050	SG 500-7
	3.4	Gray cast iron with spheroidal graphite	500–900 N/mm²	0.7060	SG 600-3	0.7070	SG 700-2	0.7080	SG 800-2
	3.5	White malleable cast iron	270–450 N/mm²	0.8035	GTW-35	0.8045	GTW-45		
	3.6	White malleable cast iron	500–650 N/mm²	0.8055	GTW-55	0.8065	GTW-65		
	3.7	Black malleable cast iron	300–450 N/mm²	0.8135	GTS-35	0.8145	GTS-45		
	3.8	Black malleable cast iron	500–800 N/mm²	0.8155	GTS-55	0.8170	GTS-70		
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm²	3.0255	1050 A	3.0275	1070 A	3.0285	1080 A (A8)
	4.2	Aluminium alloys < 0.5 % Si	< 500 N/mm²	3.1325	2017 A (AU4G)	3.4335	7005 (AZ5G)	3.4365	7075 (AZ5GU)
	4.3	Aluminium alloy 0.5–10 % Si	< 400 N/mm²	3.2315	A- G S1	3.2373	A-S9 G	3.2151	A-S 6 U4
	4.4	Aluminium alloys 10–15 % Si	< 400 N/mm²	3.2581	A-S12	3.2583	A-S12 U		
	4.5	Aluminum alloys > 15 % Si	< 400 N/mm²		A-S18	A-S17 U4			
	4.6	Copper (non alloyed, low alloyed)	< 350 N/mm²	2.0040	Cu-c1	2.0060	Cu-a1	2.0090	Cu-b1
	4.7	Copper wrought alloys	< 700 N/mm²	2.1247	Cub2 (Berylium Copper)	2.0855	CuN2S (Nickel Copper)	2.1310	CU-Fe2P
	4.8	Special copper alloys	< 200 HB	2.0916	Cu-A5	2.1525	Cu-S3 M		Ampco 8 (Cu-A6Fe2)
	4.9	Special copper alloys	< 300 HB	2.0978	Cu-Al11 Fe5 Ni5)		Ampco 18 (Cu- A10 Fe3)		
	4.10	Special copper alloys	> 300 HB	2.1247	Cu Be2		Ampco M4		
	4.11	Short-chipping brass, bronze, red bronze	< 600 N/mm²	2.0331	Cu Zn36 Pb1,5	2.0380	Cu Zn39 Pb2 (Ms 56)	2.0410	Cu Zn44 Pb2
	4.12	Long-chipping brass	< 600 N/mm²	2.0335	Cu Zn 36 (Ms63)	2.1293	Cu Cr1 Zr		
	4.13	Thermoplastics		PE	PVC	PS	Polystyrene		Plexiglas
	4.14	Duroplastics		PF	Bakelite		Pertinax		
	4.15	Fibre-reinforced plastics			Carbon Fibre		Fibreglass		Aramid Fibre (Kevlar)
	4.16	Magnesium and magnesium alloys	< 850 N/mm²	3.5812	Mg A7 Z1	3.5662	Mg A9	3.5105	Mg Tr3 Z2 Zn 1
	4.17	Graphite			R8500X		R8650		Technograph 15
	4.18	Tungsten and tungsten alloys			W-Ni Fe (Densimet)		W- Ni Cu (Inermet)		Denal
	4.19	Molybdenum and molybdenum alloys			TZM		MHQ		Mo W
S	5.1	Pure nickel		2.4066	Ni99 (Nickel 200)	2.4068	Lc Ni99 (Nickel 201)		
	5.2	Nickel alloys		1.3912	Fe-Ni36 (Invar)	1.3917	Fe -Ni42 (N42)	1.3922	Fe-Ni48 (N48)
	5.3	Nickel alloys	< 850 N/mm²	2.4375	Ni Cu30 Al (Monel K500)	2.4360	Ni Cu30Fe (Monel 400)	2.4668	
	5.4	Nickel molybdenum alloys		2.4600	Ni Mo30Cr2 (Hastelloy B4)	2.4617	Ni Mo28 (Hastelloy B2)	2.4819	Ni Mo16Cr16 Hastell. C276
	5.5	Nickel-chromium alloys	< 1300 N/mm²	2.4951	Ni Cr20TiAl (Nimonic 80A)	2.4858	Ni Cr21Mo (Inconel 825)	2.4856	Ni Cr22Mo9Nb Inconel 625
	5.6	Cobalt Chrome Alloys	< 1300 N/mm²	2.4964	Co Cr20 W15 Ni10		Co Cr20 Ni16 Mo7		Co Cr28 Mo 6
	5.7	Heat resistant alloys	< 1300 N/mm²	1.4718	Z45 C S 9-3	1.4747	Z80 CSN 20-02	1.4845	Z12 CN 25-20
	5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm²	2.4851	Ni Cr23Fe (Inconel 601)	2.4668	Ni Cr19NbMo (Inconel 718)	2.4602	Ni Cr21Mo14 Hastelloy C22
	5.9	Pure titanium	< 900 N/mm²	3.7025	T35 (Titanium Grade 1)	3.7034	T40 (Titanium Grade 2)	3.7064	T60 (Titanium Grade 4)
	5.10	Titanium alloys	< 700 N/mm²		T-A6-Nb7 (367)		T-A5-Sn2-Mo4-Cr4 (Ti17)		T-A3-V2,5 (Gr18)
	5.11	Titanium alloys	< 1200 N/mm²	3.7165	T-A6-V4 (Ta6V)		T-A4-3V-Mo2-Fe2 (SP700)		T-A5-Sn1-Zr1-V1-Mo (Gr32)
H	6.1	Tempered steel	< 45 HRC						
	6.2		46–55 HRC						
	6.3		56–60 HRC						
	6.4		61–65 HRC						
	6.5		65–70 HRC						

Cutting data standard values for KUB Pentron – 2xD, 3xD

Index	BK6115	BK8425	C, ABS and PSC											
			Ø 14–15,5 mm	Ø 16–17,5 mm	Ø 18–19,5 mm	Ø 20–21,5 mm	Ø 22–23,5 mm	Ø 24–25,5 mm	Ø 26–27,5 mm	Ø 28–30 mm	Ø 31–33 mm	Ø 34–37 mm	Ø 38–42 mm	Ø 43–46 mm
	v_c in m/min		f in mm/rev.											
1.1	250–350	200–320	0,04–0,1	0,04–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12
1.2	250–350	200–320	0,04–0,1	0,04–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12
1.3	250–300	250–300	0,04–0,1	0,04–0,14	0,1–0,15	0,1–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16
1.4	250–300	250–300	0,04–0,1	0,04–0,14	0,1–0,15	0,1–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16
1.5	250–300	250–300	0,04–0,1	0,04–0,14	0,1–0,15	0,1–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16
1.6	200–280	140–220	0,08–0,16	0,08–0,2	0,11–0,2	0,11–0,2	0,13–0,22	0,14–0,24	0,14–0,24	0,14–0,24	0,14–0,24	0,14–0,25	0,14–0,25	0,14–0,25
1.7	200–280	140–220	0,08–0,16	0,08–0,2	0,11–0,2	0,11–0,2	0,13–0,22	0,14–0,24	0,14–0,24	0,14–0,24	0,14–0,24	0,14–0,25	0,14–0,25	0,14–0,25
1.8	200–280	140–220	0,08–0,16	0,08–0,2	0,11–0,2	0,11–0,2	0,13–0,22	0,14–0,24	0,14–0,24	0,14–0,24	0,14–0,24	0,14–0,25	0,14–0,25	0,14–0,25
1.9	250–300	250–300	0,04–0,1	0,04–0,14	0,1–0,15	0,1–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16
1.10	200–280	140–220	0,08–0,16	0,08–0,2	0,11–0,2	0,11–0,2	0,13–0,22	0,14–0,24	0,14–0,24	0,14–0,24	0,14–0,24	0,14–0,25	0,14–0,25	0,14–0,25
1.11	200–280	140–220	0,08–0,16	0,08–0,2	0,11–0,2	0,11–0,2	0,13–0,22	0,14–0,24	0,14–0,24	0,14–0,24	0,14–0,24	0,14–0,25	0,14–0,25	0,14–0,25
1.12	200–280	140–220	0,08–0,16	0,08–0,2	0,11–0,2	0,11–0,2	0,13–0,22	0,14–0,24	0,14–0,24	0,14–0,24	0,14–0,24	0,14–0,25	0,14–0,25	0,14–0,25
1.13	200–280	140–220	0,08–0,16	0,08–0,2	0,11–0,2	0,11–0,2	0,13–0,22	0,14–0,24	0,14–0,24	0,14–0,24	0,14–0,24	0,14–0,25	0,14–0,25	0,14–0,25
1.14	200–280	140–220	0,08–0,16	0,08–0,2	0,11–0,2	0,11–0,2	0,13–0,22	0,14–0,24	0,14–0,24	0,14–0,24	0,14–0,24	0,14–0,25	0,14–0,25	0,14–0,25
1.15	170–230	120–200	0,06–0,12	0,06–0,15	0,1–0,15	0,09–0,2	0,12–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22
1.16	170–230	120–200	0,06–0,12	0,06–0,15	0,1–0,15	0,09–0,2	0,12–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22
2.1		150–210	0,06–0,14	0,08–0,14	0,08–0,14	0,08–0,16	0,1–0,18	0,12–0,18	0,12–0,18	0,1–0,18	0,1–0,18	0,1–0,18	0,1–0,18	0,1–0,18
2.2		150–210	0,06–0,14	0,08–0,14	0,08–0,14	0,08–0,16	0,1–0,18	0,12–0,18	0,12–0,18	0,1–0,18	0,1–0,18	0,1–0,18	0,1–0,18	0,1–0,18
2.3		150–210	0,06–0,14	0,08–0,14	0,08–0,14	0,08–0,16	0,1–0,18	0,12–0,18	0,12–0,18	0,1–0,18	0,1–0,18	0,1–0,18	0,1–0,18	0,1–0,18
2.4		120–200	0,06–0,14	0,08–0,14	0,08–0,14	0,08–0,16	0,1–0,18	0,12–0,18	0,12–0,18	0,12–0,18	0,12–0,18	0,12–0,18	0,12–0,18	0,12–0,18
2.5		110–190	0,06–0,11	0,06–0,1	0,06–0,1	0,06–0,13	0,09–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16
2.6		120–200	0,06–0,14	0,08–0,14	0,08–0,14	0,08–0,16	0,1–0,18	0,12–0,18	0,12–0,18	0,12–0,18	0,12–0,18	0,12–0,18	0,12–0,18	0,12–0,18
2.7		110–190	0,06–0,11	0,06–0,1	0,06–0,1	0,06–0,13	0,09–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16
3.1	160–320	140–220	0,08–0,18	0,1–0,18	0,1–0,18	0,12–0,22	0,14–0,25	0,16–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3
3.2	160–320	140–220	0,08–0,18	0,1–0,18	0,1–0,18	0,12–0,22	0,14–0,25	0,16–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3
3.3	120–200	140–220	0,08–0,18	0,12–0,18	0,12–0,18	0,12–0,22	0,14–0,25	0,16–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3
3.4	100–180	120–180	0,08–0,18	0,12–0,18	0,12–0,18	0,12–0,22	0,14–0,25	0,16–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3
3.5	90–150	110–170	0,08–0,18	0,12–0,18	0,12–0,18	0,12–0,22	0,14–0,25	0,16–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3
3.6	90–150	110–170	0,08–0,18	0,12–0,18	0,12–0,18	0,12–0,22	0,14–0,25	0,16–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3
3.7	90–150	110–170	0,08–0,18	0,12–0,18	0,12–0,18	0,12–0,22	0,14–0,25	0,16–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3
3.8	90–150	110–170	0,08–0,18	0,12–0,18	0,12–0,18	0,12–0,22	0,14–0,25	0,16–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3
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6.1	50–90		0,02–0,06	0,02–0,06	0,02–0,06	0,02–0,06	0,02–0,06	0,02–0,06	0,02–0,06	0,02–0,06	0,02–0,06	0,02–0,06	0,02–0,06	0,02–0,06
6.2	30–50		0,01–0,03	0,01–0,03	0,01–0,03	0,01–0,03	0,01–0,02	0,01–0,02	0,01–0,02	0,01–0,02	0,01–0,02	0,01–0,02	0,01–0,02	0,01–0,02
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6.5														

During the drilling operation on through holes a sharp disk will be produced.
Safety precautions must be observed.
A safety guard has to be provided as protection.

In order to ensure efficient chip evacuation, coolant pressure must be at least 5 bar.
Optimum pressure is > 15 bar.

Cutting data standard values for KUB Pentron – 4xD

Index	BK6115	BK8425	C and ABS											
			Ø 14–15,5 mm	Ø 16–17,5 mm	Ø 18–19,5 mm	Ø 20–21,5 mm	Ø 22–23,5 mm	Ø 24–25,5 mm	Ø 26–27,5 mm	Ø 28–30 mm	Ø 31–33 mm	Ø 34–37 mm	Ø 38–42 mm	Ø 43–46 mm
	v_c in m/min		f in mm/rev.											
1.1	250–350	200–320	0,04–0,08	0,04–0,12	0,06–0,1	0,05–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12
1.2	250–350	200–320	0,04–0,08	0,04–0,12	0,06–0,1	0,05–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12
1.3	250–300	250–300	0,04–0,09	0,04–0,14	0,1–0,15	0,1–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16
1.4	250–300	250–300	0,04–0,09	0,04–0,14	0,1–0,15	0,1–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16
1.5	250–300	250–300	0,04–0,09	0,04–0,14	0,1–0,15	0,1–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16
1.6	200–280	140–220	0,06–0,16	0,08–0,16	0,11–0,16	0,11–0,18	0,13–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22
1.7	200–280	140–220	0,06–0,16	0,08–0,16	0,11–0,16	0,11–0,18	0,13–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22
1.8	200–280	140–220	0,06–0,16	0,08–0,16	0,11–0,16	0,11–0,18	0,13–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22
1.9	250–300	250–300	0,04–0,09	0,04–0,14	0,1–0,15	0,1–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16	0,11–0,16
1.10	200–280	140–220	0,06–0,16	0,08–0,16	0,11–0,16	0,11–0,18	0,13–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22
1.11	200–280	140–220	0,06–0,16	0,08–0,16	0,11–0,16	0,11–0,18	0,13–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22
1.12	200–280	140–220	0,06–0,16	0,08–0,16	0,11–0,16	0,11–0,18	0,13–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22
1.13	200–280	140–220	0,06–0,16	0,08–0,16	0,11–0,16	0,11–0,18	0,13–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22
1.14	200–280	140–220	0,06–0,16	0,08–0,16	0,11–0,16	0,11–0,18	0,13–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22
1.15	170–230	120–200	0,06–0,12	0,06–0,15	0,1–0,15	0,09–0,2	0,12–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22
1.16	170–230	120–200	0,06–0,12	0,06–0,15	0,1–0,15	0,09–0,2	0,12–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,22
2.1		150–210	0,06–0,12	0,08–0,12	0,08–0,12	0,08–0,15	0,1–0,18	0,12–0,18	0,12–0,18	0,1–0,18	0,1–0,18	0,1–0,18	0,1–0,18	0,1–0,18
2.2		150–210	0,06–0,12	0,08–0,12	0,08–0,12	0,08–0,15	0,1–0,18	0,12–0,18	0,12–0,18	0,1–0,18	0,1–0,18	0,1–0,18	0,1–0,18	0,1–0,18
2.3		150–210	0,06–0,12	0,08–0,12	0,08–0,12	0,08–0,15	0,1–0,18	0,12–0,18	0,12–0,18	0,1–0,18	0,1–0,18	0,1–0,18	0,1–0,18	0,1–0,18
2.4		120–200	0,06–0,12	0,08–0,12	0,08–0,12	0,08–0,15	0,1–0,18	0,12–0,18	0,12–0,18	0,12–0,18	0,12–0,18	0,12–0,18	0,12–0,18	0,12–0,18
2.5		110–190	0,06–0,1	0,06–0,1	0,06–0,1	0,06–0,13	0,09–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16
2.6		120–200	0,06–0,12	0,08–0,12	0,08–0,12	0,08–0,15	0,1–0,18	0,12–0,18	0,12–0,18	0,12–0,18	0,12–0,18	0,12–0,18	0,12–0,18	0,12–0,18
2.7		110–190	0,06–0,1	0,06–0,1	0,06–0,1	0,06–0,13	0,09–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16
3.1	160–320	140–220	0,08–0,18	0,1–0,18	0,1–0,18	0,12–0,22	0,14–0,25	0,16–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3
3.2	160–320	140–220	0,08–0,18	0,1–0,18	0,1–0,18	0,12–0,22	0,14–0,25	0,16–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3
3.3	120–200	140–220	0,08–0,18	0,12–0,18	0,12–0,18	0,12–0,22	0,14–0,25	0,16–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3
3.4	100–180	120–180	0,08–0,18	0,12–0,18	0,12–0,18	0,12–0,22	0,14–0,25	0,16–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3
3.5	90–150	110–170	0,08–0,18	0,12–0,18	0,12–0,18	0,12–0,22	0,14–0,25	0,16–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3
3.6	90–150	110–170	0,08–0,18	0,12–0,18	0,12–0,18	0,12–0,22	0,14–0,25	0,16–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3
3.7	90–150	110–170	0,08–0,18	0,12–0,18	0,12–0,18	0,12–0,22	0,14–0,25	0,16–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3
3.8	90–150	110–170	0,08–0,18	0,12–0,18	0,12–0,18	0,12–0,22	0,14–0,25	0,16–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3
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During the drilling operation on through holes a sharp disk will be produced.
Safety precautions must be observed.
A safety guard has to be provided as protection.

In order to ensure efficient chip evacuation, coolant pressure must be at least 5 bar.
Optimum pressure is > 15 bar.

Cutting data standard values for KUB Pentron – 5xD

Index	BK6115	BK8425	C and ABS											
			Ø 14–15,5 mm	Ø 16–17,5 mm	Ø 18–19,5 mm	Ø 20–21,5 mm	Ø 22–23,5 mm	Ø 24–25,5 mm	Ø 26–27,5 mm	Ø 28–30 mm	Ø 31–33 mm	Ø 34–37 mm	Ø 38–42 mm	Ø 43–46 mm
	v_c in m/min		f in mm/rev.											
1.1	250–350	200–320	0,04–0,09	0,06–0,1	0,06–0,1	0,05–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,08–0,12	0,08–0,12	0,08–0,12	0,08–0,12	0,08–0,12
1.2	250–350	200–320	0,04–0,09	0,06–0,1	0,06–0,1	0,05–0,12	0,06–0,12	0,06–0,12	0,06–0,12	0,08–0,12	0,08–0,12	0,08–0,12	0,08–0,12	0,08–0,12
1.3	250–300	250–300	0,04–0,1	0,06–0,13	0,08–0,13	0,08–0,14	0,09–0,14	0,09–0,14	0,09–0,14	0,09–0,14	0,09–0,14	0,09–0,14	0,09–0,14	0,09–0,14
1.4	250–300	250–300	0,04–0,1	0,06–0,13	0,08–0,13	0,08–0,14	0,09–0,14	0,09–0,14	0,09–0,14	0,09–0,14	0,09–0,14	0,09–0,14	0,09–0,14	0,09–0,14
1.5	250–300	250–300	0,04–0,1	0,06–0,13	0,08–0,13	0,08–0,14	0,09–0,14	0,09–0,14	0,09–0,14	0,09–0,14	0,09–0,14	0,09–0,14	0,09–0,14	0,09–0,14
1.6	200–280	140–220	0,06–0,12	0,06–0,13	0,08–0,13	0,08–0,18	0,13–0,22	0,14–0,22	0,14–0,2	0,1–0,2	0,1–0,2	0,1–0,2	0,1–0,2	0,1–0,2
1.7	200–280	140–220	0,06–0,12	0,06–0,13	0,08–0,13	0,08–0,18	0,13–0,22	0,14–0,22	0,14–0,2	0,1–0,2	0,1–0,2	0,1–0,2	0,1–0,2	0,1–0,2
1.8	200–280	140–220	0,06–0,12	0,06–0,13	0,08–0,13	0,08–0,18	0,13–0,22	0,14–0,22	0,14–0,2	0,1–0,2	0,1–0,2	0,1–0,2	0,1–0,2	0,1–0,2
1.9	250–300	250–300	0,04–0,1	0,06–0,13	0,08–0,13	0,08–0,14	0,09–0,14	0,09–0,14	0,09–0,14	0,09–0,14	0,09–0,14	0,09–0,14	0,09–0,14	0,09–0,14
1.10	200–280	140–220	0,06–0,12	0,06–0,13	0,08–0,13	0,08–0,18	0,13–0,22	0,14–0,22	0,14–0,2	0,1–0,2	0,1–0,2	0,1–0,2	0,1–0,2	0,1–0,2
1.11	200–280	140–220	0,06–0,12	0,06–0,13	0,08–0,13	0,08–0,18	0,13–0,22	0,14–0,22	0,14–0,2	0,1–0,2	0,1–0,2	0,1–0,2	0,1–0,2	0,1–0,2
1.12	200–280	140–220	0,06–0,12	0,06–0,13	0,08–0,13	0,08–0,18	0,13–0,22	0,14–0,22	0,14–0,2	0,1–0,2	0,1–0,2	0,1–0,2	0,1–0,2	0,1–0,2
1.13	200–280	140–220	0,06–0,12	0,06–0,13	0,08–0,13	0,08–0,18	0,13–0,22	0,14–0,22	0,14–0,2	0,1–0,2	0,1–0,2	0,1–0,2	0,1–0,2	0,1–0,2
1.14	200–280	140–220	0,06–0,12	0,06–0,13	0,08–0,13	0,08–0,18	0,13–0,22	0,14–0,22	0,14–0,2	0,1–0,2	0,1–0,2	0,1–0,2	0,1–0,2	0,1–0,2
1.15	170–230	120–200	0,06–0,12	0,08–0,15	0,09–0,15	0,09–0,2	0,12–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,2	0,14–0,2	0,14–0,2	0,14–0,2
1.16	170–230	120–200	0,06–0,12	0,08–0,15	0,09–0,15	0,09–0,2	0,12–0,22	0,14–0,22	0,14–0,22	0,14–0,22	0,14–0,2	0,14–0,2	0,14–0,2	0,14–0,2
2.1		150–210	0,06–0,1	0,06–0,1	0,06–0,1	0,06–0,13	0,09–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16
2.2		150–210	0,06–0,1	0,06–0,1	0,06–0,1	0,06–0,13	0,09–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16
2.3		150–210	0,06–0,1	0,06–0,1	0,06–0,1	0,06–0,13	0,09–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16	0,1–0,16
2.4		120–200	0,06–0,1	0,06–0,1	0,06–0,1	0,06–0,13	0,09–0,16	0,12–0,16	0,12–0,14	0,08–0,14	0,08–0,14	0,08–0,14	0,08–0,14	0,08–0,14
2.5		110–190	0,06–0,1	0,06–0,1	0,06–0,1	0,06–0,11	0,07–0,14	0,1–0,14	0,1–0,14	0,1–0,14	0,1–0,14	0,1–0,14	0,1–0,14	0,1–0,14
2.6		120–200	0,06–0,1	0,06–0,1	0,06–0,1	0,06–0,13	0,09–0,16	0,12–0,16	0,12–0,14	0,08–0,14	0,08–0,14	0,08–0,14	0,08–0,14	0,08–0,14
2.7		110–190	0,06–0,1	0,06–0,1	0,06–0,1	0,06–0,11	0,07–0,14	0,1–0,14	0,1–0,14	0,1–0,14	0,1–0,14	0,1–0,14	0,1–0,14	0,1–0,14
3.1	160–320	140–220	0,08–0,15	0,08–0,16	0,1–0,16	0,1–0,2	0,12–0,23	0,14–0,28	0,18–0,28	0,18–0,28	0,18–0,28	0,18–0,28	0,18–0,28	0,18–0,28
3.2	160–320	140–220	0,08–0,15	0,08–0,16	0,1–0,16	0,1–0,2	0,12–0,23	0,14–0,28	0,18–0,28	0,18–0,28	0,18–0,28	0,18–0,28	0,18–0,28	0,18–0,28
3.3	120–200	140–220	0,08–0,15	0,08–0,16	0,1–0,16	0,1–0,2	0,12–0,23	0,14–0,28	0,18–0,28	0,18–0,28	0,18–0,28	0,18–0,28	0,18–0,28	0,18–0,28
3.4	100–180	120–180	0,08–0,15	0,08–0,16	0,1–0,16	0,1–0,2	0,12–0,23	0,14–0,28	0,18–0,28	0,18–0,28	0,18–0,28	0,18–0,28	0,18–0,28	0,18–0,28
3.5	90–150	110–170	0,08–0,15	0,08–0,16	0,1–0,16	0,1–0,2	0,12–0,23	0,14–0,28	0,18–0,28	0,18–0,28	0,18–0,28	0,18–0,28	0,18–0,28	0,18–0,28
3.6	90–150	110–170	0,08–0,15	0,08–0,16	0,1–0,16	0,1–0,2	0,12–0,23	0,14–0,28	0,18–0,28	0,18–0,28	0,18–0,28	0,18–0,28	0,18–0,28	0,18–0,28
3.7	90–150	110–170	0,08–0,15	0,08–0,16	0,1–0,16	0,1–0,2	0,12–0,23	0,14–0,28	0,18–0,28	0,18–0,28	0,18–0,28	0,18–0,28	0,18–0,28	0,18–0,28
3.8	90–150	110–170	0,08–0,15	0,08–0,16	0,1–0,16	0,1–0,2	0,12–0,23	0,14–0,28	0,18–0,28	0,18–0,28	0,18–0,28	0,18–0,28	0,18–0,28	0,18–0,28
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During the drilling operation on through holes a sharp disk will be produced.
Safety precautions must be observed.
A safety guard has to be provided as protection.

In order to ensure efficient chip evacuation, coolant pressure must be at least 5 bar.
Optimum pressure is > 15 bar.

Cutting data standard values for MaxiDrill 900 – 2xD

Index	DRAGONSKIN CTCP420 (DCX1420)	DRAGONSKIN CTPP430 (CCN1430)	C									
			Ø 12–15,5 mm	Ø 16–17,5 mm	Ø 18–20,5 mm	Ø 21–23,5 mm	Ø 24–27,5 mm	Ø 28–32 mm	Ø 32,5–36,5 mm	Ø 37–41 mm	Ø 41,5–46 mm	Ø 46,5–63 mm
	v_c in m/min		f in mm/rev.									
1.1	**240–390**	**200–300**	0,04–0,16	0,04–0,17	0,05–0,18	0,06–0,20	0,07–0,22	0,07–0,24	0,07–0,24	0,10–0,25	0,10–0,27	0,10–0,29
1.2	**240–390**	**200–300**	0,04–0,16	0,04–0,17	0,05–0,18	0,06–0,20	0,07–0,22	0,07–0,24	0,07–0,24	0,10–0,25	0,10–0,27	0,10–0,29
1.3	**190–310**	**180–280**	0,04–0,16	0,04–0,17	0,05–0,18	0,06–0,20	0,07–0,22	0,07–0,24	0,07–0,24	0,10–0,25	0,10–0,27	0,10–0,29
1.4	**190–310**	**180–280**	0,04–0,13	0,04–0,14	0,05–0,15	0,05–0,15	0,06–0,17	0,06–0,19	0,06–0,19	0,10–0,21	0,10–0,23	0,10–0,23
1.5	**190–310**	**180–280**	0,04–0,15	0,04–0,15	0,05–0,16	0,05–0,17	0,06–0,19	0,06–0,21	0,06–0,21	0,08–0,22	0,08–0,22	0,09–0,26
1.6	**170–290**	**160–250**	0,04–0,15	0,05–0,16	0,05–0,18	0,06–0,20	0,07–0,22	0,07–0,24	0,07–0,24	0,10–0,25	0,10–0,27	0,10–0,29
1.7	**180–280**	**150–220**	0,04–0,17	0,05–0,18	0,05–0,20	0,06–0,22	0,07–0,23	0,07–0,25	0,07–0,25	0,10–0,27	0,10–0,30	0,10–0,32
1.8	**170–280**	**130–200**	0,04–0,15	0,05–0,16	0,05–0,18	0,06–0,20	0,07–0,23	0,07–0,25	0,07–0,25	0,10–0,25	0,10–0,27	0,10–0,29
1.9	**170–280**	**130–200**	0,04–0,17	0,05–0,18	0,05–0,20	0,06–0,22	0,07–0,23	0,07–0,25	0,07–0,25	0,10–0,27	0,10–0,30	0,10–0,32
1.10	**170–280**	**130–200**	0,04–0,15	0,05–0,16	0,05–0,18	0,06–0,20	0,07–0,23	0,07–0,25	0,07–0,25	0,08–0,25	0,09–0,27	0,10–0,29
1.11	**170–280**	**130–200**	0,04–0,15	0,05–0,16	0,05–0,18	0,06–0,20	0,07–0,23	0,07–0,25	0,07–0,25	0,08–0,25	0,09–0,27	0,10–0,29
1.12	**170–280**	**130–200**	0,04–0,15	0,05–0,16	0,05–0,18	0,06–0,20	0,07–0,23	0,07–0,25	0,07–0,25	0,08–0,25	0,09–0,27	0,10–0,29
1.13	**170–280**	**130–200**	0,04–0,16	0,05–0,17	0,05–0,18	0,06–0,20	0,07–0,23	0,07–0,25	0,07–0,25	0,10–0,25	0,10–0,27	0,10–0,30
1.14	**170–280**	**130–200**	0,04–0,16	0,05–0,17	0,05–0,18	0,06–0,20	0,07–0,23	0,07–0,25	0,07–0,25	0,10–0,25	0,10–0,27	0,10–0,30
1.15	**120–200**	**100–160**	0,04–0,16	0,05–0,17	0,05–0,18	0,06–0,20	0,07–0,23	0,07–0,25	0,07–0,25	0,10–0,25	0,10–0,27	0,10–0,30
1.16	**120–200**	**100–160**	0,04–0,16	0,05–0,17	0,05–0,18	0,06–0,20	0,07–0,23	0,07–0,25	0,07–0,25	0,10–0,25	0,10–0,27	0,10–0,30
2.1	140–230	**100–180**	0,04–0,11	0,04–0,12	0,05–0,15	0,06–0,15	0,06–0,17	0,06–0,19	0,06–0,19	0,10–0,22	0,10–0,22	0,10–0,22
2.2	140–230	**100–180**	0,04–0,11	0,04–0,12	0,05–0,15	0,06–0,15	0,06–0,17	0,06–0,19	0,06–0,19	0,10–0,22	0,10–0,22	0,10–0,22
2.3		**100–180**	0,04–0,12	0,04–0,13	0,05–0,15	0,05–0,16	0,05–0,18	0,06–0,18	0,06–0,18	0,09–0,23	0,10–0,23	0,10–0,23
2.4		**80–140**	0,04–0,12	0,04–0,13	0,05–0,15	0,05–0,16	0,05–0,18	0,06–0,18	0,06–0,18	0,09–0,23	0,10–0,23	0,10–0,23
2.5		**80–140**	0,04–0,10	0,04–0,11	0,05–0,13	0,05–0,14	0,05–0,15	0,05–0,15	0,05–0,16	0,08–0,20	0,08–0,20	0,08–0,20
2.6	140–230	**100–160**	0,04–0,11	0,04–0,12	0,05–0,14	0,05–0,15	0,06–0,15	0,06–0,16	0,06–0,17	0,10–0,22	0,10–0,22	0,10–0,22
2.7		**80–140**	0,04–0,10	0,04–0,11	0,05–0,13	0,05–0,14	0,05–0,15	0,05–0,15	0,05–0,16	0,08–0,20	0,08–0,20	0,08–0,20
3.1	**190–310**	120–200	0,07–0,20	0,07–0,22	0,08–0,24	0,10–0,25	0,1–0,28	0,1–0,28	0,1–0,30	0,10–0,32	0,10–0,32	0,10–0,34
3.2	**170–290**	100–180	0,07–0,19	0,07–0,20	0,08–0,22	0,10–0,24	0,1–0,26	0,1–0,26	0,1–0,28	0,10–0,30	0,10–0,30	0,10–0,32
3.3	**190–310**	120–200	0,07–0,20	0,07–0,20	0,08–0,22	0,10–0,25	0,1–0,28	0,1–0,28	0,1–0,28	0,10–0,30	0,10–0,30	0,10–0,32
3.4	**170–290**	100–180	0,07–0,18	0,07–0,18	0,08–0,20	0,10–0,23	0,1–0,25	0,1–0,25	0,1–0,25	0,10–0,27	0,10–0,27	0,10–0,29
3.5	**140–230**	80–160	0,07–0,19	0,07–0,20	0,08–0,21	0,10–0,25	0,1–0,28	0,1–0,28	0,1–0,30	0,10–0,32	0,10–0,32	0,10–0,34
3.6	**130–210**	70–150	0,07–0,19	0,07–0,20	0,08–0,21	0,10–0,25	0,1–0,28	0,1–0,28	0,1–0,30	0,10–0,32	0,10–0,32	0,10–0,34
3.7	**140–230**	80–160	0,07–0,19	0,07–0,20	0,08–0,21	0,10–0,25	0,1–0,28	0,1–0,28	0,1–0,30	0,10–0,32	0,10–0,32	0,10–0,34
3.8	**130–210**	70–150	0,07–0,19	0,07–0,20	0,08–0,21	0,10–0,25	0,1–0,28	0,1–0,28	0,1–0,30	0,10–0,32	0,10–0,32	0,10–0,34
4.1		150–500	0,06–0,12	0,07–0,14	0,08–0,15	0,10–0,16	0,10–0,16	0,10–0,17	0,10–0,17	0,10–0,18	0,10–0,18	0,10–0,18
4.2		150–450	0,06–0,12	0,07–0,14	0,08–0,15	0,10–0,18	0,10–0,18	0,10–0,19	0,10–0,19	0,10–0,20	0,10–0,20	0,10–0,20
4.3		150–350	0,06–0,12	0,07–0,14	0,08–0,15	0,10–0,18	0,10–0,18	0,10–0,19	0,10–0,19	0,10–0,20	0,10–0,20	0,10–0,20
4.4		150–300	0,06–0,12	0,07–0,14	0,08–0,15	0,10–0,18	0,10–0,18	0,10–0,19	0,10–0,19	0,10–0,20	0,10–0,20	0,10–0,20
4.5												
4.6		150–300	0,06–0,13	0,07–0,16	0,08–0,15	0,10–0,15	0,10–0,15	0,10–0,17	0,10–0,17	0,10–0,19	0,10–0,19	0,10–0,19
4.7		150–300	0,06–0,13	0,07–0,16	0,08–0,15	0,10–0,15	0,10–0,15	0,10–0,17	0,10–0,17	0,10–0,19	0,10–0,19	0,10–0,19
4.8		150–300	0,06–0,13	0,07–0,16	0,08–0,15	0,10–0,15	0,10–0,15	0,10–0,17	0,10–0,17	0,10–0,19	0,10–0,19	0,10–0,19
4.9		150–300	0,06–0,13	0,07–0,16	0,08–0,15	0,10–0,15	0,10–0,15	0,10–0,17	0,10–0,17	0,10–0,19	0,10–0,19	0,10–0,19
4.10		150–300	0,06–0,13	0,07–0,16	0,08–0,15	0,10–0,15	0,10–0,15	0,10–0,17	0,10–0,17	0,10–0,19	0,10–0,19	0,10–0,19
4.11		150–300	0,06–0,15	0,07–0,16	0,08–0,18	0,10–0,18	0,10–0,18	0,10–0,20	0,10–0,20	0,10–0,25	0,10–0,25	0,10–0,25
4.12		150–300	0,06–0,15	0,07–0,16	0,08–0,18	0,10–0,18	0,10–0,18	0,10–0,20	0,10–0,20	0,10–0,25	0,10–0,25	0,10–0,25
4.13												
4.14		50–150	0,04–0,09	0,04–0,10	0,05–0,10	0,05–0,12	0,05–0,12	0,05–0,12	0,05–0,12	0,05–0,12	0,05–0,12	0,05–0,12
4.15		50–140	0,06–0,14	0,07–0,14	0,08–0,15	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,18	0,10–0,18	0,10–0,18
4.16												
4.17												
4.18												
4.19												
5.1		20–80	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,12	0,05–0,12	0,05–0,12	0,06–0,15
5.2		20–80	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,12	0,05–0,12	0,05–0,12	0,06–0,15
5.3		20–80	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,12	0,05–0,12	0,05–0,12	0,06–0,15
5.4		20–80	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,12	0,05–0,12	0,05–0,12	0,06–0,15
5.5		20–80	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,12	0,05–0,12	0,05–0,12	0,06–0,15
5.6		20–80	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,12	0,05–0,12	0,05–0,12	0,06–0,15
5.7		20–80	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,12	0,05–0,12	0,05–0,12	0,06–0,15
5.8		20–80	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,12	0,05–0,12	0,05–0,12	0,06–0,15
5.9		40–100	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,12	0,05–0,12	0,05–0,12	0,06–0,15
5.10		40–80	0,04–0,10	0,04–0,10	0,07–0,10	0,05–0,12	0,06–0,12	0,07–0,15	0,07–0,15	0,08–0,16	0,08–0,16	0,08–0,18
5.11		40–80	0,04–0,10	0,04–0,10	0,07–0,10	0,05–0,12	0,06–0,12	0,07–0,15	0,07–0,15	0,08–0,16	0,08–0,16	0,08–0,18
6.1												
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During the drilling operation on through holes a sharp disk will be produced.
Safety precautions must be observed.
A safety guard has to be provided as protection.

In order to ensure efficient chip evacuation, coolant pressure must be at least 5 bar.
Optimum pressure is > 15 bar.

3

Cutting data standard values for MaxiDrill 900 + KUB 100 – 3xD

	DRAGONSKIN	DRAGONSKIN	C									
Index	CTCP420 (DCX1420)	CTPP430 (CCN1430)	Ø 12–15,5 mm	Ø 16–17,5 mm	Ø 18–20,5 mm	Ø 21–23,5 mm	Ø 24–27,5 mm	Ø 28–32 mm	Ø 32,5–36,5 mm	Ø 37–41 mm	Ø 41,5–46 mm	Ø 46,5–63 mm
	v_c in m/min		f in mm/rev.									
1.1	240–390	200–300	0,04–0,16	0,04–0,17	0,05–0,18	0,06–0,20	0,07–0,22	0,07–0,24	0,07–0,24	0,10–0,25	0,10–0,27	0,10–0,29
1.2	240–390	200–300	0,04–0,16	0,04–0,17	0,05–0,18	0,06–0,20	0,07–0,22	0,07–0,24	0,07–0,24	0,10–0,25	0,10–0,27	0,10–0,29
1.3	190–310	180–280	0,04–0,16	0,04–0,17	0,05–0,18	0,06–0,20	0,07–0,22	0,07–0,24	0,07–0,24	0,10–0,25	0,10–0,27	0,10–0,29
1.4	190–310	180–280	0,04–0,13	0,04–0,14	0,05–0,15	0,05–0,15	0,06–0,17	0,06–0,19	0,06–0,19	0,10–0,21	0,10–0,23	0,10–0,23
1.5	190–310	180–280	0,04–0,15	0,04–0,15	0,05–0,16	0,05–0,17	0,06–0,19	0,06–0,21	0,06–0,21	0,08–0,22	0,08–0,22	0,09–0,24
1.6	170–290	160–250	0,04–0,15	0,05–0,16	0,05–0,18	0,06–0,20	0,07–0,22	0,07–0,24	0,07–0,24	0,10–0,25	0,10–0,27	0,10–0,29
1.7	180–280	150–220	0,04–0,17	0,05–0,18	0,05–0,20	0,06–0,22	0,07–0,23	0,07–0,25	0,07–0,25	0,10–0,27	0,10–0,30	0,10–0,32
1.8	170–280	130–200	0,04–0,15	0,05–0,16	0,05–0,18	0,06–0,20	0,07–0,23	0,07–0,25	0,07–0,25	0,10–0,25	0,10–0,27	0,10–0,29
1.9	170–280	130–200	0,04–0,17	0,05–0,18	0,05–0,20	0,06–0,22	0,07–0,23	0,07–0,25	0,07–0,25	0,10–0,27	0,10–0,30	0,10–0,32
1.10	170–280	130–200	0,04–0,15	0,05–0,16	0,05–0,18	0,06–0,20	0,07–0,23	0,07–0,25	0,07–0,25	0,08–0,25	0,09–0,27	0,10–0,29
1.11	170–280	130–200	0,04–0,15	0,05–0,16	0,05–0,18	0,06–0,20	0,07–0,23	0,07–0,25	0,07–0,25	0,08–0,25	0,09–0,27	0,10–0,29
1.12	170–280	130–200	0,04–0,15	0,05–0,16	0,05–0,18	0,06–0,20	0,07–0,23	0,07–0,25	0,07–0,25	0,08–0,25	0,09–0,27	0,10–0,29
1.13	170–280	130–200	0,04–0,16	0,05–0,17	0,05–0,18	0,06–0,20	0,07–0,23	0,07–0,25	0,07–0,25	0,10–0,25	0,10–0,27	0,10–0,30
1.14	170–280	130–200	0,04–0,16	0,05–0,17	0,05–0,18	0,06–0,20	0,07–0,23	0,07–0,25	0,07–0,25	0,10–0,25	0,10–0,27	0,10–0,30
1.15	120–200	100–160	0,04–0,16	0,05–0,17	0,05–0,18	0,06–0,20	0,07–0,23	0,07–0,25	0,07–0,25	0,10–0,25	0,10–0,27	0,10–0,30
1.16	120–200	100–160	0,04–0,16	0,05–0,17	0,05–0,18	0,06–0,20	0,07–0,23	0,07–0,25	0,07–0,25	0,10–0,25	0,10–0,27	0,10–0,30
2.1	140–230	100–180	0,04–0,11	0,04–0,12	0,05–0,15	0,06–0,15	0,06–0,17	0,06–0,19	0,06–0,19	0,10–0,22	0,10–0,22	0,10–0,22
2.2	140–230	100–180	0,04–0,11	0,04–0,12	0,05–0,15	0,06–0,15	0,06–0,17	0,06–0,19	0,06–0,19	0,10–0,22	0,10–0,22	0,10–0,22
2.3		100–180	0,04–0,12	0,04–0,13	0,05–0,15	0,05–0,16	0,05–0,18	0,06–0,18	0,06–0,18	0,09–0,23	0,10–0,23	0,10–0,23
2.4		80–140	0,04–0,12	0,04–0,13	0,05–0,15	0,05–0,16	0,05–0,18	0,06–0,18	0,06–0,18	0,09–0,23	0,10–0,23	0,10–0,23
2.5		80–140	0,04–0,10	0,04–0,11	0,05–0,13	0,05–0,14	0,05–0,15	0,05–0,15	0,05–0,16	0,08–0,20	0,08–0,20	0,08–0,20
2.6	140–230	100–160	0,04–0,11	0,04–0,12	0,05–0,14	0,05–0,15	0,06–0,15	0,06–0,16	0,06–0,17	0,10–0,22	0,10–0,22	0,10–0,22
2.7		80–140	0,04–0,10	0,04–0,11	0,05–0,13	0,05–0,14	0,05–0,15	0,05–0,15	0,05–0,16	0,08–0,20	0,08–0,20	0,08–0,20
3.1	190–310	120–200	0,07–0,20	0,07–0,22	0,08–0,24	0,10–0,25	0,1–0,28	0,1–0,28	0,1–0,30	0,10–0,32	0,10–0,32	0,10–0,34
3.2	170–290	100–180	0,07–0,19	0,07–0,20	0,08–0,22	0,10–0,24	0,1–0,26	0,1–0,26	0,1–0,28	0,10–0,30	0,10–0,30	0,10–0,32
3.3	190–310	120–200	0,07–0,20	0,07–0,20	0,08–0,22	0,10–0,25	0,1–0,28	0,1–0,28	0,1–0,28	0,10–0,30	0,10–0,30	0,10–0,32
3.4	170–290	100–180	0,07–0,18	0,07–0,18	0,08–0,20	0,10–0,23	0,1–0,25	0,1–0,25	0,1–0,25	0,10–0,27	0,10–0,27	0,10–0,29
3.5	140–230	80–160	0,07–0,19	0,07–0,20	0,08–0,21	0,10–0,25	0,1–0,28	0,1–0,28	0,1–0,30	0,10–0,32	0,10–0,32	0,10–0,34
3.6	130–210	70–150	0,07–0,19	0,07–0,20	0,08–0,21	0,10–0,25	0,1–0,28	0,1–0,28	0,1–0,30	0,10–0,32	0,10–0,32	0,10–0,34
3.7	140–230	80–160	0,07–0,19	0,07–0,20	0,08–0,21	0,10–0,25	0,1–0,28	0,1–0,28	0,1–0,30	0,10–0,32	0,10–0,32	0,10–0,34
3.8	130–210	70–150	0,07–0,19	0,07–0,20	0,08–0,21	0,10–0,25	0,1–0,28	0,1–0,28	0,1–0,30	0,10–0,32	0,10–0,32	0,10–0,34
4.1		150–500	0,06–0,12	0,07–0,14	0,08–0,15	0,10–0,16	0,10–0,16	0,10–0,17	0,10–0,17	0,10–0,18	0,10–0,18	0,10–0,18
4.2		150–450	0,06–0,12	0,07–0,14	0,08–0,15	0,10–0,18	0,10–0,18	0,10–0,19	0,10–0,19	0,10–0,20	0,10–0,20	0,10–0,20
4.3		150–350	0,06–0,12	0,07–0,14	0,08–0,15	0,10–0,18	0,10–0,18	0,10–0,19	0,10–0,19	0,10–0,20	0,10–0,20	0,10–0,20
4.4		150–300	0,06–0,12	0,07–0,14	0,08–0,15	0,10–0,18	0,10–0,18	0,10–0,19	0,10–0,19	0,10–0,20	0,10–0,20	0,10–0,20
4.5												
4.6		150–300	0,06–0,13	0,07–0,16	0,08–0,15	0,10–0,15	0,10–0,15	0,10–0,17	0,10–0,17	0,10–0,19	0,10–0,19	0,10–0,19
4.7		150–300	0,06–0,13	0,07–0,16	0,08–0,15	0,10–0,15	0,10–0,15	0,10–0,17	0,10–0,17	0,10–0,19	0,10–0,19	0,10–0,19
4.8		150–300	0,06–0,13	0,07–0,16	0,08–0,15	0,10–0,15	0,10–0,15	0,10–0,17	0,10–0,17	0,10–0,19	0,10–0,19	0,10–0,19
4.9		150–300	0,06–0,13	0,07–0,16	0,08–0,15	0,10–0,15	0,10–0,15	0,10–0,17	0,10–0,17	0,10–0,19	0,10–0,19	0,10–0,19
4.10		150–300	0,06–0,13	0,07–0,16	0,08–0,15	0,10–0,15	0,10–0,15	0,10–0,17	0,10–0,17	0,10–0,19	0,10–0,19	0,10–0,19
4.11		150–300	0,06–0,15	0,07–0,16	0,08–0,18	0,10–0,18	0,10–0,18	0,10–0,20	0,10–0,20	0,10–0,25	0,10–0,25	0,10–0,25
4.12		150–300	0,06–0,15	0,07–0,16	0,08–0,18	0,10–0,18	0,10–0,18	0,10–0,20	0,10–0,20	0,10–0,25	0,10–0,25	0,10–0,25
4.13												
4.14		50–150	0,04–0,09	0,04–0,10	0,05–0,10	0,05–0,12	0,05–0,12	0,05–0,12	0,05–0,12	0,05–0,12	0,05–0,12	0,05–0,12
4.15		50–140	0,06–0,14	0,07–0,14	0,08–0,15	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,18	0,10–0,18	0,10–0,18
4.16												
4.17												
4.18												
4.19												
5.1		20–80	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,12	0,05–0,12	0,05–0,12	0,06–0,15
5.2		20–80	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,12	0,05–0,12	0,05–0,12	0,06–0,15
5.3		20–80	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,12	0,05–0,12	0,05–0,12	0,06–0,15
5.4		20–80	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,12	0,05–0,12	0,05–0,12	0,06–0,15
5.5		20–80	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,12	0,05–0,12	0,05–0,12	0,06–0,15
5.6		20–80	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,12	0,05–0,12	0,05–0,12	0,06–0,15
5.7		20–80	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,12	0,05–0,12	0,05–0,12	0,06–0,15
5.8		20–80	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,12	0,05–0,12	0,05–0,12	0,06–0,15
5.9		40–100	0,03–0,07	0,04–0,08	0,04–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,12	0,05–0,12	0,05–0,12	0,06–0,15
5.10		40–80	0,04–0,10	0,04–0,10	0,07–0,10	0,05–0,12	0,06–0,12	0,07–0,15	0,07–0,15	0,08–0,16	0,08–0,16	0,08–0,18
5.11		40–80	0,04–0,10	0,04–0,10	0,07–0,10	0,05–0,12	0,06–0,12	0,07–0,15	0,07–0,15	0,08–0,16	0,08–0,16	0,08–0,18
6.1												
6.2												
6.3												
6.4												
6.5												

During the drilling operation on through holes a sharp disk will be produced.
Safety precautions must be observed.
A safety guard has to be provided as protection.

In order to ensure efficient chip evacuation, coolant pressure must be at least 5 bar.
Optimum pressure is > 15 bar.

Cutting data for MaxiDrill 900 indexable insert drill – 4xD

Index	DRAGONSKIN CTCP420 (DCX1420)	DRAGONSKIN CTPP430 (CCN1430)	C									
			Ø 12–15,5 mm	Ø 16–17,5 mm	Ø 18–20 mm	Ø 21–23 mm	Ø 24–27 mm	Ø 28–32 mm	Ø 33–36 mm	Ø 37–41 mm	Ø 41,5–46 mm	Ø 46,5–54 mm
	v_c in m/min		f in mm/rev.									
1.1	**240–390**	**200–300**	0,04–0,14	0,04–0,15	0,05–0,16	0,06–0,18	0,07–0,20	0,07–0,22	0,07–0,22	0,07–0,23	0,07–0,23	0,08–0,25
1.2	**240–390**	**200–300**	0,04–0,14	0,04–0,15	0,05–0,16	0,06–0,18	0,07–0,20	0,07–0,22	0,07–0,22	0,07–0,23	0,07–0,23	0,08–0,25
1.3	**190–310**	**180–280**	0,04–0,14	0,04–0,15	0,05–0,16	0,06–0,18	0,07–0,20	0,07–0,22	0,07–0,22	0,07–0,23	0,07–0,23	0,08–0,25
1.4	**190–310**	**180–280**	0,04–0,11	0,04–0,12	0,05–0,12	0,05–0,13	0,06–0,15	0,06–0,17	0,06–0,17	0,06–0,17	0,06–0,17	0,07–0,17
1.5	**190–310**	**180–280**	0,04–0,13	0,04–0,14	0,05–0,14	0,05–0,15	0,06–0,17	0,06–0,19	0,06–0,19	0,06–0,20	0,06–0,20	0,07–0,22
1.6	**170–290**	**160–250**	0,04–0,14	0,04–0,15	0,05–0,16	0,06–0,18	0,07–0,20	0,07–0,22	0,07–0,22	0,07–0,23	0,07–0,23	0,08–0,25
1.7	**180–280**	**150–220**	0,04–0,17	0,04–0,18	0,05–0,18	0,06–0,20	0,07–0,20	0,07–0,23	0,07–0,23	0,07–0,24	0,07–0,24	0,08–0,26
1.8	**170–280**	**130–200**	0,04–0,14	0,04–0,15	0,05–0,15	0,06–0,17	0,07–0,20	0,07–0,23	0,07–0,23	0,07–0,23	0,07–0,23	0,08–0,25
1.9	**170–280**	**130–200**	0,04–0,17	0,04–0,18	0,05–0,18	0,06–0,20	0,07–0,20	0,07–0,23	0,07–0,23	0,07–0,24	0,07–0,24	0,08–0,26
1.10	**170–280**	**130–200**	0,04–0,14	0,04–0,15	0,05–0,15	0,06–0,17	0,07–0,20	0,07–0,23	0,07–0,23	0,07–0,23	0,07–0,23	0,08–0,25
1.11	**170–280**	**130–200**	0,04–0,14	0,04–0,15	0,05–0,15	0,06–0,17	0,07–0,20	0,07–0,23	0,07–0,23	0,07–0,23	0,07–0,23	0,08–0,25
1.12	**170–280**	**130–200**	0,04–0,14	0,04–0,15	0,05–0,15	0,06–0,17	0,07–0,20	0,07–0,23	0,07–0,23	0,07–0,23	0,07–0,23	0,08–0,25
1.13	**170–280**	**130–200**	0,04–0,14	0,04–0,15	0,05–0,15	0,06–0,17	0,07–0,20	0,07–0,23	0,07–0,23	0,07–0,23	0,07–0,23	0,08–0,25
1.14	**170–280**	**130–200**	0,04–0,14	0,04–0,15	0,05–0,15	0,06–0,18	0,07–0,20	0,07–0,23	0,07–0,23	0,07–0,23	0,07–0,23	0,08–0,25
1.15	**120–200**	**100–160**	0,04–0,14	0,04–0,15	0,05–0,15	0,06–0,18	0,07–0,20	0,07–0,23	0,07–0,23	0,07–0,23	0,07–0,23	0,08–0,25
1.16	**120–200**	**100–160**	0,04–0,14	0,04–0,15	0,05–0,15	0,06–0,18	0,07–0,20	0,07–0,23	0,07–0,23	0,07–0,23	0,07–0,23	0,08–0,25
2.1	140–230	**100–180**	0,04–0,10	0,04–0,10	0,05–0,12	0,06–0,12	0,06–0,15	0,06–0,17	0,06–0,17	0,08–0,20	0,08–0,20	0,08–0,20
2.2	140–230	**100–180**	0,04–0,10	0,04–0,10	0,05–0,12	0,06–0,12	0,06–0,15	0,06–0,17	0,06–0,17	0,08–0,20	0,08–0,20	0,08–0,20
2.3		**100–180**	0,04–0,12	0,04–0,12	0,05–0,15	0,05–0,16	0,05–0,18	0,06–0,16	0,06–0,16	0,08–0,22	0,08–0,22	0,08–0,22
2.4		**80–140**	0,04–0,12	0,04–0,12	0,05–0,15	0,05–0,16	0,05–0,18	0,06–0,16	0,06–0,16	0,08–0,22	0,08–0,22	0,08–0,22
2.5		**80–140**	0,04–0,10	0,04–0,10	0,05–0,10	0,05–0,12	0,05–0,13	0,05–0,13	0,05–0,13	0,07–0,16	0,07–0,16	0,07–0,16
2.6	140–230	**100–160**	0,04–0,10	0,04–0,10	0,05–0,12	0,05–0,13	0,06–0,13	0,06–0,14	0,06–0,14	0,08–0,20	0,08–0,20	0,08–0,20
2.7		**80–140**	0,04–0,10	0,04–0,10	0,05–0,10	0,05–0,12	0,05–0,13	0,05–0,13	0,05–0,13	0,07–0,16	0,07–0,16	0,07–0,16
3.1	**190–310**	120–200	0,07–0,18	0,07–0,20	0,08–0,22	0,10–0,24	0,1–0,25	0,1–0,25	0,1–0,28	0,10–0,30	0,10–0,30	0,10–0,30
3.2	**170–290**	100–180	0,07–0,17	0,07–0,18	0,08–0,20	0,10–0,22	0,1–0,25	0,1–0,25	0,1–0,27	0,10–0,29	0,10–0,29	0,10–0,29
3.3	**190–310**	120–200	0,07–0,18	0,07–0,18	0,08–0,20	0,10–0,24	0,1–0,26	0,1–0,26	0,1–0,26	0,10–0,28	0,10–0,28	0,10–0,28
3.4	**170–290**	100–180	0,07–0,17	0,07–0,18	0,08–0,18	0,10–0,22	0,1–0,22	0,1–0,22	0,1–0,23	0,10–0,25	0,10–0,25	0,10–0,25
3.5	**140–230**	80–160	0,07–0,17	0,07–0,18	0,08–0,18	0,10–0,22	0,1–0,25	0,1–0,25	0,1–0,28	0,10–0,30	0,10–0,30	0,10–0,30
3.6	**130–210**	70–150	0,07–0,17	0,07–0,18	0,08–0,18	0,10–0,22	0,1–0,25	0,1–0,25	0,1–0,28	0,10–0,30	0,10–0,30	0,10–0,30
3.7	**140–230**	80–160	0,07–0,17	0,07–0,18	0,08–0,18	0,10–0,22	0,1–0,25	0,1–0,25	0,1–0,28	0,10–0,30	0,10–0,30	0,10–0,30
3.8	**130–210**	70–150	0,07–0,17	0,07–0,18	0,08–0,18	0,10–0,22	0,1–0,25	0,1–0,25	0,1–0,28	0,10–0,30	0,10–0,30	0,10–0,30
4.1		150–500	0,06–0,12	0,07–0,14	0,08–0,15	0,10–0,16	0,10–0,16	0,10–0,17	0,10–0,17	0,10–0,17	0,10–0,17	0,10–0,17
4.2		150–450	0,06–0,12	0,07–0,14	0,08–0,15	0,10–0,18	0,10–0,18	0,10–0,19	0,10–0,19	0,10–0,20	0,10–0,20	0,10–0,20
4.3		150–350	0,06–0,12	0,07–0,14	0,08–0,15	0,10–0,18	0,10–0,18	0,10–0,19	0,10–0,19	0,10–0,20	0,10–0,20	0,10–0,20
4.4		150–300	0,06–0,12	0,07–0,14	0,08–0,15	0,10–0,18	0,10–0,18	0,10–0,19	0,10–0,19	0,10–0,20	0,10–0,20	0,10–0,20
4.5												
4.6		150–300	0,06–0,13	0,07–0,14	0,08–0,15	0,10–0,15	0,10–0,15	0,10–0,17	0,10–0,17	0,10–0,18	0,10–0,18	0,10–0,18
4.7		150–300	0,06–0,13	0,07–0,14	0,08–0,15	0,10–0,15	0,10–0,15	0,10–0,17	0,10–0,17	0,10–0,18	0,10–0,18	0,10–0,18
4.8		150–300	0,06–0,13	0,07–0,14	0,08–0,15	0,10–0,15	0,10–0,15	0,10–0,17	0,10–0,17	0,10–0,18	0,10–0,18	0,10–0,18
4.9		150–300	0,06–0,13	0,07–0,14	0,08–0,15	0,10–0,15	0,10–0,15	0,10–0,17	0,10–0,17	0,10–0,18	0,10–0,18	0,10–0,18
4.10		150–300	0,06–0,13	0,07–0,14	0,08–0,15	0,10–0,15	0,10–0,15	0,10–0,17	0,10–0,17	0,10–0,18	0,10–0,18	0,10–0,18
4.11		150–300	0,06–0,15	0,07–0,16	0,08–0,18	0,10–0,18	0,10–0,18	0,10–0,20	0,10–0,20	0,10–0,22	0,10–0,22	0,10–0,22
4.12		150–300	0,06–0,15	0,07–0,16	0,08–0,18	0,10–0,18	0,10–0,18	0,10–0,20	0,10–0,20	0,10–0,22	0,10–0,22	0,10–0,22
4.13												
4.14		50–150	0,04–0,09	0,04–0,10	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,12	0,05–0,12	0,05–0,12	0,05–0,12	0,05–0,12
4.15		50–140	0,06–0,14	0,07–0,14	0,08–0,14	0,10–0,15	0,10–0,16	0,10–0,16	0,10–0,16	0,10–0,18	0,10–0,18	0,10–0,18
4.16												
4.17												
4.18												
4.19												
5.1		20–80	0,03–0,07	0,04–0,07	0,04–0,07	0,04–0,07	0,05–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10
5.2		20–80	0,03–0,07	0,04–0,07	0,04–0,07	0,04–0,07	0,05–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10
5.3		20–80	0,03–0,07	0,04–0,07	0,04–0,07	0,04–0,07	0,05–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10
5.4		20–80	0,03–0,07	0,04–0,07	0,04–0,07	0,04–0,07	0,05–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10
5.5		20–80	0,03–0,07	0,04–0,07	0,04–0,07	0,04–0,07	0,05–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10
5.6		20–80	0,03–0,07	0,04–0,07	0,04–0,07	0,04–0,07	0,05–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10
5.7		20–80	0,03–0,07	0,04–0,07	0,04–0,07	0,04–0,07	0,05–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10
5.8		20–80	0,03–0,07	0,04–0,07	0,04–0,07	0,04–0,07	0,05–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10
5.9		40–100	0,03–0,07	0,04–0,07	0,04–0,07	0,04–0,07	0,05–0,08	0,05–0,08	0,05–0,10	0,05–0,10	0,05–0,10	0,05–0,10
5.10		40–80	0,04–0,10	0,04–0,10	0,05–0,10	0,05–0,12	0,05–0,12	0,06–0,15	0,07–0,15	0,07–0,15	0,07–0,15	0,07–0,15
5.11		40–80	0,04–0,10	0,04–0,10	0,05–0,10	0,05–0,12	0,05–0,12	0,06–0,15	0,07–0,15	0,07–0,15	0,07–0,15	0,07–0,15
6.1												
6.2												
6.3												
6.4												
6.5												

During the drilling operation on through holes a sharp disk will be produced.
Safety precautions must be observed.
A safety guard has to be provided as protection.

In order to ensure efficient chip evacuation, coolant pressure must be at least 5 bar.
Optimum pressure is > 15 bar.

3

Cutting data standard values for MaxiDrill 900 – 5xD

	DRAGONSKIN	DRAGONSKIN	C							
Index	CTCP420 (DCX1420)	CTPP430 (CCN1430)	Ø 12-15,5 mm	Ø 16-17,5 mm	Ø 18-20 mm	Ø 21-23 mm	Ø 24-27 mm	Ø 28-32 mm	Ø 33-36 mm	Ø 37-41 mm
	v_c in m/min		f in mm/rev.							
1.1	240–390	200–300	0,04-0,12	0,04-0,12	0,05-0,12	0,05-0,15	0,07-0,17	0,08-0,19	0,08-0,19	0,10-0,23
1.2	240–390	200–300	0,04-0,12	0,04-0,12	0,05-0,12	0,05-0,15	0,07-0,17	0,08-0,19	0,08-0,19	0,10-0,23
1.3	190–310	180–280	0,04-0,12	0,04-0,12	0,05-0,12	0,05-0,15	0,07-0,17	0,08-0,19	0,08-0,19	0,10-0,23
1.4	190–310	180–280	0,04-0,09	0,04-0,09	0,04-0,08	0,04-0,10	0,06-0,12	0,06-0,14	0,06-0,14	0,08-0,17
1.5	190–310	180–280	0,04-0,10	0,04-0,10	0,05-0,10	0,05-0,12	0,06-0,14	0,06-0,16	0,06-0,16	0,08-0,20
1.6	170–290	160–250	0,04-0,10	0,04-0,12	0,05-0,12	0,05-0,15	0,07-0,17	0,08-0,19	0,08-0,19	0,10-0,23
1.7	180–280	150–220	0,04-0,15	0,04-0,15	0,05-0,15	0,05-0,17	0,07-0,18	0,08-0,20	0,08-0,20	0,10-0,25
1.8	170–280	130–200	0,04-0,13	0,04-0,14	0,05-0,13	0,05-0,15	0,07-0,17	0,08-0,19	0,08-0,19	0,10-0,23
1.9	170–280	130–200	0,04-0,15	0,04-0,16	0,05-0,15	0,05-0,17	0,07-0,18	0,08-0,20	0,08-0,20	0,10-0,25
1.10	170–280	130–200	0,04-0,12	0,04-0,13	0,05-0,13	0,05-0,15	0,07-0,17	0,08-0,19	0,08-0,19	0,10-0,25
1.11	170–280	130–200	0,04-0,12	0,04-0,13	0,05-0,13	0,05-0,15	0,07-0,17	0,08-0,19	0,08-0,19	0,10-0,25
1.12	170–280	130–200	0,04-0,12	0,04-0,13	0,05-0,13	0,05-0,15	0,07-0,17	0,08-0,19	0,08-0,19	0,10-0,25
1.13	170–280	130–200	0,04-0,12	0,04-0,13	0,05-0,13	0,05-0,15	0,07-0,17	0,08-0,19	0,08-0,19	0,10-0,25
1.14	170–280	130–200	0,04-0,12	0,04-0,13	0,05-0,13	0,05-0,15	0,07-0,17	0,08-0,19	0,08-0,19	0,10-0,25
1.15	120–200	100–160	0,04-0,12	0,04-0,13	0,05-0,13	0,05-0,15	0,07-0,17	0,08-0,19	0,08-0,19	0,10-0,25
1.16	120–200	100–160	0,04-0,12	0,04-0,13	0,05-0,13	0,05-0,15	0,07-0,17	0,08-0,19	0,08-0,19	0,10-0,25
2.1	140-230	100–180	0,04-0,09	0,04-0,09	0,04-0,08	0,04-0,10	0,06-0,12	0,07-0,15	0,07-0,15	0,08-0,18
2.2	140-230	100–180	0,04-0,09	0,04-0,09	0,04-0,08	0,04-0,10	0,06-0,12	0,07-0,15	0,07-0,15	0,08-0,18
2.3		100–180	0,04-0,11	0,04-0,11	0,04-0,13	0,05-0,15	0,05-0,16	0,06-0,16	0,06-0,16	0,08-0,20
2.4		80–140	0,04-0,11	0,04-0,11	0,04-0,13	0,05-0,15	0,05-0,16	0,06-0,16	0,06-0,16	0,08-0,20
2.5		80–140	0,04-0,08	0,04-0,08	0,04-0,09	0,05-0,11	0,05-0,12	0,05-0,12	0,05-0,12	0,08-0,15
2.6	140-230	100–160	0,04-0,09	0,04-0,09	0,04-0,09	0,05-0,11	0,05-0,12	0,05-0,12	0,05-0,12	0,08-0,16
2.7		80–140	0,04-0,08	0,04-0,08	0,04-0,09	0,05-0,11	0,05-0,12	0,05-0,12	0,05-0,12	0,08-0,15
3.1	190–310	120-200	0,07-0,18	0,07-0,20	0,08-0,22	0,10-0,23	0,10-0,25	0,10-0,25	0,10-0,25	0,10-0,25
3.2	170–290	100-180	0,07-0,17	0,07-0,18	0,08-0,18	0,10-0,20	0,10-0,22	0,10-0,22	0,10-0,22	0,10-0,22
3.3	190–310	120-200	0,07-0,18	0,07-0,18	0,08-0,18	0,10-0,23	0,10-0,25	0,10-0,25	0,10-0,25	0,10-0,25
3.4	170–290	100-180	0,07-0,17	0,07-0,18	0,08-0,16	0,10-0,20	0,10-0,22	0,10-0,22	0,10-0,22	0,10-0,22
3.5	140–230	80-160	0,07-0,17	0,07-0,18	0,08-0,16	0,10-0,20	0,10-0,22	0,10-0,22	0,10-0,22	0,10-0,22
3.6	130–210	70-150	0,07-0,17	0,07-0,18	0,08-0,16	0,10-0,20	0,10-0,22	0,10-0,22	0,10-0,22	0,10-0,22
3.7	140–230	80-160	0,07-0,17	0,07-0,18	0,08-0,16	0,10-0,20	0,10-0,22	0,10-0,22	0,10-0,22	0,10-0,22
3.8	130–210	70-150	0,07-0,17	0,07-0,18	0,08-0,16	0,10-0,20	0,10-0,22	0,10-0,22	0,10-0,22	0,10-0,22
4.1		150-500	0,06-0,12	0,07-0,14	0,08-0,15	0,10-0,16	0,10-0,16	0,10-0,17	0,10-0,17	0,10-0,17
4.2		150-450	0,06-0,12	0,07-0,14	0,08-0,14	0,10-0,18	0,10-0,18	0,10-0,19	0,10-0,19	0,10-0,19
4.3		150-350	0,06-0,12	0,07-0,14	0,08-0,14	0,10-0,18	0,10-0,18	0,10-0,19	0,10-0,19	0,10-0,19
4.4		150-300	0,06-0,12	0,07-0,14	0,08-0,14	0,10-0,18	0,10-0,18	0,10-0,19	0,10-0,19	0,10-0,19
4.5										
4.6		150-300	0,06-0,13	0,07-0,14	0,08-0,14	0,10-0,15	0,10-0,15	0,10-0,17	0,10-0,17	0,10-0,17
4.7		150-300	0,06-0,13	0,07-0,14	0,08-0,14	0,10-0,15	0,10-0,15	0,10-0,17	0,10-0,17	0,10-0,17
4.8		150-300	0,06-0,13	0,07-0,14	0,08-0,14	0,10-0,15	0,10-0,15	0,10-0,17	0,10-0,17	0,10-0,17
4.9		150-300	0,06-0,13	0,07-0,14	0,08-0,14	0,10-0,15	0,10-0,15	0,10-0,17	0,10-0,17	0,10-0,17
4.10		150-300	0,06-0,13	0,07-0,14	0,08-0,14	0,10-0,15	0,10-0,15	0,10-0,17	0,10-0,17	0,10-0,17
4.11		150-300	0,06-0,15	0,07-0,16	0,08-0,16	0,10-0,18	0,10-0,18	0,10-0,20	0,10-0,20	0,10-0,20
4.12		150-300	0,06-0,15	0,07-0,16	0,08-0,16	0,10-0,18	0,10-0,18	0,10-0,20	0,10-0,20	0,10-0,20
4.13										
4.14		50-150	0,04-0,09	0,04-0,10	0,04-0,08	0,05-0,10	0,05-0,10	0,05-0,10	0,05-0,10	0,05-0,10
4.15		50-140	0,06-0,14	0,07-0,14	0,08-0,14	0,10-0,15	0,10-0,15	0,10-0,15	0,10-0,15	0,10-0,15
4.16										
4.17										
4.18										
4.19										
5.1		20-80	0,03-0,06	0,04-0,06	0,04-0,06	0,04-0,06	0,04-0,07	0,05-0,08	0,05-0,08	0,05-0,09
5.2		20-80	0,03-0,06	0,04-0,06	0,04-0,06	0,04-0,06	0,04-0,07	0,05-0,08	0,05-0,08	0,05-0,09
5.3		20-80	0,03-0,06	0,04-0,06	0,04-0,06	0,04-0,06	0,04-0,07	0,05-0,08	0,05-0,08	0,05-0,09
5.4		20-80	0,03-0,06	0,04-0,06	0,04-0,06	0,04-0,06	0,04-0,07	0,05-0,08	0,05-0,08	0,05-0,09
5.5		20-80	0,03-0,06	0,04-0,06	0,04-0,06	0,04-0,06	0,04-0,07	0,05-0,08	0,05-0,08	0,05-0,09
5.6		20-80	0,03-0,06	0,04-0,06	0,04-0,06	0,04-0,06	0,04-0,07	0,05-0,08	0,05-0,08	0,05-0,09
5.7		20-80	0,03-0,06	0,04-0,06	0,04-0,06	0,04-0,06	0,04-0,07	0,05-0,08	0,05-0,08	0,05-0,09
5.8		20-80	0,03-0,06	0,04-0,06	0,04-0,06	0,04-0,06	0,04-0,07	0,05-0,08	0,05-0,08	0,05-0,09
5.9		40-100	0,03-0,06	0,04-0,06	0,04-0,06	0,04-0,06	0,04-0,07	0,05-0,08	0,05-0,08	0,05-0,09
5.10		40-80	0,04-0,08	0,04-0,08	0,04-0,08	0,05-0,11	0,05-0,11	0,06-0,12	0,07-0,12	0,07-0,12
5.11		40-80	0,04-0,08	0,04-0,08	0,04-0,08	0,05-0,11	0,05-0,11	0,06-0,12	0,07-0,12	0,07-0,12
6.1										
6.2										
6.3										
6.4										
6.5										

During the drilling operation on through holes a sharp disk will be produced.
Safety precautions must be observed.
A safety guard has to be provided as protection.

In order to ensure efficient chip evacuation, coolant pressure must be at least 5 bar.
Optimum pressure is > 15 bar.

Cutting data standard values KUB Trigon – 2xD

Index	BK6115	BK8425	K and ABS Ø 14–16 mm	Ø 17–19 mm	Ø 20–24 mm	Ø 25–29 mm	Ø 30–36 mm	Ø 37–40 mm	Ø 41–44 mm
	v_c in m/min		f in mm/rev.						
1.1	250–350	200–320	0,04–0,08	0,04–0,1	0,04–0,1	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12
1.2	250–350	200–320	0,04–0,08	0,04–0,1	0,04–0,1	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12
1.3	250–300	250–300	0,04–0,06	0,04–0,08	0,06–0,12	0,07–0,14	0,07–0,14	0,07–0,14	0,08–0,16
1.4	250–300	250–300	0,04–0,06	0,04–0,08	0,06–0,12	0,07–0,14	0,07–0,14	0,07–0,14	0,08–0,16
1.5	250–300	250–300	0,04–0,06	0,04–0,08	0,06–0,12	0,07–0,14	0,07–0,14	0,07–0,14	0,08–0,16
1.6	200–280	140–220	0,04–0,06	0,04–0,08	0,06–0,1	0,07–0,14	0,08–0,16	0,08–0,16	0,08–0,16
1.7	200–280	140–220	0,04–0,06	0,04–0,08	0,06–0,1	0,07–0,14	0,08–0,16	0,08–0,16	0,08–0,16
1.8	200–280	140–220	0,04–0,06	0,04–0,08	0,06–0,1	0,07–0,14	0,08–0,16	0,08–0,16	0,08–0,16
1.9	250–300	250–300	0,04–0,06	0,04–0,08	0,06–0,12	0,07–0,14	0,07–0,14	0,07–0,14	0,08–0,16
1.10	200–280	140–220	0,04–0,06	0,04–0,08	0,06–0,1	0,07–0,14	0,08–0,16	0,08–0,16	0,08–0,16
1.11	200–280	140–220	0,04–0,06	0,04–0,08	0,06–0,1	0,07–0,14	0,08–0,16	0,08–0,16	0,08–0,16
1.12	200–280	140–220	0,04–0,06	0,04–0,08	0,06–0,1	0,07–0,14	0,08–0,16	0,08–0,16	0,08–0,16
1.13	200–280	140–220	0,04–0,06	0,04–0,08	0,06–0,1	0,07–0,14	0,08–0,16	0,08–0,16	0,08–0,16
1.14	70–110	50–90	0,03–0,05	0,03–0,06	0,04–0,08	0,06–0,1	0,07–0,1	0,08–0,12	0,08–0,12
1.15	170–230	120–200	0,04–0,06	0,04–0,08	0,06–0,1	0,07–0,12	0,08–0,12	0,08–0,12	0,08–0,14
1.16	170–230	120–200	0,04–0,06	0,04–0,08	0,06–0,1	0,07–0,12	0,08–0,12	0,08–0,12	0,08–0,14
2.1		150–210	0,04–0,06	0,04–0,08	0,06–0,1	0,08–0,14	0,08–0,14	0,08–0,14	0,08–0,14
2.2		150–210	0,04–0,06	0,04–0,08	0,06–0,1	0,08–0,14	0,08–0,14	0,08–0,14	0,08–0,14
2.3		150–210	0,04–0,06	0,04–0,08	0,06–0,1	0,08–0,14	0,08–0,14	0,08–0,14	0,08–0,14
2.4		120–200	0,04–0,06	0,04–0,06	0,06–0,08	0,08–0,12	0,08–0,12	0,08–0,12	0,08–0,14
2.5		110–190	0,04–0,06	0,04–0,06	0,06–0,08	0,08–0,12	0,08–0,12	0,08–0,12	0,08–0,12
2.6		120–200	0,04–0,06	0,04–0,06	0,06–0,08	0,08–0,12	0,08–0,12	0,08–0,12	0,08–0,14
2.7		110–190	0,04–0,06	0,04–0,06	0,06–0,08	0,08–0,12	0,08–0,12	0,08–0,12	0,08–0,12
3.1	160–320	140–220	0,06–0,1	0,06–0,12	0,08–0,14	0,1–0,2	0,1–0,2	0,1–0,2	0,1–0,25
3.2	160–320	140–220	0,06–0,1	0,06–0,12	0,08–0,14	0,1–0,2	0,1–0,2	0,1–0,2	0,1–0,25
3.3	120–200	140–220	0,06–0,08	0,06–0,1	0,08–0,14	0,1–0,2	0,1–0,2	0,1–0,2	0,1–0,25
3.4	100–180	120–180	0,06–0,08	0,06–0,1	0,08–0,14	0,1–0,2	0,1–0,2	0,1–0,2	0,1–0,25
3.5	90–150	110–170	0,06–0,1	0,06–0,12	0,08–0,16	0,1–0,25	0,1–0,25	0,1–0,25	0,1–0,25
3.6	90–150	110–170	0,06–0,1	0,06–0,12	0,08–0,16	0,1–0,25	0,1–0,25	0,1–0,25	0,1–0,25
3.7	90–150	110–170	0,06–0,1	0,06–0,12	0,08–0,16	0,1–0,25	0,1–0,25	0,1–0,25	0,1–0,25
3.8	90–150	110–170	0,06–0,1	0,06–0,12	0,08–0,16	0,1–0,25	0,1–0,25	0,1–0,25	0,1–0,25
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6.1	50–90		0,03–0,05	0,03–0,05	0,04–0,08	0,06–0,1	0,06–0,1	0,08–0,12	0,08–0,12
6.2	30–50		0,03–0,05	0,03–0,05	0,04–0,08	0,06–0,1	0,06–0,1	0,06–0,1	0,06–0,1
6.3									
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During the drilling operation on through holes a sharp disk will be produced.
Safety precautions must be observed.
A safety guard has to be provided as protection.

In order to ensure efficient chip evacuation, coolant pressure must be at least 5 bar.
Optimum pressure is > 15 bar.

Cutting data standard values KUB Trigon – 3xD

Index	BK6115	BK8425	K and ABS Ø 14–16 mm	Ø 17–19 mm	Ø 20–24 mm	Ø 25–29 mm	Ø 30–36 mm	Ø 37–40 mm	Ø 41–44 mm
	v_c in m/min		f in mm/rev.						
1.1	250–350	200–320	0,04–0,08	0,04–0,1	0,04–0,1	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12
1.2	250–350	200–320	0,04–0,08	0,04–0,1	0,04–0,1	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,12
1.3	250–300	250–300	0,04–0,06	0,04–0,08	0,06–0,12	0,07–0,14	0,07–0,14	0,07–0,14	0,08–0,16
1.4	250–300	250–300	0,04–0,06	0,04–0,08	0,06–0,12	0,07–0,14	0,07–0,14	0,07–0,14	0,08–0,16
1.5	250–300	250–300	0,04–0,06	0,04–0,08	0,06–0,12	0,07–0,14	0,07–0,14	0,07–0,14	0,08–0,16
1.6	200–280	140–220	0,04–0,06	0,04–0,08	0,06–0,1	0,07–0,14	0,08–0,16	0,08–0,16	0,08–0,16
1.7	200–280	140–220	0,04–0,06	0,04–0,08	0,06–0,1	0,07–0,14	0,08–0,16	0,08–0,16	0,08–0,16
1.8	200–280	140–220	0,04–0,06	0,04–0,08	0,06–0,1	0,07–0,14	0,08–0,16	0,08–0,16	0,08–0,16
1.9	250–300	250–300	0,04–0,06	0,04–0,08	0,06–0,12	0,07–0,14	0,07–0,14	0,07–0,14	0,08–0,16
1.10	200–280	140–220	0,04–0,06	0,04–0,08	0,06–0,1	0,07–0,14	0,08–0,16	0,08–0,16	0,08–0,16
1.11	200–280	140–220	0,04–0,06	0,04–0,08	0,06–0,1	0,07–0,14	0,08–0,16	0,08–0,16	0,08–0,16
1.12	200–280	140–220	0,04–0,06	0,04–0,08	0,06–0,1	0,07–0,14	0,08–0,16	0,08–0,16	0,08–0,16
1.13	200–280	140–220	0,04–0,06	0,04–0,08	0,06–0,1	0,07–0,14	0,08–0,16	0,08–0,16	0,08–0,16
1.14	70–110	50–90	0,03–0,05	0,03–0,06	0,04–0,08	0,06–0,1	0,07–0,1	0,08–0,12	0,08–0,12
1.15	170–230	120–200	0,04–0,06	0,04–0,08	0,06–0,1	0,07–0,12	0,08–0,12	0,08–0,12	0,08–0,14
1.16	170–230	120–200	0,04–0,06	0,04–0,08	0,06–0,1	0,07–0,12	0,08–0,12	0,08–0,12	0,08–0,14
2.1		150–210	0,04–0,06	0,04–0,08	0,06–0,1	0,08–0,14	0,08–0,14	0,08–0,14	0,08–0,14
2.2		150–210	0,04–0,06	0,04–0,08	0,06–0,1	0,08–0,14	0,08–0,14	0,08–0,14	0,08–0,14
2.3		150–210	0,04–0,06	0,04–0,08	0,06–0,1	0,08–0,14	0,08–0,14	0,08–0,14	0,08–0,14
2.4		120–200	0,04–0,06	0,04–0,06	0,06–0,08	0,08–0,12	0,08–0,12	0,08–0,12	0,08–0,14
2.5		110–190	0,04–0,06	0,04–0,06	0,06–0,08	0,08–0,12	0,08–0,12	0,08–0,12	0,08–0,12
2.6		120–200	0,04–0,06	0,04–0,06	0,06–0,08	0,08–0,12	0,08–0,12	0,08–0,12	0,08–0,14
2.7		110–190	0,04–0,06	0,04–0,06	0,06–0,08	0,08–0,12	0,08–0,12	0,08–0,12	0,08–0,12
3.1	160–320	140–220	0,06–0,1	0,06–0,12	0,08–0,14	0,1–0,2	0,1–0,2	0,1–0,2	0,1–0,25
3.2	160–320	140–220	0,06–0,1	0,06–0,12	0,08–0,14	0,1–0,2	0,1–0,2	0,1–0,2	0,1–0,25
3.3	120–200	140–220	0,06–0,08	0,06–0,1	0,08–0,14	0,1–0,2	0,1–0,2	0,1–0,2	0,1–0,25
3.4	100–180	120–180	0,06–0,08	0,06–0,1	0,08–0,14	0,1–0,2	0,1–0,2	0,1–0,2	0,1–0,25
3.5	90–150	110–170	0,06–0,1	0,06–0,12	0,08–0,16	0,1–0,25	0,1–0,25	0,1–0,25	0,1–0,25
3.6	90–150	110–170	0,06–0,1	0,06–0,12	0,08–0,16	0,1–0,25	0,1–0,25	0,1–0,25	0,1–0,25
3.7	90–150	110–170	0,06–0,1	0,06–0,12	0,08–0,16	0,1–0,25	0,1–0,25	0,1–0,25	0,1–0,25
3.8	90–150	110–170	0,06–0,1	0,06–0,12	0,08–0,16	0,1–0,25	0,1–0,25	0,1–0,25	0,1–0,25
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6.1	50–90		0,03–0,05	0,03–0,05	0,04–0,08	0,06–0,1	0,06–0,1	0,08–0,12	0,08–0,12
6.2	30–50		0,03–0,05	0,03–0,05	0,04–0,08	0,06–0,1	0,06–0,1	0,06–0,1	0,06–0,1
6.3									
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During the drilling operation on through holes a sharp disk will be produced.
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Cutting data standard values KUB Trigon – 4xD

Index	BK6115	BK8425	K				
			Ø 14–16 mm	Ø 17–19 mm	Ø 20–24 mm	Ø 25–29 mm	Ø 30–35 mm
	v_c in m/min		f in mm/rev.				
1.1	250–350	200–320	0,04–0,06	0,04–0,08	0,04–0,08	0,05–0,1	0,05–0,1
1.2	250–350	200–320	0,04–0,06	0,04–0,08	0,04–0,08	0,05–0,1	0,05–0,1
1.3	250–300	250–300	0,02–0,04	0,04–0,06	0,04–0,1	0,06–0,12	0,06–0,12
1.4	250–300	250–300	0,02–0,04	0,04–0,06	0,04–0,1	0,06–0,12	0,06–0,12
1.5	250–300	250–300	0,02–0,04	0,04–0,06	0,04–0,1	0,06–0,12	0,06–0,12
1.6	200–280	140–220	0,02–0,04	0,04–0,06	0,06–0,08	0,06–0,12	0,06–0,14
1.7	200–280	140–220	0,02–0,04	0,04–0,06	0,06–0,08	0,06–0,12	0,06–0,14
1.8	200–280	140–220	0,02–0,04	0,04–0,06	0,06–0,08	0,06–0,12	0,06–0,14
1.9	250–300	250–300	0,02–0,04	0,04–0,06	0,04–0,1	0,06–0,12	0,06–0,12
1.10	200–280	140–220	0,02–0,04	0,04–0,06	0,06–0,08	0,06–0,12	0,06–0,14
1.11	200–280	140–220	0,02–0,04	0,04–0,06	0,06–0,08	0,06–0,12	0,06–0,14
1.12	200–280	140–220	0,02–0,04	0,04–0,06	0,06–0,08	0,06–0,12	0,06–0,14
1.13	200–280	140–220	0,02–0,04	0,04–0,06	0,06–0,08	0,06–0,12	0,06–0,14
1.14	70–110	50–90	0,02–0,04	0,03–0,04	0,04–0,06	0,04–0,08	0,04–0,1
1.15	170–230	120–200	0,02–0,04	0,04–0,06	0,06–0,08	0,05–0,1	0,05–0,1
1.16	170–230	120–200	0,02–0,04	0,04–0,06	0,06–0,08	0,05–0,1	0,05–0,1
2.1		150–210	0,02–0,04	0,04–0,06	0,04–0,08	0,06–0,12	0,06–0,12
2.2		150–210	0,02–0,04	0,04–0,06	0,04–0,08	0,06–0,12	0,06–0,12
2.3		150–210	0,02–0,04	0,04–0,06	0,04–0,08	0,06–0,12	0,06–0,12
2.4		120–200	0,02–0,04	0,02–0,04	0,04–0,06	0,06–0,1	0,06–0,1
2.5		110–190	0,02–0,04	0,02–0,04	0,04–0,06	0,06–0,1	0,06–0,1
2.6		120–200	0,02–0,04	0,02–0,04	0,04–0,06	0,06–0,1	0,06–0,1
2.7		110–190	0,02–0,04	0,02–0,04	0,04–0,06	0,06–0,1	0,06–0,1
3.1	160–320	140–220	0,06–0,08	0,06–0,1	0,06–0,12	0,08–0,18	0,08–0,18
3.2	160–320	140–220	0,06–0,08	0,06–0,1	0,06–0,12	0,08–0,18	0,08–0,18
3.3	120–200	140–220	0,04–0,06	0,06–0,08	0,06–0,12	0,08–0,18	0,08–0,18
3.4	100–180	120–180	0,04–0,06	0,06–0,08	0,06–0,12	0,08–0,18	0,08–0,18
3.5	90–150	110–170	0,06–0,08	0,06–0,1	0,08–0,14	0,1–0,23	0,1–0,23
3.6	90–150	110–170	0,06–0,08	0,06–0,1	0,08–0,14	0,1–0,23	0,1–0,23
3.7	90–150	110–170	0,06–0,08	0,06–0,1	0,08–0,14	0,1–0,23	0,1–0,23
3.8	90–150	110–170	0,06–0,08	0,06–0,1	0,08–0,14	0,1–0,23	0,1–0,23
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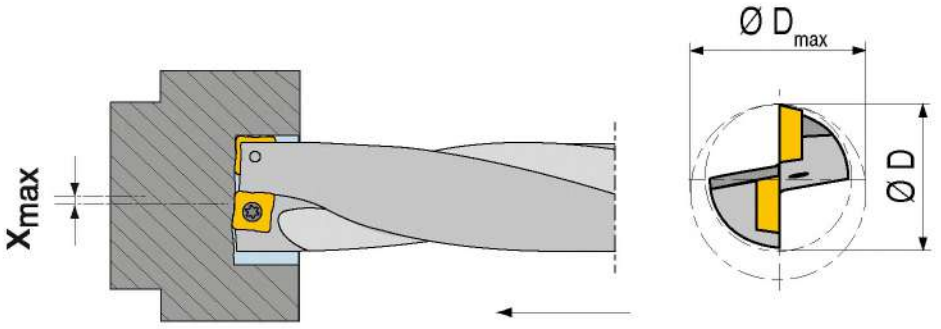
Cutting data standard values KUB Trigon – 4xD

Index	BK6115	BK8425	ABS Ø 14–16 mm	ABS Ø 17–19 mm	ABS Ø 20–24 mm	ABS Ø 25–29 mm	ABS Ø 30–36 mm	ABS Ø 37–40 mm	ABS Ø 41–44 mm
	v_c in m/min		f in mm/rev.						
1.1	250–350	200–320	0,04–0,06	0,04–0,08	0,04–0,08	0,05–0,1	0,05–0,1	0,05–0,1	0,05–0,1
1.2	250–350	200–320	0,04–0,06	0,04–0,08	0,04–0,08	0,05–0,1	0,05–0,1	0,05–0,1	0,05–0,1
1.3	250–300	250–300	0,02–0,04	0,04–0,06	0,04–0,1	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,14
1.4	250–300	250–300	0,02–0,04	0,04–0,06	0,04–0,1	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,14
1.5	250–300	250–300	0,02–0,04	0,04–0,06	0,04–0,1	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,14
1.6	200–280	140–220	0,02–0,04	0,04–0,06	0,06–0,08	0,06–0,12	0,06–0,14	0,06–0,14	0,06–0,14
1.7	200–280	140–220	0,02–0,04	0,04–0,06	0,06–0,08	0,06–0,12	0,06–0,14	0,06–0,14	0,06–0,14
1.8	200–280	140–220	0,02–0,04	0,04–0,06	0,06–0,08	0,06–0,12	0,06–0,14	0,06–0,14	0,06–0,14
1.9	250–300	250–300	0,02–0,04	0,04–0,06	0,04–0,1	0,06–0,12	0,06–0,12	0,06–0,12	0,06–0,14
1.10	200–280	140–220	0,02–0,04	0,04–0,06	0,06–0,08	0,06–0,12	0,06–0,14	0,06–0,14	0,06–0,14
1.11	200–280	140–220	0,02–0,04	0,04–0,06	0,06–0,08	0,06–0,12	0,06–0,14	0,06–0,14	0,06–0,14
1.12	200–280	140–220	0,02–0,04	0,04–0,06	0,06–0,08	0,06–0,12	0,06–0,14	0,06–0,14	0,06–0,14
1.13	200–280	140–220	0,02–0,04	0,04–0,06	0,06–0,08	0,06–0,12	0,06–0,14	0,06–0,14	0,06–0,14
1.14	70–110	50–90	0,02–0,04	0,03–0,04	0,04–0,06	0,04–0,08	0,04–0,1	0,05–0,12	0,05–0,12
1.15	170–230	120–200	0,02–0,04	0,04–0,06	0,06–0,08	0,05–0,1	0,05–0,1	0,05–0,1	0,05–0,12
1.16	170–230	120–200	0,02–0,04	0,04–0,06	0,06–0,08	0,05–0,1	0,05–0,1	0,05–0,1	0,05–0,12
2.1		150–210	0,02–0,04	0,04–0,06	0,04–0,08	0,06–0,12	0,06–0,12	0,06–0,12	0,08–0,12
2.2		150–210	0,02–0,04	0,04–0,06	0,04–0,08	0,06–0,12	0,06–0,12	0,06–0,12	0,08–0,12
2.3		150–210	0,02–0,04	0,04–0,06	0,04–0,08	0,06–0,12	0,06–0,12	0,06–0,12	0,08–0,12
2.4		120–200	0,02–0,04	0,04–0,06	0,04–0,06	0,06–0,1	0,06–0,1	0,06–0,1	0,08–0,12
2.5		110–190	0,02–0,04	0,04–0,06	0,04–0,06	0,06–0,1	0,06–0,1	0,06–0,1	0,08–0,1
2.6		120–200	0,02–0,04	0,04–0,06	0,04–0,06	0,06–0,1	0,06–0,1	0,06–0,1	0,08–0,12
2.7		110–190	0,02–0,04	0,04–0,06	0,04–0,06	0,06–0,1	0,06–0,1	0,06–0,1	0,08–0,1
3.1	160–320	140–220	0,06–0,08	0,06–0,1	0,06–0,12	0,08–0,18	0,08–0,18	0,08–0,18	0,1–0,23
3.2	160–320	140–220	0,06–0,08	0,06–0,1	0,06–0,12	0,08–0,18	0,08–0,18	0,08–0,18	0,1–0,23
3.3	120–200	140–220	0,04–0,06	0,06–0,08	0,06–0,12	0,08–0,18	0,08–0,18	0,08–0,18	0,1–0,23
3.4	100–180	120–180	0,04–0,06	0,06–0,08	0,06–0,12	0,08–0,18	0,08–0,18	0,08–0,18	0,1–0,23
3.5	90–150	110–170	0,06–0,08	0,06–0,1	0,08–0,14	0,1–0,23	0,1–0,23	0,1–0,23	0,1–0,23
3.6	90–150	110–170	0,06–0,08	0,06–0,1	0,08–0,14	0,1–0,23	0,1–0,23	0,1–0,23	0,1–0,23
3.7	90–150	110–170	0,06–0,08	0,06–0,1	0,08–0,14	0,1–0,23	0,1–0,23	0,1–0,23	0,1–0,23
3.8	90–150	110–170	0,06–0,08	0,06–0,1	0,08–0,14	0,1–0,23	0,1–0,23	0,1–0,23	0,1–0,23
4.1									
4.2									
4.3									
4.4									
4.5									
4.6									
4.7									
4.8									
4.9									
4.10									
4.11									
4.12									
4.13									
4.14									
4.15									
4.16									
4.17									
4.18									
4.19									
5.1									
5.2									
5.3									
5.4									
5.5									
5.6									
5.7									
5.8									
5.9									
5.10									
5.11									
6.1									
6.2									
6.3									
6.4									
6.5									

During the drilling operation on through holes a sharp disk will be produced.
Safety precautions must be observed.
A safety guard has to be provided as protection.

In order to ensure efficient chip evacuation,
coolant pressure must be at least 5 bar.
Optimum pressure is > 15 bar.

Maximum adjustment range (X) during solid drilling / from the centre for stationary applications – KUB Pentron



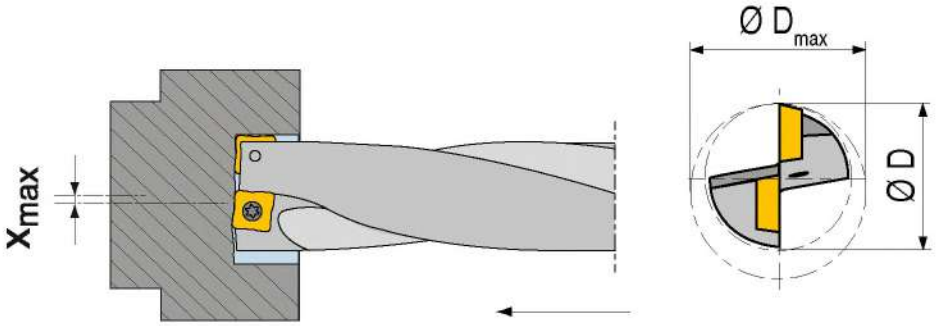
At max. offset X_{max} the hole will be:
$D_{max} = D + 2X_{max}$
e.g. for D = 20.0 mm, X_{max} = 0.20 mm:
$D_{max} = D + 0.4 = 20.4$ mm

Ø D mm	Insert Size	X_{max} mm	Ø D_{max} mm
14	SOGX 04....	0,25	14,5
14,5		0,25	15,0
15,0		0,25	15,5
15,5		0,25	16,0
16,0		0,25	16,5
16,5	SOGX 05....	0,25	17,0
17,0		0,25	17,5
17,5		0,25	18,0
18,0		0,25	18,5
18,5	SOGX 06....	0,25	19,0
19,0		0,25	19,5
19,5		0,25	20,0
20,0		0,25	20,5
20,5	SOGX 07....	0,25	21,0
21,0		0,25	21,5
21,5		0,25	22,0
22,0		0,25	22,5
22,5		0,25	23,0
23,0		0,25	23,5
23,5	SOGX 08....	0,25	24,0
24,0		0,25	24,5
24,5		0,25	25,0
25,0		0,25	25,5
25,5		0,25	26,0
26,0		0,25	26,5
26,5	SOGX 09....	0,25	27,0
27,0		0,25	27,5
27,5		0,25	28,0
28,0		0,25	28,5
28,5		0,25	29,0
29,0		0,25	29,5
29,5		0,25	30,0
30,0		0,25	30,5
31,0	SOGX 10....	0,25	31,5
32,0		0,25	32,5
33,0		0,25	33,5

Ø D mm	Insert Size	X_{max} mm	Ø D_{max} mm
34,0	SOGX 11....	0,25	34,5
35,0		0,25	35,5
36,0		0,25	36,5
37,0		0,25	37,5
38,0	SOGX 12....	0,25	38,5
39,0		0,25	39,5
40,0		0,25	40,5
41,0		0,25	41,5
42,0		0,25	42,5
43,0	SOGX 13....	0,25	43,5
44,0		0,25	44,5
45,0		0,25	45,5
46,0		0,25	46,5

The maximum radial X-offset affects the cutting force balance of the drill, therefore, the use of lower feed rates is recommended!

Maximum off set (X) for drilling into full material / with stationary applications – MaxiDrill 900 + KUB 100



At max. offset X_{max} the hole will be:
$D_{max} = D + 2X_{max}$
e.g. for D = 20.0 mm, X_{max} = 0.20 mm:
$D_{max} = D + 0.4 = 20.4$ mm

Ø D mm	Insert Size	X_{max} mm	Ø D_{max} mm
12,0	SONT 03....	0,50	13,0
12,5		0,40	13,3
13,0		0,35	13,7
13,5		0,30	14,1
14,0	SONT 04....	0,35	14,7
14,5		0,25	15,0
15,0		0,20	15,4
15,5		0,15	15,8
16,0	SONT 05....	0,40	16,8
16,5		0,35	17,2
17,0		0,30	17,6
17,5		0,25	18,0
18,0	SONT 06....	0,50	19,0
18,5		0,40	19,3
19,0		0,35	19,7
19,5		0,25	20,0
20,0		0,20	20,4
20,5		0,15	20,8
21,0	SONT 07....	0,35	21,7
21,5		0,30	22,1
22,0		0,25	22,5
22,5		0,15	22,8
23,0		0,15	23,3
23,5		0,10	23,7
24,0	SONT 08....	0,65	25,3
24,5		0,55	25,6
25,0		0,55	26,1
25,5		0,40	26,3
26,0		0,35	26,7
26,5		0,30	27,1
27,0		0,25	27,5
27,5		0,15	27,8
28,0	SONT 09....	0,90	29,8
28,5		0,80	30,1
29,0		0,75	30,5
29,5		0,70	30,9
30,0		0,60	31,2
30,5		0,55	31,6
31,0		0,45	31,9
31,5		0,40	32,3
32,0		0,30	32,6

Ø D mm	Insert Size	X_{max} mm	Ø D_{max} mm
32,5	SONT 10....	0,80	34,1
33,0		0,80	34,6
33,5		0,65	34,8
34,0		0,60	35,2
34,5		0,50	35,5
35,0		0,45	35,9
35,5		0,35	36,2
36,0		0,35	36,7
36,5		0,20	36,9
37,0	SONT 12....	1,00	39,0
38,0		0,85	39,7
39,0		0,70	40,4
40,0		0,50	41,0
41,0		0,35	41,7
42,0	SONT 13....	0,95	43,9
43,0		0,80	44,6
44,0		0,60	45,2
45,0		0,45	45,9
46,0		0,30	46,6
47,0	SONT 15....	1,80	50,6
48,0		1,65	51,3
49,0		1,50	52,0
50,0		1,35	52,7
51,0		1,15	53,3
52,0		0,95	53,9
53,0		0,80	54,6
54,0		0,60	55,2
55,0	SONT 17....	2,10	59,2
56,0		1,90	59,8
57,0		1,75	60,5
58,0		1,55	61,1
59,0		1,35	61,7
60,0		1,15	62,3
61,0		1,00	63,0
62,0		0,85	63,7
63,0		0,65	64,3

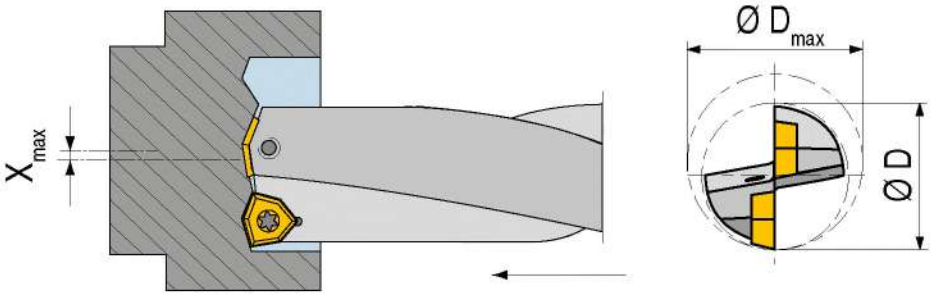
The maximum radial X-offset affects the cutting force balance of the drill, therefore, the use of lower feed rates is recommended!

Technical data for turning – MaxiDrill 900

Insert Size	$a_{p\,max.}$ in mm	f in mm/rev.
SONT 03	0,40–1,50	0,08–0,22
SONT 04	0,40–1,80	0,09–0,27
SONT 05	0,60–2,40	0,10–0,30
SONT 06	0,60–2,80	0,11–0,34
SONT 07	0,60–3,40	0,13–0,38
SONT 08	0,70–4,20	0,15–0,41

Insert Size	$a_{p\,max.}$ in mm	f in mm/rev.
SONT 09	0,70–4,50	0,16–0,42
SONT 10	0,70–4,80	0,17–0,44
SONT 12	0,90–5,50	0,18–0,45
SONT 13	1,00–6,00	0,20–0,45
SONT 15	1,20–6,40	0,21–0,46
SONT 17	1,20–6,70	0,21–0,47

Maximum adjustment range (X) during solid drilling / from the centre for stationary applications – KUB Trigon



At max. offset X_{max} the hole will be:
$D_{max} = D + 2X_{max}$
e.g. for D = 20.0 mm, X_{max} = 0.20 mm:
$D_{max} = D + 0.4 = 20.4$ mm

Ø D mm	Insert Size	X_{max} mm	Ø D_{max} mm
14,0	WOEX 03....	0,5	15,0
15,0		0,5	16,0
16,0		0,5	17,0
17,0		0,5	18,0
18,0		0,5	19,0
19,0		0,5	20,0
20,0	WOEX 04....	0,5	21,0
21,0		0,5	22,0
22,0		0,5	23,0
23,0		0,5	24,0
24,0		0,5	25,0
25,0	WOEX 05....	0,5	26,0
26,0		1,0	28,0
27,0		1,5	30,0
28,0		1,5	31,0
29,0		1,5	32,0
30,0		1,25	32,5
31,0		1,25	33,5
32,0		1,0	34,0
33,0		0,5	34,0
34,0		0,5	35,0
35,0		0,5	36,0
36,0		0,5	37,0

Ø D mm	Insert Size	X_{max} mm	Ø D_{max} mm
37	WOEX 06....	1,5	40,0
38		1,5	41,0
39		1,5	42,0
40		1,5	43,0
41		1,5	44,0
42		1,5	45,0
43		1,0	45,0
44		0,5	45,0

The maximum radial X-offset affects the cutting force balance of the drill, therefore, the use of lower feed rates is recommended!

Coding example indexable insert drilling

System	Length	Bore diameter	Direction of rotation	Insert size	Machine connection and size
MD-900	4D	240	R	08	C 32
KUB-T	2D	350	R	05	K 32
KUB-P	3D	215	R	07	ABS 50
KUB-P	3D	290	R	04	PSC 63
KUB-100	3D	300	R	07	C 25

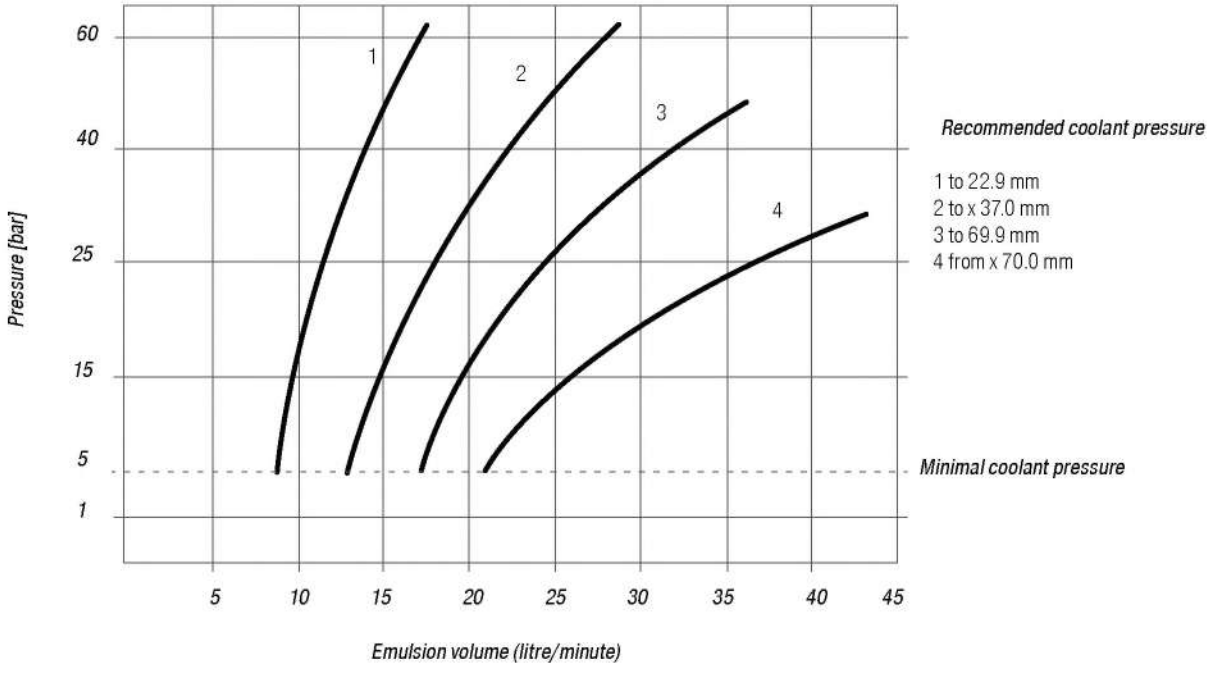
- MD-900 = MaxiDrill 900
- KUB-P = KUB Pentron
- KUB-T = KUB Trigon
- KUB-100 = KUB 100

- 240 = 24.0 mm
- 350 = 35.0 mm
- 215 = 21.5 mm
- 290 = 29,0 mm
- 300 = 30,0 mm

- R = right

- C32 = Cylindrical shank Ø 32.0 mm
- K32 = Cylindrical shank with combi clamping flat Ø 32.0 mm
- ABS50 = ABS adapter size 50
- PSC63 = PSC adapter shank size 63
- C25 = Cylindrical Shank Ø 25.0 mm

Recommended coolant pressure and coolant flow

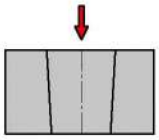


Problems / possible causes / solutions

Rotating and stationary application

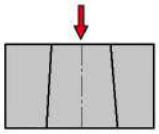
Short service life / types of wear of indexable inserts

- Cutting speed too high → select the correct cutting speed
- Insert grade selection has too little wear resistance → select a wear resistant grade
- Tool overhang too large → if possible, use a shorter tool
- Damaged insert seat → check tool, replace if necessary
- Clamping device stability too low → increase stability



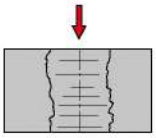
Hole tapers in

- Chip jam on the outer cutting edge → use a different chip breakage geometry, increase the feed if necessary
- Material very soft → increase the cutting speed, reduce the feed
- Use a positive cutting edge geometry



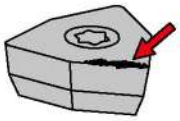
Hole tapers out

- Chip jam on the inner cutting edge → use a different chip breakage geometry, increase the feed if necessary



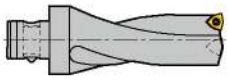
Poor surface quality

- Poor chip evacuation → optimise the cutting parameters: Increase the cutting speed, reduce the feed



Built-up edge

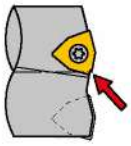
- Cutting speed too low → increase cutting speed
- Indexable insert too negative → use positive geometry
- Unsuitable coating → select the correct coating



Friction marks on the tool shank

- Bore diameter too small → check the setting
- Chip evacuation problems → optimise the cutting parameters, check the geometry of the indexable insert
- Cutting radius too high → use the correct cutting radius

Stationary application

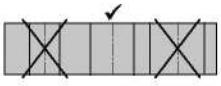


Edge breakage on the inner cutting edge

- Centre height of the tool too high/too low → adjust tool turret/adapter if necessary → Recalibrate the machine
- Indexable insert grades interchanged → use correct indexable insert
- Feed too high → reduce feed
- Indexable insert grade too brittle → use a tougher indexable insert grade
- Incorrect indexable insert geometry → if necessary use a geometry with a chamfered cutting edge

Edge breakage on the outer cutting edge

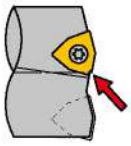
- Feed too high → reduce feed
- Interrupted cut → switch to a tougher grade of indexable insert
- Cutting radius too small → use an indexable insert with a larger cutting radius



Hole too small / too large

- Machine is not in the X-0 position → move axis to correct position
- Machine axis has been moved → recalibrate the machine

Rotating application

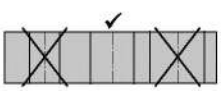


Edge breakage on the inner cutting edge

- Indexable insert grades interchanged → use correct indexable insert
- Feed too high → reduce feed
- Indexable insert grade too brittle → use a tougher indexable insert grade
- Incorrect indexable insert geometry → if necessary use a geometry with a chamfered cutting edge

Edge breakage on the outer cutting edge

- Feed too high → reduce feed
- Interrupted cut → switch to a tougher grade of indexable insert
- Cutting radius too small → use an indexable insert with a larger cutting radius



Hole too small / too large when using adjustable tools

- Incorrect cutting radius used → use the correct cutting radius
- Incorrect setting → use the correct tool setting
- Increase cutting fluid supply

Grades Overview

CTPP430
CCN1430

- Carbide, TiAlN-coated
- ISO | **P30** | **M25** | S25 | K30 | N25
- The universal high-performance grade for steel, austenitic steel and heat-resistant alloys

BK8425

- Carbide, TiAlN/TiN-coated
- ISO | **P25** | **M25** | **K25**
- Universally applicable grade with increased wear resistance thanks to the innovative PVD coating in a multilayer design

CTCP420
DCX1420

- Carbide, TiCN-Al_2O_3-coated
- ISO | **P20** | **K20** | M20
- The wear-resistant solution for steel and cast iron materials at high cutting speeds

BK6115

- Carbide, TiCN-TiN-Al_2O_3-coated
- ISO | **P20** | **K20** | H20
- High-quality, surface-treated coating for machining cast iron materials under normal to stable conditions and high cutting speeds

BK7710

- Carbide, TiB_2-coated
- ISO | **N10** | S10
- The wear-resistant grade with optimum cutting characteristics to prevent built-up edge formation for machining aluminium and titanium alloys

BK7935

- Carbide, AlTiN-coated
- ISO | **P35** | **M30** | S30 | K30| N30
- The tough carbide grade for machining stainless steel and acid-resistant steels as well as special alloys

BK6425

- Carbide, TiCN-Al_2O_3-TiN-coated
- ISO | **P25 | M15**| K20
- The extremely wear-resistant grade for machining all steel and stainless materials

BK77

- Carbide, TiN-coated
- ISO | **S10** | **N10**
- The wear-resistant carbide grade for machining aluminum alloys, superalloys and plastics at medium cutting speeds

BK62

- Carbide, TiN-TiCN-Al_2O_3-coated
- ISO | **K15** | H15
- Special carbide grade for machining cast iron materials at high cutting speeds
  Not suitable for machining aluminium materials

Chip breakers

-01

- Universal geometry suitable for a wide range of materials
- Can be used for the center and peripheral insert

-03

- Geometry for chip breaking problems with excellent chip control at low feed rates
- Can only be used for the peripheral insert
- Main application in low alloyed and stainless steels

-11

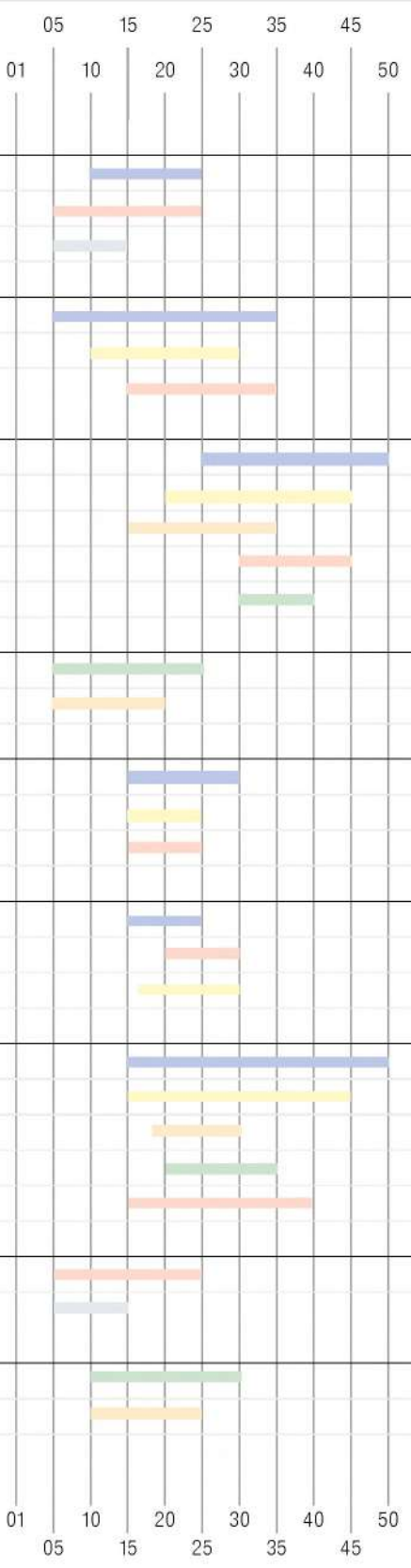
- Highly positive, minimally rounded chip breaker
- For soft cutting use
- Main application in aluminum

-13

- Very positive geometry for low alloy, stainless and acid-resistant steels
- Can be used for the center and peripheral insert
- Due to the low cutting forces well suited to unstable conditions

Application

Grade designation	Standard designation	ISO application range	Steel P	Stainless steel M	Cast iron K	Non ferrous metals N	Heat resistant alloys S	Hardened materials H
BK6115	HC-P20		●					
	HC-K20				●			
	HC-H20							○
BK8425	HC-P25		●					
	HC-M25			●				
	HC-K25				●			
BK7935	HC-P35		●					
	HC-M30			●				
	HC-S30						○	
	HC-K30				○			
	HC-N30					○		
BK7710	HC-N10					●		
	HC-S10						○	
BK6425	HC-P25		●					
	HC-M15			●				
	HC-K20				○			
CTCP420 DRAGONSKIN (DCX1420)	HC-P20		●					
	HC-K20				●			
	HC-M20			○				
CTPP430 DRAGONSKIN (CCN1430)	HC-P30		●					
	HC-M25			●				
	HC-S25						○	
	HC-N25					○		
	HC-K30				○			
BK62	HC-K15				●			
	HC-H15							○
BK77	HC-N10					●		
	HC-S10						●	



● **Main Application**
○ Extended application

wear-resistant v_c+ ⟷ v_c− tough

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- maximum flexibility and efficiency up to Ø 65.00 mm
- up to 5xD
- can be adjusted for the smallest tolerances and for wear compensation

---

NEW Fullmax high-performance reamers

- solid carbide high-performance reamers
- type UNI, VA, K, ALU and H
- maximum efficiency in all materials
- available as standard H7, as 1/100, and as configurable version

---

NEW REAMAX extension

- extension of the proven REAMAX reaming system
- new cutting edge geometries and coatings

NEW Monomax extension

- extension of the proven Monomax reamers
- new grades and cutting edge geometries

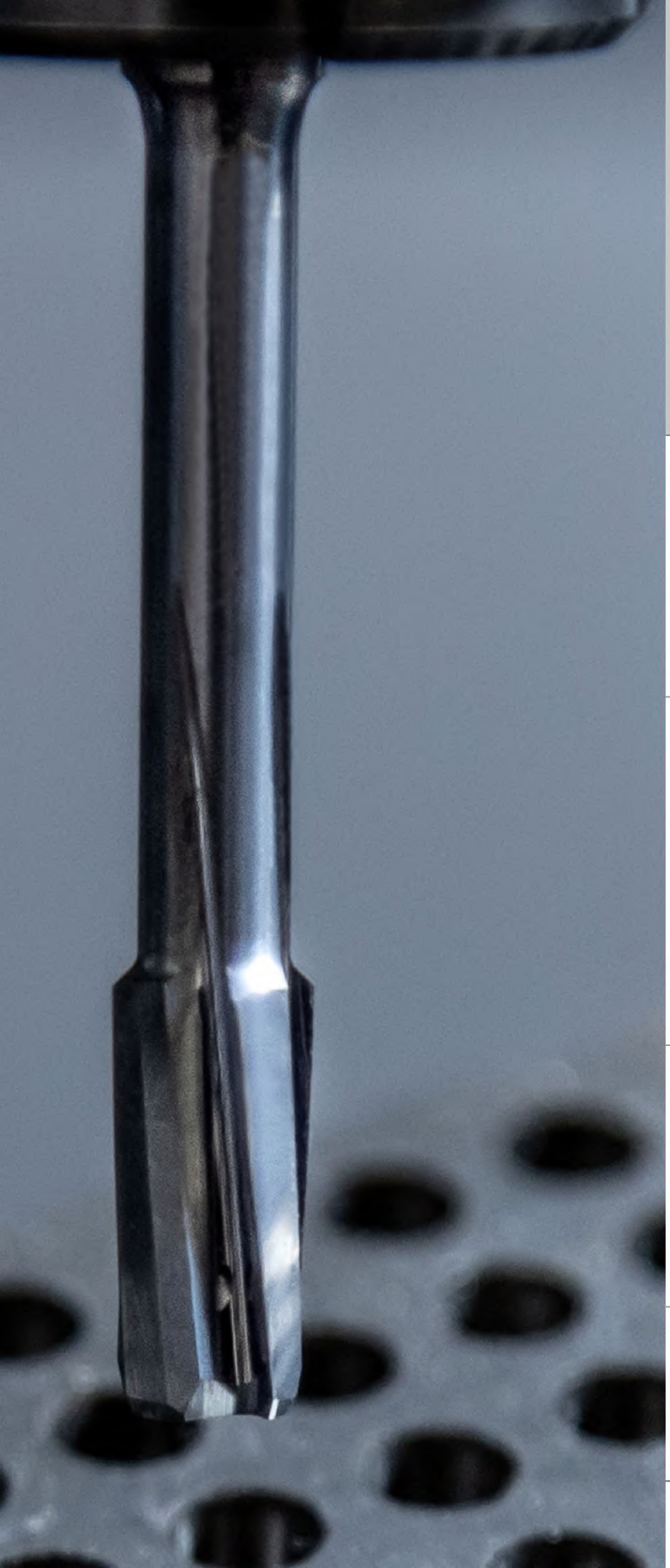


Table of contents

KOMET \ Performance

Premium quality tools for high performance.

The premium quality tools from the **KOMET Performance** product line have been designed for specific applications and are distinguished by their outstanding performance. If you make high demands on the performance of your production and want to achieve the very best results, we recommend the Premium tools in this product line.

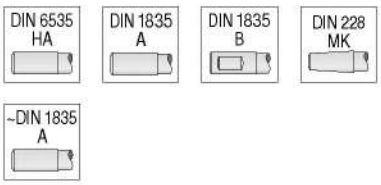
KOMET \ Standard

Quality tools for standard applications.

The quality tools of the **KOMET Standard** product line are high quality, high performance, reliable and enjoy the highest level of trust among our customers worldwide. Tools from this product line are the first choice for many standard applications and guarantee optimal results.

Symbol explanation

Shank



Version

Central internal coolant

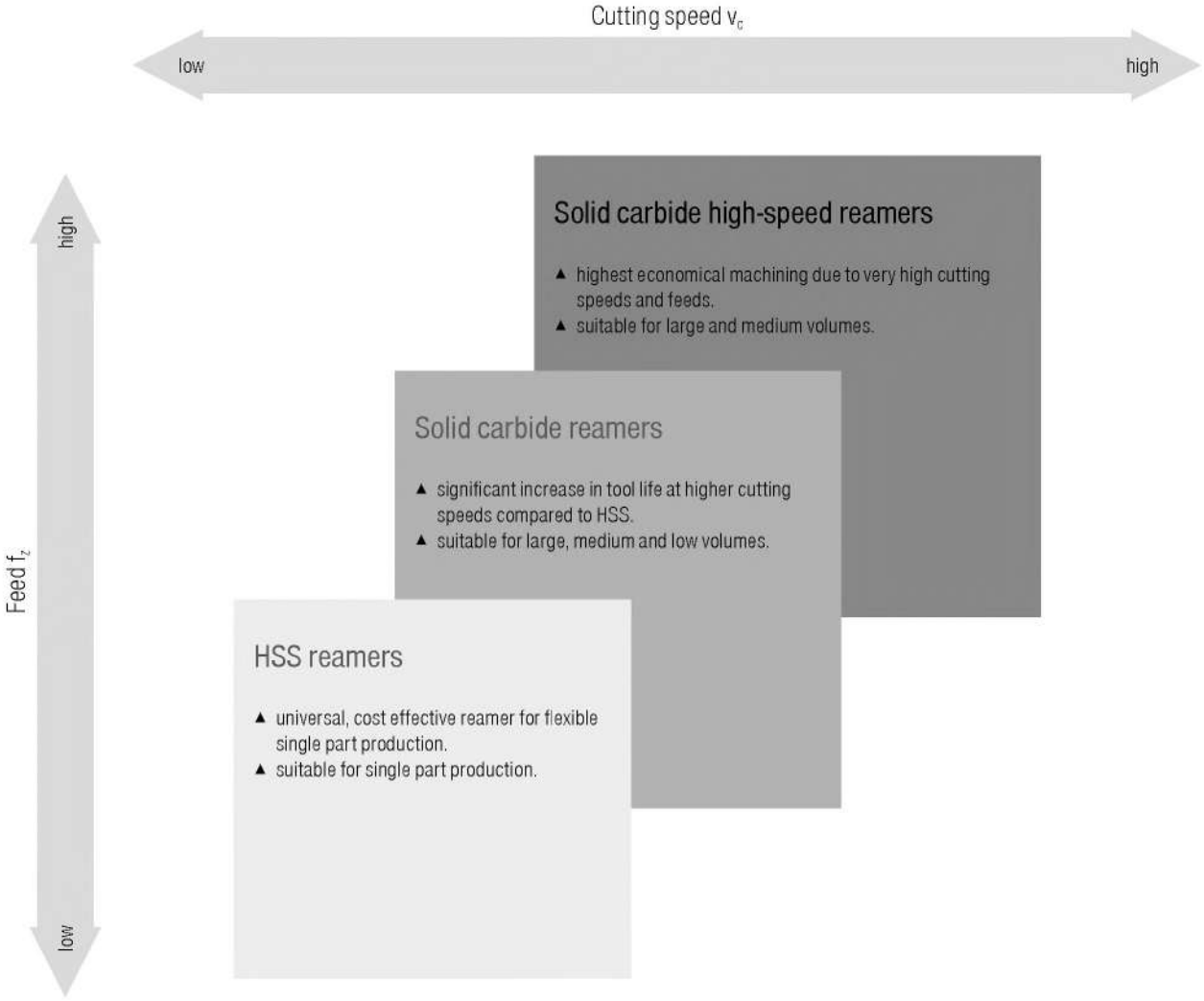
Lateral internal coolant

ZEFP = Number of teeth

● = **Main Application**

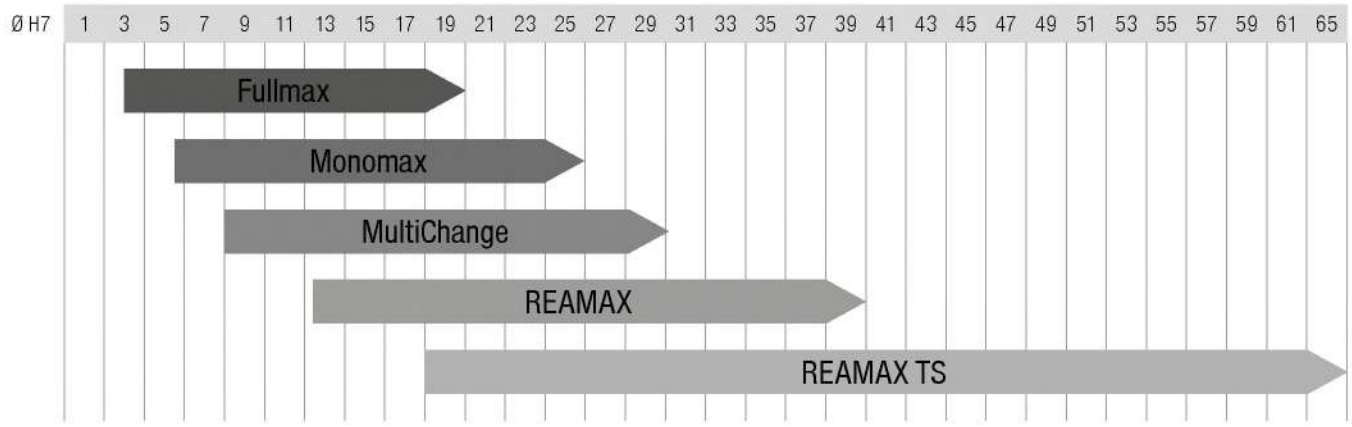
○ = Extended application

Toolfinder – Reamers



4

Overview of solid carbide high-speed reamers



	mono	modular
fixed	Fullmax	MultiChange REAMAX
adjustable	Monomax	REAMAX TS

Toolfinder – Reamers

Solid carbide – High speed reamers	REAMAX TS			▲ highly flexible and economical replaceable head system ▲ all common materials ▲ can be adjusted in µm range
				▲ holder available in 3xD and 5xD ▲ holder type DAH Zero available in 3xD and 5xD
	REAMAX			▲ exchange head system, optimised for use with air mist coolant (MMS) ▲ face and taper contact giving run out accuracy ≤ 2 µm
				▲ holder available in 3xD and 5xD
	MultiChange			▲ flexible quick change system for reaming, countersinking and chamfering ▲ face and taper contact giving run out accuracy ≤ 5 µm
				▲ stable holder in solid carbide and steel, from short to long
	Monomax			▲ adjustable monoblock reamer in 3xD and 5xD ▲ regrinding and re-tipping on the base body
	Fullmax UNI			▲ high-speed reamer for universal use ▲ extremely irregular pitch ▲ standard shank ~ DIN 6535 HA
	Fullmax VA			▲ high speed reamer for corrosion and acid resistant steels ▲ extremely irregular pitch ▲ DIN 6535 HA shank
	Fullmax K			▲ high-speed reamer for use on cast iron materials ▲ extremely irregular pitch ▲ standard shank ~ DIN 6535 HA
	Fullmax ALU			▲ high-speed reamer for use on aluminium ▲ extremely irregular pitch ▲ standard shank ~ DIN 6535 HA
	Fullmax H			▲ high speed reamer for hardened material to 63 HRC ▲ extremely irregular pitch ▲ DIN 6535 HA shank
Solid carbide – Reamers	NC	NC 100		▲ universal solid carbide reamer without thro' coolant ▲ extremely irregular pitch ▲ DIN 6535 HA shank
	N			▲ universal solid carbide reamer without thro' coolant ▲ extremely irregular pitch
HSS – Reamers	NC	NC 100		▲ HSS-E NC machine reamer ▲ DIN 1835 A shank
	N	N 100		▲ HSS-E machine reamer
	S			▲ HSS-E spiral machine reamer DIN 212
	AR	AR 100		▲ HSS-E automatic machine reamer DIN 8089
	N			▲ HSS-e machine reamer DIN 208 ▲ with morse taper
	H			▲ HSS hand reamer with cylindrical shank DIN 206

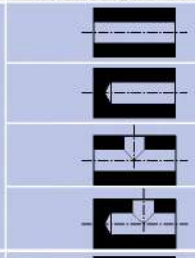
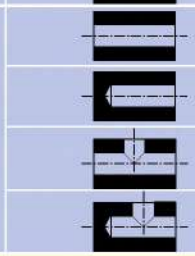
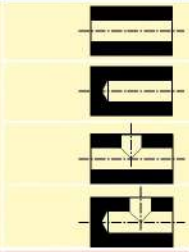
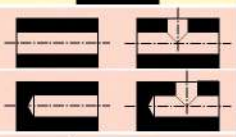
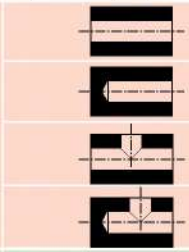
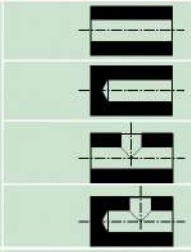
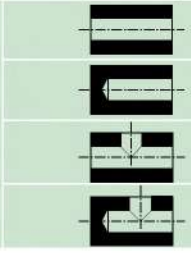
Hole diameter in mm Ø DC	Standard tolerance	Through hole	Blind hole	Int. coolant supply	Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Hardened materials	KOMET \ Performance	KOMET \ Standard
18,00–65,00	H7	✓	✓	✓	●	●	●	●			7–9	
	1/100											
				✓							10+11	
12,50–40,00	H7	✓	✓	✓	●	●	●	●			12+13	
	1/100											
				✓							14	
8,00–30,20	H7	✓	✓	✓	●	●	●	●	○		16+17	
	1/100											
				✓							→ Chapter 17, Accessories	
5,60–25,89	H7	✓	✓	✓	●	●	●				18–22	
	1/100											
4,00–16,00	H7	✓	✓	✓	●		●				23–28	
2,96–20,05	1/100											
4,00–16,00	H7	✓	✓	✓		●					23–28	
2,96–20,05	1/100											
2,96–20,05	1/100	✓	✓	✓			●				25–28	
4,00–16,00	H7	✓	✓	✓				●			23–28	
2,96–20,05	1/100											
2,96–20,05	1/100	✓	✓	✓						●	25–28	
2,00–30,00	H7	✓			●		●	●	○		29+30	
0,59–12,05	1/100											
2,00–12,00	H7	✓			●		●	●	○			31
1,50–20,00	H7	✓			●	○	●	●	○		32+33	
0,95–12,00	1/100											
1,00–20,00	H7	✓			●	○	●	●	○			34–36
0,95–12,00	1/100											
1,00–20,00	H7	✓			●			●				37
4,00–20,00	H7	✓			●	○	●	●	○			37+38
3,76–12,00	1/100											
16,00–50,00	H7	✓			●	○	●	●	○			39
1,00–40,00	H7	✓			●	○	●	●	○			39

Countersinks Overview

	Tool type	Coating	Hole diameter in mm Ø DC	Point angle	Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Hardened materials	KOMET \ Performance	KOMET \ Standard
Indexable Insert Counterbore Tool												
	WPS		15,0–33,0		●	○	●	●	○			40
HSS – Counterbores												
	N		6,0–20,0		●	●	●	●	○			42
Solid Carbide Countersinks												
	N	TPX76S	6,3–31,0	90°	●	○	●	●	○	○	43	
	N		12,5–25,0	60°	●	○	●	●	○			44
	N		10,4–31,0	90°	●	○	●	●	○			44
HSS Countersinks												
	N		6,3–25,0	60°	●	○	●	●	○			47
	N		16,0–80,0	60°	●	○	●	●	○			47
	N	Ti50	4,3–31,0	90°	●	○	●	●	○		45	
	N		4,3–31,0	90°	●	○	●	●	○			46
	N	TiN	5,0–31,0	90°	●	○	●	●	○			46
	N	TiAlN	5,0–31,0	90°	●	○	●	●	○			46
	VA	TiAlN	6,3–31,0	90°		●						46
	AL		6,3–31,0	90°				●				46
	N		16,5–80,0	90°	●	○	●	●	○			48
	N		6,3–25,0	120°	●	○	●	●	○			48
HSS – Hand deburrer												
	N		12,4–25,0	90°								49
Deburring Countersink												
	N		6,3–35,0	90°	●		●	●				49
	N	TiN	6,3–35,0	90°	●		●	●				49

REAMAX TS – Selection guide

Ø 18–65 mm

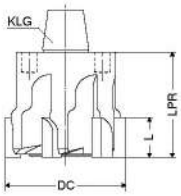
	KOMET no.	75J.93	75J.65	75H.65	75J.17	75H.17	75H.93	75H.65	75H.71	75J.93
	Lead	ASG4000	ASG0106	ASG0106	ASG0706	ASG0706	ASG3000	ASG3000	ASG3000	ASG3000
	Lead angle	25°	45°	45°	45°/8°	45°/8°	45°	45°	45°	45°
	Grade / coating	DST	DBG-P	DBG-P	DBC	DBC	DST	DBG-P	TiN	DST
	Article no.	40 597 ...	40 521 ...	40 571 ...	40 526 ...	40 580 ...	40 539 ...	40 585 ...	40 535 ...	40 544 ...
	Application	Through hole	Through hole	Blind hole	Through hole	Blind hole	Blind hole	Blind hole	Blind hole	Through hole
Material	Preferred type available	✓	✓	✓			✓			✓
Steel up to 1000 N/mm²		●								●
							●	○	○	
								○	○	
								●	○	
Steel > 1000 N/mm²			●							
				●					○	
			●							
				●					○	
Stainless steel			●							
				●						
			●							
				●						
Grey cast iron / alloyed nodular cast iron (0.7661) and vermicular cast iron (5.2200)								○		
								●		
Nodular cast iron		○								●
							●	○		
								○		
								●		
Copper, brass, bronze										●
									○	
									○	
									●	
Aluminium					●					
						●				
					●					
						●				

Applications: ● Main application ○ Additional range of application

4

REAMAX TS – Replaceable reaming heads

- up to tolerance class IT 6 with absolute process security, from the first hole
- precise repeatability < 3 µm
- high precision grind for maximum quality
- can be adjusted for the smallest hole tolerances
- interface enables head change in the machine
- retraction from the hole at 3–4 times the cutting feed rate
- KLG = coupling size



	DST	DBG-P	DBC	DST
				
	75J.93 25° ASG4000 CERMET Through hole	75J.65 45° ASG0106 HM Through hole	75J.17 45/8° ASG0706 HM Through hole	75J.93 45° ASG3000 CERMET Through hole
	NEW U3	NEW U3	NEW U3	NEW U3
DC_{H7} mm	L mm	LPR mm	ZEFP	KLG	Article no. 40 597 ... £	Article no. 40 521 ... £	Article no. 40 526 ... £	Article no. 40 544 ... £
18,00	6	20	6	1	308.07 18000	308.07 18000	308.07 18000	308.07 18000
18,01 - 19,99	6	20	6	1	660.32 xxxx 1)	660.32 xxxx 1)	660.32 xxxx 2)	660.32 xxxx 1)
20,00	6	20	6	2	315.92 20000	315.92 20000	315.92 20000	315.92 20000
20,01 - 21,99	6	20	6	2	774.19 xxxx 1)	774.19 xxxx 1)	774.19 xxxx 2)	774.19 xxxx 1)
22,00	6	20	6	3	321.81 22000	321.81 22000	321.81 22000	321.81 22000
22,01 - 23,99	6	20	6	3	805.42 xxxx 1)	805.42 xxxx 1)	805.42 xxxx 2)	805.42 xxxx 1)
24,00	6	20	6	3	331.62 24000	331.62 24000	331.62 24000	331.62 24000
24,01 - 24,99	6	20	6	3	805.42 xxxx 1)	805.42 xxxx 1)	805.42 xxxx 2)	805.42 xxxx 1)
25,00	6	20	6	3	331.62 25000	331.62 25000	331.62 25000	331.62 25000
25,01 - 25,99	6	20	6	3	805.42 xxxx 1)	805.42 xxxx 1)	805.42 xxxx 2)	805.42 xxxx 1)
26,00	6	20	6	3	344.38 26000	344.38 26000	805.42 26000 2)	344.38 26000
26,01 - 26,99	6	20	6	3	805.42 xxxx 1)	805.42 xxxx 1)	805.42 xxxx 2)	805.42 xxxx 1)
27,00 - 27,99	6	25	6	4	838.79 xxxx 1)	838.79 xxxx 1)	838.79 xxxx 2)	838.79 xxxx 1)
28,00	6	25	6	4	344.38 28000	344.38 28000	344.38 28000	344.38 28000
28,01 - 29,99	6	25	6	4	838.79 xxxx 1)	838.79 xxxx 1)	838.79 xxxx 2)	838.79 xxxx 1)
30,00	6	25	6	4	360.07 30000	360.07 30000	360.07 30000	360.07 30000
30,01 - 31,79	6	25	6	4	838.79 xxxx 1)	838.79 xxxx 1)	838.79 xxxx 2)	838.79 xxxx 1)
31,80 - 31,99	6	25	8	4	876.80 xxxx 1)	876.80 xxxx 1)	876.80 xxxx 2)	876.80 xxxx 1)
32,00	6	25	8	4	372.83 32000	372.83 32000	372.83 32000	372.83 32000
32,01 - 34,99	6	25	8	4	876.80 xxxx 1)	876.80 xxxx 1)	876.80 xxxx 2)	876.80 xxxx 1)
35,00	6	25	8	5	390.48 35000	390.48 35000	390.48 35000	390.48 35000
35,01 - 39,99	6	25	8	5	959.25 xxxx 1)	959.25 xxxx 1)	959.25 xxxx 2)	959.25 xxxx 1)
40,00	6	25	8	5	413.05 40000	413.05 40000	413.05 40000	413.05 40000
40,01 - 41,99	6	25	8	5	959.25 xxxx 1)	959.25 xxxx 1)	959.25 xxxx 2)	959.25 xxxx 1)
42,00	6	30	8	6	413.05 42000	413.05 42000	1,041.88 42000 2)	413.05 42000
42,01 - 49,99	6	30	8	6	1,041.88 xxxx 1)	1,041.88 xxxx 1)	1,041.88 xxxx 2)	1,041.88 xxxx 1)
50,00	6	30	8	6	422.86 50000	422.86 50000	422.86 50000	422.86 50000
50,01 - 51,99	6	30	8	6	1,041.88 xxxx 1)	1,041.88 xxxx 1)	1,041.88 xxxx 2)	1,041.88 xxxx 1)
52,00 - 53,99	8	35	10	7	1,155.57 xxxx 1)	1,155.57 xxxx 1)	1,155.57 xxxx 2)	1,155.57 xxxx 1)
54,00	8	35	10	7	475.84 54000	475.84 54000	1,155.57 54000 2)	475.84 54000
54,01 - 65,00	8	35	10	7	1,155.57 xxxx 1)	1,155.57 xxxx 1)	1,155.57 xxxx 2)	1,155.57 xxxx 1)
Steel					●	●		●
Stainless steel						●		
Cast iron					●			●
Non ferrous metals							●	○
Heat resistant alloys								
Hardened materials								

1) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 20 working days / Minimum order 2 pieces

2) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 25 working days / Minimum order 2 pieces

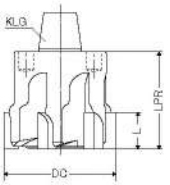
→ v_c Page 51–53

For xxxx when ordering please specifiy the required Ø in H7 (eg Ø 24.12 H7 → Article no. 40 597 2412)!
All other diameters and tolerance classes are also possible (eg 18.5 $^{+0.025}$ or 18 N7)!

Assembly instructions can be found on → **Page 71**

REAMAX TS – Replaceable reaming heads

- up to tolerance class IT 6 with absolute process security, from the first hole
- precise repeatability < 3 µm
- high precision grind for maximum quality
- can be adjusted for the smallest hole tolerances
- interface enables head change in the machine
- retraction from the hole at 3–4 times the cutting feed rate
- KLG = coupling size



DST	DBG-P	DBC	DBG-P	TiN
				
75H.93 ∢ 45° ASG3000 CERMET Blind hole	75H.65 ∢ 45° ASG0106 HM Blind hole	75H.17 ∢ 45/8° ASG0706 HM Blind hole	75H.65 ∢ 45° ASG3000 HM Blind hole	75H.71 ∢ 45° ASG3000 HM Blind hole
NEW U3	NEW U3	NEW U3	NEW U3	NEW U3
Article no. 40 539 ...	Article no. 40 571 ...	Article no. 40 580 ...	Article no. 40 585 ...	Article no. 40 535 ...
£	£	£	£	£

DC_{H7} mm	L mm	LPR mm	ZEFP	KLG										
18,00	6	20	6	1	308.07	18000	308.07	18000	660.32	18000 2)	660.32	18000 1)	660.32	18000 1)
18,01 - 19,99	6	20	6	1	660.32	xxxx 1)	660.32	xxxx 1)	660.32	xxxx 2)	660.32	xxxx 1)	660.32	xxxx 1)
20,00	6	20	6	2	315.92	20000	315.92	20000	774.19	20000 2)	774.19	20000 1)	774.19	20000 1)
20,01 - 21,99	6	20	6	2	774.19	xxxx 1)	774.19	xxxx 1)	774.19	xxxx 2)	774.19	xxxx 1)	774.19	xxxx 1)
22,00	6	20	6	3	321.81	22000	321.81	22000	805.42	22000 2)	805.42	22000 1)	805.42	22000 1)
22,01 - 23,99	6	20	6	3	805.42	xxxx 1)	805.42	xxxx 1)	805.42	xxxx 2)	805.42	xxxx 1)	805.42	xxxx 1)
24,00	6	20	6	3	331.62	24000	331.62	24000	805.42	24000 2)	805.42	24000 1)	805.42	24000 1)
24,01 - 24,99	6	20	6	3	805.42	xxxx 1)	805.42	xxxx 1)	805.42	xxxx 2)	805.42	xxxx 1)	805.42	xxxx 1)
25,00	6	20	6	3	331.62	25000	331.62	25000	805.42	25000 2)	805.42	25000 1)	805.42	25000 1)
25,01 - 25,99	6	20	6	3	805.42	xxxx 1)	805.42	xxxx 1)	805.42	xxxx 2)	805.42	xxxx 1)	805.42	xxxx 1)
26,00	6	20	6	3	344.38	26000	344.38	26000	805.42	26000 2)	805.42	26000 1)	805.42	26000 1)
26,01 - 26,99	6	20	6	3	805.42	xxxx 1)	805.42	xxxx 1)	805.42	xxxx 2)	805.42	xxxx 1)	805.42	xxxx 1)
27,00 - 27,99	6	25	6	4	838.79	xxxx 1)	838.79	xxxx 1)	838.79	xxxx 2)	838.79	xxxx 1)	838.79	xxxx 1)
28,00	6	25	6	4	344.38	28000	344.38	28000	838.79	28000 2)	838.79	28000 1)	838.79	28000 1)
28,01 - 29,99	6	25	6	4	838.79	xxxx 1)	838.79	xxxx 1)	838.79	xxxx 2)	838.79	xxxx 1)	838.79	xxxx 1)
30,00	6	25	6	4	360.07	30000	360.07	30000	838.79	30000 2)	838.79	30000 1)	838.79	30000 1)
30,01 - 31,79	6	25	6	4	838.79	xxxx 1)	838.79	xxxx 1)	838.79	xxxx 2)	838.79	xxxx 1)	838.79	xxxx 1)
31,80 - 31,99	6	25	8	4	876.80	xxxx 1)	876.80	xxxx 1)	876.80	xxxx 2)	876.80	xxxx 1)	876.80	xxxx 1)
32,00	6	25	8	4	372.83	32000	372.83	32000	876.80	32000 2)	876.80	32000 1)	876.80	32000 1)
32,01 - 34,99	6	25	8	4	876.80	xxxx 1)	876.80	xxxx 1)	876.80	xxxx 2)	876.80	xxxx 1)	876.80	xxxx 1)
35,00	6	25	8	5	390.48	35000	390.48	35000	959.25	35000 2)	959.25	35000 1)	959.25	35000 1)
35,01 - 39,99	6	25	8	5	959.25	xxxx 1)	959.25	xxxx 1)	959.25	xxxx 2)	959.25	xxxx 1)	959.25	xxxx 1)
40,00	6	25	8	5	413.05	40000	413.05	40000	959.25	40000 2)	959.25	40000 1)	959.25	40000 1)
40,01 - 41,99	6	25	8	5	959.25	xxxx 1)	959.25	xxxx 1)	959.25	xxxx 2)	959.25	xxxx 1)	959.25	xxxx 1)
42,00	6	30	8	6	413.05	42000	413.05	42000	1,041.88	42000 2)	1,041.88	42000 1)	1,041.88	42000 1)
42,01 - 49,99	6	30	8	6	1,041.88	xxxx 1)	1,041.88	xxxx 1)	1,041.88	xxxx 2)	1,041.88	xxxx 1)	1,041.88	xxxx 1)
50,00	6	30	8	6	422.86	50000	422.86	50000	1,041.88	50000 2)	1,041.88	50000 1)	1,041.88	50000 1)
50,01 - 51,99	6	30	8	6	1,041.88	xxxx 1)	1,041.88	xxxx 1)	1,041.88	xxxx 2)	1,041.88	xxxx 1)	1,041.88	xxxx 1)
52,00 - 53,99	8	35	10	7	1,155.57	xxxx 1)	1,155.57	xxxx 1)	1,155.57	xxxx 2)	1,155.57	xxxx 1)	1,155.57	xxxx 1)
54,00	8	35	10	7	475.84	54000	475.84	54000	1,155.57	54000 2)	1,155.57	54000 1)	1,155.57	54000 1)
54,01 - 65,00	8	35	10	7	1,155.57	xxxx 1)	1,155.57	xxxx 1)	1,155.57	xxxx 2)	1,155.57	xxxx 1)	1,155.57	xxxx 1)

Steel	●	●		●	○
Stainless steel		●			
Cast iron	●			●	
Non ferrous metals	○		●		●
Heat resistant alloys					
Hardened materials					

1) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 20 working days / Minimum order 2 pieces
2) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 25 working days / Minimum order 2 pieces

→ V_c Page 51–53

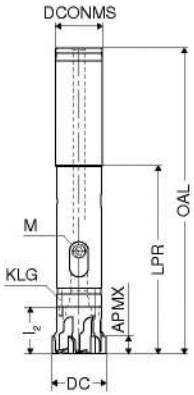
For xxxx when ordering please specifiy the required Ø in H7 (eg Ø 24.12 H7 → Article no. 40 539 2412)!
All other diameters and tolerance classes are also possible (eg 18.5 $^{+0.025}$ or 18 N7)!

Assembly instructions can be found on → **Page 71**

REAMAX TS – Holder

▲ KLG = Coupling Size

Supply details:
Complete holder incl. pull stud but without exchangeable head



≤ 3xD

≤ 5xD

DC mm	KOMET no.	KLG	OAL mm	l_2 mm	LPR mm	APMX mm	DCONMS $_{h6}$ mm	M Nm	NEW U3 Article no. 40 501 ... £		NEW U3 Article no. 40 503 ... £	
18,00 - 19,99	75A.40.13010	1	130	20	80	6	20	1,5	329.95	02099		
18,00 - 19,99	75A.40.15010	1	190	20	140	6	20	1,5			342.21	02099
20,00 - 21,99	75A.40.13020	2	130	20	80	6	20	2,5	342.21	02299		
20,00 - 21,99	75A.40.15020	2	190	20	140	6	20	2,5			356.93	02299
22,00 - 26,99	75A.40.13030	3	130	20	80	6	20	4	350.75	02799		
22,00 - 26,99	75A.40.15030	3	210	20	160	6	20	4			376.55	02799
27,00 - 34,99	75A.40.13040	4	176	25	120	6	25	5	364.29	03599		
27,00 - 34,99	75A.40.15040	4	236	25	180	6	25	5			387.54	03599
35,00 - 41,99	75A.40.13050	5	176	25	120	6	25	6	415.79	04299		
35,00 - 41,99	75A.40.15050	5	256	25	200	6	25	6			415.79	04299
42,00 - 51,99	75A.40.13060	6	180	30	120	6	32	10	429.24	05299		
42,00 - 51,99	75A.40.15060	6	280	30	220	6	30	10			429.24	05299
52,00 - 65,00	75A.40.13070	7	180	30	120	8	32	13	442.78	06599		
52,00 - 65,00	75A.40.15070	7	280	30	220	8	30	13			442.78	06599

Do not heat shrink tools!

U3
Reamax TS pull stud

Y7
Clamping key – T

Y7
Key D

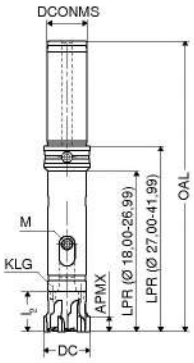
Spare parts DC	Article no. 40 900 ... £			Article no. 80 397 ... £			Article no. 80 950 ... £	
18,00 - 19,99	13.73	00100				T08 - IP	8.72	039
20,00 - 21,99	13.73	00200	SW2,5	4.96	025			
22,00 - 26,99	13.73	00300	SW3	4.78	030			
27,00 - 34,99	13.73	00400	SW3	4.78	030			
35,00 - 41,99	19.04	00500	SW3	4.78	030			
42,00 - 51,99	19.04	00500	SW4	4.78	040			
52,00 - 65,00	19.04	00700	SW5	6.09	050			

Assembly instructions can be found on → **Page 71**

REAMAX TS – Holder

- KLG = Coupling size
- adjustment inside the machine
- alignable DAH Zero holder for correction of concentricity error
- DAH Zero holder is pre-loaded and set to a runout of < 0.005 mm

Supply details:
Complete holder incl. pull stud but without exchangeable head



DAH Zero

≤ 3xD

DAH Zero

≤ 5xD

DC mm	KOMET no.	KLG	OAL mm	l_2 mm	LPR mm	APMX mm	DCONMS $_{h6}$ mm	M Nm	NEW U3 Article no. 40 504 ... £		NEW U3 Article no. 40 506 ... £	
18,00 - 19,99	75A.41.13010	1	145	20	80	6	20	1,5	442.78	02099		
18,00 - 19,99	75A.41.15010	1	205	20	140	6	20	1,5			470.94	02099
20,00 - 21,99	75A.41.13020	2	145	20	80	6	20	2,5	447.69	02299		
20,00 - 21,99	75A.41.15020	2	205	20	140	6	20	2,5			485.66	02299
22,00 - 26,99	75A.41.13030	3	145	20	80	6	20	4	458.68	02799		
22,00 - 26,99	75A.41.15030	3	225	20	160	6	20	4			499.19	02799
27,00 - 34,99	75A.41.13040	4	145	25	120	6	25	5	482.03	03599		
27,00 - 34,99	75A.41.15040	4	236	25	180	6	25	5			499.19	03599
35,00 - 41,99	75A.41.13050	5	176	25	120	6	25	6	586.22	04299		
35,00 - 41,99	75A.41.15050	5	236	25	200	6	25	6			597.30	04299

Do not heat shrink tools!

U3

Reamax TS pull stud

Y7

Clamping key – T

Y7

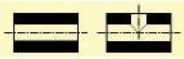
Key D

Spare parts DC	Article no. 40 900 ... £			Article no. 80 397 ... £			Article no. 80 950 ... £	
18,00 - 19,99	13.73	00100				T08 - IP	8.72	039
20,00 - 21,99	13.73	00200	SW2,5	4.96	025			
22,00 - 26,99	13.73	00300	SW3	4.78	030			
27,00 - 34,99	13.73	00400	SW3	4.78	030			
35,00 - 41,99	19.04	00500	SW3	4.78	030			

Assembly instructions can be found on → **Page 71**

REAMAX – Selection guide

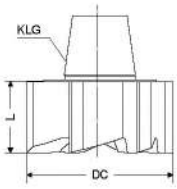
Ø 12,5–40 mm

	KOMET no.	640.93	640.65	640.27	640.93	640.65	640.71
	Lead	ASG4000	ASG0106	ASG0706	ASG3000	ASG3000	ASG3000
	Lead angle	25°	45°	45°/8°	45°	45°	45°
	New grade / coating	DST	DBG-P	DBC	DST	DBG-P	TiN
	Old grade / coating	CWC10	TiALN	DLC	CWC10	TiALN	CWN10
	Article no.	40 536 ...	40 551 ...	40 570 ...	40 525 ...	40 560 ...	40 505 ...
	Application	Through hole	Through hole-Blind hole				
Material	Preferred type available	✓	✓	✓	✓	✓	✓
Steel up to 1000 N/mm²		●			●	○	○
					●	○	○
						●	○
						●	○
Steel > 1000 N/mm²			●		●		
			●				
			●				
			●				
Stainless steel			●				
			●				
Grey cast iron / alloyed nodular cast iron (0.7661) and vermicular cast iron (5.2200)						●	
						●	
Nodular cast iron		○			●	○	
					●	○	
						●	
						●	
Copper, brass, bronze					○		●
					○		●
							●
							●
Aluminium				●			
				●			
				●			
				●			
Tempered steel			●				
			●				
			●				
			●				

Applications:	Main application	●
	Additional range of application	○

REAMAX – Replaceable reaming heads

- ▲ up to tolerance zone IT 7 with absolute process safety, from the first hole
- ▲ precise repeatability < 2 µm
- ▲ maximum radial run-out accuracy thanks to precision ground taper location
- ▲ no Ø adjustment necessary
- ▲ optimised for application with minimum quantity lubrication (MMS)
- ▲ retraction from the hole at 3–4 times the cutting feed rate
- ▲ KLG = coupling size



DST	DBG-P	DBC	DST	DBG-P	TiN
CWC10	TiAlN	DLC	CWC10	TiAlN	CWN10

640.93 ◁ 25° ASG4000 CERMET Through hole

640.65 ◁ 45° ASG0106 HM Through hole + Blind hole

640.27 ◁ 45° ASG0706 HM Through hole + Blind hole

640.93 ◁ 45° ASG3000 CERMET Through hole + Blind hole

640.65 ◁ 45° ASG3000 HM Through hole + Blind hole

640.71 ◁ 45° ASG3000 HM Through hole + Blind hole

DC H7	L	ZEFP	KLG	U3 Article no. 40 536 ...		NEW U3 Article no. 40 551 ...		NEW U3 Article no. 40 570 ...		U3 Article no. 40 525 ...		NEW U3 Article no. 40 560 ...		U3 Article no. 40 505 ...	
mm	mm			£		£		£		£		£		£	
12,50 - 14,99	9	6	1	459.55	xxxx [2]	459.55	xxxx [1]	459.55	xxxx [1]	459.55	xxxx [2]	459.55	xxxx [1]	459.55	xxxx [1]
15,00	9	6	1	459.55	15000 [2]	208.98	15000 [1]	208.98	15000 [1]	459.55	15000 [2]	208.98	15000	382.37	150
15,01 - 15,99	9	6	1	459.55	xxxx [2]	459.55	xxxx [1]	459.55	xxxx [1]	459.55	xxxx [2]	459.55	xxxx [1]	459.55	xxxx [1]
16,00	9	6	2	439.81	160	240.37	16000 [1]	240.37	16000 [1]	439.81	160	240.37	16000	439.81	160
16,01 - 17,99	9	6	2	524.33	xxxx [2]	524.33	xxxx [1]	524.33	xxxx [1]	524.33	xxxx [2]	524.33	xxxx [1]	524.33	xxxx [1]
18,00	9	6	2	445.20	180	243.32	18000 [1]	243.32	18000 [1]	445.20	180	243.32	18000	445.20	180
18,01 - 19,99	9	6	2	524.33	xxxx [2]	524.33	xxxx [1]	524.33	xxxx [1]	524.33	xxxx [2]	524.33	xxxx [1]	524.33	xxxx [1]
20,00	9	6	2	454.17	200	248.23	20000 [1]	248.23	20000 [1]	454.17	200	248.23	20000	454.17	200
20,01 - 21,99	9	6	2	524.33	xxxx [2]	524.33	xxxx [1]	524.33	xxxx [1]	524.33	xxxx [2]	524.33	xxxx [1]	524.33	xxxx [1]
22,00	9	8	3	464.95	220	254.11	22000 [1]	254.11	22000 [1]	464.95	220	254.11	22000	464.95	220
22,01 - 23,99	9	8	3	566.63	xxxx [2]	566.63	xxxx [1]	566.63	xxxx [1]	566.63	xxxx [2]	566.63	xxxx [1]	566.63	xxxx [1]
24,00	9	8	3	566.63	24000 [2]	262.94	24000 [1]	262.94	24000 [1]	566.63	24000 [2]	262.94	24000	481.10	240
24,01 - 24,99	9	8	3	566.63	xxxx [2]	566.63	xxxx [1]	566.63	xxxx [1]	566.63	xxxx [2]	566.63	xxxx [1]	566.63	xxxx [1]
25,00	9	8	3	500.85	250	273.74	25000 [1]	273.74	25000 [1]	500.85	250	273.74	25000	500.85	250
25,01 - 25,99	9	8	3	566.63	xxxx [2]	566.63	xxxx [1]	566.63	xxxx [1]	566.63	xxxx [2]	566.63	xxxx [1]	566.63	xxxx [1]
26,00 - 27,99	9	8	4	518.80	xxxx [2]	649.26	xxxx [1]	649.26	xxxx [1]	518.80	xxxx [2]	649.26	xxxx [1]	518.80	xxxx [1]
28,00	9	8	4	518.80	280	283.54	28000 [1]	283.54	28000 [1]	518.80	280	283.54	28000	518.80	280
28,01 - 29,99	9	8	4	649.26	xxxx [2]	649.26	xxxx [1]	649.26	xxxx [1]	649.26	xxxx [2]	649.26	xxxx [1]	649.26	xxxx [1]
30,00	9	8	4	543.93	300	297.28	30000 [1]	297.28	30000 [1]	543.93	300	297.28	30000	543.93	300
30,01 - 32,00	9	8	4	649.26	xxxx [2]	649.26	xxxx [1]	649.26	xxxx [1]	649.26	xxxx [2]	649.26	xxxx [1]	649.26	xxxx [1]
32,01 - 39,99	9	8	5	736.17	xxxx [2]	736.17	xxxx [1]	736.17	xxxx [1]	736.17	xxxx [2]	737.06	xxxx [1]	736.17	xxxx [1]
40,00	9	8	5	576.25	400	314.94	40000 [1]	314.94	40000 [1]	576.25	400	314.94	40000	576.25	400

Steel	●	●		●	●	○
Stainless steel		●				
Cast iron	○			●	●	
Non ferrous metals			●	○		●
Heat resistant alloys						
Hardened materials		●				

1) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 25 working days / Minimum order 2 pieces
2) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 20 working days / Minimum order 2 pieces

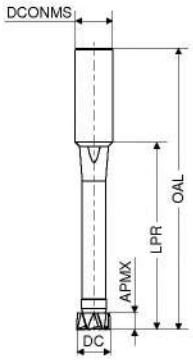
→ v_c Page 55-57

For xxxx when ordering please specifiy the required Ø in H7 (eg Ø 15.12 H7 → Article no. 40 525 1512)!
All other diameters and tolerance classes are also possible (eg 18.5 $^{+0.025}$ or 18 N7)!

REAMAX – Holder

▲ KLG = Coupling size

Supply details:
Tool holder fitted with clamp and hexagonal key, but without replaceable head

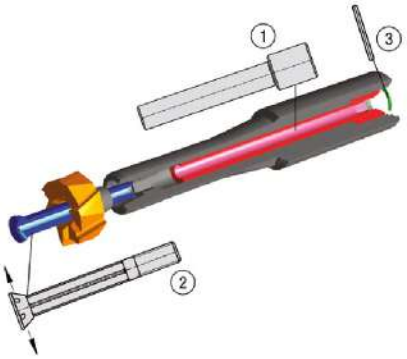


DC	KOMET no.	KLG	OAL	LPR	APMX	DCONMS h6	M	U3 Article no. 40 590 ...		U3 Article no. 40 591 ...	
mm			mm	mm	mm	mm	Nm	£		£	
12,50 - 15,99	640.01.001	1	107	59	9	16	4 - 5	596.90	016		
12,50 - 15,99	640.81.001	1	137	89	9	16	4 - 5			596.90	016
16,00 - 21,99	640.01.002	2	119	69	9	20	6 - 7	623.82	022		
16,00 - 21,99	640.81.002	2	169	119	9	20	6 - 7			623.82	022
22,00 - 25,99	640.01.003	3	140	84	9	25	10 - 12	664.21	026		
22,00 - 25,99	640.81.003	3	196	140	9	25	10 - 12			664.21	026
26,00 - 32,00	640.01.005	4	160	104	9	25	18 - 20	686.65	032		
26,00 - 32,00	640.81.005	4	226	170	9	25	18 - 20			686.65	032
32,01 - 40,00	640.01.006	5	199	139	9	32	26 - 28	785.39	040		
32,01 - 40,00	640.81.006	5	270	210	9	32	26 - 28			785.39	040

Do not heat shrink tools!

Spare parts DC	DCONMS h6	U3 Draw bolt 5xD Article no. 40 950 ...		U3 Draw bolt 3xD Article no. 40 950 ...		U3 Draw bar Article no. 40 950 ...		U3 Circlip Article no. 40 950 ...	
		£		£		£		£	
12,50 - 15,99	16			81.32	101	206.44	001	0.98	301
12,50 - 15,99	16	80.78	107			206.44	001	0.98	301
16,00 - 21,99	20	80.78	108			206.44	002	0.98	302
16,00 - 21,99	20			81.32	102	206.44	002	0.98	302
22,00 - 25,99	25			95.14	103	215.42	003	0.98	303
22,00 - 25,99	25	95.14	109			215.42	003	0.98	303
26,00 - 32,00	25			109.50	104	226.73	004	0.98	303
26,00 - 32,00	25	109.50	110			226.73	004	0.98	303
32,01 - 40,00	32	123.87	112			244.68	005	0.98	304
32,01 - 40,00	32			123.87	106	244.68	005	0.98	304

1. Draw bolt
2. Draw bar
3. Circlip



MultiChange Programme Overview

The highly stable „MultiChange“ exchangeable head system enables an extremely fast tool change. Designed to be durable and for a very high radial run-out accuracy, this exchangeable head system is probably the most stable and precise exchangeable head system on the market. The following chapters contain suitable exchangeable heads for almost every application.

Solid carbide drilling

- Solid carbide NC Spot Drill
  ◁ 90°, 120°, 142° / Ø 8, 10, 12, 16, 20 mm / ZEFP* 2

→ **Chapter 2, Solid carbide drilling**

*ZEFP = Number of teeth

Solid carbide milling cutters

- PCD shoulder mills
  Ø 8, 10, 12, 16, 20 mm / ZEFP* 2
- Solid carbide shoulder mills
  Type N, PCR-UNI, PCR-ALU / Ø 8, 10, 12, 16, 20 mm / ZEFP 3+4
- Solid carbide rough and finish milling cutters
  Ø 8, 10, 12, 16, 20 mm / ZEFP* 4-6
- Solid carbide finish milling cutters
  Ø 8, 10, 12, 16, 20 mm / ZEFP* 6
- Solid carbide high-feed cutters
  Ø 8, 10, 12, 16, 20 mm / ZEFP* 6
- Solid carbide ball-nosed end mills
  Ø 10, 12, 16, 20 mm / ZEFP* 4
- Solid carbide torus bull nose milling cutters
  Ø 8, 10, 12, 16, 20 mm / ZEFP* 3+4
- Solid carbide quarter round cutter
  Ø 8, 10, 12, 16, 20 mm
- Solid carbide deburring cutters
  Ø 10, 12, 16, 20 mm / ZEFP* 4+6

→ **Chapter 14, Solid carbide milling cutters**

*ZEFP = Number of teeth

Tool holder

- Steel holder extra short
  Cylindrical / Tapered 87°
  Length 60-90 mm
  for KLG 8, 10, 12, 16, 20 mm

- Short holder steel/Solid carbide
  Cylindrical
  Length 85-120 mm
  for KLG 8, 10, 12, 16, 20 mm

- Holder steel /Solid carbide, short
  87° Taper
  Length 85-120 mm
  for KLG 8, 10, 12, 16, 20 mm

- Solid carbide holder, medium
  Cylindrical / Tapered 87°
  Length 110-150 mm
  for KLG 8, 10, 12, 16, 20 mm

- Holder steel/Solid carbide, long
  Cylindrical
  Length 150-200 mm
  for KLG 8, 10, 12, 16, 20 mm

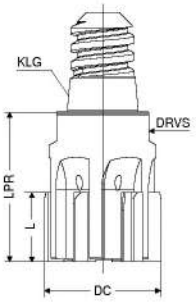
- Holder steel/Solid carbide, long
  87° Taper
  Length 150-200 mm
  for KLG 8, 10, 12, 16, 20 mm

- Steel/Solid carbide holder, extra long
  Cylindrical
  Length 200-250 mm
  for Ø 16 and 20 mm

→ **Chapter 17, Accessories**

MultiChange – Reaming head, for thro' holes

- ▲ to tolerance zone IT 7 with absolute process security – from the first hole
- ▲ high-speed reaming heads
- ▲ irregular pitch for highest concentricity
- ▲ repeatability ≤ 5 µm
- ▲ KLG = coupling size



	CWC10	TiAlN	TiAlN	K10	PDC
					
	Left Hand Helix ◁ 30° CERMET Through hole	Left Hand Helix ◁ 30° HM Through hole	straight flute ◁ 45° HM Through hole	straight flute ◁ 45° Solid carbide Through hole	straight flute ◁ 45° PDC Through hole
	U3	U3	U3	U3	U3
	Article no. 40 210 ...	Article no. 40 220 ...	Article no. 40 230 ...	Article no. 40 240 ...	Article no. 40 245 ...

DC_{H7} mm	KLG	L mm	LPR mm	ZEFP	DRVS mm	TQX Nm	£		£		£		£		£	
8,00	06	8	18	4	6	5.0	266.86	080	266.86	080	266.86	080	240.52	080 1)	665.37	080 1)
8,01 - 9,70	06	8	18	4	6	5.0	289.69	xxxx 1)	289.69	xxxx 1)	289.69	xxxx 1)	261.59	xxxx 1)	747.91	xxxx 1)
9,71 - 9,99	06	8	18	6	8	5.0	328.30	xxxx 1)	328.30	xxxx 1)	328.30	xxxx 1)	294.94	xxxx 1)	814.61	xxxx 1)
10,00	06	8	18	6	8	5.0	301.96	100	301.96	100	301.96	100	272.13	100 1)	733.86	100 1)
10,01 - 10,70	06	8	18	6	8	5.0	328.30	xxxx 1)	328.30	xxxx 1)	328.30	xxxx 1)	294.94	xxxx 1)	814.61	xxxx 1)
10,71 - 11,99	08	8	20	6	8	12.5	328.30	xxxx 1)	328.30	xxxx 1)	328.30	xxxx 1)	294.94	xxxx 1)	840.94	xxxx 1)
12,00	08	8	20	6	8	12.5	301.96	120	301.96	120	301.96	120	272.13	120 1)	747.91	120 1)
12,01 - 12,70	08	8	20	6	8	12.5	328.30	xxxx 1)	328.30	xxxx 1)	328.30	xxxx 1)	294.94	xxxx 1)	840.94	xxxx 1)
12,71 - 13,99	10	8	22	6	10	15.0	349.37	xxxx 1)	349.37	xxxx 1)	349.37	xxxx 1)	314.27	xxxx 1)	840.94	xxxx 1)
14,00	10	8	22	6	10	15.0	321.27	140	321.27	140	321.27	140	289.69	140 1)	747.91	140 1)
14,01 - 15,99	10	8	22	6	10	15.0	349.37	xxxx 1)	349.37	xxxx 1)	349.37	xxxx 1)	314.27	xxxx 1)	840.94	xxxx 1)
16,00	10	8	22	6	10	15.0	321.27	160	321.27	160	321.27	160	289.69	160 1)	786.52	160 1)
16,01 - 16,20	10	8	22	6	10	15.0	349.37	xxxx 1)	349.37	xxxx 1)	349.37	xxxx 1)	314.27	xxxx 1)	883.09	xxxx 1)
16,21 - 17,20	10	8	22	6	13	15.0	349.37	xxxx 1)	349.37	xxxx 1)	349.37	xxxx 1)	314.27	xxxx 1)	883.09	xxxx 1)
17,21 - 17,99	12	12	26	6	13	20.0	365.17	xxxx 1)	365.17	xxxx 1)	365.17	xxxx 1)	328.30	xxxx 1)	893.61	xxxx 1)
18,00	12	12	26	6	13	20.0	335.34	180	335.34	180	335.34	180	301.96	180 1)	795.30	180 1)
18,01 - 19,20	12	12	26	6	13	20.0	365.17	xxxx 1)	365.17	xxxx 1)	365.17	xxxx 1)	328.30	xxxx 1)	893.61	xxxx 1)
19,21 - 19,99	12	12	26	6	16	20.0	365.17	xxxx 1)	365.17	xxxx 1)	365.17	xxxx 1)	328.30	xxxx 1)	893.61	xxxx 1)
20,00	12	12	26	6	16	20.0	335.34	200	335.34	200	335.34	200	301.96	200 1)	795.30	200 1)
20,01 - 20,20	12	12	26	6	16	20.0	365.17	xxxx 1)	365.17	xxxx 1)	365.17	xxxx 1)	328.30	xxxx 1)	893.61	xxxx 1)
20,21 - 21,20	12	12	26	6	16	20.0	380.97	xxxx 1)	380.97	xxxx 1)	380.97	xxxx 1)	342.35	xxxx 1)	893.61	xxxx 1)
21,21 - 21,99	16	12	26	6	16	25.0	380.97	xxxx 1)	380.97	xxxx 1)	380.97	xxxx 1)	342.35	xxxx 1)	909.40	xxxx 1)
22,00	16	12	26	6	16	25.0	351.13	220	351.13	220	351.13	220	314.27	220 1)	809.33	220 1)
22,01 - 23,99	16	12	26	6	16	25.0	380.97	xxxx 1)	380.97	xxxx 1)	380.97	xxxx 1)	342.35	xxxx 1)	909.40	xxxx 1)
24,00	16	12	26	6	16	25.0	351.13	240	351.13	240	351.13	240	314.27	240 1)	809.33	240 1)
24,01 - 24,20	16	12	26	6	16	25.0	380.97	xxxx 1)	380.97	xxxx 1)	380.97	xxxx 1)	342.35	xxxx 1)	909.40	xxxx 1)
24,21 - 24,99	16	12	26	6	19	25.0	407.31	xxxx 1)	407.31	xxxx 1)	407.31	xxxx 1)	366.94	xxxx 1)	937.50	xxxx 1)
25,00	16	12	26	6	19	25.0	373.94	250	373.94	250	373.94	250	337.07	250 1)	833.92	250 1)
25,01 - 25,99	16	12	26	6	19	25.0	407.31	xxxx 1)	407.31	xxxx 1)	407.31	xxxx 1)	366.94	xxxx 1)	937.50	xxxx 1)
26,00	16	12	26	6	19	25.0	373.94	260	373.94	260	373.94	260	337.07	260 1)	833.92	260 1)
26,01 - 26,20	16	12	26	6	19	25.0	407.31	xxxx 1)	407.31	xxxx 1)	407.31	xxxx 1)	366.94	xxxx 1)	937.50	xxxx 1)
26,21 - 27,99	16	12	26	6	21	25.0	407.31	xxxx 1)	407.31	xxxx 1)	407.31	xxxx 1)	366.94	xxxx 1)	937.50	xxxx 1)
28,00	16	12	26	6	21	25.0	373.94	280	373.94	280	373.94	280	337.07	280 1)	833.92	280 1)
28,01 - 28,20	16	12	26	6	21	25.0	407.31	xxxx 1)	407.31	xxxx 1)	407.31	xxxx 1)	366.94	xxxx 1)	937.50	xxxx 1)
28,21 - 29,20	16	12	26	6	24	25.0	451.19	xxxx 1)	451.19	xxxx 1)	451.19	xxxx 1)	405.55	xxxx 1)	937.50	xxxx 1)
29,21 - 29,99	16	12	26	8	24	25.0	451.19	xxxx 1)	451.19	xxxx 1)	451.19	xxxx 1)	405.55	xxxx 1)	991.92	xxxx 1)
30,00	16	12	26	8	24	25.0	414.34	300	414.34	300	414.34	300	373.94	300 1)	883.09	300 1)
30,01 - 30,20	16	12	26	8	24	25.0	451.19	xxxx 1)	451.19	xxxx 1)	451.19	xxxx 1)	405.55	xxxx 1)	991.92	xxxx 1)

Steel	●				
Stainless steel		●			
Cast iron			●		
Non ferrous metals		○		●	●
Heat resistant alloys		●			
Hardened materials					

1) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 23 working days / Minimum order 2 pieces

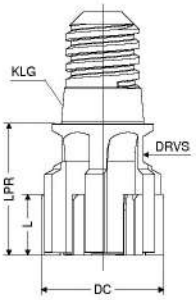
→ V_c Page 58+59

For xxxx please indicate in the order the required diameter to H7 (e.g Ø 10.89 H7 → article no. 40 230 1089)!
All other diameters and tolerances are also possible (e.g. 8.5 $^{+0.025}$ or 11 N7).

Holders and accessories can be found in → **Chapter 17, Accessories**.

MultiChange – Reaming head, for blind holes

- ▲ to tolerance zone IT 7 with absolute process security – from the first hole
- ▲ high-speed reaming heads
- ▲ irregular pitch for highest concentricity
- ▲ repeatability ≤ 5 µm
- ▲ KLG = coupling size



	CWC10	TiAlN	TiAlN	K10	PDC
					
	straight flute ◁ 60° CERMET Blind hole	straight flute ◁ 60° HM Blind hole	straight flute ◁ 60° HM Blind hole	straight flute ◁ 60° Solid carbide Blind hole	straight flute ◁ 75° PDC Blind hole
	U3	U3	U3	U3	U3
DC H7 mm	KLG	L mm	LPR mm	ZEFP	DRVS mm	TQX Nm	Article no. 40 211 ... £		Article no. 40 221 ... £		Article no. 40 231 ... £		Article no. 40 241 ... £		Article no. 40 246 ... £	
12,20 - 12,70	06	8	20	6	6	5.0	328.30	xxxx 1)	328.30	xxxx 1)	328.30	xxxx 1)	294.94	xxxx 1)	840.94	xxxx 1)
12,71 - 13,99	06	8	22	6	6	5.0	349.37	xxxx 1)	349.37	xxxx 1)	349.37	xxxx 1)	314.27	xxxx 1)	840.94	xxxx 1)
14,00	06	8	22	6	6	5.0	321.27	140	321.27	140	321.27	140	289.69	140 1)	747.91	140 1)
14,01 - 14,20	06	8	22	6	6	5.0	349.37	xxxx 1)	349.37	xxxx 1)	349.37	xxxx 1)	314.27	xxxx 1)	840.94	xxxx 1)
14,21 - 15,99	08	8	22	6	8	12.5	349.37	xxxx 1)	349.37	xxxx 1)	349.37	xxxx 1)	314.27	xxxx 1)	883.09	xxxx 1)
16,00	08	8	22	6	8	12.5	321.27	160	321.27	160	321.27	160	289.69	160 1)	786.52	160 1)
16,01 - 16,20	08	8	22	6	8	12.5	349.37	xxxx 1)	349.37	xxxx 1)	349.37	xxxx 1)	314.27	xxxx 1)	883.09	xxxx 1)
16,21 - 17,20	10	8	22	6	10	15.0	349.37	xxxx 1)	349.37	xxxx 1)	349.37	xxxx 1)	314.27	xxxx 1)	883.09	xxxx 1)
17,21 - 17,99	10	12	26	6	10	15.0	365.17	xxxx 1)	365.17	xxxx 1)	365.17	xxxx 1)	328.30	xxxx 1)	893.61	xxxx 1)
18,00	10	12	26	6	10	15.0	335.34	180	335.34	180	335.34	180	301.96	180 1)	795.30	180 1)
18,01 - 19,99	10	12	26	6	10	15.0	365.17	xxxx 1)	365.17	xxxx 1)	365.17	xxxx 1)	328.30	xxxx 1)	893.61	xxxx 1)
20,00	10	12	26	6	10	15.0	335.34	200	335.34	200	335.34	200	301.96	200 1)	795.30	200 1)
20,01 - 20,20	10	12	26	6	10	15.0	365.17	xxxx 1)	365.17	xxxx 1)	365.17	xxxx 1)	328.30	xxxx 1)	893.61	xxxx 1)
20,21 - 21,99	12	12	26	6	13	20.0	380.97	xxxx 1)	380.97	xxxx 1)	380.97	xxxx 1)	342.35	xxxx 1)	893.61	xxxx 1)
22,00	12	12	26	6	13	20.0	351.13	220	351.13	220	351.13	220	314.27	220 1)	809.33	220 1)
22,01 - 23,99	12	12	26	6	13	20.0	380.97	xxxx 1)	380.97	xxxx 1)	380.97	xxxx 1)	342.35	xxxx 1)	909.40	xxxx 1)
24,00	12	12	26	6	13	20.0	351.13	240	351.13	240	351.13	240	314.27	240 1)	809.33	240 1)
24,01 - 24,20	12	12	26	6	13	20.0	380.97	xxxx 1)	380.97	xxxx 1)	380.97	xxxx 1)	342.35	xxxx 1)	909.40	xxxx 1)
24,21 - 24,99	16	12	26	6	16	25.0	407.31	xxxx 1)	407.31	xxxx 1)	407.31	xxxx 1)	366.94	xxxx 1)	909.40	xxxx 1)
25,00	16	12	26	6	16	25.0	373.94	250	373.94	250	373.94	250	337.07	250 1)	833.92	250 1)
25,01 - 25,99	16	12	26	6	16	25.0	407.31	xxxx 1)	407.31	xxxx 1)	407.31	xxxx 1)	366.94	xxxx 1)	909.40	xxxx 1)
26,00	16	12	26	6	16	25.0	373.94	260	373.94	260	373.94	260	337.07	260 1)	833.92	260 1)
26,01 - 27,99	16	12	26	6	16	25.0	407.31	xxxx 1)	407.31	xxxx 1)	407.31	xxxx 1)	366.94	xxxx 1)	937.50	xxxx 1)
28,00	16	12	26	6	16	25.0	373.94	280	373.94	280	373.94	280	337.07	280 1)	833.92	280 1)
28,01 - 28,20	16	12	26	6	16	25.0	407.31	xxxx 1)	407.31	xxxx 1)	407.31	xxxx 1)	366.94	xxxx 1)	937.50	xxxx 1)
28,21 - 29,20	16	12	26	6	16	25.0	451.19	xxxx 1)	451.19	xxxx 1)	451.19	xxxx 1)	405.55	xxxx 1)	937.50	xxxx 1)
29,21 - 29,99	16	12	26	8	16	25.0	451.19	xxxx 1)	451.19	xxxx 1)	451.19	xxxx 1)	405.55	xxxx 1)	991.92	xxxx 1)
30,00	16	12	26	8	16	25.0	414.34	300	414.34	300	414.34	300	373.94	300 1)	883.09	300 1)
30,01 - 30,20	16	12	26	8	16	25.0	451.19	xxxx 1)	451.19	xxxx 1)	451.19	xxxx 1)	405.55	xxxx 1)	991.92	xxxx 1)

	CWC10	TiAlN	TiAlN	K10	PDC
Steel	●				
Stainless steel		●			
Cast iron			●		
Non ferrous metals		○		●	●
Heat resistant alloys		●			
Hardened materials					

1) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 23 working days / Minimum order 2 pieces

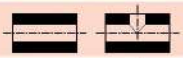
→ V$_o$ Page 58+59

For xxxx please indicate in the order the required diameter to H7 (e.g Ø 12.89 H7 – article no. 40 231 1289)!
All other diameters and tolerances are also possible (e.g. 18.5 $^{+0.025}$ or 15 N7).

Holders and accessories can be found in → **Chapter 17, Accessories**.

Monomax – Selection guide

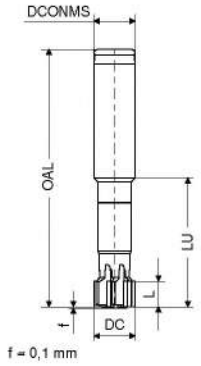
Ø 5,60–25,89

	KOMET no. (3xD)	56J.93	56J.65	56H.65	56J.17	56H.17	56J.93	56H.65	56J.71
	KOMET no. (5xD)	56R.93	56R.65	56Q.65	56R.17	56Q.17	56R.93	56Q.65	56R.71
	Lead	ASG4000	ASG0106	ASG0106	ASG0706	ASG0706	ASG3000	ASG3000	ASG3000
	Lead angle	25°	45°	45°	45°/8°	45°/8°	45°	45°	45°
	New grade / coating	DST	DBG-P	DBG-P	DBC	DBC	DST	DBG-P	TIN
	Old grade / coating	CWC10	TiALN	TiALN	DLC	DLC	CWC10	TiALN	CWN10
	Article no. (3xD)	40 635 ...	40 652 ...	40 644 ...	40 648 ...	40 640 ...	40 625 ...	40 657 ...	40 605 ...
	Article no. (5xD)	40 636 ...	40 653 ...	40 645 ...	40 649 ...	40 641 ...	40 626 ...	40 665 ...	40 606 ...
	Application	Through hole	Through hole	Blind hole	Through hole	Blind hole	Through hole	Blind hole	Through hole
Material	Preferred type available	✓	✓				✓		✓
Steel up to 900 N/mm²		●					●		○
								●	
									○
								●	
Steel > 900 N/mm²			●						
			○	●					
			●						
			○	●					
Stainless steel			●						
			○	●					
			●						
			○	●					
Grey cast iron / alloyed nodular cast iron (0.7661) and vermicular cast iron (5.2200)								○	○
								●	
Nodular cast iron		●					●	○	○
							○	●	
								○	○
								●	
Copper, brass, bronze							○		●
									
									●
									
Aluminium					●				
					○	●			
					●				
					○	●			

Applications:	Main application	●
	Additional range of application	○

Monomax – High-speed reamers, short

- adjustable for smallest bore tolerances
- wear compensation within the tolerance zone
- retraction from the hole at 3–4 times the cutting feed rate
- up to tolerance class IT 5 with absolute process security, from the first hole



DST	DBC	DBG-P	DST	TiN
CWC10	DLC	TiAlN	CWC10	CWN10

56J.93	56J.17	56J.65	56J.93	56J.71
≤ 3xD	≤ 3xD	≤ 3xD	≤ 3xD	≤ 3xD
◁ 45°	◁ 45/8°	◁ 45°	◁ 25°	◁ 45°
ASG3000	ASG0706	ASG0106	ASG4000	ASG3000
CERMET	HM	HM	CERMET	HM
Through hole	Through hole	Through hole	Through hole	Through hole

DC_{H7}	OAL	LU	L	$DCONMS_{h6}$	ZEFP	U3 Article no. 40 625 ... £		NEW U3 Article no. 40 648 ... £		NEW U3 Article no. 40 652 ... £		U3 Article no. 40 635 ... £		U3 Article no. 40 605 ... £	
mm	mm	mm	mm	mm											
5,60 - 5,99	85	40	10	12	4	633.55	xxxx [2]	633.55	xxxx [1]	633.55	xxxx [1]	633.55	xxxx [2]	633.55	xxxx [1]
6,00	85	40	10	12	4	524.19	060	633.55	06000 [1]	286.49	06000	524.19	060	524.19	060
6,01 - 7,99	85	40	10	12	4	633.55	xxxx [2]	633.55	xxxx [1]	633.55	xxxx [1]	633.55	xxxx [2]	633.55	xxxx [1]
8,00	85	40	10	12	4	543.93	080	633.55	08000 [1]	297.28	08000	543.93	080	543.93	080
8,01 - 8,89	85	40	10	12	4	633.55	xxxx [2]	633.55	xxxx [1]	633.55	xxxx [1]	633.55	xxxx [2]	633.55	xxxx [1]
8,90 - 9,89	95	50	10	12	6	729.57	xxxx [2]	729.57	xxxx [1]	729.57	xxxx [1]	729.57	xxxx [2]	729.57	xxxx [1]
9,90 - 9,99	95	50	10	12	6	729.57	xxxx [2]	729.57	xxxx [1]	729.57	xxxx [1]	729.57	xxxx [2]	729.57	xxxx [1]
10,00	95	50	10	12	6	588.81	100	729.57	10000 [1]	321.81	10000	588.81	100	588.81	100
10,01 - 11,99	95	50	10	12	6	729.57	xxxx [2]	729.57	xxxx [1]	729.57	xxxx [1]	729.57	xxxx [2]	729.57	xxxx [1]
12,00	95	50	10	12	6	606.76	120	729.57	12000 [1]	331.62	12000	606.76	120	606.76	120
12,01 - 13,99	95	50	10	12	6	729.57	xxxx [2]	729.57	xxxx [1]	729.57	xxxx [1]	729.57	xxxx [2]	729.57	xxxx [1]
14,00	95	50	10	12	6	649.85	140	729.57	14000 [1]	355.17	14000	649.85	140	649.85	140
14,01 - 14,99	95	50	10	12	6	729.57	xxxx [2]	729.57	xxxx [1]	729.57	xxxx [1]	729.57	xxxx [2]	729.57	xxxx [1]
15,00	95	50	10	12	6	666.00	150	729.57	15000 [1]	364.00	15000	666.00	150	666.00	150
15,01 - 15,89	95	50	10	12	6	729.57	xxxx [2]	729.57	xxxx [1]	729.57	xxxx [1]	729.57	xxxx [2]	729.57	xxxx [1]
15,90 - 15,99	100	50	10	16	6	896.79	xxxx [2]	896.79	xxxx [1]	896.79	xxxx [1]	896.79	xxxx [2]	896.79	xxxx [1]
16,00	100	50	10	16	6	682.16	160	896.79	16000 [1]	372.83	16000	682.16	160	682.16	160
16,01 - 17,99	100	50	10	16	6	896.79	xxxx [2]	896.79	xxxx [1]	896.79	xxxx [1]	896.79	xxxx [2]	896.79	xxxx [1]
18,00	100	50	10	16	6	728.83	180	896.79	18000 [1]	398.34	18000	728.83	180	728.83	180
18,01 - 18,89	100	50	10	16	6	896.79	xxxx [2]	896.79	xxxx [1]	896.79	xxxx [1]	896.79	xxxx [2]	896.79	xxxx [1]
18,90 - 19,99	120	60	10	20	6	1,088.64	xxxx [2]	1,088.64	xxxx [1]	1,088.64	xxxx [1]	1,088.64	xxxx [2]	1,088.64	xxxx [1]
20,00	120	60	10	20	6	786.28	200	1,088.64	20000 [1]	429.74	20000	786.28	200	786.28	200
20,01 - 25,89	120	60	10	20	6	1,088.64	xxxx [2]	1,088.64	xxxx [1]	1,088.64	xxxx [1]	1,088.64	xxxx [2]	1,088.64	xxxx [1]

Steel	●		●	●	○
Stainless steel			●		
Cast iron	●				
Non ferrous metals		●			●
Heat resistant alloys					
Hardened materials					

1) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 25 working days / Minimum order 2 pieces
2) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 20 working days / Minimum order 2 pieces

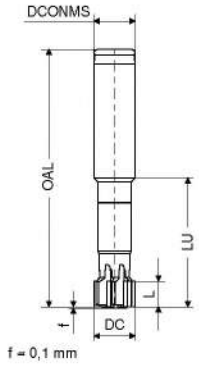
→ v_c Page 60–63

Do not heat shrink tools!

For xxxx when ordering please specifiy the required Ø in H7 (eg Ø 15.89 H7 → Article no. 40 635 1589)!
All other diameters and tolerance classes are also possible (eg 18.5 $^{+0.025}$ or 18 N7)!

Monomax – High-speed reamers, short

- adjustable for smallest bore tolerances
- wear compensation within the tolerance zone
- retraction from the hole at 3–4 times the cutting feed rate
- up to tolerance class IT 5 with absolute process security, from the first hole



DBG-P	DBC	DBG-P
TiAlN	DLC	TiAlN

56H.65	56H.17	56H.65
≤ 3xD	≤ 3xD	≤ 3xD
◁ 45°	◁ 45/8°	◁ 45°
ASG0106	ASG0706	ASG3000
HM	HM	HM
Blind hole	Blind hole	Blind hole

DC H7	OAL	LU	L	DCONMS h6	ZEFP	NEW U3 Article no. 40 644 ...		NEW U3 Article no. 40 640 ...		NEW U3 Article no. 40 657 ...	
mm	mm	mm	mm	mm		£		£		£	
5,60 - 5,99	85	40	10	12	4	633.55	xxxx 1)	633.55	xxxx 1)	633.55	xxxx 1)
6,00	85	40	10	12	4	633.55	06000 1)	633.55	06000 1)	633.55	06000 1)
6,01 - 7,99	85	40	10	12	4	633.55	xxxx 1)	633.55	xxxx 1)	633.55	xxxx 1)
8,00	85	40	10	12	4	633.55	08000 1)	633.55	08000 1)	633.55	08000 1)
8,01 - 8,89	85	40	10	12	4	633.55	xxxx 1)	633.55	xxxx 1)	633.55	xxxx 1)
8,90 - 9,89	95	50	10	12	6	729.57	xxxx 1)	729.57	xxxx 1)	729.57	xxxx 1)
9,90 - 9,99	95	50	10	12	6	729.57	xxxx 1)	729.57	xxxx 1)	729.57	xxxx 1)
10,00	95	50	10	12	6	729.57	10000 1)	729.57	10000 1)	729.57	10000 1)
10,01 - 11,99	95	50	10	12	6	729.57	xxxx 1)	729.57	xxxx 1)	729.57	xxxx 1)
12,00	95	50	10	12	6	729.57	12000 1)	729.57	12000 1)	729.57	12000 1)
12,01 - 13,99	95	50	10	12	6	729.57	xxxx 1)	729.57	xxxx 1)	729.57	xxxx 1)
14,00	95	50	10	12	6	729.57	14000 1)	729.57	14000 1)	729.57	14000 1)
14,01 - 14,99	95	50	10	12	6	729.57	xxxx 1)	729.57	xxxx 1)	729.57	xxxx 1)
15,00	95	50	10	12	6	729.57	15000 1)	729.57	15000 1)	729.57	15000 1)
15,01 - 15,89	95	50	10	12	6	729.57	xxxx 1)	729.57	xxxx 1)	729.57	xxxx 1)
15,90 - 15,99	100	50	10	16	6	896.79	xxxx 1)	896.79	xxxx 1)	896.79	xxxx 1)
16,00	100	50	10	16	6	896.79	16000 1)	896.79	16000 1)	896.79	16000 1)
16,01 - 17,99	100	50	10	16	6	896.79	xxxx 1)	896.79	xxxx 1)	896.79	xxxx 1)
18,00	100	50	10	16	6	896.79	18000 1)	896.79	18000 1)	896.79	18000 1)
18,01 - 18,89	100	50	10	16	6	896.79	xxxx 1)	896.79	xxxx 1)	896.79	xxxx 1)
18,90 - 19,99	120	60	10	20	6	1,088.64	xxxx 1)	1,088.64	xxxx 1)	1,088.64	xxxx 1)
20,00	120	60	10	20	6	1,088.64	20000 1)	1,088.64	20000 1)	1,088.64	20000 1)
20,01 - 25,89	120	60	10	20	6	1,088.64	xxxx 1)	1,088.64	xxxx 1)	1,088.64	xxxx 1)

Steel	●		●
Stainless steel	●		
Cast iron			●
Non ferrous metals		●	
Heat resistant alloys			
Hardened materials			

1) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 25 working days / Minimum order 2 pieces

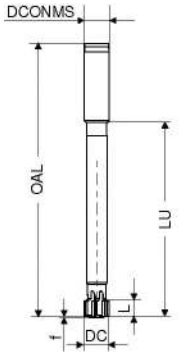
→ v_c Page 60–63

Do not heat shrink tools!

For xxxx when ordering please specifiy the required Ø in H7 (eg Ø 15.89 H7 → Article no. 40 644 1589)!
All other diameters and tolerance classes are also possible (eg 18.5 $^{+0.025}$ or 18 N7)!

Monomax – High-speed reamers, long

- adjustable for the smallest bore tolerances
- wear compensation within the tolerance zone
- retraction from the hole at 3–4 times the cutting feed rate
- up to tolerance class IT 5 with absolute process security, from the first hole



	DST	DBC	DBG-P	DST	TiN
	CWC10	DLC	TiAlN	CWC10	CWN10
	56R.93 ≤ 5xD ◁ 45° ASG3000 CERMET Through hole	56R.17 ≤ 5xD ◁ 45/8° ASG0706 HM Through hole	56R.65 ≤ 5xD ◁ 45° ASG0106 HM Through hole	56R.93 ≤ 5xD ◁ 25° ASG4000 CERMET Through hole	56R.71 ≤ 5xD ◁ 45° ASG3000 HM Through hole
	U3	NEW U3	NEW U3	U3	U3
DC H7	Article no. 40 626 ...	Article no. 40 649 ...	Article no. 40 653 ...	Article no. 40 636 ...	Article no. 40 606 ...
mm	£	£	£	£	£

DC H7 mm	OAL mm	LU mm	L mm	DCONMS h6 mm	ZEFP	40 626 ... £	40 626 ...	40 649 ... £	40 649 ...	40 653 ... £	40 653 ...	40 636 ... £	40 636 ...	40 606 ... £	40 606 ...
5,60 - 5,99	130	85	10	12	4	633.55	xxxx 2)	633.55	xxxx 1)	633.55	xxxx 1)	633.55	xxxx 2)	633.55	xxxx 1)
6,00	130	85	10	12	4	524.19	060	633.55	06000 1)	286.49	06000	524.19	060	524.19	060
6,01 - 7,99	130	85	10	12	4	633.55	xxxx 2)	633.55	xxxx 1)	633.55	xxxx 1)	633.55	xxxx 2)	633.55	xxxx 1)
8,00	130	85	10	12	4	543.93	080	633.55	08000 1)	297.28	08000	543.93	080	543.93	080
8,01 - 8,89	130	85	10	12	4	633.55	xxxx 2)	633.55	xxxx 1)	633.55	xxxx 1)	633.55	xxxx 2)	633.55	xxxx 1)
8,90 - 9,89	130	85	10	12	6	729.57	xxxx 2)	729.57	xxxx 1)	729.57	xxxx 1)	729.57	xxxx 2)	729.57	xxxx 1)
9,90 - 9,99	160	115	10	12	6	809.88	xxxx 2)	809.88	xxxx 1)	809.88	xxxx 1)	809.88	xxxx 2)	809.88	xxxx 1)
10,00	160	115	10	12	6	588.81	100	809.88	10000 1)	321.81	10000	588.81	100	588.81	100
10,01 - 11,99	160	115	10	12	6	809.88	xxxx 2)	809.88	xxxx 1)	809.88	xxxx 1)	809.88	xxxx 2)	809.88	xxxx 1)
12,00	160	115	10	12	6	606.76	120	809.88	12000 1)	331.62	12000	606.76	120	606.76	120
12,01 - 13,99	160	115	10	12	6	809.88	xxxx 2)	809.88	xxxx 1)	809.88	xxxx 1)	809.88	xxxx 2)	809.88	xxxx 1)
14,00	160	115	10	12	6	649.85	140	809.88	14000 1)	355.17	14000	649.85	140	649.85	140
14,01 - 14,99	160	115	10	12	6	809.88	xxxx 2)	809.88	xxxx 1)	809.88	xxxx 1)	809.88	xxxx 2)	809.88	xxxx 1)
15,00	160	115	10	12	6	666.00	150	809.88	15000 1)	364.00	15000	666.00	150	666.00	150
15,01 - 15,89	160	115	10	12	6	809.88	xxxx 2)	809.88	xxxx 1)	809.88	xxxx 1)	809.88	xxxx 2)	809.88	xxxx 1)
15,90 - 15,99	180	130	10	16	6	896.79	xxxx 2)	896.79	xxxx 1)	896.79	xxxx 1)	896.79	xxxx 2)	896.79	xxxx 1)
16,00	180	130	10	16	6	682.16	160	896.79	16000 1)	372.83	16000	682.16	160	682.16	160
16,01 - 17,99	180	130	10	16	6	896.79	xxxx 2)	896.79	xxxx 1)	896.79	xxxx 1)	896.79	xxxx 2)	896.79	xxxx 1)
18,00	180	130	10	16	6	728.83	180	896.79	18000 1)	398.34	18000	728.83	180	728.83	180
18,01 - 18,89	180	130	10	16	6	896.79	xxxx 2)	896.79	xxxx 1)	896.79	xxxx 1)	896.79	xxxx 2)	896.79	xxxx 1)
18,90 - 19,99	200	140	10	20	6	1,088.64	xxxx 2)	1,088.64	xxxx 1)	1,088.64	xxxx 1)	1,088.64	xxxx 2)	1,088.64	xxxx 1)
20,00	200	140	10	20	6	786.28	200	1,088.64	20000 1)	429.74	20000	786.28	200	786.28	200
20,01 - 25,89	200	140	10	20	6	1,088.64	xxxx 2)	1,088.64	xxxx 1)	1,088.64	xxxx 1)	1,088.64	xxxx 2)	1,088.64	xxxx 1)

Steel	●		●	●	○
Stainless steel			●		
Cast iron	●				
Non ferrous metals		●			●
Heat resistant alloys					
Hardened materials					

1) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 25 working days / Minimum order 2 pieces
2) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 20 working days / Minimum order 2 pieces

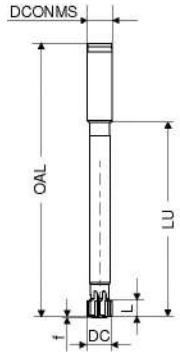
→ v_c Page 60–63

Do not heat shrink tools!

For xxxx when ordering please specifiy the required Ø in H7 (eg Ø 15.89 H7 → Article no. 40 636 1589)!
All other diameters and tolerance classes are also possible (eg 18.5 $^{+0.025}$ or 18 N7)!

Monomax – High-speed reamers, long

- adjustable for the smallest bore tolerances
- wear compensation within the tolerance zone
- retraction from the hole at 3–4 times the cutting feed rate
- up to tolerance class IT 5 with absolute process security, from the first hole



f ≈ 0,1 mm

DBG-P	DBC	DBG-P
TiAlN	DLC	TiAlN

56Q.65
≤ 5xD
◁ 45°
ASG0106
HM
Blind hole

56Q.17
≤ 5xD
◁ 45/8°
ASG0706
HM
Blind hole

56Q.65
≤ 5xD
◁ 45°
ASG3000
HM
Blind hole

DC H7	OAL	LU	L	DCONMS h6	ZEFP	NEW U3 Article no. 40 645 ...		NEW U3 Article no. 40 641 ...		NEW U3 Article no. 40 665 ...	
mm	mm	mm	mm	mm		£		£		£	
5,60 - 5,99	130	85	10	12	4	633.55	xxxx 1)	633.55	xxxx 1)	633.55	xxxx 1)
6,00	130	85	10	12	4	633.55	06000 1)	633.55	06000 1)	633.55	06000 1)
6,01 - 7,99	130	85	10	12	4	633.55	xxxx 1)	633.55	xxxx 1)	633.55	xxxx 1)
8,00	130	85	10	12	4	633.55	08000 1)	633.55	08000 1)	633.55	08000 1)
8,01 - 8,89	130	85	10	12	4	633.55	xxxx 1)	633.55	xxxx 1)	633.55	xxxx 1)
8,90 - 9,89	130	85	10	12	6	729.57	xxxx 1)	729.57	xxxx 1)	729.57	xxxx 1)
9,90 - 9,99	160	115	10	12	6	809.88	xxxx 1)	809.88	xxxx 1)	809.88	xxxx 1)
10,00	160	115	10	12	6	809.88	10000 1)	809.88	10000 1)	809.88	10000 1)
10,01 - 11,99	160	115	10	12	6	809.88	xxxx 1)	809.88	xxxx 1)	809.88	xxxx 1)
12,00	160	115	10	12	6	809.88	12000 1)	809.88	12000 1)	809.88	12000 1)
12,01 - 13,99	160	115	10	12	6	809.88	xxxx 1)	809.88	xxxx 1)	809.88	xxxx 1)
14,00	160	115	10	12	6	809.88	14000 1)	809.88	14000 1)	809.88	14000 1)
14,01 - 14,99	160	115	10	12	6	809.88	xxxx 1)	809.88	xxxx 1)	809.88	xxxx 1)
15,00	160	115	10	12	6	809.88	15000 1)	809.88	15000 1)	809.88	15000 1)
15,01 - 15,89	160	115	10	12	6	809.88	xxxx 1)	809.88	xxxx 1)	809.88	xxxx 1)
15,90 - 15,99	180	130	10	16	6	896.79	xxxx 1)	896.79	xxxx 1)	896.79	xxxx 1)
16,00	180	130	10	16	6	896.79	16000 1)	896.79	16000 1)	896.79	16000 1)
16,01 - 17,99	180	130	10	16	6	896.79	xxxx 1)	896.79	xxxx 1)	896.79	xxxx 1)
18,00	180	130	10	16	6	896.79	18000 1)	896.79	18000 1)	896.79	18000 1)
18,01 - 18,89	180	130	10	16	6	896.79	xxxx 1)	896.79	xxxx 1)	896.79	xxxx 1)
18,90 - 19,99	200	140	10	20	6	1,088.64	xxxx 1)	1,088.64	xxxx 1)	1,088.64	xxxx 1)
20,00	200	140	10	20	6	1,088.64	20000 1)	1,088.64	20000 1)	1,088.64	20000 1)
20,01 - 25,89	200	140	10	20	6	1,088.64	xxxx 1)	1,088.64	xxxx 1)	1,088.64	xxxx 1)

Steel	●		●
Stainless steel	●		
Cast iron			●
Non ferrous metals		●	
Heat resistant alloys			
Hardened materials			

1) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 25 working days / Minimum order 2 pieces

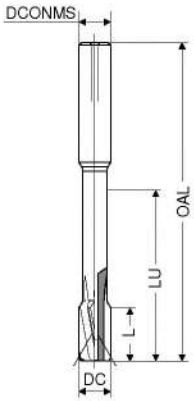
→ v_c Page 60–63

Do not heat shrink tools!

For xxxx when ordering please specifiy the required Ø in H7 (eg Ø 15.89 H7 → Article no. 40 645 1589)!
All other diameters and tolerance classes are also possible (eg 18.5 $^{+0.025}$ or 18 N7)!

Fullmax – High-performance machine reamers

- ▲ extremely irregular pitch
- ▲ designed for high-speed machining
- ▲ specialised geometries and coatings



	Fullmax UNI	Fullmax VA	Fullmax ALU
	DBG-U	DBQ	DBC-N
			
	52P.57	52S.44	52N.17
	HA	HA	HA
	Left Hand Helix	Left Hand Helix	straight flute
	◁ 30°	◁ 30°	◁ 30°
	ASG2210	ASG2231	ASG2270
	Solid carbide	Solid carbide	Solid carbide
	Through hole	Through hole	Through hole
	NEW U4	NEW U4	NEW U4
	Article no. 40 484 ...	Article no. 40 401 ...	Article no. 40 471 ...
	£	£	£

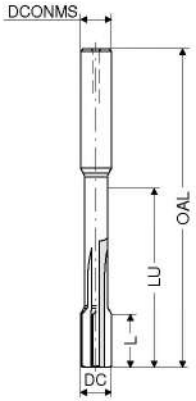
DC $_{H7}$ mm	OAL mm	L mm	LU mm	DCONMS $_{h6}$ mm	ZEFP					
4	60	12	32	4	4	129.50	04000	142.26	04000	142.26	04000
5	76	12	40	6	4	131.47	05000	145.21	05000	144.22	05000
6	76	12	40	6	4	134.42	06000	147.17	06000	147.17	06000
7	101	16	65	8	6	140.30	07000	154.04	07000	154.04	07000
8	101	16	65	8	6	140.30	08000	154.04	08000	154.04	08000
9	108	16	68	10	6	198.19	09000	217.81	09000	218.79	09000
10	108	16	68	10	6	198.19	10000	217.81	10000	218.79	10000
11	130	20	85	12	6	262.94	11000	288.45	11000	288.45	11000
12	130	20	85	12	6	262.94	12000	288.45	12000	288.45	12000
16	150	20	102	16	6	345.35	16000	379.69	16000	379.69	16000

Steel	●		
Stainless steel	●	●	
Cast iron	●		
Non ferrous metals	○		●
Heat resistant alloys	○		
Hardened materials	○		

→ v_c Page 64+65

Fullmax – High-performance machine reamers

- ▲ extremely irregular pitch
- ▲ designed for high-speed machining
- ▲ specialised geometries and coatings



	Fullmax UNI	Fullmax VA	Fullmax ALU
	DBG-U	DBQ	DBC-N
			
	52M.57	52T.45	52Q.17
	HA 	HA 	HA 
	straight flute	straight flute	straight flute
	◁ 60°	◁ 45°	◁ 60°
	ASG2110	ASG2131	ASG2170
	Solid carbide	Solid carbide	Solid carbide
	Blind hole	Blind hole	Blind hole
	NEW U4	NEW U4	NEW U4
	Article no. 40 485 ...	Article no. 40 402 ...	Article no. 40 472 ...

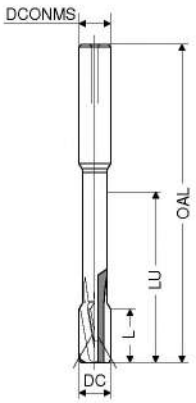
DC $_{H7}$ mm	OAL mm	L mm	LU mm	DCONMS $_{h6}$ mm	ZEFP	£		£		£	
4	60	12	32	4	4	107.92	04000	118.71	04000	118.71	04000
5	76	12	40	6	4	109.88	05000	121.66	05000	120.67	05000
6	76	12	40	6	4	114.80	06000	126.56	06000	125.59	06000
7	101	16	65	8	6	120.67	07000	132.45	07000	131.47	07000
8	101	16	65	8	6	120.67	08000	132.45	08000	131.47	08000
9	108	16	68	10	6	172.68	09000	190.34	09000	188.38	09000
10	108	16	68	10	6	172.68	10000	190.34	10000	188.38	10000
11	130	20	85	12	6	229.58	11000	252.15	11000	251.16	11000
12	130	20	85	12	6	229.58	12000	252.15	12000	251.16	12000
16	150	20	102	16	6	309.05	16000	340.45	16000	338.49	16000

Steel	●		
Stainless steel	●	●	
Cast iron	●		
Non ferrous metals	○		●
Heat resistant alloys	○		
Hardened materials	○		

→ v_c Page 64+65

Fullmax – High-performance machine reamers

- ▲ extremely irregular pitch
- ▲ designed for high-speed machining
- ▲ specialised geometries and coatings
- ▲ tolerance: Ø 2,96–5,03 mm = +0,004 mm
- ▲ tolerance: Ø 5,97–12,03 mm = +0,005 mm



4

						52P.57 HA Left Hand Helix 30° ASG2210 Solid carbide Through hole		52S.44 HA Left Hand Helix 30° ASG2231 Solid carbide Through hole		52J.65 HA straight flute 30° ASG2350 Solid carbide Through hole		52N.17 HA straight flute 30° ASG2270 Solid carbide Through hole		52G.55 HA straight flute 30° ASG2360 Solid carbide Through hole	
						NEW U4 Article no. 40 486 ...		NEW U4 Article no. 40 403 ...		NEW U4 Article no. 40 477 ...		NEW U4 Article no. 40 473 ...		NEW U4 Article no. 40 475 ...	
DC +0,004/+0,005 mm	OAL mm	L mm	LU mm	DCONMS h6 mm	ZEFP	£		£		£		£		£	
2,96 - 3,96	60	12	32	4	4	294.47	xxxxx[1]	301.25	xxxxx[2]	301.25	xxxxx[1]	301.25	xxxxx[1]	301.25	xxxxx[1]
3,97	60	12	32	4	4	137.36	03970	151.10	03970	301.25	03970[1]	301.25	03970[1]	301.25	03970[1]
3,98	60	12	32	4	4	137.36	03980	151.10	03980	301.25	03980[1]	301.25	03980[1]	301.25	03980[1]
3,99	60	12	32	4	4	137.36	03990	151.10	03990	301.25	03990[1]	301.25	03990[1]	301.25	03990[1]
4,00	60	12	32	4	4	137.36	04000	151.10	04000	343.55	04000[1]	301.25	04000[1]	343.55	04000[1]
4,01	60	12	32	4	4	137.36	04010	151.10	04010	301.25	04010[1]	301.25	04010[1]	301.25	04010[1]
4,02	60	12	32	4	4	137.36	04020	151.10	04020	301.25	04020[1]	301.25	04020[1]	301.25	04020[1]
4,03	60	12	32	4	4	137.36	04030	151.10	04030	301.25	04030[1]	301.25	04030[1]	301.25	04030[1]
4,04 - 4,05	60	12	32	4	4	294.47	xxxxx[1]	301.25	xxxxx[2]	301.25	xxxxx[1]	301.25	xxxxx[1]	301.25	xxxxx[1]
4,06 - 4,96	76	12	40	6	4	298.93	xxxxx[1]	312.32	xxxxx[2]	312.32	xxxxx[1]	312.32	xxxxx[1]	312.32	xxxxx[1]
4,97	76	12	40	6	4	140.30	04970	154.04	04970	312.32	04970[1]	312.32	04970[1]	312.32	04970[1]
4,98	76	12	40	6	4	140.30	04980	154.04	04980	312.32	04980[1]	312.32	04980[1]	312.32	04980[1]
4,99	76	12	40	6	4	140.30	04990	154.04	04990	312.32	04990[1]	312.32	04990[1]	312.32	04990[1]
5,00	76	12	40	6	4	140.30	05000	154.04	05000	354.79	05000[1]	312.32	05000[1]	354.79	05000[1]
5,01	76	12	40	6	4	140.30	05010	154.04	05010	312.32	05010[1]	312.32	05010[1]	312.32	05010[1]
5,02	76	12	40	6	4	140.30	05020	154.04	05020	312.32	05020[1]	312.32	05020[1]	312.32	05020[1]
5,03	76	12	40	6	4	140.30	05030	154.04	05030	312.32	05030[1]	312.32	05030[1]	312.32	05030[1]
5,04 - 5,96	76	12	40	6	4	298.93	xxxxx[1]	312.32	xxxxx[2]	312.32	xxxxx[1]	312.32	xxxxx[1]	312.32	xxxxx[1]
5,97	76	12	40	6	4	141.28	05970	156.00	05970	312.32	05970[1]	312.32	05970[1]	312.32	05970[1]
5,98	76	12	40	6	4	141.28	05980	156.00	05980	312.32	05980[1]	312.32	05980[1]	312.32	05980[1]
5,99	76	12	40	6	4	141.28	05990	156.00	05990	312.32	05990[1]	312.32	05990[1]	312.32	05990[1]
6,00	76	12	40	6	4	141.28	06000	156.00	06000	354.79	06000[1]	312.32	06000[1]	354.79	06000[1]
6,01	76	12	40	6	4	141.28	06010	156.00	06010	312.32	06010[1]	312.32	06010[1]	312.32	06010[1]
6,02	76	12	40	6	4	141.28	06020	156.00	06020	312.32	06020[1]	312.32	06020[1]	312.32	06020[1]
6,03	76	12	40	6	4	141.28	06030	156.00	06030	312.32	06030[1]	312.32	06030[1]	312.32	06030[1]
6,04 - 6,05	76	12	40	6	4	303.39	xxxxx[1]	312.32	xxxxx[2]	312.32	xxxxx[1]	312.32	xxxxx[1]	312.32	xxxxx[1]
6,06 - 7,96	101	16	65	8	6	314.64	xxxxx[1]	321.24	xxxxx[2]	321.24	xxxxx[1]	321.24	xxxxx[1]	321.24	xxxxx[1]
7,97	101	16	65	8	6	148.15	07970	162.87	07970	321.24	07970[1]	321.24	07970[1]	321.24	07970[1]
7,98	101	16	65	8	6	148.15	07980	162.87	07980	321.24	07980[1]	321.24	07980[1]	321.24	07980[1]

Steel	●				
Stainless steel	●	●			
Cast iron	●		●		
Non ferrous metals	○			●	
Heat resistant alloys	○				
Hardened materials	○				●

1) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 25 working days
2) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 32 working days

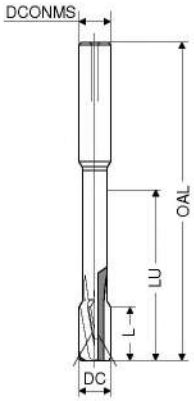
→ v_c Page 64+65

This tool concept permits numerous tolerances. For sizes covered please refer to the table on → **Page 75**.
For xxxxx please indicate required Ø in the order (e.g. Ø 8.82 mm → Article No. 40 486 08820)!

Continued on next page

Fullmax – High-performance machine reamers

- extremely irregular pitch
- designed for high-speed machining
- specialised geometries and coatings
- tolerance: Ø 2,96–5,03 mm = +0,004 mm
- tolerance: Ø 5,97–12,03 mm = +0,005 mm



Fullmax UNI	Fullmax VA	Fullmax K	Fullmax ALU	Fullmax H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52P.57	52S.44	52J.65	52N.17	52G.55
HA	HA	HA	HA	HA
Left Hand Helix	Left Hand Helix	straight flute	straight flute	straight flute
◁ 30°	◁ 30°	◁ 30°	◁ 30°	◁ 30°
ASG2210	ASG2231	ASG2350	ASG2270	ASG2360
Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
Through hole	Through hole	Through hole	Through hole	Through hole
NEW U4	NEW U4	NEW U4	NEW U4	NEW U4
Article no. 40 486 ...	Article no. 40 403 ...	Article no. 40 477 ...	Article no. 40 473 ...	Article no. 40 475 ...

DC +0,004/+0,005	OAL	L	LU	DCONMS h6	ZEFP	£	£	£	£	£
mm	mm	mm	mm	mm						
7,99	101	16	65	8	6	148.15 07990	162.87 07990	321.24 07990 1)	321.24 07990 1)	321.24 07990 1)
8,00	101	16	65	8	6	148.15 08000	162.87 08000	365.86 08000 1)	321.24 08000 1)	365.86 08000 1)
8,01	101	16	65	8	6	148.15 08010	162.87 08010	321.24 08010 1)	321.24 08010 1)	321.24 08010 1)
8,02	101	16	65	8	6	148.15 08020	162.87 08020	321.24 08020 1)	321.24 08020 1)	321.24 08020 1)
8,03	101	16	65	8	6	148.15 08030	162.87 08030	321.24 08030 1)	321.24 08030 1)	321.24 08030 1)
8,04 - 8,05	101	16	65	8	6	314.64 xxxxx 1)	321.24 xxxxx 2)	321.24 xxxxx 1)	321.24 xxxxx 1)	321.24 xxxxx 1)
8,06 - 9,96	108	16	68	10	6	390.48 xxxxx 1)	452.95 xxxxx 2)	452.95 xxxxx 1)	452.95 xxxxx 1)	452.95 xxxxx 1)
9,97	108	16	68	10	6	210.94 09970	232.53 09970	452.95 09970 1)	452.95 09970 1)	452.95 09970 1)
9,98	108	16	68	10	6	210.94 09980	232.53 09980	452.95 09980 1)	452.95 09980 1)	452.95 09980 1)
9,99	108	16	68	10	6	210.94 09990	232.53 09990	452.95 09990 1)	452.95 09990 1)	452.95 09990 1)
10,00	108	16	68	10	6	210.94 10000	232.53 10000	515.41 10000 1)	452.95 10000 1)	515.41 10000 1)
10,01	108	16	68	10	6	210.94 10010	232.53 10010	452.95 10010 1)	452.95 10010 1)	452.95 10010 1)
10,02	108	16	68	10	6	210.94 10020	232.53 10020	452.95 10020 1)	452.95 10020 1)	452.95 10020 1)
10,03	108	16	68	10	6	210.94 10030	232.53 10030	452.95 10030 1)	452.95 10030 1)	452.95 10030 1)
10,04 - 10,05	108	16	68	10	6	390.48 xxxxx 1)	452.95 xxxxx 2)	452.95 xxxxx 1)	452.95 xxxxx 1)	452.95 xxxxx 1)
10,06 - 11,96	130	20	85	12	6	588.94 xxxxx 1)	606.78 xxxxx 2)	606.78 xxxxx 1)	606.78 xxxxx 1)	606.78 xxxxx 1)
11,97	130	20	85	12	6	280.60 11970	309.05 11970	606.78 11970 1)	606.78 11970 1)	606.78 11970 1)
11,98	130	20	85	12	6	280.60 11980	309.05 11980	606.78 11980 1)	606.78 11980 1)	606.78 11980 1)
11,99	130	20	85	12	6	280.60 11990	309.05 11990	606.78 11990 1)	606.78 11990 1)	606.78 11990 1)
12,00	130	20	85	12	6	280.60 12000	309.05 12000	689.41 12000 1)	606.78 12000 1)	689.41 12000 1)
12,01	130	20	85	12	6	280.60 12010	309.05 12010	606.78 12010 1)	606.78 12010 1)	606.78 12010 1)
12,02	130	20	85	12	6	280.60 12020	309.05 12020	606.78 12020 1)	606.78 12020 1)	606.78 12020 1)
12,03	130	20	85	12	6	280.60 12030	309.05 12030	606.78 12030 1)	606.78 12030 1)	606.78 12030 1)
12,04 - 12,05	130	20	85	12	6	588.94 xxxxx 1)	606.78 xxxxx 2)	606.78 xxxxx 1)	606.78 xxxxx 1)	606.78 xxxxx 1)
12,06 - 14,05	130	20	85	14	6	687.09 xxxxx 1)	707.26 xxxxx 2)	707.26 xxxxx 1)	707.26 xxxxx 1)	707.26 xxxxx 1)
14,06 - 16,05	150	20	102	16	6	783.11 xxxxx 1)	803.10 xxxxx 2)	803.10 xxxxx 1)	803.10 xxxxx 1)	803.10 xxxxx 1)
16,06 - 18,05	150	20	102	18	6	834.33 xxxxx 1)	872.34 xxxxx 2)	872.34 xxxxx 1)	872.34 xxxxx 1)	872.34 xxxxx 1)
18,06 - 20,05	160	20	110	20	6	885.73 xxxxx 1)	919.10 xxxxx 2)	919.10 xxxxx 1)	919.10 xxxxx 1)	919.10 xxxxx 1)

Steel	●				
Stainless steel	●	●			
Cast iron	●		●		
Non ferrous metals	○			●	
Heat resistant alloys	○				
Hardened materials	○				●

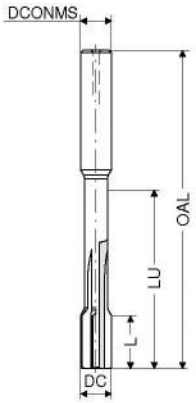
1) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 25 working days
2) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 32 working days

→ v_c Page 64+65

This tool concept permits numerous tolerances. For sizes covered please refer to the table on → **Page 75**.
For xxxxx please indicate required Ø in the order (e.g. Ø 8.82 mm → Article No. 40 486 08820)!

Fullmax – High-performance machine reamers

- ▲ extremely irregular pitch
- ▲ designed for high-speed machining
- ▲ specialised geometries and coatings
- ▲ tolerance: Ø 2,96–5,03 mm = +0,004 mm
- ▲ tolerance: Ø 5,97–12,03 mm = +0,005 mm



	Fullmax UNI	Fullmax VA	Fullmax K	Fullmax ALU	Fullmax H
	DBG-U	DBQ	DBG-P	DBC-N	DBF-A
					
	52M.57	52T.45	52K.65	52Q.17	52H.55
	HA straight flute	HA straight flute	HA straight flute	HA straight flute	HA straight flute
	◁ 60°	◁ 45°	◁ 30°	◁ 60°	◁ 30°
	ASG2110	ASG2131	ASG2350	ASG2170	ASG2360
	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
	Blind hole	Blind hole	Blind hole	Blind hole	Blind hole
	NEW U4	NEW U4	NEW U4	NEW U4	NEW U4
	Article no. 40 487 ...	Article no. 40 404 ...	Article no. 40 478 ...	Article no. 40 474 ...	Article no. 40 476 ...

DC +0,004/+0,005	OAL	L	LU	DCONMS h6	ZEFP	£	£	£	£	£
mm	mm	mm	mm	mm						
2,96 - 3,96	60	12	32	4	4	245.39 xxxxx[1]	254.31 xxxxx[2]	254.31 xxxxx[2]	254.31 xxxxx[1]	254.31 xxxxx[1]
3,97	60	12	32	4	4	115.77 03970	127.55 03970	254.31 03970[2]	254.31 03970[1]	254.31 03970[1]
3,98	60	12	32	4	4	115.77 03980	127.55 03980	254.31 03980[2]	254.31 03980[1]	254.31 03980[1]
3,99	60	12	32	4	4	115.77 03990	127.55 03990	254.31 03990[2]	254.31 03990[1]	254.31 03990[1]
4,00	60	12	32	4	4	115.77 04000	127.55 04000	254.31 04000[2]	254.31 04000[1]	290.01 04000[1]
4,01	60	12	32	4	4	115.77 04010	127.55 04010	254.31 04010[2]	254.31 04010[1]	254.31 04010[1]
4,02	60	12	32	4	4	115.77 04020	127.55 04020	254.31 04020[2]	254.31 04020[1]	254.31 04020[1]
4,03	60	12	32	4	4	115.77 04030	127.55 04030	254.31 04030[2]	254.31 04030[1]	254.31 04030[1]
4,04 - 4,05	60	12	32	4	4	245.39 xxxxx[1]	254.31 xxxxx[2]	254.31 xxxxx[2]	254.31 xxxxx[1]	254.31 xxxxx[1]
4,06 - 4,96	76	12	40	6	4	252.17 xxxxx[1]	261.10 xxxxx[2]	261.10 xxxxx[1]	261.10 xxxxx[1]	261.10 xxxxx[1]
4,97	76	12	40	6	4	118.71 04970	129.50 04970	261.10 04970[2]	261.10 04970[1]	261.10 04970[1]
4,98	76	12	40	6	4	118.71 04980	129.50 04980	261.10 04980[2]	261.10 04980[1]	261.10 04980[1]
4,99	76	12	40	6	4	118.71 04990	129.50 04990	261.10 04990[2]	261.10 04990[1]	261.10 04990[1]
5,00	76	12	40	6	4	118.71 05000	129.50 05000	261.10 05000[2]	261.10 05000[1]	296.79 05000[1]
5,01	76	12	40	6	4	118.71 05010	129.50 05010	261.10 05010[2]	261.10 05010[1]	261.10 05010[1]
5,02	76	12	40	6	4	118.71 05020	129.50 05020	261.10 05020[2]	261.10 05020[1]	261.10 05020[1]
5,03	76	12	40	6	4	118.71 05030	129.50 05030	261.10 05030[2]	261.10 05030[1]	261.10 05030[1]
5,04 - 5,96	76	12	40	6	4	252.17 xxxxx[1]	261.10 xxxxx[2]	261.10 xxxxx[2]	261.10 xxxxx[1]	261.10 xxxxx[1]
5,97	76	12	40	6	4	120.67 05970	132.45 05970	261.10 05970[2]	261.10 05970[1]	261.10 05970[1]
5,98	76	12	40	6	4	120.67 05980	132.45 05980	261.10 05980[2]	261.10 05980[1]	261.10 05980[1]
5,99	76	12	40	6	4	120.67 05990	132.45 05990	261.10 05990[2]	261.10 05990[1]	261.10 05990[1]
6,00	76	12	40	6	4	120.67 06000	132.45 06000	261.10 06000[2]	261.10 06000[1]	296.79 06000[1]
6,01	76	12	40	6	4	120.67 06010	132.45 06010	261.10 06010[2]	261.10 06010[1]	261.10 06010[1]
6,02	76	12	40	6	4	120.67 06020	132.45 06020	261.10 06020[2]	261.10 06020[1]	261.10 06020[1]
6,03	76	12	40	6	4	120.67 06030	132.45 06030	261.10 06030[2]	261.10 06030[1]	261.10 06030[1]
6,04 - 6,05	76	12	40	6	4	254.31 xxxxx[1]	261.10 xxxxx[2]	261.10 xxxxx[2]	261.10 xxxxx[1]	261.10 xxxxx[1]
6,06 - 7,96	101	16	65	8	6	272.16 xxxxx[1]	281.08 xxxxx[2]	281.08 xxxxx[1]	281.08 xxxxx[1]	281.08 xxxxx[1]
7,97	101	16	65	8	6	126.56 07970	139.32 07970	281.08 07970[2]	281.08 07970[1]	281.08 07970[1]
7,98	101	16	65	8	6	126.56 07980	139.32 07980	281.08 07980[2]	281.08 07980[1]	281.08 07980[1]

Steel	●				
Stainless steel	●	●			
Cast iron	●		●		
Non ferrous metals	○			●	
Heat resistant alloys	○				
hardened materials	○				●

1) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 25 working days
2) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 32 working days

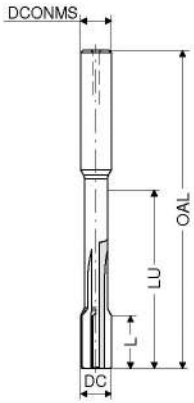
→ v_c Page 64+65

This tool concept permits numerous tolerances. For sizes covered please refer to the table on → **Page 75**.
For xxxxx please indicate required Ø in the order (e.g. Ø 8.82 mm → Article no. 40 487 08820)!

Continued on next page

Fullmax – High-performance machine reamers

- extremely irregular pitch
- designed for high-speed machining
- specialised geometries and coatings
- tolerance: Ø 2,96–5,03 mm = +0,004 mm
- tolerance: Ø 5,97–12,03 mm = +0,005 mm



Fullmax UNI	Fullmax VA	Fullmax K	Fullmax ALU	Fullmax H
DBG-U	DBQ	DBG-P	DBC-N	DBF-A
				
52M.57	52T.45	52K.65	52Q.17	52H.55
HA straight flute	HA straight flute	HA straight flute	HA straight flute	HA straight flute
◁ 60°	◁ 45°	◁ 30°	◁ 60°	◁ 30°
ASG2110	ASG2131	ASG2350	ASG2170	ASG2360
Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
Blind hole	Blind hole	Blind hole	Blind hole	Blind hole

DC +0,004/+0,005	OAL	L	LU	DCONMS h6	ZEFP	NEW U4 Article no. 40 487 ...	NEW U4 Article no. 40 404 ...	NEW U4 Article no. 40 478 ...	NEW U4 Article no. 40 474 ...	NEW U4 Article no. 40 476 ...
mm	mm	mm	mm	mm		£	£	£	£	£
7,99	101	16	65	8	6	126.56 07990	139.32 07990	281.08 07990[2]	281.08 07990[1]	281.08 07990[1]
8,00	101	16	65	8	6	126.56 08000	139.32 08000	281.08 08000[2]	281.08 08000[1]	321.24 08000[1]
8,01	101	16	65	8	6	126.56 08010	139.32 08010	281.08 08010[2]	281.08 08010[1]	281.08 08010[1]
8,02	101	16	65	8	6	126.56 08020	139.32 08020	281.08 08020[2]	281.08 08020[1]	281.08 08020[1]
8,03	101	16	65	8	6	126.56 08030	139.32 08030	281.08 08030[2]	281.08 08030[1]	281.08 08030[1]
8,04 - 8,05	101	16	65	8	6	272.16 xxxxx[1]	281.08 xxxxx[2]	281.08 xxxxx[2]	281.08 xxxxx[1]	281.08 xxxxx[1]
8,06 - 9,96	108	16	68	10	6	345.87 xxxxx[1]	406.01 xxxxx[2]	406.01 xxxxx[1]	406.01 xxxxx[1]	406.01 xxxxx[1]
9,97	108	16	68	10	6	184.45 09970	203.09 09970	406.01 09970[2]	406.01 09970[1]	406.01 09970[1]
9,98	108	16	68	10	6	184.45 09980	203.09 09980	406.01 09980[2]	406.01 09980[1]	406.01 09980[1]
9,99	108	16	68	10	6	184.45 09990	203.09 09990	406.01 09990[2]	406.01 09990[1]	406.01 09990[1]
10,00	108	16	68	10	6	184.45 10000	203.09 10000	406.01 10000[2]	406.01 10000[1]	461.87 10000[1]
10,01	108	16	68	10	6	184.45 10010	203.09 10010	406.01 10010[2]	406.01 10010[1]	406.01 10010[1]
10,02	108	16	68	10	6	184.45 10020	203.09 10020	406.01 10020[2]	406.01 10020[1]	406.01 10020[1]
10,03	108	16	68	10	6	184.45 10030	203.09 10030	406.01 10030[2]	406.01 10030[1]	406.01 10030[1]
10,04 - 10,05	108	16	68	10	6	345.87 xxxxx[1]	406.01 xxxxx[2]	406.01 xxxxx[2]	406.01 xxxxx[1]	406.01 xxxxx[1]
10,06 - 11,96	130	20	85	12	6	524.33 xxxxx[1]	553.24 xxxxx[2]	553.24 xxxxx[1]	553.24 xxxxx[1]	553.24 xxxxx[1]
11,97	130	20	85	12	6	246.26 11970	270.79 11970	553.24 11970[2]	553.24 11970[1]	553.24 11970[1]
11,98	130	20	85	12	6	246.26 11980	270.79 11980	553.24 11980[2]	553.24 11980[1]	553.24 11980[1]
11,99	130	20	85	12	6	246.26 11990	270.79 11990	553.24 11990[2]	553.24 11990[1]	553.24 11990[1]
12,00	130	20	85	12	6	246.26 12000	270.79 12000	553.24 12000[2]	553.24 12000[1]	629.09 12000[1]
12,01	130	20	85	12	6	246.26 12010	270.79 12010	553.24 12010[2]	553.24 12010[1]	553.24 12010[1]
12,02	130	20	85	12	6	246.26 12020	270.79 12020	553.24 12020[2]	553.24 12020[1]	553.24 12020[1]
12,03	130	20	85	12	6	246.26 12030	270.79 12030	553.24 12030[2]	553.24 12030[1]	553.24 12030[1]
12,04 - 12,05	130	20	85	12	6	524.33 xxxxx[1]	553.24 xxxxx[2]	553.24 xxxxx[2]	553.24 xxxxx[1]	553.24 xxxxx[1]
12,06 - 14,05	130	20	85	14	6	609.10 xxxxx[1]	635.87 xxxxx[2]	635.87 xxxxx[1]	635.87 xxxxx[1]	635.87 xxxxx[1]
14,06 - 16,05	150	20	102	16	6	704.94 xxxxx[1]	734.03 xxxxx[2]	734.03 xxxxx[1]	734.03 xxxxx[1]	734.03 xxxxx[1]
16,06 - 18,05	150	20	102	18	6	747.42 xxxxx[1]	776.33 xxxxx[2]	776.33 xxxxx[1]	776.33 xxxxx[1]	776.33 xxxxx[1]
18,06 - 20,05	160	20	110	20	6	809.88 xxxxx[1]	834.33 xxxxx[2]	834.33 xxxxx[1]	834.33 xxxxx[1]	834.33 xxxxx[1]

Steel	●				
Stainless steel	●	●			
Cast iron	●		●		
Non ferrous metals	○			●	
Heat resistant alloys	○				
hardened materials	○				●

1) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 25 working days
2) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 32 working days

→ v_c Page 64+65

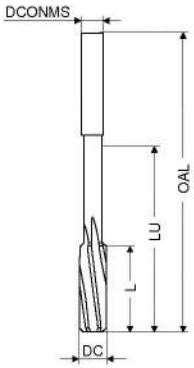
This tool concept permits numerous tolerances. For sizes covered please refer to the table on → **Page 75**.
For xxxxx please indicate required Ø in the order (e.g. Ø 8.82 mm → Article no. 40 487 08820)!

NC machine reamers, DIN 8093-2B

- ▲ extremely irregular pitch
- ▲ Ø 2–3.5 mm with centres both ends
- ▲ Ø 4–13 mm with protected centres
- ▲ from Ø 22 mm, similar to DIN 8093-2B

NC

TiAlN



Left Hand Helix
Solid carbide

U4

Article no. 40 420 ...

Left Hand Helix
Solid carbide

U4

Article no. 40 421 ...

DC $_{H7}$ mm	OAL mm	L mm	LU mm	DCONMS $_{h6}$ mm	ZEFP	£		£	
2.0	50	12	18.5	3	4	62.27	020	82.41	020
2.5	60	16	29.0	3	4	62.27	025	82.41	025
3.0	65	17	33.0	4	6	64.83	030	85.92	030
3.2	65	18	33.0	4	6	64.83	032	85.92	032
3.5	75	18	43.0	4	6	64.83	035	85.92	035
4.0	75	19	43.0	4	6	77.62	040	102.81	040
4.5	80	21	39.0	6	6	77.62	045	102.81	045
5.0	93	23	52.0	6	6	86.99	050	115.24	050
5.5	93	26	53.0	6	6	86.99	055	115.24	055
6.0	93	26	53.0	6	6	93.79	060	124.35	060
6.5	101	28	61.0	6	6	93.79	065	124.35	065
7.0	109	31	68.0	8	6	104.02	070	137.88	070
7.5	109	31	68.0	8	6	104.02	075	137.88	075
8.0	117	33	77.0	8	6	121.13	080	160.33	080
8.5	117	33	77.0	8	6	121.13	085	160.33	085
9.0	125	36	80.0	10	6	132.20	090	175.19	090
9.5	125	36	80.0	10	6	132.20	095	175.19	095
10.0	133	38	88.0	10	6	141.59	100	187.43	100
10.5	133	38	88.0	10	6	141.59	105	187.43	105
11.0	142	41	97.0	10	6	182.51	110	241.24	110
12.0	151	44	100.0	12	6	182.51	120	241.24	120
13.0	151	44	100.0	12	6	179.12	130	237.53	130
14.0	160	47	106.0	16	6	179.12	140 [1]	237.53	140 [1]
15.0	162	50	108.0	16	6	191.08	150 [1]	252.37	150 [1]
16.0	170	52	116.0	16	6	196.11	160 [1]	259.82	160 [1]
17.0	175	52	121.0	18	6	201.25	170 [1]	267.22	170 [1]
18.0	182	52	128.0	18	6	202.97	180 [1]	269.10	180 [1]
19.0	189	52	133.0	20	6	211.47	190 [1]	280.21	190 [1]
20.0	195	52	139.0	20	6	213.22	200 [1]	282.08	200 [1]
22.0	160	25	105.0	20	6	213.22	220 [1]		
24.0	180	25	125.0	20	8	259.29	240 [1]		
25.0	180	25	125.0	20	8	259.29	250 [1]		
26.0	180	25	125.0	20	8	291.69	260 [1]		
28.0	180	25	119.0	25	8	305.31	280 [1]		
30.0	200	25	139.0	25	8	315.54	300 [1]		

Steel	●	●
Stainless steel		
Cast iron	○	●
Non ferrous metals	●	
Heat resistant alloys	○	
Hardened materials		

1) with carbide cutting edges

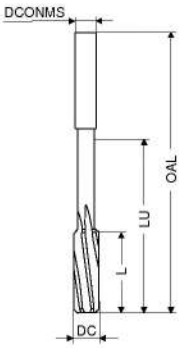
→ v_c Page 66+67

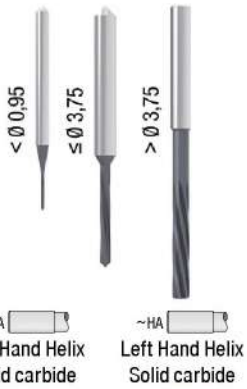
NC machine reamers, DIN 8093-2B

- ▲ 0.01 mm steps
- ▲ extremely irregular pitch
- ▲ Ø 0.59–0.95 mm similar to DIN 8093-B
- ▲ Ø 0.96–3.75 mm with centres both ends
- ▲ Ø 3.76–12.05 mm with protected centres

NC 100

TiAlN





Left Hand Helix
Solid carbide

Left Hand Helix
Solid carbide

DC +0,004	OAL	L	LU	DCONMS h6	ZEFP	U4 Article no. 40 430 ...		U4 Article no. 40 431 ...	
mm	mm	mm	mm	mm		£		£	
0,59 - 0,64	45	5	7.5	3	4	110.38	xxxxx[2]		
0,65 - 0,74	45	5	7.5	3	4	110.38	xxxxx[2]		
0,75 - 0,84	45	6	8.0	3	4	110.38	xxxxx[2]		
0,85 - 0,95	45	6	8.0	3	4	110.38	xxxxx[2]		
0,96	50	6	17.5	3	3	86.25	00960[2]		
0,97	50	6	17.5	3	3	86.25	00970[2]		
0,98	50	6	17.5	3	3	86.25	00980[1]		
0,99	50	6	17.5	3	3	86.25	00990[1]		
1,00	50	6	17.5	3	3	86.25	01000[1]	131.39	01000[1]
1,01	50	6	17.5	3	3	86.25	01010[1]	131.39	01010[1]
1,02	50	6	17.5	3	3	86.25	01020[1]	131.39	01020[1]
1,03	50	6	17.5	3	3	86.25	01030[1]	131.39	01030[1]
1,04 - 1,06	50	6	17.5	3	3	99.21	xxxxx[1]	131.39	xxxxx[1]
1,07 - 1,18	50	9	17.5	3	3	99.21	xxxxx[1]	131.39	xxxxx[1]
1,19 - 1,32	50	9	17.5	3	3	99.21	xxxxx[1]	131.39	xxxxx[1]
1,33 - 1,50	50	9	18.0	3	3	99.21	xxxxx[1]	131.39	xxxxx[1]
1,51 - 1,70	50	10	18.0	3	3	99.21	xxxxx[1]	131.39	xxxxx[1]
1,71 - 1,90	50	11	18.5	3	4	112.12	xxxxx[1]	131.39	xxxxx[1]
1,91 - 1,97	50	12	18.5	3	4	112.12	xxxxx[1]	131.39	xxxxx[1]
1,98	50	12	18.5	3	4	112.12	01980	148.63	01980
1,99	50	12	18.5	3	4	112.12	01990	148.63	01990
2,00	50	12	18.5	3	4	112.12	02000	148.63	02000
2,01	50	12	18.5	3	4	112.12	02010	148.63	02010
2,02	50	12	18.5	3	4	112.12	02020	148.63	02020
2,03	50	12	18.5	3	4	112.12	02030	148.63	02030
2,04 - 2,12	50	12	18.5	3	4	98.82	xxxxx[1]	131.39	xxxxx[1]
2,13 - 2,36	50	12	18.5	3	4	98.82	xxxxx[1]	131.39	xxxxx[1]
2,37 - 2,47	60	16	29.0	3	4	86.25	xxxxx[1]	131.39	xxxxx[1]
2,48	60	16	29.0	3	4	86.25	02480	114.32	02480
2,49	60	16	29.0	3	4	86.25	02490	114.32	02490
2,50	60	16	29.0	3	4	86.25	02500	114.32	02500
2,51	60	16	29.0	3	4	86.25	02510	114.32	02510
2,52	60	16	29.0	3	4	86.25	02520	114.32	02520
2,53	60	16	29.0	3	4	86.25	02530	114.32	02530
2,54 - 2,65	60	16	29.0	3	4	86.25	xxxxx[1]	114.32	xxxxx[1]
2,66 - 2,80	65	17	33.0	4	6	86.25	xxxxx[1]	114.32	xxxxx[1]
2,81 - 2,96	65	17	33.0	4	6	86.25	xxxxx[1]	114.32	xxxxx[1]
2,97	65	17	33.0	4	6	74.21	02970	98.37	02970
2,98	65	17	33.0	4	6	74.21	02980	98.37	02980
2,99	65	17	33.0	4	6	74.21	02990	98.37	02990
3,00	65	17	33.0	4	6	64.83	03000	85.92	03000
3,01	65	17	33.0	4	6	74.21	03010	98.37	03010
3,02	65	17	33.0	4	6	74.21	03020	98.37	03020
3,03	65	17	33.0	4	6	74.21	03030	98.37	03030
3,04 - 3,35	65	18	33.0	4	6	99.21	xxxxx[1]	131.39	xxxxx[1]
3,36 - 3,75	75	18	43.0	4	6	99.21	xxxxx[1]	131.39	xxxxx[1]
3,76 - 3,96	75	19	43.0	4	6	99.21	xxxxx[1]	131.39	xxxxx[1]
3,97	75	19	43.0	4	6	86.99	03970	115.24	03970
3,98	75	19	43.0	4	6	86.99	03980	115.24	03980
3,99	75	19	43.0	4	6	86.99	03990	115.24	03990
4,00	75	19	43.0	4	6	77.62	04000	102.81	04000
4,01	75	19	43.0	4	6	86.99	04010	115.24	04010
4,02	75	19	43.0	4	6	86.99	04020	115.24	04020
4,03	75	19	43.0	4	6	86.99	04030	115.24	04030
4,04 - 4,25	75	19	43.0	4	6	107.81	xxxxx[1]	142.90	xxxxx[1]
4,26 - 4,75	80	21	39.0	6	6	107.81	xxxxx[1]	142.90	xxxxx[1]
4,76 - 4,96	93	23	52.0	6	6	107.81	xxxxx[1]	142.90	xxxxx[1]
4,97	93	23	52.0	6	6	95.52	04970	126.56	04970
4,98	93	23	52.0	6	6	95.52	04980	126.56	04980
4,99	93	23	52.0	6	6	95.52	04990	126.56	04990
5,00	93	23	52.0	6	6	86.99	05000	115.24	05000
5,01	93	23	52.0	6	6	95.52	05010	126.56	05010
5,02	93	23	52.0	6	6	95.52	05020	126.56	05020
5,03	93	23	52.0	6	6	95.52	05030	126.56	05030
5,04 - 5,30	93	23	52.0	6	6	116.42	xxxxx[1]	154.21	xxxxx[1]
5,31 - 5,96	93	26	53.0	6	6	116.42	xxxxx[1]	154.21	xxxxx[1]
5,97	93	26	53.0	6	6	104.02	05970	137.88	05970
5,98	93	26	53.0	6	6	104.02	05980	137.88	05980
5,99	93	26	53.0	6	6	104.02	05990	137.88	05990
6,00	93	26	53.0	6	6	93.79	06000	124.35	06000
6,01	93	26	53.0	6	6	104.02	06010	137.88	06010
6,02	93	26	53.0	6	6	104.02	06020	137.88	06020
6,03	93	26	53.0	6	6	104.02	06030	137.88	06030
6,04 - 6,70	101	28	61.0	6	6	142.32	xxxxx[1]	188.54	xxxxx[1]
6,71 - 7,50	109	31	68.0	8	6	142.32	xxxxx[1]	188.54	xxxxx[1]
7,51 - 7,96	117	33	77.0	8	6	142.32	xxxxx[1]	188.54	xxxxx[1]
7,97	117	33	77.0	8	6	129.62	07970	171.84	07970
7,98	117	33	77.0	8	6	129.62	07980	171.84	07980
7,99	117	33	77.0	8	6	129.62	07990	171.84	07990
8,00	117	33	77.0	8	6	121.13	08000	160.33	08000
8,01	117	33	77.0	8	6	129.62	08010	171.84	08010
8,02	117	33	77.0	8	6	129.62	08020	171.84	08020
8,03	117	33	77.0	8	6	129.62	08030	171.84	08030
8,04	117	33	77.0	8	6	129.62	08040	171.84	08040
8,05 - 8,50	117	33	77.0	8	6	159.57	xxxxx[1]	211.37	xxxxx[1]
8,51 - 9,04	125	36	80.0	10	6	159.57	xxxxx[1]	211.37	xxxxx[1]
9,05 - 9,50	125	36	80.0	10	6	159.57	xxxxx[1]	211.37	xxxxx[1]
9,51 - 9,96	133	38	88.0	10	6	159.57	xxxxx[1]	211.37	xxxxx[1]
9,97	133	38	88.0	10	6	151.82	09970	200.43	09970
9,98	133	38	88.0	10	6	151.82	09980	200.43	09980
9,99	133	38	88.0	10	6	151.82	09990	200.43	09990
10,00	133	38	88.0	10	6	141.59	10000	187.43	10000
10,01	133	38	88.0	10	6	151.82	10010	200.43	10010
10,02	133	38	88.0	10	6	151.82	10020	200.43	10020
10,03	133	38	88.0	10	6	151.82	10030	200.43	10030
10,04	133	38	88.0	10	6	151.82	10040	200.43	10040
10,05	133	38	88.0	10	6	151.82	10050	200.43	10050
10,06 - 10,60	133	38	88.0	10	6	189.75	xxxxx[1]	251.46	xxxxx[1]
10,61 - 11,80	142	41	97.0	10	6	189.75	xxxxx[1]	251.46	xxxxx[1]
11,81 - 11,96	151	44	100.0	12	6	189.75	xxxxx[1]	251.46	xxxxx[1]
11,97	151	44	100.0	12	6	182.51	11970	241.24	11970
11,98	151	44	100.0	12	6	182.51	11980	241.24	11980
11,99	151	44	100.0	12	6	182.51	11990	241.24	11990
12,00	151	44	100.0	12	6	172.34	12000	228.26	12000
12,01	151	44	100.0	12	6	182.51	12010	241.24	12010
12,02	151	44	100.0	12	6	182.51	12020	241.24	12020
12,03	151	44	100.0	12	6	182.51	12030	241.24	12030
12,04	151	44	100.0	12	6	182.51	12040	241.24	12040
12,05	151	44	100.0	12	6	182.51	12050	241.24	12050

Steel	●	●
Stainless steel		
Cast iron	○	●
Non ferrous metals	●	
Heat resistant alloys	○	
Hardened materials		

→ v_c Page 66+67

1) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 14 working days

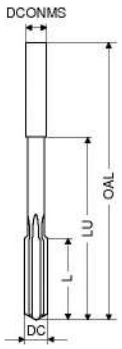
2) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 14 working days / Minimum order 3 pieces

This tool concept permits numerous tolerances.
Please refer to the table on → **Page 75** for tolerances covered.
For xxxxx please indicate required Ø in the order
(e.g. Ø 8.05 mm → Article no. 40 430 08050)!

Machine reamers, similar to DIN 8093-A / -B

▲ extremely irregular pitch

N



Left Hand Helix
Solid carbide

straight flute
Solid carbide

DC h7	OAL	L	LU	DCONMS h7	ZEFP	U4 Article no. 40 410 ...		U4 Article no. 40 400 ...	
mm	mm	mm	mm	mm		£		£	
2.0	49	11	31	2.0	4	27.65	020	27.65	020
2.1	49	11	31	2.0	4	33.22	021	33.22	021
2.2	53	12	35	2.2	4	33.22	022	33.22	022
2.3	53	12	35	2.2	4	33.22	023	33.22	023
2.4	57	14	34	2.5	4	33.22	024	33.22	024
2.5	57	14	34	2.5	4	29.65	025	29.65	025
2.6	57	14	34	2.5	4	35.58	026	35.58	026
2.7	61	15	36	3.0	4	35.58	027	35.58	027
2.8	61	15	36	3.0	4	35.58	028	35.58	028
2.9	61	15	36	3.0	4	35.58	029	35.58	029
3.0	61	15	36	3.0	4	31.85	030	31.85	030
3.1	61	15	36	3.0	4	38.28	031	38.28	031
3.2	70	18	40	3.5	4	38.28	032	38.28	032
3.3	70	18	40	3.5	4	38.28	033	38.28	033
3.4	70	18	40	3.5	4	38.28	034	38.28	034
3.5	70	18	40	3.5	4	36.44	035	36.44	035
3.6	70	18	40	3.5	4	43.70	036	43.70	036
3.7	70	18	40	3.5	4	43.70	037	43.70	037
3.8	75	19	43	4.0	4	43.70	038	43.70	038
3.9	75	19	43	4.0	4	43.70	039	43.70	039
4.0	75	19	43	4.0	4	39.20	040	39.20	040
4.1	75	19	43	4.0	4	47.01	041	47.01	041
4.2	75	19	43	4.0	4	47.01	042	47.01	042
4.3	75	21	42	4.5	4	47.01	043	47.01	043
4.4	75	21	42	4.5	4	47.01	044	47.01	044
4.5	75	21	42	4.5	4	42.62	045	42.62	045
4.6	75	21	42	4.5	4	51.15	046	51.15	046
4.7	75	21	42	4.5	4	51.15	047	51.15	047
4.8	86	23	52	5.0	4	51.15	048	51.15	048
4.9	86	23	52	5.0	4	51.15	049	51.15	049
5.0	86	23	52	5.0	4	48.15	050	48.15	050
5.1	86	23	52	5.0	4	55.41	051	55.41	051
5.2	86	23	52	5.0	4	55.41	052	55.41	052
5.3	86	23	52	5.0	6	55.41	053	55.41	053
5.4	93	26	57	5.6	6	55.41	054	55.41	054
5.5	93	26	57	5.6	6	50.97	055	50.97	055
5.6	93	26	57	5.6	6	58.56	056	58.56	056
5.7	93	26	57	5.6	6	58.56	057	58.56	057
5.8	93	26	57	5.6	6	58.56	058	58.56	058
5.9	93	26	57	5.6	6	58.56	059	58.56	059
6.0	93	26	57	5.6	6	60.97	060	60.97	060
6.1	93	26	57	5.6	6	70.08	061	70.08	061
6.2	93	26	57	5.6	6	70.08	062	70.08	062
6.3	101	28	63	6.3	6	70.08	063	70.08	063
6.4	101	28	63	6.3	6	70.08	064	70.08	064
6.5	101	28	63	6.3	6	68.44	065	68.44	065
6.6	101	28	63	6.3	6	78.69	066	78.69	066
6.7	101	28	63	6.3	6	78.69	067	78.69	067
6.8	109	31	69	7.1	6	78.69	068	78.69	068
6.9	109	31	69	7.1	6	78.69	069	78.69	069
7.0	109	31	69	7.1	6	76.40	070	76.40	070
7.1	109	31	69	7.1	6	87.87	071	87.87	071
7.2	109	31	69	7.1	6	87.87	072	87.87	072
7.3	109	31	69	7.1	6	87.87	073	87.87	073
7.4	109	31	69	7.1	6	87.87	074	87.87	074
7.5	109	31	69	7.1	6	82.59	075	82.59	075
7.6	117	33	75	8.0	6	94.95	076	94.95	076
7.7	117	33	75	8.0	6	94.95	077	94.95	077
7.8	117	33	75	8.0	6	94.95	078	94.95	078
7.9	117	33	75	8.0	6	94.95	079	94.95	079
8.0	117	33	75	8.0	6	87.92	080	87.92	080
8.1	117	33	75	8.0	6	96.73	081	96.73	081
8.2	117	33	75	8.0	6	96.73	082	96.73	082
8.3	117	33	75	8.0	6	96.73	083	96.73	083
8.4	117	33	75	8.0	6	96.73	084	96.73	084
8.5	117	33	75	8.0	6	95.34	085	95.34	085
8.6	125	36	81	9.0	6	104.85	086	104.85	086
8.7	125	36	81	9.0	6	104.85	087	104.85	087
8.8	125	36	81	9.0	6	104.85	088	104.85	088
8.9	125	36	81	9.0	6	104.85	089	104.85	089
9.0	125	36	81	9.0	6	102.23	090	102.23	090
9.1	125	36	81	9.0	6	112.41	091	112.41	091
9.2	125	36	81	9.0	6	112.41	092	112.41	092
9.3	125	36	81	9.0	6	112.41	093	112.41	093
9.4	125	36	81	9.0	6	112.41	094	112.41	094
9.5	125	36	81	9.0	6	109.62	095	109.62	095
9.6	133	38	87	10.0	6	120.57	096	120.57	096
9.7	133	38	87	10.0	6	120.57	097	120.57	097
9.8	133	38	87	10.0	6	120.57	098	120.57	098
9.9	133	38	87	10.0	6	120.57	099	120.57	099
10.0	133	38	87	10.0	6	117.96	100	117.96	100
10.1	133	38	87	10.0	6	129.76	101	129.76	101
10.2	133	38	87	10.0	6	129.76	102	129.76	102
10.3	133	38	87	10.0	6	129.76	103	129.76	103
10.4	133	38	87	10.0	6	129.76	104	129.76	104
10.5	133	38	87	10.0	6	123.29	105	123.29	105
10.6	133	38	87	10.0	6	135.64	106	135.64	106
10.7	142	41	96	10.0	6	135.64	107	135.64	107
10.8	142	41	96	10.0	6	135.64	108	135.64	108
10.9	142	41	96	10.0	6	135.64	109	135.64	109
11.0	142	41		10.0	6	133.62	110	133.62	110
11.1	142	41		10.0	6	146.97	111	146.97	111
11.2	142	41		10.0	6	146.97	112	146.97	112
11.3	142	41		10.0	6	146.97	113	146.97	113
11.4	142	41		10.0	6	146.97	114	146.97	114
11.5	142	41		10.0	6	141.74	115	141.74	115
11.6	142	41		10.0	6	155.99	116	155.99	116
11.7	142	41		10.0	6	155.99	117	155.99	117
11.8	142	41		10.0	6	155.99	118	155.99	118
11.9	151	44		10.0	6	155.99	119	155.99	119
12.0	151	44		10.0	6	153.65	120	153.65	120

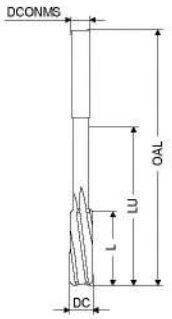
Steel	●	●
Stainless steel		
Cast iron	○	○
Non ferrous metals	●	●
Heat resistant alloys	○	○
Hardened materials		

→ v_c Page 66+67

NC machine reamers, DIN 212-3-B

▲ maximum radial run-out accuracy

NC



Left Hand Helix
HSS-E

DC $_{H7}$ mm	OAL mm	L mm	LU mm	DCONMS $_{h6}$ mm	ZEFP	U2 Article no. 40 110 ... £	
1.5	40	8	15.5	2	3	17.06	015
1.6	43	9	16.0	2	3	19.11	016
1.7	43	9	16.0	2	3	19.11	017
1.8	46	10	19.0	2	4	19.11	018
1.9	46	10	19.0	2	4	19.11	019
2.0	49	11	21.0	2	4	16.60	020
2.1	49	11	21.0	2	4	20.15	021
2.2	53	12	22.0	3	4	20.15	022
2.3	53	12	22.0	3	4	20.15	023
2.4	57	14	26.0	3	4	20.15	024
2.5	57	14	26.0	3	4	16.60	025
2.6	57	14	26.0	3	4	21.31	026
2.7	61	15	30.0	3	6	21.31	027
2.8	61	15	30.0	3	6	21.31	028
2.9	61	15	30.0	3	6	21.31	029
3.0	61	15	30.0	3	6	15.24	030
3.1	65	16	34.0	4	6	20.15	031
3.2	65	16	34.0	4	6	20.15	032
3.3	65	16	34.0	4	6	20.15	033
3.4	70	18	39.0	4	6	20.15	034
3.5	70	18	39.0	4	6	17.90	035
3.6	70	18	39.0	4	6	22.34	036
3.7	70	18	39.0	4	6	22.34	037
3.8	75	19	44.0	4	6	22.34	038
3.9	75	19	44.0	4	6	16.19	039
4.0	75	19	44.0	4	6	16.60	040
4.1	75	19	44.0	4	6	20.98	041
4.2	75	19	44.0	4	6	20.98	042
4.3	80	21	48.0	5	6	20.98	043
4.4	80	21	48.0	5	6	20.98	044
4.5	80	21	48.0	5	6	17.90	045
4.6	80	21	48.0	5	6	22.71	046
4.7	80	21	48.0	5	6	22.71	047
4.8	86	23	54.0	5	6	22.71	048
4.9	86	23	54.0	5	6	22.71	049
5.0	86	23	54.0	5	6	17.06	050
5.1	86	23	54.0	5	6	22.71	051
5.2	86	23	54.0	5	6	22.71	052
5.3	86	23	54.0	5	6	22.71	053
5.4	93	26	53.0	6	6	22.71	054
5.5	93	26	53.0	6	6	20.98	055
5.6	93	26	53.0	6	6	22.71	056
5.7	93	26	53.0	6	6	22.71	057
5.8	93	26	53.0	6	6	22.71	058
5.9	93	26	53.0	6	6	22.71	059
6.0	93	26	53.0	6	6	18.24	060
6.1	101	28	61.0	6	6	22.71	061
6.2	101	28	61.0	6	6	22.71	062
6.3	101	28	61.0	6	6	22.71	063
6.4	101	28	61.0	6	6	22.71	064
6.5	101	28	61.0	6	6	21.85	065
6.6	101	28	61.0	6	6	22.71	066
6.7	101	28	61.0	6	6	22.71	067
6.8	109	31	69.0	8	6	22.71	068
6.9	109	31	69.0	8	6	22.71	069
7.0	109	31	69.0	8	6	21.85	070
7.1	109	31	69.0	8	6	25.42	071
7.2	109	31	69.0	8	6	25.42	072
7.3	109	31	69.0	8	6	25.42	073
7.4	109	31	69.0	8	6	25.42	074
7.5	109	31	69.0	8	6	24.87	075
7.6	117	33	77.0	8	6	26.82	076
7.7	117	33	77.0	8	6	26.82	077
7.8	117	33	77.0	8	6	26.82	078
7.9	117	33	77.0	8	6	26.82	079
8.0	117	33	77.0	8	6	22.71	080
8.1	117	33	77.0	8	6	31.27	081
8.2	117	33	77.0	8	6	31.27	082
8.3	117	33	77.0	8	6	31.27	083
8.4	117	33	77.0	8	6	31.27	084
8.5	117	33	77.0	8	6	28.48	085
8.6	125	36	81.0	10	6	28.96	086
8.7	125	36	81.0	10	6	28.96	087
8.8	125	36	81.0	10	6	28.96	088
8.9	125	36	81.0	10	6	28.96	089
9.0	125	36	81.0	10	6	26.26	090
9.1	125	36	81.0	10	6	29.89	091
9.2	125	36	81.0	10	6	29.89	092
9.3	125	36	81.0	10	6	29.89	093
9.4	125	36	81.0	10	6	29.89	094
9.5	125	36	81.0	10	6	29.31	095
9.6	133	38	89.0	10	6	30.69	096
9.7	133	38	89.0	10	6	30.69	097
9.8	133	38	89.0	10	6	30.69	098
9.9	133	38	89.0	10	6	30.69	099
10.0	133	38	89.0	10	6	26.82	100
11.0	142	41	98.0	10	6	37.53	110
12.0	151	44	106.0	10	6	39.23	120
13.0	151	44	106.0	10	6	43.55	130
14.0	160	47	110.0	14	8	45.16	140
15.0	162	50	112.0	14	8	46.09	150
16.0	170	52	120.0	14	8	47.73	160
17.0	175	54	125.0	14	8	57.17	170
18.0	182	56	132.0	14	8	58.83	180
19.0	189	58	136.0	16	8	68.18	190
20.0	195	60	142.0	16	8	65.70	200

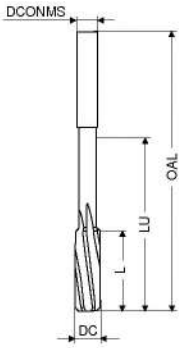
Steel	●
Stainless steel	○
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	○
Hardened materials	

→ v_c Page 68+69

NC machine reamers, DIN 212-3-B

- ▲ 0.01 mm steps
- ▲ tolerance: Ø 0.95–5.50 mm = +0.004 mm
- ▲ tolerance: Ø 5.51–12.00 mm = +0.005 mm

NC 100



A
Left Hand Helix
HSS-E

DC +0,004/+0,005	OAL	L	LU	DCONMS h6	ZEFP	U2 Article no. 40 115 ...	
mm	mm	mm	mm	mm		£	
0,95 - 0,99	34	5.5	12.5	1	3	24.63	xxxxx[1]
1,00	34	5.5	12.5	1	3	24.87	01000
1,01	34	5.5	12.5	1	3	24.87	01010
1,02	34	5.5	12.5	1	3	24.87	01020
1,03 - 1,06	34	5.5	12.5	1	3	25.91	xxxxx[1]
1,07 - 1,18	36	6.5	13.0	1	3	25.91	xxxxx[1]
1,19 - 1,32	38	7.5	14.0	2	3	25.91	xxxxx[1]
1,33 - 1,41	40	8.0	15.5	2	3	24.63	xxxxx[1]
1,42 - 1,49	40	8.0	15.5	2	3	25.91	xxxxx[1]
1,50	40	8.0	15.5	2	3	21.85	01500
1,51	43	9.0	16.0	2	3	21.85	01510
1,52	43	9.0	16.0	2	3	21.85	01520
1,53 - 1,70	43	9.0	16.0	2	3	25.91	xxxxx[1]
1,71 - 1,90	46	10.0	19.0	2	4	25.91	xxxxx[1]
1,91 - 1,96	49	11.0	21.0	2	4	25.91	xxxxx[1]
1,97	49	11.0	21.0	2	4	21.85	01970
1,98	49	11.0	21.0	2	4	21.85	01980
1,99	49	11.0	21.0	2	4	21.85	01990
2,00	49	11.0	21.0	2	4	20.51	02000
2,01	49	11.0	21.0	2	4	20.51	02010
2,02	49	11.0	21.0	2	4	20.51	02020
2,03 - 2,12	49	11.0	21.0	2	4	25.91	xxxxx[1]
2,13 - 2,36	53	12.0	22.0	3	4	25.91	xxxxx[1]
2,37 - 2,47	57	14.0	26.0	3	4	25.91	xxxxx[1]
2,48	57	14.0	26.0	3	4	23.51	02480
2,49	57	14.0	26.0	3	4	23.51	02490
2,50	57	14.0	26.0	3	4	20.15	02500
2,51	57	14.0	26.0	3	4	20.15	02510
2,52	57	14.0	26.0	3	4	20.15	02520
2,53 - 2,65	57	14.0	26.0	3	4	25.91	xxxxx[1]
2,66 - 2,96	61	15.0	30.0	3	6	24.63	xxxxx[1]
2,97	61	15.0	30.0	3	6	24.07	02970
2,98	61	15.0	30.0	3	6	24.07	02980
2,99	61	15.0	30.0	3	6	24.07	02990
3,00	61	15.0	30.0	3	6	17.90	03000
3,01	61	15.0	30.0	3	6	17.90	03010
3,02	61	15.0	30.0	3	6	17.90	03020
3,03	61	15.0	30.0	3	6	25.91	03030[1]
3,04 - 3,35	65	16.0	34.0	4	6	25.91	xxxxx[1]
3,36 - 3,75	70	18.0	39.0	4	6	25.91	xxxxx[1]
3,76 - 3,96	75	19.0	44.0	4	6	25.91	xxxxx[1]
3,97	75	19.0	44.0	4	6	19.63	03970
3,98	75	19.0	44.0	4	6	19.63	03980
3,99	75	19.0	44.0	4	6	19.63	03990
4,00	75	19.0	44.0	4	6	19.63	04000
4,01	75	19.0	44.0	4	6	19.63	04010
4,02	75	19.0	44.0	4	6	19.63	04020
4,03 - 4,25	75	19.0	44.0	4	6	25.91	xxxxx[1]
4,26 - 4,75	80	21.0	48.0	5	6	24.63	xxxxx[1]
4,76 - 4,96	86	23.0	54.0	5	6	25.91	xxxxx[1]
4,97	86	23.0	54.0	5	6	21.31	04970
4,98	86	23.0	54.0	5	6	21.31	04980
4,99	86	23.0	54.0	5	6	21.31	04990
5,00	86	23.0	54.0	5	6	21.31	05000
5,01	86	23.0	54.0	5	6	21.31	05010
5,02	86	23.0	54.0	5	6	21.31	05020
5,03 - 5,30	86	23.0	54.0	5	6	25.91	xxxxx[1]
5,31 - 5,60	93	26.0	53.0	6	6	25.91	xxxxx[1]
5,61 - 5,96	93	26.0	53.0	6	6	24.63	xxxxx[1]
5,97	93	26.0	53.0	6	6	23.51	05970
5,98	93	26.0	53.0	6	6	23.51	05980
5,99	93	26.0	53.0	6	6	23.51	05990
6,00	93	26.0	53.0	6	6	23.51	06000
6,01	93	26.0	53.0	6	6	23.51	06010
6,02	93	26.0	53.0	6	6	23.51	06020
6,03	93	26.0	53.0	6	6	25.91	06030[1]
6,04 - 6,70	101	28.0	61.0	6	6	25.91	xxxxx[1]
6,71 - 7,20	109	31.0	69.0	8	6	25.91	xxxxx[1]
7,21 - 7,50	109	31.0	69.0	8	6	24.63	xxxxx[1]
7,51 - 7,96	117	33.0	77.0	8	6	28.92	xxxxx[1]
7,97	117	33.0	77.0	8	6	25.42	07970
7,98	117	33.0	77.0	8	6	25.42	07980
7,99	117	33.0	77.0	8	6	25.42	07990
8,00	117	33.0	77.0	8	6	25.42	08000
8,01	117	33.0	77.0	8	6	25.42	08010
8,02	117	33.0	77.0	8	6	25.42	08020
8,03 - 8,20	117	33.0	77.0	8	6	34.51	xxxxx[1]
8,21 - 8,50	117	33.0	77.0	8	6	34.51	xxxxx[1]
8,51 - 8,99	125	36.0	81.0	10	6	34.51	xxxxx[1]
9,00	125	36.0	81.0	10	6	32.09	09000
9,01	125	36.0	81.0	10	6	32.09	09010
9,02	125	36.0	81.0	10	6	32.09	09020
9,03 - 9,20	125	36.0	81.0	10	6	34.51	xxxxx[1]
9,21 - 9,50	125	36.0	81.0	10	6	33.12	xxxxx[1]
9,51 - 9,96	133	38.0	89.0	10	6	50.25	xxxxx[1]
9,97	133	38.0	89.0	10	6	32.09	09970
9,98	133	38.0	89.0	10	6	32.09	09980
9,99	133	38.0	89.0	10	6	32.09	09990
10,00	133	38.0	89.0	10	6	32.09	10000
10,01	133	38.0	89.0	10	6	32.09	10010
10,02	133	38.0	89.0	10	6	32.09	10020
10,03 - 10,20	133	38.0	89.0	10	6	51.71	xxxxx[1]
10,21 - 10,60	133	38.0	89.0	10	6	51.71	xxxxx[1]
10,61 - 11,20	142	41.0	98.0	10	6	48.91	xxxxx[1]
11,21 - 11,80	142	41.0	98.0	10	6	51.71	xxxxx[1]
11,81 - 11,96	151	44.0	106.0	10	6	48.91	xxxxx[1]
11,97	151	44.0	106.0	10	6	46.09	11970
11,98	151	44.0	106.0	10	6	46.09	11980
11,99	151	44.0	106.0	10	6	46.09	11990
12,00	151	44.0	106.0	10	6	46.09	12000

Steel	●
Stainless steel	○
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	○
Hardened materials	

→ v_c Page 68+69

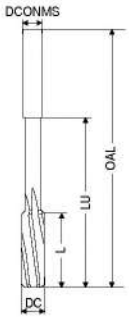
1) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 14 working days / Minimum order 5 pieces

This tool concept permits numerous tolerances.
Please refer to the table on → **Page 75** for tolerances covered.
For xxxxx please indicate required Ø in the order
(e.g. Ø 8.03 mm → Article no. 40 115 08030)!

4

Machine reamers, DIN 212-B

N



Left Hand Helix
HSS-E

DC H7	OAL	L	LU	DCONMS h9	ZEFP	U2 Article no. 40 150 ... £	
mm	mm	mm	mm	mm			
1.0	34	5.5	15.0	1.0	3	21.88	010
1.1	36	6.5	15.5	1.1	3	23.07	011
1.2	38	7.5	16.5	1.2	3	21.37	012
1.3	38	7.5	16.5	1.2	3	23.87	013
1.4	40	8.0	18.0	1.4	3	19.76	014
1.5	40	8.0	18.0	1.5	3	18.14	015
1.6	43	9.0	20.0	1.6	3	20.18	016
1.7	43	9.0	20.0	1.6	3	20.18	017
1.8	46	10.0	22.0	1.8	4	20.18	018
1.9	46	10.0	22.0	1.8	4	20.18	019
2.0	49	11.0	24.0	2.0	4	17.79	020
2.1	49	11.0	24.0	2.0	4	21.37	021
2.2	53	12.0	25.0	2.2	4	21.37	022
2.3	53	12.0	25.0	2.2	4	21.37	023
2.4	57	14.0	29.0	2.5	4	21.37	024
2.5	57	14.0	29.0	2.5	4	17.79	025
2.6	57	14.0	29.0	2.5	4	22.20	026
2.7	61	15.0	33.0	2.8	6	22.20	027
2.8	61	15.0	33.0	2.8	6	22.20	028
2.9	61	15.0	36.0	3.0	6	22.20	029
3.0	61	15.0	36.0	3.0	6	16.03	030
3.1	65	16.0	36.0	3.2	6	21.01	031
3.2	65	16.0	36.0	3.2	6	21.01	032
3.3	65	16.0	36.0	3.2	6	21.01	033
3.4	70	18.0	41.0	3.5	6	21.01	034
3.5	70	18.0	41.0	3.5	6	18.52	035
3.6	70	18.0	41.0	3.5	6	23.51	036
3.7	70	18.0	41.0	3.5	6	23.51	037
3.8	75	19.0	44.0	4.0	6	23.51	038
3.9	75	19.0	44.0	4.0	6	17.31	039
4.0	75	19.0	44.0	4.0	6	17.79	040
4.1	75	19.0	44.0	4.0	6	21.88	041
4.2	75	19.0	44.0	4.0	6	21.88	042
4.3	80	21.0	48.0	4.5	6	21.88	043
4.4	80	21.0	48.0	4.5	6	21.88	044
4.5	80	21.0	48.0	4.5	6	18.52	045
4.6	80	21.0	48.0	4.5	6	23.87	046
4.7	80	21.0	48.0	4.5	6	23.87	047
4.8	86	23.0	53.0	5.0	6	23.87	048
4.9	86	23.0	53.0	5.0	6	23.87	049
5.0	86	23.0	53.0	5.0	6	18.14	050
5.1	86	23.0	53.0	5.0	6	23.87	051
5.2	86	23.0	53.0	5.0	6	23.87	052
5.3	86	23.0	53.0	5.0	6	23.87	053
5.4	93	26.0	58.0	5.6	6	23.87	054
5.5	93	26.0	58.0	5.6	6	21.88	055
5.6	93	26.0	58.0	5.6	6	23.87	056
5.7	93	26.0	58.0	5.6	6	23.87	057
5.8	93	26.0	58.0	5.6	6	23.87	058
5.9	93	26.0	58.0	5.6	6	23.87	059
6.0	93	26.0	58.0	5.6	6	19.00	060
6.1	101	28.0	64.0	6.3	6	23.87	061
6.2	101	28.0	64.0	6.3	6	23.87	062
6.3	101	28.0	64.0	6.3	6	23.87	063
6.4	101	28.0	64.0	6.3	6	23.87	064
6.5	101	28.0	64.0	6.3	6	23.07	065
6.6	101	28.0	64.0	6.3	6	23.87	066
6.7	101	28.0	64.0	6.3	6	23.87	067
6.8	109	31.0	70.0	7.1	6	24.33	068
6.9	109	31.0	70.0	7.1	6	24.33	069
7.0	109	31.0	70.0	7.1	6	23.07	070
7.1	109	31.0	70.0	7.1	6	26.78	071
7.2	109	31.0	70.0	7.1	6	26.78	072
7.3	109	31.0	70.0	7.1	6	26.78	073
7.4	109	31.0	70.0	7.1	6	26.78	074
7.5	109	31.0	70.0	7.1	6	25.94	075
7.6	117	33.0	76.0	8.0	6	27.99	076
7.7	117	33.0	76.0	8.0	6	27.99	077
7.8	117	33.0	76.0	8.0	6	27.99	078
7.9	117	33.0	76.0	8.0	6	27.99	079
8.0	117	33.0	76.0	8.0	6	23.87	080
8.1	117	33.0	76.0	8.0	6	33.32	081
8.2	117	33.0	76.0	8.0	6	33.32	082
8.3	117	33.0	76.0	8.0	6	33.32	083
8.4	117	33.0	76.0	8.0	6	33.32	084
8.5	117	33.0	76.0	8.0	6	30.14	085
8.6	125	36.0	82.0	9.0	6	30.48	086
8.7	125	36.0	82.0	9.0	6	30.48	087
8.8	125	36.0	82.0	9.0	6	30.48	088
8.9	125	36.0	82.0	9.0	6	30.48	089
9.0	125	36.0	82.0	9.0	6	27.56	090
9.1	125	36.0	82.0	9.0	6	31.71	091
9.2	125	36.0	82.0	9.0	6	31.71	092
9.3	125	36.0	82.0	9.0	6	31.71	093
9.4	125	36.0	82.0	9.0	6	31.71	094
9.5	125	36.0	82.0	9.0	6	30.84	095
9.6	133	38.0	88.0	10.0	6	32.95	096
9.7	133	38.0	88.0	10.0	6	32.95	097
9.8	133	38.0	88.0	10.0	6	32.95	098
9.9	133	38.0	88.0	10.0	6	32.95	099
10.0	133	38.0	88.0	10.0	6	27.99	100
11.0	142	41.0	97.0	10.0	6	39.52	110
12.0	151	44.0	106.0	10.0	6	41.11	120
13.0	151	44.0	106.0	10.0	6	46.09	130
14.0	160	47.0	111.0	12.5	8	47.82	140
15.0	162	50.0	113.0	12.5	8	49.39	150
16.0	170	52.0	121.0	12.5	8	51.15	160
17.0	175	54.0	124.0	14.0	8	60.19	170
18.0	182	56.0	131.0	14.0	8	61.75	180
19.0	189	58.0	132.0	16.0	8	72.51	190
20.0	195	60.0	136.0	16.0	8	69.23	200

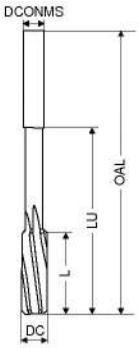
Steel	●
Stainless steel	○
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	○
Hardened materials	

→ v_c Page 68+69

Machine reamers, DIN 212-B

- ▲ 0.01 mm steps
- ▲ tolerance: Ø 0.95–5.50 mm = +0.004 mm
- ▲ tolerance: Ø 5.51–12.00 mm = +0.005 mm

N 100



Left Hand Helix
HSS-E

DC +0,004/+0,005	OAL	L	LU	DCONMS h9	ZEFP	U2 Article no. 40 140 ...	
mm	mm	mm	mm	mm		£	
0,95 - 1,06	34	5.5	15.0	1.0	3	23.87	xxxxx[1]
1,07 - 1,18	36	6.5	15.5	1.1	3	23.87	xxxxx[1]
1,19 - 1,32	38	7.5	16.5	1.2	3	23.87	xxxxx[1]
1,33 - 1,39	40	8.0	18.0	1.4	3	23.87	xxxxx[1]
1,40 - 1,47	40	8.0	18.0	1.4	3	21.88	xxxxx[1]
1,48	40	8.0	18.0	1.4	3	21.88	01480
1,49	40	8.0	18.0	1.4	3	21.88	01490
1,50	40	8.0	18.0	1.4	3	20.67	01500
1,51 - 1,70	43	9.0	20.0	1.6	3	20.67	xxxxx[1]
1,71 - 1,90	46	10.0	22.0	1.8	4	20.67	xxxxx[1]
1,91 - 1,97	49	11.0	24.0	2.0	4	20.67	xxxxx[1]
1,98	49	11.0	24.0	2.0	4	20.67	01980
1,99	49	11.0	24.0	2.0	4	20.67	01990
2,00	49	11.0	24.0	2.0	4	19.39	02000
2,01	49	11.0	24.0	2.0	4	19.39	02010
2,02	49	11.0	24.0	2.0	4	19.39	02020
2,03	49	11.0	24.0	2.0	4	19.39	02030
2,04	49	11.0	24.0	2.0	4	19.39	02040
2,05	49	11.0	24.0	2.0	4	19.39	02050
2,06 - 2,09	49	11.0	24.0	2.0	4	19.39	xxxxx[1]
2,10 - 2,12	49	11.0	24.0	2.0	4	22.20	xxxxx[1]
2,13 - 2,36	53	12.0	25.0	2.2	4	22.20	xxxxx[1]
2,37 - 2,49	57	14.0	29.0	2.5	4	22.20	xxxxx[1]
2,50 - 2,59	57	14.0	29.0	2.5	4	19.00	xxxxx[1]
2,60 - 2,65	57	14.0	29.0	2.5	4	23.07	xxxxx[1]
2,66 - 2,80	61	15.0	33.0	2.8	6	23.07	xxxxx[1]
2,81 - 2,94	61	15.0	36.0	3.0	6	23.07	xxxxx[1]
2,95	61	15.0	36.0	3.0	6	23.07	02950
2,96	61	15.0	36.0	3.0	6	23.07	02960
2,97	61	15.0	36.0	3.0	6	23.07	02970
2,98	61	15.0	36.0	3.0	6	23.07	02980
2,99	61	15.0	36.0	3.0	6	23.07	02990
3,00	61	15.0	36.0	3.0	6	18.49	03000
3,01	65	16.0	36.0	3.2	6	17.31	03010
3,02	65	16.0	36.0	3.2	6	17.31	03020
3,03	65	16.0	36.0	3.2	6	17.31	03030
3,04	65	16.0	36.0	3.2	6	17.31	03040
3,05	65	16.0	36.0	3.2	6	17.31	03050
3,06	65	16.0	36.0	3.2	6	17.31	03060
3,07	65	16.0	36.0	3.2	6	17.31	03070
3,08 - 3,09	65	16.0	36.0	3.2	6	17.31	xxxxx[1]
3,10 - 3,35	65	16.0	36.0	3.2	6	21.88	xxxxx[1]
3,36 - 3,49	70	18.0	41.0	3.5	6	21.88	xxxxx[1]
3,50 - 3,59	70	18.0	41.0	3.5	6	19.00	xxxxx[1]
3,60 - 3,75	70	18.0	41.0	3.5	6	24.33	xxxxx[1]
3,76 - 3,81	75	19.0	44.0	4.0	6	24.33	xxxxx[1]
3,82 - 3,94	75	19.0	44.0	4.0	6	18.52	xxxxx[1]
3,95	75	19.0	44.0	4.0	6	18.52	03950
3,96	75	19.0	44.0	4.0	6	18.52	03960
3,97	75	19.0	44.0	4.0	6	18.52	03970
3,98	75	19.0	44.0	4.0	6	18.52	03980
3,99	75	19.0	44.0	4.0	6	18.52	03990
4,00	75	19.0	44.0	4.0	6	18.52	04000
4,01	75	19.0	44.0	4.0	6	18.52	04010
4,02	75	19.0	44.0	4.0	6	18.52	04020
4,03	75	19.0	44.0	4.0	6	18.52	04030
4,04	75	19.0	44.0	4.0	6	18.52	04040
4,05	75	19.0	44.0	4.0	6	18.52	04050
4,06	75	19.0	44.0	4.0	6	18.52	04060
4,07	75	19.0	44.0	4.0	6	18.52	04070
4,08	75	19.0	44.0	4.0	6	18.52	04080
4,09 - 4,20	75	19.0	44.0	4.0	6	18.52	xxxxx[1]
4,21 - 4,25	75	19.0	44.0	4.0	6	22.71	xxxxx[1]
4,26 - 4,75	80	21.0	48.0	4.5	5	22.71	xxxxx[1]
4,76 - 4,95	86	23.0	53.0	5.0	6	20.18	xxxxx[1]
4,96	86	23.0	53.0	5.0	6	20.18	04960
4,97	86	23.0	53.0	5.0	6	20.18	04970
4,98	86	23.0	53.0	5.0	6	20.18	04980
4,99	86	23.0	53.0	5.0	6	20.18	04990
5,00	86	23.0	53.0	5.0	6	20.18	05000
5,01	86	23.0	53.0	5.0	6	20.18	05010
5,02	86	23.0	53.0	5.0	6	20.18	05020
5,03	86	23.0	53.0	5.0	6	20.18	05030
5,04	86	23.0	53.0	5.0	6	20.18	05040
5,05	86	23.0	53.0	5.0	6	20.18	05050
5,06	86	23.0	53.0	5.0	6	20.18	05060
5,07	86	23.0	53.0	5.0	6	20.18	05070
5,08 - 5,20	86	23.0	53.0	5.0	6	20.18	xxxxx[1]
5,21 - 5,30	86	23.0	53.0	5.0	6	22.20	xxxxx[1]
5,31 - 5,94	93	26.0	58.0	5.6	6	22.20	xxxxx[1]
5,95	93	26.0	58.0	5.6	6	22.20	05950
5,96	93	26.0	58.0	5.6	6	22.20	05960
5,97	93	26.0	58.0	5.6	6	22.20	05970
5,98	93	26.0	58.0	5.6	6	22.20	05980
5,99	93	26.0	58.0	5.6	6	22.20	05990

Steel	●
Stainless steel	○
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	○
Hardened materials	

→ v_c Page 68+69

1) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 14 working days

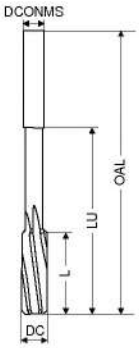
This tool concept permits numerous tolerances.
For achievable tolerances covered, please see the table on → **Page 75**.
For xxxxx please indicate requested Ø in the order
(e.g. Ø 10.06 mm → Article no. 40 140 10060)!

4

Machine reamers, DIN 212-B

- ▲ 0.01 mm steps
- ▲ tolerance: Ø 0.95–5.50 mm = +0.004 mm
- ▲ tolerance: Ø 5.51–12.00 mm = +0.005 mm

N 100



Left Hand Helix
HSS-E

DC	OAL	L	LU	DCONMS $_{h9}$	ZEFP	U2 Article no. 40 140 ...	
mm	mm	mm	mm	mm		£	
6,00	93	26	58	5.6	6	22.20	06000
6,01	101	28	64	6.3	6	22.20	06010
6,02	101	28	64	6.3	6	22.20	06020
6,03	101	28	64	6.3	6	22.20	06030
6,04	101	28	64	6.3	6	22.20	06040
6,05	101	28	64	6.3	6	22.20	06050
6,06 - 6,11	101	28	64	6.3	6	22.20	xxxxx [1]
6,12 - 6,34	101	28	64	6.3	6	24.33	xxxxx [1]
6,35	101	28	64	6.3	6	24.33	06350
6,36	101	28	64	6.3	6	24.33	06360 [1]
6,71 - 6,94	109	31	70	7.1	6	24.33	xxxxx [1]
6,95	109	31	70	7.1	6	24.33	06950
6,96	109	31	70	7.1	6	24.33	06960
6,97	109	31	70	7.1	6	24.33	06970
6,98	109	31	70	7.1	6	24.33	06980
6,99	109	31	70	7.1	6	24.33	06990
7,00	109	31	70	7.1	6	24.33	07000
7,01	109	31	70	7.1	6	24.33	07010
7,02	109	31	70	7.1	6	24.33	07020
7,03	109	31	70	7.1	6	24.33	07030
7,04 - 7,50	109	31	70	7.1	6	24.33	xxxxx [1]
7,51 - 7,63	109	31	76	7.1	6	24.33	xxxxx [1]
7,64 - 7,94	117	33	76	8.0	6	24.33	xxxxx [1]
7,95	117	33	76	8.0	6	24.33	07950
7,96	117	33	76	8.0	6	24.33	07960
7,97	117	33	76	8.0	6	24.33	07970
7,98	117	33	76	8.0	6	24.33	07980
7,99	117	33	76	8.0	6	24.33	07990
8,00	117	33	76	8.0	6	24.33	08000
8,01	117	33	76	8.0	6	24.33	08010
8,02	117	33	76	8.0	6	24.33	08020
8,03	117	33	76	8.0	6	24.33	08030
8,04	117	33	76	8.0	6	24.33	08040
8,05	117	33	76	8.0	6	24.33	08050
8,06 - 8,20	117	33	76	8.0	6	24.33	xxxxx [1]
8,21 - 8,50	117	33	76	8.0	6	30.48	xxxxx [1]
8,51 - 8,63	117	33	82	8.0	6	30.48	xxxxx [1]
8,64 - 8,95	125	36	82	9.0	6	30.48	xxxxx [1]
8,96	125	36	82	9.0	6	30.48	08960
8,97	125	36	82	9.0	6	30.48	08970
8,98	125	36	82	9.0	6	30.48	08980
8,99	125	36	82	9.0	6	30.48	08990
9,00	125	36	82	9.0	6	30.48	09000
9,01	125	36	82	9.0	6	30.48	09010
9,02	125	36	82	9.0	6	30.48	09020
9,03 - 9,50	125	36	82	9.0	6	30.48	xxxxx [1]
9,51 - 9,63	125	36	88	9.0	6	30.48	xxxxx [1]
9,64 - 9,95	133	38	88	10.0	6	30.48	xxxxx [1]
9,96	133	38	88	10.0	6	30.48	09960
9,97	133	38	88	10.0	6	30.48	09970
9,98	133	38	88	10.0	6	30.48	09980
9,99	133	38	88	10.0	6	30.48	09990
10,00	133	38	88	10.0	6	30.48	10000
10,01	133	38	88	10.0	6	30.48	10010
10,02	133	38	88	10.0	6	30.48	10020
10,03	133	38	88	10.0	6	30.48	10030
10,04	133	38	88	10.0	6	30.48	10040
10,05	133	38	88	10.0	6	30.48	10050
10,06 - 10,09	133	38	88	10.0	6	30.48	xxxxx [1]
10,10	133	38	88	10.0	6	30.48	10100
10,11 - 10,19	133	38	88	10.0	6	30.48	xxxxx [1]
10,20	133	38	88	10.0	6	30.48	10200
10,21 - 10,69	133	38	88	10.0	6	38.23	xxxxx [1]
10,70 - 11,20	142	41	97	10.0	6	38.23	xxxxx [1]
11,21 - 11,80	142	41	97	10.0	6	43.63	xxxxx [1]
11,81 - 11,95	151	44	106	10.0	6	43.63	xxxxx [1]
11,96	151	44	106	10.0	6	43.63	11960
11,97	151	44	106	10.0	6	43.63	11970
11,98	151	44	106	10.0	6	43.63	11980
11,99	151	44	106	10.0	6	43.63	11990
12,00	151	44	106	10.0	6	43.63	12000

Steel	●
Stainless steel	○
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	○
Hardened materials	

→ v_c Page 68+69

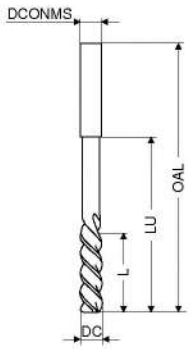
1) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 14 working days

This tool concept permits numerous tolerances.
For achievable tolerances covered, please see the table on → **Page 75**.
For xxxxx please indicate requested Ø in the order
(e.g. Ø 10.06 mm → Article no. 40 140 10060)!

Quick spiral machine reamers, DIN 212-C

- with 45° left-hand helix and conical chamfer
- for reaming through holes in long chipping materials
- not suitable for blind holes
- the reaming allowance should be for at least 50 % greater and the feed up to 100 % higher than the normal values for reamers. This gives a clean, chatter-free surface, high roundness of the bore and a longer service life.

S



Left Hand Helix
HSS-E
Through hole

DC_{H7} mm	OAL mm	L mm	LU mm	$DCONMS_{h9}$ mm	ZEFP	U2 Article no. 40 155 ... £	
1.0	34	5.5	15	1.0	2	26.29	010 1)
1.5	40	8.0	18	1.5	2	20.18	015 1)
1.8	46	10.0	22	1.8	2	24.10	018 1)
2.0	49	11.0	24	2.0	3	20.64	020 1)
2.2	53	12.0	25	2.2	3	30.64	022 1)
2.5	57	14.0	29	2.5	3	21.96	025 1)
2.8	61	15.0	33	2.8	3	34.20	028 1)
3.0	61	15.0	36	3.0	3	24.59	030 1)
3.2	65	16.0	36	3.2	3	36.37	032 1)
3.5	70	18.0	41	3.5	3	28.48	035 1)
4.0	75	19.0	44	4.0	3	24.59	040
4.5	80	21.0	48	4.5	3	28.48	045
5.0	86	23.0	53	5.0	3	27.19	050
6.0	93	26.0	58	5.6	3	26.74	060
6.5	101	28.0	64	6.3	3	32.01	065
7.0	109	31.0	70	7.1	3	29.76	070
8.0	117	33.0	76	8.0	3	29.76	080
9.0	125	36.0	82	9.0	3	39.87	090
10.0	133	38.0	88	10.0	3	37.65	100
11.0	142	41.0	97	10.0	3	48.20	110
12.0	151	44.0	106	10.0	3	45.49	120
13.0	151	44.0	106	10.0	3	64.00	130
14.0	160	47.0	111	12.5	3	59.60	140
15.0	162	50.0	113	12.5	3	60.52	150
16.0	170	52.0	121	12.5	3	64.00	160
17.0	175	54.0	124	14.0	3	95.46	170
18.0	182	56.0	131	14.0	3	87.58	180
19.0	189	58.0	132	16.0	3	99.01	190
20.0	195	60.0	136	16.0	3	95.46	200

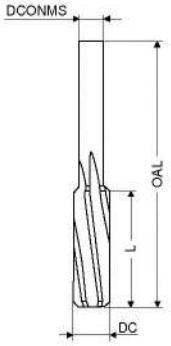
Steel	●
Stainless steel	
Cast iron	
Non ferrous metals	●
Heat resistant alloys	
Hardened materials	

→ v_c Page 68+69

1) not standardised

Stub reamers, DIN 8089-B

AR



Left Hand Helix
HSS-E
Through hole

DC_{H7} mm	OAL mm	L mm	$DCONMS_{h8}$ mm	ZEFP	U2 Article no. 40 145 ... £	
4.0	56	20	3.55	6	18.43	040
4.5	63	22	4.00	6	21.01	045
5.0	63	22	4.00	6	20.18	050
5.5	63	22	5.00	6	23.25	055
6.0	63	22	5.00	6	20.18	060
6.5	63	22	5.00	6	24.59	065
7.0	71	25	6.30	6	24.59	070
8.0	71	25	6.30	6	24.10	080
9.0	71	25	8.00	6	28.48	090
10.0	71	25	8.00	6	29.34	100
11.0	80	28	10.00	6	40.31	110
12.0	80	28	10.00	6	42.92	120
13.0	80	28	10.00	6	48.28	130
14.0	90	32	12.50	8	49.02	140
15.0	90	32	12.50	8	50.88	150
16.0	90	32	12.50	8	53.47	160
17.0	90	32	12.50	8	61.20	170
18.0	100	36	16.00	8	64.79	180
19.0	100	36	16.00	8	75.33	190
20.0	100	36	16.00	8	70.89	200

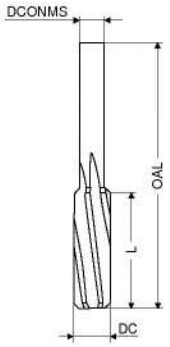
Steel	●
Stainless steel	○
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	○
Hardened materials	

→ v_c Page 68+69

Stub reamers, DIN 8089-B

- ▲ 0.01 mm steps
- ▲ tolerance: Ø 3.76–5.50 mm = +0.004 mm
- ▲ tolerance: Ø 5.51–12.00 mm = +0.005 mm

AR 100



Left Hand Helix
HSS-E

DC +0,004/+0,005	OAL	L	DCONMS h8	ZEFP	U2 Article no. 40 139 ...	
mm	mm	mm	mm		£	
3,76 - 3,81	56	20	3.55	6	26.74	xxxxx 1)
3,82 - 3,94	56	20	3.55	6	19.73	xxxxx 1)
3,95	56	20	3.55	6	19.73	03950
3,96	56	20	3.55	6	19.73	03960
3,97	56	20	3.55	6	19.73	03970
3,98	56	20	3.55	6	19.73	03980
3,99	56	20	3.55	6	19.73	03990
4,00	56	20	3.55	6	19.73	04000
4,01	56	20	3.55	6	19.73	04010
4,02	56	20	3.55	6	19.73	04020
4,03 - 4,20	56	20	3.55	6	19.73	xxxxx 1)
4,21 - 4,25	56	20	3.55	6	23.66	xxxxx 1)
4,26 - 4,75	63	22	4.00	6	23.66	xxxxx 1)
4,76 - 4,94	63	22	4.00	6	21.01	xxxxx 1)
4,95	63	22	4.00	6	21.01	04950
4,96	63	22	4.00	6	21.01	04960
4,97	63	22	4.00	6	21.01	04970
4,98	63	22	4.00	6	21.01	04980
4,99	63	22	4.00	6	21.01	04990
5,00	63	22	4.00	6	21.01	05000
5,01	63	22	4.00	6	21.01	05010
5,02	63	22	4.00	6	21.01	05020
5,03	63	22	4.00	6	21.01	05030
5,04	63	22	4.00	6	21.01	05040
5,05	63	22	4.00	6	21.01	05050
5,06 - 5,20	63	22	4.00	6	21.01	xxxxx 1)
5,21 - 5,30	63	22	4.00	6	23.66	xxxxx 1)
5,31 - 5,70	63	22	5.00	6	23.66	xxxxx 1)
5,71 - 5,94	63	22	5.00	6	23.66	xxxxx 1)
5,95	63	22	5.00	6	23.66	05950
5,96	63	22	5.00	6	23.66	05960
5,97	63	22	5.00	6	23.66	05970
5,98	63	22	5.00	6	23.66	05980
5,99	63	22	5.00	6	23.66	05990
6,00	63	22	5.00	6	23.66	06000
6,01	63	22	5.00	6	23.66	06010
6,02	63	22	5.00	6	23.66	06020
6,03 - 6,11	63	22	5.00	6	23.66	xxxxx 1)
6,12 - 6,70	63	22	5.00	6	25.42	xxxxx 1)
6,71 - 6,94	71	25	6.30	6	25.42	xxxxx 1)
6,95	71	25	6.30	6	25.42	06950
6,96	71	25	6.30	6	25.42	06960
6,97	71	25	6.30	6	25.42	06970
6,98	71	25	6.30	6	25.42	06980
6,99	71	25	6.30	6	25.42	06990
7,00	71	25	6.30	6	25.42	07000
7,01	71	25	6.30	6	25.42	07010
7,02	71	25	6.30	6	25.42	07020
7,03 - 7,25	71	25	6.30	6	25.42	xxxxx 1)
7,26 - 7,94	71	25	6.30	6	25.42	xxxxx 1)
7,95	71	25	6.30	6	25.42	07950
7,96	71	25	6.30	6	25.42	07960
7,97	71	25	6.30	6	25.42	07970
7,98	71	25	6.30	6	25.42	07980
7,99	71	25	6.30	6	25.42	07990
8,00	71	25	6.30	6	25.42	08000
8,01	71	25	6.30	6	25.42	08010
8,02	71	25	6.30	6	25.42	08020
8,03	71	25	6.30	6	25.42	08030
8,04	71	25	6.30	6	25.42	08040
8,05 - 8,20	71	25	6.30	6	25.42	xxxxx 1)
8,21 - 8,50	71	25	6.30	6	32.01	xxxxx 1)
8,51 - 8,94	71	25	8.00	6	32.01	xxxxx 1)
8,95	71	25	8.00	6	32.01	08950
8,96	71	25	8.00	6	32.01	08960
8,97	71	25	8.00	6	32.01	08970
8,98	71	25	8.00	6	32.01	08980
8,99	71	25	8.00	6	32.01	08990
9,00	71	25	8.00	6	32.01	09000
9,01	71	25	8.00	6	32.01	09010 1)
9,02	71	25	8.00	6	32.01	09020
9,03 - 9,25	71	25	8.00	6	32.01	xxxxx
9,26 - 9,94	71	25	8.00	6	32.01	xxxxx 1)
9,95	71	25	8.00	6	32.01	09950
9,96	71	25	8.00	6	32.01	09960
9,97	71	25	8.00	6	32.01	09970
9,98	71	25	8.00	6	32.01	09980
9,99	71	25	8.00	6	32.01	09990
10,00	71	25	8.00	6	32.01	10000
10,01	71	25	8.00	6	32.01	10010
10,02	71	25	8.00	6	32.01	10020
10,03 - 10,20	71	25	8.00	6	32.01	xxxxx 1)
10,21 - 10,60	71	25	8.00	6	40.72	xxxxx 1)
10,61 - 11,20	80	28	10.00	6	40.72	xxxxx 1)
11,21 - 11,25	80	28	10.00	6	47.28	xxxxx 1)
11,26 - 11,94	80	28	10.00	6	47.28	xxxxx 1)
11,95	80	28	10.00	6	47.28	11950
11,96	80	28	10.00	6	47.28	11960
11,97	80	28	10.00	6	47.28	11970
11,98	80	28	10.00	6	47.28	11980
11,99	80	28	10.00	6	47.28	11990
12,00	80	28	10.00	6	47.28	12000

Steel	●
Stainless steel	○
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	○
Hardened materials	

→ v_c Page 68+69

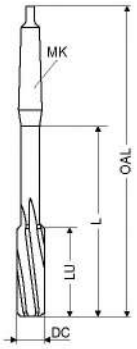
1) Not available ex stock, articles are non-returnable and cannot be exchanged / Delivery time 14 working days

This tool concept permits numerous tolerances.
For achievable tolerances covered, please see the table on → **Page 75**.
For xxxxx please indicate required diameter in the order
(e.g. Ø 3.82 mm → Article no. 40 139 03820)!

Machine reamers HSS-E, DIN 208

▲ the circular land on the cutting edge burnishes the hole and guides the reamer

N



Left Hand Helix
HSS-E
Through hole

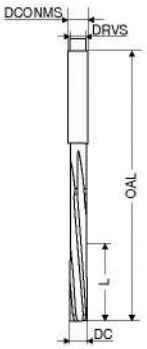
DC $_{H7}$	OAL	L	LU	MK	ZEFP	U2 Article no. 40 160 ... £	
mm	mm	mm	mm				
16	210	52	130	2	8	61.20	160
17	214	54	134	2	8	65.70	170
18	219	56	139	2	8	68.29	180
19	223	58	143	2	8	71.82	190
20	228	60	148	2	8	71.82	200
21	232	62	152	2	8	81.42	210
22	237	64	157	2	8	81.42	220
23	241	66	161	2	8	93.63	230
24	268	68	169	3	8	96.37	240
25	268	68	169	3	8	99.01	250
26	273	70	174	3	8	106.05	260
27	277	71	178	3	10	117.35	270
28	277	71	178	3	10	117.35	280
29	281	73	182	3	10	131.41	290
30	281	73	182	3	10	121.78	300
32	317	77	193	4	10	159.34	320
34	321	78	197	4	10	177.72	340
35	321	78	197	4	10	177.72	350
36	325	79	201	4	10	193.46	360
38	329	81	205	4	10	212.71	380
40	329	81	205	4	10	214.51	400
42	333	82	209	4	12	234.66	420
44	336	83	212	4	12	276.66	440
45	336	83	212	4	12	279.28	450
46	340	84	216	4	12	330.00	460
47	340	84	216	4	12	349.29	470
48	344	86	220	4	12	351.04	480
50	344	86	220	4	12	351.04	500

Steel	●
Stainless steel	○
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	○
Hardened materials	

→ v_c Page 68+69

Hand reamers, DIN 206-B

H



Left Hand Helix
HSS

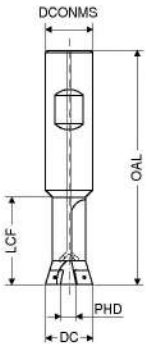
DC $_{H7}$	OAL	L	DRVS	DCONMS	ZEFP	U2 Article no. 40 100 ... £	
mm	mm	mm	mm	mm			
1.0	34	13		1.0	3	33.76	010
1.2	38	17		1.2	3	32.01	012
1.3	38	17		1.3	3	32.84	013
1.4	41	20	1.12	1.4	3	28.48	014
1.5	41	20	1.12	1.5	3	27.19	015
1.6	44	21	1.25	1.6	3	28.92	016
1.8	47	23	1.40	1.8	4	29.34	018
2.0	50	25	1.60	2.0	4	24.99	020
2.2	54	27	1.80	2.2	4	29.34	022
2.5	58	29	2.00	2.5	4	24.59	025
2.8	62	31	2.24	2.8	6	30.22	028
3.0	62	31	2.24	3.0	6	25.87	030
3.2	66	33	25.00	3.2	6	32.01	032
3.5	71	35	2.80	3.5	6	30.22	035
4.0	76	38	3.15	4.0	6	21.96	040
4.5	81	41	3.55	4.5	6	26.74	045
5.0	87	44	4.00	5.0	6	25.87	050
5.5	93	47	4.50	5.5	6	27.56	055
6.0	93	47	4.50	6.0	6	24.99	060
7.0	107	54	5.60	7.0	6	27.19	070
8.0	115	58	6.30	8.0	6	28.48	080
9.0	124	62	7.10	9.0	6	32.01	090
10.0	133	66	8.00	10.0	6	32.01	100
11.0	142	71	9.00	11.0	6	35.49	110
12.0	152	76	10.00	12.0	6	38.10	120
13.0	152	76	10.00	13.0	6	56.08	130
14.0	163	81	11.20	14.0	8	61.20	140
15.0	163	81	11.20	15.0	8	64.79	150
16.0	175	87	12.50	16.0	8	67.57	160
17.0	175	87	14.00	17.0	8	70.89	170
18.0	188	93	14.00	18.0	8	78.83	180
19.0	188	93	14.00	19.0	8	84.97	190
20.0	201	100	16.00	20.0	8	83.26	200
22.0	215	107	18.00	22.0	8	96.37	220
24.0	231	115	20.00	24.0	8	111.22	240
25.0	231	115	20.00	25.0	8	113.81	250
26.0	231	115	20.00	26.0	8	121.78	260
28.0	247	124	22.40	28.0	10	155.83	280
30.0	247	124	22.40	30.0	10	163.82	300
32.0	265	133	25.00	32.0	10	180.47	320
34.0	284	142	28.00	34.0	10	218.95	340
35.0	284	142	28.00	35.0	10	220.64	350
36.0	284	142	28.00	36.0	10	238.94	360
38.0	305	152	31.50	38.0	10	278.41	380
40.0	305	152	31.50	40.0	10	291.49	400

Insert Countersink

- ▲ 2 cutting edges, right-hand cutting for countersinking according to DIN 974-1
- ▲ for countersinking of hexagon socket screws ISO 1207, ISO 4762 (DIN 912), DIN 6912, DIN 7984
- ▲ for sinking cap screws the recommended inserts are specified

Supply details:
Indexable insert countersink including clamping screws

WPS



B

U3

for screws	DC mm	PHD mm	DCONMS h6 mm	OAL mm	LCF mm	Insert	Article no. 30 195 ... £	
M8	15	4.0	16	90	25	CC.T 060204	250.69	015
M10	18	7.0	16	90	31	CC.T 060204	266.46	018
M12	20	9.0	20	100	40	CC.T 060204	274.50	020
M16	26	8.5	25	110	52	CC.T 09T304	297.87	026
M20	33	15.5	32	130	66	CC.T 09T304	313.49	033

Y7

Key D

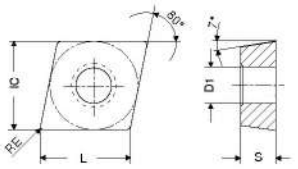
2A

Clamping screw

Spare parts		Article no. 80 950 ... £			Article no. 70 950 ... £	
Insert						
CC.T 060204	T08	10.30	110	M2,5x6	2.15	112
CC.T 09T304	T15	12.26	113	M3,5x7,2	2.85	110

CCMT / CCGT

Designation	L	S	D1	IC
	mm	mm	mm	mm
CC.T 0602..	6.4	2.38	2.8	6.35
CC.T 09T3..	9.7	3.97	4.4	9.52



4

CCMT

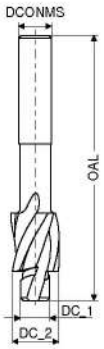
	-SM CTCP125	-SM CTCP135	-SM CTC2135	-SM CTCK110
	-ZM HCX1125	-ZM HCR1135	-ZM CWN2135	-ZM DCX3110
	DRAGONSKIN	DRAGONSKIN		DRAGONSKIN
				
	M	M	M	M
	CCMT	CCMT	CCMT	CCMT
	1A/08	1A/08	1A/08	1A/08
ISO / RE mm	Article no. 76 252 ... £	Article no. 76 252 ... £	Article no. 70 252 ... £	Article no. 70 252 ... £
060204EN 0.4	7.07 504	7.07 704	6.85 670	7.07 004
060208EN 0.8		7.07 706		7.07 006
09T304EN 0.4	8.82 516	8.82 716	8.80 674	8.82 016
09T308EN 0.8	8.82 518	8.82 718	8.80 676	8.82 018
09T312EN 1.2				8.82 020
Steel	●	●	○	●
Stainless steel	○	○	●	○
Cast iron	○			●
Non ferrous metals				
Heat resistant alloys		○	●	
Hardened materials				

CCGT

	-27 H10T	-27 CWN15	-27 AMZ
	-AL CWK15	-AL CWN15	-AL AMZ
			
	M	M	M
	CCGT	CCGT	CCGT
	1A/90	1A	1A/90
ISO / RE mm	Article no. 70 254 ... £	Article no. 70 254 ... £	Article no. 70 254 ... £
060202FN 0.2	9.29 600	11.79 300	11.29 450
060204FN 0.4	9.29 602	11.79 302	11.29 452
09T302FN 0.2	9.92 604	12.19 304	11.59 454
09T304FN 0.4	9.92 606	12.19 306	11.59 456
09T308FN 0.8	9.92 608	12.19 308	11.59 458
Steel			○
Stainless steel		○	○
Cast iron	○		○
Non ferrous metals	●	●	●
Heat resistant alloys	○		
Hardened materials			

Counterbore, DIN 373

- ▲ with fixed pilot
- ▲ with 3 cutting edges, right-hand flutes for counterbores according to DIN 74
- ▲ for countersinking to suit hexagon socket screws according to DIN 912, DIN 6912, DIN 7984 and cap screws according to DIN 84



HSS
Core hole

fine
HSS
Through hole

medium
HSS
Through hole

Thread	DC_2 z9	DCONMS h9	OAL	DC_1 e8	U1 Article no. 30 192 ...		U1 Article no. 30 190 ...		U1 Article no. 30 191 ...	
	mm	mm	mm	mm	£		£		£	
M3	6	5.0	71	2.5	22.51	030				
M3	6	5.0	71	3.2			20.79	030 1)		
M3	6	5.0	71	3.4					20.79	030 1)
M4	8	5.0	71	3.3	21.67	040				
M4	8	5.0	71	4.3			18.25	040 1)		
M4	8	5.0	71	4.5					18.25	040 1)
M5	10	8.0	80	4.2	20.67	050				
M5	10	8.0	80	5.3			19.91	050 1)		
M5	10	8.0	80	5.5					19.91	050 1)
M6	11	8.0	80	5.0	22.80	060				
M6	11	8.0	80	6.4			21.25	060 1)		
M6	11	8.0	80	6.6					21.25	060 1)
M8	15	12.5	100	6.8	35.49	080				
M8	15	12.5	100	8.4			34.43	080 1)		
M8	15	12.5	100	9.0					34.43	080 1)
M10	18	12.5	100	8.5	44.04	100				
M10	18	12.5	100	10.5			41.13	100 1)		
M10	18	12.5	100	11.0					41.13	100 1)
M12	20	12.5	100	10.2	47.89	120				
M12	20	12.5	100	13.0			44.75	120		
M12	20	12.5	100	13.5					44.75	120

1) included in the set

Counterbore, DIN 373 – Set

Scope of supply:
Counterbores M3; M4; M5; M6; M8; M10 in case

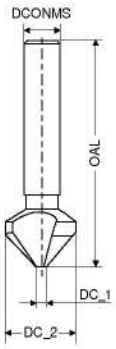
U1 Article no. 30 190 ...		U1 Article no. 30 191 ...	
£		£	
182.73	999	182.73	999

Countersink 90° with irregular pitch, DIN 335-C

- ▲ all sizes with 3 cutting edges and highly irregular pitch, resulting in smooth running, excellent roundness and chatter reduction giving the highest surface quality
- ▲ special TPX76S coating
- ▲ for very high tool life in almost all materials
- ▲ greatly reduced axial and radial forces
- ▲ for countersinking to DIN 7991

N

TPX76S



4

90°
Solid carbide

DC_2 z9	DC_1	DCONMS h6	OAL	DIN 7991	U1 Article no. 30 116 ...	
mm	mm	mm	mm		£	
6.3	1.5	5	45	M3	144.89	063
8.3	2.0	6	50	M4	156.30	083
10.4	2.5	6	50	M5	163.15	104
12.4	2.8	8	56	M6	171.13	124
16.5	3.2	10	60	M8	208.78	165
20.5	3.5	10	63	M10	240.73	205
25.0	3.8	10	67	M12	277.24	250
31.0	4.2	12	71	M16	328.57	310

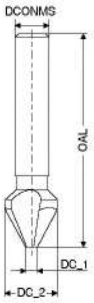
Steel	●
Stainless steel	○
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	○
Hardened materials	○

→ v_c Page 70

Countersink 60°, factory standard-C

▲ with 3 cutting edges for countersinking and deburring in high-tensile steels, grey cast iron, aluminium alloys containing silicon and corrosion resistant steels

N



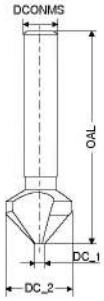
60°
Solid carbide

DC_2 z9	DC_1	DCONMS h9	OAL	U1 Article no. 30 160 ...	
mm	mm	mm	mm	£	
12.5	3.2	8	56	238.84	125
16.0	4.0	10	63	325.07	160
20.0	5.0	10	67	377.03	200
25.0	6.3	10	71	420.53	250

Countersink 90°, factory standard-C

▲ with 3 cutting edges for countersinking and deburring in high-tensile steels, grey cast iron, alumínium alloys containing silicon and corrosion resistant steels
▲ from Ø 12.4 mm with solid carbide head

N



90°
Solid carbide

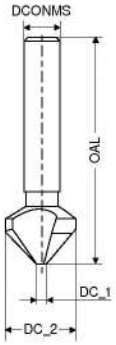
DC_2 z9	DC_1	DCONMS h9	OAL	DIN ISO 7721	DIN 7991	U1 Article no. 30 115 ...	
mm	mm	mm	mm			£	
10.4	2.5	8	46	M5		165.75	100
12.4	2.8	8	56		M6	165.75	124
15.0	3.2	10	60	M8		204.25	150
16.5	3.2	10	60		M8	216.46	165
20.5	3.5	10	63		M10	258.28	205
25.0	3.8	10	67		M12	296.63	250
31.0	4.2	12	71		M16	395.98	310

Countersink 90° with irregular pitch, DIN 335-C

- all sizes with 3 cutting edges and highly irregular pitch, resulting in smooth running, excellent roundness and chatter reduction giving the highest surface quality
- special Ti50 coating
- for very high tool life in almost all materials
- greatly reduced axial and radial forces
- for countersinking to DIN ISO 7721 and DIN 7991

N

Ti50



90°
HSS

DC_2 z9	DC_1	DCONMS	OAL	DIN ISO 7721	DIN 7991	U1 Article no. 30 140 ...	
mm	mm	mm	mm			£	
4.3	1.3	4	40	M2		25.49	043
6.0	1.5	5	45	M3		31.59	060
6.3	1.5	5	45		M3	31.59	063
8.0	2.0	6	50	M4		29.64	080
8.3	2.0	6	50		M4	30.44	083
10.0	2.5	6	50	M5		30.81	100
10.4	2.5	6	50		M5	32.20	104 1)
11.5	2.8	8	56	M6		35.33	115
12.4	2.8	8	56		M6	37.23	124
15.0	3.2	10	60	M8		41.62	150
16.5	3.2	10	60		M8	44.04	165 1)
19.0	3.5	10	63	M10		51.08	190
20.5	3.5	10	63		M10	61.60	205
23.0	3.8	10	67	M12		76.81	230
25.0	3.8	10	67		M12	84.41	250 1)
31.0	4.2	12	71		M16	109.38	310

Steel	●
Stainless steel	○
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	○
Hardened materials	

1) included in the set

→ v_c Page 70

Countersink 90° with irregular pitch, DIN 335-C – Set

Scope of supply:
Countersinks Ø 10.4 / 16.5 / 25.0 mm in storage case

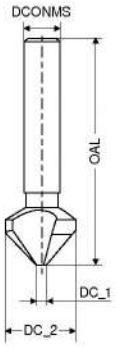
N

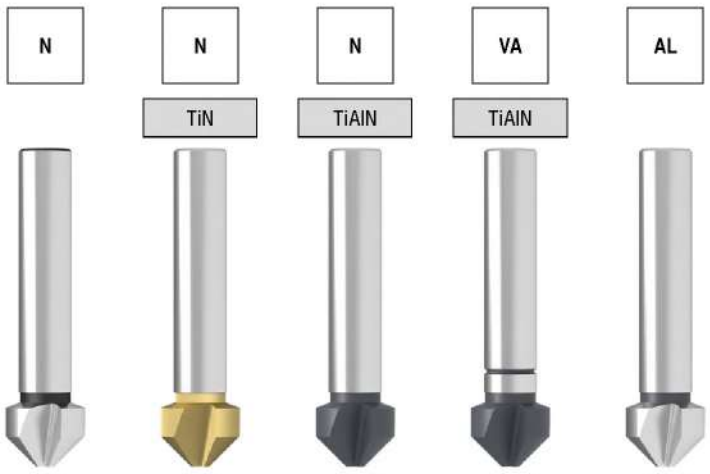
Ti50

U1 Article no. 30 140 ...	
£	
235.20	999

Countersink 90°, DIN 335-C

- 3 cutting edges to avoid burrs and chatter marks when countersinking and deburring in virtually all materials. Particularly suitable for DIN screws according to DIN ISO 7721 and 7991, as the countersink diameters are matched to the heads of these screws.
- the TiN version makes high cutting rates possible; very long tool life and very good friction resistance properties in order to avoid material sticking.
- TiAlN version shows considerably improved performance compared to TiN version. Particularly suitable for all abrasive materials (cast iron, AlSi) and/or at high temperature.





DC_2_{z9}	DC_1	DCONMS	OAL	DIN ISO 7721	DIN 7991	U1 Article no. 30 100 ... £		U1 Article no. 30 110 ... £		U1 Article no. 30 130 ... £		U1 Article no. 30 132 ... £		U1 Article no. 30 102 ... £	
mm	mm	mm	mm												
4.3	1.3	4	40	M2		12.22	043								
5.0	1.5	4	40	M2,5		12.22	050	23.23	050	31.65	050				
6.0	1.5	5	45	M3		12.22	060								
6.3	1.5	5	45		M3	12.22	063 [1]	23.23	063 [1]	32.41	063	20.32	063	13.93	063
7.0	1.8	6	50	M3,5		13.14	070								
8.0	2.0	6	50	M4		13.55	080	27.75	080	33.86	080				
8.3	2.0	6	50		M4	14.52	083 [1]	27.75	083 [1]	33.51	083	24.07	083	14.71	083
9.4	2.2	6	50			14.97	094								
10.0	2.5	6	50	M5		16.06	100	30.22	100	35.49	100				
10.4	2.5	6	50		M5	16.54	104 [1]	32.20	104 [1]	36.88	104	33.98	104	17.05	104
11.5	2.8	8	56	M6		16.95	115								
12.4	2.8	8	56		M6	17.54	124 [1]	35.49	124 [1]	46.94	124	29.60	124	18.14	124
13.4	2.9	8	56			18.89	134								
15.0	3.2	10	60	M8		20.92	150	37.94	150	60.03	150	36.58	150	20.49	150
16.5	3.2	10	60		M8	22.80	165 [1]	44.04	165 [1]	61.91	165	39.63	165	22.04	165
19.0	3.5	10	63	M10		28.81	190								
20.5	3.5	10	63		M10	30.22	205 [1]	61.60	205 [1]	80.78	205	47.10	205	30.34	205
23.0	3.8	10	67	M12		38.22	230								
25.0	3.8	10	67		M12	40.39	250	84.41	250	115.35	250	61.40	250	40.33	250
31.0	4.2	12	71		M16	61.60	310	109.38	310	157.35	310	91.18	310		
31.0	4.2	12	67		M16									64.77	310

1) included in the set

Countersink 90°, DIN 335-C – set

Scope of supply:
Countersinks Ø 6,3; 8,3; 10,4; 12,4; 16,5; 20,5 in case

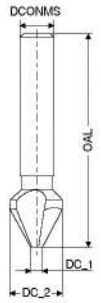
N

TiN

U1 Article no. 30 100 ... £		U1 Article no. 30 110 ... £	
117.66	999	235.20	999

Countersink 60°, DIN 334-C

▲ 3 cutting edges for countersinking and deburring in virtually all materials

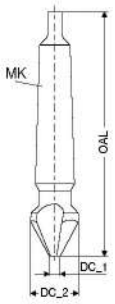


DC_2 z9	DC_1	DCONMS h9	OAL	U1 Article no. 30 150 ...	
mm	mm	mm	mm	£	
6.3	1.6	5	45	14.10	063 1)
8.0	2.0	6	50	14.10	080 1)
10.0	2.5	6	52	17.38	100 1)
12.5	3.2	8	56	17.80	125 1)
16.0	4.0	10	63	22.25	160 1)
20.0	5.0	10	67	32.11	200 1)
25.0	6.3	10	71	42.18	250

1) included in the set

Countersink 60°, DIN 334-D

▲ 3 cutting edges for countersinking and deburring in virtually all materials



DC_2 z9	DC_1	OAL	MK	U1 Article no. 30 155 ...	
mm	mm	mm		£	
16.0	4.0	90	1	50.32	160
20.0	5.0	106	2	59.99	200
25.0	6.3	112	2	62.85	250
31.5	10.0	118	2	69.90	315
40.0	12.5	150	3	110.34	400
50.0	16.0	160	3	140.78	500
63.0	20.0	190	4	260.18	630
80.0	25.0	200	4	356.58	800

Countersink 60°, DIN 334-C – set

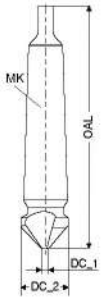
Scope of supply:
Countersinks Ø 6.3; 8.0; 10.0; 12.5; 16.0; 20.0 in case

U1 Article no. 30 150 ...	
£	
130.60	999

Countersink 90°, DIN 335-C

▲ 3 cutting edges to avoid burrs and chatter marks when countersinking and deburring in virtually all materials. Particularly suitable for DIN screws according to DIN ISO 7721 and 7991, as the countersink diameters are matched to the heads of these screws.

N

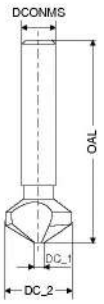


MK
90°
HSS

DC_2 z9	DC_1	OAL	MK	U1 Article no. 30 105 ...	
mm	mm	mm		£	
16.5	3.2	85	1	45.05	165
19.0	3.2	100	2	57.29	190
20.5	3.5	100	2	60.57	205
23.0	3.8	106	2	60.57	230
25.0	3.8	106	2	62.47	250
26.0	3.8	106	2	57.73	260
28.0	4.0	112	2	65.42	280
30.0	4.2	112	2	65.42	300
31.0	4.2	112	2	69.90	310
34.0	4.5	118	2	75.49	340
37.0	4.8	118	2	90.80	370
40.0	10.0	140	3	103.81	400
50.0	14.0	150	3	128.82	500
63.0	16.0	180	4	203.93	630
80.0	22.0	190	4	345.75	800

Countersink 120°, factory standard-C

▲ 3 cutting edges for countersinking and deburring in virtually all materials

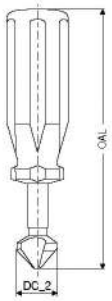


120°
HSS

DC_2 z9	DC_1	DCONMS h9	OAL	U1 Article no. 30 170 ...	
mm	mm	mm	mm	£	
6.3	1.5	5	45	16.99	063
8.3	2.0	6	50	16.99	083
10.4	2.5	6	50	18.89	104
12.4	2.8	8	56	19.82	124
16.5	3.2	10	60	28.81	165
20.5	3.5	10	60	39.66	205
25.0	3.8	10	63	49.39	250

Hand deburring tool 90°

- 3 cutting edges and non-slip plastic handle
- for countersinking and deburring on all materials



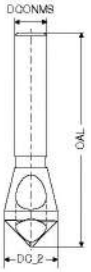
90°
HSS

DC_2	OAL	U1 Article no. 30 125 ...	
mm	mm	£	
12.4	135	24.95	124
15.0	135	29.23	150
16.5	135	30.95	165
20.5	135	36.03	205
25.0	135	43.60	250

Deburring countersink 90°, factory standard-A

- with angled hole to avoid burrs and chattermarks when countersinking and deburring in soft long-chipping materials, e.g. aluminium, plastics etc.

TiN



90°
HSS-E

90°
HSS-E

DC_2	D_{min} - D_{max}	DCONMS $_{h9}$	OAL	U1 Article no. 30 120 ...		U1 Article no. 30 121 ...	
mm	mm	mm	mm	£		£	
6.3	1 - 4	6.3	45	27.06	040 [1]	39.26	040 [1]
10.0	2 - 5	6.0	45	16.94	050	25.52	050
14.0	5 - 10	8.0	48	20.58	101	36.88	101
21.0	10 - 15	10.0	65	35.37	150	60.03	150
28.0	15 - 20	12.0	85	74.28	200	121.89	200
35.0	20 - 25	15.0	102	101.67	250	154.71	250

1) can be used in both directions

Material examples referring to the cutting data tables

	Index	Material	Strength N/mm² / HB / HRC	Material number	Material designation	Material number	Material designation	Material number	Material designation
P	1.1	General construction steel	< 800 N/mm²	1.0402	EN3B				
	1.2	Free cutting steel	< 800 N/mm²	1.0711	EN1A				
	1.3	Hardened steel, non alloyed	< 800 N/mm²	1.0401	EN32C				
	1.4	Alloyed hardened steel	< 1000 N/mm²	1.7325	25 CD4				
	1.5	Tempering steel, unalloyed	< 850 N/mm²	1.5752	EN36	1.0535	EN9		
	1.6	Tempering steel, unalloyed	< 1000 N/mm²	1.6582	EN24				
	1.7	Tempering steel, alloyed	< 800 N/mm²	1.7225	EN19				
	1.8	Tempering steel, alloyed	< 1300 N/mm²	1.8515	EN40B				
	1.9	Steel castings	< 850 N/mm²	0.9650	G-X 260 Cr 27	1.6750	GS-20 NiCrMo 3 7	1.6582	GS-34 CrNiMo 6
	1.10	Nitriding steel	< 1000 N/mm²	1.8509	EN41B				
	1.11	Nitriding steel	< 1200 N/mm²	1.1186	EN8	1.1160	EN14A		
	1.12	Roller bearing steel	< 1200 N/mm²	1.3505	534A99				
	1.13	Spring steel	< 1200 N/mm²		EN45		EN47		EN43
	1.14	High-speed steel	< 1300 N/mm²	1.3343	M2	1.3249	M34		
	1.15	Cold working tool steel	< 1300 N/mm²	1.2379	D2	1.2311	P20		
	1.16	Hot working tool steel	< 1300 N/mm²	1.2344	H13				
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm²	1.4581	318				
	2.2	Stainless steel, ferritic	< 750 N/mm²	1.4000	403				
	2.3	Stainless steel, martensitic	< 900 N/mm²	1.4057	EN57				
	2.4	Stainless steel, ferritic / martensitic	<1100 N/mm²	1.4028	EN56B				
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm²	1.4542	17-4PH				
	2.6	Stainless steel, austenitic	< 750 N/mm²	1.4305	303	1.4401	316	1.4301	304
	2.7	Heat resistant steel	< 1100 N/mm²	1.4876	Incoloy 800				
K	3.1	Grey cast iron with lamellar graphite	100–350 N/mm²	0.6015	Grade 150	0.6020	Grade 220	0.6025	Grade 260
	3.2	Grey cast iron with lamellar graphite	300–500 N/mm²	0.6030	Grade 300	0.6035	Grade 350	0.6040	Grade 400
	3.3	Gray cast iron with spheroidal graphite	300–500 N/mm²	0.7040	SG 400-12	0.7043	SG 370-17	0.7050	SG 500-7
	3.4	Gray cast iron with spheroidal graphite	500–900 N/mm²	0.7060	SG 600-3	0.7070	SG 700-2	0.7080	SG 800-2
	3.5	White malleable cast iron	270–450 N/mm²	0.8035	GTW-35	0.8045	GTW-45		
	3.6	White malleable cast iron	500–650 N/mm²	0.8055	GTW-55	0.8065	GTW-65		
	3.7	Black malleable cast iron	300–450 N/mm²	0.8135	GTS-35	0.8145	GTS-45		
	3.8	Black malleable cast iron	500–800 N/mm²	0.8155	GTS-55	0.8170	GTS-70		
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm²	3.0255	1050 A	3.0275	1070 A	3.0285	1080 A (A8)
	4.2	Aluminium alloys < 0.5 % Si	< 500 N/mm²	3.1325	2017 A (AU4G)	3.4335	7005 (AZ5G)	3.4365	7075 (AZ5GU)
	4.3	Aluminium alloy 0.5–10 % Si	< 400 N/mm²	3.2315	A- G S1	3.2373	A-S9 G	3.2151	A-S 6 U4
	4.4	Aluminium alloys 10–15 % Si	< 400 N/mm²	3.2581	A-S12	3.2583	A-S12 U		
	4.5	Aluminum alloys > 15 % Si	< 400 N/mm²		A-S18	A-S17 U4			
	4.6	Copper (non alloyed, low alloyed)	< 350 N/mm²	2.0040	Cu-c1	2.0060	Cu-a1	2.0090	Cu-b1
	4.7	Copper wrought alloys	< 700 N/mm²	2.1247	Cub2 (Berylium Copper)	2.0855	CuN2S (Nickel Copper)	2.1310	CU-Fe2P
	4.8	Special copper alloys	< 200 HB	2.0916	Cu-A5	2.1525	Cu-S3 M		Ampco 8 (Cu-A6Fe2)
	4.9	Special copper alloys	< 300 HB	2.0978	Cu-Al11 Fe5 Ni5)		Ampco 18 (Cu- A10 Fe3)		
	4.10	Special copper alloys	> 300 HB	2.1247	Cu Be2		Ampco M4		
	4.11	Short-chipping brass, bronze, red bronze	< 600 N/mm²	2.0331	Cu Zn36 Pb1,5	2.0380	Cu Zn39 Pb2 (Ms 56)	2.0410	Cu Zn44 Pb2
	4.12	Long-chipping brass	< 600 N/mm²	2.0335	Cu Zn 36 (Ms63)	2.1293	Cu Cr1 Zr		
	4.13	Thermoplastics		PE	PVC	PS	Polystyrene		Plexiglas
	4.14	Duroplastics		PF	Bakelite		Pertinax		
	4.15	Fibre-reinforced plastics			Carbon Fibre		Fibreglass		Aramid Fibre (Kevlar)
	4.16	Magnesium and magnesium alloys	< 850 N/mm²	3.5812	Mg A7 Z1	3.5662	Mg A9	3.5105	Mg Tr3 Z2 Zn 1
	4.17	Graphite			R8500X		R8650		Technograph 15
	4.18	Tungsten and tungsten alloys			W-Ni Fe (Densimet)		W- Ni Cu (Inermet)		Denal
	4.19	Molybdenum and molybdenum alloys			TZM		MHQ		Mo W
S	5.1	Pure nickel		2.4066	Ni99 (Nickel 200)	2.4068	Lc Ni99 (Nickel 201)		
	5.2	Nickel alloys		1.3912	Fe-Ni36 (Invar)	1.3917	Fe -Ni42 (N42)	1.3922	Fe-Ni48 (N48)
	5.3	Nickel alloys	< 850 N/mm²	2.4375	Ni Cu30 Al (Monel K500)	2.4360	Ni Cu30Fe (Monel 400)	2.4668	
	5.4	Nickel molybdenum alloys		2.4600	Ni Mo30Cr2 (Hastelloy B4)	2.4617	Ni Mo28 (Hastelloy B2)	2.4819	Ni Mo16Cr16 Hastell. C276
	5.5	Nickel-chromium alloys	< 1300 N/mm²	2.4951	Ni Cr20TiAl (Nimonic 80A)	2.4858	Ni Cr21Mo (Inconel 825)	2.4856	Ni Cr22Mo9Nb Inconel 625
	5.6	Cobalt Chrome Alloys	< 1300 N/mm²	2.4964	Co Cr20 W15 Ni10		Co Cr20 Ni16 Mo7		Co Cr28 Mo 6
	5.7	Heat resistant alloys	< 1300 N/mm²	1.4718	Z45 C S 9-3	1.4747	Z80 CSN 20-02	1.4845	Z12 CN 25-20
	5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm²	2.4851	Ni Cr23Fe (Inconel 601)	2.4668	Ni Cr19NbMo (Inconel 718)	2.4602	Ni Cr21Mo14 Hastelloy C22
	5.9	Pure titanium	< 900 N/mm²	3.7025	T35 (Titanium Grade 1)	3.7034	T40 (Titanium Grade 2)	3.7064	T60 (Titanium Grade 4)
	5.10	Titanium alloys	< 700 N/mm²		T-A6-Nb7 (367)		T-A5-Sn2-Mo4-Cr4 (Ti17)		T-A3-V2,5 (Gr18)
	5.11	Titanium alloys	< 1200 N/mm²	3.7165	T-A6-V4 (Ta6V)		T-A4-3V-Mo2-Fe2 (SP700)		T-A5-Sn1-Zr1-V1-Mo (Gr32)
H	6.1	Tempered steel	< 45 HRC						
	6.2		46–55 HRC						
	6.3		56–60 HRC						
	6.4		61–65 HRC						
	6.5		65–70 HRC						

Cutting data standard values for REAMAX TS

	Grade / coating	HM-DBG-P / Ti700				HM-DBG-P / Ti700				
	Article no. / type	40 585 ... / 75H.65 – ASG3000				40 521 ..., 40 571 ... / 75J.65, 75H.65 – ASG0106				
	Nominal Ø in mm	18–21,999	22–31,799	31,8–51,999	52–65	18–21,999	22–31,799	31,8–51,999	52–65	
	Reaming allowance Ø	0,20–0,30	0,20–0,30	0,30–0,40	0,30–0,50	0,20–0,30	0,20–0,30	0,30–0,40	0,30–0,50	
	Number of teeth	6	6	8	10	6	6	8	10	
Index	v_c m/min		f	f	f	f	v_c m/min		f	f	f	f
	3xD	5xD	mm/rev.	mm/rev.	mm/rev.	mm/rev.	3xD	5xD	mm/rev.	mm/rev.	mm/rev.	mm/rev.
1.1	150–200	120–160	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
1.2	150–200	120–160	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
1.3	150–200	120–160	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
1.4	150–200	120–160	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
1.5	150–200	120–160	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
1.6	150–200	120–160	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
1.7	150–200	120–160	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
1.8	80–120	80–100	0,50–0,80	0,70–1,00	0,90–1,30	1,30–2,00						
1.9	80–120	80–100	0,50–0,80	0,70–1,00	0,90–1,30	1,30–2,00						
1.10	80–120	80–100	0,50–0,80	0,70–1,00	0,90–1,30	1,30–2,00						
1.11							80–120	80–100	0,50–0,80	0,70–1,00	0,90–1,30	1,30–2,00
1.12							60–100	60–100	0,50–0,80	0,70–1,00	0,90–1,30	1,30–2,00
1.13							60–100	60–100	0,50–0,80	0,70–1,00	0,90–1,30	1,30–2,00
1.14							40–60	40–60	0,50–0,80	0,70–1,00	0,90–1,30	1,30–2,00
1.15							40–60	40–60	0,50–0,80	0,70–1,00	0,90–1,30	1,30–2,00
1.16							40–60	40–60	0,50–0,80	0,70–1,00	0,90–1,30	1,30–2,00
2.1							45–60	40–50	0,60–0,90	0,80–1,10	1,10–1,50	1,50–2,30
2.2							45–60	40–50	0,60–0,90	0,80–1,10	1,10–1,50	1,50–2,30
2.3							30–50	30–40	0,60–0,90	0,80–1,10	1,10–1,50	1,50–2,30
2.4							30–50	30–40	0,60–0,90	0,80–1,10	1,10–1,50	1,50–2,30
2.5							30–50	30–40	0,60–0,90	0,80–1,10	1,10–1,50	1,50–2,30
2.6							45–60	40–50	0,60–0,90	0,80–1,10	1,10–1,50	1,50–2,30
2.7							30–50	30–40	0,60–0,90	0,80–1,10	1,10–1,50	1,50–2,30
3.1	150–220	120–150	0,90–1,30	1,20–1,70	1,60–2,30	2,30–3,40						
3.2	150–220	120–150	0,90–1,30	1,20–1,70	1,60–2,30	2,30–3,40						
3.3	175–300	150–180	0,90–1,30	1,20–1,70	1,60–2,30	2,30–3,40						
3.4	120–180	120–150	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
3.5	150–250	120–160	0,90–1,30	1,20–1,70	1,60–2,30	2,30–3,40						
3.6	150–250	120–160	0,90–1,30	1,20–1,70	1,60–2,30	2,30–3,40						
3.7	120–180	120–150	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
3.8	120–180	120–150	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
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The cutting data depends on the external conditions, e.g. stability of the tools and tool clamping, material and machine type.
The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

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Cutting data standard values for REAMAX TS

	Grade / coating	HM-TiN / CWN10				HM-DBC / CWN10			
	Article no. / type	40 535 ... / 75H.71 – ASG3000				40 526 ..., 40 580 ... / 75J.17, 75H.17 – ASG0706			
	Nominal Ø in mm	18–21,999	22–31,799	31,8–51,999	52–65	18–21,999	22–31,799	31,8–51,999	52–65
	Reaming allowance Ø	0,20–0,30	0,20–0,30	0,30–0,40	0,30–0,50	0,20–0,30	0,20–0,30	0,30–0,40	0,30–0,50
	Number of teeth	6	6	8	10	6	6	8	10
Index	v_c m/min		f	f	f	v_c m/min		f	f	f	f
	3xD	5xD	mm/rev.	mm/rev.	mm/rev.	mm/rev.	3xD	5xD	mm/rev.	mm/rev.	mm/rev.	mm/rev.
1.1	100–140	80–120	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
1.2	100–140	80–120	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
1.3	100–140	80–120	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
1.4	100–140	80–120	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
1.5	100–140	80–120	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
1.6	100–140	80–120	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
1.7	100–140	80–120	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80						
1.8	30–45	30–45	0,50–0,80	0,70–1,00	0,90–1,30	1,30–2,00						
1.9	30–45	30–45	0,50–0,80	0,70–1,00	0,90–1,30	1,30–2,00						
1.10	30–45	30–45	0,50–0,80	0,70–1,00	0,90–1,30	1,30–2,00						
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4.1							150–300	150–200	0,90–1,30	1,10–1,70	1,50–2,30	2,20–3,40
4.2							150–300	150–200	0,90–1,30	1,10–1,70	1,50–2,30	2,20–3,40
4.3							200–300	150–200	0,90–1,30	1,10–1,70	1,50–2,30	2,20–3,40
4.4							200–300	150–200	0,90–1,30	1,10–1,70	1,50–2,30	2,20–3,40
4.5							200–300	150–200	0,90–1,30	1,10–1,70	1,50–2,30	2,20–3,40
4.6	80–150	80–120	0,70–1,10	0,90–1,40	1,20–1,90	1,70–2,60						
4.7	120–200	120–150	0,70–1,10	0,90–1,40	1,20–1,90	1,70–2,60						
4.8												
4.9												
4.10												
4.11	120–200	120–200	0,90–1,30	1,10–1,70	1,50–2,30	2,20–3,40						
4.12	80–150	80–120	0,90–1,30	1,10–1,70	1,50–2,30	2,20–3,40						
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The cutting data depends on the external conditions, e.g. stability of the tools and tool clamping, material and machine type.
The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

Cutting data standard values for REAMAX TS

	Grade / coating	DST / CWC10				DST / CWC10				
	Article no. / type	40 539 ... / 75H.93 – ASG3000				40 597 ... / 75J.93 – ASG4000				
	Nominal Ø in mm	18–21,999	22–31,799	31,8–51,999	52–65	18–21,999	22–31,799	31,8–51,999	52–65	
	Reaming allowance Ø	0,20–0,30	0,20–0,30	0,30–0,40	0,30–0,50	0,20–0,30	0,20–0,30	0,30–0,40	0,30–0,50	
	Number of teeth	6	6	8	10	6	6	8	10	
Index	v_c m/min		f	f	f	f	v_c m/min		f	f	f	f
	3xD	5xD	mm/rev.	mm/rev.	mm/rev.	mm/rev.	3xD	5xD	mm/rev.	mm/rev.	mm/rev.	mm/rev.
1.1	**150–200**	**120–160**	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80	**150–200**	**120–160**	1,00–1,30	1,20–1,70	1,70–2,30	2,40–3,40
1.2	**150–200**	**120–160**	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80	**150–200**	**120–160**	1,00–1,30	1,20–1,70	1,70–2,30	2,40–3,40
1.3	**150–200**	**120–160**	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80	**150–200**	**120–160**	1,00–1,30	1,20–1,70	1,70–2,30	2,40–3,40
1.4	**150–200**	**120–160**	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80	**150–200**	**120–160**	1,00–1,30	1,20–1,70	1,70–2,30	2,40–3,40
1.5	**150–200**	**120–160**	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80	**150–200**	**120–160**	1,00–1,30	1,20–1,70	1,70–2,30	2,40–3,40
1.6	**150–200**	**120–160**	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80	**150–200**	**120–160**	1,00–1,30	1,20–1,70	1,70–2,30	2,40–3,40
1.7	**150–200**	**120–160**	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80	**150–200**	**120–160**	1,00–1,30	1,20–1,70	1,70–2,30	2,40–3,40
1.8												
1.9	**80–120**	**80–100**	0,50–0,80	0,70–1,00	0,90–1,30	1,30–2,00	**80–120**	**80–100**	0,50–0,80	0,70–1,00	0,90–1,30	1,30–2,00
1.10	**80–120**	**80–100**	0,50–0,80	0,70–1,00	0,90–1,30	1,30–2,00	**80–120**	**80–100**	0,50–0,80	0,70–1,00	0,90–1,30	1,30–2,00
1.11	**80–120**	**80–100**	0,50–0,80	0,70–1,00	0,90–1,30	1,30–2,00	**80–120**	**80–100**	0,50–0,80	0,70–1,00	0,90–1,30	1,30–2,00
1.12	**80–120**	**80–100**	0,50–0,80	0,70–1,00	0,90–1,30	1,30–2,00	**80–120**	**80–100**	0,50–0,80	0,70–1,00	0,90–1,30	1,30–2,00
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3.3	**175–300**	**150–180**	0,90–1,30	1,20–1,70	1,60–2,30	2,30–3,40	225–300	180–240	1,20–1,60	1,50–2,00	2,00–2,70	2,90–4,10
3.4	**120–150**	**100–120**	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80	120–150	100–120	1,20–1,60	1,50–2,00	2,00–2,70	2,90–4,10
3.5	**150–250**	**120–200**	0,90–1,30	1,20–1,70	1,60–2,30	2,30–3,40						
3.6	**150–250**	**120–200**	0,90–1,30	1,20–1,70	1,60–2,30	2,30–3,40						
3.7	**120–180**	**120–150**	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80	120–180	120–150	1,00–1,30	1,20–1,70	1,70–2,30	2,40–3,40
3.8	**120–180**	**120–150**	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80	120–180	120–150	1,00–1,30	1,20–1,70	1,70–2,30	2,40–3,40
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4.6	150–320	150–200	0,90–1,30	1,10–1,70	1,50–2,30	2,10–3,10						
4.7	150–320	150–200	0,90–1,30	1,10–1,70	1,50–2,30	2,10–3,10						
4.8												
4.9												
4.10												
4.11	150–320	150–200	0,90–1,30	1,10–1,70	1,50–2,30	2,10–3,10						
4.12	150–320	150–200	0,90–1,30	1,10–1,70	1,50–2,30	2,10–3,10						
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The cutting data depends on the external conditions, e.g. stability of the tools and tool clamping, material and machine type.
The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

4

Cutting data standard values for REAMAX TS

	Grade / coating		DST / CWC10			
	Article no. / type		40 544 ... / 75J.93 – ASG3000			
	Nominal Ø in mm		18–21,999	22–31,799	31,8–51,999	52–65
	Reaming allowance Ø		0,20–0,30	0,20–0,30	0,30–0,40	0,30–0,50
	Number of teeth		6	6	8	10
Index	V_c m/min		f	f	f	f
	3xD	5xD	mm/rev.	mm/rev.	mm/rev.	mm/rev.
1.1	150–200	120–160	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
1.2	150–200	120–160	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
1.3	150–200	120–160	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
1.4	150–200	120–160	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
1.5	150–200	120–160	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
1.6	150–200	120–160	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
1.7	150–200	120–160	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
1.8						
1.9	80–120	80–100	0,50–0,80	0,70–1,00	0,90–1,30	1,30–2,00
1.10	80–120	80–100	0,50–0,80	0,70–1,00	0,90–1,30	1,30–2,00
1.11	80–120	80–100	0,50–0,80	0,70–1,00	0,90–1,30	1,30–2,00
1.12	80–120	80–100	0,50–0,80	0,70–1,00	0,90–1,30	1,30–2,00
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3.3	175–300	150–180	0,90–1,30	1,20–1,70	1,60–2,30	2,30–3,40
3.4	120–150	100–120	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
3.5	150–250	120–200	0,90–1,30	1,20–1,70	1,60–2,30	2,30–3,40
3.6	150–250	120–200	0,90–1,30	1,20–1,70	1,60–2,30	2,30–3,40
3.7	120–180	120–150	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
3.8	120–180	120–150	0,80–1,10	1,00–1,40	1,30–1,90	1,90–2,80
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4.6	150–320	150–200	0,90–1,30	1,10–1,70	1,50–2,30	2,10–3,10
4.7	150–320	150–200	0,90–1,30	1,10–1,70	1,50–2,30	2,10–3,10
4.8						
4.9						
4.10						
4.11	150–320	150–200	0,90–1,30	1,10–1,70	1,50–2,30	2,10–3,10
4.12	150–320	150–200	0,90–1,30	1,10–1,70	1,50–2,30	2,10–3,10
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The cutting data depends on the external conditions, e.g. stability of the tools and tool clamping, material and machine type.
The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

Cutting data standard values for REAMAX

	Grade / coating	HM-TiN / CWN 10			HM-DBC		
	Article no. / type	40 505 ... / 640.71 – ASG3000			40 570 ... / 640.27 – ASG0706		
	Nominal Ø in mm	12–21,999	22–32,000	32,001–40	12–21,999	22–32,000	32,001–40
	Reaming allowance Ø	0,10–0,30	0,20–0,40	0,20–0,40	0,10–0,30	0,20–0,40	0,20–0,40
	Number of teeth	6	8	8	6	8	8
Index	v_c m/min		f	f	f	v_c m/min		f	f	f
	3xD	5xD	mm/rev.	mm/rev.	mm/rev.	3xD	5xD	mm/rev.	mm/rev.	mm/rev.
1.1	100–140	80–120	0,90–1,20	1,50–2,00	1,50–2,00					
1.2	100–140	80–120	0,90–1,20	1,50–2,00	1,50–2,00					
1.3	100–140	80–120	0,90–1,20	1,50–2,00	1,50–2,00					
1.4	100–140	80–120	0,90–1,20	1,50–2,00	1,50–2,00					
1.5	100–140	80–120	0,90–1,20	1,50–2,00	1,50–2,00					
1.6	100–140	80–120	0,90–1,20	1,50–2,00	1,50–2,00					
1.7	100–140	80–120	0,90–1,20	1,50–2,00	1,50–2,00					
1.8	30–45	30–45	0,60–0,80	1,00–1,40	1,00–1,40					
1.9	30–45	30–45	0,60–0,80	1,00–1,40	1,00–1,40					
1.10	30–45	30–45	0,60–0,80	1,00–1,40	1,00–1,40					
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4.1						150–300	150–300	1,00–1,40	1,70–2,40	1,70–2,40
4.2						150–300	150–300	1,00–1,40	1,70–2,40	1,70–2,40
4.3						200–300	150–300	1,00–1,40	1,70–2,40	1,70–2,40
4.4						200–300	150–300	1,00–1,40	1,70–2,40	1,70–2,40
4.5						200–300	150–300	1,00–1,40	1,70–2,40	1,70–2,40
4.6	80–150	80–120	0,80–1,20	1,40–2,00	1,40–2,00					
4.7	120–200	120–150	1,00–1,40	1,70–2,40	1,70–2,40					
4.8										
4.9										
4.10										
4.11	120–200	120–200	1,00–1,40	1,70–2,40	1,70–2,40					
4.12	120–200	120–200	1,00–1,40	1,70–2,40	1,70–2,40					
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The cutting data depends on the external conditions, e.g. stability of the tools and tool clamping, material and machine type.
The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

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Cutting data standard values for REAMAX

	Grade / coating	DST / CWC 10			DST / CWC 10				
	Article no. / type	40 525 ... / 640.93 – ASG3000			40 536 ... / 640.93 – ASG4000				
	Nominal Ø in mm	12–21,999	22–32,000	32,001–40	12–21,999	22–32,000	32,001–40		
	Reaming allowance Ø	0,10–0,30	0,20–0,40	0,20–0,40	0,10–0,30	0,20–0,40	0,20–0,40		
	Number of teeth	6	8	8	6	8	8		
Index	v_c m/min		f	f	f	v_c m/min		f	f	f
	3xD	5xD	mm/rev.	mm/rev.	mm/rev.	3xD	5xD	mm/rev.	mm/rev.	mm/rev.
1.1	150–200	120–160	0,90–1,20	1,50–2,00	1,50–2,00	150–200	120–160	1,10–1,40	1,80–2,40	1,80–2,40
1.2	150–200	120–160	0,90–1,20	1,50–2,00	1,50–2,00	150–200	120–160	1,10–1,40	1,80–2,40	1,80–2,40
1.3	150–200	120–160	0,90–1,20	1,50–2,00	1,50–2,00	150–200	120–160	1,10–1,40	1,80–2,40	1,80–2,40
1.4	150–200	120–160	0,90–1,20	1,50–2,00	1,50–2,00	150–200	120–160	1,10–1,40	1,80–2,40	1,80–2,40
1.5	150–200	120–160	0,90–1,20	1,50–2,00	1,50–2,00	150–200	120–160	1,10–1,40	1,80–2,40	1,80–2,40
1.6	150–200	120–160	0,90–1,20	1,50–2,00	1,50–2,00	150–200	120–160	1,10–1,40	1,80–2,40	1,80–2,40
1.7	150–200	120–160	0,90–1,20	1,50–2,00	1,50–2,00	150–200	120–160	1,10–1,40	1,80–2,40	1,80–2,40
1.8										
1.9	80–120	80–120	0,90–1,20	1,50–2,00	1,50–2,00	80–120	80–120	1,10–1,40	1,80–2,40	1,80–2,40
1.10	80–120	80–120	0,90–1,20	1,50–2,00	1,50–2,00	80–120	80–120	1,10–1,40	1,80–2,40	1,80–2,40
1.11	80–120	80–120	0,90–1,20	1,50–2,00	1,50–2,00	80–120	80–120	1,10–1,40	1,80–2,40	1,80–2,40
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3.3	175–300	150–180	1,00–1,40	1,80–2,40	1,80–2,40	175–300	150–180	1,20–1,60	1,50–2,00	2,00–2,70
3.4	150–250	120–160	1,00–1,40	1,80–2,40	1,80–2,40	120–180	120–150	1,20–1,60	1,50–2,00	2,00–2,70
3.5	150–250	120–160	1,00–1,40	1,80–2,40	1,80–2,40					
3.6	150–250	120–160	1,00–1,40	1,80–2,40	1,80–2,40					
3.7	120–180	120–150	0,90–1,20	1,50–2,00	1,50–2,00	120–180	120–150	1,00–1,30	1,20–1,70	1,70–2,30
3.8	120–180	120–150	0,90–1,20	1,50–2,00	1,50–2,00	120–180	120–150	1,00–1,30	1,20–1,70	1,70–2,30
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4.5										
4.6	150–300	150–200	1,00–1,40	1,70–2,40	1,70–2,40					
4.7	150–300	150–200	1,00–1,40	1,70–2,40	1,70–2,40					
4.8										
4.9										
4.10										
4.11	150–300	150–200	1,00–1,40	1,70–2,40	1,70–2,40					
4.12	150–300	150–200	1,00–1,40	1,70–2,40	1,70–2,40					
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The cutting data depends on the external conditions, e.g. stability of the tools and tool clamping, material and machine type.
The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

Cutting data standard values for REAMAX

Index	Grade / coating		HM-DBG-P / Ti700					HM-DBG-P / Ti700		
	Article no. / type		40 560 ... / 640.65 – ASG3000					40 551 ... / 640.65 – ASG0106		
	Nominal Ø in mm		12-21,999	22-32,000	32,001-40			12-21,999	22-32,000	32,001-40
	Reaming allowance Ø		0,10-0,30	0,20-0,40	0,20-0,40			0,10-0,30	0,20-0,40	0,20-0,40
	Number of teeth		6	8	8			6	8	8
	V_c m/min		f	f	f	V_c m/min		f	f	f
	3xD	5xD	mm/rev.	mm/rev.	mm/rev.	3xD	5xD	mm/rev.	mm/rev.	mm/rev.
1.1	**150–200**	**120–160**	0,90-1,20	1,50-2,00	1,50-2,00					
1.2	**150–200**	**120–160**	0,90-1,20	1,50-2,00	1,50-2,00					
1.3	**150–200**	**120–160**	0,90-1,20	1,50-2,00	1,50-2,00					
1.4	**150–200**	**120–160**	0,90-1,20	1,50-2,00	1,50-2,00					
1.5	**150–200**	**120–160**	0,90-1,20	1,50-2,00	1,50-2,00					
1.6	**150–200**	**120–160**	0,90-1,20	1,50-2,00	1,50-2,00					
1.7	**150–200**	**120–160**	0,90-1,20	1,50-2,00	1,50-2,00					
1.8	**80–120**	**80–100**	0,70-1,00	0,90-1,30	0,90-1,30					
1.9	**80–120**	**80–100**	0,70-1,00	0,90-1,30	0,90-1,30					
1.10	**80–120**	**80–100**	0,70-1,00	0,90-1,30	0,90-1,30					
1.11						**80–120**	**80–100**	0,70-1,00	0,90-1,30	0,90-1,30
1.12						**60–100**	**60–100**	0,70-1,00	0,90-1,30	0,90-1,30
1.13						**60–100**	**60–100**	0,70-1,00	0,90-1,30	0,90-1,30
1.14						**40–60**	**40–60**	0,60-0,80	0,90-1,10	0,90-1,10
1.15						**40–60**	**40–60**	0,60-0,80	0,90-1,10	0,90-1,10
1.16						**40–60**	**40–60**	0,60-0,80	0,90-1,10	0,90-1,10
2.1						**45–60**	**40–50**	0,70-0,90	1,20-1,60	1,20-1,60
2.2						**45–60**	**40–50**	0,70-0,90	1,20-1,60	1,20-1,60
2.3						**30–50**	**30–40**	0,70-0,90	1,20-1,60	1,20-1,60
2.4						**30–50**	**30–40**	0,70-0,90	1,20-1,60	1,20-1,60
2.5						**30–50**	**30–40**	0,70-0,90	1,20-1,60	1,20-1,60
2.6						**45–60**	**40–50**	0,70-0,90	1,20-1,60	1,20-1,60
2.7						**30–50**	**30–40**	0,70-0,90	1,20-1,60	1,20-1,60
3.1	**200–250**	**160–200**	1,00-1,40	1,30-1,90	1,30-1,90					
3.2	**200–250**	**160–200**	1,00-1,40	1,30-1,90	1,30-1,90					
3.3	**225–300**	**180–240**	1,00-1,40	1,30-1,90	1,30-1,90					
3.4	**120–150**	**100–120**	0,90-1,20	1,20-1,60	1,20-1,60					
3.5	**150–250**	**120–200**	0,90-1,20	1,20-1,60	1,20-1,60					
3.6	**150–250**	**120–200**	0,90-1,20	1,20-1,60	1,20-1,60					
3.7	**120–150**	**100–120**	0,90-1,20	1,20-1,60	1,20-1,60					
3.8	**120–150**	**100–120**	0,90-1,20	1,20-1,60	1,20-1,60					
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6.1						**40–60**	**40–60**	0,40-0,80	0,60-1,00	0,60-1,00
6.2						**40–60**	**40–60**	0,40-0,80	0,60-1,00	0,60-1,00
6.3						**30–50**	**30–50**	0,40-0,80	0,60-1,00	0,60-1,00
6.4						**30–50**	**30–50**	0,40-0,80	0,60-1,00	0,60-1,00
6.5										

The cutting data depends on the external conditions, e.g. stability of the tools and tool clamping, material and machine type.
The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

Cutting data for MultiChange exchange head reamers

	Coating	CWC 10			TiAlN			TiAlN		
	Article no.	40 210 ... / 40 211 ...			40 220 ... / 40 221 ...			40 230 ... / 40 231 ...		
	Nominal Ø in mm	8,0–12,59	12,6–29,99	30,0–30,20	8,0–12,59	12,6–29,99	30,0–30,20	8,0–12,59	12,6–18,59	18,6–30,20
	Reaming allowance Ø	0,15–0,3	0,2–0,4	0,2–0,4	0,15–0,3	0,15–0,3	0,15–0,3	0,15–0,4	0,2–0,5	0,2–0,5
	Number of teeth	4/6	6	8	4/6	6	8	4/6	6	8
Index	v_c m/min	f mm/rev.	f mm/rev.	f mm/rev.	f mm/rev.	f mm/rev.	f mm/rev.	f mm/rev.	f mm/rev.	f mm/rev.
1.1	120–200	0,60–1,00	0,90–1,50	1,20–2,00						
1.2	120–200	0,60–1,00	0,90–1,50	1,20–2,00						
1.3	120–200	0,60–1,00	0,90–1,50	1,20–2,00						
1.4	120–200	0,60–1,00	0,90–1,50	1,20–2,00						
1.5	120–200	0,60–1,00	0,90–1,50	1,20–2,00						
1.6	100–160	0,60–1,00	0,90–1,50	1,20–2,00						
1.7	100–160	0,60–1,00	0,90–1,50	1,20–2,00						
1.8	100–160	0,60–1,00	0,90–1,50	1,20–2,00						
1.9	100–160	0,60–1,00	0,90–1,50	1,20–2,00						
1.10	100–160	0,60–1,00	0,90–1,50	1,20–2,00						
1.11	100–160	0,60–1,00	0,90–1,50	1,20–2,00						
1.12	100–160	0,60–1,00	0,90–1,50	1,20–2,00						
1.13	100–160	0,60–1,00	0,90–1,50	1,20–2,00						
1.14	100–160	0,60–1,00	0,90–1,50	1,20–2,00						
1.15	80–140	0,60–1,00	0,90–1,50	1,20–2,00						
1.16	80–140	0,60–1,00	0,90–1,50	1,20–2,00						
2.1	20–40				0,32–0,60	0,48–0,90	0,64–1,20			
2.2	20–40				0,32–0,60	0,48–0,90	0,64–1,20			
2.3	20–40				0,32–0,60	0,48–0,90	0,64–1,20			
2.4	10–30				0,32–0,60	0,48–0,90	0,64–1,20			
2.5	20–40				0,32–0,60	0,48–0,90	0,64–1,20			
2.6	20–40				0,32–0,60	0,48–0,90	0,64–1,20			
2.7	10–20				0,32–0,60	0,48–0,90	0,64–1,20			
3.1	80–120							0,40–0,80	0,90–1,50	0,90–2,40
3.2	80–120							0,40–0,80	0,90–1,50	0,90–2,40
3.3	80–120							0,40–0,80	0,90–1,50	0,90–2,40
3.4	60–100							0,32–0,48	0,60–1,20	0,60–1,20
3.5	80–120							0,40–0,80	0,60–1,20	0,60–1,20
3.6	80–120							0,40–0,80	0,60–1,20	0,60–1,20
3.7	80–120							0,40–0,80	0,60–1,20	0,60–1,20
3.8	60–100							0,32–0,48	0,60–1,20	0,60–1,20
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4.9										
4.10										
4.11										
4.12	80–120				0,40–1,00	0,60–1,50	0,80–2,00			
4.13										
4.14										
4.15										
4.16										
4.17	10–30				0,24–0,72	0,36–1,08	0,48–1,44			
4.18										
4.19										
5.1	10–30				0,60–1,40	0,90–1,80	1,20–2,00			
5.2	10–30				0,60–1,50	0,90–1,80	1,20–2,00			
5.3	10–30				0,60–1,60	0,90–1,80	1,20–2,00			
5.4	10–30				0,60–1,70	0,90–1,80	1,20–2,00			
5.5	10–25				0,60–1,80	0,90–1,80	1,20–2,00			
5.6	10–25				0,60–1,90	0,90–1,80	1,20–2,00			
5.7	10–20				0,20–0,48	0,30–0,72	0,40–0,96			
5.8	10–20				0,20–0,48	0,30–0,72	0,40–0,96			
5.9	10–30				0,20–0,48	0,30–0,48	0,48–1,00			
5.10	10–30				0,20–0,48	0,30–0,48	0,48–1,00			
5.11	10–30				0,20–0,48	0,30–0,48	0,48–1,00			
6.1										
6.2										
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6.5										

The cutting data depends on the external conditions, e.g. stability of the tools and tool clamping, material and machine type.
The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

Cutting data for MultiChange exchange head reamers

	Coating	K10				PDC		
	Article no.	40 240 ... / 40 241 ...				40 245 ... / 40 246 ...		
	Nominal Ø in mm	8,0–12,59	12,6–29,99	30,0–30,20		8,0–12,59	12,6–29,99	30,0–30,20
	Reaming allowance Ø	0,15–0,5	0,15–0,5	0,15–0,5		0,15–0,5	0,15–0,5	0,15–0,5
	Number of teeth	4/6	6	8		4/6	6	8
Index	v_c m/min	f mm/rev.	f mm/rev.	f mm/rev.	v_c m/min	f mm/rev.	f mm/rev.	f mm/rev.
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3.8								
4.1	**100–300**	0,40–1,20	0,60–1,80	0,80–2,40	**100–500**	0,40–1,20	0,90–2,10	1,20–2,80
4.2	**100–300**	0,40–0,80	0,60–1,20	1,20–2,00	**100–500**	0,40–1,20	0,90–2,10	1,20–2,80
4.3	**100–300**	0,40–0,80	0,60–1,20	1,20–2,00				
4.4	**100–300**	0,40–0,80	0,60–1,20	1,20–2,00				
4.5					**100–200**	0,40–1,20	0,90–2,10	1,20–2,80
4.6	**50–100**	0,40–1,00	0,60–1,50	0,80–2,00				
4.7	**50–150**	0,40–1,00	0,60–1,50	0,80–2,00				
4.8								
4.9								
4.10	**15–40**	0,48–1,00	0,72–1,50	0,96–2,00				
4.11	**15–40**	0,48–1,00	0,72–1,50	0,96–2,00				
4.12								
4.13								
4.14								
4.15					**10–40**	0,10–0,32	0,15–0,48	0,20–0,64
4.16	**25–50**	0,40–1,00	0,60–1,50	0,80–2,00	**100–250**	0,10–0,25	0,60–1,50	0,80–2,00
4.17								
4.18	**10–25**	0,60–1,00	0,90–1,50	1,20–2,00				
4.19	**10–25**	0,60–1,00	0,90–1,50	1,20–2,00				
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The cutting data depends on the external conditions, e.g. stability of the tools and tool clamping, material and machine type.
The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

Cutting data standard values for Monomax

	Grade / coating	DBC						DBC			
	Article no. / type	40 648 ..., 40 649 ... / 56J.17, 56R.17 – ASG0706						40 640..., 40 641... / 56H.17, 56Q.17 – ASG0706			
	Nominal Ø in mm	5,60–8,89	8,90–12,00	12,01–22,00	22,01–25,89			5,60–8,89	8,90–12,00	12,01–22,00	22,01–25,89
	Reaming allowance Ø	0,10–0,20	0,10–0,30	0,20–0,30	0,20–0,40			0,10–0,20	0,10–0,30	0,20–0,30	0,20–0,40
	Number of teeth	4	6	6	6			4	6	6	6
Index	v_c m/min		f	f	f	f	v_c m/min		f	f	f	f
	3xD	5xD	mm/rev.	mm/rev.	mm/rev.	mm/rev.	3xD	5xD	mm/rev.	mm/rev.	mm/rev.	mm/rev.
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3.8												
4.1	150–300	150–200	0,40–0,60	0,60–0,90	0,80–1,20	1,10–1,50	150–300	150–200	0,40–0,60	0,60–0,90	0,80–1,20	1,10–1,50
4.2	150–300	150–200	0,40–0,60	0,60–0,90	0,80–1,20	1,10–1,50	150–300	150–200	0,40–0,60	0,60–0,90	0,80–1,20	1,10–1,50
4.3	200–300	150–200	0,40–0,60	0,60–0,90	0,80–1,20	1,10–1,50	200–300	150–200	0,40–0,60	0,60–0,90	0,80–1,20	1,10–1,50
4.4	200–300	150–200	0,40–0,60	0,60–0,90	0,80–1,20	1,10–1,50	200–300	150–200	0,40–0,60	0,60–0,90	0,80–1,20	1,10–1,50
4.5	200–300	150–200	0,40–0,60	0,60–0,90	0,80–1,20	1,10–1,50	200–300	150–200	0,40–0,60	0,60–0,90	0,80–1,20	1,10–1,50
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The cutting data depends on the external conditions, e.g. stability of the tools and tool clamping, material and machine type.
The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

Cutting data standard values for Monomax

	Grade / coating	HM-DBG-P / Ti700				HM-DBG-P / Ti700				
	Article no. / type	40 657 ... , 40 665 ... / 56H.65, 56Q.65 – ASG3000				40 652 ..., 40 653 ... / 56J.65, 56R.65 – ASG0106				
	Nominal Ø in mm	5,60–8,89	8,90–12,00	12,01–22,00	22,01–25,89	5,60–8,89	8,90–12,00	12,01–22,00	22,01–25,89	
	Reaming allowance Ø	0,10–0,20	0,10–0,30	0,20–0,30	0,20–0,40	0,10–0,20	0,10–0,30	0,20–0,30	0,20–0,40	
	Number of teeth	4	6	6	6	4	6	6	6	
Index	v_c m/min		f	f	f	v_c m/min		f	f	f	f
	3xD	5xD	mm/rev.	mm/rev.	mm/rev.	mm/rev.	3xD	5xD	mm/rev.	mm/rev.	mm/rev.	mm/rev.
1.1	150–200	120–160	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30						
1.2	150–200	120–160	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30						
1.3	150–200	120–160	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30						
1.4	150–200	120–160	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30						
1.5	150–200	120–160	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30						
1.6	150–200	120–160	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30						
1.7	150–200	120–160	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30						
1.8	80–120	80–100	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90						
1.9	80–120	80–100	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90						
1.10	80–120	80–100	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90						
1.11							80–120	80–100	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90
1.12							60–100	60–100	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90
1.13							60–100	60–100	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90
1.14							40–60	40–60	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90
1.15							40–60	40–60	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90
1.16							40–60	40–60	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90
2.1							45–60	40–50	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00
2.2							45–60	40–50	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00
2.3							30–50	30–40	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00
2.4							30–50	30–40	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00
2.5							30–50	30–40	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00
2.6							45–60	40–50	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00
2.7							30–50	30–40	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00
3.1	150–220	120–150	0,40–0,60	0,70–0,90	0,90–1,20	1,10–1,50						
3.2	150–220	120–150	0,40–0,60	0,70–0,90	0,90–1,20	1,10–1,50						
3.3	175–300	150–180	0,40–0,60	0,70–0,90	0,90–1,20	1,10–1,50						
3.4	120–180	120–150	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30						
3.5	150–250	120–160	0,40–0,60	0,70–0,90	0,90–1,20	1,10–1,50						
3.6	150–250	120–160	0,40–0,60	0,70–0,90	0,90–1,20	1,10–1,50						
3.7	120–180	120–150	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30						
3.8	120–180	120–150	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30						
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The cutting data greatly depends on the external conditions, the material and the machine.
The indicated values are possible cutting data, which may need to be increased or decreased according to the conditions.

4

Cutting data standard values for Monomax

	Grade / coating	DST / CWC 10				DST / CWC 10				
	Article no. / type	40 625 ..., 40 626 ... / 56J.93, 56R.93 – ASG3000				40 635 ... , 40 636 ... / 56J.93, 56R.93 – ASG4000				
	Nominal Ø in mm	5,60–8,89	8,90–12,00	12,01–22,00	22,01–25,89	5,60–8,89	8,90–12,00	12,01–22,00	22,01–25,89	
	Reaming allowance Ø	0,10–0,20	0,10–0,30	0,20–0,30	0,20–0,40	0,10–0,20	0,10–0,30	0,20–0,30	0,20–0,40	
	Number of teeth	4	6	6	6	4	6	6	6	
Index	v_c m/min		f	f	f	f	v_c m/min		f	f	f	f
	3xD	5xD	mm/rev.	mm/rev.	mm/rev.	mm/rev.	3xD	5xD	mm/rev.	mm/rev.	mm/rev.	mm/rev.
1.1	150–200	120–160	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30	150–200	120–160	0,40–0,60	0,70–0,90	0,90–1,20	1,20–1,50
1.2	150–200	120–160	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30	150–200	120–160	0,40–0,60	0,70–0,90	0,90–1,20	1,20–1,50
1.3	150–200	120–160	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30	150–200	120–160	0,40–0,60	0,70–0,90	0,90–1,20	1,20–1,50
1.4	150–200	120–160	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30	150–200	120–160	0,40–0,60	0,70–0,90	0,90–1,20	1,20–1,50
1.5	150–200	120–160	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30	150–200	120–160	0,40–0,60	0,70–0,90	0,90–1,20	1,20–1,50
1.6	150–200	120–160	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30	150–200	120–160	0,40–0,60	0,70–0,90	0,90–1,20	1,20–1,50
1.7	150–200	120–160	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30	150–200	120–160	0,40–0,60	0,70–0,90	0,90–1,20	1,20–1,50
1.8												
1.9	80–120	80–100	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90	80–120	80–100	0,40–0,60	0,70–0,90	0,90–1,20	1,20–1,50
1.10	80–120	80–100	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90	80–120	80–100	0,40–0,60	0,70–0,90	0,90–1,20	1,20–1,50
1.11	80–120	80–100	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90	80–120	80–100	0,40–0,60	0,70–0,90	0,90–1,20	1,20–1,50
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3.3	175–300	150–180	0,40–0,60	0,70–0,90	0,90–1,20	1,10–1,50	175–300	150–180	0,40–0,60	0,70–0,90	0,90–1,20	1,10–1,50
3.4	120–150	100–120	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30	120–180	120–150	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
3.5	150–250	120–200	0,40–0,60	0,70–0,90	0,90–1,20	1,10–1,50						
3.6	150–250	120–200	0,40–0,60	0,70–0,90	0,90–1,20	1,10–1,50						
3.7	120–180	120–150	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30	120–180	120–150	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
3.8	120–180	120–150	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30	120–180	120–150	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
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4.6	150–320	150–200	0,40–0,60	0,60–0,90	0,80–1,20	1,10–1,50						
4.7	150–320	150–200	0,40–0,60	0,60–0,90	0,80–1,20	1,10–1,50						
4.8												
4.9												
4.10												
4.11	150–320	150–200	0,40–0,60	0,60–0,90	0,80–1,20	1,10–1,50						
4.12	150–320	150–200	0,40–0,60	0,60–0,90	0,80–1,20	1,10–1,50						
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The cutting data greatly depends on the external conditions, the material and the machine.
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Cutting data standard values for Monomax

	Grade / coating	HM-DBG-P / Ti700				HM-TiN / CWN 10				
	Article no. / type	40 644 ..., 40 645 ... / 56H.65, 56Q.65 – ASG0106				40 605 ..., 40 606 ... / 56J.71, 56R.71 – ASG3000				
	Nominal Ø in mm	5,60–8,89	8,90–12,00	12,01–22,00	22,01–25,89	5,60–8,89	8,90–12,00	12,01–22,00	22,01–25,89	
	Reaming allowance Ø	0,10–0,20	0,10–0,30	0,20–0,30	0,20–0,40	0,10–0,20	0,10–0,30	0,20–0,30	0,20–0,40	
	Number of teeth	4	6	6	6	4	6	6	6	
Index	v_c m/min		f	f	f	f	v_c m/min		f	f	f	f
	3xD	5xD	mm/rev.	mm/rev.	mm/rev.	mm/rev.	3xD	5xD	mm/rev.	mm/rev.	mm/rev.	mm/rev.
1.1							100–140	80–120	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
1.2							100–140	80–120	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
1.3							100–140	80–120	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
1.4							100–140	80–120	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
1.5							100–140	80–120	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
1.6							100–140	80–120	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
1.7							100–140	80–120	0,30–0,50	0,50–0,70	0,70–1,00	0,90–1,30
1.8							30–45	30–45	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90
1.9							30–45	30–45	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90
1.10							30–45	30–45	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90
1.11	80–120	80–100	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90	30–45	30–45	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90
1.12	60–100	60–100	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90	30–45	30–45	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90
1.13	60–100	60–100	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90	30–45	30–45	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90
1.14	40–60	40–60	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90	30–45	30–45	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90
1.15	40–60	40–60	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90	30–45	30–45	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90
1.16	40–60	40–60	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90	30–45	30–45	0,20–0,30	0,40–0,50	0,50–0,70	0,60–0,90
2.1	45–60	40–50	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00						
2.2	45–60	40–50	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00						
2.3	30–50	30–40	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00						
2.4	30–50	30–40	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00						
2.5	30–50	30–40	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00						
2.6	45–60	40–50	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00						
2.7	30–50	30–40	0,30–0,40	0,40–0,60	0,60–0,80	0,70–1,00						
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4.6							80–150	80–120	0,40–0,60	0,60–0,90	0,80–1,20	1,10–1,50
4.7							120–200	120–150	0,40–0,60	0,60–0,90	0,80–1,20	1,10–1,50
4.8												
4.9												
4.10												
4.11							120–200	120–200	0,40–0,60	0,60–0,90	0,80–1,20	1,10–1,50
4.12							80–150	80–120	0,40–0,60	0,60–0,90	0,80–1,20	1,10–1,50
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The cutting data greatly depends on the external conditions, the material and the machine.
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4

Cutting data standard values for Fullmax

Type UNI		40 484 ... / 40 485 ... / 40 486 ... / 40 487 ...											
		Ø 2,97 - 4,05		Ø 4,06 - 6,05		Ø 6,06 - 7,55		Ø 7,56 - 12,05		Ø 12,06 - 16,05		Ø 16,06 - 20,05	
Number of teeth		4		4		6		6		6		6	
Index	v_c m/min	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm
1.1	180–250	0,60–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,60	0,20	1,40–1,80	0,20	1,50–1,90	0,20–0,30	1,80–2,20	0,30
1.2	180–250	0,60–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,60	0,20	1,40–1,80	0,20	1,50–1,90	0,20–0,30	1,80–2,20	0,30
1.3	180–250	0,60–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,60	0,20	1,40–1,80	0,20	1,50–1,90	0,20–0,30	1,80–2,20	0,30
1.4	180–250	0,60–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,60	0,20	1,40–1,80	0,20	1,50–1,90	0,20–0,30	1,80–2,20	0,30
1.5	180–250	0,60–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,60	0,20	1,40–1,80	0,20	1,50–1,90	0,20–0,30	1,80–2,20	0,30
1.6	180–250	0,60–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,60	0,20	1,40–1,80	0,20	1,50–1,90	0,20–0,30	1,80–2,20	0,30
1.7	180–250	0,60–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,60	0,20	1,40–1,80	0,20	1,50–1,90	0,20–0,30	1,80–2,20	0,30
1.8	80–120	0,40–0,50	0,10–0,20	0,40–0,60	0,10–0,20	0,90–1,10	0,20	1,00–1,20	0,20	1,00–1,30	0,20–0,30	1,30–1,50	0,30
1.9	80–120	0,40–0,50	0,10–0,20	0,40–0,60	0,10–0,20	0,90–1,10	0,20	1,00–1,20	0,20	1,00–1,30	0,20–0,30	1,30–1,50	0,30
1.10	80–120	0,40–0,50	0,10–0,20	0,40–0,60	0,10–0,20	0,90–1,10	0,20	1,00–1,20	0,20	1,00–1,30	0,20–0,30	1,30–1,50	0,30
1.11	80–120	0,40–0,50	0,10–0,20	0,40–0,60	0,10–0,20	0,90–1,10	0,20	1,00–1,20	0,20	1,00–1,30	0,20–0,30	1,30–1,50	0,30
1.12	60–100	0,40–0,50	0,10–0,20	0,40–0,60	0,10–0,20	0,90–1,10	0,20	1,00–1,20	0,20	1,00–1,30	0,20–0,30	1,30–1,50	0,30
1.13	60–100	0,40–0,50	0,10–0,20	0,40–0,60	0,10–0,20	0,90–1,10	0,20	1,00–1,20	0,20	1,00–1,30	0,20–0,30	1,30–1,50	0,30
1.14													
1.15	40–60	0,40–0,50	0,10–0,20	0,40–0,60	0,10–0,20	0,90–1,10	0,20	1,00–1,20	0,20	1,00–1,30	0,20–0,30	1,30–1,50	0,30
1.16	40–60	0,40–0,50	0,10–0,20	0,40–0,60	0,10–0,20	0,90–1,10	0,20	1,00–1,20	0,20	1,00–1,30	0,20–0,30	1,30–1,50	0,30
2.1	20–40	0,32–0,50	0,10–0,20	0,32–0,50	0,10–0,20	0,48–0,60	0,20	0,48–0,60	0,20	0,60–0,72	0,20–0,30	0,60–0,72	0,30
2.2	20–40	0,32–0,50	0,10–0,20	0,32–0,50	0,10–0,20	0,48–0,60	0,20	0,48–0,60	0,20	0,60–0,72	0,20–0,30	0,60–0,72	0,30
2.3	20–40	0,32–0,50	0,10–0,20	0,32–0,50	0,10–0,20	0,48–0,60	0,20	0,48–0,60	0,20	0,60–0,72	0,20–0,30	0,60–0,72	0,30
2.4	20–40	0,32–0,50	0,10–0,20	0,32–0,50	0,10–0,20	0,48–0,60	0,20	0,48–0,60	0,20	0,60–0,72	0,20–0,30	0,60–0,72	0,30
2.5	15–30	0,32–0,50	0,10–0,20	0,32–0,50	0,10–0,20	0,48–0,60	0,20	0,48–0,60	0,20	0,60–0,72	0,20–0,30	0,60–0,72	0,30
2.6	20–40	0,32–0,50	0,10–0,20	0,32–0,50	0,10–0,20	0,48–0,60	0,20	0,48–0,60	0,20	0,60–0,72	0,20–0,30	0,60–0,72	0,30
2.7	15–30	0,32–0,50	0,10–0,20	0,32–0,50	0,10–0,20	0,48–0,60	0,20	0,48–0,60	0,20	0,60–0,72	0,20–0,30	0,60–0,72	0,30
3.1	120–180	0,60–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,60	0,20	1,30–1,60	0,20	1,60–2,00	0,20–0,30	1,90–2,20	0,30
3.2	120–180	0,60–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,60	0,20	1,30–1,60	0,20	1,60–2,00	0,20–0,30	1,90–2,20	0,30
3.3	200–250	0,60–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,60	0,20	1,30–1,60	0,20	1,60–2,00	0,20–0,30	1,90–2,20	0,30
3.4	120–150	0,50–0,60	0,10–0,20	0,50–0,70	0,10–0,20	1,00–1,30	0,20	1,00–1,30	0,20	1,30–1,60	0,20–0,30	1,50–1,80	0,30
3.5	200–250	0,60–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,60	0,20	1,30–1,60	0,20	1,60–2,00	0,20–0,30	1,90–2,20	0,30
3.6	200–250	0,60–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,60	0,20	1,30–1,60	0,20	1,60–2,00	0,20–0,30	1,90–2,20	0,30
3.7	120–150	0,50–0,60	0,10–0,20	0,50–0,70	0,10–0,20	1,00–1,30	0,20	1,00–1,30	0,20	1,30–1,60	0,20–0,30	1,50–1,80	0,30
3.8	120–150	0,50–0,60	0,10–0,20	0,50–0,70	0,10–0,20	1,00–1,30	0,20	1,00–1,30	0,20	1,30–1,60	0,20–0,30	1,50–1,80	0,30
4.1													
4.2													
4.3													
4.4													
4.5													
4.6													
4.7													
4.8													
4.9													
4.10													
4.11	150–250	0,50–0,80	0,10–0,20	0,70–0,90	0,10–0,20	1,30–1,40	0,20	1,40–1,70	0,20	1,60–1,90	0,20–0,30	1,90–2,20	0,30
4.12	100–150	0,40–0,60	0,10–0,20	0,60–0,80	0,10–0,20	1,00–1,30	0,20	1,20–1,40	0,20	1,30–1,60	0,20–0,30	1,60–1,80	0,30
4.13													
4.14													
4.15													
4.16													
4.17													
4.18													
4.19													
5.1													
5.2													
5.3													
5.4	40–60	0,30–0,40	0,10–0,20	0,40–0,50	0,10–0,20	0,70–0,90	0,20	0,80–1,10	0,20	0,90–1,10	0,20–0,30	1,10–1,30	0,30
5.5	40–60	0,30–0,40	0,10–0,20	0,40–0,50	0,10–0,20	0,70–0,90	0,20	0,80–1,10	0,20	0,90–1,10	0,20–0,30	1,10–1,30	0,30
5.6													
5.7													
5.8	40–60	0,30–0,40	0,10–0,20	0,40–0,50	0,10–0,20	0,70–0,90	0,20	0,80–1,10	0,20	0,90–1,10	0,20–0,30	1,10–1,30	0,30
5.9	30–60	0,30–0,40	0,10–0,20	0,40–0,50	0,10–0,20	0,70–0,90	0,20	0,80–1,10	0,20	0,90–1,10	0,20–0,30	1,10–1,30	0,30
5.10	30–60	0,30–0,40	0,10–0,20	0,40–0,50	0,10–0,20	0,70–0,90	0,20	0,80–1,10	0,20	0,90–1,10	0,20–0,30	1,10–1,30	0,30
5.11	30–60	0,30–0,40	0,10–0,20	0,40–0,50	0,10–0,20	0,70–0,90	0,20	0,80–1,10	0,20	0,90–1,10	0,20–0,30	1,10–1,30	0,30
6.1	40–60	0,50–0,60	0,10–0,20	0,60–0,90	0,10–0,20	1,10–1,60	0,20	1,20–1,60	0,20	1,20–1,80	0,20–0,30	1,20–1,80	0,30
6.2	40–60	0,50–0,60	0,10–0,20	0,60–0,90	0,10–0,20	1,10–1,60	0,20	1,20–1,60	0,20	1,20–1,80	0,20–0,30	1,20–1,80	0,30
6.3	30–50	0,50–0,70	0,10–0,20	0,70–1,00	0,10–0,20	1,20–1,70	0,20	1,30–1,70	0,20	1,30–2,00	0,20–0,30	1,30–2,00	0,30
6.4	30–50	0,50–0,70	0,10–0,20	0,70–1,00	0,10–0,20	1,20–1,70	0,20	1,30–1,70	0,20	1,30–2,00	0,20–0,30	1,30–2,00	0,30
6.5													

The cutting data greatly depends on the external conditions, the material and the machine.
The indicated values are possible cutting data, which may need to be increased or decreased according to the conditions.

Cutting data standard values for Fullmax

Type K		40 477 ... / 40 478 ...											
		Ø 2,97 - 4,05		Ø 4,06 - 6,05		Ø 6,06 - 7,55		Ø 7,56 - 12,05		Ø 12,06 - 16,05		Ø 16,06 - 20,05	
Number of teeth		6		6		8		8		8		8	
Index	v_c m/min	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm
3.1	200–250	0,80–1,00	0,10–0,20	0,90–1,20	0,10–0,20	1,50–1,90	0,20	1,50–1,90	0,20	1,80–2,30	0,20–0,30	2,20–2,60	0,30
3.2	200–250	0,80–1,00	0,10–0,20	0,90–1,20	0,10–0,20	1,50–1,90	0,20	1,50–1,90	0,20	1,80–2,30	0,20–0,30	2,20–2,60	0,30
3.3	225–300	0,80–1,00	0,10–0,20	0,90–1,20	0,10–0,20	1,50–1,90	0,20	1,50–1,90	0,20	1,80–2,30	0,20–0,30	2,20–2,60	0,30
3.4	120–150	0,60–0,90	0,10–0,20	0,70–1,00	0,10–0,20	1,20–1,60	0,20	1,20–1,60	0,20	1,50–1,90	0,20–0,30	1,80–2,20	0,30
3.5	225–300	0,80–1,00	0,10–0,20	0,90–1,20	0,10–0,20	1,50–1,90	0,20	1,50–1,90	0,20	1,80–2,30	0,20–0,30	2,20–2,60	0,30
3.6	225–300	0,80–1,00	0,10–0,20	0,90–1,20	0,10–0,20	1,50–1,90	0,20	1,50–1,90	0,20	1,80–2,30	0,20–0,30	2,20–2,60	0,30
3.7	120–150	0,60–0,90	0,10–0,20	0,70–1,00	0,10–0,20	1,20–1,60	0,20	1,20–1,60	0,20	1,50–1,90	0,20–0,30	1,80–2,20	0,30
3.8	120–150	0,60–0,90	0,10–0,20	0,70–1,00	0,10–0,20	1,20–1,60	0,20	1,20–1,60	0,20	1,50–1,90	0,20–0,30	1,80–2,20	0,30

Type VA		40 401 ... / 40 402 ... / 40 403 ... / 40 404 ...											
		Ø 2,97 - 4,05		Ø 4,06 - 6,05		Ø 6,06 - 7,55		Ø 7,56 - 12,05		Ø 12,06 - 16,05		Ø 16,06 - 20,05	
Number of teeth		4		4		6		6		6		6	
Index	v_c m/min	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm
2.1	20–40	0,32–0,50	0,10–0,20	0,32–0,50	0,10–0,20	0,48–0,6	0,20	0,48–0,6	0,20	0,6–0,72	0,20–0,30	0,6–0,72	0,30
2.2	20–40	0,32–0,50	0,10–0,20	0,32–0,50	0,10–0,20	0,48–0,6	0,20	0,48–0,6	0,20	0,6–0,72	0,20–0,30	0,6–0,72	0,30
2.3	20–40	0,32–0,50	0,10–0,20	0,32–0,50	0,10–0,20	0,48–0,6	0,20	0,48–0,6	0,20	0,6–0,72	0,20–0,30	0,6–0,72	0,30
2.4	20–40	0,32–0,50	0,10–0,20	0,32–0,50	0,10–0,20	0,48–0,6	0,20	0,48–0,6	0,20	0,6–0,72	0,20–0,30	0,6–0,72	0,30
2.5	15–30	0,32–0,50	0,10–0,20	0,32–0,50	0,10–0,20	0,48–0,6	0,20	0,48–0,6	0,20	0,6–0,72	0,20–0,30	0,6–0,72	0,30
2.6	20–40	0,32–0,50	0,10–0,20	0,32–0,50	0,10–0,20	0,48–0,6	0,20	0,48–0,6	0,20	0,6–0,72	0,20–0,30	0,6–0,72	0,30
2.7	15–30	0,32–0,50	0,10–0,20	0,32–0,50	0,10–0,20	0,48–0,6	0,20	0,48–0,6	0,20	0,6–0,72	0,20–0,30	0,6–0,72	0,30

Type ALU		40 471 ... / 40 472 ... / 40 473 ... / 40 474 ...											
		Ø 2,97 - 4,05		Ø 4,06 - 6,05		Ø 6,06 - 7,55		Ø 7,56 - 12,05		Ø 12,06 - 16,05		Ø 16,06 - 20,05	
Number of teeth		4		4		6		6		6		6	
Index	v_c m/min	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm
4.1	200–300	0,50–0,60	0,10–0,20	0,60–0,90	0,10–0,20	1,10–1,60	0,20	1,20–1,60	0,20	1,20–1,80	0,20–0,30	1,20–1,80	0,30
4.2	200–300	0,50–0,60	0,10–0,20	0,60–0,90	0,10–0,20	1,10–1,60	0,20	1,20–1,60	0,20	1,20–1,80	0,20–0,30	1,20–1,80	0,30
4.3	200–300	0,50–0,70	0,10–0,20	0,70–1,00	0,10–0,20	1,20–1,70	0,20	1,30–1,70	0,20	1,30–2,00	0,20–0,30	1,30–2,00	0,30
4.4	200–250	0,50–0,70	0,10–0,20	0,70–1,00	0,10–0,20	1,20–1,70	0,20	1,30–1,70	0,20	1,30–2,00	0,20–0,30	1,30–2,00	0,30
4.5	200–250	0,50–0,70	0,10–0,20	0,70–1,00	0,10–0,20	1,20–1,70	0,20	1,30–1,70	0,20	1,30–2,00	0,20–0,30	1,30–2,00	0,30

Type H		40 475 ... / 40 476 ...											
		Ø 2,97 - 4,05		Ø 4,06 - 6,05		Ø 6,06 - 7,55		Ø 7,56 - 12,05		Ø 12,06 - 16,05		Ø 16,06 - 20,05	
Number of teeth		4		4		6		6		6		6	
Index	v_c m/min	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm
6.1	40–60	0,20–0,30	0,10–0,20	0,20–0,30	0,10–0,20	0,40–0,60	0,20	0,50–0,60	0,20	0,50–0,70	0,20	0,60–0,80	0,20
6.2	40–60	0,20–0,30	0,10–0,20	0,20–0,30	0,10–0,20	0,40–0,60	0,20	0,50–0,60	0,20	0,50–0,70	0,20	0,60–0,80	0,20
6.3	30–50	0,20–0,30	0,10	0,20–0,30	0,10	0,40–0,60	0,10	0,50–0,60	0,10	0,50–0,70	0,20	0,60–0,80	0,20
6.4	30–50	0,20–0,30	0,10	0,20–0,30	0,10	0,40–0,60	0,10	0,50–0,60	0,10	0,50–0,70	0,20	0,60–0,80	0,20

The cutting data greatly depends on the external conditions, the material and the machine.
The indicated values are possible cutting data, which may need to be increased or decreased according to the conditions.

Cutting data standard values for solid carbide reamers

	40 430 ...			40 420 ... / 40 421 ... / 40 430 ... / 40 431 ... / 40 410 ... / 40 400 ...							
	uncoated	to Ø 0.94 mm		uncoated	TiAlN	to Ø 5 mm		to Ø 8 mm		to Ø 10 mm	
Index	v_c m/min	f mm/rev.	Reaming allowance Ø mm	v_c m/min	v_c m/min	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm
1.1											
1.2	10–15	0,1–0,15	0,03–0,05	15–20	25–35	0,1–0,15	0,1	0,15	0,1–0,2	0,15	0,1–0,2
1.3											
1.4	8–12	0,1–0,15	0,03–0,05	12–15	20–30	0,1–0,15	0,1	0,15	0,1–0,2	0,15	0,1–0,2
1.5	10–15	0,1–0,15	0,03–0,05	15–20	25–35	0,1–0,15	0,1	0,15	0,1–0,2	0,15	0,1–0,2
1.6	8–12	0,1–0,15	0,03–0,05	12–15	20–30	0,1–0,15	0,1	0,15	0,1–0,2	0,15	0,1–0,2
1.7	10–15	0,1–0,15	0,03–0,05	15–20	25–35	0,1–0,15	0,1	0,15	0,1–0,2	0,15	0,1–0,2
1.8	8–12	0,1–0,15	0,03–0,05	12–15	20–30	0,1–0,15	0,1	0,15	0,1–0,2	0,15	0,1–0,2
1.9	10–15	0,1–0,15	0,03–0,05	15–20	25–35	0,1–0,15	0,1	0,15	0,1–0,2	0,15	0,1–0,2
1.10	8–12	0,1–0,15	0,03–0,05	12–15	20–30	0,1–0,15	0,1	0,15	0,1–0,2	0,15	0,1–0,2
1.11											
1.12											
1.13	6–8	0,1–0,15	0,03–0,05	8–12	12–20	0,1–0,15	0,1	0,15	0,1–0,2	0,15	0,1–0,2
1.14											
1.15											
1.16											
2.1											
2.2											
2.3											
2.4											
2.5											
2.6											
2.7											
3.1											
3.2	10–15	0,1–0,15	0,03–0,05	12–20	20–35	0,1–0,15	0,1	0,15–0,2	0,1–0,2	0,15–0,2	0,1–0,2
3.3	8–12	0,1–0,15	0,03–0,05	12–15	20–30	0,1–0,15	0,1	0,15–0,2	0,1–0,2	0,15–0,2	0,1–0,2
3.4	8–10	0,1–0,15	0,03–0,05	10–15	15–20	0,1–0,15	0,1	0,15–0,2	0,1–0,2	0,15–0,2	0,1–0,2
3.5											
3.6	10–15	0,1–0,15	0,03–0,05	12–20	20–35	0,1–0,15	0,1	0,15–0,2	0,1–0,2	0,15–0,2	0,1–0,2
3.7											
3.8											
4.1											
4.2	10–30	0,12–0,16	0,03–0,05	20–60		0,12–0,16	0,1–0,15	0,15–0,2	0,15–0,2	0,15–0,2	0,15–0,2
4.3											
4.4	10–15	0,12–0,16	0,03–0,05	20–30		0,12–0,16	0,1–0,15	0,15–0,2	0,15–0,2	0,15–0,2	0,15–0,2
4.5											
4.6	10–30	0,12–0,16	0,03–0,05	20–80		0,12–0,16	0,1–0,15	0,15–0,2	0,15–0,2	0,15–0,2	0,15–0,2
4.7	10–25	0,12–0,16	0,03–0,05	25–60		0,12–0,16	0,1–0,15	0,15–0,2	0,15–0,2	0,15–0,2	0,15–0,2
4.8											
4.9	8–15	0,12–0,16	0,03–0,05	15–30		0,12–0,16	0,1–0,15	0,15–0,2	0,15–0,2	0,15–0,2	0,15–0,2
4.10											
4.11											
4.12	10–25	0,12–0,16	0,03–0,05	20–50		0,12–0,16	0,1–0,15	0,15–0,2	0,15–0,2	0,15–0,2	0,15–0,2
4.13											
4.14											
4.15	6–10	0,12–0,16	0,03–0,05	10–15		0,12–0,16	0,1–0,15	0,15–0,2	0,15–0,2	0,15–0,2	0,15–0,2
4.16	6–10	0,06–0,1	0,03–0,05	15–20		0,06–0,1	0,05–0,1	0,1	0,1	0,15	0,1
4.17	5–10	0,06–0,1	0,03–0,05	10–20		0,06–0,1	0,05–0,1	0,1	0,1	0,15	0,1
4.18	5–8	0,06–0,1	0,03–0,05	7–12		0,06–0,1	0,05–0,1	0,1	0,1	0,15	0,1
4.19	5–8										
5.1											
5.2	8–12	0,06–0,1	0,03–0,05	10–20		0,06–0,1	0,05–0,1	0,1	0,1	0,15	0,1
5.3											
5.4											
5.5				8–10		0,06–0,1	0,05–0,1	0,1	0,1	0,15	0,1
5.6	5–8	0,06–0,1	0,03–0,05								
5.7				6–10		0,06–0,1	0,05–0,1	0,1	0,1	0,15	0,1
5.8	3–5	0,06–0,1	0,03–0,05	5–8		0,06–0,1	0,05–0,1	0,1	0,1	0,15	0,1
5.9	5–8	0,06–0,1	0,03–0,05	6–10		0,06–0,1	0,05–0,1	0,1	0,1	0,15	0,1
5.10											
5.11	3–5	0,06–0,1	0,03–0,05	6–8		0,06–0,1	0,05–0,1	0,1	0,1	0,15	0,1
6.1											
6.2											
6.3											
6.4											
6.5											

The cutting data depends on the external conditions, e.g. stability of the tools and tool clamping, material and machine type.
The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

Cutting data standard values for solid carbide reamers

	40 420 ... / 40 421 ... / 40 430 ... / 40 431 ... / 40 410 ... / 40 400 ...											
	uncoated	TiAlN	to Ø 12 mm		to Ø 15 mm		to Ø 20 mm		to Ø 25 mm		to Ø 30 mm	
Index	v_c m/min	v_c m/min	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm
1.1												
1.2	15–20	25–35	0,15–0,2	0,1–0,2	0,2–0,25	0,2–0,3	0,2–0,3	0,2–0,3	0,3–0,4	0,3	0,3–0,5	0,3–0,4
1.3												
1.4	12–15	20–30	0,15–0,2	0,1–0,2	0,2–0,25	0,2–0,3	0,2–0,3	0,2–0,3	0,3–0,4	0,3	0,3–0,5	0,3–0,4
1.5	15–20	25–35	0,15–0,2	0,1–0,2	0,2–0,25	0,2–0,3	0,2–0,3	0,2–0,3	0,3–0,4	0,3	0,3–0,5	0,3–0,4
1.6	12–15	20–30	0,15–0,2	0,1–0,2	0,2–0,25	0,2–0,3	0,2–0,3	0,2–0,3	0,3–0,4	0,3	0,3–0,5	0,3–0,4
1.7	15–20	25–35	0,15–0,2	0,1–0,2	0,2–0,25	0,2–0,3	0,2–0,3	0,2–0,3	0,3–0,4	0,3	0,3–0,5	0,3–0,4
1.8	12–15	20–30	0,15–0,2	0,1–0,2	0,2–0,25	0,2–0,3	0,2–0,3	0,2–0,3	0,3–0,4	0,3	0,3–0,5	0,3–0,4
1.9	15–20	25–35	0,15–0,2	0,1–0,2	0,2–0,25	0,2–0,3	0,2–0,3	0,2–0,3	0,3–0,4	0,3	0,3–0,5	0,3–0,4
1.10	12–15	20–30	0,15–0,2	0,1–0,2	0,2–0,25	0,2–0,3	0,2–0,3	0,2–0,3	0,3–0,4	0,3	0,3–0,5	0,3–0,4
1.11												
1.12												
1.13	8–12	12–20	0,15–0,2	0,1–0,2	0,2–0,25	0,2–0,3	0,2–0,3	0,2–0,3	0,3–0,4	0,3	0,3–0,5	0,3–0,4
1.14												
1.15												
1.16												
2.1												
2.2												
2.3												
2.4												
2.5												
2.6												
2.7												
3.1												
3.2	12–20	20–35	0,15–0,3	0,15–0,25	0,2–0,3	0,2–0,3	0,2–0,4	0,2–0,4	0,3–0,4	0,3–0,4	0,3–0,5	0,3–0,5
3.3	12–15	20–30	0,15–0,3	0,15–0,25	0,2–0,3	0,2–0,3	0,2–0,4	0,2–0,4	0,3–0,4	0,3–0,4	0,3–0,5	0,3–0,5
3.4	10–15	15–20	0,15–0,3	0,15–0,25	0,2–0,3	0,2–0,3	0,2–0,4	0,2–0,4	0,3–0,4	0,3–0,4	0,3–0,5	0,3–0,5
3.5												
3.6	12–20	20–35	0,15–0,3	0,15–0,25	0,2–0,3	0,2–0,3	0,2–0,4	0,2–0,4	0,3–0,4	0,3–0,4	0,3–0,5	0,3–0,5
3.7												
3.8												
4.1												
4.2	20–60		0,15–0,25	0,15–0,2	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,3–0,4	0,3–0,4	0,3–0,5	0,3–0,5
4.3												
4.4	20–30		0,15–0,25	0,15–0,2	0,2–0,3	0,2–0,3	0,2–0,3	0,2–0,3	0,3–0,4	0,3–0,4	0,3–0,5	0,3–0,5
4.5												
4.6	20–80		0,15–0,3	0,15–0,2	0,25–0,35	0,2–0,3	0,2–0,4	0,2–0,3	0,3–0,4	0,3–0,4	0,3–0,5	0,3–0,5
4.7	25–60		0,15–0,3	0,15–0,2	0,25–0,35	0,2–0,3	0,2–0,4	0,2–0,3	0,3–0,4	0,3–0,4	0,3–0,5	0,3–0,5
4.8												
4.9	15–30		0,15–0,3	0,15–0,2	0,25–0,35	0,2–0,3	0,2–0,4	0,2–0,3	0,3–0,4	0,3–0,4	0,3–0,5	0,3–0,5
4.10												
4.11												
4.12	20–50		0,15–0,3	0,15–0,2	0,25–0,35	0,2–0,3	0,2–0,4	0,2–0,3	0,3–0,4	0,3–0,4	0,3–0,5	0,3–0,5
4.13												
4.14												
4.15	10–15		0,15–0,3	0,15–0,2	0,25–0,35	0,2–0,3	0,2–0,4	0,2–0,3	0,3–0,4	0,3–0,4	0,3–0,5	0,3–0,5
4.16	15–20		0,15–0,2	0,15	0,2–0,25	0,2	0,2–0,3	0,2	0,25–0,35	0,3	0,3–0,35	0,3
4.17	10–20		0,15–0,2	0,15	0,2–0,25	0,2	0,2–0,3	0,2	0,25–0,35	0,3	0,3–0,35	0,3
4.18	7–12		0,15–0,2	0,15	0,2–0,25	0,2	0,2–0,3	0,2	0,25–0,35	0,3	0,3–0,35	0,3
4.19												
5.1												
5.2	10–20		0,15–0,2	0,15	0,2–0,25	0,2	0,2–0,3	0,2	0,25–0,35	0,3	0,3–0,35	0,3
5.3												
5.4												
5.5	8–10		0,15–0,2	0,15	0,2–0,25	0,2	0,2–0,3	0,2	0,25–0,35	0,3	0,3–0,35	0,3
5.6												
5.7	6–10		0,15–0,2	0,15	0,2–0,25	0,2	0,2–0,3	0,2	0,25–0,35	0,3	0,3–0,35	0,3
5.8	5–8		0,15–0,2	0,15	0,2–0,25	0,2	0,2–0,3	0,2	0,25–0,35	0,3	0,3–0,35	0,3
5.9	6–10		0,15–0,2	0,15	0,2–0,25	0,2	0,2–0,3	0,2	0,25–0,35	0,3	0,3–0,35	0,3
5.10												
5.11	6–8		0,15–0,2	0,15	0,2–0,25	0,2	0,2–0,3	0,2	0,25–0,35	0,3	0,3–0,35	0,3
6.1												
6.2												
6.3												
6.4												
6.5												

The cutting data depends on the external conditions, e.g. stability of the tools and tool clamping, material and machine type.
The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

4

Cutting data for HSS-E reamers

		40 110 ... / 40 115 ... / 40 139 ... / 40 140 ... 40 145 ... / 40 150 ... / 40 155 ... / 40 160 ...									
		to Ø 5 mm		to Ø 8 mm		to Ø 12 mm		to Ø 15 mm		to Ø 20 mm	
Index	v_c m/min	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm
1.1	18	0,1–0,15	0,1	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2
1.2 1.3	15	0,1–0,15	0,1	0,2–0,3	0,2–0,3	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2
1.4 1.5 1.6 1.7	12	0,1–0,15	0,1	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2
1.8	10	0,1–0,15	0,1	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2
1.9	14	0,1–0,15	0,1	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2
1.10	12	0,1–0,15	0,1	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2
1.11 1.12 1.13 1.14 1.15 1.16	10	0,1–0,15	0,1	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2
2.1	10	0,1–0,15	0,1	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2
2.2 2.3 2.4 2.5 2.6 2.7	8	0,1–0,15	0,1	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2
3.1 3.2	14	0,1–0,15	0,1	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2
3.3	12	0,1–0,15	0,1	0,2	0,2	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2
3.4	10	0,1–0,15	0,1	0,2	0,2	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2
3.5	12	0,1–0,15	0,1	0,2	0,2	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2
3.6	10	0,1–0,15	0,1	0,2	0,2	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2
3.7	12	0,1–0,15	0,1	0,2	0,2	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2
3.8	10	0,1–0,15	0,1	0,2	0,2	0,2–0,3	0,2	0,2–0,3	0,2	0,2–0,3	0,2
4.1 4.2 4.3	20	0,15	0,1	0,2	0,2	0,3	0,2	0,3	0,2	0,3	0,2
4.4	18	0,15	0,1	0,2	0,2	0,3	0,2	0,3	0,2	0,3	0,2
4.5	16	0,15	0,1	0,2	0,2	0,3	0,2	0,3	0,2	0,3	0,2
4.6 4.7 4.8 4.9 4.10 4.11 4.12	20	0,15	0,1	0,2	0,2	0,3	0,2	0,3	0,2	0,3	0,2
4.13 4.14	14	0,15	0,1	0,2	0,2	0,3	0,2	0,3	0,2	0,3	0,2
4.15	10	0,15	0,1	0,2	0,2	0,3	0,2	0,3	0,2	0,3	0,2
4.16	22	0,15	0,1	0,2	0,2	0,3	0,2	0,3	0,2	0,3	0,2
4.17											
4.18											
4.19											
5.1 5.2 5.3 5.4	6	0,1–0,15	0,1	0,2	0,2	0,25	0,2	0,3	0,2	0,4	0,3
5.5 5.6 5.7 5.8 5.9	5	0,1–0,15	0,1	0,2	0,2	0,25	0,25	0,3	0,2	0,4	0,3
5.10 5.11	3	0,1	0,1	0,1	0,2	0,12	0,2	0,15	0,2	0,2	0,2
6.1											
6.2											
6.3											
6.4											
6.5											

The cutting data depends on the external conditions, e.g. stability of the tools and tool clamping, material and machine type.
The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

Cutting data for HSS-E reamers

		40 110 ... / 40 115 ... / 40 139 ... / 40 140 ... 40 145 ... / 40 150 ... / 40 155 ... / 40 160 ...							
		to Ø 25 mm		to Ø 30 mm		to Ø 40 mm		to Ø 50 mm	
Index	v_c m/min	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm	f mm/rev.	Reaming allowance Ø mm
1.1	18	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4
1.2	15	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4
1.3									
1.4	12	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4
1.5									
1.6									
1.7									
1.8	10	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4
1.9	14	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4
1.10	12	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4
1.11	10	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4
1.12									
1.13									
1.14									
1.15									
1.16									
2.1	10	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4
2.2	8	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4
2.3									
2.4									
2.5									
2.6									
2.7									
3.1	14	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4
3.2									
3.3	12	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4
3.4	10	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4
3.5	12	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4
3.6	10	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4
3.7	12	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4
3.8	10	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4	0,3–0,5	0,4
4.1	20	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4
4.2									
4.3									
4.4	18	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4
4.5	16	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4
4.6	20	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4
4.7									
4.8									
4.9									
4.10									
4.11									
4.12									
4.13	14	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4
4.14									
4.15	10	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4
4.16	22	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4
4.17									
4.18									
4.19									
5.1	6	0,5	0,4	0,5	0,4	0,6	0,4	0,8	0,4
5.2									
5.3									
5.4									
5.5	5	0,5	0,4	0,5	0,4	0,6	0,4	0,8	0,4
5.6									
5.7									
5.8									
5.9									
5.10	3	0,25	0,3	0,25	0,3	0,3	0,4	0,3	0,4
5.11									
6.1									
6.2									
6.3									
6.4									
6.5									

The cutting data depends on the external conditions, e.g. stability of the tools and tool clamping, material and machine type.
The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

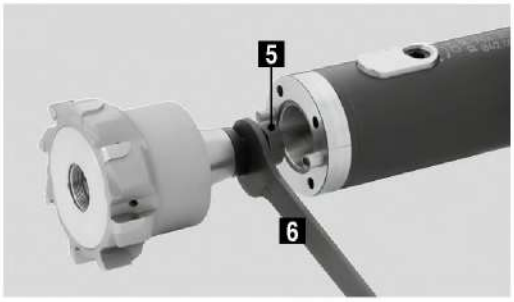
4

Cutting data for countersinks with irregular pitch

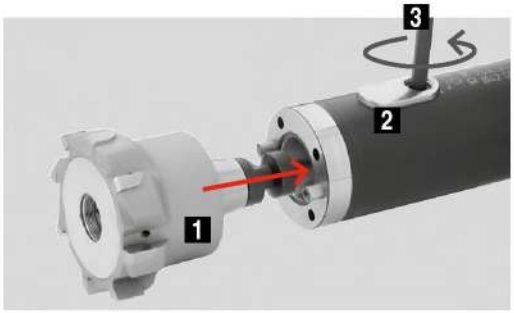
		30 116 ... TPX76S							30 140 ... Ti50					
		Ø 4,3–8,0 mm	Ø 8,00–12,4 mm	Ø 12,40–16,5 mm	Ø 16,5–20,5 mm	Ø 20,5–25,0 mm	Ø 25,0–31,0 mm		Ø 4,3–8,0 mm	Ø 8,0–12,4 mm	Ø 12,4–16,5 mm	Ø 16,5–20,5 mm	Ø 20,5–25,0 mm	Ø 25,0–31,0 mm
Index	v_c m/min	f in mm/rev.						v_c m/min	f in mm/rev.					
1.1	60	0,08	0,1	0,12	0,14	0,18	0,22	36	0,08	0,10	0,12	0,14	0,18	0,22
1.2	60	0,08	0,1	0,12	0,14	0,18	0,22	36	0,08	0,10	0,12	0,14	0,18	0,22
1.3	60	0,08	0,1	0,12	0,14	0,18	0,22	36	0,08	0,1	0,12	0,14	0,18	0,22
1.4	50	0,06	0,08	0,1	0,12	0,14	0,18	36	0,08	0,1	0,12	0,14	0,18	0,22
1.5	50	0,06	0,08	0,1	0,12	0,14	0,18	36	0,08	0,1	0,12	0,14	0,18	0,22
1.6	50	0,06	0,08	0,1	0,12	0,14	0,18	36	0,08	0,1	0,12	0,14	0,18	0,22
1.7	50	0,06	0,08	0,1	0,12	0,14	0,18	30	0,06	0,08	0,1	0,12	0,14	0,18
1.8	40	0,04	0,05	0,06	0,1	0,12	0,16	30	0,06	0,08	0,1	0,12	0,14	0,18
1.9	50	0,06	0,08	0,1	0,12	0,14	0,18	36	0,08	0,1	0,12	0,14	0,18	0,22
1.10	40	0,04	0,05	0,06	0,1	0,12	0,16	36	0,08	0,1	0,12	0,14	0,18	0,22
1.11	40	0,04	0,05	0,06	0,1	0,12	0,16	36	0,08	0,1	0,12	0,14	0,18	0,22
1.12	40	0,04	0,05	0,06	0,1	0,12	0,16	30	0,06	0,08	0,1	0,12	0,14	0,18
1.13	40	0,04	0,05	0,06	0,1	0,12	0,16	8	0,04	0,05	0,06	0,08	0,10	0,12
1.14	40	0,04	0,05	0,06	0,1	0,12	0,16	12	0,04	0,05	0,06	0,08	0,10	0,12
1.15	40	0,04	0,05	0,06	0,1	0,12	0,16	12	0,04	0,05	0,06	0,08	0,10	0,12
1.16	40	0,04	0,05	0,06	0,1	0,12	0,16	12	0,04	0,05	0,06	0,08	0,10	0,12
2.1	30	0,05	0,06	0,07	0,08	0,09	0,12	10	0,05	0,06	0,07	0,08	0,09	0,12
2.2	30	0,05	0,06	0,07	0,08	0,09	0,12	10	0,05	0,06	0,07	0,08	0,09	0,12
2.3	25	0,05	0,06	0,07	0,08	0,09	0,12	10	0,05	0,06	0,07	0,08	0,09	0,12
2.4	25	0,05	0,06	0,07	0,08	0,09	0,12	10	0,05	0,06	0,07	0,08	0,09	0,12
2.5	30	0,05	0,06	0,07	0,08	0,09	0,12	10	0,05	0,06	0,07	0,08	0,09	0,12
2.6	30	0,05	0,06	0,07	0,08	0,09	0,12	10	0,05	0,06	0,07	0,08	0,09	0,12
2.7	25	0,05	0,06	0,07	0,08	0,09	0,12	10	0,05	0,06	0,07	0,08	0,09	0,12
3.1	50	0,1	0,12	0,14	0,18	0,2	0,25	14	0,1	0,12	0,14	0,18	0,2	0,25
3.2	45	0,1	0,12	0,14	0,18	0,2	0,25	14	0,1	0,12	0,14	0,18	0,2	0,25
3.3	45	0,1	0,12	0,14	0,18	0,2	0,25	14	0,1	0,12	0,14	0,18	0,2	0,25
3.4	45	0,1	0,12	0,14	0,18	0,2	0,25	12	0,1	0,12	0,14	0,18	0,2	0,25
3.5	35	0,1	0,12	0,14	0,18	0,2	0,25	14	0,1	0,12	0,14	0,18	0,2	0,25
3.6	35	0,1	0,12	0,14	0,18	0,2	0,25	14	0,1	0,12	0,14	0,18	0,2	0,25
3.7	35	0,1	0,12	0,14	0,18	0,2	0,25	14	0,1	0,12	0,14	0,18	0,2	0,25
3.8	35	0,1	0,12	0,14	0,18	0,2	0,25	14	0,1	0,12	0,14	0,18	0,2	0,25
4.1	80	0,1	0,12	0,14	0,18	0,22	0,26	42	0,08	0,1	0,12	0,14	0,18	0,22
4.2	80	0,1	0,12	0,14	0,18	0,22	0,26	42	0,08	0,1	0,12	0,14	0,18	0,22
4.3	80	0,1	0,12	0,14	0,18	0,22	0,26	42	0,08	0,1	0,12	0,14	0,18	0,22
4.4	60	0,1	0,12	0,14	0,18	0,22	0,26							
4.5	60	0,1	0,12	0,14	0,18	0,22	0,26							
4.6	70	0,12	0,14	0,18	0,2	0,24	0,30	42	0,1	0,12	0,14	0,18	0,2	0,24
4.7	70	0,12	0,14	0,18	0,2	0,24	0,30	42	0,1	0,12	0,14	0,18	0,2	0,24
4.8	70	0,12	0,14	0,18	0,2	0,24	0,30	42	0,1	0,12	0,14	0,18	0,2	0,24
4.9	70	0,12	0,14	0,18	0,2	0,24	0,30	42	0,1	0,12	0,14	0,18	0,2	0,24
4.10	70	0,12	0,14	0,18	0,2	0,24	0,30	42	0,1	0,12	0,14	0,18	0,2	0,24
4.11	70	0,12	0,14	0,18	0,2	0,24	0,30	42	0,1	0,12	0,14	0,18	0,2	0,24
4.12	70	0,12	0,14	0,18	0,2	0,24	0,30	42	0,1	0,12	0,14	0,18	0,2	0,24
4.13	70	0,12	0,14	0,18	0,2	0,24	0,3	42	0,12	0,14	0,18	0,20	0,24	0,30
4.14	70	0,12	0,14	0,18	0,2	0,24	0,30	42	0,12	0,14	0,18	0,20	0,24	0,30
4.15	25	0,1	0,12	0,14	0,18	0,2	0,25							
4.16														
4.17	25	0,1	0,12	0,14	0,18	0,2	0,25							
4.18	15	0,05	0,06	0,07	0,08	0,09	0,12							
4.19	15	0,05	0,06	0,07	0,08	0,09	0,12							
5.1	25	0,05	0,06	0,07	0,08	0,09	0,12	10	0,05	0,06	0,07	0,08	0,09	0,12
5.2	25	0,05	0,06	0,07	0,08	0,09	0,12	10	0,05	0,06	0,07	0,08	0,09	0,12
5.3	25	0,05	0,06	0,07	0,08	0,09	0,12	10	0,05	0,06	0,07	0,08	0,09	0,12
5.4	25	0,05	0,06	0,07	0,08	0,09	0,12	10	0,05	0,06	0,07	0,08	0,09	0,12
5.5	25	0,05	0,06	0,07	0,08	0,09	0,12	10	0,05	0,06	0,07	0,08	0,09	0,12
5.6	25	0,05	0,06	0,07	0,08	0,09	0,12	10	0,05	0,06	0,07	0,08	0,09	0,12
5.7	25	0,05	0,06	0,07	0,08	0,09	0,12	10	0,05	0,06	0,07	0,08	0,09	0,12
5.8	25	0,05	0,06	0,07	0,08	0,09	0,12	10	0,05	0,06	0,07	0,08	0,09	0,12
5.9	25	0,05	0,06	0,07	0,08	0,09	0,12							
5.10	15	0,05	0,06	0,07	0,08	0,09	0,12							
5.11	15	0,05	0,06	0,07	0,08	0,09	0,12							
6.1	12	0,05	0,06	0,07	0,08	0,09	0,12							
6.2	8	0,05	0,06	0,07	0,08	0,09	0,12							
6.3	8	0,05	0,06	0,07	0,08	0,09	0,12							
6.4	8	0,05	0,06	0,07	0,08	0,09	0,12							
6.5														

The cutting data depends on the external conditions, e.g. stability of the tools and tool clamping, material and machine type.
The indicated values are possible cutting data which have to be increased or reduced according to the application conditions.

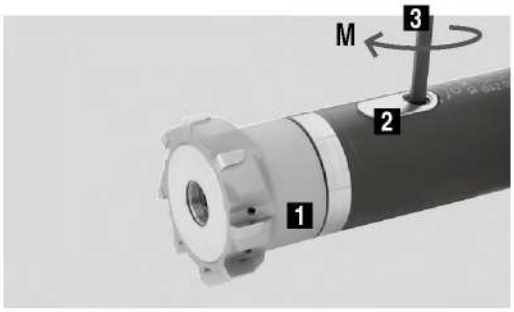
REAMAX TS – Assembly instructions



Clean the Morse taper adapter/face contact → grease-free.
Screw the pull stud (5) into the reaming head and tighten using the open-ended spanner (6).

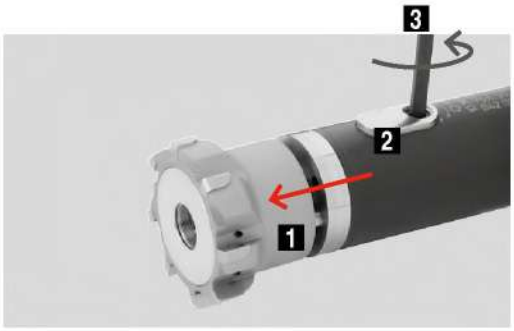


Use key (3) to open jaws (2), but do not fully release, and insert reaming head (1).

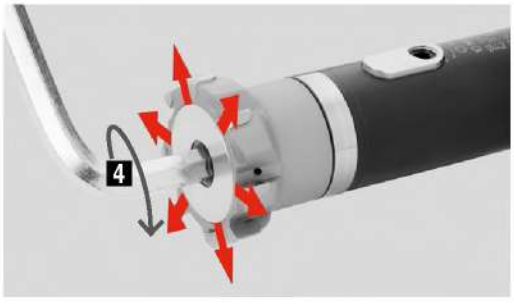


Use the key (3) to close the jaws (2), observe the recommended tightening torque. When inserting the reaming head (1), this is pulled into its final position when the jaws (2) are closed.

x Range	Tightening torque (M)
18,000 - 19,999	1,5 Nm
20,000 - 21,999	2,5 Nm
22,000 - 26,999	4 Nm
27,000 - 34,999	5 Nm
35,000 - 41,999	6 Nm
42,000 - 51,999	10 Nm
52,000 - 70,000	13 Nm



When removing the reamer head (1), this is pressed out of its position by the jaws (2) and can thus be easily removed from the holder:
Use key (3) to open the jaws (2) but do not fully release, and remove reamer head (1).



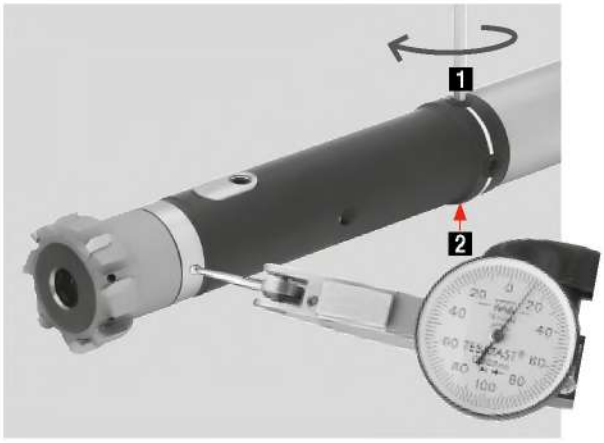
Adjustment for wear compensation:
The smallest drilling tolerances up to IT 4 can be achieved through adjustment with the hex key (4).

REAMAX TS – Operating instructions

Aligning the DAH Zero holder

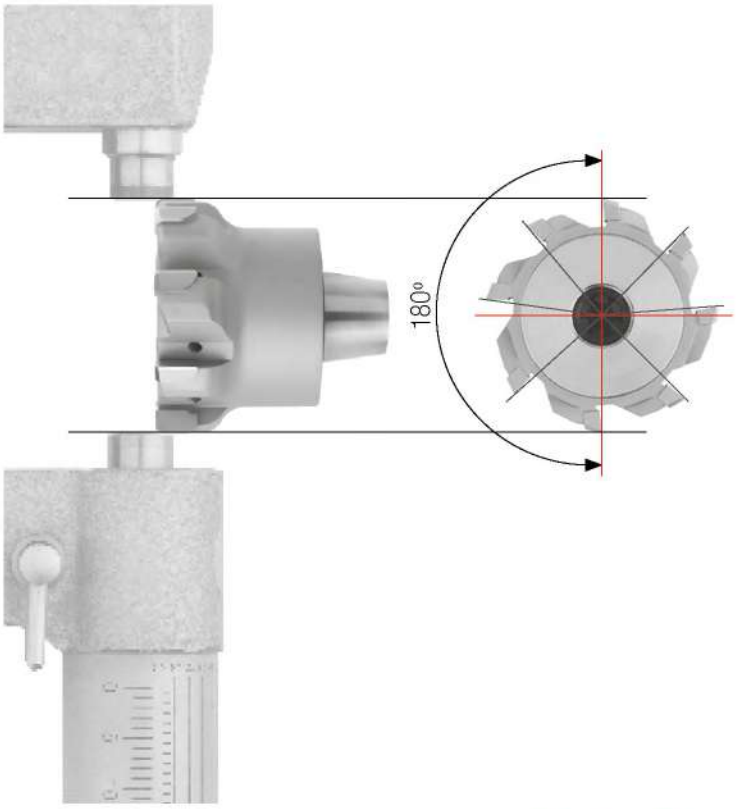
The tool is recommended for radial alignment of max. 20 µm.

1. Loosen all adjustment screws and pre-load with 1 Nm (new tools are already supplied like this).
2. Place dial gauge with µm display on the ground bezel diameter.
3. Turn the tool to determine the point with the largest runout error using the dial gauge.
4. Adjust the corresponding adjustment screw with the hex key clockwise (1) until half the runout error has been corrected. In doing so, over-tighten by approx. 5 µm.
5. Release the opposite adjustment screw (2) by the over-tightened amount.
6. Adjust all 4 adjustment screws until the runout is < 2 µm.

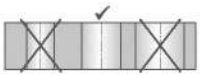


Please note:
- the runout must be checked and if necessary re-aligned after an adapter changeover, change of application, after any adjustment for wear compensation and before every re-commissioning, using adjustment steps 1 to 6
- adjustment screws must always be tightened during usage with at least 1 Nm
- the max. re-adjustment torque is 4.5 Nm

Caution!
- uneven angle distribution!
- there are 2 cutting edges 180° opposite each other = measuring teeth
- measure the diameter at the front on the cutting edge (due to back taper, see diagram)
- avoid damage to the cutting edge

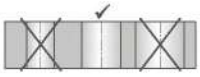


Problems / possible causes / solutions



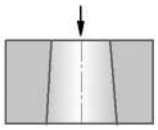
Hole too large

- runout error for reamer in the spindle → use DAH compensation system and correct runout
- inaccurate alignment, reamer back-cuts → correct alignment and use DPS floating holder
- built-up edge → reduce cutting speed v_c for uncoated carbide cutting material, increase it for DST and coated cutting material or increase the oil content of the coolant
- reamer too large → have reamer adapted



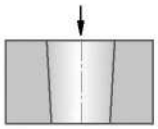
Hole too small

- worn reamer → have reamer adjusted, replaced or repaired
- reaming allowance too small → increase reaming allowance
- cutting force too high → reduce feed or select other lead geometry (ASG)
- reamer too small → have reamer adjusted, replaced or repaired



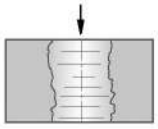
Conical hole, tapered backwards

- inaccurate alignment → correct alignment and use DPS floating holder
- misalignment between headstock and turret → correct turret and use DPS floating holder



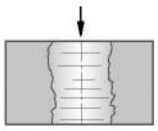
Conical hole, tapered forwards

- poor alignment, cutting edges push initially → correct alignment and use DPS floating holder



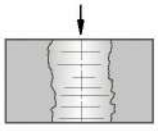
Hole is not round

- reamer runout error too large → correct the runout with DAH compensation system
- alignment error → correct alignment error and use DPS floating holder
- asymmetric initial cutting through angled entry surface → countersink hole
- workpiece tensioning → correct clamping of the workpieces
- poor pre-machining → optimise pre-machining
- feed too high → reduce feed



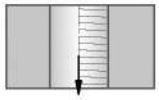
Hole exhibits chatter marks

- cutting speed v_c too high → reduce cutting speed
- OAL to DC ratio too high→ reduce the speed of entry, pilot the bore or select other lead geometry (ASG)



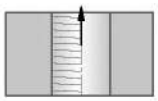
Non clean-up

- built-up edge → reduce cutting speed v_c for uncoated carbide cutting material, increase it for DST and coated cutting material or increase the oil content of the coolant
- cutting edge worn→ have cutting edge repaired or replace the tool
- reamer runout error → correct the runout with DAH compensation system
- no or insufficient cooling, chips are getting trapped → use thro' coolant supply and increase coolant pressure
- unsuitable coolant → increase the oil content of the coolant
- incorrect cutting data→ use data according to catalogue recommendation



Grooves in the hole "feed marking"

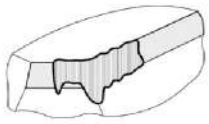
- faulty cutting edge (edge breakage) → have reamer replaced or repaired
- built-up edges → reduce cutting speed v_c for uncoated carbide cutting material, increase it for DST and coated cutting material or increase the oil content of the coolant



Grooves in the hole "retraction marking"

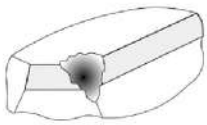
- cutting edges moved too far out of the hole → move no more than lead length + 2 mm out of the hole
- material springs back → do not retract at high speed but with increased (2-3 times) feed rate

Types of wear



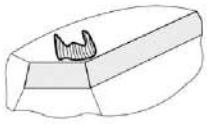
Wear on clearance face

Reduce the cutting speed and select a more wear resistant cutting material or coating.



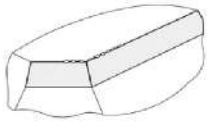
Cutting edge breakage

Reduce feed and reaming allowance. In the case of interrupted holes, use coated carbide instead of DST.



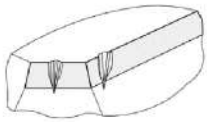
Cratering

Reduce the cutting speed and use a positive cutting edge geometry.



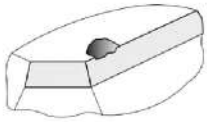
Edge breakages

Increase the cutting speed and use larger rake angle.



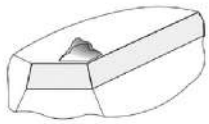
Notch wear

Reduce the cutting speed and select a more wear resistant cutting material or coating.



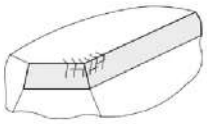
Fatigue fracture

Reduce feed, increase reamer stability.



Built-up edge

Use positive cutting edge geometry, increase the oil content of the coolant, reduce the cutting speed v_c for uncoated carbide cutting material, increase it for DST and coated cutting material.



Cracks at right angles to the cutting edge

Use sufficient coolant and thro' coolant, reduce the cutting speed.

Tolerance classes covered with 1/100 reamer

The most common tolerance is H7, so most reamers configured for an H7 fit tolerance.
With the 1/100 reamers, increments of 0.01 mm can be covered, but are also suitable for various other dimensions.
For example, a 1/100 reamer diameter 8.02 mm can be used for a 8.0 fit F7.
Other fit sizes shown in the table.

Tolerance zone	Nominal Ø in mm											
	1,0	2,0	3,0	4,0	5,0	6,0	7,0	8,0	9,0	10,0	11,0	12,0
A9				4,29	5,29	6,29	7,30	8,30	9,30	10,30	11,32	12,32
A11	1,31	2,31	3,31	4,32	5,32	6,32	7,35	8,35	9,35	10,35	11,37	12,37
B8				4,15	5,15	6,15	7,16	8,16	9,16	10,16		
B9				4,16	5,16	6,16	7,17	8,17	9,17	10,17	11,18	12,18
B10	1,17	2,17	3,17	4,17	5,17	6,17	7,19	8,19	9,19	10,19	11,20	12,20
B11	1,18	2,18	3,18	4,19	5,19	6,19	7,22	8,22	9,22	10,22	11,23	12,23
C8				4,08	5,08	6,08	7,09	8,09	9,09	10,09	11,11	12,11
C9	1,07	2,07	3,07	4,09	5,09	6,09	7,10	8,10	9,10	10,10	11,12	12,12
C10	1,09	2,09	3,09	4,10	5,10	6,10	7,12	8,12	9,12	10,12	11,14	12,14
C11	1,10	2,10	3,10	4,12	5,12	6,12	7,15	8,15	9,15	10,15	11,18	12,18
D7											11,06	12,06
D8				4,04	5,04	6,04	7,05	8,05	9,05	10,05	11,06	12,06
D9				4,05	5,05	6,05	7,06	8,06	9,06	10,06	11,08	12,08
D10	1,05	2,05	3,05	4,06	5,06	6,06	7,08	8,08	9,08	10,08	11,10	12,10
D11	1,06	2,06	3,06	4,08	5,08	6,08	7,10	8,10	9,10	10,10	11,13	12,13
E7							7,03	8,03	9,03	10,03	11,04	12,04
E8	1,02	2,02	3,02	4,03	5,03	6,03	7,04	8,04	9,04	10,04	11,05	12,05
E9	1,03	2,03	3,03	4,04	5,04	6,04	7,05	8,05	9,05	10,05	11,06	12,06
F7	1,01	2,01	3,01				7,02	8,02	9,02	10,02	11,02	12,02
F8	1,01	2,01	3,01	4,02	5,02	6,02	7,02	8,02	9,02	10,02	11,03	12,03
F9	1,02	2,02	3,02	4,03	5,03	6,03	7,03	8,03	9,03	10,03	11,04	12,04
F10				4,04	5,04	6,04	7,05	8,05	9,05	10,05	11,07	12,07
G7				4,01	5,01	6,01	7,01	8,01	9,01	10,01		
H7										10,01	11,01	12,01
H8				4,01	5,01	6,01	7,01	8,01	9,01	10,01	11,02	12,02
H9	1,01	2,01	3,01	4,02	5,02	6,02	7,02	8,02	9,02	10,02	11,03	12,03
H10	1,03	2,03	3,03	4,03	5,03	6,03	7,04	8,04	9,04	10,04	11,05	12,05
H11	1,04	2,04	3,04	4,05	5,05	6,05	7,06	8,06	9,06	10,06	11,08	12,08
H12	1,07	2,07	3,07	4,08	5,08	6,08	7,10	8,10	9,10	10,10	11,13	12,13
H13	1,11	2,11	3,11	4,14	5,14	6,14	7,18	8,18	9,18	10,18	11,22	12,22
J6				4,00	5,00	6,00	7,00	8,00	9,00	10,00	11,00	12,00
J7				4,00	5,00	6,00	7,00	8,00	9,00	10,00	11,00	12,00
J8	1,00	2,00	3,00	4,00	5,00	6,00	7,00	8,00	9,00	10,00	11,00	12,00
JS7				4,00	5,00	6,00	7,00	8,00	9,00	10,00	11,00	12,00
JS8	1,00	2,00	3,00	4,00	5,00	6,00	7,00	8,00	9,00	10,00	11,00	12,00
JS9	1,00	2,00	3,00	4,00	5,00	6,00	7,00	8,00	9,00	10,00	11,01	12,01
K8	0,99	1,99	2,99				6,99	7,99	8,99	9,99	10,99	11,99
M6							6,99	7,99	8,99	9,99	10,99	11,99
M7							6,99	7,99	8,99	9,99	10,99	11,99
M8	0,99	1,99	2,99	3,99	4,99	5,99	6,99	7,99	8,99	9,99	10,99	11,99
N6				3,99	4,99	5,99						
N7	0,99	1,99	2,99	3,99	4,99	5,99	6,99	7,99	8,99	9,99	10,99	11,99
N8	0,99	1,99	2,99	3,99	4,99	5,99	6,99	7,99	8,99	9,99	10,98	11,98
N9	0,98	1,98	2,98	3,99	4,99	5,99	6,99	7,99	8,99	9,99	10,98	11,98
N10	0,98	1,98	2,98	3,98	4,94	5,98	6,98	7,98	8,98	9,98	10,98	11,98
N11	0,98	1,98	2,98	3,98	4,94	5,98	6,98	7,98	8,98	9,98	10,97	11,97
P6	0,99	1,99	2,99								10,98	11,98
P7	0,99	1,99	2,99				6,98	7,98	8,98	9,98	10,98	11,98
P8	0,99	1,99	2,99	3,98	4,98	5,98					10,97	11,97
R6							6,98	7,98	8,98	9,98		
R7				3,98	4,98	5,98	6,98	7,98	8,98	9,98	10,97	11,97
S6				3,98	4,98	5,98					10,97	11,97
S7	0,98	1,98	2,98	3,98	4,98	5,98	6,97	7,97	8,97	9,97	10,97	11,97
U6							6,97	7,97	8,97	9,97		
U7				3,97	4,97	5,97	6,97	7,97	8,97	9,97		
X7				3,97	4,97	5,97						
X8	0,97	1,97	2,97				6,96	7,96	8,96	9,96	10,95	11,95
X9	0,97	1,97	2,97	3,96	4,96	5,96	6,95	7,95	8,95	9,95		
Z7	0,97	1,97	2,97	3,96	4,96	5,96	6,96	7,96	8,96	9,96	10,95	11,95
Z8	0,97	1,97	2,97	3,96	4,96	5,96	6,95	7,95	8,95	9,95	10,94	11,94
Z9				3,95	4,95	5,95						
Z10	0,96	1,96	2,96	3,95	4,95	5,95	6,94	7,94	8,94	9,94	10,93	11,93
ZA7	0,96	1,96	2,96	3,95	4,95	5,95	6,94	7,94	8,94	9,94		
ZA8							6,94	7,94	8,94	9,94	10,93	11,93
ZB8	0,95	1,95	2,95	3,94	4,94	5,94					10,90	11,90
ZB9	0,95	1,95	2,95	3,94	4,94	5,94	6,92	7,92	8,92	9,92	10,90	11,90

Coatings

AlTiN
- ▲ AlTiN nanolayer coating
- ▲ maximum application temperature: 1100 °C

Ti700
- ▲ TiAlN multilayer coating
- ▲ maximum application temperature: 1100 °C

DBC / **DLC**
- ▲ diamond-like carbon coating
- ▲ specially for machining non-ferrous metals
- ▲ maximum application temperature: 400 °C

DBG-P / **TiAlN**
- ▲ TiAlN multilayer coating
- ▲ maximum application temperature: 900 °C

Ti50
- ▲ TiN multilayer coating
- ▲ maximum application temperature: 400 °C

TiN / **CWN10**
- ▲ TiN coating
- ▲ maximum application temperature: 450 °C

TPX76S
- ▲ TiN-TiAlN-ZrN Monolayer coating
- ▲ maximum application temperature: 800 °C

Type

AMZ
- ▲ carbide, TiAlN-coated
- ▲ ISO | P10 | K10 | **N10** | S10
- ▲ the coated carbide grade for aluminium machining

CWN15
- ▲ carbide, TiN-coated
- ▲ ISO | **K15**
- ▲ special carbide grade for abrasive aluminium alloys

DST / **CWC10**
- ▲ cermet, uncoated
- ▲ ISO | **P15** | **M10** | K10
- ▲ the uncoated cermet grade for finish machining stainless and hardened steel
- ▲ particularly wear resistant thanks to high heat resistance

CWN 2135
- ▲ carbide, TiCN-TiNB-coated
- ▲ ISO | P35 | **M30** | S35
- ▲ the turning grade for general stainless machining

CWK10
- ▲ carbide, uncoated
- ▲ ISO | **K10**
- ▲ the uncoated carbide grade for universal application

DCX3110
- ▲ carbide, TiCN-Al_2O_3-coated
- ▲ ISO | P05 | **K10**
- ▲ the wear-resistant grade for machining cast iron materials at high cutting speeds in a continuous cut

CWK15
- ▲ carbide, uncoated
- ▲ ISO | **K15** | **N15**
- ▲ the uncoated carbide grade for machining aluminium and other non-ferrous metals

HCR1135
- ▲ carbide, TiCN-Al_2O_3-coated
- ▲ ISO | **P35** | M25 | S25
- ▲ the tough alternative for heavily interrupted cut and unstable conditions

TiN / **CWN10**
- ▲ carbide, TiN-coated
- ▲ ISO | **K10**
- ▲ the carbide grade for machining steels, stainless steels and non-ferrous metals

HCX1125
- ▲ xarbide, TiCN-Al_2O_3-coated
- ▲ ISO | P25 | M20 | **K30**
- ▲ the first choice for universal machining of steels

New products for machining technicians

NEW BluFlex 2

It gets even better

As well as its unbeatable, innovative and highly precise characteristics, the BluFlex 2 system also boasts a modern high contrast OLED display. The MicroKom BluFlex 2 app and the Bluetooth-capable precision adjustment head ensure incredibly simple handling.

NEW hi.flex

The hi.flex system distinguishes itself with its high flexibility. With just a single adjustable head, a variety of boring bars and intelligently designed adapter solutions, it covers the entire diameter range from 6 to 365 mm.

Table of contents

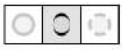
KOMET \ Performance

Premium quality tools for high performance.

The premium quality tools from the **KOMET Performance** product line have been designed for specific applications and are distinguished by their outstanding performance. If you make high demands on the performance of your production and want to achieve the very best results, we recommend the Premium tools in this product line.

Symbol explanation

F	Fine Machining
M	Medium Machining
R	Rough Machining



	Smooth cut
	Irregular cutting depth
	Interrupted cut

Central internal coolant

Axial coolant (Form AD)

Coolant supply either via the flange or centrally

ABS	**KOMET ABS** – modular coupling system for rotating and stationary tools
STM	Modular SpinTools interface
ER 32	System-independent ER 32 interface

Micron-precise display resolution: 0.001 mm in diameter

Universal ABS interface

Modern, high contrast OLED display on the precision adjustment head itself

Absolute position measuring system

Additional Bluetooth Low Energy interface for easy display on any conventional smartphone

Toolfinder

		System		Diameter range per head in mm									Digital	Analogue	ABS Modular	STM Modular	ER 32 Modular	Monoblock	Through spindle	Comments	Pages
Machining	Finishing	BluFlex 2 – precision adjustment head	 6,0–125 mm	6,0–125							✓		✓				✓	Through spindle larger head diameters	5–8
		hi.flex – precision adjustment head	 6,0–125 mm	6,0–125								✓	✓				✓	Through spindle larger head diameters	5–8
		Micro Boring Head	 0,3–19,1 mm	0,3–7,1	0,3–19,1						✓	✓									12+13
		Fine boring head	 14,7–24,1 mm	14,7–17,1	16,7–20,1	19,7–24,1						✓						✓			14+15
		Multi-Head – Fine boring head	 3,0–320 mm	3,0–320								✓		✓		✓	✓	Through spindle larger head diameters	16+17
		Single point boring head	 3,0–88,1 mm	3,0–88,1							✓	✓		✓	✓		✓	Through spindle larger head diameters	18–26
		Single point finish boring heads	 23,9–116,1 mm	23,9–31,1	30,9–40,1	39,9–51,1	50,9–67,1	66,9–87,1	86,9–116,1		✓	✓		✓			✓		27–29
		Vario-Head – boring and fine boring head	 3–152 mm	3–152							✓			✓					30+31
		Single point finish boring heads	 86–402 mm	86–402								✓		✓			✓		32+33
		Console tool with baseplate	 150–655 mm	150–205	200–255	250–305	300–355	350–405	150–205	200–255		✓					✓	also available with roughing head	
				250–305	300–355	350–405													
		Console tool with slide	 650–2205 mm	650–1105	1100–1655	1650–2205						✓					✓	also available with roughing head	
	Roughing - Finishing	Twin edged rough / fine boring head	 29,5–115,5 mm	29,5–40,1	39,5–50,5	49,5–66,5	65,5–87,5	86,5–115,5				✓		✓			✓		34+35
	Roughing	Twin rough boring head	 23,5–153,0 mm	23,5–30,5	29,5–40,1	39,5–50,5	49,5–66,5	65,5–87,5	86,5–115,5	114,5–153,0		✓		✓			✓		36–38

This article can be found in our online shop at cuttingtools.ceratizit.com

Overview of base adapters and accessories

System			DIN 69871	MAS-BT	HSK-A	Cylindrical shank
Base adapter		ABS	ABS base adapters can be found in → **Chapter 16, Adapters.**			
Base adapter		STM	40	41	42	43

Accessories

Extension		STM	46
Reduction		STM	44+45
Collet Chuck		STM	39
Shell mill adapter		STM	39

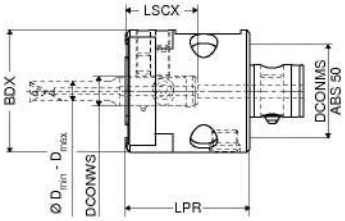
General		
Balancing rings		24
Insert		9–11 47+48

MicroKom – BluFlex 2 – precision spindle head

▲ Via the App, the MicroKom BluFlex 2 display in the head can also be transferred to a standard smartphone (62 840 16097)

Scope of supply:
incl. Battery

ABS



5

D_{min} - D_{max} mm	KOMET no.	Adapter	DCONWS mm	DCONMS mm	BDX mm	LPR mm	LSCX mm	without Bluetooth NEW W4 Article no. 62 820 ... £		with Bluetooth NEW W4 Article no. 62 840 ... £	
6 - 125	M0430100	ABS 50	16	28	65	71	38	2,082.92	16097		
6 - 125	M0430000	ABS 50	16	28	65	71	38			2,082.92	16097

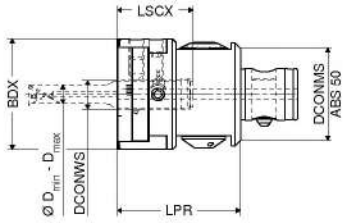
Spare parts for Article no.		XX Clamping screw Article no. 62 950 ... £		W7 Clamping screw Article no. 62 950 ... £		W7 Clamping screw Article no. 62 950 ... £		W7 Clamping sleeve Article no. 62 950 ... £		W7 Battery cover Article no. 62 950 ... £	
62 820 16097	M8x1x12/SW4	5.60	13989	M8x1x20/SW4	1.48	13700	M5x14/SW4	2.15	18600	6.19	18500	8.25	18400
62 840 16097	M8x1x12/SW4	5.60	13989	M8x1x20/SW4	1.48	13700	M5x14/SW4	2.15	18600	6.19	18500	8.25	18400

Suitable ABS adapters can be found in → **Chapter 16, Adapters.**

MicroKom – hi.flex – precision adjustment head

- **For boring bars Ø 16 mm and bridges**
- With internal coolant supply
- LSCX = Boring depth

ABS



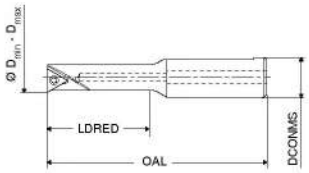
D_{min} - D_{max} mm	KOMET no.	Adapter	DCONWS mm	DCONMS mm	BDX mm	LPR mm	LSCX mm	NEW W4 Article no. 62 800 ... £	
6 - 125	M0501000	ABS 50	16	28	60	67	39.7	1,048.82	16097

	XX		W7		W7	
	 Clamping screw		 Clamping screw		 Clamping screw	
Spare parts		**Article no. 62 950 ...**		**Article no. 62 950 ...**		**Article no. 62 950 ...**
for Article no.		£		£		£
62 800 16097	M8x1x12/SW4	5.60 13989	M8x8/SW4	1.48 14700	M8x1x20/SW4	1.48 13700

Suitable ABS adapters can be found in → **Chapter 16, Adapters.**

MicroKom – Steel boring bar for hi.flex, BluFlex 2

▲ With internal coolant supply



Dmin - Dmax	KOMET no.	OAL	LDRED	DCONMS h6	Insert	NEW W4 Article no. 62 850 ...
mm		mm	mm	mm		£
6 - 8	B0520100	71.7	21.0	16	WO.. 02T0	112.83 00600
8 - 12	B0520120	77.4	28.0	16	TO.. 06T1	116.56 00800
10 - 14	B0520140	81.8	34.0	16	TO.. 0902	111.66 01000
12 - 18	B0520160	88.2	42.0	16	TO.. 0902	121.46 01200
14 - 18	B0520180	94.4	50.0	16	TO.. 0902	120.19 01400
18 - 25	B0520220	100.0	60.0	16	TO.. 0902	127.55 01800
22 - 26	B0520260	108.0	68.5	16	TO.. 1403	146.00 02200

Suitable inserts can be found on → **Page 9–11**.

W7
TORX® Screws

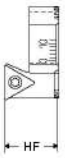
Spare parts	Article no. 62 950 ...
Insert	£
TO.. 06T1	2.56 12800
TO.. 0902	2.23 12000
TO.. 1403	2.23 12600
WO.. 02T0	2.23 11800

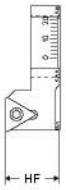
MicroKom – Insert holder for serrated body hi.flex, BluFlex 2

▲ With internal coolant supply

Scope of supply:

▲ without inserts
▲ incl. mounting screws





for	KOMET no.	HF	Insert	NEW W4 Article no. 62 863 ...
		mm		£
62 861 06300	M0520101	13.5	TO.. 06T1	130.00 04400
62 861 06300 / 62 860 12500	M0520151	13.5	TO.. 0902	132.45 12500

Suitable inserts can be found on → **Page 10+11**.

W7
TORX® Screws

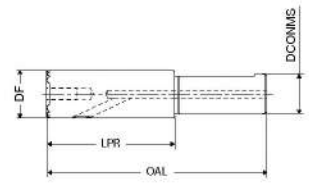
Spare parts	Article no. 62 950 ...
for Article no.	£
62 863 04400	2.56 09700
62 863 12500	2.23 09900

MicroKom – Serrated body for hi.flex, BluFlex 2

▲ With internal coolant supply

Scope of supply:

without insert holder



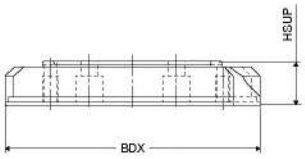
Dmin - Dmax	KOMET no.	DCONMS	OAL	LPR	DF	NEW W4 Article no. 62 861 ...
mm		mm	mm	mm	mm	£
25 - 63	M0590100	16	88.5	65	19	132.45 06300

W7
Cylindrical screw

W7
Disk spring

Spare parts	Article no. 62 950 ...	Article no. 62 950 ...
for Article no.	£	£
62 861 06300	0.83 00000	1.48 19100

MicroKom – Bridge for hi.flex, BluFlex 2



Dmin - Dmax	KOMET no.	BDX	HSUP	WT	NEW W4 Article no. 62 860 ...
mm		mm	mm	kg	£
90 - 125	M0580101	85	12	0.147	182.78 12500

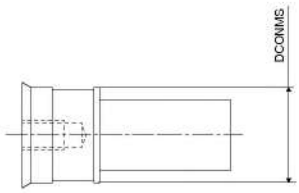
W7
Cylindrical screw

W7
Disk spring

Spare parts	Article no. 62 950 ...	Article no. 62 950 ...
for Article no.	£	£
62 860 12500	0.83 00000	1.48 19100

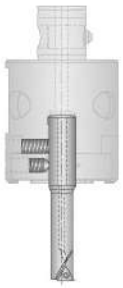
5

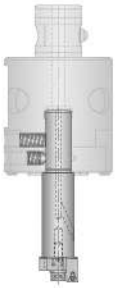
MicroKom – Filling piece for hi.flex, BluFlex 2

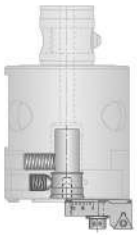


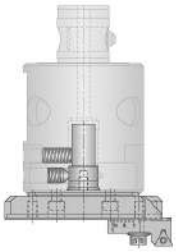
DCONMS	KOMET no.	NEW W4 Article no. 62 862 ...
mm		£
16	M0590501	17.66 09300

Overview of diameters available





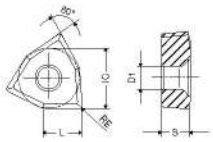




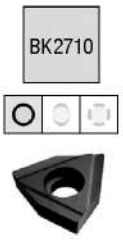
Ø 6–25	Ø 25–44	Ø 44–63	Ø 63–93	Ø 90–125
Boring Bar	Serrated body	Serrated body	Filling piece	Filling piece
62 850 ...	62 861 06300	62 861 06300	62 862 09300	62 862 09300
	+	+	+	+
	Insert holder	Insert holder	Insert holder	Bridge
	62 863 04400	62 863 12500	62 863 12500	62 860 12500
				+
				Insert holder
				62 863 12500

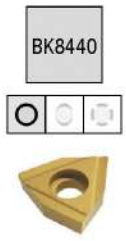
WOHX

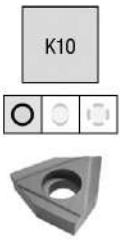
Designation	L	S	D1	IC
	mm	mm	mm	mm
WOHX 02T0..	2.6	1.20	2	4



WOHX







F
WOHX
NEW X2
Article no.
62 600 ...
£

F
WOHX
NEW X2
Article no.
62 600 ...
£

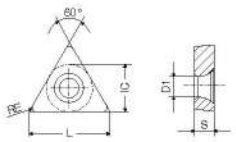
F
WOHX
NEW X2
Article no.
62 600 ...
£

ISO	KOMET no.	RE							
		mm							
02T001	W0004120.018440	0.1					17.07	00102	
02T001	W0004120.012710	0.1	17.07	10102					
02T001	W0004120.0121	0.1							14.03 20102
Steel			●		●				
Stainless steel			●		●				
Cast iron			●						
Non ferrous metals									●
Heat resistant alloys									●
Hardened materials									

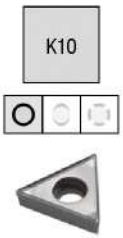
→ v_c Page 50

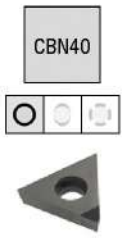
TOGX

Designation	L	S	D1	IC
	mm	mm	mm	mm
TOGX 06T1..	6.64	1.80	2.2	4.0
TOGX 0902..	9.12	2.50	2.8	5.6
TOGX 1403..	13.62	3.00	3.8	8.2



TOGX





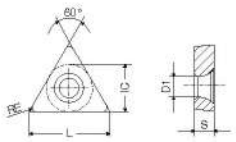
ISO	KOMET no.	RE	F TOGX NEW X2 Article no. 62 601 ... £		F TOGX NEW X2 Article no. 62 601 ... £		F TOGX NEW Y0 Article no. 62 601 ... £	
		mm						
06T102	W5704120.0223	0.2			13.25	50206		
06T102	W5704140.0260	0.2	13.25	90206				
06T102	W3004990.0240	0.2					57.04	60206
090204	W5714120.0423	0.4			14.52	50409		
090204	W5714140.0460	0.4	14.52	70409				
090204	W3014990.0440	0.4					63.28	60409
140304	W5726120.0423	0.4			23.45	50414		
140304	W5726140.0460	0.4	20.50	70414				

Steel	●		
Stainless steel			
Cast iron			
Non ferrous metals		●	
Heat resistant alloys		●	
Hardened materials			●

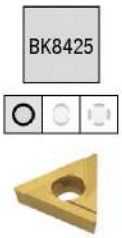
→ v_c Page 50

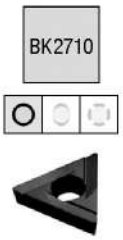
TOHX

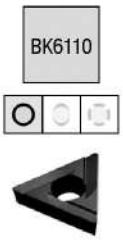
Designation	L	S	D1	IC
	mm	mm	mm	mm
TOHX 06T1..	6.50	1.80	2.2	4.0
TOHX 0902..	9.12	2.50	2.8	5.6
TOHX 1403..	13.62	3.00	3.8	8.2

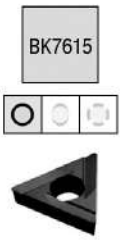


TOHX









ISO	KOMET no.	RE	F TOHX NEW X2 Article no. 62 602 ...		F TOHX NEW X2 Article no. 62 602 ...		F TOHX NEW X2 Article no. 62 602 ...		F TOHX NEW X2 Article no. 62 602 ...	
		mm	£		£		£		£	
06T103	W3004060.032710	0.3			13.64	10606				
06T103	W3004060.036110	0.3					14.52	40606		
06T103	W3004420.038425	0.3	13.05	30606						
06T103	W3004060.037615	0.3							16.09	80606
090204	W3014060.046110	0.4					16.09	40409		
090204	W3014060.042710	0.4			15.51	10409				
090204	W3014060.047615	0.4							17.56	80409
140304	W3026060.046110	0.4					17.95	40414		
Steel			●		●		○			
Stainless steel			●		●					
Cast iron			●		●		●		●	
Non ferrous metals										
Heat resistant alloys										
Hardened materials										

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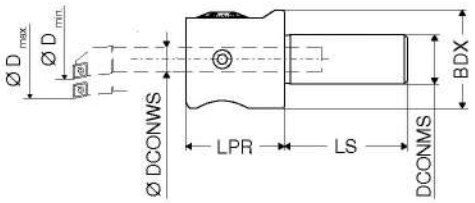
SpinTools – Micro-Boring Head

▲ max. speed 30,000 U/min



D_{min} - D_{max}	BDX	DCONWS	DCONMS	LPR	LS	Digital W4 Article no. 62 386 ... £		Analogue W4 Article no. 62 382 ... £	
mm	mm	mm	mm	mm	mm				
0,3 - 7,1	25	4	10	25	25	1,007.23	025	797.43	025
0,3 - 19,1	32	7	16	32	40	1,083.82	032	826.58	032

SpinTools – Digital Stick

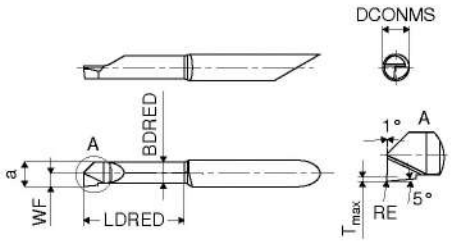
▲ suitable for all SpinTools Digital Heads

Scope of supply:
incl. AAA Battery

W4 Article no. 62 309 ... £	
258.88	000

Spare parts for Article no.		W7  Clamping screw ST Article no. 62 950 ... £			W7  Locking screw Article no. 62 950 ... £	
62 382 025 / 62 386 025	M5x4	1.67	214	M4x8	1.68	228
62 382 032 / 62 386 032	M6x5	1.67	215	M6x10	1.68	229

SpinTools – Solid carbide boring bar



TiN

D_{min} - D_{max}	DCONMS	LDRED	RE	a	BDRED	WF	$T_{max.}$	W4 Article no. 62 383 ...	
mm	mm	mm	mm	mm	mm	mm	mm	£	
0,3 - 0,7	4	1.2		0.25	0.15	0.15	0.03	35.15	**003**
0,6 - 1,1	4	2.5		0.55	0.46	0.30	0.05	35.15	**006**
1,0 - 2,3	4	4.0	0.05	0.95	0.65	0.50	0.10	35.76	**010**
2,2 - 3,3	4	6.0	0.05	2.00	1.55	1.10	0.20	29.95	**022**
3,2 - 4,3	4	10.2	0.05	3.00	2.55	1.60	0.20	30.74	**032**
3,9 - 7,1	4	15.2	0.05	3.70	3.45	1.95	0.30	33.11	**039**
5,2 - 6,3	7	20.3	0.05	5.00	4.25	2.60	0.50	46.37	**052**
6,2 - 7,3	7	20.3	0.05	6.00	5.25	3.10	0.50	46.37	**062**
6,9 - 12,1	7	25.4	0.20	6.70	6.25	3.45	0.50	41.41	**069**

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	○

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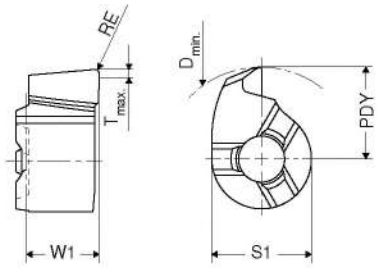
SpinTools – Carbide inserts



TiN

D_{min} - D_{max}	RE	PDY	S1	W1	$T_{max.}$	W4 Article no. 62 384 ...	
mm	mm	mm	mm	mm	mm	£	
6,9 - 8,1	0.2	3.45	4.8	3.5	1	16.92	**069**
7,9 - 9,1	0.2	3.95	4.8	3.5	1	16.92	**079**
8,9 - 10,1	0.2	4.45	4.8	3.5	1	16.92	**089**
9,9 - 12,1	0.2	4.95	7.0	3.9	1	20.61	**099**
11,9 - 14,1	0.2	5.95	7.0	3.9	1	20.61	**119**
13,9 - 19,1	0.2	6.95	7.0	3.9	1	20.61	**139**

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	○

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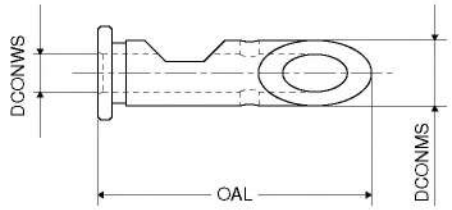
5

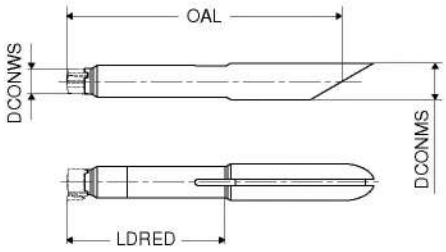
SpinTools – Adapter



DCONMS	DCONWS	OAL	W4 Article no. 62 335 ...	
mm	mm	mm	£	
7	4	30	58.78	**407**

SpinTools – Toolholder for carbide inserts

- ▲ with thro' coolant
- ▲ appropriate inserts for article no. 62 384 ... can be found in the table above



DCONMS	LDRED	DCONWS	OAL	W4 Article no. 62 385 ...	
mm	mm	mm	mm	£	
7	30	4.8	56	156.30	**330**
7	35	7.0	61	166.91	**350**

TORX® Screws

Key D

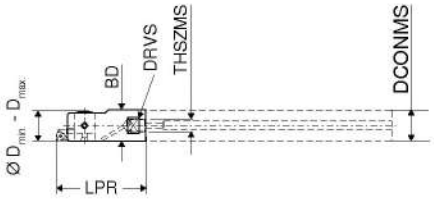
Spare parts	W7 Article no. 62 950 ...		Y7 Article no. 80 950 ...	
for Article no.	£		£	
62 385 330	9.13	**007**	13.49	**124**
62 385 350	9.13	**094**	14.77	**126**

SpinTools – Precision boring head

▲ With internal coolant supply

Scope of supply:

Fine boring head without shank, without insert holder



BD	D_{min} - D_{max}	THSZMS	DCONMS	LPR	DRVS	W4 Article no. 62 304 ...	
mm	mm		mm	mm	mm	£	
14	14,7 - 17,1	M6	14	40	12	694.69	017
16	16,7 - 20,1	M10	16	40	14	694.69	020
19	19,7 - 24,1	M10	18	40	16	694.69	024

TORX® Screws

Key D

Clamping screw ST

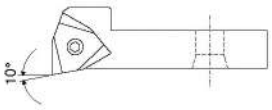
Spare parts		W7 Article no. 62 950 ...			Y7 Article no. 80 950 ...			W7 Article no. 62 950 ...	
for Article no.		£			£			£	
62 304 017	M2,5x6	4.42	022	T07	10.30	109	M3x2	2.92	017
62 304 020	M2,5x6	4.42	022	T07	10.30	109	M3x2,5	2.92	018
62 304 024	M2,5x6	4.42	022	T07	10.30	109	M3x4	2.92	019

Information on the working length can be found on → **Page 55.**

SpinTools – Insert holder, 90°

Scope of supply:

without insert



for boring head	Insert	W4 Article no. 62 317 ...	
		£	
62 304 ...	WC.. 0201..	121.58	024

Suitable inserts can be found on → **Page 47.**

TORX® Screws

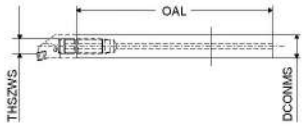
Key D

Spare parts			W7 Article no. 62 950 ...			Y7 Article no. 80 950 ...	
Insert			£			£	
WC.. 0201..	M2x3,7	4.42	021	T06	11.15	108	

SpinTools – High-speed carbide boring bars

- with threaded mounting stud made of high quality steel
- with thro' coolant
- Shank clamping length 35 mm
- Boring shanks with DCONMS Ø 18 mm are for use in collet chuck or hydraulic chuck

Scope of supply:
boring shank, without boring head

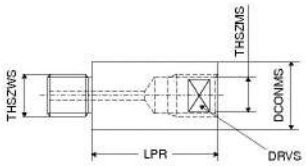


DCONMS h6	OAL	THSZWS	W4 Article no. 62 353 ...	
mm	mm		£	
14	110	M6	296.73	014
16	120	M10	329.84	016
18	100	M10	348.39	018
18	180	M10	622.58	218
18	140	M10	480.85	118

Information on the working length can be found on → **Page 55.**

SpinTools – Shank extensions (tempered steel)

- with thro' coolant



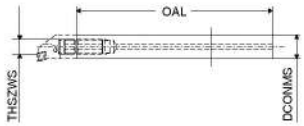
DCONMS h9	LPR	THSZWS	THSZMS	DRVS	W4 Article no. 62 349 ...	
mm	mm			mm	£	
16	32	M10	M10	14	54.78	732
16	64	M10	M10	14	62.78	764

5

SpinTools – High Speed Steel Extension

- with thro' coolant
- Boring shanks with DCONMS Ø 18 mm are for use in collet chuck or hydraulic chuck

Scope of supply:
boring shank, without boring head

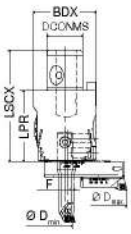


DCONMS h6	OAL	THSZWS	W4 Article no. 62 329 ...	
mm	mm		£	
14	60	M6	69.47	660
16	70	M10	72.14	770
18	80	M10	78.82	880

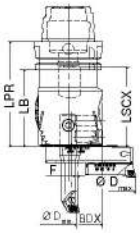
SpinTools – Multi-Head – boring and fine boring head

- **For boring bars Ø 16 mm and bridges**
- With internal coolant supply
- LSCX = Boring depth

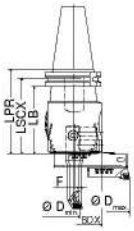
Scope of supply:
without boring bar, bridge and insert holder



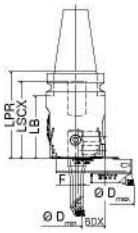
STM Modular



HSK-A 63



SK 40



MAS-BT 40

STM Modular

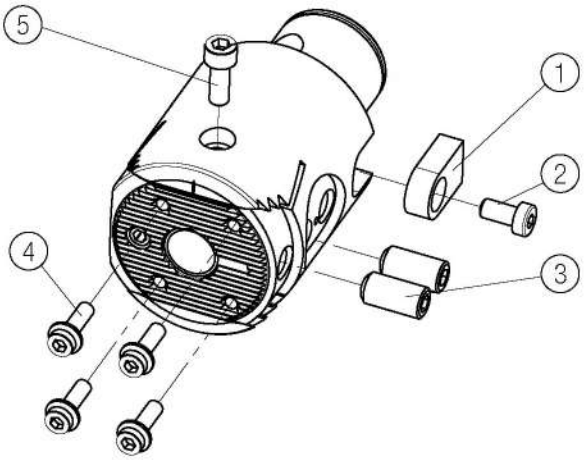
HSK-A

SK

MAS-BT

D_{min} - D_{max}	Adapter	DCONMS	BDX	LPR	LB	LSCX	F	STM Modular		HSK-A		SK		MAS-BT	
								W4		W4		W4		W4	
mm		mm	mm	mm	mm	mm	mm	Article no. 62 372 ...		Article no. 62 373 ...		Article no. 62 373 ...		Article no. 62 373 ...	
								£		£		£		£	
3 - 320	STM 36	36	63	71.6		111.6	0 - 2,7	1,001.43	653						
3 - 320	HSK-A 63		63	96.6	70.6	73.0	0 - 2,7			1,225.30	653				
3 - 320	SK 40		63	91.6	72.5	81.6	0 - 2,7					1,225.30	153		
3 - 320	BT 40		63	91.6	69.0	81.6	0 - 2,7							1,225.30	453

Suitable base adapters can be found on → **page onwards 40.**



1. *Drive dogs*
2. *Carrier screw*
3. *Clamping screw*
4. *Flange screw*
5. *Clamping screw MH*

Driver

Clamping screw MH

Flange screw

Spare parts		W7 Article no. 62 950 ...			W7 Article no. 62 950 ...			W7 Article no. 62 950 ...	
D_{min} - D_{max}		£			£			£	
3 - 320	16x26,5x8	51.87	040	M6x16	2.74	226	M5x16	4.38	225

Clamping screw

Screw for drivers

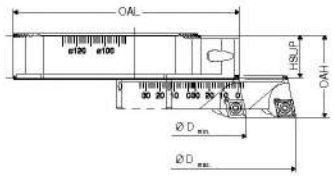
Spare parts					W7 Article no. 62 950 ...			W7 Article no. 62 950 ...	
D_{min} - D_{max}					£			£	
3 - 320				M6x16	1.54	227	M6x12	1.67	167

SpinTools – Bridge for Multi-Head

- Ø adjustable
- With internal coolant supply

Scope of supply:

- without tool holder
- including fixation screws

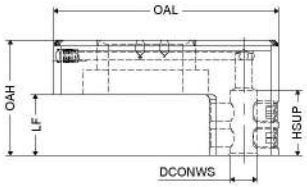


D_{min} - D_{max}	OAL	HSUP	OAH	W4 Article no. 62 376 ...	
mm	mm	mm	mm	£	
86 - 164	80	15	29	231.81	164
162 - 320	158	15	29	347.06	320

Insert holders can be found on → **Page 19.**

SpinTools – Axial groving holder for UltraMini

- With internal coolant supply

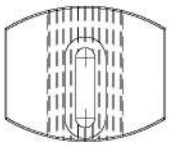


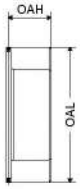
DCONWS	OAL	OAH	HSUP	LF	WT	W4 Article no. 62 358 ...	
mm	mm	mm	mm	mm	kg	£	
6	52	26.58	15	14	0.092	202.67	006
7	52	26.58	15	14	0.091	202.67	007
8	52	26.58	20	14	0.088	202.67	008

Suitable inserts for axial grooving can be found in
→ **Chapter 12, Miniature Turning Tools**

SpinTools – Counterweight

Scope of supply:
Including fixation screw





for	OAL	OAH	W4 Article no. 62 378 ...	
	mm	mm	£	
62 376 ...	38	12	66.23	320

W7

Clamping screw ST

Spare parts DCONWS	Article no. 62 950 ...	
	£	
6	1.67	214
7	1.67	214
8	1.67	214

SpinTools – Multi-Head – Boring and Fine Boring Head Set

- suitable for Ø 3 – Ø 320 mm

Scope of supply:

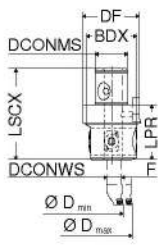
- **1 Tool Kit**
- **1 Multi-Head-Boring- and Fine Boring Head (depending on selection)**
- **4 Boring bars**
  - 62 345 015 Ø 9.75 – Ø 15.1 mm
  - 62 345 020 Ø 14.75 – Ø 20.1 mm
  - 62 345 024 Ø 19.75 – Ø 25.1 mm
  - 62 345 029 Ø 24.75 – Ø 30.1 mm
- **2 Boring tools, adjustable**
  - 62 375 048 Ø 29.75 – Ø 48.1 mm
  - 62 375 088 Ø 47.75 – Ø 88.1 mm
- **incl. insert holder**
  - 62 377 048 CC.. 0602
  - 62 377 088 CC.. 0602
- **1 Bridge**
  - 62 376 164 Ø 86 – Ø 164 mm
- **1 Torx-Key – T7**
- **1 6-adjustment key – SW5**

D_{min} - D_{max}	Adapter	STM Modular W4 Article no. 62 374 ...		HSK-A W4 Article no. 62 379 ...		SK W4 Article no. 62 379 ...		MAS-BT W4 Article no. 62 379 ...	
mm		£		£		£		£	
9,75 - 164	STM 36	1,904.84	999						
9,75 - 164	HSK-A 63			2,120.76	996				
9,75 - 164	SK 40					2,120.76	990		
9,75 - 164	BT 40							2,120.76	993

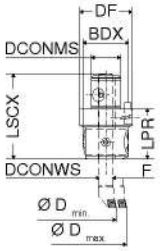
SpinTools – Single point boring heads – Modular system

▲ LSCX = Boring depth
▲ With internal coolant supply

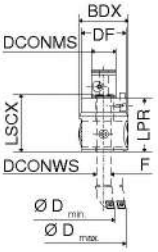
STM



Digital with collar



with flange



without flange

Digital with collar STM Modular

with flange STM Modular

without flange STM Modular

D_{min} - D_{max} mm	Adapter	DCONMS mm	BDX mm	DF mm	DCONWS mm	LPR mm	LSCX mm	F mm	WT kg	W4 Article no. 62 326 ... £		W4 Article no. 62 332 ... £		W4 Article no. 62 332 ... £	
3,0 - 88,1	STM 28	28	55	50	16	60	62	0 - 2,7	0.98					786.89	**553**
3,0 - 88,1	STM 36	36	55	63	16	60	101	0 - 2,7	1.26			786.89	**653**		
3,0 - 88,1	STM 36	36	55	63	16	60	106	0 - 2,7	0.43	1,075.18	**036**				

SpinTools – Digital Stick

▲ suitable for all SpinTools Digital Heads

Scope of supply:
incl. AAA Battery

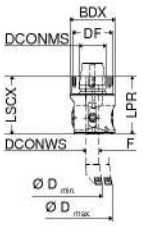
W4
Article no. 62 309 ...
£
258.88 **000**

Spare parts for Article no.		W7 Clamping screw Article no. 62 950 ... £		W7 Screw for drivers Article no. 62 950 ... £		W7 Driver Article no. 62 950 ... £		W7 Clamping screw ST Article no. 62 950 ... £	
62 332 553	M10x16	1.67	**047**	M5x10	1.67 **166**	12x20x6	40.84 **039**	M10x8	1.67 **046**
62 332 653	M10x16	1.67	**047**	M6x12	1.67 **167**	16x26,5x8	51.87 **040**	M10x8	1.67 **046**
62 326 036	M10x16	1.67	**047**	M6x12	1.67 **167**	16x26,5x8	51.87 **040**	M10x8	1.67 **046**

SpinTools – Single point boring heads

- Interface for use on ER32 collet chucks
- LSCX = Recess depth of boring bar
- with thro' coolant supply
- Suitable for Ø 3.0 – Ø 88.1 mm

ER 32




ER 32

D_{min} - D_{max} mm	Adapter	DCONMS mm	BDX mm	DF mm	DCONWS mm	LPR mm	LSCX mm	F mm	W4 Article no. 62 332 ... £	
3,0 - 88,1	ER 32	32	55	49.5	16	60	86.5	0 - 2,7	983.65	732

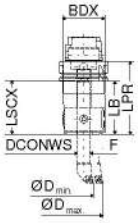

Clamping screw


Clamping screw ST

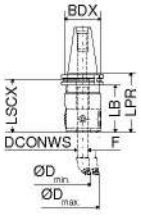
Spare parts for Article no.		W7 Article no. 62 950 ... £			W7 Article no. 62 950 ... £	
62 332 732	M10x16	1.67	047	M10x8	1.67	046

SpinTools – Single Point Boring Head – Monoblock

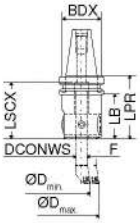
- LSCX = Boring depth
- With internal coolant supply



HSK-A 63



SK 40



MAS-BT 40


HSK-A


SK


MAS-BT

D_{min} - D_{max} mm	Adapter	BDX mm	DCONWS mm	LPR mm	LB mm	LSCX mm	F mm	WT kg	W4 Article no. 62 333 ... £		W4 Article no. 62 333 ... £		W4 Article no. 62 333 ... £	
3,0 - 88,1	HSK-A 63	55	16	95	69	70	0 - 2,7	1.66	999.32	653				
3,0 - 88,1	SK 40	55	16	90	70	80	0 - 2,7	1.83			999.32	153		
3,0 - 88,1	BT 40	55	16	90	63	80	0 - 2,7	1.90					999.32	453

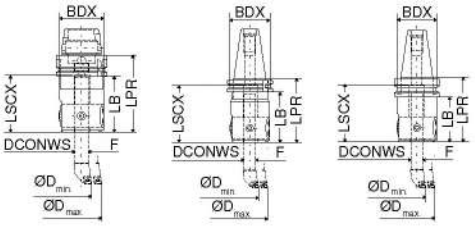

Clamping screw


Clamping screw ST

Spare parts for Article no.		W7 Article no. 62 950 ... £			W7 Article no. 62 950 ... £	
62 333 653	M10x16	1.67	047	M10x8	1.67	046
62 333 153	M10x16	1.67	047	M10x8	1.67	046
62 333 453	M10x16	1.67	047	M10x8	1.67	046

SpinTools – Single Point Boring Head – Monoblock

▲ LSCX = Boring depth
▲ With internal coolant supply



HSK-A 63 SK 40 MAS-BT 40

Digital HSK-A Digital SK Digital MAS-BT

D_{min} - D_{max} mm	Adapter	BDX mm	DCONWS mm	LPR mm	LB mm	LSCX mm	F mm	W4 Article no. 62 363 ... £		W4 Article no. 62 363 ... £		W4 Article no. 62 363 ... £	
3,0 - 88,1	HSK-A 63	55	16	95	70	70	0 - 2,7	1,518.14	688				
3,0 - 88,1	SK 40	55	16	90	71	80	0 - 2,7			1,518.14	188		
3,0 - 88,1	BT 40	55	16	90	59	80	0 - 2,7					1,518.14	488

SpinTools – Digital Stick

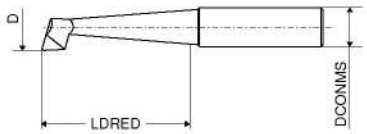
▲ suitable for all SpinTools Digital Heads

Scope of supply:
incl. AAA Battery

W4
Article no. 62 309 ...
£
258.88 000

Spare parts for Article no.		W7 Clamping screw Article no. 62 950 ... £			W7 Clamping screw ST Article no. 62 950 ... £	
62 363 488 / 62 363 188	M10x16	1.67	047	M10x8	1.67	046

SpinTools – Boring tools with carbide cutting edge



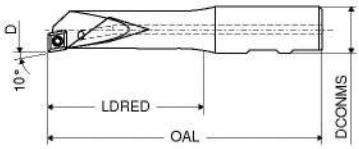
D_{min} - D_{max} mm	LDRED mm	DCONMS $_{h6}$ mm	W4 Article no. 62 346 ... £	
3,0 - 8,0	20	10	102.87	008
4,0 - 9,0	23	10	102.87	009
5,0 - 10,0	25	10	102.87	010
6,0 - 11,0	25	10	102.87	011
7,0 - 12,0	31	10	102.87	012

Steel	●
Stainless steel	○
Cast iron	○
Non ferrous metals	●
Heat resistant alloys	
Hardened materials	

→ v_c Page 52

SpinTools – Steel boring bars

▲ With internal coolant supply



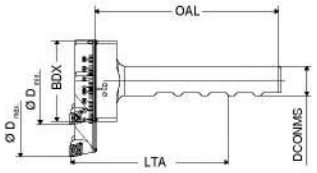
D_{min} - D_{max} mm	OAL mm	LDRED mm	DCONMS $_{h6}$ mm	Insert	W4 Article no. 62 345 ... £	
9,75 - 15,1	75	30	16	CC.. 0602	140.27	015
11,75 - 17,1	80	37	16	CC.. 0602	140.27	017
13,75 - 19,1	85	43	16	CC.. 0602	140.27	019
14,75 - 20,1	90	51	16	CC.. 0602	140.27	020
15,75 - 21,1	95	57	16	CC.. 0602	140.27	021
17,75 - 23,1	100	67	16	CC.. 0602	140.27	023
19,75 - 25,1	105	72	16	CC.. 0602	161.65	024
19,75 - 25,1	105	72	16	CC.. 09T3	161.65	025
21,75 - 27,1	110	77	16	CC.. 09T3	161.65	027
24,75 - 30,1	115	82	16	CC.. 0602	161.65	029
24,75 - 30,1	115	82	16	CC.. 09T3	161.65	030
27,75 - 33,1	115	82	16	CC.. 09T3	169.66	033
31,75 - 37,1	115	82	16	CC.. 09T3	169.66	037
34,75 - 40,1	115	82	16	CC.. 09T3	169.66	040
38,75 - 44,1	115	82	16	CC.. 09T3	180.36	044
42,75 - 48,1	115	82	16	CC.. 09T3	189.71	048
47,75 - 53,1	115	82	16	CC.. 09T3	212.43	053

Suitable inserts can be found on → **Page 48.**

SpinTools – Adjustable boring bar bridge

▲ With internal coolant supply

Scope of supply:
without insert holder

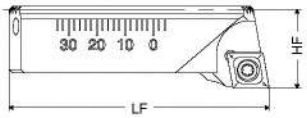


D_{min} - D_{max} mm	OAL mm	BDX mm	LTA mm	DCONMS mm	W4 Article no. 62 375 ... £	
29,75 - 48,1	103	25	85	16	95.37	048
47,75 - 88,1	101	44	85	16	112.22	088

SpinTools – Tool holder for boring bar and bridge Multi-Head

▲ With internal coolant supply

Scope of supply:
▲ without inserts
▲ incl. mounting screws



for	LF mm	HF mm	Insert	W4 Article no. 62 377 ... £	
62 375 048	28.2	12	CC.. 0602	169.56	048
62 375 088 / 62 376 ...	46.0	14	CC.. 0602	186.77	088
62 375 088 / 62 376 ...	46.0	14	CC.. 09T3	194.72	089

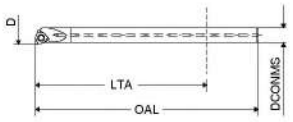
Suitable inserts can be found on → **Page 48.**

Spare parts for Article no.	W7 TORX® Screws Article no. 62 950 ... £		Y7 Key D Article no. 80 950 ... £		W7 Flange screw Article no. 62 950 ... £	
62 377 048	4.42	022	10.30	109	4.38	225
62 377 088	4.42	022	10.30	109	4.38	225
62 377 089	5.14	023	12.26	113	4.38	225

5

SpinTools – Boring bars with carbide shank

▲ With internal coolant supply
▲ LTA = max. overhang



D_{min} - D_{max}	DCONMS $_{h6}$	OAL	LTA	Insert	W4 Article no. 62 341 ...	
mm	mm	mm	mm		£	
5,8 - 11,2	5	80	45	WC.. 0201..	205.75	011
7,8 - 13,2	6	100	60	WC.. 0201..	205.75	013

Suitable inserts can be found on → **Page 47.**

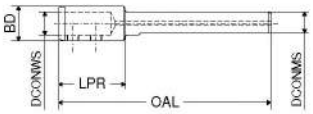

TORX® Screws


Key D

Spare parts	W7 Article no. 62 950 ...		Y7 Article no. 80 950 ...	
Insert	£		£	
WC.. 0201..	4.42	021	11.15	108

SpinTools – Boring tool extensions

▲ with thro' coolant



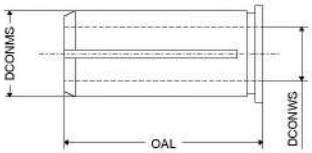
DCONWS	DCONMS	BD	OAL	LPR	W4 Article no. 62 337 ...	
mm	mm	mm	mm	mm	£	
10	16	16	128		137.62	128
16	16	24	148	44	156.30	148


Clamping screw

Spare parts	W7 Article no. 62 950 ...	
for Article no.	£	
62 337 128	8.18	048
62 337 148	6.42	049

SpinTools – Reduction sleeves

▲ for boring bars and boring tools



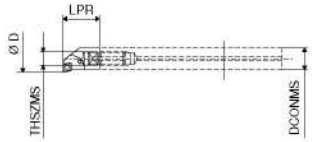
DCONMS	DCONWS	OAL	W4 Article no. 62 335 ...	
mm	mm	mm	£	
16	4	37	64.13	104
16	5	37	64.13	105
16	6	37	64.13	106
16	8	37	64.13	108
16	9	37	64.13	109
16	10	37	64.13	110
16	11	37	64.13	111
16	12	37	64.13	112
16	13	37	64.13	113
16	14	37	64.13	114

SpinTools – High-speed boring head

- for overturning holder and high speed carbide shank
- With internal coolant supply
- $D_{max.}$ = using a head with fine adjustment 0 – 2,7 mm

Scope of supply:

Boring head without boring shank, without inserts



D_{min} - D_{max} mm	LPR mm	THSZMS	DCONMS h6 mm	Insert	W4 Article no. 62 361 ... £	
8,75 - 14,1	18	M5	8	CC.. 0602	96.70	014
9,75 - 15,1	18	M5	9	CC.. 0602	96.70	015
10,75 - 16,1	23	M6	10	CC.. 0602	96.70	016
11,75 - 17,1	23	M6	11	CC.. 0602	96.70	017
12,75 - 18,1	23	M6	12	CC.. 0602	96.70	018
13,75 - 19,1	23	M6	13	CC.. 0602	96.70	019
14,75 - 20,1	23	M6	14	CC.. 0602	96.70	020
15,75 - 21,1	23	M6	14	CC.. 0602	96.70	021
16,75 - 22,1	27	M10	16	CC.. 0602	96.70	022
17,75 - 23,1	27	M10	16	CC.. 0602	96.70	023
19,75 - 25,1	27	M10	16	CC.. 0602	96.70	025
21,75 - 27,1	27	M10	16	CC.. 0602	98.03	027
24,75 - 30,1	27	M10	16	CC.. 0602	98.03	030
27,75 - 33,1	27	M10	16	CC.. 0602	98.03	033
31,75 - 37,1	27	M10	16	CC.. 0602	105.98	037
34,75 - 40,1	27	M10	16	CC.. 0602	113.56	040

Suitable inserts can be found on → **Page 48.**

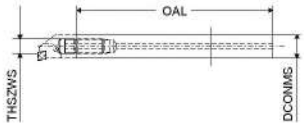
Spare parts	W7 Article no. 62 950 ... £		Y7 Article no. 80 950 ... £	
Insert				
CC.. 0602	4.42	022	10.30	109

SpinTools – High-speed carbide boring bars

- with threaded mounting stud made of high quality steel
- with thro' coolant
- Shank clamping length 35 mm
- Boring shanks with DCONMS Ø 18 mm are for use in collet chuck or hydraulic chuck

Scope of supply:

boring shank, without boring head



DCONMS h6 mm	OAL mm	THSZWS	W4 Article no. 62 353 ... £	
8	73	M5	194.72	008
9	80	M5	204.01	009
10	82	M6	217.25	010
11	89	M6	227.83	011
12	96	M6	239.75	012
13	103	M6	243.73	013
14	110	M6	296.73	014
16	120	M10	329.84	016

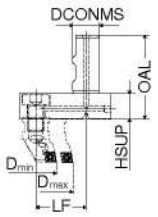
Information on the working length can be found on → **Page 55.**

SpinTools – Over turning holder for boring head

- With internal coolant supply

Scope of supply:

without boring head and insert

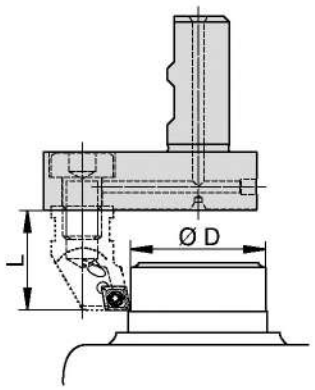


D_{min} - D_{max} mm	DCONMS h6 mm	LF mm	HSUP mm	OAL mm	W4 Article no. 62 404 ... £	
5,3 - 28,6	16	20	15	50	239.75	028
25,3 - 48,6	16	30	15	50	280.82	048

5

Help me choose the correct over-turning adapter

- ▲ for the combination of overturning with high speed boring heads
- ▲ the length L can be extended with shank extensions

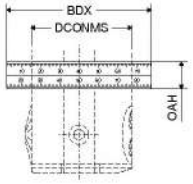


Boring range Ø $D_{min.}$ – Ø $D_{max.}$ mm	Tool holder 62 404 ...	L mm	Boring Head 62 361 ...	Pages
5,3 - 10,6	028	27	040	23
8,3 - 13,6	028	27	037	
12,3 - 17,6	028	27	033	
15,3 - 20,6	028	27	030	
18,3 - 23,6	028	27	027	
20,3 - 25,6	028	27	025	
22,3 - 27,6	028	27	023	
23,3 - 28,6	028	27	022	
25,3 - 30,6	048	27	040	
28,3 - 33,6	048	27	037	
32,3 - 37,6	048	27	033	
35,3 - 40,6	048	27	030	
38,3 - 43,6	048	27	027	
40,3 - 45,6	048	27	025	
42,3 - 47,6	048	27	023	
43,3 - 48,6	048	27	022	

SpinTools – Balancing rings

- ▲ For balancing the tools without dynamic balancing machine

Scope of supply:
CD-ROM with application data and setting values



DCONMS mm	BDX mm	OAH mm	WT kg	W4 Article no. 62 300 ... £	
32	50	16	0.08	223.10	032
40	58	16	0.09	239.14	040
50	70	16	0.13	256.50	050
55	75	16	0.14	265.86	055
63	84	16	0.16	273.88	063

W7

Clamping screw

Spare parts DCONMS	Article no. 62 950 ... £	
32 - 63	8.72	009

SpinTools – Single point boring heads Set 1

- suitable for Ø 3 – Ø 88.1 mm
- supplied with Ø 9.75 – Ø 30.1 or Ø 9.75 – Ø 40.1 mm
- with thro' coolant

Scope of supply:

- **1 Tool Kit**
- **1 single point boring head (depending on selection)**
- **4 Boring bars (SK40- and MAS-BT-Set)**
  - 62 345 015 Ø 9,75 – Ø 15,1 mm
  - 62 345 020 Ø 14,75 – Ø 20,1 mm
  - 62 345 024 Ø 19,75 – Ø 25,1 mm
  - 62 345 029 Ø 24,75 – Ø 30,1 mm
- **8 Boring bars (Modular-Set)**
  - 62 345 015 Ø 9,75 – Ø 15,1 mm
  - 62 345 019 Ø 13,75 – Ø 19,1 mm
  - 62 345 023 Ø 17,75 – Ø 23,1 mm
  - 62 345 027 Ø 21,75 – Ø 27,1 mm
  - 62 345 030 Ø 24,75 – Ø 30,1 mm
  - 62 345 033 Ø 27,75 – Ø 33,1 mm
  - 62 345 037 Ø 31,75 – Ø 37,1 mm
  - 62 345 040 Ø 34,75 – Ø 40,1 mm
- **1 6-adjustment key – SW5**
- **1 Torx-Key – T7**

D_{min} - D_{max} mm	Adapter	STM Modular W4 Article no. 62 334 ...	£		SK W4 Article no. 62 345 ...	£		MAS-BT W4 Article no. 62 345 ...	£	
9,75 - 40,1	STM 36		1,836.96	999						
9,75 - 30,1	SK 40					1,442.86	990			
9,75 - 30,1	BT 40								1,442.86	993

SpinTools – Single point boring heads Set 2

- suitable for Ø 3 – Ø 88.1 mm
- Supplied with Ø 9.75 – Ø 88.1 mm
- with thro' coolant

Scope of supply:

- **1 Tool Kit**
- **1 Fine boring head (depending on selection) (depending on selection)**
- **4 Boring bars**
  - 62 345 015 Ø 9.75 – Ø 15.1 mm
  - 62 345 020 Ø 14.75 – Ø 20.1 mm
  - 62 345 024 Ø 19.75 – Ø 25.1 mm
  - 62 345 029 Ø 24.75 – Ø 30.1 mm
- **2 Boring tools, adjustable**
  - 62 375 048 Ø 29.75 – Ø 48.1 mm
  - 62 375 088 Ø 47.75 – Ø 88.1 mm
- **incl. insert holder**
  - 62 377 048 CC.. 0602
  - 62 377 088 CC.. 0602
- **1 Torx key – T7**
- **1 6-adjustment key – SW5**

D_{min} - D_{max} mm	Adapter	STM Modular W4 Article no. 62 334 ...	£		HSK-A W4 Article no. 62 345 ...	£		SK W4 Article no. 62 345 ...	£		MAS-BT W4 Article no. 62 345 ...	£	
9,75 - 88,1	STM 36		1,750.12	997									
9,75 - 88,1	HSK-A 63					1,962.54	997						
9,75 - 88,1	SK 40								1,962.54	998			
9,75 - 88,1	BT 40											1,962.54	999

SpinTools – Single point boring heads ER32 Set

- Suitable for Ø 3.0 – Ø 88.1 mm
- Scope of supply Ø 9.75 – Ø 30.1 mm
- with thro' coolant supply

Scope of supply:

- **1 tool kit**
- **1 single point boring head (62332732)**
- **4 boring bars**
  - 62 345 015 Ø 9.75 – Ø 15.1 mm
  - 62 345 020 Ø 14.75 – Ø 20.1 mm
  - 62 345 024 Ø 19.75 – Ø 25.1 mm
  - 62 345 029 Ø 24.75 – Ø 30.1 mm
- **1 Torx Key – T7**
- **1 Allen Key – SW5**

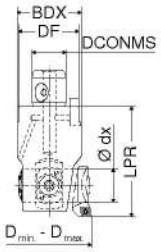
D_{min} - D_{max} mm	Adapter	W4 Article no. 62 332 ...	£	
9,75 - 30,1	ER 32		1,309.45	999

SpinTools – Single point finish boring heads

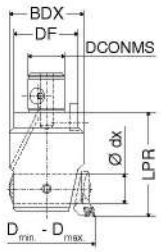
▲ With internal coolant supply

Scope of supply:
without insert holder and inserts

STM



Digital



Analogue

Digital
STM Modular

Analogue
STM Modular

5

D_{min} - D_{max} mm	D_{min} - D_{max} extended mm	Adapter	DCONMS mm	BDX mm	DF mm	LPR mm	Ø dx mm	WT kg	W4 Article no. 62 308 ... £		W4 Article no. 62 303 ... £	
23,9 - 31,1	29,9 - 37,1	STM 11	11	20	20	40	11	0.08	770.83	**031**	513.01	**031**
30,9 - 40,1	37,9 - 47,1	STM 14	14	25	25	45	13	0.15	770.83	**040**	513.01	**040**
39,9 - 51,1	47,9 - 59,1	STM 18	18	32	32	65	17	0.38	789.47	**051**	530.38	**051**
50,9 - 67,1	64,9 - 81,1	STM 22	22	42	40	72	22	0.70	817.47	**067**	555.76	**067**
66,9 - 87,1	84,9 - 105,1	STM 28	28	55	50	82	30	1.32	865.28	**087**	599.86	**087**
86,9 - 116,1	104,9 - 134,1 (124,9 - 154,1)	STM 36	36	72	63	105	30	3.15	979.56	**116**	701.39	**116**

For optimal stability when fine boring the main insert holder ranges are preferred over the extended range.

SpinTools – Digital Stick

▲ suitable for all SpinTools Digital Heads

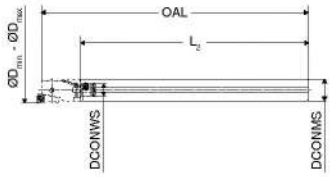
Scope of supply:
incl. AAA Battery

W4 Article no. 62 309 ... £	
258.88	**000**

Spare parts for Article no.		W7 Screw for drivers Article no. 62 950 ... £		W7 Driver Article no. 62 950 ... £		W7 Fillister-head screw Article no. 62 950 ... £		W7 Clamping screw ST Article no. 62 950 ... £	
62 303 031 / 62 308 031	M2x2,5	1.12	**162**	5x8,5x3	26.93	**035**	M4x6	8.72	**287**	M4x3	1.67	**213**
62 303 040 / 62 308 040	M2,5x6	1.12	**163**	6x10,3x4	28.78	**036**	M5x8	8.72	**288**	M5x4	1.67	**214**
62 303 051 / 62 308 051	M3x8	1.38	**164**	8x15x5	30.22	**037**	M6x10	8.72	**289**	M6x5	1.67	**215**
62 303 067 / 62 308 067	M4x10	1.38	**165**	10x18,1x6	34.09	**038**	M8x12	8.72	**290**	M8x6	1.67	**216**
62 303 087 / 62 308 087	M5x10	1.67	**166**	12x20x6	40.84	**039**	M10x16	8.72	**291**	M10x10	1.67	**217**
62 303 116 / 62 308 116	M6x12	1.67	**167**	16x26,5x8	51.87	**040**	M10x16	8.72	**291**	M10x18	1.67	**218**

SpinTools – High-speed carbide boring tools

▲ for single point finish boring heads Article no. 62 303 ..., 62 308 ...
▲ with thro' coolant

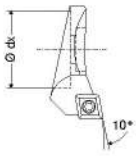


D_{min} - D_{max} mm	DCONWS mm	DCONMS $_{h5}$ mm	OAL mm	L_2 mm	WT kg	W4 Article no. 62 354 ... £	
23,9 - 31,1	11	20	250	210	0.81	1,061.03	020
30,9 - 40,1	14	25	306	261	1.54	1,450.49	025
39,9 - 51,1	18	32	380	315	3.03	2,270.45	032

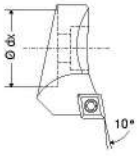
SpinTools – Insert holder, 90° and 95°

▲ for single point finish boring heads Article no. 62 303 ..., 62 308 ...

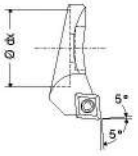
Scope of supply:
incl. Torx clamping screw for inserts, without fixing bolt for holder



90°



Extended 90°



95°

90°

90° extended

95°

Ø dx mm	Insert	W4 Article no. 62 318 ... £		W4 Article no. 62 318 ... £		W4 Article no. 62 320 ... £	
11	CC.. 0602	106.88	031	126.91	037	117.57	031
13	CC.. 0602	117.57	040	140.27	047	129.59	040
17	CC.. 0602	129.59	051	153.63	059	142.94	051
22	CC.. 0602	140.27	067	167.00	081	146.95	067
30	CC.. 0602	152.30	087	180.36	105		
30	CC.. 09T3	152.30	116	180.36	134	167.00	087
30	CC.. 09T3			211.08	154		

Suitable inserts can be found on → **Page 48.**

W7
TORX® Screws

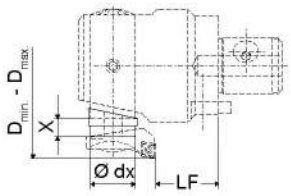
Y7
Key D

Spare parts Insert		Article no. 62 950 ... £			Article no. 80 950 ... £	
CC.. 0602	M2,5x6	4.42	022	T07	10.30	109
CC.. 09T3	M4x9	5.14	023	T15	12.26	113

SpinTools – Reverse adapter for back boring

▲ For insert holder article no. 62 318 ... / 62 320 ...

Scope of supply:
Adapter including fixing bolt



X mm	Ø dx mm	LF mm	Ø D_{min} - D_{max} mm	W4 Article no. 62 321 ... £	
6.5	11	13.0	37 - 44	165.66	**044**
8.0	11	13.0	40 - 47	165.66	**051**
6.5	13	12.6	44 - 53	165.66	**053**
10.0	13	12.6	51 - 60	165.66	**060**
6.5	17	31.3	53 - 64	165.66	**064**
10.0	17	31.3	60 - 71	165.66	**071**
6.5	22	31.2	68 - 80	171.01	**080**
12.0	22	31.2	75 - 91	171.01	**091**
10.0	30	29.0	87 - 107	176.33	**107**

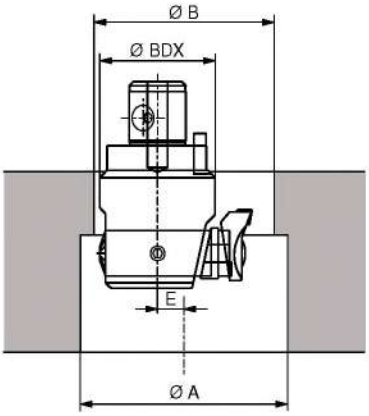
Note left hand direction of spindle rotation when in use

W7

Fillister-head screw

Spare parts for Article no.	Article no. 62 950 ... £	
62 321 044	8.68	**278**
62 321 051	8.98	**279**
62 321 053	8.68	**280**
62 321 060	8.98	**281**
62 321 064	8.68	**282**
62 321 071	8.98	**283**
62 321 080	8.68	**284**
62 321 091	8.98	**285**
62 321 107	10.28	**286**

Minimum diameter (Ø B) during retraction for back boring



Minimum diameter (Ø B) of the entry bore

$$Ø B = \frac{Ø BDX + Ø A}{2} + 1^*$$

Minimum offset (E) for starting

$$E = \frac{Ø A - Ø B}{2} + 0{,}5^*$$

*Safety margin

Example:
Boring head = 62 303 031
Insert Holder= 62 318 031
Reverse adapter = 62 321 044
Ø BDX = 20 mm
Ø A ≙ Amin. = 37 mm
*Safety margin = 1 mm

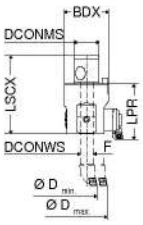
$$Ø B = \frac{20 + 37}{2} = 28{,}5 + 1 = 29{,}5 \text{ mm}$$

5

SpinTools – Vario-Head – boring and fine boring head

- ▲ For boring bars with a diameter of 16 mm and insert holders
- ▲ with thro' coolant supply
- ▲ LSCX = Recess depth of boring bar

Scope of supply:
Without boring bar and insert holder
Incl. coolant insert



Digital
STM Modular

D_{min} - D_{max} mm	Adapter	DCONMS mm	BDX mm	DCONWS mm	LPR mm	LSCX mm	F mm	W4 Article no. 62 364 ... £	
3 - 125	STM 36	36	63	16	76.5	110	0 - 6,5	1,191.59	101

SpinTools – Digital Stick

- ▲ suitable for all SpinTools Digital Heads

Scope of supply:
incl. AAA Battery

	W4 Article no. 62 309 ... £	
	258.88	000

Coolant insert

Clamping screw VH

Grubscrew

Spare parts for Article no.	W4 Article no. 62 366 ... £		W7 Article no. 62 950 ... £		W7 Article no. 62 950 ... £	
62 364 101	85.10	002	M10X12 5.41	341	M5X16 5.41	340

Cylindrical screw

Clamping screw

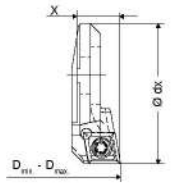
Spare parts for Article no.	W7 Article no. 62 950 ... £		W7 Article no. 62 950 ... £	
62 364 101	M10x25 6.49	343	M10X18 5.41	342

SpinTools – Insert holder, 90°

▲ for Vario-Head boring and fine boring head 62 364 101

Scope of supply:

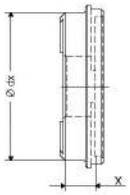
incl. Torx clamping screw for inserts, without fixing bolt for holder



X mm	Ø dx mm	Insert	Ø D_{min} - D_{max} mm	D_{min} - D_{max} extended mm	90° W4 Article no. 62 365 ... £	
13.05	30	CC.. 09T3	87,75 - 101,1	101,1 - 105,75	188.80	**101**
22.05	30	CC.. 09T3	105,75 - 119,1	119,1 - 125,75	225.46	**119**
32.05	30	CC.. 09T3	125,75 - 139,1	139,1 - 152	264.06	**139**

SpinTools – Spacer

▲ For insert holder article no. 62 365 ...



X mm	Ø dx mm	W4 Article no. 62 366 ... £	
6.5	30	215.18	**001**

5

SpinTools – Vario Digital single point boring head (set)

▲ Suitable for Ø 3 – Ø 152 mm
▲ supplied with Ø 9.75 – Ø 101.1 mm
▲ with thro' coolant supply

Scope of supply:

- ▲ **1 tool kit**
- ▲ **1 single point finish boring head**
  - 62 364 101
- ▲ **2 boring bars**
  - 62 345 015 Ø 9.75 - Ø 20.1 mm
  - 62 345 024 Ø 19.75 - Ø 30.1 mm
- ▲ **Boring bars, adjustable**
  - 62 375 048 Ø 29.75 - Ø 48.1 mm
  - 62 377 088 Ø 47.75 - Ø 88.1 mm
- ▲ **3 insert holders**
  - 62 377 048 Ø 29.75 - Ø 48.1 mm
  - 62 375 088 Ø 47.75 - Ø 88.1 mm
  - 62 365 101 Ø 87.75 - Ø 101.1 mm
- ▲ **1 coolant insert 62 366 002**
- ▲ **1 digital display unit 62 309 000**
- ▲ **4 Allen keys – SW2.5/4/5/8**
- ▲ **2 Torx keys – T7/15**

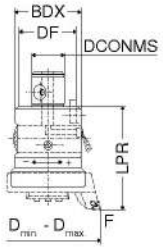
D_{min} - D_{max} mm	Adapter	STM Modular W4 Article no. 62 364 ... £	
9,75 - 101,1	STM 36	2,226.38	**999**

SpinTools – Single point finish boring heads

▲ With internal coolant supply
▲ extremely stable connection between insert holder and boring head

Scope of supply:
Boring head, without insert holder, pressure plate and support

STM



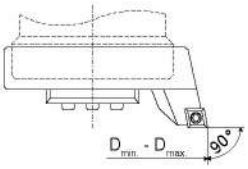
D_{min} - D_{max} mm	Adapter	DCONMS mm	BDX mm	DF mm	LPR mm	F mm	WT kg	STM Modular W4 Article no. 62 305 ... £	
86 - 402	STM 36	36	72	63	120	±1,25	2.94	1,557.74	**302**

Spare parts		W7 Cylindrical screw Article no. 62 950 ... £		W7 Screw for drivers Article no. 62 950 ... £		W7 Driver Article no. 62 950 ... £		W7 Clamping screw ST Article no. 62 950 ... £	
for Article no.									
62 305 302	M8x45	5.00	**292**	M6x12	1.67	**167**	16x26,5x8	51.87	**040**	M8x60	8.98	**011**

SpinTools – Tool holder

▲ for single point finish boring heads
▲ Approach angle 90°

Scope of supply:
incl. cover plate and support



Ø D_{min} - D_{max} mm	Insert	W4 Article no. 62 438 ... £	
86 - 138	CC.. 09T3	335.15	**138**
86 - 138	CC.. 1204	335.15	**238**
136 - 220	CC.. 09T3	400.04	**220**
136 - 220	CC.. 1204	398.72	**320**
188 - 302	CC.. 09T3	499.39	**302**
242 - 402	CC.. 09T3	598.73	**402**

Suitable inserts can be found on → **Page 48.**

Spare parts – insert holder

		W7			Y7		W7		W7	
		 TORX® Screws			 Key D		 Pressure plate		 Support	
Spare parts		**Article no. 62 950 ...**			**Article no. 80 950 ...**		**Article no. 62 950 ...**		**Article no. 62 950 ...**	
for Article no.		£			£		£		£	
62 438 138	M4x9	5.14	023	T15	12.26	113	91.51	152	69.16	149
62 438 238	M5x10	5.84	232	T20	13.11	114	91.51	152	69.16	149
62 438 220	M4x9	5.14	023	T15	12.26	113	105.18	153	78.15	150
62 438 320	M5x10	5.84	232	T20	13.11	114	105.18	153	78.15	150
62 438 302	M4x9	5.14	023	T15	12.26	113	105.18	153	78.15	150
62 438 402	M4x9	5.14	023	T15	12.26	113	105.18	153	78.15	150

5

SpinTools – Boring set

- suitable for Ø 86 – Ø 402 mm
- supplied with Ø 86 – Ø 302 mm
- with thro' coolant

Scope of supply:

- **1 Case**
- **1 single point finish boring head**
  - 62 305 302
- **3 insert holders**
  - 62 438 138 Ø 86 – Ø 138 mm
  - 62 438 220 Ø 136 – Ø 220 mm
  - 62 438 302 Ø 188 – Ø 302 mm
- **2 pressure plates and 2 supports**
  - 62 950 149
  - 62 950 150
  - 62 950 152
  - 62 950 153
- **1 Allen Key – SW5**
- **1 Torx Key – T15**

		STM Modular W4
D_{min} - D_{max} mm	Adapter	**Article no. 62 439 ...**
		£
86 - 302	STM 36	2,398.94 **999**

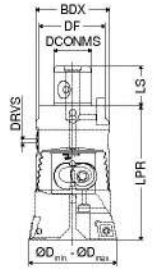
SpinTools – Twin edged Rough / Finish Boring Head

- ▲ Adjustable tools with through coolant
- ▲ each line on the adjustment scale equivalent to 0.01 mm on diameter

Scope of supply:

Boring head with spindle adjustment, carrier, stop pin, 2 screws, 2 lock washers

STM



D_{min} - D_{max} mm	Adapter	DCONMS mm	BDX mm	DF mm	LPR mm	LS mm	DRVS mm	WT kg	STM Modular W4 Article no. 62 380 ... £	
29,5 - 40,1	STM 14	14	25	25	55	16	2.5	0.12	398.72	**040**
39,5 - 50,5	STM 18	18	32	32	65	20	2.5	0.24	415.94	**050**
49,5 - 66,5	STM 22	22	42	40	82	24	3.0	0.48	450.39	**066**
65,5 - 87,5	STM 28	28	55	50	100	30	3.0	0.94	500.72	**087**
86,5 - 115,5	STM 36	36	72	63	125	40	3.0	1.89	601.40	**115**


Fillister-head screw


Spring ring


Location Pin

Spare parts for Article no.		W7 Article no. 62 950 ... £			W7 Article no. 62 950 ... £		W7 Article no. 62 950 ... £	
62 380 040	M5x12	3.29	**293**	Ø 5,3/9,3	1.12	**312**	8.68	**231**
62 380 050	M6x16	3.29	**294**	Ø 6.4/10,2	1.12	**313**	8.68	**231**
62 380 066	M8x20	3.29	**295**	Ø 8,4/14,0	1.12	**314**	9.74	**234**
62 380 087	M10x25	3.41	**296**	Ø 10,5/17,0	1.12	**315**	9.74	**234**
62 380 115	M12x25	3.71	**297**	Ø 13,0/21,0	1.12	**316**	9.74	**234**


Screw for drivers

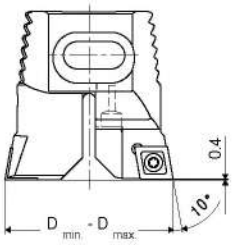

Driver

Spare parts for Article no.		W7 Article no. 62 950 ... £			W7 Article no. 62 950 ... £	
62 380 040	M2,5x6	1.12	**163**	6x10,3x4	28.78	**036**
62 380 050	M3x8	1.38	**164**	8x15x5	30.22	**037**
62 380 066	M4x10	1.38	**165**	10x18,1x6	34.09	**038**
62 380 087	M5x10	1.67	**166**	12x20x6	40.84	**039**
62 380 115	M6x12	1.67	**167**	16x26,5x8	51.87	**040**

SpinTools – Pair of Roughing / Finishing Insert Holders, 90°

- ▲ the insert holder for the finishing process is set back axially by 0.4 mm
- ▲ the insert holder for the finishing process is moved by the adjustable spindle
- ▲ the finishing insert must be mounted in the holder without radial adjustment screw
- ▲ machining allowance for the finishing insert holder approximately 0.3 mm in diameter

Scope of supply:
pair of insert holders, 1 adjusting screw, 2 WSP-clamping screws, 1 Grub screw



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Ø D_{min} - D_{max} mm	Insert	W4 Article no. 62 381 ... £	
29,5 - 40,1	CC.. 0602	305.99	040
39,5 - 50,5	CC.. 09T3	325.86	050
49,5 - 66,5	CC.. 09T3	372.23	066
65,5 - 87,5	CC.. 1204	484.82	087
86,5 - 115,5	CC.. 1204	755.05	115

Suitable inserts can be found on → **Page 48.**


TORX® Screws


Key D


Adjustment screw


Adjustment screw

Spare parts for Article no.		W7 Article no. 62 950 ... £			Y7 Article no. 80 950 ... £		W7 Article no. 62 950 ... £		W7 Article no. 62 950 ... £	
62 381 040	M2,5x6	4.42	022	T07	10.30	109	M3x8 - SW1,5	5.34	015	M4x0,5x9,5	6.98	239
62 381 050	M4x9	5.14	023	T15	12.26	113	M3x8 - SW1,5	5.34	015	M4x0,5x13	7.26	240
62 381 066	M4x9	5.14	023	T15	12.26	113	M3x8 - SW1,5	5.34	015	M6x14	1.67	241
62 381 087	M5x10	5.84	232	T20	13.11	114	M3x8 - SW1,5	5.34	015	M6x20	1.67	242
62 381 115	M5x10	5.84	232	T20	13.11	114	M3x8 - SW1,5	5.34	015	M6x30	1.99	333

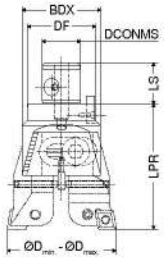
SpinTools – Boring heads for roughing with 2 cutting edges

▲ With internal coolant supply

Scope of supply:

Boring head, Drive dogs, Mounting screws and Spring rings

STM



D_{min} - D_{max} mm	Adapter	DCONMS mm	BDX mm	DF mm	LPR mm	LS mm	WT kg	STM Modular W4 Article no. 62 295 ... £	
23,5 - 30,5	STM 11	11	20	20	40	13	0.05	223.10	**030**
29,5 - 40,1	STM 14	14	25	25	45	16	0.09	239.14	**040**
39,5 - 50,5	STM 18	18	32	32	65	20	0.25	256.50	**050**
49,5 - 66,5	STM 22	22	42	40	72	24	0.38	291.25	**066**
65,5 - 87,5	STM 28	28	55	50	82	30	0.59	342.01	**087**
86,5 - 115,5	STM 36	36	72	63	105	40	1.23	444.87	**115**
114,5 - 153,0	STM 36	36	94	94	140	40	2.80	770.85	**153**

Fillister-head screw

Spring ring

Location Pin

Spare parts for Article no.		W7 Article no. 62 950 ... £			W7 Article no. 62 950 ... £		W7 Article no. 62 950 ... £	
62 295 030	M4x8	3.29	**298**	Ø 4,3/7,3	1.12	**311**	8.68	**231**
62 295 040	M5x12	3.29	**293**	Ø 5,3/9,3	1.12	**312**	8.68	**231**
62 295 050	M6x16	3.29	**294**	Ø 6.4/10,2	1.12	**313**	8.68	**231**
62 295 066	M8x20	3.29	**295**	Ø 8,4/14,0	1.12	**314**	9.74	**234**
62 295 087	M10x25	3.41	**296**	Ø 10,5/17,0	1.12	**315**	9.74	**234**
62 295 115	M12x25	3.71	**297**	Ø 13,0/21,0	1.12	**316**	9.74	**234**
62 295 153	M16x35	10.18	**299**	Ø 17,0/34,0	1.71	**317**	9.74	**234**

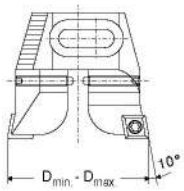
Screw for drivers

Driver

Spare parts for Article no.		W7 Article no. 62 950 ... £			W7 Article no. 62 950 ... £	
62 295 030	M2x2,5	1.12	**162**	5x8,5x3	26.93	**035**
62 295 040	M2,5x6	1.12	**163**	6x10,3x4	28.78	**036**
62 295 050	M3x8	1.38	**164**	8x15x5	30.22	**037**
62 295 066	M4x10	1.38	**165**	10x18,1x6	34.09	**038**
62 295 087	M5x10	1.67	**166**	12x20x6	40.84	**039**
62 295 115	M6x12	1.67	**167**	16x26,5x8	51.87	**040**
62 295 153	M6x12	1.67	**167**	16x26,5x8	51.87	**040**

SpinTools – Pair of tool holders, standard, 90°

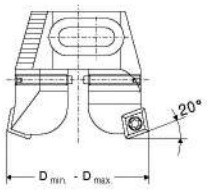
Scope of supply:
Adjustment screws, positioning pin, insert clamping screws



Ø D_{min} - D_{max} mm	Insert	W4 Article no. 62 296 ... £	
23,5 - 30,5	CC.. 0602	256.50	030
29,5 - 40,1	CC.. 0602	268.53	040
39,5 - 50,5	CC.. 09T3	287.24	050
49,5 - 66,5	CC.. 09T3	327.32	066
65,5 - 87,5	CC.. 1204	408.80	087
65,5 - 87,5	CN.. 1204	426.18	088
86,5 - 115,5	CC.. 1204	646.61	115
86,5 - 115,5	CN.. 1606	665.31	116
114,5 - 153	CC.. 1204	780.21	153
114,5 - 153	CN.. 1606	847.01	154

SpinTools – Pair of tool holders, standard, 70°

Scope of supply:
Adjustment screws, positioning pin, insert clamping screws



Ø D_{min} - D_{max} mm	Insert	W4 Article no. 62 299 ... £	
23,5 - 30,5	CC.. 0602	256.50	030
29,5 - 40,1	CC.. 0602	268.53	040
39,5 - 50,5	CC.. 09T3	287.24	050
49,5 - 66,5	CC.. 09T3	327.32	066
65,5 - 87,5	CC.. 1204	408.80	087
65,5 - 87,5	CN.. 1204	426.18	088
86,5 - 115,5	CC.. 1204	646.61	115
86,5 - 115,5	CN.. 1606	665.31	116
114,5 - 153	CN.. 1606	847.01	154

5

Suitable inserts can be found on → **Page 48.**

Spare parts


TORX® Screws


Key D


Adjustment screw

Ø D_{min} - D_{max}	Insert		W7 Article no. 62 950 ... £		Y7 Article no. 80 950 ... £		W7 Article no. 62 950 ... £	
114,5 - 153	CC.. 1204	M5x10	5.84	232	T20	13.11	114	M6x40	3.32	335
23,5 - 30,5	CC.. 0602	M2,5x6	4.42	022	T07	10.30	109	M4x0,5x7	6.84	238
29,5 - 40,1	CC.. 0602	M2,5x6	4.42	022	T07	10.30	109	M4x0,5x9,5	6.98	239
39,5 - 50,5	CC.. 09T3	M4x9	5.14	023	T15	12.26	113	M4x0,5x13	7.26	240
49,5 - 66,5	CC.. 09T3	M4x9	5.14	023	T15	12.26	113	M6x14	1.67	241
65,5 - 87,5	CC.. 1204	M5x10	5.84	232	T20	13.11	114	M6x20	1.67	242
86,5 - 115,5	CC.. 1204	M5x10	5.84	232	T20	13.11	114	M6x30	1.99	333

Spare parts


Shim


Elbow lever screw


Lever

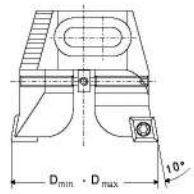

Carbide type C


Adjustment screw

Ø D_{min} - D_{max}	Insert	W7 Article no. 62 950 ... £		W7 Article no. 62 950 ... £		W7 Article no. 62 950 ... £		W7 Article no. 62 950 ... £			W7 Article no. 62 950 ... £	
114,5 - 153	CN.. 1606	2.29	177	7.56	180	23.66	179	24.95	178	M8x40	2.29	334
65,5 - 87,5	CN.. 1204	2.29	096	7.56	136	21.36	125	18.25	117	M6x20	1.67	242
86,5 - 115,5	CN.. 1606	2.29	177	7.56	180	23.66	179	24.95	178	M6x30	1.99	333

SpinTools – Pair of tool holders, 'Synchro', 90°

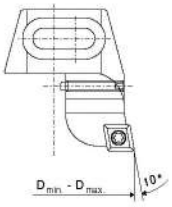
Scope of supply:
Insert clamping screws, synchronization screw



Ø D_{min} - D_{max} mm	Insert	W4 Article no. 62 297 ... £	
23,5 - 30,5	CC.. 0602	295.25	030
29,5 - 40,1	CC.. 0602	308.60	040
39,5 - 50,5	CC.. 09T3	328.64	050
49,5 - 66,5	CC.. 09T3	375.41	066
65,5 - 87,5	CC.. 1204	488.97	087
86,5 - 115,5	CC.. 1204	761.50	115
114,5 - 153	CC.. 1204	911.12	153

SpinTools – Tool holder 90°, axial offset 0.4 mm

Scope of supply:
2 adjustment screws, 1 positioning pin, insert clamping screw



Ø D_{min} - D_{max} mm	Insert	W4 Article no. 62 298 ... £	
23,5 - 30,5	CC.. 0602	171.01	030
29,5 - 40,1	CC.. 0602	179.02	040
39,5 - 50,5	CC.. 09T3	192.38	050
49,5 - 66,5	CC.. 09T3	219.10	066
65,5 - 87,5	CC.. 1204	285.89	087
86,5 - 115,5	CC.. 1204	443.54	115
114,5 - 153	CC.. 1204	533.06	153

Suitable inserts can be found on → **Page 48.**


TORX® Screws


Synchronization screw

Key D

Adjustment screw

Spare parts for Article no.		W7 Article no. 62 950 ... £			W7 Article no. 62 950 ... £			Y7 Article no. 80 950 ... £			W7 Article no. 62 950 ... £	
62 297 030	M2,5x6	4.42	022	M4x0,5x18	50.99	207	T07	10.30	109	M4x0,5x7	6.84	238
62 297 040	M2,5x6	4.42	022	M4x0,5x23	51.17	208	T07	10.30	109	M4x0,5x9,5	6.98	239
62 297 050	M4x9	5.14	023	M4x0,5x30	52.87	209	T15	12.26	113	M4x0,5x13	7.26	240
62 297 066	M4x9	5.14	023	M6x40	54.18	210	T15	12.26	113	M6x14	1.67	241
62 297 087	M5x10	5.84	232	M6x52	55.64	211	T20	13.11	114	M6x20	1.67	242
62 297 115	M5x10	5.84	232	M6x68	57.25	212	T20	13.11	114	M6x30	1.99	333
62 297 153	M5x10	5.84	232	M6x90	88.55	220	T20	13.11	114	M6x40	3.32	335

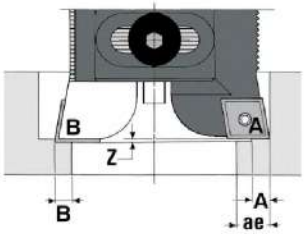

TORX® Screws

Key D

Adjustment screw

Spare parts for Article no.		Article no. 62 950 ... £			Article no. 80 950 ... £			Article no. 62 950 ... £	
62 298 030	M2,5x6	4.42	022	T07	10.30	109	M4x0,5x7	6.84	238
62 298 040	M2,5x6	4.42	022	T07	10.30	109	M4x0,5x9,5	6.98	239
62 298 050	M4x9	5.14	023	T15	12.26	113	M4x0,5x13	7.26	240
62 298 066	M4x9	5.14	023	T15	12.26	113	M6x14	1.67	241
62 298 087	M5x10	5.84	232	T20	13.11	114	M6x20	1.67	242
62 298 115	M5x10	5.84	232	T20	13.11	114	M6x30	1.99	333
62 298 153	M5x10	5.84	232	T20	13.11	114	M6x40	3.32	335

Asynchronous machining (divided cut)



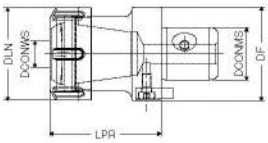
Asynchronous boring is possible using a tool holder (A) with offset 0.4mm. This tool holder is black finished and characterized by 3 dots, and must be in the outer position (with regard to the 2 tool holders)

SpinTools – ER collet chuck

- ▲ for ER clamping to DIN 6499
- ▲ With internal coolant supply

Scope of supply:
axial tool length adjustment and lock nut

STM



DCONWS	SZID	DCONMS	DF	DLN	LPR	for collet	WT	STM Modular W4 Article no. 62 306 ...
mm		mm	mm	mm	mm		kg	£
1 - 20	STM 28	28	50	50	60	470E (ER32)	0.644	273.88 032

Spare parts	Y8 Y clamping key Article no. 83 357 ...	W7 Screw for drivers Article no. 62 950 ...	W7 Driver Article no. 62 950 ...	Y8 Driver Article no. 83 950 ...	W7 Stop screw IK Article no. 62 950 ...
for Article no.	£	£	£	£	£
62 306 032	32.33 132	1.67 166	40.84 039	14.10 121	11.09 406

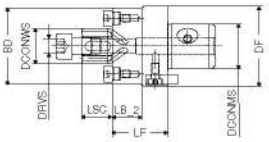
Suitable collets can be found in → **Chapter 16, Adapters**

SpinTools – Shell mill adapter

- ▲ for use on mills with parallel or transverse slot to ISO 3937
- ▲ With internal coolant supply

Scope of supply:
drive dogs, drive key and clamping bolt

STM

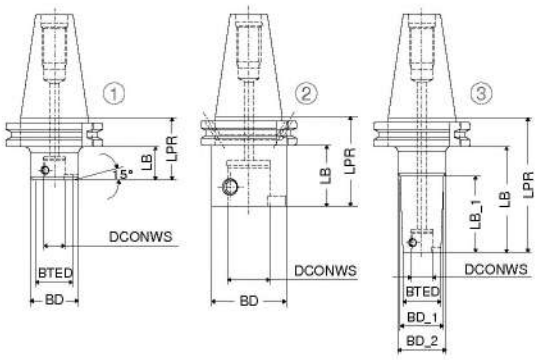


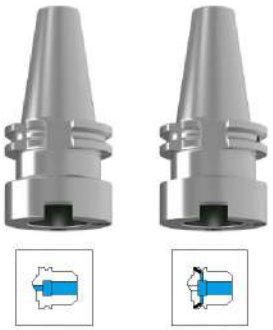
DCONWS	SZID	DCONMS	BD	DF	LSC	LB_2	LF	DRVS	WT	STM Modular W4 Article no. 62 307 ...
mm		mm	mm	mm	mm	mm	mm	mm	kg	£
16	STM 22	22	38	40	17	17.1	30	6	0.363	215.08 016
22	STM 28	28	48	50	19	19.1	35	8	0.685	220.44 022

Spare parts	Y8 Parallel key Article no. 83 950 ...	W7 Screw for drivers Article no. 62 950 ...	W7 Drive dogs Article no. 62 950 ...	W7 Driver Article no. 62 950 ...	Y8 clamping screw Article no. 83 950 ...
for Article no.	£	£	£	£	£
62 307 016	3.29 284	1.38 165	22.29 442	34.09 038	5.65 113
62 307 022	3.29 285	1.67 166	22.29 443	40.84 039	6.38 124

SpinTools – Base adapters DIN 69871

STM





AD SK — AD/B SK

	Adapter	Fig.	SZID	DCONWS	BTED	BD	BD_1	BD_2	LPR	LB	LB_1	WT	W4 Article no. 62 107 ... £		W4 Article no. 62 108 ... £	
				mm	mm	mm	mm	mm	mm	mm	mm	kg				
short	SK 30	2	STM 28	28		50			55	35.9		0.62	231.12	328		
short	SK 40	1	STM 11	11	20	32			40	20.9		0.91	231.12	111 [1]		
short	SK 40	1	STM 14	14	25	32			40	20.9		0.93	231.12	114 [1]		
short	SK 40	2	STM 18	18		32			40	20.9		0.89	231.12	118		
short	SK 40	2	STM 22	22		40			50	30.9		1.02	231.12	122		
short	SK 40	2	STM 28	28		50			50	30.9		1.11	231.12	128	239.14	128
short	SK 40	2	STM 36	36		63			60	40.9		1.27	213.76	136	239.14	136
short	SK 50	2	STM 28	28		50			50	30.9		2.92	273.88	428	299.26	428
short	SK 50	2	STM 36	36		63			63	43.9		3.27	273.88	436	299.26	436
long	SK 40	3	STM 11	11	20		23	32	80	60.9	40.9	1.04	256.50	211 [1]		
long	SK 40	3	STM 14	14	25		28	32	80	60.9	40.9	1.07	256.50	214 [1]		
long	SK 40	2	STM 18	18		32			80	60.9		1.13	256.50	218		
long	SK 40	2	STM 22	22		40			100	80.9		1.47	256.50	222		
long	SK 40	2	STM 28	28		50			100	80.9		1.84	256.50	228		
long	SK 40	2	STM 36	36		63			120	100.9		2.68	256.50	236	281.89	236
long	SK 50	2	STM 36	36		63			120	100.9		4.60	308.60	536	333.99	536

1) Note! BD/BD_1 is larger than BTED, which may lead to a limited bore depth!

O-Ring

Clamping screw ST

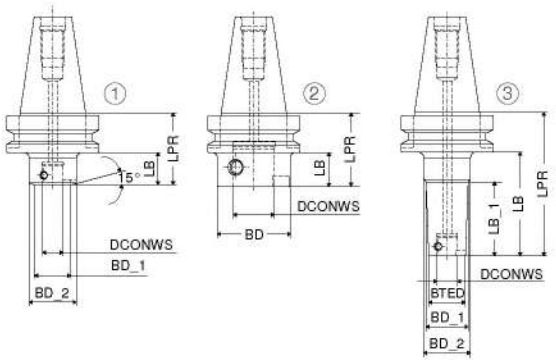
Spare parts DCONWS		W7 Article no. 62 950 ... £			W7 Article no. 62 950 ... £	
11	9x1,5	2.29	254	M4x0,5x6	9.68	026
14	12x1,5	2.29	255	M5x0,5x7,5	10.18	027
18	16x1,5	2.29	256	M6x0,75x9,5	10.42	028
22	19x2	2.29	257	M8x0,75x12	11.55	029
28	25x2	2.29	258	M10x1x14,2	13.55	030
36	33x2	2.29	259	M12x1x18	17.38	031

Suitable pull studs can be found in → **Chapter 16, Adapters**

SpinTools – Base adapters JIS B 6339 (MAS-BT)

▲ form B available upon request

STM



AD
MAS-BT

W4

	Adapter	Fig.	SZID	DCONWS	BTED	BD	BD_1	BD_2	LPR	LB	LB_1	WT	Article no. 62 112 ...	
				mm	mm	mm	mm	mm	mm	mm	mm	kg	£	
short	BT 30	2	STM 28	28		50			55			0.64	231.12	328
short	BT 40	1	STM 11	11	20	32			50	23		1.09	231.12	111 1)
short	BT 40	1	STM 14	14	25	32			50	23		1.08	231.12	114 1)
short	BT 40	2	STM 18	18		32			50	23		1.06	231.12	118
short	BT 40	2	STM 22	22		40			50	23		1.10	231.12	122
short	BT 40	2	STM 28	28		50			50	23		1.14	231.12	128
short	BT 40	2	STM 36	36		63			60	33		1.38	213.76	136
short	BT 50	2	STM 28	28		50			63	25		3.75	273.88	428
short	BT 50	2	STM 36	36		63			63	25		3.78	273.88	436
long	BT 40	3	STM 11	11	20		23	32	90	63	43	1.20	256.50	211 1)
long	BT 40	3	STM 14	14	25		28	32	90	63	43	1.24	256.50	214 1)
long	BT 40	2	STM 18	18		32			90	63		1.30	256.50	218
long	BT 40	2	STM 22	22		40			100	73		1.57	256.50	222
long	BT 40	2	STM 28	28		50			100	73		1.87	256.50	228
long	BT 40	2	STM 36	36		63			120	93		2.78	256.50	236
long	BT 50	2	STM 36	36		63			120	82		5.18	308.60	536

1) Note! BD/BD_1 is larger than BTED, which may lead to a limited bore depth!

W7

O-Ring

W7

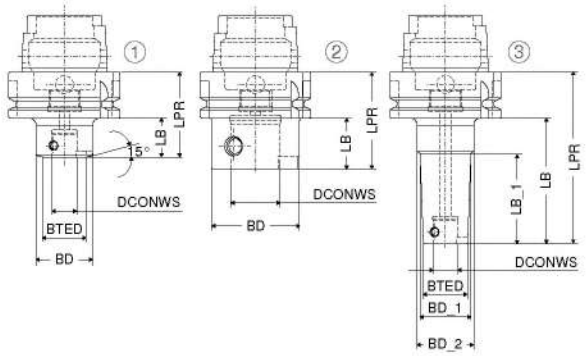
Clamping screw ST

Spare parts DCONWS		Article no. 62 950 ... £			Article no. 62 950 ... £	
11	9x1,5	2.29	254	M4x0,5x6	9.68	026
14	12x1,5	2.29	255	M5x0,5x7,5	10.18	027
18	16x1,5	2.29	256	M6x0,75x9,5	10.42	028
22	19x2	2.29	257	M8x0,75x12	11.55	029
28	25x2	2.29	258	M10x1x14,2	13.55	030
36	33x2	2.29	259	M12x1x18	17.38	031

Suitable pull studs can be found in → **Chapter 16, Adapters**

SpinTools – Base adapters HSK-A ISO 12164-1 (DIN 69893-1)

STM



AD
HSK-A

	Adapter	Fig.	SZID	DCONWS	BTED	BD	BD_1	BD_2	LPR	LB	LB_1	WT	W4 Article no. 62 122 ...	
				mm	mm	mm	mm	mm	mm	mm	mm	kg	£	
short	HSK-A 63	1	STM 11	11	20	32			50	24		0.77	273.88	111 1)
short	HSK-A 63	1	STM 14	14	25	32			50	24		0.76	273.88	114 1)
short	HSK-A 63	2	STM 18	18		32			50	24		0.74	273.88	118
short	HSK-A 63	2	STM 22	22		40			50	24		0.79	273.88	122
short	HSK-A 63	2	STM 28	28		50			55	24		0.91	273.88	128
short	HSK-A 63	2	STM 36	36		63			65	34		1.10	248.49	136
short	HSK-A 100	2	STM 28	28		50			63	34		2.32	316.62	428
short	HSK-A 100	2	STM 36	36		63			70	34		2.61	316.62	436
long	HSK-A 63	3	STM 11	11	20		23	32	90	64	44	0.87	299.26	211 1)
long	HSK-A 63	3	STM 14	14	25		28	32	90	64	44	0.93	299.26	214 1)
long	HSK-A 63	2	STM 18	18		32			90	64		0.98	299.26	218
long	HSK-A 63	2	STM 22	22		40			100	74		1.26	299.26	222
long	HSK-A 63	2	STM 28	28		50			100	74		1.58	299.26	228
long	HSK-A 63	2	STM 36	36		63			120	94		2.41	316.62	236
long	HSK-A 100	2	STM 36	36		63			120	91		3.77	342.01	536

1) Note! BD/BD_1 is larger than BTED, which may lead to a limited bore depth!

O-Ring

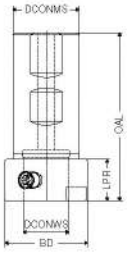
Clamping screw ST

Spare parts DCONWS		W7 Article no. 62 950 ... £			W7 Article no. 62 950 ... £	
11	9x1,5	2.29	254	M4x0,5x6	9.68	026
14	12x1,5	2.29	255	M5x0,5x7,5	10.18	027
18	16x1,5	2.29	256	M6x0,75x9,5	10.42	028
22	19x2	2.29	257	M8x0,75x12	11.55	029
28	25x2	2.29	258	M10x1x14,2	13.55	030
36	33x2	2.29	259	M12x1x18	17.38	031

SpinTools – Adapters to DIN 1835-B

▲ with thro' coolant

STM



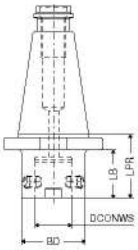
DIN 1835-B

DCONMS	BD	SZID	DCONWS	LPR	OAL	WT	W4 Article no. 62 104 ...	
mm	mm		mm	mm	mm	kg	£	
25	25	STM 14	14	15	72	0.24	169.66	014
32	32	STM 18	18	15	76	0.42	175.01	018
32	50	STM 28	28	35	96	0.72	212.43	028
32	63	STM 36	36	45	106	1.05	233.79	036

5

SpinTools – Base adapter DIN 2080

STM



short
SK

Adapter	SZID	DCONWS	BD	LPR	LB	WT	W4 Article no. 62 109 ...	
		mm	mm	mm	mm	kg	£	
SK 40	STM 36	36	63	60	48.4	1.52	275.21	136
SK 50	STM 36	36	63	63	47.8	3.33	315.29	436

O-Ring

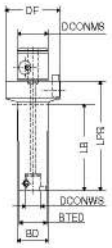
Clamping screw ST

Spare parts DCONWS		W7 Article no. 62 950 ... £			W7 Article no. 62 950 ... £	
14	12x1,5	2.29	255	M5x0,5x7,5	10.18	027
18	16x1,5	2.29	256	M6x0,75x9,5	10.42	028
28	25x2	2.29	258	M10x1x14,2	13.55	030
36	33x2	2.29	259	M12x1x18	17.38	031

SpinTools – Reductions

▲ With internal coolant supply

STM



Adapter	LPR	SZID	DCONMS	DCONWS	DF	BTED	BD	LB	WT	STM Modular W4 Article no. 62 357 ... £	
	mm		mm	mm	mm	mm	mm	mm	kg		
STM 11	30	STM 14	14	11	25	20	23	15	0.04	125.84	**111**
STM 11	30	STM 18	18	11	32	20	23	17	0.14	125.84	**211**
STM 14	30	STM 18	18	14	32	25	28	17	0.16	125.84	**214**
STM 11	30	STM 22	22	11	40	20	23	15	0.21	131.14	**311**
STM 14	30	STM 22	22	14	40	25	28	15	0.22	131.14	**314**
STM 18	30	STM 22	22	18	40	32	37	15	0.25	131.14	**318**
STM 11	40	STM 28	28	11	50	20	23	20	0.44	136.45	**411**
STM 14	40	STM 28	28	14	50	25	28	20	0.49	136.45	**414**
STM 18	40	STM 28	28	18	50	32	37	20	0.45	136.45	**418**
STM 22	40	STM 28	28	22	50	40	46	20	0.55	136.45	**422**
STM 11	40	STM 36	36	11	63	20	22	16	0.82	144.40	**511**
STM 11	70	STM 36	36	11	63	20	23	42	0.90	156.30	**811**
STM 11	95	STM 36	36	11	63	20	23	71	0.98	169.56	**611**
STM 11	115	STM 36	36	11	63	20	23	87	1.02	186.77	**911**
STM 11	135	STM 36	36	11	63	20	23	111	1.08	204.01	**711**
STM 14	40	STM 36	36	14	63	25	27	16	0.84	144.40	**514**
STM 14	80	STM 36	36	14	63	25	28	52	1.00	165.58	**814**
STM 14	120	STM 36	36	14	63	25	28	96	1.16	186.77	**614**
STM 14	145	STM 36	36	14	63	25	28	117	1.27	204.01	**914**
STM 14	170	STM 36	36	14	63	25	28	146	1.38	221.21	**714**
STM 18	40	STM 36	36	18	63	32	37	16	0.85	144.40	**518**
STM 18	100	STM 36	36	18	63	32	38	74	1.24	176.18	**818**
STM 18	150	STM 36	36	18	63	32	38	126	1.66	206.64	**918**
STM 18	207	STM 36	36	18	63	32	38	183	2.07	254.32	**618**
STM 22	40	STM 36	36	22	63	40	46	16	0.89	144.40	**522**
STM 22	120	STM 36	36	22	63	40	48	95	1.76	190.75	**822**
STM 22	183	STM 36	36	22	63	40	48	159	2.52	237.12	**622**
STM 22	263	STM 36	36	22	63	40	48	239	3.44	339.12	**722**
STM 28	40	STM 36	36	28	63	50	58	21	1.03	144.40	**528**
STM 28	140	STM 36	36	28	63	50	60	117	2.70	200.02	**828**
STM 28	233	STM 36	36	28	63	50	60	209	4.41	321.89	**628**
STM 28	333	STM 36	36	28	63	50	60	309	6.25	441.10	**728**

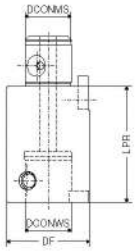
Reductions – Spare Parts

		W7			W7			W7			W7	
		 O-Ring			 Screw for drivers			 Driver			 Clamping screw ST	
Spare parts		**Article no. 62 950 ...**			**Article no. 62 950 ...**			**Article no. 62 950 ...**			**Article no. 62 950 ...**	
for Article no.		£			£			£			£	
62 357 111	9x1,5	2.29	254	M2,5x6	1.12	163	6x10,3x4	28.78	036	M4x0,5x6	9.68	026
62 357 211	9x1,5	2.29	254	M3x8	1.38	164	8x15x5	30.22	037	M4x0,5x6	9.68	026
62 357 214	12x1,5	2.29	255	M3x8	1.38	164	8x15x5	30.22	037	M5x0,5x7,5	10.18	027
62 357 311	9x1,5	2.29	254	M4x10	1.38	165	10x18,1x6	34.09	038	M4x0,5x6	9.68	026
62 357 314	12x1,5	2.29	255	M4x10	1.38	165	10x18,1x6	34.09	038	M5x0,5x7,5	10.18	027
62 357 318	16x1,5	2.29	256	M4x10	1.38	165	10x18,1x6	34.09	038	M6x0,75x9,5	10.42	028
62 357 411	9x1,5	2.29	254	M5x10	1.67	166	12x20x6	40.84	039	M4x0,5x6	9.68	026
62 357 414	12x1,5	2.29	255	M5x10	1.67	166	12x20x6	40.84	039	M5x0,5x7,5	10.18	027
62 357 418	16x1,5	2.29	256	M5x10	1.67	166	12x20x6	40.84	039	M6x0,75x9,5	10.42	028
62 357 422	19x2	2.29	257	M5x10	1.67	166	12x20x6	40.84	039	M8x0,75x12	11.55	029
62 357 511	9x1,5	2.29	254	M6x12	1.67	167	16x26,5x8	51.87	040	M4x0,5x6	9.68	026
62 357 811	9x1,5	2.29	254	M6x12	1.67	167	16x26,5x8	51.87	040	M4x0,5x6	9.68	026
62 357 611	9x1,5	2.29	254	M6x12	1.67	167	16x26,5x8	51.87	040	M4x0,5x6	9.68	026
62 357 911	9x1,5	2.29	254	M6x12	1.67	167	16x26,5x8	51.87	040	M4x0,5x6	9.68	026
62 357 711	9x1,5	2.29	254	M6x12	1.67	167	16x26,5x8	51.87	040	M4x0,5x6	9.68	026
62 357 514	12x1,5	2.29	255	M6x12	1.67	167	16x26,5x8	51.87	040	M5x0,5x7,5	10.18	027
62 357 814	12x1,5	2.29	255	M6x12	1.67	167	16x26,5x8	51.87	040	M5x0,5x7,5	10.18	027
62 357 614	12x1,5	2.29	255	M6x12	1.67	167	16x26,5x8	51.87	040	M5x0,5x7,5	10.18	027
62 357 914	12x1,5	2.29	255	M6x12	1.67	167	16x26,5x8	51.87	040	M5x0,5x7,5	10.18	027
62 357 714	12x1,5	2.29	255	M6x12	1.67	167	16x26,5x8	51.87	040	M5x0,5x7,5	10.18	027
62 357 518	16x1,5	2.29	256	M6x12	1.67	167	16x26,5x8	51.87	040	M6x0,75x9,5	10.42	028
62 357 818	16x1,5	2.29	256	M6x12	1.67	167	16x26,5x8	51.87	040	M6x0,75x9,5	10.42	028
62 357 918	16x1,5	2.29	256	M6x12	1.67	167	16x26,5x8	51.87	040	M6x0,75x9,5	10.42	028
62 357 618	16x1,5	2.29	256	M6x12	1.67	167	16x26,5x8	51.87	040	M6x0,75x9,5	10.42	028
62 357 522	19x2	2.29	257	M6x12	1.67	167	16x26,5x8	51.87	040	M8x0,75x12	11.55	029
62 357 822	19x2	2.29	257	M6x12	1.67	167	16x26,5x8	51.87	040	M8x0,75x12	11.55	029
62 357 622	19x2	2.29	257	M6x12	1.67	167	16x26,5x8	51.87	040	M8x0,75x12	11.55	029
62 357 722	19x2	2.29	257	M6x12	1.67	167	16x26,5x8	51.87	040	M8x0,75x12	11.55	029
62 357 528	25x2	2.29	258	M6x12	1.67	167	16x26,5x8	51.87	040	M10x1x14,2	13.55	030
62 357 828	25x2	2.29	258	M6x12	1.67	167	16x26,5x8	51.87	040	M10x1x14,2	13.55	030
62 357 628	25x2	2.29	258	M6x12	1.67	167	16x26,5x8	51.87	040	M10x1x14,2	13.55	030
62 357 728	25x2	2.29	258	M6x12	1.67	167	16x26,5x8	51.87	040	M10x1x14,2	13.55	030

SpinTools – Extensions

▲ With internal coolant supply

STM



Adapter	LPR	SZID	DCONWS	DF	DCONMS	WT	STM Modular W4 Article no. 62 351 ...	
	mm		mm	mm	mm	kg	£	
STM 11	25	STM 11	11	20	11	0.06	120.23	**111**
STM 11	35	STM 11	11	20	11	0.09	120.23	**211**
STM 14	30	STM 14	14	25	14	0.11	120.23	**114**
STM 14	45	STM 14	14	25	14	0.17	120.23	**214**
STM 18	40	STM 18	18	32	18	0.23	128.25	**118**
STM 18	60	STM 18	18	32	18	0.35	127.16	**218**
STM 22	50	STM 22	22	40	22	0.45	137.62	**122**
STM 22	80	STM 22	22	40	22	0.73	136.45	**222**
STM 28	50	STM 28	28	50	28	0.71	137.62	**128**
STM 28	75	STM 28	28	50	28	1.07	144.40	**228**
STM 28	100	STM 28	28	50	28	1.44	152.33	**328**
STM 36	60	STM 36	36	63	36	1.33	145.63	**136**
STM 36	90	STM 36	36	63	36	2.02	161.61	**236**
STM 36	120	STM 36	36	63	36	2.72	178.82	**336**

O-Ring

Screw for drivers

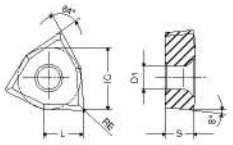
Driver

Clamping screw ST

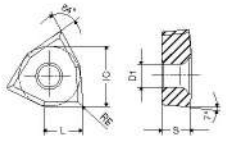
Spare parts DCONWS		W7 Article no. 62 950 ... £			W7 Article no. 62 950 ... £			W7 Article no. 62 950 ... £			W7 Article no. 62 950 ... £	
11	9x1,5	2.29	**254**	M2x2,5	1.12	**162**	5x8,5x3	26.93	**035**	M4x0,5x6	9.68	**026**
14	12x1,5	2.29	**255**	M2,5x6	1.12	**163**	6x10,3x4	28.78	**036**	M5x0,5x7,5	10.18	**027**
18	16x1,5	2.29	**256**	M3x8	1.38	**164**	8x15x5	30.22	**037**	M6x0,75x9,5	10.42	**028**
22	19x2	2.29	**257**	M4x10	1.38	**165**	10x18,1x6	34.09	**038**	M8x0,75x12	11.55	**029**
28	25x2	2.29	**258**	M5x10	1.67	**166**	12x20x6	40.84	**039**	M10x1x14,2	13.55	**030**
36	33x2	2.29	**259**	M6x12	1.67	**167**	16x26,5x8	51.87	**040**	M12x1x18	17.38	**031**

WCMT / WCGT

Designation	L	S	D1	IC
	mm	mm	mm	mm
WCGT 0201..	2.71	1.59	2.1	3.97
WCMT 0201..	4.34	1.59	2.1	3.97



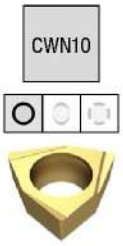
WCMT



WCGT

WCMT / WCGT

CWC06



CWN10

CWP25

		F	F	F
		CERMET		
		WCMT	WCGT	WCGT
		X2	X2	X2
ISO	RE	Article no. 70 294 ...	Article no. 70 295 ...	Article no. 70 295 ...
	mm	£	£	£
020102	0.2	14.15 850	89.65 850	40.47 500
020104	0.4		89.65 852	
Steel		●	●	●
Stainless steel		○	●	●
Cast iron		●	●	○
Non ferrous metals		●	●	●
Heat resistant alloys		○	●	
hardened materials			●	

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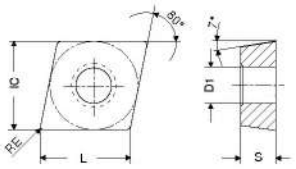
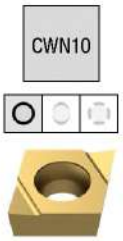
Additional inserts can be found in → **Chapter 9, Turning Tools**

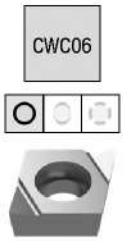
CCGT

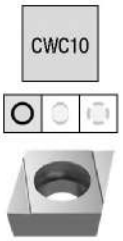
Designation	L	S	D1	IC
	mm	mm	mm	mm
CCGT 06..	6.4	2.38	2.8	6.35
CCGT 09..	9.7	3.97	4.4	9.52



CCGT







		F	F	F
			CERMET	CERMET
		CCGT	CCGT	CCGT
		X2	X2	X2
ISO	RE	Article no. 70 296 ...	Article no. 70 296 ...	Article no. 70 300 ...
	mm	£	£	£
060202L	0.2	63.33 300	40.88 850	15.09 903
060204L	0.4	63.33 302	40.88 852	15.09 905
09T302L	0.2	68.37 304	44.21 854	18.81 911
09T304L	0.4	68.37 306	44.21 856	18.81 913
Steel		●	●	●
Stainless steel		●	○	●
Cast iron		●	●	●
Non ferrous metals		●	●	
Heat resistant alloys		●	○	
hardened materials		●		

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Additional inserts can be found in → **Chapter 9, Turning Tools**

Material examples referring to the cutting data tables

	Index	Material	Strength N/mm² / HB / HRC	Material number	Material designation	Material number	Material designation	Material number	Material designation
P	1.1	General construction steel	< 800 N/mm²	1.0402	EN3B				
	1.2	Free cutting steel	< 800 N/mm²	1.0711	EN1A				
	1.3	Hardened steel, non alloyed	< 800 N/mm²	1.0401	EN32C				
	1.4	Alloyed hardened steel	< 1000 N/mm²	1.7325	25 CD4				
	1.5	Tempering steel, unalloyed	< 850 N/mm²	1.5752	EN36	1.0535	EN9		
	1.6	Tempering steel, unalloyed	< 1000 N/mm²	1.6582	EN24				
	1.7	Tempering steel, alloyed	< 800 N/mm²	1.7225	EN19				
	1.8	Tempering steel, alloyed	< 1300 N/mm²	1.8515	EN40B				
	1.9	Steel castings	< 850 N/mm²	0.9650	G-X 260 Cr 27	1.6750	GS-20 NiCrMo 3 7	1.6582	GS-34 CrNiMo 6
	1.10	Nitriding steel	< 1000 N/mm²	1.8509	EN41B				
	1.11	Nitriding steel	< 1200 N/mm²	1.1186	EN8	1.1160	EN14A		
	1.12	Roller bearing steel	< 1200 N/mm²	1.3505	534A99				
	1.13	Spring steel	< 1200 N/mm²		EN45		EN47		EN43
	1.14	High-speed steel	< 1300 N/mm²	1.3343	M2	1.3249	M34		
	1.15	Cold working tool steel	< 1300 N/mm²	1.2379	D2	1.2311	P20		
	1.16	Hot working tool steel	< 1300 N/mm²	1.2344	H13				
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm²	1.4581	318				
	2.2	Stainless steel, ferritic	< 750 N/mm²	1.4000	403				
	2.3	Stainless steel, martensitic	< 900 N/mm²	1.4057	EN57				
	2.4	Stainless steel, ferritic / martensitic	<1100 N/mm²	1.4028	EN56B				
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm²	1.4542	17-4PH				
	2.6	Stainless steel, austenitic	< 750 N/mm²	1.4305	303	1.4401	316	1.4301	304
	2.7	Heat resistant steel	< 1100 N/mm²	1.4876	Incoloy 800				
K	3.1	Grey cast iron with lamellar graphite	100–350 N/mm²	0.6015	Grade 150	0.6020	Grade 220	0.6025	Grade 260
	3.2	Grey cast iron with lamellar graphite	300–500 N/mm²	0.6030	Grade 300	0.6035	Grade 350	0.6040	Grade 400
	3.3	Gray cast iron with spheroidal graphite	300–500 N/mm²	0.7040	SG 400-12	0.7043	SG 370-17	0.7050	SG 500-7
	3.4	Gray cast iron with spheroidal graphite	500–900 N/mm²	0.7060	SG 600-3	0.7070	SG 700-2	0.7080	SG 800-2
	3.5	White malleable cast iron	270–450 N/mm²	0.8035	GTW-35	0.8045	GTW-45		
	3.6	White malleable cast iron	500–650 N/mm²	0.8055	GTW-55	0.8065	GTW-65		
	3.7	Black malleable cast iron	300–450 N/mm²	0.8135	GTS-35	0.8145	GTS-45		
	3.8	Black malleable cast iron	500–800 N/mm²	0.8155	GTS-55	0.8170	GTS-70		
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm²	3.0255	1050 A	3.0275	1070 A	3.0285	1080 A (A8)
	4.2	Aluminium alloys < 0.5 % Si	< 500 N/mm²	3.1325	2017 A (AU4G)	3.4335	7005 (AZ5G)	3.4365	7075 (AZ5GU)
	4.3	Aluminium alloy 0.5–10 % Si	< 400 N/mm²	3.2315	A- G S1	3.2373	A-S9 G	3.2151	A-S 6 U4
	4.4	Aluminium alloys 10–15 % Si	< 400 N/mm²	3.2581	A-S12	3.2583	A-S12 U		
	4.5	Aluminum alloys > 15 % Si	< 400 N/mm²		A-S18	A-S17 U4			
	4.6	Copper (non alloyed, low alloyed)	< 350 N/mm²	2.0040	Cu-c1	2.0060	Cu-a1	2.0090	Cu-b1
	4.7	Copper wrought alloys	< 700 N/mm²	2.1247	Cub2 (Berylium Copper)	2.0855	CuN2S (Nickel Copper)	2.1310	CU-Fe2P
	4.8	Special copper alloys	< 200 HB	2.0916	Cu-A5	2.1525	Cu-S3 M		Ampco 8 (Cu-A6Fe2)
	4.9	Special copper alloys	< 300 HB	2.0978	Cu-Al11 Fe5 Ni5)		Ampco 18 (Cu- A10 Fe3)		
	4.10	Special copper alloys	> 300 HB	2.1247	Cu Be2		Ampco M4		
	4.11	Short-chipping brass, bronze, red bronze	< 600 N/mm²	2.0331	Cu Zn36 Pb1,5	2.0380	Cu Zn39 Pb2 (Ms 56)	2.0410	Cu Zn44 Pb2
	4.12	Long-chipping brass	< 600 N/mm²	2.0335	Cu Zn 36 (Ms63)	2.1293	Cu Cr1 Zr		
	4.13	Thermoplastics		PE	PVC	PS	Polystyrene		Plexiglas
	4.14	Duroplastics		PF	Bakelite		Pertinax		
	4.15	Fibre-reinforced plastics			Carbon Fibre		Fibreglass		Aramid Fibre (Kevlar)
	4.16	Magnesium and magnesium alloys	< 850 N/mm²	3.5812	Mg A7 Z1	3.5662	Mg A9	3.5105	Mg Tr3 Z2 Zn 1
	4.17	Graphite			R8500X		R8650		Technograph 15
	4.18	Tungsten and tungsten alloys			W-Ni Fe (Densimet)		W- Ni Cu (Inermet)		Denal
	4.19	Molybdenum and molybdenum alloys			TZM		MHQ		Mo W
S	5.1	Pure nickel		2.4066	Ni99 (Nickel 200)	2.4068	Lc Ni99 (Nickel 201)		
	5.2	Nickel alloys		1.3912	Fe-Ni36 (Invar)	1.3917	Fe -Ni42 (N42)	1.3922	Fe-Ni48 (N48)
	5.3	Nickel alloys	< 850 N/mm²	2.4375	Ni Cu30 Al (Monel K500)	2.4360	Ni Cu30 Fe (Monel 400)	2.4668	
	5.4	Nickel molybdenum alloys		2.4600	Ni Mo30 Cr2 (Hastelloy B4)	2.4617	Ni Mo28 (Hastelloy B2)	2.4819	Ni Mo16Cr16 Hastell. C276
	5.5	Nickel-chromium alloys	< 1300 N/mm²	2.4951	Ni Cr20TiAl (Nimonic 80A)	2.4858	Ni Cr21Mo (Inconel 825)	2.4856	Ni Cr22Mo9Nb Inconel 625
	5.6	Cobalt Chrome Alloys	< 1300 N/mm²	2.4964	Co Cr20 W15 Ni10		Co Cr20 Ni16 Mo7		Co Cr28 Mo 6
	5.7	Heat resistant alloys	< 1300 N/mm²	1.4718	Z45 C S 9-3	1.4747	Z80 CSN 20-02	1.4845	Z12 CN 25-20
	5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm²	2.4851	Ni Cr23Fe (Inconel 601)	2.4668	Ni Cr19NbMo (Inconel 718)	2.4602	Ni Cr21Mo14 Hastelloy C22
	5.9	Pure titanium	< 900 N/mm²	3.7025	T35 (Titanium Grade 1)	3.7034	T40 (Titanium Grade 2)	3.7064	T60 (Titanium Grade 4)
	5.10	Titanium alloys	< 700 N/mm²		T-A6-Nb7 (367)		T-A5-Sn2-Mo4-Cr4 (Ti17)		T-A3-V2,5 (Gr18)
	5.11	Titanium alloys	< 1200 N/mm²	3.7165	T-A6-V4 (Ta6V)		T-A4-3V-Mo2-Fe2 (SP700)		T-A5-Sn1-Zr1-V1-Mo (Gr32)
H	6.1	Tempered steel	< 45 HRC						
	6.2		46–55 HRC						
	6.3		56–60 HRC						
	6.4		61–65 HRC						
	6.5		65–70 HRC						

5

Cutting data standard values for precision adjustment heads

Fine machining with depth of cut a_p = 0.1 - 0.2 mm

	Insert								Tool diameter	● 1st choice ○ suitable		
	BK8440	BK8425	BK2710	K10	BK60	BK6110	BK7615	CBN40	Ø 6-125	Emulsion	Compressed air	MMS
Index	v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min	f (mm/U)			
1.1	**150–220**	**150–240**	**150–240**		**150–240**	150-240			0,04-0,12	●	○	
1.2	**150–220**	**150–240**	**150–240**		**150–240**	150-240			0,04-0,12	●	○	
1.3	**150–220**	**150–240**	**150–240**		**150–240**	150-240			0,04-0,10	●	○	
1.4	**150–220**	**150–240**	**150–240**		**150–240**	150-240			0,04-0,10	●	○	
1.5	**150–220**	**150–240**	**150–240**		**150–240**	150-240			0,04-0,10	●	○	
1.6	**150–220**	**150–240**	**150–240**		**150–240**	150-240			0,04-0,10	●	○	
1.7	**150–220**	**150–240**	**150–240**		**150–240**	150-240			0,04-0,10	●	○	
1.8	**150–220**	**150–240**	**150–240**		**150–240**	150-240			0,04-0,10	○	●	
1.9	**150–220**	**150–240**	**150–240**		**150–240**	150-240			0,04-0,10	○	●	
1.10	**150–220**	**150–240**	**150–240**		**150–240**	150-240			0,04-0,10	○	●	
1.11	**150–220**	**150–240**	**150–240**		**150–240**	150-240			0,04-0,10	○	●	
1.12	**150–220**	**150–240**	**150–240**		**150–240**	150-240			0,04-0,10	○	●	
1.13	**150–220**	**150–240**	**150–240**		**150–240**	150-240			0,04-0,10	○	●	
1.14	**60–120**	**60–120**	**60–120**		**60–120**	60-120			0,02-0,08	○	●	
1.15	**60–120**	**60–150**	**60–150**		**60–150**	60-150			0,03-0,10	○	●	
1.16	**100–150**	**100–150**	**100–150**		**100–150**	100-150			0,03-0,10	○	●	
2.1	**100–150**	**100–150**	**100–150**						0,01-0,10	●		
2.2	**100–150**	**100–150**	**100–150**						0,01-0,10	●		
2.3	**100–150**	**100–150**	**100–150**						0,01-0,10	●		
2.4	**100–120**	**100–120**	**100–120**						0,01-0,10	●		
2.5	**100–140**	**100–140**	**100–140**						0,01-0,10	●		
2.6	**100–140**	**100–140**	**100–140**						0,01-0,10	●		
2.7	**80–100**	**80–100**	**80–100**						0,01-0,10	●		
3.1		**120–180**	**120–180**			**120–180**	**120–180**		0,03-0,15	○	●	
3.2		**120–180**	**120–180**			**120–180**	**120–180**		0,03-0,15	○	●	
3.3		**120–180**	**120–180**			**120–180**	**120–180**		0,03-0,15	○	●	
3.4		**120–180**	**120–180**			**120–180**	**120–180**		0,03-0,15	○	●	
3.5		**120–180**	**120–180**			**120–180**	**120–180**		0,03-0,15	○	●	
3.6		**120–180**	**120–180**			**120–180**	**120–180**		0,03-0,15	○	●	
3.7		**120–180**	**120–180**			**120–180**	**120–180**		0,03-0,15	○	●	
3.8		**120–180**	**120–180**			**120–180**	**120–180**		0,03-0,15	○	●	
4.1				**0–500**					0,02-0,12	●		
4.2				**0–500**					0,02-0,12	●		
4.3				**0–500**					0,02-0,12	●		
4.4				**0–500**					0,02-0,12	●		
4.5				**0–500**					0,02-0,12	●		
4.6				**0–500**					0,02-0,12	●		
4.7				**0–500**					0,02-0,12	●		
4.8												
4.9												
4.10												
4.11				**0–500**					0,02-0,12	●		
4.12				**0–500**					0,02-0,12	●		
4.13												
4.14												
4.15												
4.16												
4.17												
4.18												
4.19												
5.1												
5.2												
5.3												
5.4												
5.5				**20–50**					0,01-0,08	●		
5.6												
5.7				**20–50**					0,01-0,08	●		
5.8												
5.9				**15–30**					0,01-0,08	●		
5.10				**15–30**					0,01-0,08	●		
5.11				**15–30**					0,01-0,08	●		
6.1								**80**	0,04-0,08		●	
6.2								**60**	0,04-0,08		●	
6.3								**60**	0,04-0,08		●	
6.4											●	
6.5												

Cutting data values for rough boring heads

Depth of cut a_p = 2.5 - 7 mm

	Insert					Tool Ø (mm)				● 1st choice ○ suitable		
	CTCP125 (HCX1125)	CTCP115 (HCX1115)	CTCP135 (HCR1135)	CTC2135 (CWN2135)	H10T (CWK15)	Ø 23,5-40,5	Ø 40,5-66,5	Ø 66,5-87,5	Ø 87,5-153	Emulsion	Compressed air	MMS
Index	v_c m/min	v_c m/min	v_c m/min	v_c m/min	v_c m/min	f (mm/U)	f (mm/U)	f (mm/U)	f (mm/U)			
1.1	**180–240**	**150–190**	**160–200**	160-210		0,3-0,4	0,4-0,5	0,5-0,7	0,6-0,8	●	○	○
1.2	**230–280**	**170–220**	**170–220**	180-230		0,3-0,4	0,4-0,5	0,5-0,7	0,6-0,8	●	○	○
1.3	**240–290**	**170–210**	**150–190**	150-190		0,3-0,4	0,4-0,5	0,5-0,7	0,6-0,8	●	○	○
1.4	**180–250**	**160–200**	**160–200**	150-190		0,3-0,5	0,4-0,6	0,5-0,7	0,6-0,8	●	○	○
1.5	**200–240**	**170–230**	**140–190**	140-190		0,3-0,4	0,4-0,5	0,4-0,6	0,6-0,8	●	○	○
1.6	**190–240**	**160–240**	**150–210**	150-210		0,3-0,4	0,4-0,5	0,4-0,6	0,6-0,8	●	○	○
1.7	**180–280**	**130–190**	**150–190**	150-200		0,3-0,5	0,4-0,6	0,5-0,7	0,6-0,8	●	○	○
1.8	**150–210**	**130–180**	**130–170**	130-170		0,3-0,5	0,4-0,6	0,5-0,7	0,6-0,8	○	●	
1.9	**140–200**	**150–210**	**150–180**	160-190		0,3-0,5	0,4-0,6	0,5-0,7	0,6-0,8	○	●	
1.10	**170–220**	**160–200**	**130–180**	130-170		0,3-0,4	0,4-0,5	0,4-0,6	0,6-0,8	○	●	
1.11	**160–220**	**150–200**	**120–160**	130-170		0,3-0,4	0,4-0,5	0,4-0,6	0,6-0,8	○	●	
1.12	**170–240**	**170–210**	**140–190**	160-190		0,3-0,4	0,4-0,5	0,4-0,6	0,6-0,8	○	●	
1.13	**160–230**	**130–190**	**120–170**	120-180		0,3-0,4	0,4-0,5	0,4-0,6	0,6-0,8	○	●	
1.14	**150–190**	**150–200**	**110–150**	120-170		0,3-0,4	0,4-0,5	0,4-0,6	0,6-0,8	○	●	
1.15	**150–210**	**130–200**	**100–140**	100-150		0,3-0,4	0,4-0,5	0,4-0,6	0,6-0,8	○	●	
1.16	**150–190**	**130–200**	**100–140**	100-150		0,3-0,4	0,4-0,5	0,4-0,6	0,6-0,8	○	●	
2.1	200-280		140-200	**140–220**		0,3-0,4	0,4-0,5	0,4-0,6	0,6-0,8	●		
2.2	200-260		140-190	**160–240**		0,3-0,4	0,4-0,5	0,4-0,6	0,6-0,8	●		
2.3	190-260		110-190	**130–200**		0,3-0,4	0,4-0,5	0,4-0,6	0,6-0,8	●		
2.4	190-240		100-180	**120–190**		0,3-0,4	0,4-0,5	0,4-0,6	0,6-0,8	●		
2.5			80-150	**100–160**		0,3-0,4	0,4-0,5	0,4-0,6	0,6-0,8	●		
2.6			55-75	**90–120**		0,3-0,4	0,4-0,5	0,4-0,6	0,6-0,8	●		
2.7			55-75	**90–120**		0,3-0,4	0,4-0,5	0,4-0,6	0,6-0,8	●		
3.1	130-160	150-220			120-160	0,3-0,5	0,4-0,6	0,6-0,8	0,6-1,0	○	●	
3.2	120-170	130-220			90-140	0,3-0,5	0,4-0,6	0,6-0,8	0,6-1,0	○	●	
3.3	130-180	200-360			130-170	0,3-0,5	0,4-0,6	0,6-0,8	0,6-1,0	○	●	
3.4	100-180	180-220			90-130	0,3-0,5	0,4-0,6	0,6-0,8	0,6-1,0	○	●	
3.5	150-200	160-350			140-200	0,3-0,5	0,4-0,6	0,6-0,8	0,6-1,0	○	●	
3.6	130-160	160-260			120-160	0,3-0,5	0,4-0,6	0,6-0,8	0,6-1,0	○	●	
3.7	150-200	180-350			140-200	0,3-0,5	0,4-0,6	0,6-0,8	0,6-1,0	○	●	
3.8	130-180	180-350			120-160	0,3-0,5	0,4-0,6	0,6-0,8	0,6-1,0	○	●	
4.1					**300–2500**	0,3-0,5	0,4-0,7	0,5-0,7	0,6-0,8	●		○
4.2					**200–2500**	0,3-0,5	0,4-0,7	0,5-0,7	0,6-0,8	●		○
4.3					**400–2000**	0,3-0,5	0,4-0,7	0,5-0,7	0,6-0,8	●		○
4.4					**400–1600**	0,3-0,5	0,4-0,7	0,5-0,7	0,6-0,8	●		○
4.5					**200–1000**	0,3-0,5	0,4-0,7	0,5-0,7	0,6-0,8	●		○
4.6					**150–300**	0,3-0,5	0,4-0,7	0,5-0,7	0,6-0,8	●		○
4.7					**250–600**	0,3-0,5	0,4-0,7	0,5-0,7	0,6-0,8	●		○
4.8					**150–400**							
4.9					**150–400**							
4.10					**150–400**							
4.11					**150–300**	0,3-0,5	0,4-0,7	0,5-0,7	0,6-0,8	●		○
4.12					**130–350**	0,3-0,5	0,4-0,7	0,5-0,7	0,6-0,8	●		○
4.13					**100–200**							
4.14					**80–160**							
4.15					**60–150**							
4.16												
4.17												
4.18					**60–140**					●		
4.19												
5.1			20-40	**20–40**						●		
5.2		15-40	20-40	**20–40**						●		
5.3		15-40	8-25	**15–35**						●		
5.4		15-40	8-25	**15–35**						●		
5.5		15-30	4-15	**8–25**						●		
5.6		15-30	4-15	**4–15**						●		
5.7		15-30	4-15	**4–15**						●		
5.8		15-30	4-12	**4–15**						●		
5.9			80-130	**80–130**	60-120					●		
5.10			15-35	**15–35**	30-80					●		
5.11			15-35	**15–35**	30-80					●		
6.1						0,05-0,16	0,05-0,16	0,05-0,16	0,05-0,16		●	
6.2						0,05-0,16	0,05-0,16	0,05-0,16	0,05-0,16		●	
6.3						0,05-0,16	0,05-0,16	0,05-0,16	0,05-0,16		●	
6.4						0,05-0,16	0,05-0,16	0,05-0,16	0,05-0,16		●	
6.5												

5

Cutting data values for fine and rough boring heads

Fine machining with depth of cut a_p = 0.1 – 0.4 mm

	Insert			Boring tools with carbide cutting edge	Tool diameter		● 1st choice ○ suitable		
	CWN10 CWP25	CWC06	CWC10	K10	Ø 3-200	Ø 200-655	Emulsion	Compressed air	MMS
Index	v_c m/min	v_c m/min	v_c m/min	v_c m/min	f (mm/U)	f (mm/U)			
1.1	150-220	**200–300**	**100–250**	150-200	0,05-0,16	0,08-0,2	●	○	○
1.2	150-220	**200–300**	**100–250**	150-200	0,05-0,16	0,08-0,2	●	○	○
1.3	150-220	**200–300**	**100–250**	150-200	0,05-0,16	0,08-0,2	●	○	○
1.4	150-220	**200–300**	**100–250**	150-200	0,05-0,16	0,08-0,2	●	○	○
1.5	150-220	**200–300**	**80–200**	150-200	0,05-0,16	0,08-0,2	●	○	○
1.6	150-220	**200–300**	**80–200**	150-200	0,05-0,16	0,08-0,2	●	○	○
1.7	150-220	**200–300**	**80–200**	150-200	0,05-0,16	0,08-0,2	●	○	○
1.8	150-220	**200–300**	**80–200**	150-200	0,05-0,16	0,08-0,2	○	●	
1.9	150-220	**200–300**	**80–150**	150-200	0,05-0,16	0,08-0,2	○	●	
1.10	150-220	**200–300**	**100–250**	150-200	0,05-0,16	0,08-0,2	○	●	
1.11	150-220	**200–250**	**100–250**	80-120	0,05-0,16	0,08-0,2	○	●	
1.12	150-220	**200–250**	**80–200**	80-120	0,05-0,16	0,08-0,2	○	●	
1.13	120-150	**150–180**	**80–200**	50-80	0,05-0,16	0,08-0,2	○	●	
1.14	120-150	**150–180**	**80–200**	50-80	0,05-0,16	0,08-0,2	○	●	
1.15	120-150	**150–180**	**80–200**	50-80	0,05-0,16	0,08-0,2	○	●	
1.16	120-150	**150–180**	**80–200**	50-80	0,05-0,16	0,08-0,2	○	●	
2.1	100-140	100-140	**100–140**	80-120	0,05-0,16	0,08-0,2	●		
2.2	100-140	100-140	**100–140**	80-120	0,05-0,16	0,08-0,2	●		
2.3	100-140	100-140	**100–140**	80-120	0,05-0,16	0,08-0,2	●		
2.4	80-120	80-120	**100–120**	60-80	0,05-0,16	0,08-0,2	●		
2.5	100-140	100-140	**100–140**	80-120	0,05-0,16	0,08-0,2	●		
2.6	100-140	100-140	**100–140**	80-120	0,05-0,16	0,08-0,2	●		
2.7	80-100	80-100	**100–140**	40-60	0,05-0,16	0,08-0,2	●		
3.1	140-180	**140–180**	**200–250**	120-150	0,05-0,16	0,08-0,2	○	●	
3.2	140-180	**140–180**	**200–250**	120-150	0,05-0,16	0,08-0,2	○	●	
3.3	140-180	**140–180**	**100–150**	120-150	0,05-0,16	0,08-0,2	○	●	
3.4	120-160	**120–160**	**100–150**	100-130	0,05-0,16	0,08-0,2	○	●	
3.5	140-180	**140–180**	**200–250**	120-150	0,05-0,16	0,08-0,2	○	●	
3.6	120-160	**120–160**	**100–150**	100-130	0,05-0,16	0,08-0,2	○	●	
3.7	140-180	**140–180**	**200–250**	120-150	0,05-0,16	0,08-0,2	○	●	
3.8	120-160	**120–160**	**100–150**	100-130	0,05-0,16	0,08-0,2	○	●	
4.1	0-800	**0–800**		0-500	0,05-0,16	0,08-0,2	●		○
4.2	0-800	**0–800**		0-500	0,05-0,16	0,08-0,2	●		○
4.3	0-800	**0–800**		0-500	0,05-0,16	0,08-0,2	●		○
4.4	0-800	**0–800**		0-500	0,05-0,16	0,08-0,2	●		○
4.5	0-800	**0–800**		0-500	0,05-0,16	0,08-0,2	●		○
4.6	0-800	**0–800**		0-500	0,05-0,16	0,08-0,2	●		○
4.7	0-800	**0–800**		0-500	0,05-0,16	0,08-0,2	●		○
4.8						0,08-0,2			
4.9						0,08-0,2			
4.10						0,08-0,2			
4.11	0-800	**0–800**		0-500	0,05-0,16	0,08-0,2	●		○
4.12	0-800	**0–800**		0-500	0,05-0,16	0,08-0,2	●		○
4.13									
4.14									
4.15									
4.16									
4.17									
4.18									
4.19									
5.1	30-80*								
5.2	30-80*								
5.3	30-80*								
5.4	30-80*								
5.5	30-80*								
5.6	30-80*								
5.7	30-80*								
5.8	30-80*								
5.9	30-80*								
5.10	30-80*								
5.11	30-80*								
6.1	120-220*				0,05-0,16	0,05-0,16		●	
6.2	70-180*				0,05-0,16	0,05-0,16		●	
6.3	50-150*				0,05-0,16	0,05-0,16		●	
6.4	40-120*				0,05-0,16	0,05-0,16		●	
6.5									

Correction factor (Kf v_c) for the cutting speed (v_c) depending on overhang:

Kf v_c = 1,0 to 4xD
Kf v_c = 0,8 to 5xD
Kf v_c = 0,6 to 6xD

* Only CWN10

Cutting data values for Micro boring heads

	Boring bars / inserts		● 1st choice ○ suitable		
	TiN		Emulsion	Compressed air	MMS
Index	v_c m/min	f (mm/U)			
1.1	190	0,02	●		
1.2	210	0,02	●		
1.3	190	0,02	●		
1.4	170	0,02	●		
1.5	180	0,02	●		
1.6	180	0,02	●		
1.7	170	0,02	●		
1.8	170	0,02	●		
1.9	110	0,02	●		
1.10	120	0,02	●		
1.11	100	0,02	●		
1.12	160	0,02	●		
1.13	140	0,02	●		
1.14	60	0,02	●		
1.15	100	0,02	●		
1.16	110	0,02	●		
2.1	80	0,02	●		
2.2	85	0,02	●		
2.3	75	0,02	●		
2.4	70	0,02	●		
2.5	75	0,02	●		
2.6	75	0,02	●		
2.7	70	0,02	●		
3.1	200	0,02	●		
3.2	150	0,02	●		
3.3	120	0,02	●		
3.4	110	0,02	●		
3.5	180	0,02	●		
3.6	150	0,02	●		
3.7	180	0,02	●		
3.8	150	0,02	●		
4.1	300	0,02	●		
4.2	240	0,02	●		
4.3	240	0,02	●		
4.4	180	0,02	●		
4.5	180	0,02	●		
4.6	290	0,02	●		
4.7	290	0,02	●		
4.8	240	0,02	●		
4.9	230	0,02	●		
4.10	210	0,02	●		
4.11	290	0,02	●		
4.12	290	0,02	●		
4.13	300	0,02	●		
4.14	280	0,02	●		
4.15	250	0,02	●		
4.16	220	0,02	●		
4.17	300	0,02	●		
4.18	60	0,02	●		
4.19	60	0,02	●		
5.1	60	0,02	●		
5.2	40	0,02	●		
5.3	30	0,02	●		
5.4	20	0,02	●		
5.5	20	0,02	●		
5.6	20	0,02	●		
5.7	20	0,02	●		
5.8	20	0,02	●		
5.9	30	0,02	●		
5.10	40	0,02	●		
5.11	25	0,02	●		
6.1	120	0,02	●		
6.2	110	0,02	●		
6.3	95	0,02	●		
6.4	70	0,02	●		
6.5	50	0,02	●		

Maximum Speeds and Scale Accuracy

Maximum speeds for fine boring heads Ø 3–88.1 mm

Boring range	Offset X = ≤ 0,5 mm n_{max} in $1/_{min}$	Offset X = > 0,5 mm n_{max} in $1/_{min}$
Ø 3–20 mm	16000	6000
Ø 20–48 mm	12000	4000
Ø 48–88 mm	8000	2000

Maximum speeds for rough boring heads Ø 23.5–153 mm

Boring range	Maximum speed n_{max} in $1/_{min}$
Ø 24–31 mm	12000
Ø 31–40 mm	10000
Ø 40–51 mm	8000
Ø 51–68 mm	6500
Ø 67–87 mm	5000
Ø 87–116 mm	4000
Ø 116–153 mm	3000

The specified maximum speeds refer to an overhang length of up to 4xD.

For longer overhangs the maximum speeds should be reduced as follows:

5xD = 80 % n_{max}
6xD = 60 % n_{max}

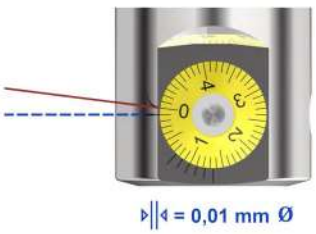
> 6xD n_{max} identify with caution

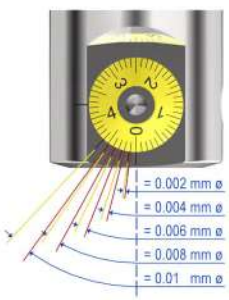
Maximum spindle speed for single point boring heads Ø 24–154 mm

Boring range	Maximum speed with unbalanced system n_{max} in $1/_{min}$	Maximum speed with Balanced System n_{max} in $1/_{min}$
Ø 24–31 mm	9000	12000
Ø 31–40 mm	7500	10000
Ø 40–51 mm	5250	8000
Ø 51–67 mm	4000	6500
Ø 67– 87 mm	3000	5000
Ø 87–116 mm	2500	4000
Ø 116–153 mm	1750	3000

Large scale with 0.002 mm adjustment

How it works:

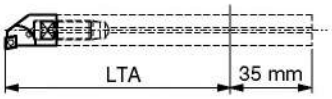




Maximum overhang length LTA

▲ Clamping length 35 mm

Boring bar		High Speed Boring Head 62 361 ...																Fine boring head 62 304 ...		
62 353 ...		014	015	016	017	018	019	020	021	022	023	025	027	030	033	037	040	017	020	024
008	LTA mm	**56**																		
009			**63**																	
010				**70**																
011					**77**															
012						**84**														
013							**91**													
014								**98**	**98**									**115**		
016										**112**	**112**	**112**	**112**	**112**	**112**	**112**	**112**		**125**	
018																				**105**
118																				**145**
218																				**185**



High Speed Boring Head 62 361 ...

Fine boring head 62 304 ...

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Coatings

K10

- ▲ Carbide, uncoated
- ▲ ISO | **K10**
- ▲ Uncoated carbide grade for machining grey cast iron or non-ferrous metals, depending on the cutting edge geometry

BK2710

- ▲ Carbide, TiAlN-coated
- ▲ ISO | P10 | M10 | **K10**
- ▲ Extremely wear-resistant carbide grade for machining stainless steels, structural steels and tool steels as well as cast iron materials

BK8440

- ▲ Carbide, TiCN-TiN-coated
- ▲ ISO | **P35** | M10
- ▲ Very tough carbide grade for medium cutting speeds and interrupted cut

BK7615

- ▲ Carbide, TiCN-Al_2O_3-coated
- ▲ ISO | **K15**
- ▲ Highly productive grade with extreme edge stability for wet and dry machining of all cast iron materials

TiN

- ▲ TiN coating
- ▲ Maximum application temperature: 450°C

CWN10

- ▲ Carbide, TiN-coated
- ▲ ISO | **K10**
- ▲ The carbide grade for machining steels, stainless steels and non-ferrous metals

CWC10

- ▲ Cermet, uncoated
- ▲ ISO | **P15** | **M10** | K10
- ▲ The uncoated cermet grade for finish machining stainless and hardened steel
- ▲ Particularly wear resistant thanks to high heat resistance

BK60

- ▲ Carbide, TiC-TiCN-TiN-coated
- ▲ ISO | P25 | **M10**
- ▲ Multi-layer coating for long service life even in the upper cutting speed range

CBN40

- ▲ Cubic boron nitride, uncoated
- ▲ ISO | **H05**
- ▲ Uncoated cutting material made of cubic boron nitride for machining hardened steels over 45 HRC, heat-resistant nickel-based or cobalt-based alloys

BK8425

- ▲ Carbide, TiAlN/TiN-coated
- ▲ ISO | **P25** | **M25** | **K25**
- ▲ Universal grade with greater wear resistance thanks to innovative PVD multi-layer coating

BK6110

- ▲ Carbide, TiCN-TiN-Al_2O_3-coated
- ▲ ISO | P10 | **K10**
- ▲ Wear-resistant carbide for machining cast iron and steel materials

CWC06

- ▲ Cermet, TiC/TiN-coated
- ▲ ISO | **P10** | M10 | **K10** | N10
- ▲ Coated cermet grade for fine boring at high cutting speed and with a uniform cut

CWP25

- ▲ Carbide, uncoated
- ▲ ISO | **P25** | **M25** | K25 | **N25** | S25
- ▲ Uncoated carbide grade for fine boring with large hole depths and small machining allowances

Table of contents

WNT \ Performance

Premium quality tools for high performance.

The premium quality tools from the **WNT Performance** product line have been designed for specific applications and are distinguished by their outstanding performance. If you make high demands on the performance of your production and want to achieve the very best results, we recommend the Premium tools in this product line.

WNT \ Standard

Quality tools for standard applications.

The quality tools of the **WNT Standard** product line are high quality, powerful and reliable and enjoy the highest trust of our customers worldwide. Tools from this product line are the first choice for many standard applications and guarantee optimal results.

Symbol explanation

Chamfer form

B 4–5	Form B (with spiral point, 4 – 5 cutting leads)
C 2–3	Form C (without spiral point, 2 – 3 cutting leads)
D 4–5	Form D (without spiral point, 4 – 5 cutting leads)
E 1,5–2	Form E (without spiral point, 1.5 – 2 cutting leads)

Helix angle

42°	Example: helix angle 42°

Tolerances

ISO 2 6H	Explanation of the tolerances can be found on → **Page 114.**

Tensile strength

≤ 1100 N/mm²	Example up to 1100 N/mm²

Tap Material

HSS	High-speed steel
HSS-E	High-performance high speed steel
HSS-PM	High-performance sintered high-speed steel
VHM	Solid carbide

Coloured rings

WNT \ Performance

An explanation of the coloured rings can be found on → **Page 117.**

Thread types

M	Explanation of the thread types can be found on → **Page 3.**

Version

	Int. coolant supply

Tap types

Tool type

WNT \ Performance

Stabil	for through holes to 4xD	**Salo-Rex**	for blind holes up to 3xD, high helix angle for secure chip evacuation	**TWIN**	straight flutes for through and blind holes up 2xD
DL	left hand helix for through holes up to 4xD	**SL**	for blind holes up to 2xD, 15°, 25° or 30° helix angle	**Spanlos**	thread former for through and blind holes up to 3xD

A detailed explanation of the types of tools can be found on → **Page 113**.

Application range

WNT \ Performance

UNI	for universal application	**ST**	for good quality free machining steel	**VG**	for tempered and heat-resistant steels < 1100 N/mm²
HR	for high-tensile steels < 1400 N/mm²	**GG**	for cast iron	**VA**	for stainless and acid-resistant steels up to 1100 N/mm²
NW	for aluminium	**Soft**	for soft materials	**Ms**	for short chipping brass
Ti	for titanium and titanium alloys	**Ni**	special for Inconel 718	**AMPCO**	for Ampco alloys
HT	for hardened steel and chilled iron up to 55 HRc	**EC**	Spanlos - thread former for universal application	**NEO**	Spanlos - thread former for heat resistant alloys
ERGO	hand taps for stainless, heat-resistant and heat-treated steels up to 1100 N/mm²	**ERGO F.T.**	hand tap for steel up to 1400 N/mm², wolfram, chilled iron	**FE**	dies for steel

WNT \ Standard

UNI	for universal application up to 1000 N/mm²	**FE**	for steel to 850 N/mm²	**FE-HF**	for high-tensile steel to 1100 N/mm ²
VA	for corrosion and acid-resistant steels	**GG**	for cast iron	**AL**	for aluminium and aluminium alloys

Special Features

CNC	for synchronised CNC machining with minimum length compensation chuck	**NC**	for synchronised CNC machining with minimum length compensation chuck	**NCW**	with Weldon flat for synchronised CNC machining without length compensation chuck
AZ	with intermittent teeth, reduces friction	**S**	with back taper, for deep threads	**DRY**	for dry machining or minimum quantity lubrication (MMS)
TS	for high-speed machining, up to 100 m/min.	**LH**	for left hand threads	**EL**	extra long, with double overall length
AUT	short version for automatic use	**SN**	thread formers with lubrication grooves	**ES**	extra short
MMB	machine taps	**R_z=1**	lapped dies		

Thread types

M	ISO metric coarse thread DIN 13	**UNF**	Unified fine thread ASME - B1.1	**NPTF**	American taper pipe thread with sealing (1:16) ANSI/ASME - B1.20.3
EG M	ISO Metric coarse thread for wire inserts DIN 8140-2	**EG UNF**	EG Unified fine thread for wire inserts ASME - B18.29.1	**Rp**	Cyl. Whitworth coarse thread DIN EN 10226-1 (ISO7-1)
MF	ISO Metric fine thread DIN 13	**UNJC**	Unified coarse thread ASME - B1.15 and ISO 3161	**Rc**	Whitworth taper pipe thread (1:16) DIN EN 10226-2 (ISO7-1)
G	Whitworth pipe thread DIN EN ISO 228	**UNJF**	Unified fine thread ASME - B1.15 and ISO 3161	**Tr**	ISO metric trapezoidal thread DIN 103
UNC	Unified coarse thread ASME - B1.1	**BSW**	Whitworth thread BS84		The thread types BSW, NPTF, Rp and Rc as well as hand taps and dies are now available in the online shop.
EG UNC	EG Unified coarse thread for wire inserts ASME - B18.29.1	**NPT**	American taper pipe thread with sealing (1:16) ANSI/ASME - B1.20.1		

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Toolfinder – WNT Performance

Thread formers

for cold-formable materials	 Through hole – Blind hole

HSS taps

for universal application up to 1100 N/mm²	 Through hole  Blind hole
for steel up to 750 N/mm²	 Through hole  Blind hole  Through hole – Blind hole
for steel up to 1400 N/mm²	 Through hole  Blind hole  Through hole – Blind hole
for corrosion and acid-resistant steels	 Through hole  Blind hole
for cast iron materials	 Through hole – Blind hole
for heat-resistant materials	 Through hole  Blind hole  Through hole – Blind hole
for aluminium and non-ferrous metal	 Through hole  Blind hole
Hard materials	 Through hole – Blind hole

For tools for other applications, refer to the taps overview on → **Pages 8–20.**

Shank extensions for taps and thread-cutting oils can be found in our online shop at cuttingtools.ceratizit.com

WNT \ Performance

Tool type	Application range	M	EG M	MF	G	UNC	EG UNC	UNJC	UNF	EG UNF	UNJF	BSW	NPT	NPTF	Rp	Rc	Tr
Spanlos	EC	59–61		81	89	94			103								
Stabil	UNI	21–23	63	65+66	83	90	95		98	104		🛒					
Salo-Rex	UNI	35–38	64	69	85	92	96		100	105		🛒	🛒				
Stabil	ST	24+25		66	83												109
Salo-Rex	ST	39–41		71+72	86												
TWIN	ST	52+53 56		78–80	88								108	🛒	🛒	🛒	
Stabil	HR	25															
Salo-Rex	HR	39–41															
TWIN	HR	52+53		78+79	88												
Stabil	VA	26			83	90											
Salo-Rex	VA	42		74	86	92			100				106				
TWIN	GG	54		79													
Stabil	Ti	27				90			98		🛒						
SL	Ti	44				🛒		97	101		🛒						
TWIN	AMPCO	52															
Stabil	NW	26															
Salo-Rex	NW	43		74													
TWIN	HT	55		78													

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Toolfinder – WNT Standard

Thread formers

for cold-formable materials	 Through hole – Blind hole

HSS taps

for universal application up to 1000 N/mm²	 Through hole  Blind hole
for steel to 850 N/mm²	 Through hole  Blind hole
for high-tensile steels up to 1100 N/mm²	 Through hole  Blind hole
for corrosion and acid-resistant steels	 Through hole  Blind hole
for cast iron materials	 Through hole – Blind hole
for aluminium and non-ferrous metal	 Through hole  Blind hole

For tools for other applications, refer to the taps overview on → **Pages 8–20.**

Shank extensions for taps and thread-cutting oils can be found in our online shop at cuttingtools.ceratizit.com

Application range	WNT \ Standard M	MF	G	UNC	UNF
UNI	62	82			
UNI	31+32	67+68	84	91	99
UNI	49+50	75+76	87	93	102
FE	32+34	68		91	99
FE	50	76		93	102
FE-HF	32	68		91	
FE-HF	50	76		93	
VA	33	68		91	99
VA	50+51	77		93	102
GG	58				
AL	33				
AL	51				

Taps Overview

M – Metric ISO Standard Thread

Application range	Through hole	Blind hole	Through hole-Blind hole	Tool type	Application Area / Special Features	Tolerance	Tap Material	coated ■	uncoated □	Comments	WNT \ Performance	WNT \ Standard
Universal				Stabil	UNI	ISO 2 6H ISO 3 6G 7G	HSS-E	■			21+22	
					UNI	ISO 2 6H	HSS-E HSS-PM	■				31
				Stabil	UNI NCW	ISO 2 6H	HSS-PM	■		with Weldon flat for synchronised CNC machining without length compensation chuck	23	
					UNI NCW	ISO 2 6H	HSS-PM	■		with Weldon flat for synchronised CNC machining without length compensation chuck		32
				Stabil	UNI DRY	ISO 2X 6HX	HSS-E	■		for dry machining or minimum quantity lubrication (MMS)		
				Stabil	UNI CNC	ISO 2X 6HX ISO 3X 6GX 7GX	HSS-E	■		for synchronised CNC machining with minimum length compensation chuck	23	
					UNI NC	ISO 2 6H	HSS-E	■		for synchronised CNC machining with minimum length compensation chuck		32
				Stabil	UNI EL	ISO 2 6H	HSS-E	■		extra long, with double overall length	29	
Steel				Stabil	ST	ISO 2 6H	HSS-E		□		24	
				Stabil	ST	ISO 1 4H ISO 3 6G	HSS-E		□			
					FE	ISO 2 6H	HSS-E		□			32
					FE ES	ISO 2 6H	HSS-E		□	extra short		34
				Stabil	ST AZ	ISO 2 6H	HSS-E		□	with intermittent teeth, reduces friction	24	
				Stabil	ST LH	ISO 2 6H	HSS-E		□	for left hand threads	24	
				Stabil	ST TS	ISO 2X 6HX	HSS-E	■		for high-speed machining, up to 100 m/min.	25	
				Stabil	HR	ISO 2X 6HX	HSS-PM	■			25	
				Stabil	VG	ISO 2X 6HX	HSS-E	■			25	
					FE-HF	ISO 2 6H	HSS-E	■				32
				Stabil	VG AZ	ISO 2 6H	HSS-E	■		with intermittent teeth, reduces friction		

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Taps Overview

M – Metric ISO Standard Thread

Application range	Through hole	Blind hole	Through hole-Blind hole	Tool type	Application Area / Special Features	Tolerance	Tap Material	coated ■	uncoated □	Comments	WNT \ Performance	WNT \ Standard
Steel	✓			Stabil	ST EL	ISO 2 6H	HSS-E		□	extra long, with double overall length	29	
	✓				ST MMB	ISO 2 6H	HSS-E		□	Machine taps	30	
Stainless steel	✓			Stabil	VA	ISO 2 6H	HSS-E	■			26	
	✓				VA	ISO 2 6H	HSS-PM HSS-E	■	□			33
Non-ferrous metals	✓			Stabil	NW	ISO 2 6H	HSS-E	■			26	
	✓				AL	ISO 2 6H	HSS-E	■	□			33
	✓			Stabil	Soft	ISO 2 6H	HSS-E	■			🛒	
Heat-resistant	✓			Stabil	Ti	ISO 1X 4HX ISO 2X 6HX	HSS-PM	■			27	
	✓			DL	Ti	ISO 2X 6HX	HSS-E	■			28	
	✓			DL	Ni	ISO 2X 6HX	HSS-E	■			28	
Universal		✓		Salo-Rex	UNI	ISO 2 6H 7G	HSS-E	■		with thro' coolant	35+36	
		✓		Salo-Rex	UNI	ISO 1 4H ISO 3 6G	HSS-E	■			🛒	
		✓			UNI	ISO 2 6H	HSS-E HSS-PM	■				49
		✓		Salo-Rex	UNI NCW	ISO 2 6H	HSS-PM	■		with Weldon flat for synchronised CNC machining without length compensation chuck	36	
		✓			UNI NCW	ISO 2 6H	HSS-PM	■		with Weldon flat for synchronised CNC machining without length compensation chuck		50
		✓		Salo-Rex	UNI CNC	ISO 2X 6HX ISO 2 6H	HSS-E	■		for synchronised CNC machining with minimum length compensation chuck, with thro' coolant	37	
		✓		Salo-Rex	UNI CNC	ISO 3 6G, 7G	HSS-E	■		for synchronised CNC machining with minimum length compensation chuck	🛒	
		✓			UNI NC	ISO 2 6H	HSS-E	■		for synchronised CNC machining with minimum length compensation chuck		49
		✓		Salo-Rex	UNI DRY	ISO 2 6H	HSS-E	■		for dry machining or minimum quantity lubrication (MMS), with thro' coolant	38	

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Taps Overview

M – Metric ISO Standard Thread

Application range	Through hole	Blind hole	Through hole-Blind hole	Tool type	Application Area / Special Features	Tolerance	Tap Material	coated ■	uncoated □	Comments	WNT \ Performance	WNT \ Standard
Universal				Salo-Rex	UNI S	ISO 2 6H	HSS-E	■		with back taper, for deep threads		
				Salo-Rex	UNI ES	ISO 2 6H	HSS-E	■		extra short	45	
				Salo-Rex	UNI EL	ISO 2 6H	HSS-E	■		extra long, with double overall length	47	
				SL	UNI	ISO 2 6H	HSS-E		□			
Steel				SL	ST	ISO 2 6H	HSS-E		□			
				SL	ST CNC	ISO 2X 6HX	HSS-E	■		for synchronised CNC machining with minimum length compensation chuck, with thro' coolant	39	
				SL	ST TS	ISO 2 6H	HSS-PM	■		for high-speed machining, up to 100 m/min.		
				SL	ST TS	ISO 2X 6HX	HSS-E	■		for high-speed machining, up to 100 m/min.	39	
				SL	ST ES	ISO 2 6H	HSS-E		□	extra short	46	
				SL	ST AUT/ES	ISO 2 6H	HSS-E		□	short version for automatic use; extra short	46	
				SL	ST EL	ISO 2 6H	HSS-E		□	extra long, with double overall length	48	
				SL	HR	ISO 2 6H	HSS-PM		□		39	
				Salo-Rex	ST	ISO 2 6H	HSS-E	■	□		40	
				Salo-Rex	ST	ISO 1 4H ISO 3 6G	HSS-E	■	□			
					FE	ISO 2 6H	HSS-E		□			50
					FE-HF	ISO 2 6H	HSS-E	■				50
				Salo-Rex	ST LH	ISO 2 6H	HSS-E		□	for left hand threads	40	
				Salo-Rex	ST ES	ISO 2 6H	HSS-E		□	extra short		
				Salo-Rex	ST EL	ISO 2 6H	HSS-E		□	extra long, with double overall length	47	

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Taps Overview

M – Metric ISO Standard Thread

Application range	Through hole	Blind hole	Through hole-Blind hole	Tool type	Application Area / Special Features	Tolerance	Tap Material	coated ■	uncoated □	Comments	WNT \ Performance	WNT \ Standard
Steel				Salo-Rex	HR	ISO 2 6H	HSS-PM	■	□		41	
				Salo-Rex	ST TS	ISO 2 6H	HSS-E	■		with thro' coolant	41	
Stainless steel				Salo-Rex	VA	ISO 2 6H	HSS-E	■		with thro' coolant	42	
					VA	ISO 2 6H	HSS-E HSS-PM	■	□			50+51
				Salo-Rex	VA S	ISO 2 6H	HSS-E	■		with back taper, for deep threads	🛒	
Non-ferrous metals				Salo-Rex	Soft	ISO 2 6H	HSS-E	■	□		43	
				Salo-Rex	NW	ISO 2 6H	HSS-E	■			43	
					AL	ISO 2 6H	HSS-E	■	□			51
Heat-resistant				SL	Ti	ISO 2X	HSS-PM	■			44	
				SL	Ni	ISO 2X ISO 2 6H	HSS-PM	■			44	
Steel				TWIN	ST	ISO 2X 6HX	HSS-E		□		52	
				TWIN	ST AZ	ISO 2X 6HX	HSS-E		□	with intermittent teeth, reduces friction	🛒	
				TWIN	ST ES	ISO 2X 6HX	HSS-E		□	extra short	56	
				TWIN	ST LH/ES	ISO 2X 6HX	HSS-E		□	for left hand threads; extra short	🛒	
				TWIN	HR	ISO 2X 6HX	HSS-E	■			🛒	
				TWIN	HR EL	ISO 2X 6HX	HSS-E	■		extra long, with double overall length	57	
Cast iron				TWIN	GG	ISO 2X 6HX	HSS-E	■		with thro' coolant	54	
					GG	ISO 2X 6HX	HSS-E	■				58
Non-ferrous metals				TWIN	Ms	ISO 2X 6HX	HSS-E		□		🛒	

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Taps Overview

M – Metric ISO Standard Thread

Application range	Through hole	Blind hole	Through hole-Blind hole	Tool type	Application Area / Special Features	Tolerance	Tap Material	coated ■	uncoated □	Comments	WNT \ Performance	WNT \ Standard
Heat-resistant				TWIN	AMPCO	ISO 2X 6HX	HSS-PM		□		52	
Tempered steel				TWIN	HT	ISO 2X 6HX	VHM HSS-PM	■			55	
Machine thread formers				Spanlos	EC	ISO 2X 6HX	HSS-E HSS-PM	■			59	
				Spanlos	EC SN	ISO 2X 6HX ISO 3X 6GX	HSS-E HSS-PM	■		Thread formers with oil grooves and thro' coolant	60+61	
				Spanlos	NEO SN	ISO 2X 6HX	HSS-PM	■		Thread formers with oil grooves and thro' coolant	61	
					UNI	ISO 2X 6HX	HSS-E	■				62
					UNI SN	ISO 2X 6HX	HSS-E	■		Thread formers with lubrication grooves		62
Hand taps					ST	ISO 2X 6HX	HSS-E VHM		□		🛒	
					ERGO	ISO 2X 6HX	HSS-E		□		🛒	
					ERGO F.T.	ISO 2X 6HX	HSS-E	■			🛒	
Dies					FE	ISO 6g ISO 6e	HSS		□		🛒	
					FE	ISO 6g	HSS		□			🛒
					FE R_z=1	ISO 6g	HSS		□	Lapped Dies	🛒	
					FE LH	ISO 6g	HSS		□	for left hand threads	🛒	
					VA	ISO 6g	HSS-E		□		🛒	
					VA R_z=1	ISO 6g	HSS-E		□	Lapped Dies	🛒	
					Ms R_z=1	ISO 6g	HSS		□	Lapped Dies	🛒	

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Taps Overview

Application range	Through hole	Blind hole	Through hole-Blind hole	Tool type	Application Area / Special Features	Tolerance	Tap Material	coated ■	uncoated □	Comments	WNT \ Performance	WNT \ Standard
Metric ISO standard thread for wire thread inserts												
Universal				Stabil	UNI	6H mod	HSS-E	■			63	
Universal				Salo-Rex	UNI	6H mod	HSS-E	■			64	
Non-ferrous metals				Salo-Rex	Soft	6H mod	HSS-E	■			64	
MF – Metric ISO Fine Thread												
Universal				Stabil	UNI	ISO 2 6H	HSS-E	■			65+66	
Universal				Stabil	UNI	ISO 3 6G	HSS-E	■				
Universal					UNI	ISO 2 6H	HSS-PM HSS-E	■				67+68
Universal				Stabil	UNI DRY	ISO 2X 6HX	HSS-E	■		for dry machining or minimum quantity lubrication (MMS)		
Steel				Stabil	ST	ISO 2 6H	HSS-E		□			
Steel					FE	ISO 2 6H	HSS-E		□			68
Steel					FE-HF	ISO 2 6H	HSS-E	■				68
Steel				Stabil	ST TS	ISO 2X 6HX	HSS-E	■		for high-speed machining, up to 100 m/min.	66	
Steel				Stabil	ST LH	ISO 2 6H	HSS-E		□	for left hand threads	66	
Steel				Stabil	VG	ISO 2X 6HX	HSS-E	■			65+66	
Stainless steel				Stabil	VA	ISO 2 6H	HSS-E	■				
Stainless steel					VA	ISO 2 6H	HSS-E	■				68
Universal				Salo-Rex	UNI	ISO 2 6H ISO 3 6G	HSS-E	■		with thro' coolant	69+70	
Universal					UNI	ISO 2 6H	HSS-E HSS-PM	■				75+76
Universal				Salo-Rex	UNI CNC	ISO 3 6G	HSS-E	■		for synchronised CNC machining with minimum length compensation chuck		

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Taps Overview

MF – Metric ISO Fine Thread

Application range	Through hole	Blind hole	Through hole-Blind hole	Tool type	Application Area / Special Features	Tolerance	Tap Material	coated ■	uncoated □	Comments	WNT \ Performance	WNT \ Standard
Universal	●			Salo-Rex	UNI CNC	7G ISO 2 6H	HSS-E	■		for synchronised CNC machining with minimum length compensation chuck	70	
	●				UNI NC	ISO 2 6H	HSS-E	■		for synchronised CNC machining with minimum length compensation chuck		76
Steel	●			Salo-Rex	ST	ISO 2 6H	HSS-E		□		71	
	●			Salo-Rex	ST	ISO 1 4H	HSS-E		□		🛒	
	●				FE	ISO 2 6H	HSS-E		□			76
	●				FE-HF	ISO 2 6H	HSS-E	■				76
	●			Salo-Rex	ST TS	ISO 2 6H	HSS-E	■		for high-speed machining, up to 100 m/min.	🛒	
	●			Salo-Rex	ST LH	ISO 2 6H	HSS-E		□	for left hand threads	71	
	●			SL	ST	ISO 2 6H	HSS-E		□		72	
	●			SL	ST CNC	ISO 2X 6HX	HSS-E	■		for synchronised CNC machining with minimum length compensation chuck	🛒	
Stainless steel	●			Salo-Rex	VA	ISO 2 6H	HSS-E	■			74	
	●				VA	ISO 2 6H	HSS-E HSS-PM	■	□			77
Non-ferrous metals	●			Salo-Rex	NW	ISO 2 6H	HSS-E	■			74	
Steel		●		TWIN	ST	ISO 2X 6HX	HSS-E		□		78	
		●		TWIN	ST ES	ISO 2X 6HX	HSS-E		□	extra short	80	
		●		TWIN	ST LH/ES	ISO 2X 6HX	HSS-E		□	for left hand threads	80	
		●		TWIN	HR	ISO 2X 6HX	HSS-E	■			78+79	
Cast iron		●		TWIN	GG	ISO 2X 6HX	HSS-E	■			79	
Tempered steel		●		TWIN	HT	ISO 2X 6HX	VHM	■			78	

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Taps Overview

Application range	Through hole	Blind hole	Through hole-Blind hole	Tool type	Application Area / Special Features	Tolerance	Tap Material	coated ■	uncoated □	Comments	WNT \ Performance	WNT \ Standard
MF – Metric ISO Fine Thread												
Machine thread formers			●	Spanlos	EC	ISO 2X 6HX	HSS-E	■			81	
Machine thread formers			●	Spanlos	EC SN	ISO 2X 6HX	HSS-E	■		Thread formers with lubrication grooves	81	
Machine thread formers			●		UNI	ISO 2X 6HX	HSS-E	■				82
Machine thread formers			●		UNI SN	ISO 2X 6HX	HSS-E	■		Thread formers with lubrication grooves		82
Hand taps					ST	ISO 2X 6HX	HSS-E		□		🛒	
Dies					FE	ISO 6g	HSS		□		🛒	
Dies					FE	ISO 6g	HSS		□			🛒
Dies					FE LH	ISO 6g	HSS		□	for left hand threads	🛒	
Dies					VA	ISO 6g	HSS-E		□		🛒	
G – Whitworth Pipe Thread												
Universal	●			Stabil	UNI	ISO 228	HSS-E	■			83	
Universal	●				UNI	ISO 228	HSS-E	■				84
Steel	●			Stabil	ST	ISO 228	HSS-E		□		83	
Steel	●				FE	ISO 228	HSS-E		□			🛒
Stainless steel	●			Stabil	VA	ISO 228	HSS-E	■			83	
Universal		●		Salo-Rex	UNI	ISO 228 ISO 228 +0,05	HSS-E	■			85	
Universal		●			UNI	ISO 228	HSS-E	■				87
Universal		●		Salo-Rex	UNI CNC	ISO 228	HSS-E	■		for synchronised CNC machining with minimum length compensation chuck	86	

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Taps Overview

G – Whitworth Pipe Thread

Application range	Through hole	Blind hole	Through hole-Blind hole	Tool type	Application Area / Special Features	Tolerance	Tap Material	coated ■	uncoated □	Comments	WNT \ Performance	WNT \ Standard
Steel		✓		Salo-Rex	ST	ISO 228	HSS-E		□		86	
		✓		SL	ST	ISO 228	HSS-E		□		🛒	
Stainless steel		✓		Salo-Rex	VA	ISO 228	HSS-E	■			86	
Steel			✓	TWIN	ST	ISO 228X	HSS-E		□		88	
			✓	TWIN	HR	ISO 228X	HSS-E	■			88	
Cast iron			✓	TWIN	GG	ISO 228X	HSS-E	■			🛒	
Machine thread formers			✓	Spanlos	EC	ISO 228	HSS-E	■			89	
			✓	Spanlos	EC SN	ISO 228	HSS-E	■		Thread formers with lubrication grooves	89	
Hand taps					ERGO	ISO 228	HSS-E		□		🛒	
Dies					FE	ISO 228A	HSS		□		🛒	

UNC – Unified Coarse Thread

Application range	Through hole	Blind hole	Through hole-Blind hole	Tool type	Application Area / Special Features	Tolerance	Tap Material	coated ■	uncoated □	Comments	WNT \ Performance	WNT \ Standard
Universal	✓			Stabil	UNI	3B	HSS-E	■			🛒	
	✓			Stabil	UNI	2B	HSS-E	■			90	
	✓				UNI	2B	HSS-E	■				91
Steel	✓			Stabil	ST	2B	HSS-E		□		🛒	
	✓				FE	2B	HSS-E		□			91
	✓				FE-HF	2B	HSS-E	■				91
Stainless steel	✓			Stabil	VA	2B	HSS-E	■			90	
	✓				VA	2B	HSS-E	■				91

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Taps Overview

UNC – Unified Coarse Thread

Application range	Through hole	Blind hole	Through hole-Blind hole	Tool type	Application Area / Special Features	Tolerance	Tap Material	coated ■	uncoated □	Comments	WNT \ Performance	WNT \ Standard
Heat-resistant	✓			Stabil	Ti	2BX	HSS-PM	■			90	
Universal		✓		Salo-Rex	UNI	2B	HSS-E	■			92	
Universal		✓		Salo-Rex	UNI	2B +0,05	HSS-E	■			🛒	
Universal		✓			UNI	2B	HSS-E	■				93
Steel		✓		Salo-Rex	ST	2B	HSS-E		□		🛒	
Steel		✓			FE	2B	HSS-E		□			93
Steel		✓			FE-HF	2B	HSS-E	■				93
Stainless steel		✓		Salo-Rex	VA	2B	HSS-E	■			92	
Stainless steel		✓			VA	2B	HSS-E		□			93
Heat-resistant		✓		SL	Ti	2BX	HSS-PM	■			🛒	
Cast iron			✓	TWIN	GG	2BX	HSS-E	■			🛒	
Machine thread formers			✓	Spanlos	EC	2BX	HSS-E	■			94	
Machine thread formers			✓	Spanlos	EC SN	2BX	HSS-E	■		Thread formers with lubrication grooves	94	
Hand taps			✓		ERGO	2BX	HSS-E		□		🛒	
Dies			✓		FE	2A	HSS-E		□		🛒	

EG UNC – Unified coarse thread for wire inserts

Application range	Through hole	Blind hole	Through hole-Blind hole	Tool type	Application Area / Special Features	Tolerance	Tap Material	coated ■	uncoated □	Comments	WNT \ Performance	WNT \ Standard
Universal	✓			Stabil	UNI	2B	HSS-E	■			95	
Universal		✓		Salo-Rex	UNI	2B	HSS-E	■			96	

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Taps Overview

Application range	Through hole	Blind hole	Through hole-Blind hole	Tool type	Application Area / Special Features	Tolerance	Tap Material	coated ■	uncoated □	Comments	WNT \ Performance	WNT \ Standard
UNJC – Unified Coarse Thread												
Heat-resistant				SL	Ti	3BX	HSS-E	■			97	
UNF – Unified Fine Thread												
Universal				Stabil	UNI	2B	HSS-E	■			98	
					UNI	2B	HSS-E	■				99
Steel				Stabil	ST	2B	HSS-E		□			
					FE	2B	HSS-E		□			99
Stainless steel					VA	2B	HSS-E	■				99
Heat-resistant				Stabil	Ti	2BX	HSS-PM	■			98	
Universal				Salo-Rex	UNI	2B 2B +0,05	HSS-E	■			100	
					UNI	2B	HSS-E	■				102
Steel					FE	2B	HSS-E		□			102
Stainless steel				Salo-Rex	VA	2B	HSS-E	■			100	
					VA	2B	HSS-E		□			102
Heat-resistant				SL	Ti	2BX 3BX	HSS-PM	■			101	
Cast iron				TWIN	GG	2BX	HSS-E	■				
Thread formers				Spanlos	EC SN	2BX	HSS-E	■		Thread formers with lubrication grooves	103	
Dies					FE	2A	HSS		□			

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Taps Overview

Application range	Through hole	Blind hole	Through hole-Blind hole	Tool type	Application Area / Special Features	Tolerance	Tap Material	coated ■	uncoated □	Comments	WNT \ Performance	WNT \ Standard
EG UNF – Unified fine thread for wire inserts												
Universal				Stabil	UNI	2B	HSS-E	■			104	
				Salo-Rex	UNI	2B	HSS-E	■			105	
UNJF – Unified Extra Fine Thread												
Heat-resistant				DL	Ti	3BX	HSS-E	■			🛒	
				SL	Ti	3BX	HSS-E	■			🛒	
BSW – Whitworth Thread												
Universal				Stabil	UNI	med.	HSS-E	■			🛒	
				Salo-Rex	UNI	med.	HSS-E	■			🛒	
NPT – American Tapered Pipe Thread												
Stainless steel				Salo-Rex	VA		HSS-E	■			106	
Steel				TWIN	ST AZ		HSS-E		□	with intermittent teeth, reduces friction	🛒	
				TWIN	VG		HSS-E		□		107	
				TWIN	VG AZ		HSS-E		□	with intermittent teeth, reduces friction	🛒	
				TWIN	ST ES		HSS-E		□	extra short	108	
Dies					FE		HSS-E		□		🛒	

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Taps Overview

Application range	Through hole	Blind hole	Through hole-Blind hole	Tool type	Application Area / Special Features	Tolerance	Tap Material	coated ■	uncoated □	Comments	WNT \ Performance	WNT \ Standard
NPTF – American Tapered Pipe Thread												
Steel				TWIN	ST		HSS-E		□		🛒	
Steel				TWIN	VG		HSS-E		□		🛒	
Steel				TWIN	ST ES		HSS-E		□	extra short	🛒	
Rp – Cylindrical Whitworth Pipe Thread												
Steel				TWIN	ST	X	HSS-E		□		🛒	
Rc – Tapered Whitworth Pipe Thread												
Steel				TWIN	ST		HSS-E		□		🛒	
Tr – Metric ISO Trapezoidal Thread												
Steel					ST	7H	HSS-E		□		109	

Accessories

Shank extensions for taps											🛒	
Tapping Oil, Chlorine Free											🛒	

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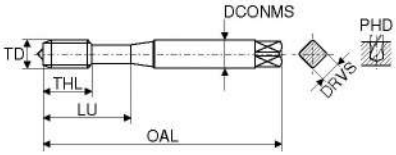
Through hole – Machine taps, right hand

M | Stabil



DIN 371 with reinforced shank

	UNI	UNI	UNI	UNI	UNI
	B 4–5	B 4–5	B 4–5	B 4–5	B 4–5
	ISO 2 6H	ISO 2 6H	ISO 2 6H	ISO 3 6G	7G
	nitr. + vap.	TiN	TiCN	nitr. + vap.	nitr. + vap.
					
	HSS-E ◁ 0° ≤ 1100 N/mm² ≤ 4xD	HSS-E ◁ 0° ≤ 1100 N/mm² ≤ 4xD	HSS-E ◁ 0° ≤ 1100 N/mm² ≤ 4xD	HSS-E ◁ 0° ≤ 1100 N/mm² ≤ 4xD	HSS-E ◁ 0° ≤ 1100 N/mm² ≤ 4xD
	U0	U0	U0	U0	U0

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	Article no. 22 501 ...		Article no. 22 503 ...		Article no. 22 505 ...		Article no. 22 508 ...		Article no. 22 510 ...	
	mm	mm	mm	mm	mm	mm	mm		£		£		£		£		£	
M1	0.25	40	2.5	2.1	0.75	5	13	2	105.71	010 [1]								
M1,2	0.25	40	2.5	2.1	0.95	5	13	2	101.80	012 [1]								
M1,4	0.30	40	2.5	2.1	1.10	7	13	3	90.58	014 [1]								
M1,6	0.35	40	2.5	2.1	1.25	8	11	3	64.24	016								
M1,7	0.35	40	2.5	2.1	1.35	6	11	2	98.39	017								
M1,8	0.35	40	2.5	2.1	1.45	6	11	2	136.41	018								
M2	0.40	45	2.8	2.1	1.60	7	12	2			46.18	020			45.67	020	56.83	020
M2	0.40	45	2.8	2.1	1.60	8	8	3	47.27	020								
M2,2	0.45	45	2.8	2.1	1.75	7	12	2	48.95	022								
M2,5	0.45	50	2.8	2.1	2.05	9	14	2	46.11	025					45.34	025	54.78	025
M3	0.50	56	3.5	2.7	2.50	11	18	3	30.65	030	38.07	030	38.07	030	36.68	030	42.20	030
M3,5	0.60	56	4.0	3.0	2.90	12	20	3	37.78	035					37.37	035		
M4	0.70	63	4.5	3.4	3.30	13	21	3	27.04	040	36.46	040	36.46	040	38.84	040	42.20	040
M5	0.80	70	6.0	4.9	4.20	15	25	3	28.34	050	36.91	050	36.91	050	37.37	050	43.41	050
M6	1.00	80	6.0	4.9	5.00	17	30	3	28.34	060	45.05	060	45.05	060	40.35	060	44.46	060
M7	1.00	80	7.0	5.5	6.00	17	30	3	45.67	070								
M8	1.25	90	8.0	6.2	6.80	20	35	3	33.56	080	49.17	080	49.17	080	42.88	080	49.48	080
M10	1.50	100	10.0	8.0	8.50	22	39	3	40.26	100	73.52	100	69.69	100	52.23	100	60.04	100
M12	1.75	110	12.0	9.0	10.20	24	44	3	55.82	120								

Steel	6-20	6-25	6-25	6-20	6-20
Stainless steel	4-8	5-10	5-10	4-8	4-8
Cast iron	6-15	10-20	10-20	6-15	6-15
Non ferrous metals		12-25	12-25		
Heat resistant alloys					
Hardened materials					

1) Tol. ISO 1 4H ≤ M1.4

DIN 376 can be found on the next page

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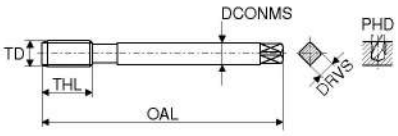
Through hole – Machine taps, right hand

M | Stabil



DIN 376 with reduced shank

UNI	UNI	UNI	UNI
B 4–5	B 4–5	B 4–5	B 4–5
ISO 2 6H	ISO 2 6H	ISO 3 6G	7G
nitr. + vap.	TiN	nitr. + vap.	nitr. + vap.

HSS-E | HSS-E | HSS-E | HSS-E

0° | 0° | 0° | 0°

≤ 1100 N/mm² ≤ 4xD | ≤ 1100 N/mm² ≤ 4xD | ≤ 1100 N/mm² ≤ 4xD | ≤ 1100 N/mm² ≤ 4xD

U0 | U0 | U0 | U0

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	Article no. 22 502 ...	£		Article no. 22 504 ...	£		Article no. 22 509 ...	£		Article no. 22 511 ...	£	
	mm	mm	mm	mm	mm	mm													
M3	0.50	56	2.2		2.5	11	3		62.10	030									
M4	0.70	63	2.8	2.1	3.3	13	3		41.33	040									
M5	0.80	70	3.5	2.7	4.2	15	3		38.82	050									
M6	1.00	80	4.5	3.4	5.0	17	3		38.99	060									
M8	1.25	90	6.0	4.9	6.8	20	3		43.24	080									
M10	1.50	100	7.0	5.5	8.5	22	3		50.74	100									
M12	1.75	110	9.0	7.0	10.2	24	3		49.98	120		80.34	120		60.63	120		67.54	120	
M14	2.00	110	11.0	9.0	12.0	26	3		63.20	140		140.32	140					112.87	140	
M16	2.00	110	12.0	9.0	14.0	27	3		70.12	160		104.59	160		88.48	160		118.84	160	
M18	2.50	125	14.0	11.0	15.5	30	3		131.49	180		222.42	180							
M20	2.50	140	16.0	12.0	17.5	32	3		104.32	200		226.33	200		131.42	200				
M22	2.50	140	18.0	14.5	19.5	32	3		176.82	220		343.85	220							
M24	3.00	160	18.0	14.5	21.0	34	3		139.44	240		289.65	240							
M27	3.00	160	20.0	16.0	24.0	36	3		199.89	270										
M30	3.50	180	22.0	18.0	26.5	40	4		226.91	300										
M33	3.50	180	25.0	20.0	29.5	40	4		565.65	330										
M36	4.00	200	28.0	22.0	32.0	50	4		651.23	360										
M42	4.50	200	32.0	24.0	37.5	56	4		1,236.83	420										
M48	5.00	250	36.0	29.0	43.0	65	4		1,306.36	480										

Steel	6-20	6-25	6-20	6-20
Stainless steel	4-8	5-10	4-8	4-8
Cast iron	6-15	10-20	6-15	6-15
Non ferrous metals		12-25		
Heat resistant alloys				
Hardened materials				

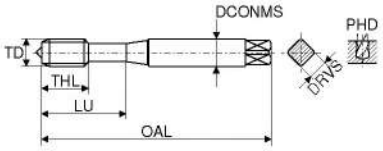
Through hole – Machine taps, right hand

▲ CNC = for synchronised CNC machining with minimum length compensation chuck

▲ NCW = with Weldon flat for synchronised CNC machining without length compensation chuck

M	Stabil

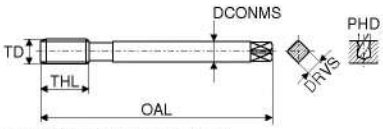
UNI NCW	UNI CNC	UNI CNC	UNI CNC
B 4-5	B 4-5	B 4-5	B 4-5
ISO 2 6H	ISO 2X 6HX	ISO 3X 6GX	7GX
TiN	TiN GS	TiN GS	TiN GS



DIN 371 with reinforced shank

	HSS-PM	HSS-E	HSS-E	HSS-E
	0° ≤ 1100 N/mm² ≤ 4xD	0° ≤ 1100 N/mm² ≤ 4xD	0° ≤ 1100 N/mm² ≤ 4xD	0° ≤ 1100 N/mm² ≤ 4xD
	U0	U0	U0	U0
TD	Article no. 22 148 ...	Article no. 22 542 ...	Article no. 22 596 ...	Article no. 22 592 ...
	£	£	£	£
M3	63.63 030			
M3		44.05 030		
M4	66.97 040			
M4		46.46 040	52.18 040	56.45 040
M5	68.01 050	48.53 050	53.04 050	58.69 050
M6	84.84 060	61.60 060	66.54 060	74.96 060
M8	93.57 080			
M8		65.84 080	72.65 080	82.21 080
M10	112.87 100			
M10		83.38 100	89.48 100	97.93 100
M12	138.57 120			
M16	194.53 160			

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes
	mm	mm	mm	mm	mm	mm	mm	
M3	0.50	70	6.0	4.9	2.5	6	18	3
M3	0.50	56	3.5	2.7	2.5	6	18	3
M4	0.70	70	6.0	4.9	3.3	7	21	3
M4	0.70	63	4.5	3.4	3.3	7	21	3
M5	0.80	70	6.0	4.9	4.2	8	25	3
M6	1.00	80	6.0	4.9	5.0	10	30	3
M8	1.25	90	8.0	6.2	6.8	14	35	3
M8	1.25	90	8.0	6.2	6.8	14	35	4
M10	1.50	100	10.0	8.0	8.5	16	39	3
M10	1.50	100	10.0	8.0	8.5	16	39	4
M12	1.75	110	10.0	8.0	10.2	18		3
M16	2.00	110	12.0	9.0	14.0	22		3



DIN 376 with reduced shank

	U0	U0	U0
TD	Article no. 22 543 ...	Article no. 22 597 ...	Article no. 22 593 ...
	£	£	£
M12	95.76 120	106.20 120	117.96 120
M14	270.61 140		
M16	136.11 160		
M20	237.82 200		

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes
	mm	mm	mm	mm	mm	mm	
M12	1.75	110	9	7	10.2	18	4
M14	2.00	110	11	9	12.0	20	4
M16	2.00	110	12	9	14.0	22	4
M20	2.50	140	16	12	17.5	25	4

Steel	6-25	6-25	6-25	6-25
Stainless steel	5-10	5-10	5-10	5-10
Cast iron	10-20	10-20	10-20	10-20
Non ferrous metals	12-25	12-25	12-25	12-25
Heat resistant alloys				
Hardened materials				

6

Through hole – Machine taps, right/left hand

▲ AZ = with intermittent teeth, reduces friction

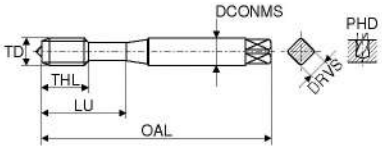
▲ LH = for left hand threads

M | Stabil

ST | ST AZ | ST LH

B 4-5

ISO 2 6H



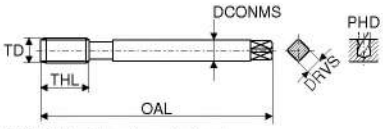
DIN 371 with reinforced shank

HSS-E | HSS-E | HSS-E

0° | 0° | 0°

≤ 750 N/mm² ≤ 4xD | ≤ 750 N/mm² ≤ 4xD | ≤ 750 N/mm² ≤ 4xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 020 ... £		U0 Article no. 22 022 ... £		U0 Article no. 22 127 ... £	
	mm	mm	mm	mm	mm	mm	mm							
M2	0.40	45	2.8	2.1	1.60	7	12	2	31.55	020	46.18	020		
M2,3	0.40	45	2.8	2.1	1.90	7	12	2	35.45	023				
M2,5	0.45	50	2.8	2.1	2.05	9	14	2	31.98	025				
M2,6	0.45	50	2.8	2.1	2.15	9	14	2	35.45	026				
M3	0.50	56	3.5	2.7	2.50	11	18	3	26.16	030	43.16	030	46.94	030
M3,5	0.60	56	4.0	3.0	2.90	12	20	3	28.19	035				
M4	0.70	63	4.5	3.4	3.30	13	21	3	26.74	040	43.16	040	48.32	040
M5	0.80	70	6.0	4.9	4.20	15	25	3	28.19	050	39.21	050	50.17	050
M6	1.00	80	6.0	4.9	5.00	17	30	3	28.19	060	40.69	060	50.17	060
M8	1.25	90	8.0	6.2	6.80	20	35	3	33.40	080	45.05	080	56.83	080
M10	1.50	100	10.0	8.0	8.50	22	39	3	39.21	100	54.34	100	72.65	100
M12	1.75	110	12.0	9.0	10.20	24	44	3	44.90	120				



DIN 376 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 021 ... £		U0 Article no. 22 023 ... £		U0 Article no. 22 147 ... £	
	mm	mm	mm	mm	mm	mm							
M3	0.50	56	2.2		2.5	11	3	32.41	030				
M4	0.70	63	2.8	2.1	3.3	13	3	32.11	040				
M5	0.80	70	3.5	2.7	4.2	15	3	33.40	050				
M6	1.00	80	4.5	3.4	5.0	17	3	33.86	060				
M8	1.25	90	6.0	4.9	6.8	20	3	36.03	080				
M10	1.50	100	7.0	5.5	8.5	22	3	40.84	100				
M12	1.75	110	9.0	7.0	10.2	24	3	49.82	120	76.00	120	86.23	120
M14	2.00	110	11.0	9.0	12.0	26	3	62.93	140				
M16	2.00	110	12.0	9.0	14.0	27	3	69.69	160	113.77	160	130.41	160
M18	2.50	125	14.0	11.0	15.5	30	3	101.69	180				
M20	2.50	140	16.0	12.0	17.5	32	3	105.62	200	162.55	200	192.79	200
M22	2.50	140	18.0	14.5	19.5	32	3	159.96	220				
M24	3.00	160	18.0	14.5	21.0	34	3	136.11	240				
M27	3.00	160	20.0	16.0	24.0	36	3	186.53	270				
M30	3.50	180	22.0	18.0	26.5	40	4	225.58	300				

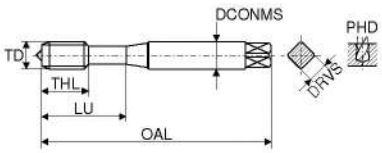
Steel	10-20	10-20	10-20
Stainless steel			
Cast iron			
Non ferrous metals	10-20	10-20	10-20
Heat resistant alloys			
Hardened materials			

Through hole – Machine taps, right hand

▲ TS = for high-speed machining, up to 100 m/min.

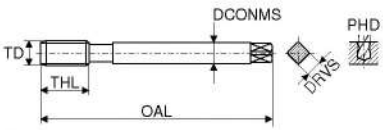
M	Stabil

ST TS	HR	HR	VG
B 4–5	B 4–5	B 4–5	B 4–5
ISO 2X 6HX	ISO 2X 6HX	ISO 2X 6HX	ISO 2X 6HX
TiN	nitr.	TiN	TiN



DIN 371 with reinforced shank

	HSS-E	HSS-PM	HSS-PM	HSS-E
	0° ≤ 1100 N/mm² ≤ 4xD	0° ≤ 1400 N/mm² ≤ 4xD	0° ≤ 1400 N/mm² ≤ 4xD	0° ≤ 1100 N/mm² ≤ 4xD
	U0	U0	U0	U0
TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	Article no. 22 092 ...		Article no. 22 053 ...		Article no. 22 055 ...		Article no. 22 120 ...	
	mm	mm	mm	mm	mm	mm	mm		£		£		£		£	
M2	0.40	45	2.8	2.1	1.60	8	9.5	2			71.64	020				
M2	0.40	45	2.8	2.1	1.60	4	12.0	2	61.58	020					54.78	020
M2,2	0.45	45	2.8	2.1	1.75	7	12.0	2			71.64	022				
M2,5	0.45	50	2.8	2.1	2.05	9	14.0	2			69.90	025				
M2,5	0.45	50	2.8	2.1	2.05	5	15.0	2	61.58	025					54.78	025
M3	0.50	56	3.5	2.7	2.50	11	18.0	2			35.60	030	46.89	030		
M3	0.50	56	3.5	2.7	2.50	6	18.0	3	48.32	030					40.84	030
M3,5	0.60	56	4.0	3.0	2.90	12	20.0	2			57.25	035				
M4	0.70	63	4.5	3.4	3.30	13	21.0	2			35.90	040	68.43	040		
M4	0.70	63	4.5	3.4	3.30	7	21.0	3	56.30	040					44.17	040
M5	0.80	70	6.0	4.9	4.20	15	25.0	2			37.78	050	48.53	050		
M5	0.80	70	6.0	4.9	4.20	8	25.0	3	59.14	050					46.07	050
M6	1.00	80	6.0	4.9	5.00	17	30.0	3			39.21	060	59.14	060		
M6	1.00	80	6.0	4.9	5.00	10	30.0	3	76.56	060					56.37	060
M8	1.25	90	8.0	6.2	6.80	20	35.0	3			46.33	080	64.08	080		
M8	1.25	90	8.0	6.2	6.80	14	35.0	4	81.07	080					59.54	080
M10	1.50	100	10.0	8.0	8.50	22	39.0	3			56.45	100	90.67	100		
M10	1.50	100	10.0	8.0	8.50	16	39.0	4	109.82	100					85.13	100
M12	1.75	110	12.0	9.0	10.20	24	44.0	3			95.44	120				



DIN 376 with reduced shank

								U0				U0	
TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	Article no. 22 093 ...				Article no. 22 121 ...	
	mm	mm	mm	mm	mm	mm		£				£	
M12	1.75	110	9	7	10.2	18	4	119.41	120			101.27	120
M16	2.00	110	12	9	14.0	22	4	176.82	160			138.57	160
M20	2.50	140	16	12	17.5	25	4	254.36	200			235.64	200

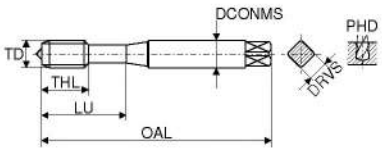
Steel	20-100	2-6	2-6	6-15
Stainless steel				5-10
Cast iron	20-60			
Non ferrous metals	20-100			10-20
Heat resistant alloys	10-25	3-5	3-5	
Hardened materials				

6

Through hole – Machine taps, right hand

M | Stabil

VA	VA	NW	NW
B 4–5	B 4–5	B 4–5	B 4–5
ISO 2 6H	ISO 2 6H	ISO 2 6H	ISO 2 6H
nitr.	TiN GS	vap.	HCr



DIN 371 with reinforced shank

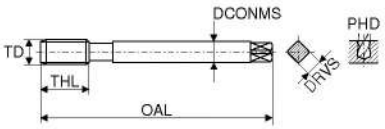
HSS-E
0°
≤ 900 N/mm² ≤ 4xD

HSS-E
0°
≤ 900 N/mm² ≤ 4xD

HSS-E
0°
≤ 500 N/mm² ≤ 4xD

HSS-E
0°
≤ 500 N/mm² ≤ 4xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 056 ... £		U0 Article no. 22 038 ... £		U0 Article no. 22 058 ... £		U0 Article no. 22 060 ... £	
	mm	mm	mm	mm	mm	mm	mm									
M1,6	0.35	40	2.5	2.1	1.25	6	11	2			69.43	016				
M2	0.40	45	2.8	2.1	1.60	7	12	2	36.46	020	57.10	020	35.02	020	42.00	020
M2,3	0.40	45	2.8	2.1	1.90	7	12	2					39.76	023	44.47	023
M2,5	0.45	50	2.8	2.1	2.05	9	14	2	35.06	025	54.44	025	35.02	025	42.73	025
M2,6	0.45	50	2.8	2.1	2.15	9	14	2					40.26	026	44.47	026
M3	0.50	56	3.5	2.7	2.50	11	18	3	28.81	030	44.90	030	27.04	030	35.45	030
M3,5	0.60	56	4.0	3.0	2.90	12	20	3	40.41	035			28.38	035	37.78	035
M4	0.70	63	4.5	3.4	3.30	13	21	3	30.22	040	48.53	040	27.38	040	35.49	040
M5	0.80	70	6.0	4.9	4.20	15	25	3	31.98	050	49.54	050	28.38	050	35.32	050
M6	1.00	80	6.0	4.9	5.00	17	30	3	33.40	060	62.47	060	28.38	060	35.75	060
M8	1.25	90	8.0	6.2	6.80	20	35	3	36.35	080	68.01	080	34.58	080	43.28	080
M10	1.50	100	10.0	8.0	8.50	22	39	3	44.47	100	84.25	100	41.13	100	54.34	100



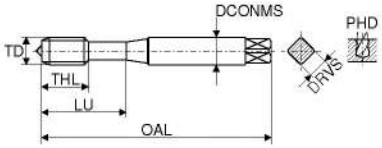
DIN 376 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 057 ... £		U0 Article no. 22 039 ... £		U0 Article no. 22 059 ... £		U0 Article no. 22 061 ... £	
	mm	mm	mm	mm	mm	mm									
M12	1.75	110	9	7.0	10.2	24	3	56.30	120	99.67	120	52.30	120	65.10	120
M14	2.00	110	11	9.0	12.0	26	3	77.85	140	144.25	140				
M16	2.00	110	12	9.0	14.0	27	3	79.66	160	141.36	160	73.81	160	79.10	160
M18	2.50	125	14	11.0	15.5	30	3	195.07	180						
M20	2.50	140	16	12.0	17.5	32	3	116.14	200	241.74	200				
M22	2.50	140	18	14.5	19.5	32	3	306.02	220						
M24	3.00	160	18	14.5	21.0	34	3	159.65	240						
M27	3.00	160	20	16.0	24.0	36	3	334.80	270						
M30	3.50	180	22	18.0	26.5	40	4	257.85	300						

Steel		5-12		
Stainless steel	5-10	5-10		
Cast iron				
Non ferrous metals			10-20	12-25
Heat resistant alloys				
Hardened materials				

Through hole – Machine taps, right hand

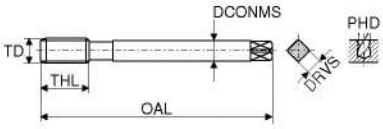
M | Stabil



DIN 371 with reinforced shank

	Ti	Ti	Ti
	B 4–5	B 4–5	B 4–5
	ISO 1X 4HX	ISO 2X 6HX	ISO 2X 6HX
	TiN	vap.	TiN
			
	HSS-PM	HSS-PM	HSS-PM
	0° ≤ 44 HRC ≤ 4xD	0° ≤ 1400 N/mm² ≤ 4xD	0° ≤ 44 HRC ≤ 4xD
	U0	U0	U0

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	Article no. 22 081 ...	£	Article no. 22 075 ...	£	Article no. 22 077 ...	£
	mm	mm	mm	mm	mm	mm	mm							
M1	0.25	40	2.5	2.1	0.75	5	6.5	2	168.52	**010**				
M1,6	0.35	40	2.5	2.1	1.25	8	9.5	3			94.51	**016**		
M2	0.40	45	2.8	2.1	1.60	8	9.5	3	140.70	**020**	120.74	**020**		
M2,5	0.45	50	2.8	2.1	2.05	9	14.0	3			114.98	**025**		
M3	0.50	56	3.5	2.7	2.50	11	18.0	3	85.23	**030**	80.25	**030**	85.23	**030**
M3,5	0.60	56	4.0	3.0	2.90	12	20.0	3			59.50	**035**		
M4	0.70	63	4.5	3.4	3.30	13	21.0	3	86.89	**040**	86.59	**040**	86.89	**040**
M5	0.80	70	6.0	4.9	4.20	15	25.0	3	89.11	**050**	85.23	**050**	89.11	**050**
M6	1.00	80	6.0	4.9	5.00	17	30.0	3	89.11	**060**	85.23	**060**	89.11	**060**
M8	1.25	90	8.0	6.2	6.80	20	35.0	3	102.66	**080**	99.06	**080**	102.66	**080**
M10	1.50	100	10.0	8.0	8.50	22	39.0	3			119.40	**100**	120.37	**100**



DIN 376 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	Article no. 22 140 ...	£	Article no. 22 142 ...	£
	mm	mm	mm	mm	mm	mm					
M12	1.75	110	9	7	10.2	24	3	145.13	**120**	143.48	**120**

Steel	**2-5**	**2-5**	**2-5**
Stainless steel			
Cast iron			
Non ferrous metals			
Heat resistant alloys	**2-6**	**2-6**	**2-6**
Hardened materials			

6

Through hole – Machine taps, right hand

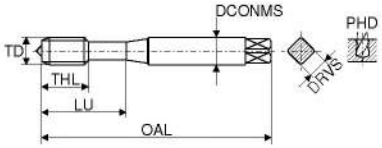
M | DL

Ti | Ni

D 4–5 | D 4–5

ISO 2X 6HX | ISO 2X 6HX

TiCN | TiCN

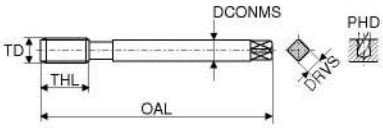


DIN 371 with reinforced shank

HSS-E ◁ 15° ≤ 1200 N/mm² ≤ 4xD

HSS-E ◁ 15° ≤ 1600 N/mm² ≤ 4xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 159 ... £		U0 Article no. 22 297 ... £	
	mm	mm	mm	mm	mm	mm	mm					
M3	0.50	56	3.5	2.7	2.5	11	18	2	50.42	030	64.90	030
M4	0.70	63	4.5	3.4	3.3	13	21	3	54.78	040	67.59	040
M5	0.80	70	6.0	4.9	4.2	15	25	3	55.36	050	69.32	050
M6	1.00	80	6.0	4.9	5.0	17	30	3	72.53	060	87.71	060
M8	1.25	90	8.0	6.2	6.8	20	35	3	79.66	080	97.34	080
M10	1.50	100	10.0	8.0	8.5	22	39	3	99.80	100	121.89	100



DIN 376 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 160 ... £		U0 Article no. 22 298 ... £	
	mm	mm	mm	mm	mm	mm					
M12	1.75	110	9	7.0	10.2	24	3	115.21	120	140.36	120
M14	2.00	110	11	9.0	12.0	26	3			208.98	140
M16	2.00	110	12	9.0	14.0	27	3	162.25	160	196.80	160
M20	2.50	140	16	12.0	17.5	32	3	280.37	200	335.57	200
M24	3.00	160	18	14.5	21.0	34	3	330.63	240		

Steel	6-8	
Stainless steel	4-10	
Cast iron		
Non ferrous metals	10-12	
Heat resistant alloys	4-6	2-20
Hardened materials		

Through hole – Machine taps, right hand

▲ EL = extra long, with double overall length

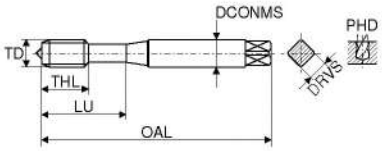
M | Stabil

UNI EL | ST EL

B 4–5

ISO 2 6H

nitr. + vap.

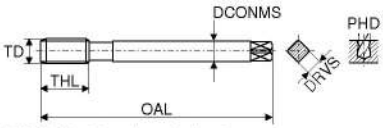


DIN 371 with reinforced shank

HSS-E
0°
≤ 1100 N/mm²
≤ 4xD

HSS-E
0°
≤ 950 N/mm²
≤ 4xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 514 ...		U0 Article no. 22 233 ...	
	mm	mm	mm	mm	mm	mm	mm		£		£	
M3	0.50	100	3.5	2.7	2.5	11	18	3	67.70	030	70.62	030
M4	0.70	125	4.5	3.4	3.3	13	21	3	67.70	040	67.59	040
M5	0.80	140	6.0	4.9	4.2	15	25	3	75.82	050	73.76	050
M6	1.00	160	6.0	4.9	5.0	17	30	3	82.51	060	77.19	060
M8	1.25	180	8.0	6.2	6.8	20	35	3	88.63	080	92.14	080



DIN 376 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 515 ...		U0 Article no. 22 234 ...	
	mm	mm	mm	mm	mm	mm		£		£	
M6	1.00	160	4.5	3.4	5.0	17	3	80.04	060	77.19	060
M8	1.25	180	6.0	4.9	6.8	20	3	98.37	080	92.14	080
M10	1.50	200	7.0	5.5	8.5	22	3	105.74	100	102.52	100
M12	1.75	224	9.0	7.0	10.2	24	3	116.14	120	123.62	120
M14	2.00	224	11.0	9.0	12.0	26	3	203.81	140	199.84	140
M16	2.00	224	12.0	9.0	14.0	27	3	229.10	160	192.23	160
M18	2.50	250	14.0	11.0	15.5	30	3	308.55	180	288.32	180
M20	2.50	280	16.0	12.0	17.5	32	3	272.97	200	259.34	200

Steel	6-20	5-25
Stainless steel	4-8	
Cast iron	6-15	10-20
Non ferrous metals		10-40
Heat resistant alloys		
Hardened materials		

6

Through hole – Machine taps, right hand

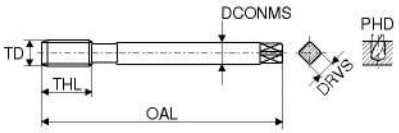
▲ MMB = Nut taps

M

ST
MMB

≈ 20

ISO 2
6H



DIN 357 with reduced shank

HSS-E
0°
≤ 850 N/mm²
≤ 1xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 098 ... £	
	mm	mm	mm	mm	mm	mm			
M3	0.50	70	2.2		2.5	16	3	50.42	**030**
M4	0.70	90	2.8	2.1	3.3	22	3	50.42	**040**
M5	0.80	100	3.5	2.7	4.2	24	3	52.75	**050**
M6	1.00	110	4.5	3.4	5.0	30	3	52.75	**060**
M8	1.25	125	6.0	4.9	6.8	38	3	65.10	**080**
M10	1.50	140	7.0	5.5	8.5	45	3	73.95	**100**
M12	1.75	180	9.0	7.0	10.2	50	3	99.37	**120**
M16	2.00	200	12.0	9.0	14.0	63	3	142.52	**160**

Steel	**10-25**
Stainless steel	
Cast iron	
Non ferrous metals	**10-25**
Heat resistant alloys	
Hardened materials	

Through hole – Machine taps, right hand

M

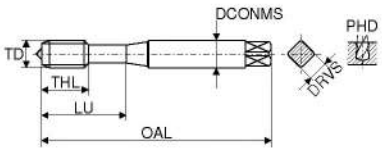
UNI | UNI | UNI

B 4–5 | B 4–5 | B 4–5

ISO 2 6H | ISO 2 6H | ISO 2 6H

nitr. + vap. | TiN | TiN





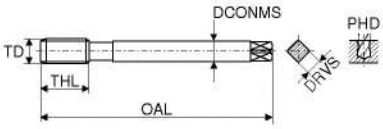
DIN 371 with reinforced shank

HSS-E | HSS-E | HSS-PM

0° | 0° | 0°

≤ 1000 N/mm² ≤ 3xD | ≤ 1000 N/mm² ≤ 3xD | ≤ 1000 N/mm² ≤ 3xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	T9 Article no. 23 110 ... £		T9 Article no. 23 112 ... £		T9 Article no. 23 010 ... £	
	mm	mm	mm	mm	mm	mm	mm							
M2	0.40	45	2.8	2.1	1.60	7	12.0	2	27.31	020	31.98	020		
M2	0.40	45	2.8	2.1	1.60	4	13.5	2					9.18	020
M2,5	0.45	50	2.8	2.1	2.05	9	14.0	2	26.37	025	30.95	025		
M3	0.50	56	3.5	2.7	2.50	11	18.0	3	20.81	030	25.94	030	11.53	030
M4	0.70	63	4.5	3.4	3.30	13	21.0	3	21.25	040	29.51	040	10.52	040
M5	0.80	70	6.0	4.9	4.20	15	25.0	3	21.67	050	29.78	050	11.76	050
M6	1.00	80	6.0	4.9	5.00	17	30.0	3	21.81	060	37.64	060	14.10	060
M8	1.25	90	8.0	6.2	6.80	20	35.0	3	24.95	080	40.41	080	15.66	080
M10	1.50	100	10.0	8.0	8.50	22	39.0	3	30.22	100	55.22	100	20.70	100



DIN 376 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	T9 Article no. 23 111 ... £		T9 Article no. 23 113 ... £		T9 Article no. 23 021 ... £	
	mm	mm	mm	mm	mm	mm							
M3	0.50	56	2.2		2.5	11	3	8.18	030				
M4	0.70	63	2.8	2.1	3.3	13	3	8.05	040				
M5	0.80	70	3.5	2.7	4.2	15	3	8.05	050				
M6	1.00	80	4.5	3.4	5.0	17	3	8.39	060				
M8	1.25	90	6.0	4.9	6.8	20	3	9.85	080				
M10	1.50	100	7.0	5.5	8.5	22	3	11.42	100				
M12	1.75	110	9.0	7.0	10.2	24	3	13.66	120	61.02	120	24.73	120
M14	2.00	110	11.0	9.0	12.0	26	3	19.81	140	39.61	14000		
M14	2.00	110	11.0	9.0	12.0	20	4					37.49	140
M16	2.00	110	12.0	9.0	14.0	27	3	20.25	160	79.92	160	34.81	160
M18	2.50	125	14.0	11.0	15.5	30	3			62.85	18000		
M18	2.50	125	14.0	11.0	15.5	25	4					60.99	180
M20	2.50	140	16.0	12.0	17.5	32	3	32.23	200	141.94	200	63.01	200
M22	2.50	140	18.0	14.5	19.5	32	3			93.08	22000		
M24	3.00	160	18.0	14.5	21.0	34	3			150.79	240		
M27	3.00	160	20.0	16.0	24.0	36	3			116.39	27000		
M30	3.50	180	22.0	18.0	26.5	40	4			130.55	30000		
M33	3.50	180	25.0	20.0	29.5	40	4			171.24	33000		
M36	4.00	200	28.0	22.0	32.0	50	4			209.74	36000		

Steel	2-25	5-45	10-20
Stainless steel	2-8	5-15	8-15
Cast iron	5-20	10-25	20-25
Non ferrous metals	10-20	15-40	20-25
Heat resistant alloys			
hardened materials			

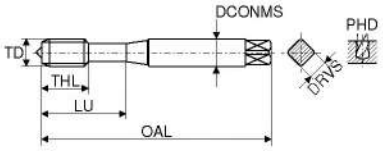
6

Through hole – Machine taps, right hand

▲ NCW = with Weldon flat for synchronised CNC machining without length compensation chuck

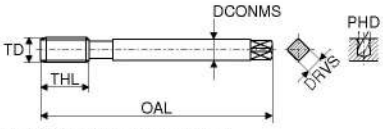
▲ NC = for synchronised CNC machining with minimum length compensation chuck

M



DIN 371 with reinforced shank

	UNI NC	UNI NCW	FE	FE-HF
	B 4-5	B 4-5	B 4-5	B 4-5
	ISO 2 6H	ISO 2 6H	ISO 2 6H	ISO 2 6H
	TiN GS	TiCN		TiCN
				
	HSS-E ◁ 0° ≤ 1000 N/mm² ≤ 3xD	HSS-PM ◁ 0° ≤ 1000 N/mm² ≤ 3xD	HSS-E ◁ 0° ≤ 850 N/mm² ≤ 3xD	HSS-E ◁ 0° ≤ 1100 N/mm² ≤ 3xD
	T9	T9	T9	T9
TD / mm	TP / mm	OAL / mm	DCONMS / mm	DRVS / mm	PHD / mm	THL / mm	LU / mm	Flutes	Article no. 23 114 ... £	Article no. 23 116 ... £	Article no. 23 212 ... £	Article no. 23 310 ... £
M1,6	0.35	40	2.5	2.1	1.25	6	11	2			27.75 016	
M2	0.40	45	2.8	2.1	1.60	7	12	2			18.39 020	
M2,5	0.45	50	2.8	2.1	2.05	9	14	2			15.99 025	
M3	0.50	70	6.0	4.9	2.50	6	18	3		33.13 030		
M3	0.50	56	3.5	2.7	2.50	11	18	3	27.75 030		12.67 030	26.16 030
M3,5	0.60	56	4.0	3.0	2.90	12	20	3			14.10 035	
M4	0.70	70	6.0	4.9	3.30	7	21	3		37.94 040		
M4	0.70	63	4.5	3.4	3.30	13	21	3	29.35 040		12.67 040	27.38 040
M5	0.80	70	6.0	4.9	4.20	15	25	3	30.22 050		12.70 050	28.19 050
M5	0.80	70	6.0	4.9	4.20	8	25	3		37.78 050		
M6	1.00	80	6.0	4.9	5.00	17	30	3	43.48 060		12.70 060	37.78 060
M6	1.00	80	6.0	4.9	5.00	10	30	3		37.78 060		
M8	1.25	90	8.0	6.2	6.80	20	35	3	46.94 080		16.54 080	40.77 080
M8	1.25	90	8.0	6.2	6.80	14	35	3		47.74 080		
M10	1.50	100	10.0	8.0	8.50	22	39	3	58.97 100		19.82 100	51.17 100
M10	1.50	100	10.0	8.0	8.50	16	39	3		57.73 100		



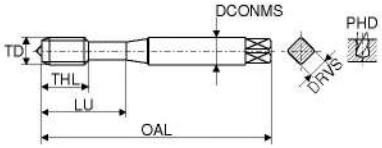
DIN 376 with reduced shank

TD / mm	TP / mm	OAL / mm	DCONMS / mm	DRVS / mm	PHD / mm	THL / mm	Flutes	Article no. 23 115 ... £	Article no. 23 117 ... £	Article no. 23 213 ... £	Article no. 23 311 ... £
								T9	T9	T9	T9
M12	1.75	110	10	8	10.2	18	3		73.23 120		
M12	1.75	110	9	7	10.2	24	3	68.01 120		26.74 120	60.45 120
M14	2.00	110	11	9	12.0	26	3			32.41 140	
M16	2.00	110	12	9	14.0	22	3		144.44 160		
M16	2.00	110	12	9	14.0	27	3	90.49 160		40.69 160	83.83 160
M20	2.50	140	16	12	17.5	32	3	167.79 200		63.50 200	148.04 200

Steel	5-45	5-45	5-25	5-45
Stainless steel	5-15	5-15		
Cast iron	10-25	10-25		
Non ferrous metals	15-40	15-40		
Heat resistant alloys		5-8		
hardened materials				

Through hole – Machine taps, right hand

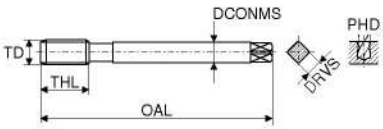
M



DIN 371 with reinforced shank

	VA	VA	VA	AL	AL
	B 4–5	B 4–5	B 4–5	B 4–5	B 4–5
	ISO 2 6H	ISO 2 6H	ISO 2 6H	ISO 2 6H	ISO 2 6H
	nitr.	nitr.	TiN		CrN
					
	HSS-PM	HSS-E	HSS-E	HSS-E	HSS-E
	0° ≤ 1200 N/mm² ≤ 3xD	0° ≤ 1200 N/mm² ≤ 3xD	0° ≤ 1200 N/mm² ≤ 3xD	0° ≤ 500 N/mm² ≤ 3xD	0° ≤ 500 N/mm² ≤ 3xD
	T9	T9	T9	T9	T9
	Article no. 23 450 ...	Article no. 23 410 ...	Article no. 23 412 ...	Article no. 23 610 ...	Article no. 23 612 ...

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	£		£		£		£		£	
	mm	mm	mm	mm	mm	mm	mm											
M2	0.40	45	2.8	2.1	1.60	7	12	2			20.64	020	32.73	020				
M2,5	0.45	50	2.8	2.1	2.05	9	14	2			26.37	025	27.70	025				
M3	0.50	56	3.5	2.7	2.50	11	18	3	10.75	030	13.83	030	25.94	030	12.67	030	23.84	030
M4	0.70	63	4.5	3.4	3.30	13	21	3	10.85	040	13.83	040	29.51	040	12.67	040	24.70	040
M5	0.80	70	6.0	4.9	4.20	15	25	3	11.76	050	14.39	050	29.78	050	12.70	050	25.27	050
M6	1.00	80	6.0	4.9	5.00	17	30	3	11.86	060	14.39	060	38.78	060	12.70	060	25.27	060
M8	1.25	90	8.0	6.2	6.80	20	35	3	13.32	080	18.31	080	41.61	080	16.54	080	28.38	080
M10	1.50	100	10.0	8.0	8.50	22	39	3	15.11	100	22.09	100	56.88	100	19.82	100	35.45	100



DIN 376 with reduced shank

	T9	T9	T9	T9	T9
	Article no. 23 451 ...	Article no. 23 411 ...	Article no. 23 413 ...	Article no. 23 611 ...	Article no. 23 613 ...

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	£		£		£		£		£	
	mm	mm	mm	mm	mm	mm											
M12	1.75	110	9	7.0	10.2	24	3	26.97	120	29.51	120	64.08	120	26.74	120	43.62	120
M14	2.00	110	11	9.0	12.0	26	3	35.70	140								
M16	2.00	110	12	9.0	14.0	27	3	37.72	160	45.05	160	79.92	160				
M20	2.50	140	16	12.0	17.5	32	3	56.40	200	68.56	200	139.16	200				
M24	3.00	160	18	14.5	21.0	34	3			90.67	240						

Steel					
Stainless steel	**5-10**	**3-10**	**8-20**		
Cast iron					
Non ferrous metals				**10-20**	**15-40**
Heat resistant alloys					
hardened materials					

6

Through hole – Machine taps, right hand

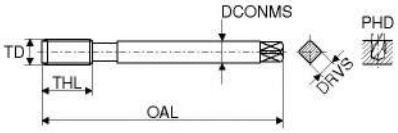
▲ ES = extra short

M

FE
ES

B
4–5

ISO 2
6H



DIN 376 with reduced shank

HSS-E

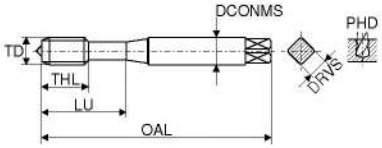
0°
≤ 850 N/mm²
≤ 3xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	T9 Article no. 23 210 ... £	
	mm	mm	mm	mm	mm	mm			
M2	0.40	36	2.8	2.1	1.60	8	2	14.39	**020**
M2,5	0.45	40	2.8	2.1	2.05	9	2	11.26	**025**
M3	0.50	40	3.5	2.7	2.50	10	3	8.27	**030**
M4	0.70	45	4.5	3.4	3.30	12	3	8.27	**040**
M5	0.80	50	6.0	4.9	4.20	14	3	9.28	**050**
M6	1.00	56	6.0	4.9	5.00	16	3	9.42	**060**
M8	1.25	63	6.0	4.9	6.80	20	3	11.26	**080**
M10	1.50	70	7.0	5.5	8.50	22	3	14.70	**100**
M12	1.75	75	9.0	7.0	10.20	24	3	19.47	**120**
M16	2.00	80	12.0	9.0	14.00	27	3	33.40	**160**

Steel	**5-25**
Stainless steel	
Cast iron	
Non ferrous metals	
Heat resistant alloys	
hardened materials	

Blind hole – Machine taps, right hand

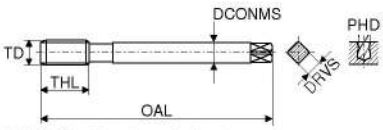
M | Salo-Rex



DIN 371 with reinforced shank

	UNI	UNI	UNI	UNI
	C 2-3	C 2-3	C 2-3	C 2-3
	ISO 2 6H	7G	ISO 2 6H	ISO 2 6H
	vap.	vap.	TiN	TiCN
				
	HSS-E ◁ 42° ≤ 1100 N/mm² ≤ 3xD	HSS-E ◁ 42° ≤ 1100 N/mm² ≤ 3xD	HSS-E ◁ 42° ≤ 1100 N/mm² ≤ 3xD	HSS-E ◁ 42° ≤ 1100 N/mm² ≤ 3xD
	U0	U0	U0	U0
	Article no. 22 518 ...	Article no. 22 532 ...	Article no. 22 520 ...	Article no. 22 522 ...

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	£		£		£	
	mm	mm	mm	mm	mm	mm	mm							
M2	0.40	45	2.8	2.1	1.60	4.0	12	2	36.88	020			53.92	020		
M2,2	0.45	45	2.8	2.1	1.75	4.5	12	2	41.55	022						
M2,3	0.40	45	2.8	2.1	1.90	4.5	12	2	45.05	023						
M2,5	0.45	50	2.8	2.1	2.05	5.0	15	2	34.58	025						
M2,6	0.45	50	2.8	2.1	2.15	5.0	15	2	42.73	026						
M3	0.50	56	3.5	2.7	2.50	6.0	18	3	31.55	030	35.90	030	38.50	030	38.22	030
M3,5	0.60	56	4.0	3.0	2.90	7.0	20	3	33.86	035						
M4	0.70	63	4.5	3.4	3.30	7.0	21	3	32.11	040	37.78	040	41.13	040	41.13	040
M5	0.80	70	6.0	4.9	4.20	8.0	25	3	32.08	050	39.34	050	42.13	050	41.83	050
M6	1.00	80	6.0	4.9	5.00	10.0	30	3	33.40	060	53.92	060	49.54	060	49.54	060
M7	1.00	80	7.0	5.5	6.00	10.0	30	3	50.99	070						
M8	1.25	90	8.0	6.2	6.80	14.0	35	3	37.93	080	61.58	080	54.78	080	54.44	080
M10	1.50	100	10.0	8.0	8.50	16.0	39	3	46.49	100	92.97	100	65.54	100	65.54	100
M12	1.75	110	12.0	9.0	10.20	18.0	44	3	53.18	120			81.54	120	81.54	120



DIN 376 with reduced shank

	U0	U0	U0	U0
	Article no. 22 519 ...	Article no. 22 533 ...	Article no. 22 521 ...	Article no. 22 523 ...

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	£		£		£		£	
	mm	mm	mm	mm	mm	mm									
M3	0.50	56	2.2		2.5	6	3	52.36	030						
M4	0.70	63	2.8	2.1	3.3	7	3	49.98	040						
M5	0.80	70	3.5	2.7	4.2	8	3	37.78	050						
M6	1.00	80	4.5	3.4	5.0	10	3	39.23	060						
M8	1.25	90	6.0	4.9	6.8	14	3	43.48	080						
M10	1.50	100	7.0	5.5	8.5	16	3	55.36	100						
M12	1.75	110	9.0	7.0	10.2	18	3	58.27	120	69.13	120	76.26	120	76.26	120
M14	2.00	110	11.0	9.0	12.0	20	3	74.68	140			148.77	140	168.38	140
M16	2.00	110	12.0	9.0	14.0	22	3	82.21	160	125.38	160	112.87	160	112.87	160
M18	2.50	125	14.0	11.0	15.5	25	3	118.84	180			233.76	180	256.12	180
M20	2.50	140	16.0	12.0	17.5	25	3	123.19	200	192.79	200	191.76	200	244.93	200
M22	2.50	140	18.0	14.5	19.5	27	4	176.82	220			343.85	220		
M24	3.00	160	18.0	14.5	21.0	30	4	155.85	240			299.26	240		
M27	3.00	160	20.0	16.0	24.0	30	4	204.68	270						
M30	3.50	180	22.0	18.0	26.5	35	4	262.79	300						
M33	3.50	180	25.0	20.0	29.5	35	4	516.42	330						
M36	4.00	200	28.0	22.0	32.0	40	4	427.37	360						

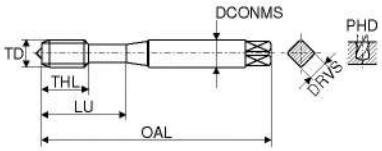
Steel	6-20	6-20	6-25	6-25
Stainless steel	4-8	4-8	5-10	5-10
Cast iron	6-15	6-15	10-20	10-20
Non ferrous metals			12-25	12-25
Heat resistant alloys				
Hardened materials				

6

Blind hole – Machine taps, right hand

▲ NCW = with Weldon flat for synchronised CNC machining without length compensation chuck

M | Salo-Rex

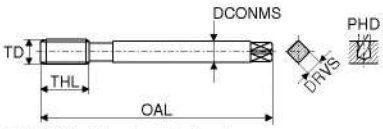


DIN 371 with reinforced shank

	UNI NCW	UNI	UNI	UNI
	C 2-3	E 1,5-2	E 1,5-2	E 1,5-2
	ISO 2 6H	ISO 2 6H	ISO 2 6H	ISO 2 6H
	TiN	vap.	vap.	TiN

	HSS-PM	HSS-E	HSS-E	HSS-E
	◁ 42° ≤ 1100 N/mm² ≤ 3xD	◁ 42° ≤ 1100 N/mm² ≤ 3xD	◁ 42° ≤ 1100 N/mm² ≤ 3xD	◁ 42° ≤ 1100 N/mm² ≤ 3xD
	U0	U0	U0	U0
	Article no. 22 149 ...	Article no. 22 524 ...	Article no. 22 534 ...	Article no. 22 526 ...
	£	£	£	£

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes								
	mm	mm	mm	mm	mm	mm	mm									
M3	0.50	70	6.0	4.9	2.5	6	18	3	65.54	030						
M3	0.50	56	3.5	2.7	2.5	6	18	3			32.27	030			37.78	030
M4	0.70	63	4.5	3.4	3.3	7	21	3			32.98	040			41.13	040
M4	0.70	70	6.0	4.9	3.3	7	21	3	71.20	040						
M5	0.80	70	6.0	4.9	4.2	8	25	3	72.53	050	33.86	050	52.30	050	42.13	050
M6	1.00	80	6.0	4.9	5.0	10	30	3	89.94	060	34.30	060	50.14	060	49.54	060
M8	1.25	90	8.0	6.2	6.8	14	35	3	102.12	080	39.21	080	58.97	080	54.78	080
M10	1.50	100	10.0	8.0	8.5	16	39	3	124.50	100	47.80	100	69.13	100	65.54	100



DIN 376 with reduced shank

	U0	U0	U0	U0
	Article no. 22 149 ...	Article no. 22 525 ...	Article no. 22 535 ...	Article no. 22 527 ...
	£	£	£	£

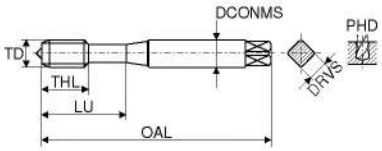
TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes								
	mm	mm	mm	mm	mm	mm									
M12	1.75	110	10	8.0	10.2	18	3	147.74	120						
M12	1.75	110	9	7.0	10.2	18	4			59.72	120	77.15	120	77.73	120
M14	2.00	110	11	9.0	12.0	20	4			112.87	140	114.72	140		
M16	2.00	110	12	9.0	14.0	22	3	201.93	160						
M16	2.00	110	12	9.0	14.0	22	4			84.84	160	115.35	160	112.87	160
M18	2.50	125	14	11.0	15.5	25	4			179.55	180				
M20	2.50	140	16	12.0	17.5	25	4			126.66	200	170.54	200	191.76	200
M22	2.50	140	18	14.5	19.5	27	5			246.64	220				
M24	3.00	160	18	14.5	21.0	30	5			215.16	240				

Steel	6-25	6-20	6-20	6-25
Stainless steel	5-10	4-8	4-8	5-10
Cast iron	10-20	6-15	6-15	10-20
Non ferrous metals	12-25			12-25
Heat resistant alloys				
Hardened materials				

Blind hole – Machine taps, right hand

▲ CNC = for synchronised CNC machining with minimum length compensation chuck

M | Salo-Rex

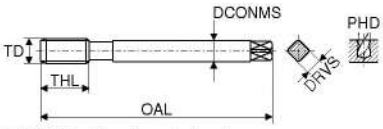


DIN 371 with reinforced shank

	UNI CNC	UNI CNC	UNI CNC	UNI CNC
	C 2-3	C 2-3	E 1,5-2	C 2-3
	ISO 2X 6HX	ISO 2 6H	ISO 2 6H	7G
	TiN	TiN GS	TiN GS	TiN GS

	HSS-E ◁ 50° ≤ 1100 N/mm² ≤ 3xD	HSS-E ◁ 45° ≤ 1100 N/mm² ≤ 3xD	HSS-E ◁ 45° ≤ 1100 N/mm² ≤ 3xD	HSS-E ◁ 45° ≤ 1100 N/mm² ≤ 3xD
	U0	U0	U0	U0
TD	Article no. 22 416 ...	Article no. 22 544 ...	Article no. 22 546 ...	Article no. 22 594 ...
	£	£	£	£
M3	58.32 030	51.27 030		61.47 030
M4	61.02 040	52.30 040		62.47 040
M5	62.75 050	53.60 050	76.26 050	64.79 050
M6	75.82 060	56.22 060	77.24 060	69.72 060
M8	84.25 080	70.89 080	99.67 080	85.13 080
M10	104.38 100	80.91 100	115.21 100	95.58 100

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes
	mm	mm	mm	mm	mm	mm	mm	
M3	0.50	56	3.5	2.7	2.5	6	18	3
M4	0.70	63	4.5	3.4	3.3	7	21	3
M5	0.80	70	6.0	4.9	4.2	8	25	3
M6	1.00	80	6.0	4.9	5.0	10	30	3
M8	1.25	90	8.0	6.2	6.8	14	35	3
M10	1.50	100	10.0	8.0	8.5	16	39	3



DIN 376 with reduced shank

	U0	U0		U0
TD	Article no. 22 417 ...	Article no. 22 545 ...		Article no. 22 595 ...
	£	£		£
M12	122.87 120			
M12		108.68 120		129.16 120
M14	175.43 140			
M14		130.88 140		152.41 140
M16	341.73 160			
M16		144.98 160		168.38 160
M20	292.89 200			
M20		208.30 200		241.30 200

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes
	mm	mm	mm	mm	mm	mm	
M12	1.75	110	9	7	10.2	18	3
M12	1.75	110	9	7	10.2	18	4
M14	2.00	110	11	9	12.0	20	3
M14	2.00	110	11	9	12.0	20	4
M16	2.00	110	12	9	14.0	22	3
M16	2.00	110	12	9	14.0	22	4
M20	2.50	140	16	12	17.5	25	3
M20	2.50	140	16	12	17.5	25	4

Steel	2-25	6-25	6-25	6-25
Stainless steel	1-10	5-10	5-10	5-10
Cast iron		10-20	10-20	10-20
Non ferrous metals	2-20	12-25	12-25	12-25
Heat resistant alloys				
Hardened materials				

Blind hole – Machine taps, right hand

▲ DRY = for dry machining or minimum quantity lubrication (MMS)

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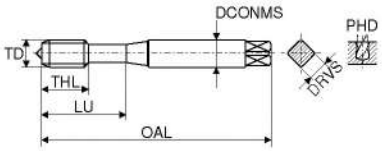
UNI DRY | C 2-3 | ISO 2 6H | TiN GS

UNI DRY | C 2-3 | ISO 2 6H | TiN

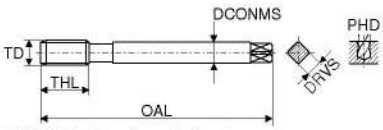


DIN 371 with reinforced shank

HSS-E
∢ 42°
≤ 1100 N/mm²
≤ 3xD

HSS-E
∢ 42°
≤ 1100 N/mm²
≤ 3xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 566 ... £		U0 Article no. 22 449 ... £	
	mm	mm	mm	mm	mm	mm	mm					
M3	0.50	56	3.5	2.7	2.5	6	18	3	45.18	030		
M4	0.70	63	4.5	3.4	3.3	7	21	3	48.53	040		
M5	0.80	70	6.0	4.9	4.2	8	25	3	49.32	050	79.85	050
M6	1.00	80	6.0	4.9	5.0	10	30	3	56.22	060	92.92	060
M8	1.25	90	8.0	6.2	6.8	14	35	3	59.15	080	102.52	080
M10	1.50	100	10.0	8.0	8.5	16	39	3	84.70	100	124.51	100



DIN 376 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 567 ... £		U0 Article no. 22 450 ... £	
	mm	mm	mm	mm	mm	mm					
M12	1.75	110	9	7	10.2	18	4	100.40	120	135.03	120
M16	2.00	110	12	9	14.0	22	4	156.16	160	192.23	160
M20	2.50	140	16	12	17.5	25	4	287.18	200	314.27	200

Steel	6-25	5-45
Stainless steel	5-10	5-20
Cast iron		
Non ferrous metals		20-60
Heat resistant alloys		
Hardened materials		

Blind hole – Machine taps, right hand

▲ CNC = for synchronised CNC machining with minimum length compensation chuck

▲ TS = for high-speed machining, up to 100 m/min.

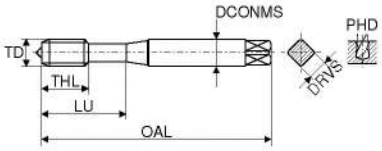
M | SL

ST TS | HR | ST CNC | ST CNC

C 2-3

ISO 2X 6HX | ISO 2 6H | ISO 2X 6HX | ISO 2X 6HX

TiN | TiN | TiN | TiN



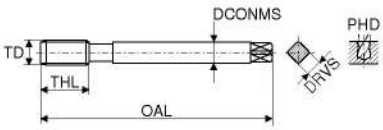
DIN 371 with reinforced shank

HSS-E | HSS-PM | HSS-E | HSS-E

15° | 25° | 15° | 15°

≤ 1050 N/mm² ≤ 2xD | ≤ 1400 N/mm² ≤ 2xD | ≤ 1100 N/mm² ≤ 2xD | ≤ 1100 N/mm² ≤ 2xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 406 ... £		U0 Article no. 22 072 ... £		U0 Article no. 22 328 ... £		U0 Article no. 22 443 ... £	
	mm	mm	mm	mm	mm	mm	mm									
M3	0.50	56	3.5	2.7	2.5	6	18	2	54.79	030			50.09	030		
M3	0.50	56	3.5	2.7	2.5	11	18	3			48.53	030				
M4	0.70	63	4.5	3.4	3.3	13	21	3			48.32	040				
M4	0.70	63	4.5	3.4	3.3	7	21	3	58.32	040			52.23	040		
M5	0.80	70	6.0	4.9	4.2	15	25	3			50.99	050				
M5	0.80	70	6.0	4.9	4.2	8	25	3	60.12	050			54.32	050	79.85	050
M6	1.00	80	6.0	4.9	5.0	17	30	3			61.47	060				
M6	1.00	80	6.0	4.9	5.0	10	30	3	73.27	060			67.18	060	92.92	060
M8	1.25	90	8.0	6.2	6.8	20	35	3			66.83	080				
M8	1.25	90	8.0	6.2	6.8	14	35	3	81.62	080			75.82	080	101.75	080
M10	1.50	100	10.0	8.0	8.5	22	39	3			93.41	100				
M10	1.50	100	10.0	8.0	8.5	16	39	3	99.96	100			92.92	100	123.62	100
M12	1.75	110	12.0	9.0	10.2	24	44	3			105.62	120				



DIN 376 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 407 ... £		U0 Article no. 22 329 ... £		U0 Article no. 22 444 ... £	
	mm	mm	mm	mm	mm	mm							
M12	1.75	110	9	7	10.2	18	3	119.32	120	108.81	120	137.60	120
M16	2.00	110	12	9	14.0	22	3	167.82	160	157.18	160	195.29	160
M20	2.50	140	16	12	17.5	25	3	274.56	200	259.34	200		

Steel	20-100	2-6	5-45	5-45
Stainless steel				
Cast iron	20-60		10-30	10-30
Non ferrous metals	20-100		5-30	5-30
Heat resistant alloys	10-25	3-5		
Hardened materials				

Blind hole – Machine taps, right/left hand

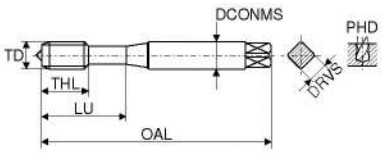
▲ LH = for left hand threads

M | Salo-Rex

ST | C 2-3 | ISO 2 6H

ST | C 2-3 | ISO 2 6H | TiN

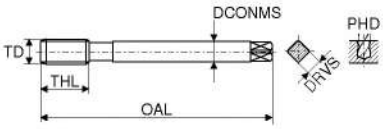
ST LH | C 2-3 | ISO 2 6H



DIN 371 with reinforced shank

HSS-E
∢ 42°
≤ 750 N/mm²
≤ 3xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 082 ...		U0 Article no. 22 084 ...		U0 Article no. 22 138 ...	
	mm	mm	mm	mm	mm	mm	mm		£		£		£	
M2	0.40	45	2.8	2.1	1.60	4.0	12	2	35.32	020	51.17	020		
M2,3	0.40	45	2.8	2.1	1.90	4.5	12	2	38.80	023				
M2,5	0.45	50	2.8	2.1	2.05	5.0	15	2	33.51	025				
M3	0.50	56	3.5	2.7	2.50	6.0	18	3	29.65	030	36.03	030	58.69	030
M3,5	0.60	56	4.0	3.0	2.90	7.0	20	3	32.66	035				
M4	0.70	63	4.5	3.4	3.30	7.0	21	3	29.65	040	38.36	040	52.02	040
M5	0.80	70	6.0	4.9	4.20	8.0	25	3	30.22	050	38.80	050	56.83	050
M6	1.00	80	6.0	4.9	5.00	10.0	30	3	31.55	060	47.66	060	54.78	060
M8	1.25	90	8.0	6.2	6.80	14.0	35	3	37.48	080	52.02	080	66.54	080
M10	1.50	100	10.0	8.0	8.50	16.0	39	3	43.05	100	71.55	100	76.56	100
M12	1.75	110	12.0	9.0	10.20	18.0	44	3	49.17	120				



DIN 376 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 083 ...		U0 Article no. 22 085 ...		U0 Article no. 22 139 ...	
	mm	mm	mm	mm	mm	mm		£		£		£	
M3	0.50	56	2.2		2.5	6	3	38.78	030				
M4	0.70	63	2.8	2.1	3.3	7	3	39.21	040				
M5	0.80	70	3.5	2.7	4.2	8	3	40.39	050				
M6	1.00	80	4.5	3.4	5.0	10	3	47.94	060				
M8	1.25	90	6.0	4.9	6.8	14	3	44.62	080				
M10	1.50	100	7.0	5.5	8.5	16	3			90.07	100		
M12	1.75	110	9.0	7.0	10.2	18	3	56.83	120	85.42	120	105.74	120
M14	2.00	110	11.0	9.0	12.0	20	3	70.12	140				
M16	2.00	110	12.0	9.0	14.0	22	3	78.01	160	109.82	160	154.29	160
M18	2.50	125	14.0	11.0	15.5	25	3	114.62	180				
M20	2.50	140	16.0	12.0	17.5	25	3	117.66	200	185.36	200	226.33	200
M22	2.50	140	18.0	14.5	19.5	27	4	156.88	220				
M24	3.00	160	18.0	14.5	21.0	30	4	148.77	240				
M30	3.50	180	22.0	18.0	26.5	35	4	254.08	300				
M33	3.50	180	25.0	20.0	29.5	35	4	368.82	330				
M36	4.00	200	28.0	22.0	32.0	40	4	368.82	360				

Steel	10-20	10-25	10-20
Stainless steel			
Cast iron			
Non ferrous metals	10-20	10-25	10-20
Heat resistant alloys			
Hardened materials			

Blind hole – Machine taps, right hand

▲ TS = for high-speed machining, up to 100 m/min.

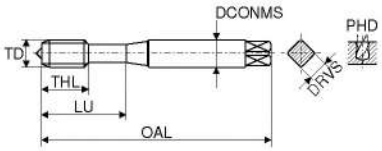
M | Salo-Rex

HR | HR | ST TS | ST TS

C 2-3 | C 2-3 | C 2-3 | C 2-3

ISO 2 6H | ISO 2 6H | ISO 2 6H | ISO 2 6H

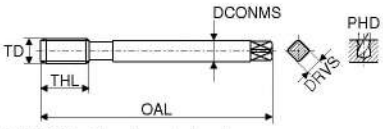
OSM | TiN | TiN



DIN 371 with reinforced shank

HSS-PM ◁ 42° ≤ 1400 N/mm² ≤ 3xD | HSS-PM ◁ 42° ≤ 1400 N/mm² ≤ 3xD | HSS-E ◁ 40° ≤ 1100 N/mm² ≤ 2xD | HSS-E ◁ 40° ≤ 1100 N/mm² ≤ 2xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 498 ... £		U0 Article no. 22 499 ... £		U0 Article no. 22 044 ... £		U0 Article no. 22 046 ... £	
	mm	mm	mm	mm	mm	mm	mm									
M3	0.50	56	3.5	2.7	2.5	6	18	3	34.58	030	43.48	030				
M4	0.70	63	4.5	3.4	3.3	7	21	3	32.41	040	43.48	040	56.37	040		
M5	0.80	70	6.0	4.9	4.2	8	25	3	33.40	050	46.33	050	61.60	050	96.78	050
M6	1.00	80	6.0	4.9	5.0	10	30	3	33.51	060	48.53	060	64.50	060	126.39	060
M8	1.25	90	8.0	6.2	6.8	14	35	3	40.20	080	60.14	080	73.65	080	128.42	080
M10	1.50	100	10.0	8.0	8.5	16	39	3	48.09	100	68.70	100	90.22	100	174.78	100



DIN 376 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 045 ... £		U0 Article no. 22 047 ... £	
	mm	mm	mm	mm	mm	mm					
M12	1.75	110	9	7	10.2	18	4	108.68	120	191.46	120
M16	2.00	110	12	9	14.0	22	4	157.19	160	293.59	160

Steel	4-12	4-12	20-100	20-100
Stainless steel	6-8	6-8		
Cast iron			20-60	20-60
Non ferrous metals			20-100	20-100
Heat resistant alloys	3-5	3-5	10-25	10-25
Hardened materials				

6

Blind hole – Machine taps, right hand

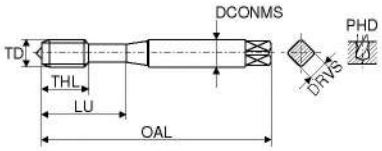
M | Salo-Rex

VA | VA | VA

C 2–3 | E 1,5–2 | C 2–3

ISO 2 6H | ISO 2 6H | ISO 2 6H

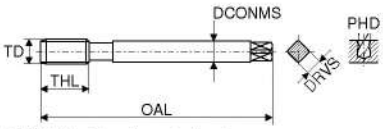
vap. | TiN GS | TiN GS



DIN 371 with reinforced shank

HSS-E ◁ 42° ≤ 900 N/mm² ≤ 3xD | HSS-E ◁ 45° ≤ 900 N/mm² ≤ 3xD | HSS-E ◁ 45° ≤ 900 N/mm² ≤ 3xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 090 ... £		U0 Article no. 22 042 ... £		U0 Article no. 22 040 ... £	
	mm	mm	mm	mm	mm	mm	mm							
M1,6	0.35	40	2.5	2.1	1.25	4	11	2					89.94	016
M2	0.40	45	2.8	2.1	1.60	4	12	2	55.43	020			49.98	020
M2,5	0.45	50	2.8	2.1	2.05	5	15	2	44.62	025				
M2,5	0.45	50	2.8	2.1	2.05	5	15	3					47.89	025
M3	0.50	56	3.5	2.7	2.50	6	18	3	33.40	030			52.30	030
M4	0.70	63	4.5	3.4	3.30	7	21	3	34.58	040			52.02	040
M5	0.80	70	6.0	4.9	4.20	8	25	3	35.02	050	77.24	050	54.44	050
M6	1.00	80	6.0	4.9	5.00	10	30	3	34.93	060	79.62	060	56.83	060
M8	1.25	90	8.0	6.2	6.80	14	35	3	40.77	080	100.40	080	71.74	080
M10	1.50	100	10.0	8.0	8.50	16	39	3	49.82	100	116.51	100	81.94	100



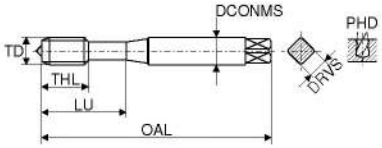
DIN 376 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 091 ... £			U0 Article no. 22 041 ... £	
	mm	mm	mm	mm	mm	mm						
M12	1.75	110	9	7.0	10.2	18	4	61.60	120		110.86	120
M14	2.00	110	11	9.0	12.0	20	4	90.67	140		133.06	140
M16	2.00	110	12	9.0	14.0	22	4	87.31	160		147.74	160
M20	2.50	140	16	12.0	17.5	25	4	130.45	200		211.80	200
M22	2.50	140	18	14.5	19.5	27	5	279.75	220			
M24	3.00	160	18	14.5	21.0	30	5	165.61	240			
M30	3.50	180	22	18.0	26.5	35	5	350.38	300			

Steel		5-12	5-12
Stainless steel	5-10	5-10	5-10
Cast iron			
Non ferrous metals			
Heat resistant alloys			
Hardened materials			

Blind hole – Machine taps, right hand

M | Salo-Rex

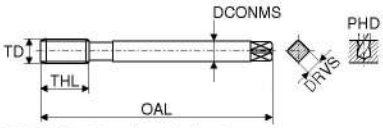


DIN 371 with reinforced shank

	Soft	Soft	NW	NW
	C 2-3	C 2-3	C 2-3	C 2-3
	ISO 2 6H	ISO 2 6H	ISO 2 6H	ISO 2 6H
		CH	vap.	HCr

	HSS-E ◁ 42° ≤ 500 N/mm² ≤ 3xD	HSS-E ◁ 42° ≤ 500 N/mm² ≤ 3xD	HSS-E ◁ 38° ≤ 500 N/mm² ≤ 3xD	HSS-E ◁ 38° ≤ 500 N/mm² ≤ 3xD
	U0	U0	U0	U0
TD	Article no. 22 326 ...	Article no. 22 324 ...	Article no. 22 086 ...	Article no. 22 088 ...
	£	£	£	£
M2	48.70 020	65.80 020	39.23 020	46.89 020
M2,5	45.67 025	63.64 025	36.35 025	46.94 025
M3	37.28 030	55.27 030		
M3			29.65 030	38.78 030
M4	37.28 040	59.71 040		
M4			29.65 040	40.84 040
M5	38.61 050	61.86 050		
M5			32.41 050	41.13 050
M6	38.61 060	85.43 060		
M6			31.55 060	42.29 060
M8	46.09 080	92.92 080		
M8			37.48 080	46.18 080
M10	54.32 100	116.56 100		
M10			43.88 100	54.78 100

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes
	mm	mm	mm	mm	mm	mm	mm	
M2	0.40	45	2.8	2.1	1.60	4	12	2
M2,5	0.45	50	2.8	2.1	2.05	5	15	2
M3	0.50	56	3.5	2.7	2.50	6	18	2
M3	0.50	56	3.5	2.7	2.50	6	18	3
M4	0.70	63	4.5	3.4	3.30	7	21	2
M4	0.70	63	4.5	3.4	3.30	7	21	3
M5	0.80	70	6.0	4.9	4.20	8	25	2
M5	0.80	70	6.0	4.9	4.20	8	25	3
M6	1.00	80	6.0	4.9	5.00	10	30	2
M6	1.00	80	6.0	4.9	5.00	10	30	3
M8	1.25	90	8.0	6.2	6.80	14	35	2
M8	1.25	90	8.0	6.2	6.80	14	35	3
M10	1.50	100	10.0	8.0	8.50	16	39	2
M10	1.50	100	10.0	8.0	8.50	16	39	3



DIN 376 with reduced shank

	U0	U0
TD	Article no. 22 087 ...	Article no. 22 089 ...
	£	£
M12	56.83 120	69.72 120
M16	78.01 160	96.03 160

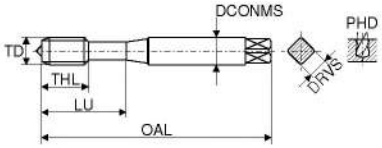
TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes
	mm	mm	mm	mm	mm	mm	
M12	1.75	110	9	7	10.2	18	3
M16	2.00	110	12	9	14.0	22	3

Steel				
Stainless steel				
Cast iron				
Non ferrous metals	15-40	15-40	10-20	12-25
Heat resistant alloys				
Hardened materials				

6

Blind hole – Machine taps, right hand

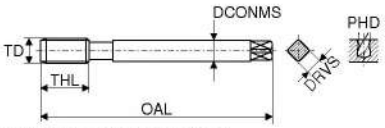
M | SL



DIN 371 with reinforced shank

	Ti	Ti	Ni	Ni
	C 2-3	C 2-3	C 2-3	C 2-3
	ISO 2X 6HX	ISO 2X 6HX	ISO 2 6H	ISO 2X 6HX
	TiN	TiCN	TiCN	TiCN
				
	HSS-PM	HSS-PM	HSS-PM	HSS-PM
	30° ≤ 1400 N/mm² ≤ 1,5xD	15° ≤ 1200 N/mm² ≤ 2xD	15° ≤ 1600 N/mm² ≤ 1,5xD	15° ≤ 1600 N/mm² ≤ 2xD
		U0	U0	U0
		Article no. 22 163 ...	Article no. 22 073 ...	Article no. 22 424 ...
		£	£	£

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes								
	mm	mm	mm	mm	mm	mm	mm									
M3	0.50	56	3.5	2.7	2.5	11	18	2			48.32	030			67.59	030
M3	0.50	56	3.5	2.7	2.5	11	18	3					107.67	030		
M3	0.50	56	3.5	2.7	2.5	6	18	3	48.32	030						
M3,5	0.60	56	4.0	3.0	2.9	12	20	3			52.87	035				
M4	0.70	63	4.5	3.4	3.3	7	21	3	50.42	040						
M4	0.70	63	4.5	3.4	3.3	13	21	3			53.92	040	107.67	040	70.62	040
M5	0.80	70	6.0	4.9	4.2	8	25	3	50.84	050						
M5	0.80	70	6.0	4.9	4.2	15	25	3			54.34	050	96.33	050	73.27	050
M6	1.00	80	6.0	4.9	5.0	10	30	3	54.90	060						
M6	1.00	80	6.0	4.9	5.0	17	30	3			72.65	060	112.87	060	92.14	060
M8	1.25	90	8.0	6.2	6.8	14	35	3	60.03	080						
M8	1.25	90	8.0	6.2	6.8	20	35	3			79.03	080	166.06	080	100.86	080
M10	1.50	100	10.0	8.0	8.5	16	39	3	83.67	100						
M10	1.50	100	10.0	8.0	8.5	22	39	3			97.34	100	145.26	100	126.32	100
M12	1.75	110	12.0	9.0	10.2	18	44	3	94.42	120						



DIN 376 with reduced shank

								U0		U0		U0	
								Article no. 22 164 ...		Article no. 22 124 ...		Article no. 22 425 ...	
								£		£		£	
M12	1.75	110	9	7.0	10.2	24	3	110.41	120			146.44	120
M12	1.75	110	9	7.0	10.2	24	4			188.86	120		
M14	2.00	110	11	9.0	12.0	26	3					215.15	140
M14	2.00	110	11	9.0	12.0	26	4			277.54	140		
M16	2.00	110	12	9.0	14.0	27	3	154.87	160			201.37	160
M16	2.00	110	12	9.0	14.0	27	5			228.07	160		
M20	2.50	140	16	12.0	17.5	32	3	265.84	200			350.84	200
M24	3.00	160	18	14.5	21.0	34	3	306.36	240				

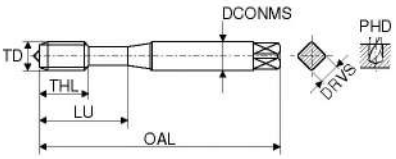
Steel	2-5	6-8		
Stainless steel		4-10		
Cast iron				
Non ferrous metals		10-12		
Heat resistant alloys	2-6	4-6	2-4	2-4
Hardened materials				

Blind hole – Machine taps, right hand

▲ ES = extra short

M | Salo-Rex

UNI ES | E 1,5–2 | ISO 2 6H | vap.



DIN 352 with reinforced shank

HSS-E
42°
≤ 1100 N/mm²
≤ 3xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 500 ...	
	mm	mm	mm	mm	mm	mm	mm		£	
M3	0.50	40	3.5	2.7	2.5	6	18	3	28.19	030
M3,5	0.60	45	4.0	3.0	2.9	7	20	3	35.49	035
M4	0.70	45	4.5	3.4	3.3	7	22	3	28.61	040
M5	0.80	50	6.0	4.9	4.2	9	25	3	28.19	050
M6	1.00	56	6.0	4.9	5.0	10	28	3	30.95	060
M8	1.25	63	6.0	4.9	6.8	14		3	35.45	080
M10	1.50	70	7.0	5.5	8.5	16		3	40.69	100
M12	1.75	75	9.0	7.0	10.2	18		4	52.58	120
M16	2.00	80	12.0	9.0	14.0	22		4	83.38	160

Steel	6-20
Stainless steel	4-8
Cast iron	6-15
Non ferrous metals	
Heat resistant alloys	
Hardened materials	

6

Blind hole – Machine taps, right hand

▲ AUT = short version for automatic use

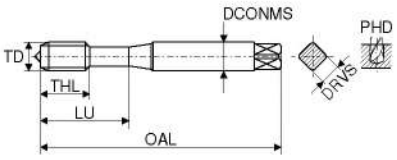
▲ ES = extra short

M | SL

ST ES | ST AUT/ES

C 2-3 | E 1,5-2

ISO 2 6H | ISO 2 6H



DIN 352 with reinforced shank

HSS-E
∢ 15°
≤ 750 N/mm²
≤ 2xD

HSS-E
∢ 15°
≤ 750 N/mm²
≤ 2xD

U0

U0

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	Article no. 22 016 ...		Article no. 22 001 ...	
	mm	mm	mm	mm	mm	mm	mm		£		£	
M3	0.50	40	3.5	2.7	2.5	10	18	2	25.27	030	30.65	030
M4	0.70	45	4.5	3.4	3.3	12	22	3	25.09	040	31.55	040
M5	0.80	50	6.0	4.9	4.2	14	25	3	25.94	050	31.67	050
M6	1.00	56	6.0	4.9	5.0	16	28	3	26.51	060	34.43	060
M8	1.25	63	6.0	4.9	6.8	20		3	30.22	080	38.94	080
M10	1.50	70	7.0	5.5	8.5	22		3	38.80	100	47.74	100
M12	1.75	75	9.0	7.0	10.2	24		3	49.32	120		
M14	2.00	80	11.0	9.0	12.0	26		3	71.55	140		
M16	2.00	80	12.0	9.0	14.0	27		3	78.24	160		
M20	2.50	95	16.0	12.0	17.5	32		3	116.66	200		

Steel	10-20	10-20
Stainless steel		
Cast iron		
Non ferrous metals	10-20	10-20
Heat resistant alloys		
Hardened materials		

Blind hole – Machine taps, right hand

▲ EL = extra long, with double overall length

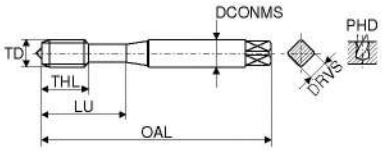
M | Salo-Rex

UNI EL | ST EL

C 2-3 | C 2-3

ISO 2 6H | ISO 2 6H

vap.

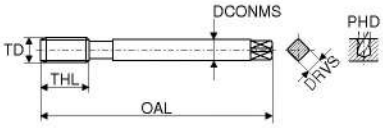


DIN 371 with reinforced shank

HSS-E
∢ 42°
≤ 1100 N/mm²
≤ 3xD

HSS-E
∢ 42°
≤ 750 N/mm²
≤ 3xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 538 ...	£	U0 Article no. 22 422 ...	£
	mm	mm	mm	mm	mm	mm	mm					
M3	0.50	100	3.5	2.7	2.5	6	18	3	57.38	030	71.88	030
M4	0.70	125	4.5	3.4	3.3	7	21	3	57.29	040	70.22	040
M5	0.80	140	6.0	4.9	4.2	8	25	3	64.42	050	78.46	050
M6	1.00	160	6.0	4.9	5.0	10	30	3	67.70	060	81.62	060
M8	1.25	180	8.0	6.2	6.8	14	35	3	77.15	080	98.28	080



DIN 376 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 539 ...	£	U0 Article no. 22 423 ...	£
	mm	mm	mm	mm	mm	mm					
M6	1.00	160	4.5	3.4	5.0	10	3	86.14	060	81.62	060
M8	1.25	180	6.0	4.9	6.8	14	3	104.02	080	98.28	080
M10	1.50	200	7.0	5.5	8.5	16	3	89.94	100	107.85	100
M12	1.75	224	9.0	7.0	10.2	18	3	111.72	120	140.36	120
M14	2.00	224	11.0	9.0	12.0	20	3	194.53	140	204.42	140
M16	2.00	224	12.0	9.0	14.0	22	3	164.03	160	198.32	160
M18	2.50	250	14.0	11.0	15.5	25	3	304.63	180	300.51	180
M20	2.50	280	16.0	12.0	17.5	25	3	260.02	200	268.48	200

Steel	6-20	5-25
Stainless steel	4-8	
Cast iron	6-15	
Non ferrous metals		10-40
Heat resistant alloys		
Hardened materials		

6

Blind hole – Machine taps, right hand

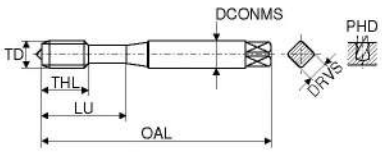
▲ EL = extra long, with double overall length

M | SL

ST
EL

E
1,5–2

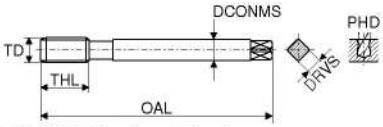
ISO 2
6H



DIN 371 with reinforced shank

HSS-E
15°
≤ 750 N/mm²
≤ 2xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 078 ...	
	mm	mm	mm	mm	mm	mm	mm		£	
M3	0.50	100	3.5	2.7	2.5	11	18	2	54.87	030
M4	0.70	125	4.5	3.4	3.3	13	21	3	54.87	040
M5	0.80	140	6.0	4.9	4.2	15	25	3	63.06	050
M6	1.00	160	6.0	4.9	5.0	17	30	3	66.24	060
M8	1.25	180	8.0	6.2	6.8	20	35	3	77.69	080



DIN 376 with reduced shank

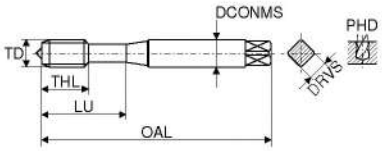
TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 080 ...	
	mm	mm	mm	mm	mm	mm		£	
M6	1.00	160	4.5	3.4	5.0	17	3	67.70	060
M8	1.25	180	6.0	4.9	6.8	20	3	81.07	080
M10	1.50	200	7.0	5.5	8.5	22	3	86.88	100
M12	1.75	224	9.0	7.0	10.2	24	3	110.41	120
M14	2.00	224	11.0	9.0	12.0	26	3	159.96	140
M16	2.00	224	12.0	9.0	14.0	27	3	159.65	160
M20	2.50	280	16.0	12.0	17.5	32	3	221.08	200

Steel	10-20
Stainless steel	
Cast iron	
Non ferrous metals	10-20
Heat resistant alloys	
Hardened materials	

Blind hole – Machine taps, right hand

▲ NC = for synchronised CNC machining with minimum length compensation chuck

M

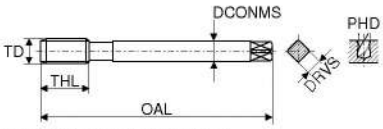


DIN 371 with reinforced shank

	UNI	UNI	UNI	UNI	UNI NC
	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3
	ISO 2 6H	ISO 2 6H	ISO 2 6H	ISO 2 6H	ISO 2 6H
	vap.	TiN	TiN	TiCN	TiN GS

	HSS-E	HSS-E	HSS-PM	HSS-E	HSS-E
	◁ 35° ≤ 1000 N/mm² ≤ 2,5xD	◁ 35° ≤ 1000 N/mm² ≤ 2,5xD	◁ 50° ≤ 1000 N/mm² ≤ 2,5xD	◁ 45° ≤ 1000 N/mm² ≤ 3xD	◁ 45° ≤ 1000 N/mm² ≤ 3xD
	T9	T9	T9	T9	T9
TD	Article no. 23 118 ...	Article no. 23 120 ...	Article no. 23 026 ...	Article no. 23 122 ...	Article no. 23 124 ...
mm	£	£	£	£	£
M2	28.61 020	32.66 020			
M2,5	27.50 025	32.11 025			
M3	21.81 030	27.38 030	13.09 030	28.81 030	30.95 030
M4	22.68 040	30.65 040	13.09 040	30.95 040	32.08 040
M5	23.40 050	31.67 050	14.10 050	32.11 050	34.43 050
M6	24.70 060	39.44 060	16.33 060	40.77 060	46.49 060
M8	27.95 080	43.05 080	19.37 080	44.62 080	49.98 080
M10	31.98 100	57.70 100	24.40 100	56.37 100	63.50 100

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes
	mm	mm	mm	mm	mm	mm	mm	
M2	0.40	45	2.8	2.1	1.60	4	12	2
M2,5	0.45	50	2.8	2.1	2.05	5	14	2
M3	0.50	56	3.5	2.7	2.50	6	18	3
M4	0.70	63	4.5	3.4	3.30	7	21	3
M5	0.80	70	6.0	4.9	4.20	8	25	3
M6	1.00	80	6.0	4.9	5.00	10	30	3
M8	1.25	90	8.0	6.2	6.80	14	35	3
M10	1.50	100	10.0	8.0	8.50	16	39	3



DIN 376 with reduced shank

	T9	T9	T9	T9	T9
TD	Article no. 23 119 ...	Article no. 23 121 ...	Article no. 23 027 ...	Article no. 23 123 ...	Article no. 23 125 ...
mm	£	£	£	£	£
M3	9.51 030				
M4	8.62 040				
M5	8.39 050				
M6	8.28 060				
M8	8.72 080				
M10	11.76 100				
M12	13.32 120	62.69 120			
M12			28.87 120	66.83 120	73.81 120
M14		42.96 14000			
M14			41.52 140		
M16	19.58 160	80.08 160			
M16			41.52 160	89.18 160	98.20 160
M18		67.94 18000			
M20	29.54 200	155.65 200	47.57 200		
M20				161.69 200	179.99 200
M22		99.59 22000			
M24		150.79 240			
M27		124.57 27000			
M30		138.33 30000			
M33		199.46 33000			
M36		216.72 36000			

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes
	mm	mm	mm	mm	mm	mm	
M3	0.50	56	2.2		2.5	6	3
M4	0.70	63	2.8	2.1	3.3	7	3
M5	0.80	70	3.5	2.7	4.2	8	3
M6	1.00	80	4.5	3.4	5.0	10	3
M8	1.25	90	6.0	4.9	6.8	14	3
M10	1.50	100	7.0	5.5	8.5	16	3
M12	1.75	110	9.0	7.0	10.2	18	3
M12	1.75	110	9.0	7.0	10.2	18	4
M14	2.00	110	11.0	9.0	12.0	20	3
M14	2.00	110	11.0	9.0	12.0	20	4
M16	2.00	110	12.0	9.0	14.0	22	3
M16	2.00	110	12.0	9.0	14.0	22	4
M18	2.50	125	14.0	11.0	15.5	25	3
M20	2.50	140	16.0	12.0	17.5	25	3
M20	2.50	140	16.0	12.0	17.5	25	4
M22	2.50	140	18.0	14.5	19.5	27	4
M24	3.00	160	18.0	14.5	21.0	34	4
M27	3.00	160	20.0	16.0	24.0	30	4
M30	3.50	180	22.0	18.0	26.5	35	4
M33	3.50	180	25.0	20.0	29.5	35	4
M36	4.00	200	28.0	22.0	32.0	40	4

Steel	2-25	5-45	10-20	5-45	5-45
Stainless steel	2-8	5-15	8-15	5-15	5-15
Cast iron	5-20	10-25	20-25	10-25	10-25
Non ferrous metals	10-20	15-40	20-25	15-40	15-40
Heat resistant alloys					
Hardened materials					

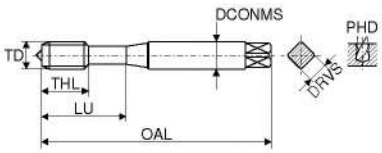
6

Blind hole – Machine taps, right hand

▲ NCW = with Weldon flat for synchronised CNC machining without length compensation chuck

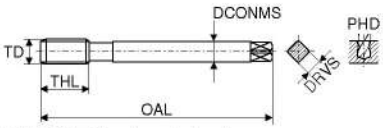
M

UNI NCW	FE	FE-HF	VA
C 2-3	C 2-3	C 2-3	C 2-3
ISO 2 6H	ISO 2 6H	ISO 2 6H	ISO 2 6H
TiCN		TiCN	



DIN 371 with reinforced shank

	HSS-PM	HSS-E	HSS-E	HSS-E
	◁ 35° ≤ 1000 N/mm² ≤ 2,5xD	◁ 35° ≤ 850 N/mm² ≤ 2,5xD	◁ 35° ≤ 1100 N/mm² ≤ 2,5xD	◁ 35° ≤ 1200 N/mm² ≤ 2,5xD
	T9	T9	T9	T9
TD	Article no. 23 126 ...	Article no. 23 216 ...	Article no. 23 312 ...	Article no. 23 414 ...
	£	£	£	£
M2	0.40 45 2.8 2.1 1.60 4 12 2	12.52 020		20.79 020
M2,5	0.45 50 2.8 2.1 2.05 5 14 2	25.27 025		27.50 025
M3	0.50 56 3.5 2.7 2.50 6 18 3	12.67 030	26.37 030	13.83 030
M3	0.50 70 6.0 4.9 2.50 6 18 3	33.13 030		
M4	0.70 63 4.5 3.4 3.30 7 21 3	12.67 040	28.81 040	13.83 040
M4	0.70 70 6.0 4.9 3.30 7 21 3	37.94 040		
M5	0.80 70 6.0 4.9 4.20 8 25 3	37.78 050	12.70 050	29.65 050	14.39 050
M6	1.00 80 6.0 4.9 5.00 10 30 3	37.78 060	12.70 060	40.84 060	14.39 060
M8	1.25 90 8.0 6.2 6.80 14 35 3	47.74 080	16.54 080	44.62 080	18.31 080
M10	1.50 100 10.0 8.0 8.50 16 39 3	57.73 100	19.82 100	55.64 100	22.09 100



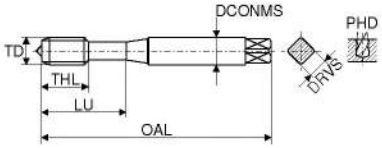
DIN 376 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	T9 Article no. 23 127 ... £	T9 Article no. 23 217 ... £	T9 Article no. 23 313 ... £	T9 Article no. 23 415 ... £
	mm	mm	mm	mm	mm	mm					
M12	1.75	110	10	8.0	10.2	18	3	73.23 120			
M12	1.75	110	9	7.0	10.2	18	3		26.74 120	64.37 120	29.51 120
M14	2.00	110	11	9.0	12.0	20	3		32.41 140		
M16	2.00	110	12	9.0	14.0	22	3	144.44 160	40.69 160	86.88 160	45.05 160
M20	2.50	140	16	12.0	17.5	25	3		63.92 200	155.59 200	68.56 200
M24	3.00	160	18	14.5	21.0	30	4				93.57 240

Steel	5-45	5-25	5-45	
Stainless steel	5-15			3-10
Cast iron	10-25			
Non ferrous metals	15-40			
Heat resistant alloys	5-8			
Hardened materials				

Blind hole – Machine taps, right hand

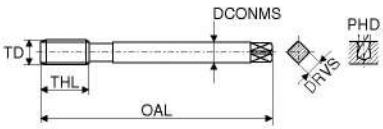
M



DIN 371 with reinforced shank

	VA	VA	VA	AL	AL
	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3
	ISO 2 6H	ISO 2 6H	ISO 2 6H	ISO 2 6H	ISO 2 6H
	TiN		TiN		CrN
					
	HSS-E ◁ 45° ≤ 1200 N/mm² ≤ 3xD	HSS-PM ◁ 40° ≤ 1200 N/mm² ≤ 2,5xD	HSS-PM ◁ 40° ≤ 1200 N/mm² ≤ 2,5xD	HSS-E ◁ 35° ≤ 500 N/mm² ≤ 2,5xD	HSS-E ◁ 35° ≤ 500 N/mm² ≤ 2,5xD
	T9	T9	T9	T9	T9

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	Article no. 23 416 ...	£	Article no. 23 426 ...	£	Article no. 23 456 ...	£	Article no. 23 616 ...	£	Article no. 23 614 ...	£
	mm	mm	mm	mm	mm	mm	mm											
M2	0.40	45	2.8	2.1	1.60	4	12	2	33.56	020								
M2,5	0.45	50	2.8	2.1	2.05	5	14	2	32.11	025								
M3	0.50	56	3.5	2.7	2.50	6	18	3	27.38	030	11.76	030	13.09	030	12.67	030	26.93	030
M4	0.70	63	4.5	3.4	3.30	7	21	3	30.65	040	11.86	040	14.33	040	12.67	040	26.93	040
M5	0.80	70	6.0	4.9	4.20	8	25	3	31.67	050	12.20	050	14.55	050	12.70	050	27.95	050
M6	1.00	80	6.0	4.9	5.00	10	30	3	40.63	060	12.42	060	18.69	060	12.70	060	27.95	060
M8	1.25	90	8.0	6.2	6.80	14	35	3	43.05	080	14.55	080	20.04	080	16.54	080	32.98	080
M10	1.50	100	10.0	8.0	8.50	16	39	3	60.57	100	17.46	100	27.64	100	19.82	100	40.39	100



DIN 376 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	Article no. 23 417 ...	£	Article no. 23 427 ...	£	Article no. 23 457 ...	£	Article no. 23 617 ...	£	Article no. 23 615 ...	£
	mm	mm	mm	mm	mm	mm											
M12	1.75	110	9	7.0	10.2	18	3			28.87	120	39.62	120	26.74	120	49.98	120
M12	1.75	110	9	7.0	10.2	18	4	65.82	120								
M14	2.00	110	11	9.0	12.0	20	4			38.06	140						
M16	2.00	110	12	9.0	14.0	22	3			41.41	160	49.80	160				
M16	2.00	110	12	9.0	14.0	22	4	80.08	160								
M20	2.50	140	16	12.0	17.5	25	3			61.67	200	98.92	200				
M20	2.50	140	16	12.0	17.5	25	4	126.10	200								
M24	3.00	160	18	14.5	21.0	30	4			78.00	240						

Steel					
Stainless steel	8-20	5-10	8-20		
Cast iron					
Non ferrous metals				10-20	15-40
Heat resistant alloys					
Hardened materials					

6

Through hole / Blind hole – Machine taps, right hand

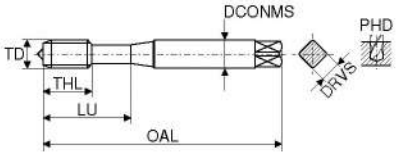
M | TWIN

ST | HR | AMPCO

C 2-3

ISO 2X 6HX

nitr.



DIN 371 with reinforced shank



	HSS-E	HSS-E	HSS-PM
	0° ≤ 750 N/mm² ≤ 2xD	0° ≤ 1400 N/mm² ≤ 2xD	0° ≤ 800 N/mm² ≤ 2xD
	U0	U0	U0
TD	Article no. 22 028 ...	Article no. 22 006 ...	Article no. 22 030 ...
	£	£	£

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes					
	mm	mm	mm	mm	mm	mm	mm						
M1,2	0.25	40	2.5	2.1	0.95	5	13	2	48.32	**012** [1]			
M1,4	0.30	40	2.5	2.1	1.10	6	13	2	39.21	**014** [1]			
M1,6	0.35	40	2.5	2.1	1.25	6	11	2	35.06	**016**			
M1,7	0.35	40	2.5	2.1	1.35	6	11	2	38.80	**017**			
M1,8	0.35	40	2.5	2.1	1.45	6	11	2	36.03	**018**			
M2	0.40	45	2.8	2.1	1.60	7	12	3	30.22	**020**			
M2,2	0.45	45	2.8	2.1	1.75	7	12	3	30.79	**022**			
M2,3	0.40	45	2.8	2.1	1.90	7	12	3	35.02	**023**			
M2,5	0.45	50	2.8	2.1	2.05	9	14	3	29.65	**025**			
M2,6	0.45	50	2.8	2.1	2.15	9	14	3	31.98	**026**			
M3	0.50	56	3.5	2.7	2.50	11	18	3	24.70	**030**	35.06	**030**	35.45	**030**
M3,5	0.60	56	4.0	3.0	2.90	12	20	3	25.27	**035**				
M4	0.70	63	4.5	3.4	3.30	13	21	3	24.66	**040**	35.92	**040**	36.18	**040**
M5	0.80	70	6.0	4.9	4.20	15	25	3	25.27	**050**	38.36	**050**	36.21	**050**
M6	1.00	80	6.0	4.9	5.00	17	30	3	25.09	**060**	37.93	**060**	35.45	**060**
M7	1.00	80	7.0	5.5	6.00	17	30	3	36.33	**070**				
M8	1.25	90	8.0	6.2	6.80	20	35	3	28.38	**080**	41.61	**080**	40.80	**080**
M10	1.50	100	10.0	8.0	8.50	22	39	3	36.35	**100**	52.75	**100**	51.87	**100**
M12	1.75	110	12.0	9.0	10.20	24	44	3	46.18	**120**				

Steel	**10-20**	**6-15**	
Stainless steel			
Cast iron		**6-15**	
Non ferrous metals	**10-20**		
Heat resistant alloys		**3-5**	**3-5**
Hardened materials			

1) Tol. 4H/5H ≤ M1.4

DIN 376 can be found on the next page

Through hole / Blind hole – Machine taps, right hand

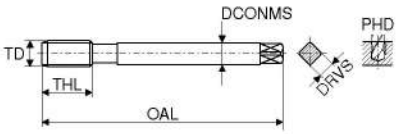
M | TWIN

ST | HR | AMPCO

C 2-3

ISO 2X 6HX

nitr.



DIN 376 with reduced shank



HSS-E 0° ≤ 750 N/mm² ≤ 2xD

HSS-E 0° ≤ 1400 N/mm² ≤ 2xD

HSS-PM 0° ≤ 800 N/mm² ≤ 2xD

U0

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	Article no. 22 029 ...	£		Article no. 22 007 ...	£		Article no. 22 031 ...	£	
	mm	mm	mm	mm	mm	mm										
M4	0.70	63	2.8	2.1	3.3	13	3	32.11		040						
M5	0.80	70	3.5	2.7	4.2	15	3	32.41		050						
M6	1.00	80	4.5	3.4	5.0	17	3	32.41		060						
M8	1.25	90	6.0	4.9	6.8	20	3	40.84		080						
M10	1.50	100	7.0	5.5	8.5	22	3	46.18		100						
M12	1.75	110	9.0	7.0	10.2	24	3	46.94		120	65.84		120			
M12	1.75	110	9.0	7.0	10.2	24	4							89.85		120
M14	2.00	110	11.0	9.0	12.0	26	3	64.95		140						
M16	2.00	110	12.0	9.0	14.0	27	3	69.30		160	95.90		160			
M16	2.00	110	12.0	9.0	14.0	27	4							130.43		160
M18	2.50	125	14.0	11.0	15.5	30	4	102.27		180						
M20	2.50	140	16.0	12.0	17.5	32	4	104.16		200				173.74		200
M22	2.50	140	18.0	14.5	19.5	32	4	142.52		220						
M24	3.00	160	18.0	14.5	21.0	34	4	141.05		240				212.09		240
M33	3.50	180	25.0	20.0	29.5	40	4	278.91		330						

Steel	10-20	6-15	
Stainless steel			
Cast iron		6-15	
Non ferrous metals	10-20		
Heat resistant alloys		3-5	3-5
Hardened materials			

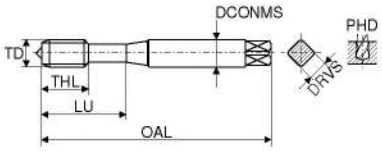
6

Through hole / Blind hole – Machine taps, right hand

M | TWIN

GG | C 2-3 | ISO 2X 6HX | nitr.

GG | C 2-3 | ISO 2X 6HX | nitr.

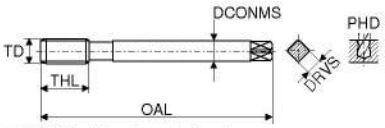


DIN 371 with reinforced shank

HSS-E
0°
≤ 1050 N/mm²
≤ 2xD

HSS-E
0°
≤ 1050 N/mm²
≤ 2xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 032 ...		U0 Article no. 22 036 ...	
	mm	mm	mm	mm	mm	mm	mm		£		£	
M2	0.40	45	2.8	2.1	1.60	7	12	3	31.55	020		
M2,5	0.45	50	2.8	2.1	2.05	9	14	3	32.41	025		
M3	0.50	56	3.5	2.7	2.50	11	18	3	27.18	030		
M3,5	0.60	56	4.0	3.0	2.90	12	20	3	29.65	035		
M4	0.70	63	4.5	3.4	3.30	13	21	3	27.79	040		
M5	0.80	70	6.0	4.9	4.20	15	25	3	29.65	050	43.73	050
M6	1.00	80	6.0	4.9	5.00	17	30	3	29.65	060	43.62	060
M8	1.25	90	8.0	6.2	6.80	20	35	3	34.09	080	49.11	080
M10	1.50	100	10.0	8.0	8.50	22	39	3	40.77	100	58.55	100



DIN 376 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 033 ...		U0 Article no. 22 037 ...	
	mm	mm	mm	mm	mm	mm		£		£	
M4	0.70	63	2.8	2.1	3.3	13	3	43.28	040		
M5	0.80	70	3.5	2.7	4.2	15	3	35.32	050		
M6	1.00	80	4.5	3.4	5.0	17	3	34.93	060		
M8	1.25	90	6.0	4.9	6.8	20	3	38.22	080		
M10	1.50	100	7.0	5.5	8.5	22	3	43.28	100		
M12	1.75	110	9.0	7.0	10.2	24	3	52.30	120	67.26	120
M14	2.00	110	11.0	9.0	12.0	26	3	64.42	140	92.97	140
M16	2.00	110	12.0	9.0	14.0	27	3	74.53	160	91.92	160
M18	2.50	125	14.0	11.0	15.5	30	4	110.41	180		
M20	2.50	140	16.0	12.0	17.5	32	4	110.41	200	141.48	200
M22	2.50	140	18.0	14.5	19.5	32	4	164.44	220		
M24	3.00	160	18.0	14.5	21.0	34	4	146.87	240		

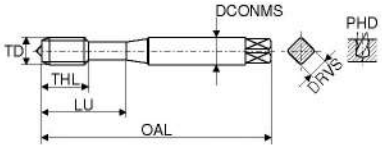
Steel		
Stainless steel		
Cast iron	10-20	10-20
Non ferrous metals		
Heat resistant alloys		
Hardened materials		

Through hole / Blind hole – Machine taps, right hand

M | TWIN

HT | D 4–5 | ISO 2X 6HX | OSM

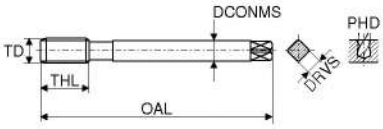
HT | C 2–3 | ISO 2X 6HX | TiCN



6

DIN 371 with reinforced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	Solid carbide 0° ≤ 63 HRC ≤ 1,5xD U0 Article no. 22 806 ... £		HSS-PM 0° 44 - 52 HRC ≤ 1,5xD U0 Article no. 22 227 ... £	
	mm	mm	mm	mm	mm	mm	mm					
M3	0.50	63	4.5	3.4	2.55	6	18	4	174.90	030		
M4	0.70	63	4.5	3.4	3.40	8	20	4	174.90	040		
M5	0.80	70	6.0	4.9	4.30	10	26	4	200.76	050		
M6	1.00	80	6.0	4.9	5.00	10	30	4			151.64	060
M6	1.00	80	6.0	4.9	5.10	12	28	4	211.37	060		
M8	1.25	90	8.0	6.2	6.80	14	35	5			163.26	080
M8	1.25	90	8.0	6.2	6.90	15	35	5	242.16	080		
M10	1.50	100	10.0	8.0	8.50	18	38	5	307.09	100		
M10	1.50	100	10.0	8.0	8.50	16	39	5			204.42	100
M12	1.75	110	12.0	9.0	10.40	21	41	5	568.13	120		
M16	2.00	110	16.0	12.0	14.20	24	44	6	807.09	160		



DIN 376 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 228 ... £	
	mm	mm	mm	mm	mm	mm			
M12	1.75	110	9	7	10.4	18	5	254.78	120
M16	2.00	110	12	9	14.2	22	6	350.84	160

Steel		
Stainless steel		
Cast iron		
Non ferrous metals		
Heat resistant alloys		
Hardened materials	1-3	1-3

Through hole / Blind hole – Machine taps, right hand

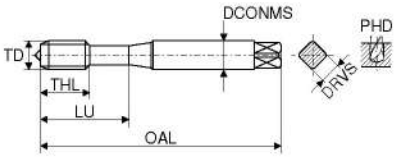
▲ ES = extra short

M | TWIN

ST
ES

C
2-3

ISO 2X
6HX



DIN 352 with reinforced shank

HSS-E

0°
≤ 750 N/mm²
≤ 2xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 018 ... £	
	mm	mm	mm	mm	mm	mm	mm			
M2	0.40	36	2.8	2.1	1.60	8		3	38.78	020
M2,5	0.45	40	2.8	2.1	2.05	9		3	38.78	025
M3	0.50	40	3.5	2.7	2.50	10	18	3	29.89	030
M4	0.70	45	4.5	3.4	3.30	12	22	3	29.89	040
M5	0.80	50	6.0	4.9	4.20	14	25	3	29.89	050
M6	1.00	56	6.0	4.9	5.00	16	28	3	31.98	060
M8	1.25	63	6.0	4.9	6.80	20		3	36.53	080
M10	1.50	70	7.0	5.5	8.50	22		3	48.01	100
M12	1.75	75	9.0	7.0	10.20	24		3	48.32	120

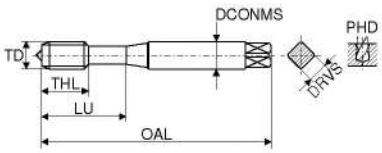
Steel	**10-20**
Stainless steel	
Cast iron	
Non ferrous metals	**10-20**
Heat resistant alloys	
Hardened materials	

Through hole / Blind hole – Machine taps, right hand

▲ EL = extra long, with double overall length

M | TWIN

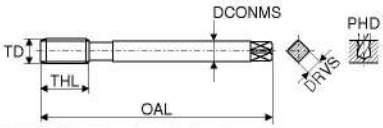
HR EL | C 2-3 | ISO 2X 6HX | nitr.



DIN 371 with reinforced shank

HSS-E
0°
≤ 1400 N/mm²
≤ 2xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 122 ...	
	mm	mm	mm	mm	mm	mm	mm		£	
M3	0.50	100	3.5	2.7	2.5	11	18	3	69.13	030
M4	0.70	125	4.5	3.4	3.3	13	21	3	69.13	040
M5	0.80	140	6.0	4.9	4.2	15	25	3	74.53	050
M6	1.00	160	6.0	4.9	5.0	17	30	3	78.15	060
M8	1.25	180	8.0	6.2	6.8	20	35	3	90.07	080



DIN 376 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 123 ...	
	mm	mm	mm	mm	mm	mm		£	
M10	1.50	200	7	5.5	8.5	22	3	104.02	100
M12	1.75	224	9	7.0	10.2	24	3	123.48	120
M16	2.00	224	12	9.0	14.0	27	3	192.79	160
M20	2.50	280	16	12.0	17.5	32	4	265.41	200

Steel	6-15
Stainless steel	
Cast iron	6-15
Non ferrous metals	
Heat resistant alloys	3-5
Hardened materials	

6

Through hole / Blind hole – Machine taps, right hand

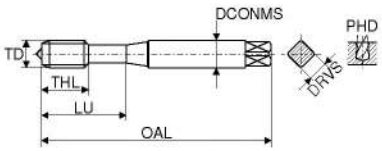
M

GG

C
2-3

ISO 2X
6HX

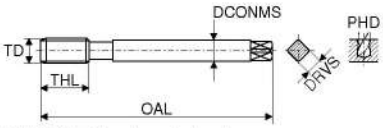
TiCN



DIN 371 with reinforced shank

HSS-E
0°
≤ 900 N/mm²
≤ 2xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	T9 Article no. 23 512 ...	
	mm	mm	mm	mm	mm	mm	mm		£	
M3	0.50	56	3.5	2.7	2.5	11	18	3	25.94	**030**
M4	0.70	63	4.5	3.4	3.3	13	21	3	29.51	**040**
M5	0.80	70	6.0	4.9	4.2	15	25	3	29.78	**050**
M6	1.00	80	6.0	4.9	5.0	17	30	3	38.78	**060**
M8	1.25	90	8.0	6.2	6.8	20	35	3	41.61	**080**
M10	1.50	100	10.0	8.0	8.5	22	39	3	56.88	**100**



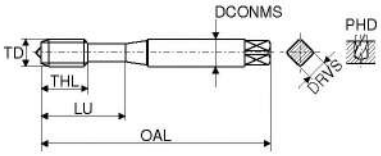
DIN 376 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	T9 Article no. 23 513 ...	
	mm	mm	mm	mm	mm	mm		£	
M12	1.75	110	9	7	10.2	24	3	64.08	**120**

Steel	
Stainless steel	
Cast iron	**10-30**
Non ferrous metals	
Heat resistant alloys	
Hardened materials	

Through hole / Blind hole – Machine thread formers, right hand

M | Spanlos

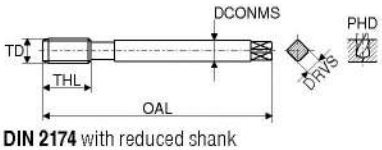


DIN 2174 with reinforced shank

	EC	EC	EC	EC
	C 2-3	C 2-3	C 2-3	C 2-3
	ISO 2X 6HX	ISO 2X 6HX	ISO 2X 6HX	ISO 2X 6HX
	Ti200	HCr	TiN GS	TiN

	HSS-PM ≤ 1400 N/mm² ≤ 1,5xD	HSS-E ≤ 1100 N/mm² ≤ 1,5xD	HSS-E ≤ 1100 N/mm² ≤ 1,5xD	HSS-E ≤ 1100 N/mm² ≤ 1,5xD
	U0	U0	U0	U0
TD	Article no. 22 112 ...	Article no. 22 128 ...	Article no. 22 136 ...	Article no. 22 100 ...
mm	£	£	£	£
M1				80.04 010 1)
M1,2				73.40 012 1)
M1,4				69.13 014 1)
M1,6				67.26 016
M1,7				69.13 017
M2		82.21 020		44.90 020
M2,5			74.96 025	
M2,5		69.13 025		45.47 025
M2,6				47.80 026
M3	71.74 030			
M3		50.17 030	61.47 030	41.41 030
M3,5				39.76 035
M4		52.02 040	61.58 040	42.43 040
M4	75.25 040			
M5		54.78 050	65.10 050	44.46 050
M5	80.04 050			
M6	95.76 060			
M6		54.78 060	72.21 060	50.99 060
M8				56.08 080
M8		61.58 080	78.60 080	
M8	108.68 080			
M10	136.11 100			
M10		82.21 100	94.36 100	70.77 100

1) Tol. ISO 1X 4HX ≤ M1.4



DIN 2174 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	U0 Article no. 22 101 ...
	mm	mm	mm	mm	mm	mm	£
M12	1.75	110	9	7	11.25	24	86.88 120
M16	2.00	110	12	9	15.10	27	130.41 160

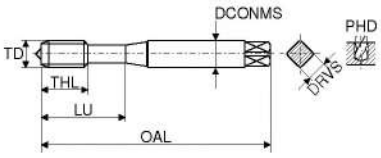
Steel	8-30	8-25	8-30	8-30
Stainless steel	8-15		8-15	8-15
Cast iron				
Non ferrous metals	12-25	10-30	12-25	12-25
Heat resistant alloys				
Hardened materials				

6

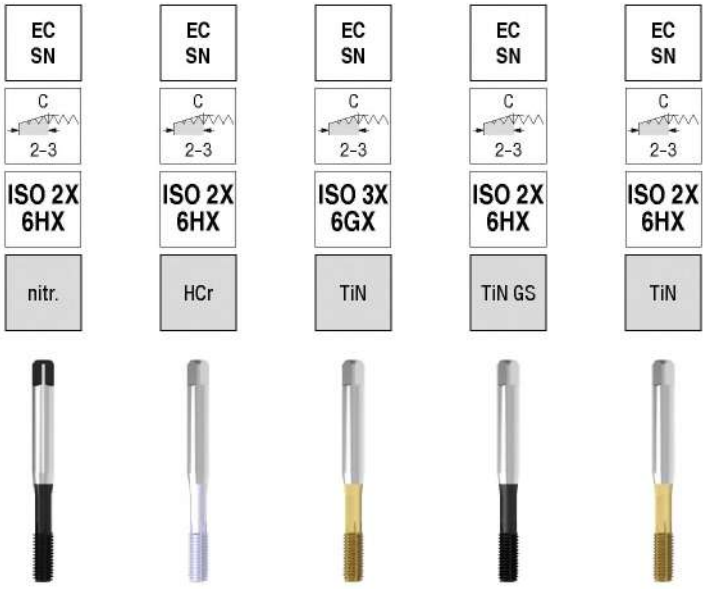
Through hole / Blind hole – Machine thread formers, right hand

▲ SN = Thread formers with lubrication grooves

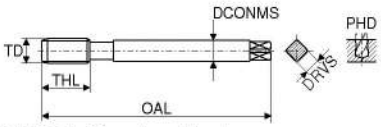
M | Spanlos



DIN 2174 with reinforced shank



									HSS-E ≤ 1100 N/mm² ≤ 3xD		HSS-E ≤ 1100 N/mm² ≤ 3xD		HSS-E ≤ 1100 N/mm² ≤ 3xD		HSS-E ≤ 1100 N/mm² ≤ 3xD		HSS-E ≤ 1100 N/mm² ≤ 3xD	
									U0		U0		U0		U0		U0	
TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	Article no. 22 104 ...		Article no. 22 107 ...		Article no. 22 108 ...		Article no. 22 154 ...		Article no. 22 105 ...	
	mm	mm	mm	mm	mm	mm	mm		£		£		£		£		£	
M2	0.40	45	2.8	2.1	1.85	7	10	3									52.75	020
M2,5	0.45	50	2.8	2.1	2.33	9	14	3									49.17	025
M3	0.50	56	3.5	2.7	2.80	11	18	3					43.16	030	64.85	030		
M3	0.50	56	3.5	2.7	2.80	11	18	4	32.27	030	44.46	030					45.48	030
M3,5	0.60	56	4.0	3.0	3.25	12	20	3									49.17	035
M4	0.70	63	4.5	3.4	3.70	13	21	4					46.33	040	68.01	040		
M4	0.70	63	4.5	3.4	3.70	13	21	5	38.22	040	45.18	040					47.23	040
M5	0.80	70	6.0	4.9	4.65	15	25	4					49.17	050	70.60	050		
M5	0.80	70	6.0	4.9	4.65	15	25	5	39.34	050	47.80	050					48.81	050
M6	1.00	80	6.0	4.9	5.60	17	30	4					55.22	060	77.85	060		
M6	1.00	80	6.0	4.9	5.60	17	30	5	40.20	060	48.32	060					55.79	060
M8	1.25	90	8.0	6.2	7.45	20	35	6	48.32	080	56.45	080	63.06	080	84.41	080	61.60	080
M10	1.50	100	10.0	8.0	9.35	22	39	6	62.61	100	71.64	100	76.56	100	102.71	100	76.86	100



DIN 2174 with reduced shank

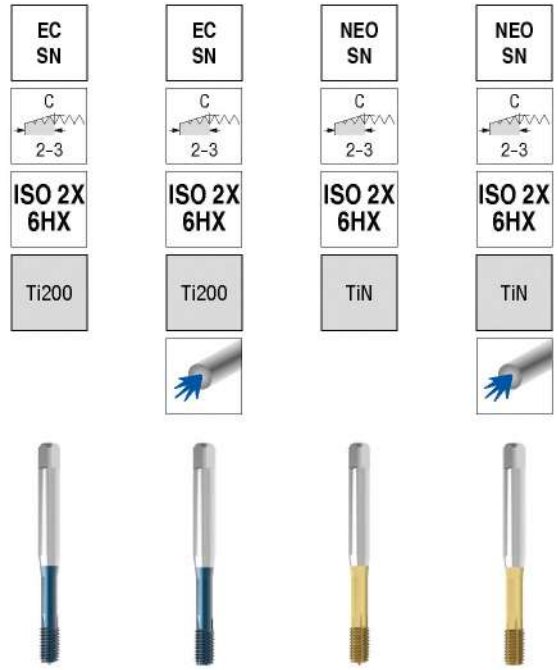
								U0	
TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	Article no. 22 106 ...	
	mm	mm	mm	mm	mm	mm		£	
M12	1.75	110	9	7	11.25	24	6	105.91	120
M14	2.00	110	11	9	13.10	26	5	184.80	140
M16	2.00	110	12	9	15.10	27	7	155.15	160

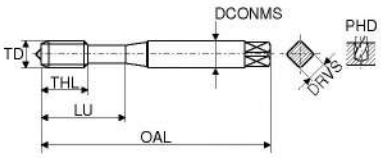
Steel	8-30	8-30	8-30	8-30	8-30
Stainless steel	8-15	8-15	8-15	8-15	8-15
Cast iron					
Non ferrous metals	10-30	10-30	12-25	12-25	12-25
Heat resistant alloys					
Hardened materials					

Through hole / Blind hole – Machine thread formers, right hand

▲ SN = Thread formers with lubrication grooves

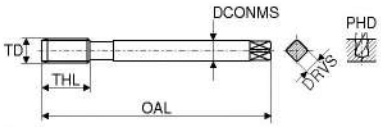
M | Spanlos





DIN 2174 with reinforced shank

									HSS-PM ≤ 1400 N/mm² ≤ 3xD		HSS-PM ≤ 1400 N/mm² ≤ 3xD		HSS-PM ≤ 1100 N/mm² ≤ 3xD		HSS-PM ≤ 1100 N/mm² ≤ 3xD	
									U0		U0		U0		U0	
TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	Article no. 22 114 ...		Article no. 22 118 ...		Article no. 22 452 ...		Article no. 22 453 ...	
	mm	mm	mm	mm	mm	mm	mm		£		£		£		£	
M2	0.40	45	2.8	2.1	1.85	4	12	3	107.36	020						
M2,5	0.45	50	2.8	2.1	2.33	5	14	3	83.97	025						
M3	0.50	56	3.5	2.7	2.80	6	18	3	79.10	030						
M3	0.50	56	3.5	2.7	2.80	11	18	4					71.39	030		
M4	0.70	63	4.5	3.4	3.70	13	21	4					73.40	040		
M4	0.70	63	4.5	3.4	3.70	7	21	4	81.54	040						
M5	0.80	70	6.0	4.9	4.65	8	25	4	89.07	050	111.85	050				
M5	0.80	70	6.0	4.9	4.65	15	25	4					78.09	050	97.67	050
M6	1.00	80	6.0	4.9	5.60	10	30	4	106.20	060	130.88	060				
M6	1.00	80	6.0	4.9	5.60	17	30	5					98.45	060	118.98	060
M8	1.25	90	8.0	6.2	7.45	20	35	5					110.34	080	133.36	080
M8	1.25	90	8.0	6.2	7.45	14	35	5	118.98	080	147.00	080				
M10	1.50	100	10.0	8.0	9.35	22	39	5					142.78	100	170.85	100
M10	1.50	100	10.0	8.0	9.35	16	39	5	152.41	100	185.95	100				



DIN 2174 with reduced shank

								U0			U0		U0	
TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	Article no. 22 115 ...			Article no. 22 452 ...		Article no. 22 454 ...	
	mm	mm	mm	mm	mm	mm		£			£		£	
M12	1.75	110	9	7	11.25	18	5	161.69	120					
M12	1.75	110	9	7	11.25	24	6				166.29	120	199.84	120
M16	2.00	110	12	9	15.10	27	6				269.98	160	305.06	160

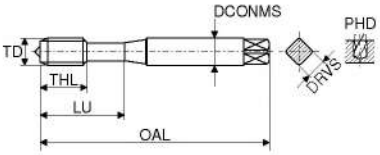
Steel	8-30	8-30	5-30	5-30
Stainless steel	8-15	8-15	5-15	5-15
Cast iron				
Non ferrous metals	12-25	12-25	5-10	5-10
Heat resistant alloys			5-20	5-20
Hardened materials				

6

Through hole / Blind hole – Machine thread formers, right hand

▲ SN = Thread formers with lubrication grooves

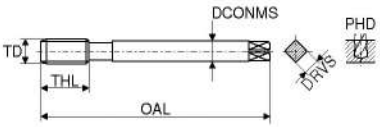
M



DIN 2174 with reinforced shank

	UNI	UNI	UNI SN	UNI SN
	C 2-3	C 2-3	C 2-3	C 2-3
	ISO 2X 6HX	ISO 2X 6HX	ISO 2X 6HX	ISO 2X 6HX
	TiN	CrN	TiN	CrN
				
	HSS-E 0° ≤ 850 N/mm² ≤ 3xD	HSS-E 0° ≤ 850 N/mm² ≤ 3xD	HSS-E 0° ≤ 850 N/mm² ≤ 3xD	HSS-E 0° ≤ 850 N/mm² ≤ 3xD
	T9 Article no. 23 810 ...	T9 Article no. 23 812 ...	T9 Article no. 23 814 ...	T9 Article no. 23 816 ...

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	£		£		£		£	
	mm	mm	mm	mm	mm	mm	mm									
M2	0.40	45	2.8	2.1	1.85	7	12		39.66	020	44.47	020				
M2	0.40	45	2.8	2.1	1.85	7	12	3					45.05	020	50.75	020
M2,5	0.45	50	2.8	2.1	2.33	9	14	3					40.84	025	44.47	025
M2,5	0.45	50	2.8	2.1	2.33	9	14		35.32	025	39.23	025				
M3	0.50	56	3.5	2.7	2.80	11	18	3					27.38	030	32.20	030
M3	0.50	56	3.5	2.7	2.80	11	18		25.71	030	28.61	030				
M4	0.70	63	4.5	3.4	3.70	13	21	4					58.66	040	32.20	040
M4	0.70	63	4.5	3.4	3.70	13	21		26.08	040	29.22	040				
M5	0.80	70	6.0	4.9	4.65	15	25	4					61.86	050	34.87	050
M5	0.80	70	6.0	4.9	4.65	15	25		27.95	050	30.22	050				
M6	1.00	80	6.0	4.9	5.60	17	30	4					70.99	060	34.87	060
M6	1.00	80	6.0	4.9	5.60	17	30		33.56	060	30.22	060				
M8	1.25	90	8.0	6.2	7.45	20	35	5					74.16	080	41.26	080
M8	1.25	90	8.0	6.2	7.45	20	35		37.48	080	34.51	080				
M10	1.50	100	10.0	8.0	9.35	22	39	5					47.86	100	51.59	100
M10	1.50	100	10.0	8.0	9.35	22	39		49.98	100	44.47	100				



DIN 2174 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	T9 Article no. 23 811 ... £		T9 Article no. 23 813 ... £		T9 Article no. 23 815 ... £		T9 Article no. 23 817 ... £	
	mm	mm	mm	mm	mm	mm									
M12	1.75	110	9	7.0	11.25	24		57.10	120	55.64	120				
M12	1.75	110	9	7.0	11.25	24	5					62.57	120	62.57	120
M16	2.00	110	12	9.0	15.10	27	6					119.41	160	127.55	160
M16	2.00	110	12	9.0	15.10	27		107.36	160	109.01	160				
M18	2.50	125	14	11.0	16.80	30	6					138.53	18000		
M20	2.50	140	16	12.0	18.80	32	6					128.85	20000		
M24	3.00	160	18	14.5	22.60	34	6					172.14	24000		

Steel	10-50	10-50	10-50	10-50
Stainless steel	5-20	5-20	5-20	5-20
Cast iron				
Non ferrous metals	10-50	10-50	10-50	10-50
Heat resistant alloys	5-15	5-15	5-15	5-15
Hardened materials				

Through hole – machine taps for wire thread inserts, right hand

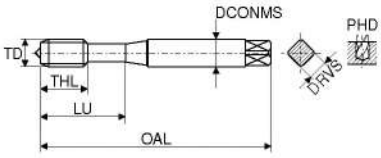
EG M | Stabil

UNI

B
4–5

6H mod

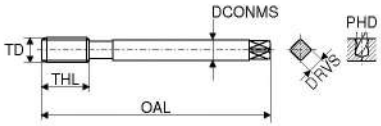
nitr. + vap.



DIN 40435 with reinforced shank

HSS-E
0°
≤ 1100 N/mm²
≤ 4xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 662 ... £	
	mm	mm	mm	mm	mm	mm	mm			
EG-M2,5	0.45	56	3.5	2.7	2.65	11	18	3	50.59	025
EG-M3	0.50	63	4.5	3.4	3.15	10	21	3	42.64	030
EG-M4	0.70	70	6.0	4.9	4.20	12	25	3	44.67	040
EG-M5	0.80	80	6.0	4.9	5.25	13	30	3	42.99	050
EG-M6	1.00	90	8.0	6.2	6.30	17	35	3	43.83	060
EG-M8	1.25	100	10.0	8.0	8.40	18	39	3	51.41	080



DIN 40435 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 663 ... £	
	mm	mm	mm	mm	mm	mm			
EG-M10	1.50	100	9	7.0	10.50	22	3	69.57	100
EG-M12	1.75	110	11	9.0	12.50	26	3	81.54	120
EG-M16	2.00	125	14	11.0	16.50	27	3	115.05	160
EG-M20	2.50	160	18	14.5	20.75	34	3	162.52	200

Steel	6-20
Stainless steel	4-8
Cast iron	6-15
Non ferrous metals	
Heat resistant alloys	
Hardened materials	

Blind hole – machine taps for wire thread inserts, right hand

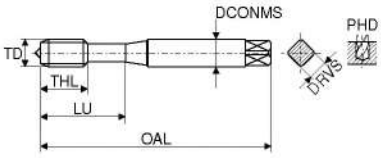
EG M | Salo-Rex

Soft | UNI

C 2–3 | C 2–3

6H mod | 6H mod

CH | vap.

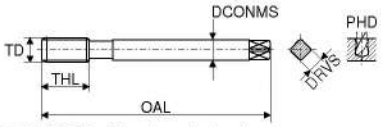


DIN 40435 with reinforced shank

HSS-E ◁ 42° ≤ 500 N/mm² ≤ 3xD

HSS-E ◁ 42° ≤ 1100 N/mm² ≤ 3xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 280 ... £		U0 Article no. 22 664 ... £	
	mm	mm	mm	mm	mm	mm	mm					
EG-M2,5	0.45	56	3.5	2.7	2.65	5	18	2	69.32	025		
EG-M2,5	0.45	56	3.5	2.7	2.65	5	18	3			48.53	025
EG-M3	0.50	63	4.5	3.4	3.15	5	21	2	67.18	030		
EG-M3	0.50	63	4.5	3.4	3.15	5	21	3			43.45	030
EG-M4	0.70	70	6.0	4.9	4.20	8	25	2	67.18	040		
EG-M4	0.70	70	6.0	4.9	4.20	8	25	3			44.32	040
EG-M5	0.80	80	6.0	4.9	5.25	8	30	2	91.25	050		
EG-M5	0.80	80	6.0	4.9	5.25	8	30	3			41.83	050
EG-M6	1.00	90	8.0	6.2	6.30	10	35	2	92.92	060		
EG-M6	1.00	90	8.0	6.2	6.30	10	35	3			46.18	060
EG-M8	1.25	100	10.0	8.0	8.40	16	39	2	116.56	080		
EG-M8	1.25	100	10.0	8.0	8.40	16	39	3			50.83	080



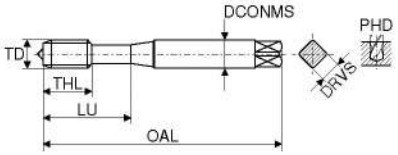
DIN 40435 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 665 ... £	
	mm	mm	mm	mm	mm	mm			
EG-M10	1.50	100	9	7.0	10.50	15	5	67.84	100
EG-M12	1.75	110	11	9.0	12.50	20	4	83.25	120
EG-M16	2.00	125	14	11.0	16.50	20	5	116.95	160
EG-M20	2.50	160	18	14.5	20.75	30	4	169.53	200

Steel		6-20
Stainless steel		4-8
Cast iron		6-15
Non ferrous metals	15-40	
Heat resistant alloys		
Hardened materials		

Through hole – Machine taps, right hand

MF | Stabil



DIN 371 with reinforced shank

	UNI	UNI	VG
	B 4–5	B 4–5	B 4–5
	ISO 2 6H	ISO 2 6H	ISO 2X 6HX
	nitr. + vap.	TiN	TiN
			
	HSS-E	HSS-E	HSS-E
	0° ≤ 1100 N/mm² ≤ 4xD	0° ≤ 1100 N/mm² ≤ 4xD	0° ≤ 1100 N/mm² ≤ 4xD
	U0	U0	U0
	Article no. 22 590 ...	Article no. 22 550 ...	Article no. 22 587 ...
	£	£	£

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes						
	mm	mm	mm	mm	mm	mm	mm							
M4x0,5	0.50	63	4.5	3.4	3.5	10	21	3	61.58	**040**	72.65	**040**		
M4x0,5	0.50	63	4.5	3.4	3.5	5	21	3					72.65	**040**
M5x0,5	0.50	70	6.0	4.9	4.5	11	25	3	61.58	**050**	72.65	**050**		
M6x0,5	0.50	80	6.0	4.9	5.5	13	30	3	66.54	**060**	89.94	**060**		
M6x0,75	0.75	80	6.0	4.9	5.2	13	30	3	66.54	**062**	89.94	**062**		
M6x0,75	0.75	80	6.0	4.9	5.2	8	30	3					86.23	**062**
M6x0,5	0.50	80	6.0	4.9	5.5	5	30	3					86.23	**060**
M5x0,5	0.50	70	6.0	4.9	4.5	5	25	3					72.65	**050**
M8x1	1.00	90	8.0	6.2	7.0	17	35	3	64.79	**084**	86.23	**080**		
M10x1	1.00	90	10.0	8.0	9.0	18	35	4	66.54	**102**	98.37	**100**		

Steel	**6-20**	**6-25**	**6-15**
Stainless steel	**4-8**	**5-10**	**5-10**
Cast iron	**6-15**	**10-20**	
Non ferrous metals		**12-25**	**10-20**
Heat resistant alloys			
hardened materials			

DIN 374 can be found on the next page

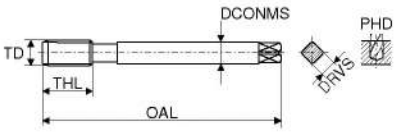
6

Through hole – Machine taps, right/left hand

▲ TS = for high-speed machining, up to 100 m/min.

▲ LH = for left hand threads

MF | Stabil



DIN 374 with reduced shank

	ST LH	ST TS	UNI	UNI	VG
	B 4-5	B 4-5	B 4-5	B 4-5	B 4-5
	ISO 2 6H	ISO 2X 6HX	ISO 2 6H	ISO 2 6H	ISO 2X 6HX
		TiN	nitr. + vap.	TiN	TiN
	HSS-E ◁ 0° ≤ 750 N/mm² ≤ 4xD	HSS-E ◁ 0° ≤ 1100 N/mm² ≤ 4xD	HSS-E ◁ 0° ≤ 1100 N/mm² ≤ 4xD	HSS-E ◁ 0° ≤ 1100 N/mm² ≤ 4xD	HSS-E ◁ 0° ≤ 1100 N/mm² ≤ 4xD
	UO	UO	UO	UO	UO
	Article no. 22 210 ...	Article no. 22 193 ...	Article no. 22 551 ...	Article no. 22 552 ...	Article no. 22 570 ...

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	£		£		£		£		£	
	mm	mm	mm	mm	mm	mm											
M6x0,75	0.75	80	4.5	3.4	5.2	13	3					46.18	062				
M6x0,5	0.50	80	4.5	3.4	5.5	13	3					100.68	060				
M8x0,75	0.75	80	6.0	4.9	7.2	14	3	109.56	082			50.26	082				
M8x1	1.00	90	6.0	4.9	7.0	17	3	82.21	084			47.36	084	76.56	080		
M8x1	1.00	90	6.0	4.9	7.0	10	4			98.37	080					86.23	080
M10x1	1.00	90	7.0	5.5	9.0	18	4	86.14	102			47.94	102	82.21	100		
M10x0,75	0.75	90	7.0	5.5	9.2	18	4					69.61	100				
M10x1,25	1.25	100	7.0	5.5	8.8	16	4									114.72	102
M10x1,25	1.25	100	7.0	5.5	8.8	22	3					104.76	104				
M10x1	1.00	90	7.0	5.5	9.0	10	4			105.75	100					104.02	100
M12x1	1.00	100	9.0	7.0	11.0	18	4	109.56	120			56.83	120	111.28	121		
M12x1,5	1.50	100	9.0	7.0	10.5	22	3	114.72	124			53.33	124	83.09	120		
M12x1,25	1.25	100	9.0	7.0	10.8	22	3					76.10	122				
M12x1,5	1.50	100	9.0	7.0	10.5	15	4			122.03	120					116.21	120
M14x1,5	1.50	100	11.0	9.0	12.5	22	3	148.77	144			74.53	144	112.74	140		
M14x1	1.00	100	11.0	9.0	13.0	18	4					145.69	140				
M14x1,5	1.50	100	11.0	9.0	12.5	15	4			170.17	140					138.57	140
M16x1,5	1.50	100	12.0	9.0	14.5	22	3	148.77	162			84.56	162	116.14	160		
M16x1,5	1.50	100	12.0	9.0	14.5	15	4			172.15	160					159.07	160
M18x1	1.00	110	14.0	11.0	17.0	20	5					230.54	180				
M18x1,5	1.50	110	14.0	11.0	16.5	25	4	172.15	182			103.01	182				
M18x2	2.00	125	14.0	11.0	16.0	26	3					192.06	184				
M18x1,5	1.50	110	14.0	11.0	16.5	17	4			211.37	180					196.40	180
M20x1,5	1.50	125	16.0	12.0	18.5	25	4	196.40	202			112.74	202	173.74	200		
M20x1	1.00	125	16.0	12.0	19.0	20	5					256.82	200				
M20x1,5	1.50	125	16.0	12.0	18.5	17	4			265.41	200					246.64	200
M22x1,5	1.50	125	18.0	14.5	20.5	25	4					117.66	222	254.36	220		
M26x1,5	1.50	140	18.0	14.5	24.5	28	4					176.33	260				
M24x2	2.00	140	18.0	14.5	22.0	27	4					245.81	244				
M25x1,5	1.50	140	18.0	14.5	23.5	28	4					414.60	250				
M24x1,5	1.50	140	18.0	14.5	22.5	27	4					135.68	242				
M27x2	2.00	140	20.0	16.0	25.0	28	4					434.79	272				
M28x1,5	1.50	140	20.0	16.0	26.5	28	5					198.30	280				
M30x1,5	1.50	150	22.0	18.0	28.5	28	5					214.29	302				

Steel	10-20	20-100	6-20	6-25	6-15
Stainless steel			4-8	5-10	5-10
Cast iron		20-60	6-15	10-20	
Non ferrous metals	10-20	20-100		12-25	10-20
Heat resistant alloys		10-25			
hardened materials					

Through hole – Machine taps, right hand

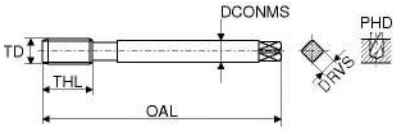
MF

UNI

B
4–5

ISO 2
6H

TiN



DIN 374 with reduced shank

HSS-PM

0°
≤ 1000 N/mm²
≤ 3xD

6

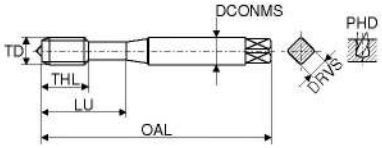
TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	T9 Article no. 23 041 ... £	
	mm	mm	mm	mm	mm	mm			
M8x1	1.00	90	6	4.9	7.0	17	3	20.48	081
M10x1	1.00	90	7	5.5	9.0	18	4	23.39	102
M10x1,25	1.25	100	7	5.5	8.8	22	3	25.07	104
M12x1	1.00	100	9	7.0	11.0	18	4	28.87	120
M12x1,25	1.25	100	9	7.0	10.8	22	3	30.11	122
M12x1,5	1.50	100	9	7.0	10.5	22	3	26.86	121
M14x1,5	1.50	100	11	9.0	12.5	22	3	33.13	144
M14x1,25	1.25	100	11	9.0	12.8	22	3	34.81	142
M16x1,5	1.50	100	12	9.0	14.5	22	3	37.49	162
M18x1,5	1.50	110	14	11.0	16.5	17	4	49.58	182
M20x1,5	1.50	125	16	12.0	18.5	17	4	66.92	202
M24x1,5	1.50	140	18	14.5	22.5	27	4	72.30	242
M24x2	2.00	140	18	14.5	22.0	27	4	82.38	244
M22x1,5	1.50	125	18	14.5	20.5	25	4	63.01	222

Steel	10-20
Stainless steel	8-15
Cast iron	20-25
Non ferrous metals	20-25
Heat resistant alloys	
hardened materials	

Through hole – Machine taps, right hand

MF

UNI	UNI	FE	FE-HF	VA
B 4–5	B 4–5	B 4–5	B 4–5	B 4–5
ISO 2 6H	ISO 2 6H	ISO 2 6H	ISO 2 6H	ISO 2 6H
nitr. + vap.	TiN		TiCN	TiN



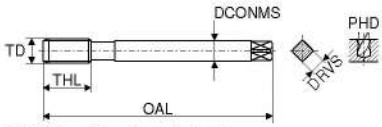
DIN 371 with reinforced shank





	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E
	0° ≤ 1000 N/mm² ≤ 3xD	0° ≤ 1000 N/mm² ≤ 3xD	0° ≤ 850 N/mm² ≤ 3xD	0° ≤ 1100 N/mm² ≤ 4xD	0° ≤ 1200 N/mm² ≤ 4xD
	T9	T9	T9	T9	T9
TD	Article no. 23 140 ...	Article no. 23 142 ...	Article no. 23 240 ...	Article no. 23 340 ...	Article no. 23 440 ...
	£	£	£	£	£
M4x0,5	35.02 040	39.76 040	20.24 040		
M6x0,75	37.36 062	49.32 062	20.24 062	55.22 062	49.82 062
M6x0,5	37.36 060	49.32 060	20.92 060		
M5x0,5	35.32 050	40.84 050	20.92 050	42.29 050	40.84 050

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes
	mm	mm	mm	mm	mm	mm	mm	
M4x0,5	0.50	63	4.5	3.4	3.5	10	21	3
M6x0,75	0.75	80	6.0	4.9	5.2	13	30	3
M6x0,5	0.50	80	6.0	4.9	5.5	13	30	3
M5x0,5	0.50	70	6.0	4.9	4.5	11	25	3



DIN 374 with reduced shank

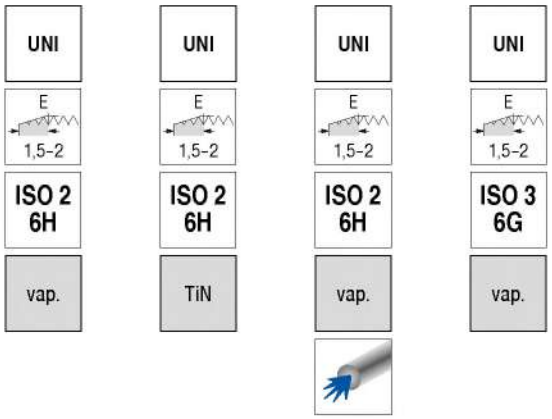
	T9	T9	T9	T9	T9
TD	Article no. 23 141 ...	Article no. 23 143 ...	Article no. 23 241 ...	Article no. 23 341 ...	Article no. 23 441 ...
	£	£	£	£	£
M8x0,75				56.30 082	
M8x0,5			27.75 080		
M8x1	35.92 084		22.25 084	54.34 084	52.75 084
M8x1		49.54 084			
M8x0,75	39.34 082	51.59 082	23.54 082		55.01 082
M10x0,75	56.37 100	70.18 100	32.98 100		
M10x1,25	47.74 104	64.85 104	27.18 104		
M10x1	37.36 102	53.03 102	26.31 102	60.45 102	56.30 102
M12x1,5	40.84 124	56.30 124	29.07 124	65.36 124	60.14 124
M12x1,25	48.32 122	65.84 122	31.67 122		
M12x1	43.05 120	62.03 120	29.78 120	68.01 120	64.85 120
M14x1	58.55 140	74.53 140	37.36 140		
M14x1,5	54.34 144	74.82 144	35.90 144	82.94 144	81.07 144
M16x1	65.82 160	86.88 160	49.54 160		
M16x1,5	65.82 162	86.88 162	45.48 162	95.29 162	92.70 162
M18x1			64.95 180		
M18x1,5	74.53 182	107.36 182	59.14 182		
M20x1,5	86.88 202	135.97 202	65.54 202		
M20x1			70.02 200		
M26x1,5			112.59 260		
M24x1,5	108.09 242	148.04 242	87.73 242		
M22x1,5	91.92 222	141.21 222	75.25 222		
M28x1,5			127.83 280		
M30x1,5			143.97 300		

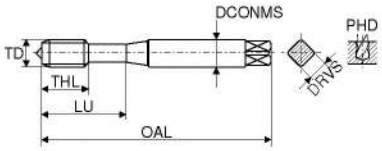
TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes
	mm	mm	mm	mm	mm	mm	
M8x0,75	0.75	80	6	4.9	7.0	14	3
M8x0,5	0.50	80	6	8.0	7.5	14	3
M8x1	1.00	90	6	4.9	7.0	17	3
M8x1	1.00	90	6	4.9	7.0	17	4
M8x0,75	0.75	80	6	4.9	7.2	14	3
M10x0,75	0.75	90	7	5.5	9.2	18	4
M10x1,25	1.25	100	7	5.5	8.8	22	3
M10x1	1.00	90	7	5.5	9.0	18	4
M12x1,5	1.50	100	9	7.0	10.5	22	3
M12x1,25	1.25	100	9	7.0	10.8	22	3
M12x1	1.00	100	9	7.0	11.0	18	4
M14x1	1.00	100	11	9.0	13.0	18	4
M14x1,5	1.50	100	11	9.0	12.5	22	3
M16x1	1.00	100	12	9.0	15.0	18	4
M16x1,5	1.50	100	12	9.0	14.5	22	3
M18x1	1.00	110	14	11.0	17.0	20	5
M18x1,5	1.50	110	14	11.0	16.5	25	4
M20x1,5	1.50	125	16	12.0	18.5	25	4
M20x1	1.00	125	16	12.0	19.0	20	5
M26x1,5	1.50	140	18	14.5	24.5	28	4
M24x1,5	1.50	140	18	14.5	22.5	27	4
M22x1,5	1.50	125	18	14.5	20.5	25	4
M28x1,5	1.50	140	20	16.0	26.5	28	5
M30x1,5	1.50	150	22	18.0	28.5	28	5

Steel	2-25	5-45	5-25	5-45	
Stainless steel	2-8	5-15			8-20
Cast iron	5-20	10-25			
Non ferrous metals	10-20	15-40			
Heat resistant alloys					
hardened materials					

Blind hole – Machine taps, right hand

MF | Salo-Rex





DIN 371 with reinforced shank

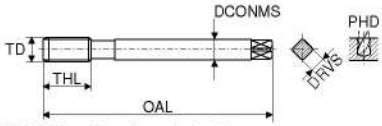
HSS-E
42°
≤ 1100 N/mm²
≤ 3xD

HSS-E
42°
≤ 1100 N/mm²
≤ 3xD

HSS-E
42°
≤ 1100 N/mm²
≤ 3xD

HSS-E
42°
≤ 1100 N/mm²
≤ 3xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 441 ...	
	mm	mm	mm	mm	mm	mm	mm		£	
M4x0,5	0.50	63	4.5	3.4	3.50	5	21	3	68.43	040
M6x0,75	0.75	80	6.0	4.9	5.25	8	30	3	68.43	062
M5x0,5	0.50	70	6.0	4.9	4.50	5	25	3	61.91	050



DIN 374 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 555 ...		U0 Article no. 22 556 ...		U0 Article no. 22 491 ...		U0 Article no. 22 490 ...	
	mm	mm	mm	mm	mm	mm		£		£		£		£	
M8x1	1.0	90	6	4.9	7.0	10	3	51.15	080	69.72	080			68.43	080
M10x1	1.0	90	7	5.5	9.0	10	4	58.55	100	89.77	100			74.53	100
M12x1,5	1.5	100	9	7.0	10.5	15	5	65.84	120	101.69	120	109.56	120	82.21	120
M14x1,5	1.5	100	11	9.0	12.5	15	5	81.80	140	128.14	140	144.98	140	105.74	140
M16x1,5	1.5	100	12	9.0	14.5	15	5	99.95	160	136.70	160	148.77	160	129.16	160
M18x1,5	1.5	110	14	11.0	16.5	17	5							147.00	180
M20x1,5	1.5	125	16	12.0	18.5	17	5					226.33	200	172.15	200
Steel								6-20		6-25		6-20		6-20	
Stainless steel								4-8		5-10		4-8		4-8	
Cast iron								6-15		10-20		6-15		6-15	
Non ferrous metals										12-25					
Heat resistant alloys															
hardened materials															

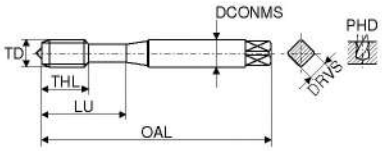
6

Blind hole – Machine taps, right hand

▲ CNC = for synchronised CNC machining with minimum length compensation chuck

MF	Salo-Rex

UNI	UNI	UNI CNC	UNI CNC
C 2-3	C 2-3	E 1,5-2	E 1,5-2
ISO 2 6H	ISO 2 6H	7G	ISO 2 6H
vap.	TiN	TiN GS	TiN GS



DIN 371 with reinforced shank

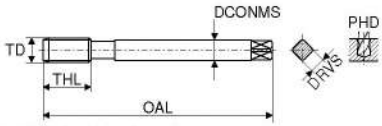
HSS-E ◁ 42° ≤ 1100 N/mm² ≤ 3xD

HSS-E ◁ 42° ≤ 1100 N/mm² ≤ 3xD

HSS-E ◁ 45° ≤ 1100 N/mm² ≤ 3xD

HSS-E ◁ 45° ≤ 1100 N/mm² ≤ 3xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 202 ...				U0 Article no. 22 548 ...	
	mm	mm	mm	mm	mm	mm	mm		£				£	
M4x0,5	0.50	63	4.5	3.4	3.5	5	21	3	68.43	040				
M5x0,5	0.50	70	6.0	4.9	4.5	5	25	3	61.91	050			72.80	050
M6x0,75	0.75	80	6.0	4.9	5.2	8	30	3	68.43	062			72.80	062
M6x0,5	0.50	80	6.0	4.9	5.5	5	30	3	68.43	060			72.80	060



DIN 374 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 553 ...		U0 Article no. 22 554 ...		U0 Article no. 22 563 ...		U0 Article no. 22 549 ...	
	mm	mm	mm	mm	mm	mm		£		£		£		£	
M6x0,75	0.75	80	4.5	3.4	5.2	8	3	59.26	062						
M8x0,75	0.75	80	6.0	4.9	7.2	8	3	55.36	080					76.56	082
M8x1	1.00	90	6.0	4.9	7.0	10	3	50.17	082	69.72	080	105.74	084	90.07	084
M10x0,75	0.75	90	7.0	5.5	9.2	10	4	114.72	101						
M10x1	1.00	90	7.0	5.5	9.0	10	3	53.60	100	89.77	100				
M10x1	1.00	90	7.0	5.5	9.0	10	4					117.57	102	104.16	102
M10x1,25	1.25	100	7.0	5.5	8.8	16	3	130.79	102						
M12x1	1.00	100	9.0	7.0	11.0	11	4	69.72	120	118.84	121			121.89	120
M12x1,25	1.25	100	9.0	7.0	10.8	15	4	105.71	122						
M12x1,5	1.50	100	9.0	7.0	10.5	15	4	65.84	124	101.69	120				
M12x1,5	1.50	100	9.0	7.0	10.5	15	5					137.59	124	116.51	124
M14x1,5	1.50	100	11.0	9.0	12.5	15	5					171.27	144	148.77	144
M14x1,5	1.50	100	11.0	9.0	12.5	15	4	81.80	140	118.98	140				
M16x1,5	1.50	100	12.0	9.0	14.5	15	4	99.95	160	136.70	160				
M16x1,5	1.50	100	12.0	9.0	14.5	15	5					196.40	162	172.15	162
M18x1,5	1.50	110	14.0	11.0	16.5	17	5							208.30	182
M18x1,5	1.50	110	14.0	11.0	16.5	17	4	122.33	180	200.17	182				
M20x1,5	1.50	125	16.0	12.0	18.5	17	5					293.59	202	256.54	202
M20x1,5	1.50	125	16.0	12.0	18.5	17	4	166.06	200	254.36	202				
M22x1,5	1.50	125	18.0	14.5	20.5	17	4	161.98	220						
M26x1,5	1.50	140	18.0	14.5	24.5	20	5	230.40	260						
M24x1,5	1.50	140	18.0	14.5	22.5	20	5	178.69	240						
M28x1,5	1.50	140	20.0	16.0	26.5	20	5	268.31	280						
M30x1,5	1.50	150	22.0	18.0	28.5	22	6	270.20	300						

Steel	6-20	6-25	6-25	6-25
Stainless steel	4-8	5-10	5-10	5-10
Cast iron	6-15	10-20	10-20	10-20
Non ferrous metals		12-25	12-25	12-25
Heat resistant alloys				
hardened materials				

Blind hole – Machine taps, right/left hand

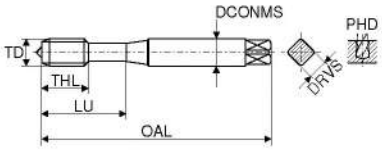
▲ LH = for left hand threads

MF | Salo-Rex

ST LH | ST

C 2-3 | C 2-3

ISO 2 6H | ISO 2 6H

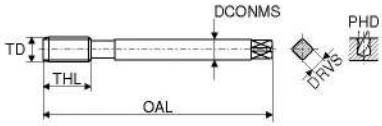


DIN 371 with reinforced shank

HSS-E
∢ 42°
≤ 750 N/mm²
≤ 3xD

HSS-E
∢ 42°
≤ 750 N/mm²
≤ 3xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 238 ... £	
	mm	mm	mm	mm	mm	mm	mm			
M2,5x0,35	0.35	50	2.8	2.1	2.15	5.0	15	2	105.74	025
M3x0,35	0.35	56	3.5	2.7	2.65	4.5	18	3	66.54	030
M3,5x0,35	0.35	56	4.0	3.0	3.15	5.0	20	3	89.94	035
M4x0,5	0.50	63	4.5	3.4	3.50	5.0	21	3	59.72	040
M5x0,5	0.50	70	6.0	4.9	4.50	5.0	25	3	59.72	050
M6x0,75	0.75	80	6.0	4.9	5.20	8.0	30	3	59.72	060
M8x0,75	0.75	80	8.0	6.2	7.20	8.0	30	3	68.43	080
M8x1	1.00	90	8.0	6.2	7.00	10.0	35	3	59.72	082



DIN 374 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 601 ... £		U0 Article no. 22 186 ... £	
	mm	mm	mm	mm	mm	mm					
M6x0,75	0.75	80	4.5	3.4	5.2	8	3			52.75	060
M8x0,75	0.75	80	6.0	4.9	7.2	8	3			53.92	080
M8x1	1.00	90	6.0	4.9	7.0	10	3	98.37	082	48.32	082
M10x1	1.00	90	7.0	5.5	9.0	10	3	102.12	100	51.27	100
M12x1,5	1.50	100	9.0	7.0	10.5	15	4			60.57	122
M12x1	1.00	100	9.0	7.0	11.0	11	4	123.48	120	63.06	120
M14x1,5	1.50	100	11.0	9.0	12.5	15	4	134.83	140	79.66	140
M16x1,5	1.50	100	12.0	9.0	14.5	15	4	159.96	160	95.74	160
M18x1,5	1.50	110	14.0	11.0	16.5	17	4	183.34	180	123.63	180
M20x1,5	1.50	125	16.0	12.0	18.5	17	4	215.16	200	122.90	200
M22x1,5	1.50	125	18.0	14.5	20.5	17	4			140.61	220
M26x1,5	1.50	140	18.0	14.5	24.5	20	5			216.59	260
M24x1,5	1.50	140	18.0	14.5	22.5	20	5			151.95	240

Steel	10-20	10-20
Stainless steel		
Cast iron		
Non ferrous metals	10-20	10-20
Heat resistant alloys		
hardened materials		

6

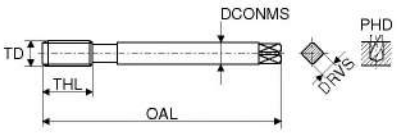
Blind hole – Machine taps, right hand

MF | SL

ST

C
2–3

ISO 2
6H



DIN 374 with reduced shank

HSS-E
15°
≤ 750 N/mm²
≤ 2xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 182 ...	
	mm	mm	mm	mm	mm	mm		£	
M6x0,75	0.75	80	4.5	3.4	5.2	13	3	54.34	062
M8x0,75	0.75	80	6.0	4.9	7.2	14	3	54.78	082
M8x1	1.00	90	6.0	4.9	7.0	17	3	49.32	084
M10x1	1.00	90	7.0	5.5	9.0	18	3	52.75	102
M10x0,75	0.75	90	7.0	5.5	9.2	18	3	87.31	100
M10x1,25	1.25	100	7.0	5.5	8.8	22	3	76.00	104
M9x1	1.00	90	7.0	5.5	8.0	17	3	74.96	090
M11x1	1.00	90	8.0	6.2	10.0	18	3	81.95	110
M12x1,25	1.25	100	9.0	7.0	10.8	22	3	83.67	122
M12x1,5	1.50	100	9.0	7.0	10.5	22	3	61.60	124
M12x1	1.00	100	9.0	7.0	11.0	18	3	64.79	120
M14x1	1.00	100	11.0	9.0	13.0	18	4	85.29	140
M14x1,5	1.50	100	11.0	9.0	12.5	22	3	82.81	144
M16x1	1.00	100	12.0	9.0	15.0	18	4	99.95	160
M16x1,5	1.50	100	12.0	9.0	14.5	22	3	97.93	162
M15x1	1.00	100	12.0	9.0	14.0	18	4	110.41	150
M18x1,5	1.50	110	14.0	11.0	16.5	25	4	123.29	182
M18x2	2.00	125	14.0	11.0	16.0	26	3	199.30	184
M18x1	1.00	110	14.0	11.0	17.0	20	4	137.59	180
M20x1	1.00	125	16.0	12.0	19.0	20	4	136.11	200
M20x2	2.00	140	16.0	12.0	18.0	27	3	171.27	204
M20x1,5	1.50	125	16.0	12.0	18.5	25	4	124.63	202
M22x2	2.00	140	18.0	14.5	20.0	27	4	176.33	224
M24x1,5	1.50	140	18.0	14.5	22.5	27	4	155.85	242
M24x1	1.00	140	18.0	14.5	23.0	20	5	187.99	240
M24x2	2.00	140	18.0	14.5	22.0	27	4	184.06	244
M22x1,5	1.50	125	18.0	14.5	20.5	25	4	143.38	222
M25x1,5	1.50	140	18.0	14.5	23.5	28	4	261.47	252
M22x1	1.00	125	18.0	14.5	21.0	20	4	176.33	220
M27x1,5	1.50	140	20.0	16.0	25.5	28	4	227.19	270
M28x2	2.00	140	20.0	16.0	26.0	28	4	297.07	282
M27x2	2.00	140	20.0	16.0	25.0	28	4	254.08	272
M30x1,5	1.50	150	22.0	18.0	28.5	28	5	259.58	302
M32x1,5	1.50	150	22.0	18.0	30.5	28	6	297.07	320
M30x2	2.00	150	22.0	18.0	28.0	28	4	273.83	304
M33x2	2.00	160	25.0	20.0	31.0	30	4	363.01	332
M36x2	2.00	170	28.0	22.0	34.0	30	5	462.26	362
M36x3	3.00	200	28.0	22.0	33.0	42	4	427.09	364
M34x1,5	1.50	170	28.0	22.0	32.5	30	6	403.25	340

Steel	10-20
Stainless steel	
Cast iron	
Non ferrous metals	10-20
Heat resistant alloys	
hardened materials	

Continued on next page

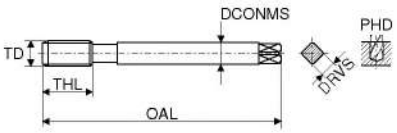
Blind hole – Machine taps, right hand

MF | SL

ST

C
2–3

ISO 2
6H



DIN 374 with reduced shank

HSS-E
15°
≤ 750 N/mm²
≤ 2xD

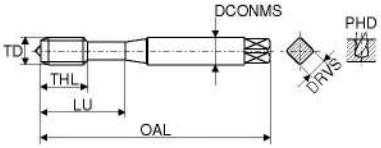
6

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 182 ...	£	
	mm	mm	mm	mm	mm	mm				
M40x1,5	1.50	170	32.0	24.0	38.5	30	6		451.50	**400**
M42x3	3.00	200	32.0	24.0	39.0	45	4		577.43	**424**
M42x2	2.00	170	32.0	24.0	40.0	30	6		545.92	**422**
M45x1,5	1.50	180	36.0	29.0	43.5	32	6		536.32	**450**
M48x2	2.00	190	36.0	29.0	46.0	32	6		753.78	**482**
M48x3	3.00	225	36.0	29.0	45.0	50	5		772.97	**484**
M48x1,5	1.50	190	36.0	29.0	46.5	32	6		628.28	**480**
M45x3	3.00	200	36.0	29.0	42.0	45	5		737.21	**454**
M52x2	2.00	190	40.0	32.0	50.0	32	6		906.88	**522**

Steel	**10-20**
Stainless steel	
Cast iron	
Non ferrous metals	**10-20**
Heat resistant alloys	
hardened materials	

Blind hole – Machine taps, right hand

MF | Salo-Rex

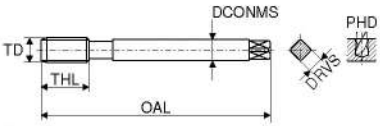


DIN 371 with reinforced shank

NW	VA	VA
C	E	E
2–3	1,5–2	1,5–2
ISO 2 6H	ISO 2 6H	ISO 2 6H
vap.	vap.	TiN GS

HSS-E	HSS-E	HSS-E
◁ 42°	◁ 42°	◁ 45°
≤ 500 N/mm²	≤ 750 N/mm²	≤ 900 N/mm²
≤ 3xD	≤ 3xD	≤ 3xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 176 ... £	
	mm	mm	mm	mm	mm	mm	mm			
M4x0,5	0.50	63	4.5	3.4	3.5	5	21	3	89.18	040
M6x0,75	0.75	80	6.0	4.9	5.2	8	30	3	73.65	062
M6x0,5	0.50	80	6.0	4.9	5.5	5	30	3	73.65	060
M5x0,5	0.50	70	6.0	4.9	4.5	5	25	3	73.65	050



DIN 374 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 188 ... £		U0 Article no. 22 189 ... £		U0 Article no. 22 177 ... £	
	mm	mm	mm	mm	mm	mm							
M8x1	1.00	90	6	4.9	7.0	10	3	54.18	081	53.33	082	92.70	084
M8x0,75	0.75	80	6	4.9	7.2	8	3					77.44	082
M10x1	1.00	90	7	5.5	9.0	10	4			62.61	100	103.32	102
M10x1	1.00	90	7	5.5	9.0	10	3	56.66	100				
M12x1	1.00	100	9	7.0	11.0	11	4	69.30	120	81.94	121	123.63	120
M12x1,5	1.50	100	9	7.0	10.5	15	4	60.57	122				
M12x1,5	1.50	100	9	7.0	10.5	15	5			69.72	120	118.10	124
M14x1,5	1.50	100	11	9.0	12.5	15	5			85.72	140	150.65	144
M14x1,5	1.50	100	11	9.0	12.5	15	4	89.18	140				
M16x1,5	1.50	100	12	9.0	14.5	15	4	95.74	160				
M16x1,5	1.50	100	12	9.0	14.5	15	5			104.16	160	174.78	162
M18x1,5	1.50	110	14	11.0	16.5	17	5					211.80	182
M18x1,5	1.50	110	14	11.0	16.5	17	4	135.68	180				
M20x1,5	1.50	125	16	12.0	18.5	17	4	122.90	200				
M20x1,5	1.50	125	16	12.0	18.5	17	5			145.26	200	261.93	202
M26x1,5	1.50	140	18	14.5	24.5	20	6			345.73	260		
M28x1,5	1.50	140	20	16.0	26.5	20	6			407.43	280		
M30x1,5	1.50	150	22	18.0	28.5	22	6			400.67	300		

Steel			5-12
Stainless steel		5-10	5-10
Cast iron			
Non ferrous metals	10-20		
Heat resistant alloys			
Hardened materials			

Blind hole – Machine taps, right hand

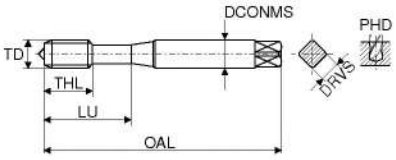
MF

UNI

C
2–3

ISO 2
6H

TiN



DIN 374 with reinforced shank

HSS-PM

40°
≤ 1000 N/mm²
≤ 2,5xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	T9 Article no. 23 047 ...	£
	mm	mm	mm	mm	mm	mm	mm			
M8x1	1.00	90	6	4.9	7.0	10	35	3	20.04	**081**
M10x1	1.00	90	7	5.5	9.0	10	35	4	26.19	**102**
M10x1,25	1.25	100	7	5.5	8.8	16	39	4	25.52	**104**
M12x1	1.00	100	9	7.0	11.0	11	40	4	29.77	**120**
M12x1,25	1.25	100	9	7.0	10.8	15	40	5	32.46	**122**
M12x1,5	1.50	100	9	7.0	10.5	15	40	5	28.87	**121**
M14x1	1.00	100	11	9.0	12.8	11	40	4	34.81	**140**
M14x1,5	1.50	100	11	9.0	12.5	15	40	5	34.14	**144**
M16x1,5	1.50	100	12	9.0	14.5	15	44	5	44.21	**162**
M18x1,5	1.50	110	14	11.0	16.5	17	44	5	57.53	**182**
M20x1,5	1.50	125	16	12.0	18.5	17	44	5	65.69	**202**
M22x1,5	1.50	125	18	14.5	20.5	17	44	5	72.30	**222**
M24x1,5	1.50	140	18	14.5	22.5	20	48	5	73.63	**242**
M24x2	2.00	140	18	14.5	22.0	20	48	5	85.73	**244**

Steel	**10-20**
Stainless steel	**8-15**
Cast iron	**20-25**
Non ferrous metals	**20-25**
Heat resistant alloys	
Hardened materials	

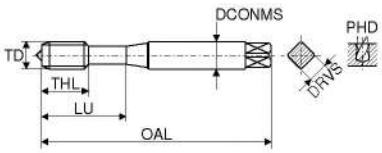
6

Blind hole – Machine taps, right hand

▲ NC = for synchronised CNC machining with minimum length compensation chuck

MF

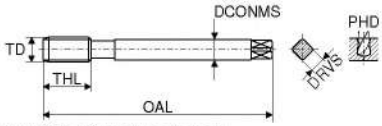
UNI	UNI	UNI NC	FE	FE-HF
C 2–3	C 2–3	E 1,5–2	C 2–3	C 2–3
ISO 2 6H	ISO 2 6H	ISO 2 6H	ISO 2 6H	ISO 2 6H
vap.	TiN	TiN GS		TiCN



DIN 371 with reinforced shank

	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E
	◁ 35° ≤ 1000 N/mm² ≤ 2,5xD	◁ 35° ≤ 1000 N/mm² ≤ 2,5xD	◁ 45° ≤ 1000 N/mm² ≤ 3xD	◁ 35° ≤ 850 N/mm² ≤ 2,5xD	◁ 35° ≤ 1100 N/mm² ≤ 2,5xD
	T9	T9	T9	T9	T9
TD	Article no. 23 144 ...	Article no. 23 146 ...	Article no. 23 148 ...	Article no. 23 242 ...	Article no. 23 342 ...
	£	£	£	£	£
M4x0,5	38.22 040	43.60 040		21.67 040	
M6x0,75	38.22 062	49.75 062	60.72 062	21.67 062	55.22 062
M6x0,5	38.22 060	49.75 060	60.72 060	22.11 060	
M5x0,5	38.22 050	43.60 050	46.46 050	22.11 050	44.47 050

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes
	mm	mm	mm	mm	mm	mm	mm	
M4x0,5	0.50	63	4.5	3.4	3.5	5	21	3
M6x0,75	0.75	80	6.0	4.9	5.2	8	30	3
M6x0,5	0.50	80	6.0	4.9	5.5	5	30	3
M5x0,5	0.50	70	6.0	4.9	4.5	5	25	3



DIN 374 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	T9 Article no. 23 145 ... £		T9 Article no. 23 147 ... £		T9 Article no. 23 149 ... £		T9 Article no. 23 243 ... £		T9 Article no. 23 343 ... £	
	mm	mm	mm	mm	mm	mm											
M4x0,5	0.50	63	2.8	2.1	3.5	5	3	14.10	040								
M5x0,5	0.50	70	3.5	2.7	4.5	5	3	14.10	050								
M6x0,75	0.75	80	4.5	3.4	5.2	8	3	15.00	062								
M8x0,75	0.75	80	6.0	4.9	7.2	8	3	17.01	082	53.03	082	64.79	082	25.09	082		
M8x1	1.00	90	6.0	4.9	7.0	10	3	12.42	084	49.75	084	60.72	084	23.66	084	55.64	084
M8x0,5	0.50	80	6.0	8.0	7.5	6	3							53.33	080		
M8x0,75	0.75	80	6.0	4.9	7.0	8	3									66.54	082
M10x1,25	1.25	100	7.0	5.5	8.8	16	3	14.43	104	71.74	104			50.56	104		
M10x0,75	0.75	90	7.0	5.5	9.2	10	4	27.42	100	82.21	100			58.69	100		
M10x1	1.00	90	7.0	5.5	9.0	10	4					70.12	102				
M10x1	1.00	90	7.0	5.5	9.0	10	3	12.99	102	56.66	102			27.50	102	62.57	102
M12x1,25	1.25	100	9.0	7.0	10.8	15	4	20.59	122	80.91	122			56.66	122		
M12x1,5	1.50	100	9.0	7.0	10.5	15	4	15.44	124	64.37	124			30.65	124	69.69	124
M12x1,5	1.50	100	9.0	7.0	10.5	15	5					77.15	124				
M12x1	1.00	100	9.0	7.0	11.0	11	4	17.46	120	66.54	120	79.66	120	32.41	120	71.55	120
M14x1	1.00	100	11.0	9.0	13.0	11	4	23.05	140	86.88	140			56.66	140		
M14x1,5	1.50	100	11.0	9.0	12.5	15	5					98.94	144				
M14x1,5	1.50	100	11.0	9.0	12.5	15	4	20.92	144	80.91	144			38.22	144	89.94	144
M16x1	1.00	100	12.0	9.0	15.0	12	4	24.73	160	95.29	160			65.42	160		
M16x1,5	1.50	100	12.0	9.0	14.5	15	5					110.41	162				
M16x1,5	1.50	100	12.0	9.0	14.5	15	4	23.95	162	95.29	162			48.37	162	104.31	162
M18x1,5	1.50	110	14.0	11.0	16.5	17	4	33.24	182	109.01	182			62.76	182		
M18x1,5	1.50	110	14.0	11.0	16.5	17	5					139.75	182				
M20x1,5	1.50	125	16.0	12.0	18.5	17	4	30.56	202	141.21	202			70.02	202		
M20x1,5	1.50	125	16.0	12.0	18.5	17	5					183.03	202				
M24x1,5	1.50	140	18.0	14.5	22.5	20	5	49.47	242	167.79	242			94.42	242		
M22x1,5	1.50	125	18.0	14.5	20.5	17	4	45.33	222	157.19	222			81.07	222		

Steel	2-25	5-45	5-45	5-25	5-45
Stainless steel	2-8	5-15	5-15		
Cast iron	5-20	10-25	10-25		
Non ferrous metals	10-20	15-40	15-40		
Heat resistant alloys					
Hardened materials					

Blind hole – Machine taps, right hand

MF

VA

C
2–3

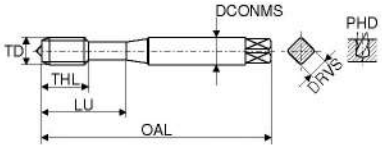
ISO 2
6H

VA

E
1,5–2

ISO 2
6H

TiN

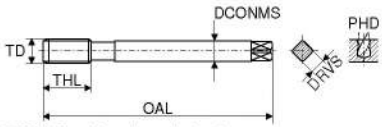


DIN 371 with reinforced shank

HSS-PM
40°
≤ 1200 N/mm²
≤ 2,5xD

HSS-E
45°
≤ 1200 N/mm²
≤ 3xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	T9 Article no. 23 442 ...	
	mm	mm	mm	mm	mm	mm	mm		£	
M6x0,75	0.75	80	6	4.9	5.2	8	30	3	49.75	062
M5x0,5	0.50	70	6	4.9	4.5	5	25	3	43.16	050



DIN 374 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	T9 Article no. 23 447 ...		T9 Article no. 23 443 ...	
	mm	mm	mm	mm	mm	mm		£		£	
M8x1	1.00	90	6	4.9	7.0	10	3	32.46	084	49.75	084
M8x0,75	0.75	80	6	4.9	7.2	8	3			53.03	082
M10x1	1.00	90	7	5.5	9.0	10	4	34.58	102	57.10	102
M12x1,5	1.50	100	9	7.0	10.5	15	5	41.86	124	64.37	124
M12x1	1.00	100	9	7.0	11.0	11	4	44.66	120	66.83	120
M14x1,5	1.50	100	11	9.0	12.5	15	5	54.05	144	81.53	144
M16x1,5	1.50	100	12	9.0	14.5	15	5	63.68	162	91.92	162
M18x1,5	1.50	110	14	11.0	16.5	17	5	78.57	182		
M20x1,5	1.50	125	16	12.0	18.5	17	5	85.50	202		

Steel		
Stainless steel	5-10	8-20
Cast iron		
Non ferrous metals		
Heat resistant alloys		
Hardened materials		

6

Through hole / Blind hole – Machine taps, right hand

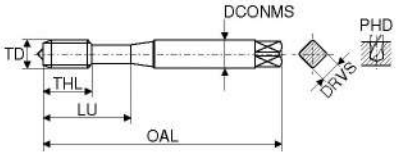
MF | TWIN

ST | HR | HT

C 2-3 | C 2-3 | D 4-5

ISO 2X 6HX | ISO 2X 6HX | ISO 2X 6HX

nitr. | OSM





DIN 371 with reinforced shank

HSS-E | HSS-E | Solid carbide

0° | 0° | 0°

≤ 750 N/mm² ≤ 2xD | ≤ 1400 N/mm² ≤ 2xD | ≤ 63 HRC ≤ 1,5xD

U0 | U0 | U0

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	Article no. 22 144 ...		Article no. 22 146 ...		Article no. 22 817 ...	
	mm	mm	mm	mm	mm	mm	mm		£		£		£	
M3x0,35	0.35	56	3.5	2.7	2.65	8	18	3	54.78	**030**				
M4x0,5	0.50	63	4.5	3.4	3.50	10	21	3	52.02	**040**	58.69	**040**		
M5x0,5	0.50	70	6.0	4.9	4.50	11	25	3	52.02	**050**	58.69	**050**		
M6x0,5	0.50	80	6.0	4.9	5.50	13	30	3	52.02	**060**	58.69	**060**		
M6x0,75	0.75	80	6.0	4.9	5.20	13	30	3	52.02	**062**	58.69	**062**		
M8x1	1.00	90	8.0	6.2	7.00	17	35	3	52.02	**084**				
M8x1	1.00	90	8.0	6.2	7.10	15	35	5					403.70	**080**
M10x1	1.00	100	10.0	8.0	9.10	18	38	5					512.07	**100**
M10x1	1.00	90	10.0	8.0	9.00	18	35	4	52.02	**104**				
M12x1,5	1.50	110	12.0	9.0	10.60	21	41	5					597.90	**120**
M14x1,5	1.50	110	14.0	11.0	12.60	24	44	6					699.01	**140**
M16x1,5	1.50	110	16.0	12.0	14.60	24	44	6					795.92	**160**

Steel	**10-20**	**6-15**	
Stainless steel			
Cast iron		**6-15**	
Non ferrous metals	**10-20**		
Heat resistant alloys		**3-5**	
Hardened materials			**1-3**

DIN 374 can be found on the next page

Through hole / Blind hole – Machine taps, right hand

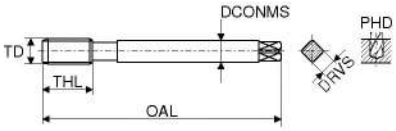
MF | TWIN

ST | HR | GG

C 2-3

ISO 2X 6HX

nitr.



DIN 374 with reduced shank



HSS-E
0°
≤ 750 N/mm²
≤ 2xD
U0
Article no. 22 171 ...

HSS-E
0°
≤ 1400 N/mm²
≤ 2xD
U0
Article no. 22 209 ...

HSS-E
0°
≤ 1050 N/mm²
≤ 2xD
U0
Article no. 22 173 ...

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	£		£		£	
	mm	mm	mm	mm	mm	mm							
M4x0,5	0.50	63	2.8	2.1	3.5	10	3	40.77	042				
M5x0,5	0.50	70	3.5	2.7	4.5	11	3	50.42	050			46.94	050
M6x0,75	0.75	80	4.5	3.4	5.2	13	3	46.18	062			51.27	062
M6x0,5	0.50	80	4.5	3.4	5.5	13	3	46.33	060			58.97	060
M8x0,75	0.75	80	6.0	4.9	7.2	14	3	51.87	082			89.94	080
M8x1	1.00	90	6.0	4.9	7.0	17	3	41.19	084	58.69	082	89.94	082
M10x1	1.00	90	7.0	5.5	9.0	18	4	43.16	104	58.69	100	50.56	100
M10x1,25	1.25	100	7.0	5.5	8.8	22	3	51.27	106				
M10x0,75	0.75	90	7.0	5.5	9.2	18	4	66.97	102				
M11x1	1.00	90	8.0	6.2	10.0	18	4	75.38	110				
M12x1	1.00	100	9.0	7.0	11.0	18	4	49.17	122			59.14	120
M12x1,25	1.25	100	9.0	7.0	10.8	22	4	61.47	124				
M12x1,5	1.50	100	9.0	7.0	10.5	22	4	49.17	126	69.13	120	54.87	124
M14x1	1.00	100	11.0	9.0	13.0	18	4	75.38	140			85.84	140
M14x1,25	1.25	100	11.0	9.0	12.8	22	4	69.72	142				
M14x1,5	1.50	100	11.0	9.0	12.5	22	4	72.34	144	89.94	140	78.01	142
M16x1	1.00	100	12.0	9.0	15.0	18	5	78.01	160				
M16x1,5	1.50	100	12.0	9.0	14.5	22	4	70.12	162	98.37	160	79.66	160
M18x1	1.00	110	14.0	11.0	17.0	20	5	101.69	180				
M18x2	2.00	125	14.0	11.0	16.0	26	4	113.77	184				
M18x1,5	1.50	110	14.0	11.0	16.5	25	4	94.01	182	114.72	180	108.38	180
M20x1	1.00	125	16.0	12.0	19.0	20	5	110.41	200				
M20x2	2.00	140	16.0	12.0	18.0	27	4	142.52	204				
M20x1,5	1.50	125	16.0	12.0	18.5	25	4	103.01	202	147.00	200	114.62	200
M24x2	2.00	140	18.0	14.5	22.0	27	4	140.61	244				
M22x2	2.00	140	18.0	14.5	20.0	27	4	156.88	224				
M22x1	1.00	125	18.0	14.5	21.0	20	5	151.95	220				
M24x1	1.00	140	18.0	14.5	23.0	20	6	174.60	240				
M26x1,5	1.50	140	18.0	14.5	24.5	28	4	175.78	260			171.27	260
M24x1,5	1.50	140	18.0	14.5	22.5	27	4	122.90	242			139.44	240
M25x1,5	1.50	140	18.0	14.5	23.5	28	4	227.19	250				
M22x1,5	1.50	125	18.0	14.5	20.5	25	4	110.41	222			121.89	220
M28x1,5	1.50	140	20.0	16.0	26.5	28	5					203.06	280
M27x2	2.00	140	20.0	16.0	25.0	28	4	190.74	274				
M27x1,5	1.50	140	20.0	16.0	25.5	28	5	203.67	272				
M30x2	2.00	150	22.0	18.0	28.0	28	4	238.24	302				
M32x2	2.00	150	22.0	18.0	30.0	28	5	328.90	322				
M32x1,5	1.50	150	22.0	18.0	30.5	28	6	237.65	320				
M30x1,5	1.50	150	22.0	18.0	28.5	28	5	196.98	300			223.00	300
M33x2	2.00	160	25.0	20.0	31.0	30	5	268.31	332				
M36x2	2.00	170	28.0	22.0	34.0	30	5	330.19	362				
M36x1,5	1.50	170	28.0	22.0	34.5	30	6	295.18	360				
M35x1,5	1.50	170	28.0	22.0	33.5	30	6	367.52	350				
M42x1,5	1.50	170	32.0	24.0	40.5	30	6	433.48	420				
M42x3	3.00	200	32.0	24.0	39.0	45	5	526.00	424				
M40x2	2.00	170	32.0	24.0	38.0	30	6	381.33	402				
M50x1,5	1.50	190	36.0	29.0	48.5	32	8	557.37	500				
M52x1,5	1.50	190	40.0	32.0	50.5	32	8	639.75	520				

Steel	10-20	6-15	
Stainless steel			
Cast iron		6-15	10-20
Non ferrous metals	10-20		
Heat resistant alloys		3-5	
Hardened materials			

6

Through hole / Blind hole – Machine taps, right/left hand

▲ ES = extra short

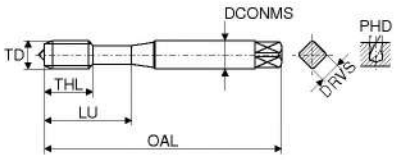
▲ LH = for left hand threads

MF | TWIN

ST ES | ST LH/ES

C 2-3

ISO 2X 6HX | ISO 2X 6HX



DIN 2181 with reinforced shank

HSS-E | HSS-E

0° ≤ 750 N/mm² ≤ 2xD | 0° ≤ 750 N/mm² ≤ 2xD

U0 | U0

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	Article no. 22 179 ...		Article no. 22 200 ...	
	mm	mm	mm	mm	mm	mm	mm		£		£	
M2,5x0,35	0.35	40	2.8	2.1	2.15	9		3	78.15	025		
M3x0,35	0.35	40	3.5	2.7	2.65	8	18	3	50.17	030		
M4x0,35	0.35	45	4.5	3.4	3.65	9	22	3	72.65	040		
M4x0,5	0.50	45	4.5	3.4	3.50	9	22	3	50.17	042		
M4,5x0,5	0.50	50	6.0	4.9	4.00	10	24	3	84.25	045		
M5x0,5	0.50	50	6.0	4.9	4.50	11	25	3	50.17	050		
M6x0,5	0.50	56	6.0	4.9	5.50	12	27	3	52.02	060		
M6x0,75	0.75	56	6.0	4.9	5.20	12	27	3	50.17	062	69.13	062
M7x0,75	0.75	56	6.0	4.9	6.20	14		3	56.83	070		
M8x0,5	0.50	56	6.0	4.9	7.50	14		4	69.13	080		
M8x0,75	0.75	56	6.0	4.9	7.20	14		3	56.83	082		
M8x1	1.00	63	6.0	4.9	7.00	17		3	50.17	084	69.13	084
M9x1	1.00	63	7.0	5.5	8.00	17		4	69.13	090		
M10x0,75	0.75	63	7.0	5.5	9.20	18		4	74.53	100		
M10x1	1.00	63	7.0	5.5	9.00	18		4	52.02	102	72.65	102
M10x1,25	1.25	70	7.0	5.5	8.80	22		3	68.43	104		
M11x1	1.00	63	8.0	6.2	10.00	18		4	82.21	110		
M12x1	1.00	70	9.0	7.0	11.00	18		4	61.58	120	86.23	120
M12x1,25	1.25	70	9.0	7.0	10.80	20		4	69.13	122		
M12x1,5	1.50	70	9.0	7.0	10.50	20		4	59.72	124	84.25	124
M13x1	1.00	70	11.0	9.0	12.00	18		4	90.07	130		
M14x1	1.00	70	11.0	9.0	13.00	18		4	82.21	140		
M14x1,25	1.25	70	11.0	9.0	12.80	20		4	82.21	142		
M14x1,5	1.50	70	11.0	9.0	12.50	20		4	78.15	144	111.28	144
M15x1	1.00	70	12.0	9.0	14.00	18		5	100.11	150		
M16x1	1.00	70	12.0	9.0	15.00	18		5	93.57	160		
M16x1,5	1.50	70	12.0	9.0	14.50	20		4	86.23	162	121.73	162
M18x1	1.00	80	14.0	11.0	17.00	18		5	121.73	180		
M18x1,5	1.50	80	14.0	11.0	16.50	22		4	102.12	182	140.37	182
M18x2	2.00	80	14.0	11.0	16.00	22		4	121.73	184		
M20x1,5	1.50	80	16.0	12.0	18.50	22		4	118.84	202	164.44	202
M20x2	2.00	80	16.0	12.0	18.00	22		4	129.16	204		

Steel	10-20	10-20
Stainless steel		
Cast iron		
Non ferrous metals	10-20	10-20
Heat resistant alloys		
Hardened materials		

Through hole / Blind hole – Machine thread formers, right hand

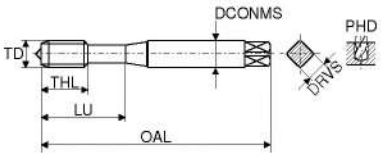
▲ SN = Thread formers with lubrication grooves

MF | Spanlos

EC | EC SN

ISO 2X 6HX | ISO 2X 6HX

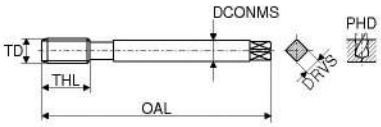
TiN | TiN



DIN 2174 with reinforced shank

HSS-E ≤ 1100 N/mm² ≤ 1,5xD | HSS-E ≤ 1100 N/mm² ≤ 3xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 204 ... £		U0 Article no. 22 205 ... £	
	mm	mm	mm	mm	mm	mm	mm					
M4x0,5	0.50	63	4.5	3.4	3.8	10	21		111.28	040		
M4x0,5	0.50	63	4.5	3.4	3.8	10	21	4			125.38	040
M5x0,5	0.50	70	6.0	4.9	4.8	11	25		95.58	050		
M5x0,5	0.50	70	6.0	4.9	4.8	11	25	4			111.28	050
M6x0,5	0.50	80	6.0	4.9	5.8	13	30		111.28	060		
M6x0,5	0.50	80	6.0	4.9	5.8	13	30	5			125.38	060
M6x0,75	0.75	80	6.0	4.9	5.7	13	30		88.32	062		
M6x0,75	0.75	80	6.0	4.9	5.7	13	30	4			100.11	062
M8x0,75	0.75	80	8.0	6.2	7.7	14	30		114.72	080		
M8x0,75	0.75	80	8.0	6.2	7.7	14	30	5			111.28	080
M8x1	1.00	90	8.0	6.2	7.6	17	35		105.74	082		
M8x1	1.00	90	8.0	6.2	7.6	17	35	5			118.84	082
M10x1	1.00	90	10.0	8.0	9.6	18	35		100.11	100		
M10x1	1.00	90	10.0	8.0	9.6	18	35	5			109.56	100



DIN 2174 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 196 ... £		U0 Article no. 22 197 ... £	
	mm	mm	mm	mm	mm	mm					
M12x1	1.0	100	9	7	11.60	18		94.58	120		
M12x1	1.0	100	9	7	11.60	18	6			98.30	120
M12x1,5	1.5	100	9	7	11.35	22		89.03	124		
M12x1,5	1.5	100	9	7	11.35	22	6			103.73	124
M14x1,5	1.5	100	11	9	13.35	22		139.44	140		
M14x1,5	1.5	100	11	9	13.35	22	6			144.98	140
M16x1,5	1.5	100	12	9	15.35	22		142.80	160		
M16x1,5	1.5	100	12	9	15.35	22	6			155.31	160
M20x1,5	1.5	125	16	12	19.35	25		201.20	200		
M20x1,5	1.5	125	16	12	19.35	25	6			213.12	200

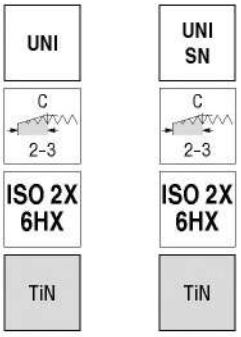
Steel	8-30	8-30
Stainless steel	8-15	8-15
Cast iron		
Non ferrous metals	12-25	12-25
Heat resistant alloys		
Hardened materials		

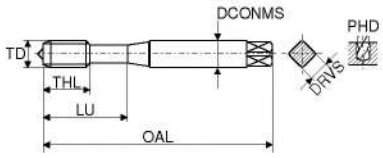
6

Through hole / Blind hole – Machine thread formers, right hand

▲ SN = Thread formers with lubrication grooves

MF



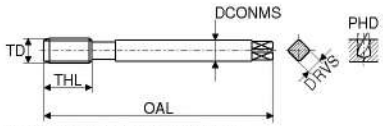


DIN 2174 with reinforced shank

HSS-E
≤ 850 N/mm²
≤ 3xD

HSS-E
≤ 850 N/mm²
≤ 3xD

TD	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	T9 Article no. 23 840 ...		T9 Article no. 23 842 ...	
	mm	mm	mm	mm	mm	mm	mm		£		£	
M4x0,5	0.50	63	4.5	3.4	3.80	10	21		62.03	040		
M4x0,5	0.50	63	4.5	3.4	3.80	10	21	4			69.43	040
M5x0,5	0.50	70	6.0	4.9	4.80	11	25		52.58	050		
M5x0,5	0.50	70	6.0	4.9	4.80	11	25	4			61.58	050
M6x0,5	0.50	80	6.0	4.9	5.80	13	30		62.03	060		
M6x0,5	0.50	80	6.0	4.9	5.80	13	30	5			69.90	060
M8x1	1.00	90	8.0	6.2	7.60	17	35		59.72	084		
M8x1	1.00	90	8.0	6.2	7.60	17	35	5			66.54	084
M10x1	1.00	90	10.0	8.0	9.60	18	35		68.01	102		
M10x1	1.00	90	10.0	8.0	9.60	18	35	5			73.81	102
M10x1,25	1.25	100	10.0	8.0	9.45	18	39		80.91	104		
M10x1,25	1.25	100	10.0	8.0	9.45	18	39	5			89.94	104



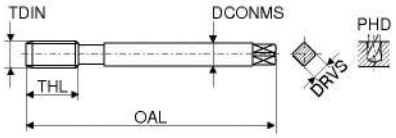
DIN 2174 with reduced shank

TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	T9 Article no. 23 841 ...		T9 Article no. 23 843 ...	
	mm	mm	mm	mm	mm	mm		£		£	
M12x1,25	1.25	100	9	7	11.45	22		86.88	122		
M12x1,25	1.25	100	9	7	11.45	22	6			98.20	122
M12x1,5	1.50	100	9	7	11.35	22		78.60	124		
M12x1,5	1.50	100	9	7	11.35	22	6			87.62	124
M14x1,5	1.50	100	11	9	13.35	22		97.34	144		
M14x1,5	1.50	100	11	9	13.35	22	6			108.81	144
M16x1,5	1.50	100	12	9	15.35	22		109.01	162		
M16x1,5	1.50	100	12	9	15.35	22	6			126.84	162

Steel	10-50	10-50
Stainless steel	5-20	5-20
Cast iron		
Non ferrous metals	10-50	10-50
Heat resistant alloys	5-15	5-15
Hardened materials		

Through hole – Machine taps, right hand

G | Stabil



DIN 5156 with reduced shank

	UNI	UNI	ST	VA
	B 4–5	B 4–5	B 4–5	B 4–5
	ISO 228	ISO 228	ISO 228	ISO 228
	nitr. + vap.	TiN		nitr.
				
	HSS-E ◁ 0° ≤ 1100 N/mm² ≤ 4xD	HSS-E ◁ 0° ≤ 1100 N/mm² ≤ 4xD	HSS-E ◁ 0° ≤ 750 N/mm² ≤ 4xD	HSS-E ◁ 0° ≤ 900 N/mm² ≤ 4xD
	U0	U0	U0	U0
	Article no. 22 632 ...	Article no. 22 630 ...	Article no. 22 346 ...	Article no. 22 352 ...
	£	£	£	£

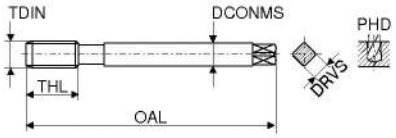
TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes							
	mm	mm	mm	mm	mm	mm								
1/8-28	0.907	90	7	5.5	8.80	18	3	62.37	012	102.12	012	49.82	012	61.99	012
1/4-19	1.337	100	11	9.0	11.80	22	3	82.73	025	134.83	025	66.28	025	81.54	025
3/8-19	1.337	100	12	9.0	15.25	22	3	102.71	037	156.16	037	79.62	037	103.01	037
1/2-14	1.814	125	16	12.0	19.00	25	4	131.64	050	241.30	050	110.86	050	135.68	050
3/4-14	1.814	140	20	16.0	24.50	28	4	219.10	075			177.96	075	201.20	075
1-11	2.309	160	25	20.0	30.75	30	4	326.48	100			252.92	100	310.88	100

Steel	6-20	6-25	10-20	
Stainless steel	4-8	5-10		5-10
Cast iron	6-15	10-20		
Non ferrous metals		12-25	10-20	
Heat resistant alloys				
Hardened materials				

6

Through hole – Machine taps, right hand

G



DIN 5156 with reduced shank

UNI
B
4–5
ISO 228
nitr. + vap.

HSS-E
0°
≤ 1100 N/mm²
≤ 3xD

T9
Article no. 23 161 ...

UNI
B
4–5
ISO 228
TiN

HSS-E
0°
≤ 1100 N/mm²
≤ 3xD

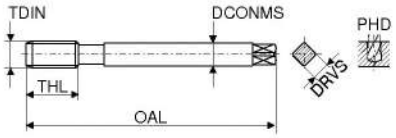
T9
Article no. 23 160 ...

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	£		£	
	mm	mm	mm	mm	mm	mm					
1/8-28	0.907	90	7	5.5	8.80	18	3	38.35	**012**	56.37	**012**
1/4-19	1.337	100	11	9.0	11.80	22	3	51.59	**025**	74.53	**025**
3/8-19	1.337	100	12	9.0	15.25	22	3	65.82	**037**	87.62	**037**
1/2-14	1.814	125	16	12.0	19.00	25	4	86.23	**050**	134.51	**050**
3/4-14	1.814	140	20	16.0	24.50	28	4	140.93	**075**	175.48	**075**
1-11	2.309	160	25	20.0	30.75	30	4	192.20	**100**	324.97	**100**

Steel	**2-25**	**5-45**
Stainless steel	**2-8**	**5-15**
Cast iron	**5-20**	**10-25**
Non ferrous metals	**10-20**	**15-40**
Heat resistant alloys		
Hardened materials		

Blind hole – Machine taps, right hand

G | Salo-Rex



DIN 5156 with reduced shank

	UNI	UNI	UNI	UNI	UNI
	C 2–3	C 2–3	E 1,5–2	E 1,5–2	E 1,5–2
	ISO 228	ISO 228	ISO 228	ISO 228	ISO 228 +0,05
	vap.	TiN	vap.	TiN	vap.
					
	HSS-E ◁ 42° ≤ 1100 N/mm² ≤ 3xD	HSS-E ◁ 42° ≤ 1100 N/mm² ≤ 3xD	HSS-E ◁ 42° ≤ 1100 N/mm² ≤ 3xD	HSS-E ◁ 42° ≤ 1100 N/mm² ≤ 3xD	HSS-E ◁ 42° ≤ 1100 N/mm² ≤ 3xD
	U0	U0	U0	U0	U0
	Article no. 22 633 ...	Article no. 22 634 ...	Article no. 22 635 ...	Article no. 22 636 ...	Article no. 22 639 ...
	£	£	£	£	£

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes									
	mm	mm	mm	mm	mm	mm										
1/8-28	0.907	90	7	5.5	8.80	10	3	61.78	012	91.51	012					
1/8-28	0.907	90	7	5.5	8.80	10	4					63.49	012	91.51	012	100.11	012
1/4-19	1.337	100	11	9.0	11.80	15	4	88.57	025	116.21	025					
1/4-19	1.337	100	11	9.0	11.80	15	5					85.22	025	116.21	025	130.41	025
3/8-19	1.337	100	12	9.0	15.25	15	4	107.55	037	162.55	037					
3/8-19	1.337	100	12	9.0	15.25	15	5					104.70	037	162.55	037	161.69	037
1/2-14	1.814	125	16	12.0	19.00	17	4	142.15	050	230.40	050					
1/2-14	1.814	125	16	12.0	19.00	17	5					135.68	050	230.40	050	211.37	050
5/8-14	1.814	125	18	14.5	21.00	17	4	176.23	062								
5/8-14	1.814	125	18	14.5	21.00	17	5							300.99	062		
3/4-14	1.814	140	20	16.0	24.50	20	4	220.52	075								
3/4-14	1.814	140	20	16.0	24.50	20	5									315.96	075
7/8-14	1.814	150	22	18.0	28.25	22	5	301.17	087								
1-11	2.309	160	25	20.0	30.75	24	5	339.83	100								
1-11	2.309	160	25	20.0	30.75	24	6									482.28	100
1 1/4-11	2.309	170	32	24.0	39.50	25	6	534.78	125								
1 1/2-11	2.309	190	36	29.0	45.25	27	6	764.78	150								

Steel	6-20	6-25	6-25	6-25	6-25
Stainless steel	4-8	5-10	4-10	4-10	4-10
Cast iron	6-15	10-20	6-20	6-20	6-20
Non ferrous metals		12-25	12-25	12-25	12-25
Heat resistant alloys					
Hardened materials					

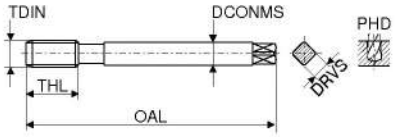
6

Blind hole – Machine taps, right hand

▲ CNC = for synchronised CNC machining with minimum length compensation chuck

G	Salo-Rex

UNI CNC	ST	VA	VA
E	C	E	E
1,5–2	2–3	1,5–2	1,5–2
ISO 228	ISO 228	ISO 228	ISO 228
TiN GS		vap.	TiN GS



DIN 5156 with reduced shank

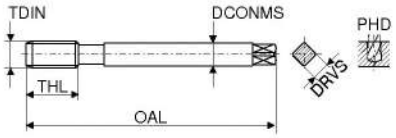
	HSS-E	HSS-E	HSS-E	HSS-E
	◁ 45° ≤ 1100 N/mm² ≤ 3xD	◁ 42° ≤ 750 N/mm² ≤ 3xD	◁ 42° ≤ 900 N/mm² ≤ 3xD	◁ 45° ≤ 900 N/mm² ≤ 3xD
	U0	U0	U0	U0
TDIN	Article no. 22 624 ...	Article no. 22 354 ...	Article no. 22 355 ...	Article no. 22 358 ...
	£	£	£	£

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes							
	mm	mm	mm	mm	mm	mm								
1/8-28	0.907	90	7	5.5	8.80	10	3			56.83	012			112.44	012
1/8-28	0.907	90	7	5.5	8.80	10	4	110.86	012			63.92	012		
1/4-19	1.337	100	11	9.0	11.80	15	4			78.01	025				
1/4-19	1.337	100	11	9.0	11.80	15	5	145.85	025			86.74	025	147.74	025
3/8-19	1.337	100	12	9.0	15.25	15	4			95.74	037				
3/8-19	1.337	100	12	9.0	15.25	15	5	172.15	037			104.16	037	174.78	037
1/2-14	1.814	125	16	12.0	19.00	17	4			122.90	050				
1/2-14	1.814	125	16	12.0	19.00	17	5	258.28	050			141.48	050	261.93	050
5/8-14	1.814	125	18	14.5	21.00	17	5					194.53	062		
3/4-14	1.814	140	20	16.0	24.50	20	4			196.11	075				
3/4-14	1.814	140	20	16.0	24.50	20	5					218.34	075		
1-11	2.309	160	25	20.0	30.75	24	5			303.33	100				
1-11	2.309	160	25	20.0	30.75	24	6					336.88	100		

Steel	6-25	10-20		5-12
Stainless steel	5-10		5-10	5-10
Cast iron	10-20			
Non ferrous metals	12-25	10-20		
Heat resistant alloys				
Hardened materials				

Blind hole – Machine taps, right hand

G



DIN 5156 with reduced shank

	UNI	UNI
	C 2-3	C 2-3
	ISO 228	ISO 228
	vap.	TiN
		
	HSS-E ◁ 35° ≤ 1100 N/mm² ≤ 2,5xD	HSS-E ◁ 35° ≤ 1100 N/mm² ≤ 2,5xD
	T9	T9
	Article no. 23 163 ...	Article no. 23 162 ...

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	£		£	
	mm	mm	mm	mm	mm	mm					
1/8-28	0.907	90	7	5.5	8.80	10	3	43.28	**012**	58.69	**012**
1/4-19	1.337	100	11	9.0	11.80	15	4	56.88	**025**	80.91	**025**
3/8-19	1.337	100	12	9.0	15.25	15	4	72.65	**037**	95.29	**037**
1/2-14	1.814	125	16	12.0	19.00	17	4	90.49	**050**	143.38	**050**
3/4-14	1.814	140	20	16.0	24.50	20	4	150.36	**075**	184.63	**075**
1-11	2.309	160	25	20.0	30.75	24	5	227.36	**100**	356.91	**100**

Steel	**2-25**	**5-45**
Stainless steel	**2-8**	**5-15**
Cast iron	**5-20**	**10-25**
Non ferrous metals	**10-20**	**15-40**
Heat resistant alloys		
Hardened materials		

6

Through hole / Blind hole – Machine taps, right hand

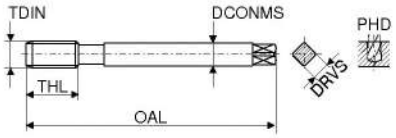
G | TWIN

ST | HR

C 2-3 | C 2-3

ISO 228 X | ISO 228 X

nitr.



DIN 5156 with reduced shank

HSS-E
0°
≤ 750 N/mm²
≤ 2xD

HSS-E
0°
≤ 1400 N/mm²
≤ 2xD

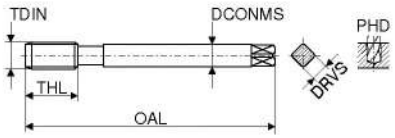
TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 347 ...		U0 Article no. 22 339 ...	
	mm	mm	mm	mm	mm	mm		£		£	
1/16-28	0.907	90	6	4.9	6.80	17	3	56.88	**006**		
1/8-28	0.907	90	7	5.5	8.80	18	4	53.03	**012**	61.58	**012**
1/4-19	1.337	100	11	9.0	11.80	22	4	65.10	**025**	84.25	**025**
3/8-19	1.337	100	12	9.0	15.25	22	4	79.03	**037**	105.75	**037**
1/2-14	1.814	125	16	12.0	19.00	25	4	108.38	**050**	144.98	**050**
3/4-14	1.814	140	20	16.0	24.50	28	4	165.61	**075**	226.33	**075**
1-11	2.309	160	25	20.0	30.75	30	5	254.08	**100**	312.18	**100**
1 1/8-11	2.309	170	28	22.0	35.50	30	5	361.57	**112**	441.18	**112**
1 1/4-11	2.309	170	32	24.0	39.50	30	6	418.66	**125**	523.40	**125**
1 3/8-11	2.309	180	36	29.0	41.75	32	6	513.35	**137**	650.34	**137**
1 1/2-11	2.309	190	36	29.0	45.25	32	6	566.98	**150**	724.87	**150**
1 3/4-11	2.309	190	40	32.0	51.00	32	6			971.52	**175**

Steel	**10-20**	**6-15**
Stainless steel		
Cast iron		**6-15**
Non ferrous metals	**10-20**	
Heat resistant alloys		**3-5**
Hardened materials		

Through hole / Blind hole – Machine thread formers, right hand

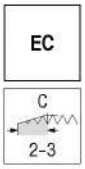
▲ SN = Thread formers with lubrication grooves

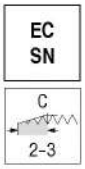
G | Spanlos



DIN 2189 with reduced shank

EC | EC SN





ISO 228 | ISO 228

TiN | TiN

HSS-E
≤ 1100 N/mm²
≤ 1,5xD

HSS-E
≤ 1100 N/mm²
≤ 3xD

U0

U0

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	Article no. 22 360 ...		Article no. 22 359 ...	
	mm	mm	mm	mm	mm	mm		£		£	
1/8-28	0.907	90	7	5.5	9.25	18		90.94	012		
1/8-28	0.907	90	7	5.5	9.25	18	5			103.29	012
1/4-19	1.337	100	11	9.0	12.55	22		116.95	025		
1/4-19	1.337	100	11	9.0	12.55	22	6			131.91	025
3/8-19	1.337	100	12	9.0	16.05	22		157.63	037		
3/8-19	1.337	100	12	9.0	16.05	22	6			176.63	037
1/2-14	1.814	125	16	12.0	20.10	25		211.94	050		
1/2-14	1.814	125	16	12.0	20.10	25	6			237.65	050

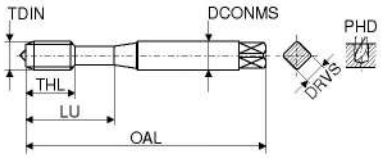
Steel	8-30	8-30
Stainless steel	8-15	8-15
Cast iron		
Non ferrous metals	12-25	12-25
Heat resistant alloys		
Hardened materials		

6

Through hole – Machine taps, right hand

UNC | Stabil

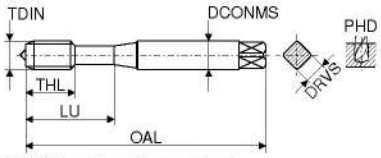
UNI	VA	Ti
B 4–5	B 4–5	B 4–5
2B	2B	2BX
nitr. + vap.	nitr.	TiN



DIN 371 with reinforced shank

	HSS-E	HSS-E	HSS-PM
	0° ≤ 1100 N/mm² ≤ 4xD	0° ≤ 900 N/mm² ≤ 4xD	0° ≤ 44 HRC ≤ 4xD
	U0	U0	U0

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	Article no. 22 572 ... £		Article no. 22 250 ... £		Article no. 22 269 ... £	
	mm	mm	mm	mm	mm	mm	mm							
Nr. 2-56	0.454	45	2.8	2.1	1.85	7	12	2	83.09	002				
Nr. 4-40	0.635	56	3.5	2.7	2.35	11	18	2	45.76	004				
Nr. 4-40	0.635	56	3.5	2.7	2.35	11	18	3					103.35	004
Nr. 6-32	0.794	56	4.0	3.0	2.85	12	20	3	38.82	006	39.76	006	92.71	006
Nr. 8-32	0.794	63	4.5	3.4	3.50	13	21	3	39.21	008	39.37	008	92.71	008
Nr. 10-24	1.058	70	6.0	4.9	3.90	15	25	3	42.40	010	39.21	010	99.06	010
Nr. 12-24	1.058	80	6.0	4.9	4.50	16	30	3	51.26	012				
1/4-20	1.270	80	7.0	5.5	5.10	17	30	3	44.72	025	49.75	025	103.35	025
5/16-18	1.411	90	8.0	6.2	6.60	20	35	3	53.30	031	50.99	031	111.37	031
3/8-16	1.588	100	10.0	8.0	8.00	22	39	3	58.82	037	51.87	037	131.04	037



DIN 371 with reinforced shank

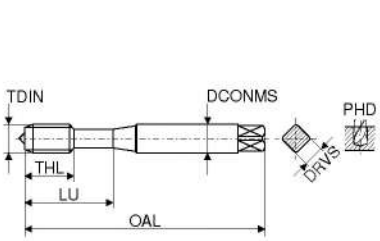
TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	Article no. 22 573 ... £	
	mm	mm	mm	mm	mm	mm			
1/2-13	1.954	110	9	7.0	10.80	25	3	72.14	050
5/8-11	2.309	110	12	9.0	13.50	27	3	98.30	062
3/4-10	2.540	125	14	11.0	16.50	30	3	120.84	075
7/8-9	2.822	140	18	14.5	19.50	32	3	155.39	087
1-8	3.175	160	18	14.5	22.25	36	3	199.67	100

Steel	6-20		2-5
Stainless steel	4-8	5-10	
Cast iron	6-15		
Non ferrous metals			
Heat resistant alloys			2-6
Hardened materials			

Through hole – Machine taps, right hand

UNC

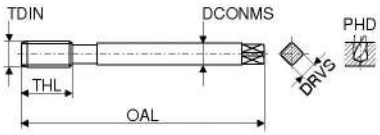
UNI	FE	FE-HF	VA
B 4–5	B 4–5	B 4–5	B 4–5
2B	2B	2B	2B
TiN		TiCN	nitr.



DIN 371 with reinforced shank

	HSS-E	HSS-E	HSS-E	HSS-E
	0° ≤ 1000 N/mm² ≤ 3xD	0° ≤ 850 N/mm² ≤ 3xD	0° ≤ 1100 N/mm² ≤ 3xD	0° ≤ 1000 N/mm² ≤ 3xD
	T9	T9	T9	T9
TDIN	Article no. 23 170 ...	Article no. 23 270 ...	Article no. 23 370 ...	Article no. 23 470 ...
	£	£	£	£
Nr. 4-40	30.22 004	25.09 004	32.41 004	29.22 004
Nr. 6-32	29.22 006	23.84 006	30.78 006	26.51 006
Nr. 8-32	29.22 008	23.25 008	30.78 008	25.94 008
Nr. 10-24	30.22 010	25.09 010	32.54 010	29.22 010
1/4-20	39.66 025	26.16 025	45.05 025	30.65 025
5/16-18	43.60 031	29.23 031	48.32 031	34.93 031
3/8-16	50.75 037	33.56 037	58.27 037	40.39 037

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes
	mm	mm	mm	mm	mm	mm	mm	
Nr. 4-40	0.635	56	3.5	2.7	2.30	11	18	2
Nr. 6-32	0.794	56	4.0	3.0	2.85	12	20	3
Nr. 8-32	0.794	63	4.5	3.4	3.50	13	21	3
Nr. 10-24	1.058	70	6.0	4.9	3.90	15	25	3
1/4-20	1.270	80	7.0	5.5	5.20	17	30	3
5/16-18	1.411	90	8.0	6.2	6.60	20	35	3
3/8-16	1.588	100	10.0	8.0	8.00	22	39	3



DIN 376 with reduced shank

	T9	T9	T9	T9
TDIN	Article no. 23 171 ...	Article no. 23 271 ...	Article no. 23 371 ...	Article no. 23 471 ...
	£	£	£	£
7/16-14	60.14 043	42.13 043	65.84 043	50.56 043
1/2-13	65.84 050	46.07 050	74.82 050	55.36 050
5/8-11	83.83 062	59.26 062	90.49 062	71.33 062
3/4-10	126.84 075	74.82 075	144.25 075	91.53 075

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes
	mm	mm	mm	mm	mm	mm	
7/16-14	1.814	100	8	6.2	9.40	22	3
1/2-13	1.954	110	9	7.0	10.75	25	3
5/8-11	2.309	110	12	9.0	13.50	27	3
3/4-10	2.540	125	14	11.0	16.50	30	3

Steel	5-45	5-25	5-45	
Stainless steel	5-15			3-10
Cast iron	10-25			
Non ferrous metals	15-40			
Heat resistant alloys				
Hardened materials				

6

Blind hole – Machine taps, right hand

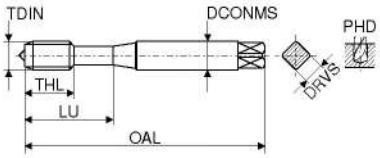
UNC | Salo-Rex

UNI | VA

C 2–3 | C 2–3

2B | 2B

vap. | vap.

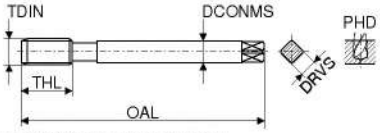


DIN 371 with reinforced shank

HSS-E
42°
≤ 1100 N/mm²
≤ 3xD

HSS-E
42°
≤ 900 N/mm²
≤ 3xD

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 582 ...		U0 Article no. 22 266 ...	
	mm	mm	mm	mm	mm	mm	mm		£		£	
Nr. 2-56	0.454	45	2.8	2.1	1.85	4.5	12	2	68.86	002		
Nr. 4-40	0.635	56	3.5	2.7	2.35	6.0	18	2	40.69	004		
Nr. 6-32	0.794	56	4.0	3.0	2.85	7.0	20	3	37.36	006	39.37	006
Nr. 8-32	0.794	63	4.5	3.4	3.50	8.0	21	3	38.50	008	42.00	008
Nr. 10-24	1.058	70	6.0	4.9	3.90	10.0	25	3	40.97	010	46.33	010
1/4-20	1.270	80	7.0	5.5	5.10	13.0	30	3	44.47	025	46.65	025
5/16-18	1.411	90	8.0	6.2	6.60	14.0	35	3	46.89	031	53.60	031
3/8-16	1.588	100	10.0	8.0	8.00	16.0	39	3	51.87	037	55.43	037



DIN 376 with reduced shank

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 583 ...		U0 Article no. 22 267 ...	
	mm	mm	mm	mm	mm	mm		£		£	
7/16-14	1.814	100	8	6.2	9.40	18	3	99.06	043		
7/16-14	1.814	100	8	6.2	9.40	18	4			116.92	043
1/2-13	1.954	110	9	7.0	10.80	20	3	72.80	050		
1/2-13	1.954	110	9	7.0	10.80	20	4			81.54	050
9/16-12	2.117	110	11	9.0	12.25	20	3	105.04	056		
5/8-11	2.309	110	12	9.0	13.50	22	3	95.29	062		
5/8-11	2.309	110	12	9.0	13.50	22	4			103.49	062
3/4-10	2.540	125	14	11.0	16.50	25	3	123.19	075		
3/4-10	2.540	125	14	11.0	16.50	25	4			129.00	075
7/8-9	2.822	140	18	14.5	19.50	27	4	147.31	087		
1-8	3.175	160	18	14.5	22.25	30	4	199.30	100		
1-8	3.175	160	18	14.5	22.25	30	5			218.34	100

Steel	6-20	
Stainless steel	4-8	5-10
Cast iron	6-15	
Non ferrous metals		
Heat resistant alloys		
Hardened materials		

Blind hole – Machine taps, right hand

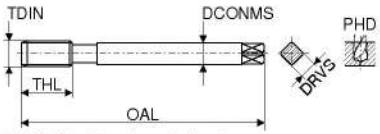
UNC

UNI	FE	FE-HF	VA
C 2-3	C 2-3	C 2-3	C 2-3
2B	2B	2B	2B
TiN		TiCN	

DIN 371 with reinforced shank

	HSS-E ◁ 35° ≤ 1000 N/mm² ≤ 2,5xD	HSS-E ◁ 35° ≤ 850 N/mm² ≤ 2,5xD	HSS-E ◁ 35° ≤ 1100 N/mm² ≤ 2,5xD	HSS-E ◁ 35° ≤ 1000 N/mm² ≤ 2,5xD
	T9	T9	T9	T9
TDIN	Article no. 23 172 ...	Article no. 23 272 ...	Article no. 23 372 ...	Article no. 23 472 ...
	£	£	£	£
Nr. 4-40			33.64 004	
Nr. 4-40	32.08 004	26.16 004		30.65 004
Nr. 6-32	30.08 006	24.41 006		28.81 006
Nr. 6-32			32.54 006	
Nr. 8-32	32.41 008	25.09 008		29.78 008
Nr. 8-32			34.43 008	
Nr. 10-24	33.40 010	26.31 010		31.67 010
Nr. 10-24			34.93 010	
1/4-20	43.16 025	29.51 025		35.45 025
1/4-20			47.94 025	
5/16-18	43.16 031	30.65 031		37.48 031
5/16-18			49.98 031	
3/8-16	52.87 037	35.02 037		41.83 037
3/8-16			58.30 037	

TDIN	TP mm	OAL mm	DCONMS mm	DRVS mm	PHD mm	THL mm	LU mm	Flutes
Nr. 4-40	0.635	56	3.5	2.7	2.30	11	18	2
Nr. 4-40	0.635	56	3.5	2.7	2.30	6	18	2
Nr. 6-32	0.794	56	4.0	3.0	2.85	7	20	3
Nr. 6-32	0.794	56	4.0	3.0	2.85	12	20	3
Nr. 8-32	0.794	63	4.5	3.4	3.50	8	21	3
Nr. 8-32	0.794	63	4.5	3.4	3.50	13	21	3
Nr. 10-24	1.058	70	6.0	4.9	3.90	10	25	3
Nr. 10-24	1.058	70	6.0	4.9	3.90	15	25	3
1/4-20	1.270	80	7.0	5.5	5.20	13	30	3
1/4-20	1.270	80	7.0	5.5	5.20	17	30	3
5/16-18	1.411	90	8.0	6.2	6.60	14	35	3
5/16-18	1.411	90	8.0	6.2	6.60	20	35	3
3/8-16	1.588	100	10.0	8.0	8.00	16	39	3
3/8-16	1.588	100	10.0	8.0	8.00	22	39	3



DIN 376 with reduced shank

	T9	T9	T9	T9
TDIN	Article no. 23 173 ...	Article no. 23 273 ...	Article no. 23 373 ...	Article no. 23 473 ...
	£	£	£	£
7/16-14			74.11 043	
7/16-14	66.83 043	47.31 043		57.81 043
1/2-13	70.77 050	47.52 050		57.10 050
1/2-13			78.67 050	
5/8-11	86.88 062	66.54 062		80.04 062
5/8-11			96.03 062	
3/4-10	128.98 075	81.53 075		98.20 075
3/4-10			150.36 075	

TDIN	TP mm	OAL mm	DCONMS mm	DRVS mm	PHD mm	THL mm	Flutes
7/16-14	1.814	100	8	6.2	9.40	22	3
7/16-14	1.814	100	8	6.2	9.40	18	3
1/2-13	1.954	110	9	7.0	10.75	20	3
1/2-13	1.954	110	9	7.0	10.75	25	3
5/8-11	2.309	110	12	9.0	13.50	22	3
5/8-11	2.309	110	12	9.0	13.50	27	3
3/4-10	2.540	125	14	11.0	16.50	25	3
3/4-10	2.540	125	14	11.0	16.50	30	3

Steel	5-45	5-25	5-45	
Stainless steel	5-15			3-10
Cast iron	10-25			
Non ferrous metals	15-40			
Heat resistant alloys				
Hardened materials				

6

Through hole / Blind hole – Machine thread formers, right hand

▲ SN = Thread formers with lubrication grooves

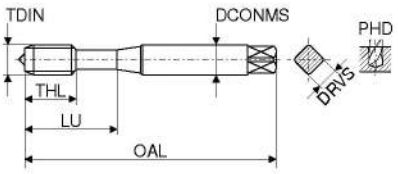
UNC | Spanlos

EC | EC SN

C 2-3

2BX | 2BX

TiN | TiN



DIN 2174 with reduced shank

HSS-E
≤ 1100 N/mm²
≤ 1,5xD

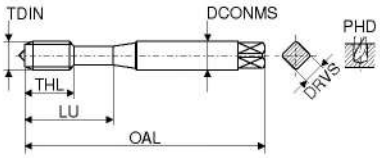
HSS-E
≤ 1100 N/mm²
≤ 3xD

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 270 ... £		U0 Article no. 22 271 ... £	
	mm	mm	mm	mm	mm	mm	mm					
Nr. 4-40	0.635	56	3.5	2.7	2.55	11	18		53.33	004		
Nr. 4-40	0.635	56	3.5	2.7	2.55	11	18	3			61.91	004
Nr. 6-32	0.794	56	4.0	3.0	3.15	12	20		49.98	006		
Nr. 6-32	0.794	56	4.0	3.0	3.15	12	20	3			57.38	006
Nr. 8-32	0.794	63	4.5	3.4	3.80	13	21		50.26	008		
Nr. 8-32	0.794	63	4.5	3.4	3.80	13	21	4			57.38	008
Nr. 10-24	1.058	70	6.0	4.9	4.35	15	25		56.08	010		
Nr. 10-24	1.058	70	6.0	4.9	4.35	15	25	4			63.50	010
1/4-20	1.270	80	7.0	5.5	5.75	17	30		64.95	025		
1/4-20	1.270	80	7.0	5.5	5.75	17	30	4			73.52	025
5/16-18	1.411	90	8.0	6.2	7.30	20	35		68.01	031		
5/16-18	1.411	90	8.0	6.2	7.30	20	35	5			78.98	031
3/8-16	1.588	100	10.0	8.0	8.80	22	39		83.67	037		
3/8-16	1.588	100	10.0	8.0	8.80	22	39	5			92.39	037
Steel										**8-30**		**8-30**
Stainless steel										**8-15**		**8-15**
Cast iron												
Non ferrous metals										**12-25**		**12-25**
Heat resistant alloys												
Hardened materials												

Through hole – machine taps for wire thread inserts, right hand

EG UNC | Stabil

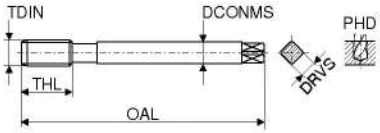
UNI | B 4–5 | 2B | nitr. + vap.



DIN 371 with reinforced shank

HSS-E
0°
≤ 1100 N/mm²
≤ 4xD

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 668 ...	
	mm	mm	mm	mm	mm	mm	mm		£	
EG Nr. 4-40	0.635	63	4.5	3.4	3.1	13	21	3	59.26	004
EG Nr. 6-32	0.794	70	6.0	4.9	3.8	14	25	3	62.10	006
EG Nr. 8-32	0.794	80	6.0	4.9	4.4	16	30	3	61.14	008
EG Nr. 10-24	1.058	80	7.0	5.5	5.2	17	30	3	65.82	010
EG 1/4-20	1.270	90	8.0	6.2	6.7	20	35	3	68.28	025
EG 5/16-18	1.411	100	10.0	8.0	8.4	22	39	3	74.96	031



DIN 376 with reduced shank

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 670 ...	
	mm	mm	mm	mm	mm	mm		£	
EG 3/8-16	1.588	100	9	7.0	10.00	22	3	86.88	037
EG 7/16-14	1.814	110	11	9.0	11.60	26	3	106.20	043
EG 1/2-13	1.954	110	12	9.0	13.30	27	3	110.69	050
EG 5/8-11	2.309	125	14	11.0	16.50	30	3	139.91	062
EG 3/4-10	2.540	140	18	14.5	19.75	32	3	181.45	075

Steel	6-20
Stainless steel	4-8
Cast iron	6-15
Non ferrous metals	
Heat resistant alloys	
Hardened materials	

Blind hole – machine taps for wire thread inserts, right hand

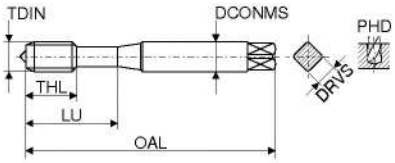
EG UNC | Salo-Rex

UNI

E
1,5–2

2B

vap.



DIN 371 with reinforced shank

HSS-E
42°
≤ 1100 N/mm²
≤ 3xD

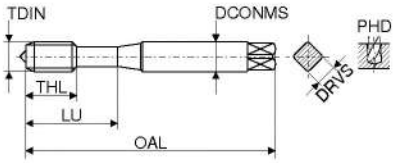
TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 672 ...	
	mm	mm	mm	mm	mm	mm	mm		£	
EG Nr. 4-40	0.635	63	4.5	3.4	3.1	7	21	3	59.72	**004**
EG Nr. 6-32	0.794	70	6.0	4.9	3.8	8	25	3	59.26	**006**
EG Nr. 8-32	0.794	80	6.0	4.9	4.4	8	30	3	61.14	**008**
EG Nr. 10-24	1.058	80	7.0	5.5	5.2	10	30	3	65.82	**010**
EG 1/4-20	1.270	90	8.0	6.2	6.7	14	35	3	72.65	**025**
EG 5/16-18	1.411	100	10.0	8.0	8.4	16	39	3	76.26	**031**

Steel	**6-20**
Stainless steel	**4-8**
Cast iron	**6-15**
Non ferrous metals	
Heat resistant alloys	
Hardened materials	

Blind hole – Machine taps, right hand

UNJC | SL

Ti | C 2–3 | 3BX | TiCN



DIN 371 with reinforced shank

HSS-E
◁ 15°
≤ 1200 N/mm²
≤ 2xD

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 166 ...	
	mm	mm	mm	mm	mm	mm	mm		£	
Nr. 4-40	0.635	56	3.5	2.7	2.30	11	18	2	80.91	**004**
Nr. 6-32	0.794	56	4.0	3.0	2.85	12	20	3	82.40	**006**
Nr. 8-32	0.794	63	4.5	3.4	3.50	13	21	3	80.08	**008**
Nr. 10-24	1.058	70	6.0	4.9	3.90	15	25	3	85.84	**010**
1/4-20	1.270	80	7.0	5.5	5.25	17	30	3	109.82	**025**
3/8-16	1.588	100	10.0	8.0	8.10	22	39	3	132.64	**037**

Steel	**6-8**
Stainless steel	**4-10**
Cast iron	
Non ferrous metals	**10-12**
Heat resistant alloys	**4-6**
Hardened materials	

Through hole – Machine taps, right hand

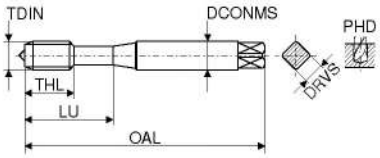
UNF | Stabil

UNI | Ti

B 4–5 | B 4–5

2B | 2BX

nitr. + vap. | TiN

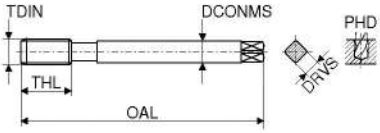


DIN 371 with reinforced shank

HSS-E
0°
≤ 1100 N/mm²
≤ 4xD

HSS-PM
0°
≤ 44 HRC
≤ 4xD

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 602 ... £		U0 Article no. 22 317 ... £	
	mm	mm	mm	mm	mm	mm	mm					
Nr. 4-48	0.529	56	3.5	2.7	2.40	11	18	2	54.10	004		
Nr. 4-48	0.529	56	3.5	2.7	2.40	11	18	3			106.94	004
Nr. 5-44	0.577	56	3.5	2.7	2.70	11	18	3			110.26	005
Nr. 6-40	0.635	56	4.0	3.0	2.95	12	20	3	48.50	006	95.32	006
Nr. 8-36	0.706	63	4.5	3.4	3.50	13	21	3	47.27	008	101.98	008
Nr. 10-32	0.794	70	6.0	4.9	4.10	15	25	3	48.54	010	102.66	010
1/4-28	0.907	80	7.0	5.5	5.50	17	30	3	55.28	025	106.94	025
5/16-24	1.058	90	8.0	6.2	6.90	17	35	3	66.54	031	121.73	031
3/8-24	1.058	90	10.0	8.0	8.50	18	35	3			135.30	037



DIN 374 with reduced shank

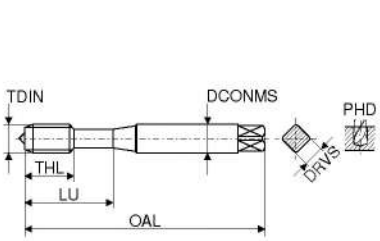
TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 603 ... £		U0 Article no. 22 421 ... £	
	mm	mm	mm	mm	mm	mm					
7/16-20	1.270	100	8	6.2	9.90	22	3	74.58	043		
1/2-20	1.270	100	9	7.0	11.50	22	3	72.14	050	174.59	050
9/16-18	1.411	100	11	9.0	12.90	22	3	108.38	056		
5/8-18	1.411	100	12	9.0	14.50	22	3	99.98	062		
3/4-16	1.588	110	14	11.0	17.50	25	4	124.59	075		
7/8-14	1.814	125	18	14.5	20.50	25	4	162.52	087		
1-12	2.117	140	18	14.5	23.25	28	4	212.37	100		
1 1/8-12	2.117	150	22	18.0	26.50	28	4	549.10	112		
1 1/4-12	2.117	150	22	18.0	29.75	28	4	612.69	125		
1 3/8-12	2.117	170	28	22.0	33.00	30	5	676.21	137		

Steel	6-20	2-5
Stainless steel	4-8	
Cast iron	6-15	
Non ferrous metals		
Heat resistant alloys		2-6
Hardened materials		

Through hole – Machine taps, right hand

UNF

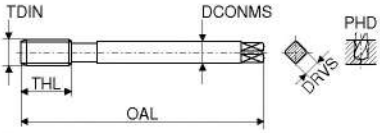
UNI	FE	VA
B 4-5	B 4-5	B 4-5
2B	2B	2B
TiN		nitr.



DIN 371 with reinforced shank

	HSS-E	HSS-E	HSS-E
	0° ≤ 1100 N/mm² ≤ 3xD	0° ≤ 850 N/mm² ≤ 3xD	0° ≤ 1100 N/mm² ≤ 3xD
	T9	T9	T9
TDIN	Article no. 23 180 ...	Article no. 23 280 ...	Article no. 23 480 ...
	£	£	£
Nr. 10-32	35.02 010	29.51 010	33.56 010
1/4-28	44.62 025	31.55 025	37.94 025
5/16-24	49.54 031	35.02 031	41.83 031
3/8-24	53.03 037	36.46 037	43.73 037

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes
	mm	mm	mm	mm	mm	mm	mm	
Nr. 10-32	0.794	70	6	4.9	4.1	15	25	3
1/4-28	0.907	80	7	5.5	5.5	17	30	3
5/16-24	1.058	90	8	6.2	6.9	17	35	3
3/8-24	1.058	90	10	8.0	8.5	18	35	4



DIN 374 with reduced shank

	T9	T9	T9
TDIN	Article no. 23 181 ...	Article no. 23 281 ...	Article no. 23 481 ...
	£	£	£
7/16-20	65.10 043	46.65 043	55.01 043
1/2-20	65.84 050	46.65 050	55.01 050
9/16-18	91.39 056	63.06 056	69.43 056
5/8-18	82.94 062	57.10 062	61.58 062
3/4-16	128.42 075	74.53 075	97.20 075

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes
	mm	mm	mm	mm	mm	mm	
7/16-20	1.270	100	8	6.2	9.9	22	3
1/2-20	1.270	100	9	7.0	11.5	22	3
9/16-18	1.411	100	11	9.0	12.9	22	3
5/8-18	1.411	100	12	9.0	14.5	22	3
3/4-16	1.588	110	14	11.0	17.5	25	4

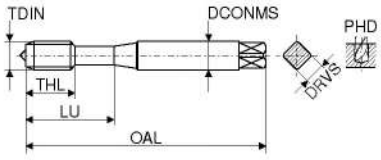
Steel	5-45	5-25	
Stainless steel	5-15		3-10
Cast iron	10-25		
Non ferrous metals	15-40		
Heat resistant alloys			
Hardened materials			

6

Blind hole – Machine taps, right hand

UNF | Salo-Rex

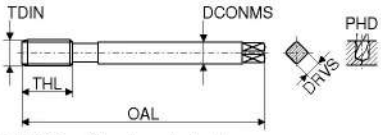
VA	UNI	UNI
E 1,5–2	C 2–3	E 1,5–2
2B	2B	2B +0,05
vap.	vap.	vap.



DIN 371 with reinforced shank

HSS-E ◁ 42° ≤ 900 N/mm² ≤ 3xD | HSS-E ◁ 42° ≤ 1100 N/mm² ≤ 3xD | HSS-E ◁ 42° ≤ 1100 N/mm² ≤ 3xD

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 308 ... £		U0 Article no. 22 606 ... £		U0 Article no. 22 307 ... £	
	mm	mm	mm	mm	mm	mm	mm							
Nr. 2-64	0.397	45	2.8	2.1	1.85	4.5	12	2	87.71	002				
Nr. 4-48	0.529	56	3.5	2.7	2.40	6.0	18	2	59.72	004	58.69	004		
Nr. 6-40	0.635	56	4.0	3.0	2.95	7.0	20	3	58.69	006	44.47	006		
Nr. 6-40	0.635	56	4.0	3.0	3.00	7.0	20	3					82.21	006
Nr. 8-36	0.706	63	4.5	3.4	3.50	8.0	21	3	72.92	008	44.46	008		
Nr. 10-32	0.794	70	6.0	4.9	4.10	10.0	25	3	61.58	010	46.89	010		
Nr. 10-32	0.794	70	6.0	4.9	4.15	10.0	25	3					86.23	010
1/4-28	0.907	80	7.0	5.5	5.50	10.0	30	3	64.79	025	49.82	025		
1/4-28	0.907	80	7.0	5.5	5.55	10.0	30	3					89.94	025
5/16-24	1.058	90	8.0	6.2	6.90	10.0	35	3	71.64	031	68.43	031		
5/16-24	1.058	90	8.0	6.2	6.95	10.0	35	3					104.02	031
3/8-24	1.058	90	10.0	8.0	8.50	10.0	35	3	73.95	037				
3/8-24	1.058	90	10.0	8.0	8.55	10.0	35	3					104.02	037



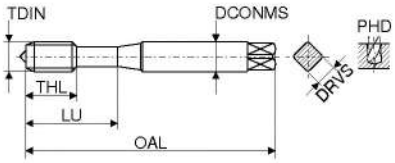
DIN 374 with reduced shank

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 607 ... £		U0 Article no. 22 409 ... £	
	mm	mm	mm	mm	mm	mm					
7/16-20	1.270	100	8	6.2	9.90	13	3	72.80	043		
7/16-20	1.270	100	8	6.2	9.95	13	4			130.88	043
1/2-20	1.270	100	9	7.0	11.50	13	4	73.81	050		
1/2-20	1.270	100	9	7.0	11.55	13	5			125.38	050
9/16-18	1.411	100	11	9.0	12.90	15	4	109.38	056		
9/16-18	1.411	100	11	9.0	12.95	15	5			177.80	056
5/8-18	1.411	100	12	9.0	14.50	15	4	97.34	062		
5/8-18	1.411	100	12	9.0	14.55	15	5			161.69	062
3/4-16	1.588	110	14	11.0	17.50	17	4	134.23	075		
3/4-16	1.588	110	14	11.0	17.55	17	5			217.03	075
7/8-14	1.814	125	18	14.5	20.50	17	4	157.35	087		
1-12	2.117	140	18	14.5	23.25	20	4	220.36	100		
1-12	2.117	140	18	14.5	23.30	20	5			347.61	100
1 1/8-12	2.117	150	22	18.0	26.50	22	4	310.44	112		
1 1/4-12	2.117	150	22	18.0	29.75	22	5	359.25	125		
1 3/8-12	2.117	170	28	22.0	33.00	24	5	416.33	137		

Steel		6-20	6-20
Stainless steel	5-10	4-8	4-8
Cast iron		6-15	6-15
Non ferrous metals			
Heat resistant alloys			
Hardened materials			

Blind hole – Machine taps, right hand

UNF | SL



DIN 371 with reinforced shank

	Ti	Ti
	C 2–3	C 2–3
	2BX	3BX
	vap.	vap.
		
	HSS-PM	HSS-PM
	◁ 30° ≤ 1400 N/mm² ≤ 1,5xD	◁ 30° ≤ 1400 N/mm² ≤ 1,5xD
	U0	U0
	Article no. 22 302 ...	Article no. 22 303 ...
	£	£

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes				
	mm	mm	mm	mm	mm	mm	mm					
Nr. 10-32	0.794	70	6	4.9	4.1	10	25	3	98.49	**010**	98.49	**010**
1/4-28	0.907	80	7	5.5	5.5	10	30	3	107.67	**025**	107.67	**025**
5/16-24	1.058	90	8	6.2	6.9	10	35	3	122.51	**031**	114.72	**031**
3/8-24	1.058	90	10	8.0	8.5	10	35	3	126.10	**037**	126.10	**037**

Steel	**2-5**	**2-5**
Stainless steel		
Cast iron		
Non ferrous metals		
Heat resistant alloys	**2-6**	**2-6**
Hardened materials		

6

Blind hole – Machine taps, right hand

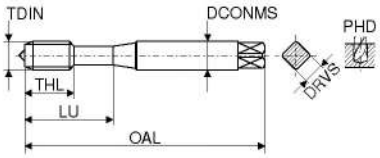
UNF

UNI | FE | VA

C 2–3

2B

TiN



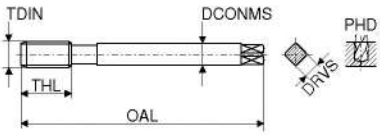
DIN 371 with reinforced shank

HSS-E
35°
≤ 1100 N/mm²
≤ 2,5xD

HSS-E
35°
≤ 850 N/mm²
≤ 2,5xD

HSS-E
35°
≤ 1100 N/mm²
≤ 2,5xD

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	T9 Article no. 23 182 ... £		T9 Article no. 23 282 ... £		T9 Article no. 23 482 ... £	
	mm	mm	mm	mm	mm	mm	mm							
Nr. 10-32	0.794	70	6	4.9	4.1	10	25	3	36.88	**010**	31.08	**010**	36.47	**010**
1/4-28	0.907	80	7	5.5	5.5	10	30	3	46.33	**025**	33.56	**025**	40.39	**025**
5/16-24	1.058	90	8	6.2	6.9	10	35	3	49.98	**031**	35.06	**031**	42.18	**031**
3/8-24	1.058	90	10	8.0	8.5	10	35	3	55.64	**037**	38.94	**037**	46.65	**037**



DIN 374 with reduced shank

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	T9 Article no. 23 183 ... £		T9 Article no. 23 283 ... £		T9 Article no. 23 483 ... £	
	mm	mm	mm	mm	mm	mm							
7/16-20	1.270	100	8	6.2	9.9	13	3	66.83	**043**	47.31	**043**	57.81	**043**
1/2-20	1.270	100	9	7.0	11.5	13	4	70.77	**050**	48.68	**050**	58.55	**050**
9/16-18	1.411	100	11	9.0	12.9	15	4	95.29	**056**	74.53	**056**	81.80	**056**
5/8-18	1.411	100	12	9.0	14.5	15	4	86.14	**062**	65.36	**062**	70.56	**062**
3/4-16	1.588	110	14	11.0	17.5	17	4	136.70	**075**	88.32	**075**	97.20	**075**

Steel	**5-45**	**5-25**	
Stainless steel	**5-15**		**3-10**
Cast iron	**10-25**		
Non ferrous metals	**15-40**		
Heat resistant alloys			
Hardened materials			

Through hole / Blind hole – Machine thread formers, right hand

▲ SN = Thread formers with lubrication grooves

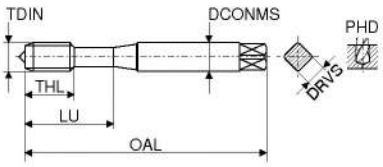
UNF | Spanlos

EC
SN

C
2-3

2BX

TiN

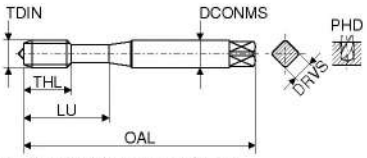


DIN 2174 with reduced shank

HSS-E
≤ 1100 N/mm²
≤ 3xD

6

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 312 ...	
	mm	mm	mm	mm	mm	mm	mm		£	
Nr. 4-48	0.529	56	3.5	2.7	2.62	11	18	3	68.73	004
Nr. 6-40	0.635	56	4.0	3.0	3.22	12	20	3	64.08	006
Nr. 8-36	0.706	63	4.5	3.4	3.85	13	21	4	66.24	008
Nr. 10-32	0.794	70	6.0	4.9	4.45	15	25	4	70.77	010
1/4-28	0.907	80	7.0	5.5	5.95	17	30	4	82.96	025



DIN 2174 with reduced shank

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 313 ...	
	mm	mm	mm	mm	mm	mm		£	
7/16-20	1.27	100	8	6.2	10.55	22	6	123.63	043
1/2-20	1.27	100	9	7.0	12.15	22	6	127.12	050

Steel	8-30
Stainless steel	8-15
Cast iron	
Non ferrous metals	12-25
Heat resistant alloys	
Hardened materials	

Through hole – machine taps for wire thread inserts, right hand

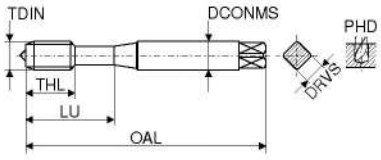
EG UNF | Stabil

UNI

B 4–5

2B

nitr. + vap.



DIN 371 with reinforced shank

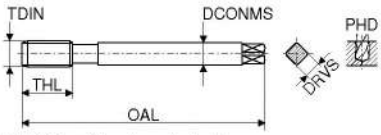
HSS-E

0°

≤ 1100 N/mm²

≤ 4xD

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 676 ...	
	mm	mm	mm	mm	mm	mm	mm		£	
EG Nr. 4-48	0.529	56	4	3.0	3.0	9	20	3	75.64	004
EG Nr. 6-40	0.635	70	6	4.9	3.7	11	25	3	74.58	006
EG Nr. 8-36	0.706	80	6	4.9	4.4	13	30	3	72.90	008
EG Nr. 10-32	0.794	80	6	4.9	5.1	13	30	3	77.73	010
EG 1/4-28	0.907	90	8	6.2	6.6	17	35	3	82.94	025



DIN 374 with reduced shank

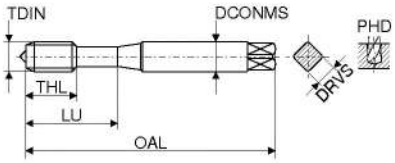
TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 677 ...	
	mm	mm	mm	mm	mm	mm		£	
EG 3/8-24	1.058	90	8	6.2	9.80	18	4	101.52	037
EG 7/16-20	1.270	100	9	7.0	11.50	22	3	128.42	043
EG 1/2-20	1.270	100	11	9.0	13.10	22	3	120.84	050
EG 5/8-18	1.411	110	14	11.0	16.25	25	4	193.66	062
EG 3/4-16	1.588	125	16	12.0	19.50	25	4	239.98	075

Steel	6-20
Stainless steel	4-8
Cast iron	6-15
Non ferrous metals	
Heat resistant alloys	
Hardened materials	

Blind hole – machine taps for wire thread inserts, right hand

EG UNF | Salo-Rex

UNI | E 1,5–2 | 2B | vap.



DIN 371 with reinforced shank

HSS-E
42°
≤ 1100 N/mm²
≤ 3xD

TDIN	TP	OAL	DCONMS	DRVS	PHD	THL	LU	Flutes	U0 Article no. 22 680 ...	
	mm	mm	mm	mm	mm	mm	mm		£	
EG Nr. 4-48	0.529	56	4	3.0	3.0	7	20	3	76.56	004
EG Nr. 6-40	0.635	70	6	4.9	3.7	8	25	3	74.39	006
EG Nr. 8-36	0.706	80	6	4.9	4.4	8	30	3	76.26	008
EG Nr. 10-32	0.794	80	6	4.9	5.1	8	30	3	82.21	010
EG 1/4-28	0.907	90	8	6.2	6.6	10	35	3	90.67	025

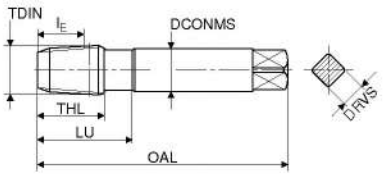
Steel	6-20
Stainless steel	4-8
Cast iron	6-15
Non ferrous metals	
Heat resistant alloys	
Hardened materials	

Blind hole – Machine taps, right hand

NPT | Salo-Rex

VA | C 2-3 | vap.

VA | C 2-3 | TiN

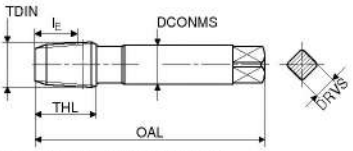


DIN 371 with reinforced shank

HSS-E
◁ 35°
≤ 900 N/mm²

HSS-E
◁ 42°
≤ 1100 N/mm²

TDIN	TP	OAL	DCONMS	DRVS	l_E	THL	LU	Flutes	U0 Article no. 22 364 ...		U0 Article no. 22 365 ...	
	mm	mm	mm	mm	mm	mm	mm		£		£	
1/16-27	0.941	90	8	6.2	9.24	13.0	26.0	3	98.47	006		
1/8-27	0.941	90	10	8.0	9.28	13.0	26.0	3	113.88	012		
1/8-27	0.941	90	10	8.0	9.28	12.0	26.0	4			153.84	012
1/4-18	1.411	100	14	11.0	13.55	19.5	34.5	3	133.02	025		
1/4-18	1.411	100	14	11.0	13.55	18.0	34.5	4			158.33	025



DIN 374 with reduced shank

TDIN	TP	OAL	DCONMS	DRVS	l_E	THL	Flutes	U0 Article no. 22 371 ...		U0 Article no. 22 372 ...	
	mm	mm	mm	mm	mm	mm		£		£	
3/8-18	1.411	110	14	11	13.86	19.5	3	181.30	037		
3/8-18	1.411	110	14	11	13.86	18.0	5			303.02	037
1/2-14	1.814	140	16	12	18.11	25.0	5	263.50	050		
1/2-14	1.814	140	16	12	18.11	23.0	5			350.58	050
3/4-14	1.814	150	20	16	18.59	26.0	5	381.33	075		
1-11,5	2.209	170	25	20	22.31	32.0	5	556.95	100		

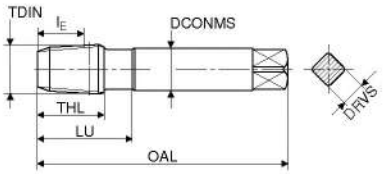
Steel		2-4
Stainless steel	2-4	2-4
Cast iron		
Non ferrous metals		
Heat resistant alloys		
Hardened materials		

Through hole / Blind hole – Machine taps, right hand

NPT | TWIN

VG

C
2–3

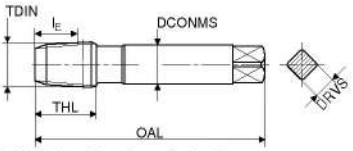


DIN 371 with reinforced shank

HSS-E
0°
≤ 1100 N/mm²

6

TDIN	TP	OAL	DCONMS	DRVS	l_E	THL	LU	Flutes	U0 Article no. 22 374 ...	
	mm	mm	mm	mm	mm	mm	mm		£	
1/16-27	0.941	90	8	6.2	9.24	13.0	26.0	3	86.14	006
1/8-27	0.941	90	10	8.0	9.28	13.0	26.0	3	110.56	012
1/4-18	1.411	100	14	11.0	13.55	19.5	34.5	3	114.72	025



DIN 374 with reduced shank

TDIN	TP	OAL	DCONMS	DRVS	l_E	THL	Flutes	U0 Article no. 22 375 ...	
	mm	mm	mm	mm	mm	mm		£	
3/8-18	1.411	110	14	11	13.86	19.5	3	144.11	037
1/2-14	1.814	140	16	12	18.11	25.0	5	194.53	050
3/4-14	1.814	150	20	16	18.59	26.0	5	252.33	075
1-11,5	2.209	170	25	20	22.31	30.0	5	351.41	100

Steel	2-6
Stainless steel	
Cast iron	4-6
Non ferrous metals	4-6
Heat resistant alloys	
Hardened materials	

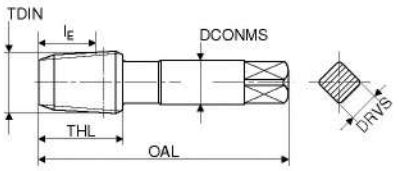
Through hole / Blind hole – Machine taps, right hand

▲ ES = extra short

NPT | TWIN

ST
ES

C
2-3



DIN 2181 with reduced shank

HSS-E
0°
≤ 750 N/mm²

TDIN	TP	OAL	DCONMS	DRVS	l_E	THL	Flutes	U0 Article no. 22 361 ...	
	mm	mm	mm	mm	mm	mm		£	
1/16-27	0.941	63	6	4.9	9.24	13.0	4	61.99	**006**
1/8-27	0.941	63	7	5.5	9.28	13.0	5	65.84	**012**
1/4-18	1.411	63	11	9.0	13.55	19.5	5	79.03	**025**
3/8-18	1.411	70	12	9.0	13.86	19.5	5	98.80	**037**
1/2-14	1.814	80	16	12.0	18.11	23.0	5	132.35	**050**
3/4-14	1.814	100	20	16.0	18.59	26.0	6	167.20	**075**
1-11,5	2.209	110	25	20.0	22.31	32.0	6	247.11	**100**
2-11,5	2.209	160	45	35.0	23.22	36.0	7	793.88	**200**

Steel	**4-6**
Stainless steel	
Cast iron	
Non ferrous metals	**4-6**
Heat resistant alloys	
Hardened materials	

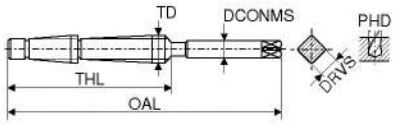
Through hole – Machine taps, right hand

- single finishing trapezoidal taps (2 steps)
- do not reverse

Tr

ST

7H



Factory standard

HSS-E

5°
≤ 900 N/mm²
≤ 2xD

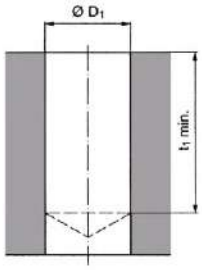
TD	TP	OAL	DCONMS	DRVS	PHD	THL	Flutes	U0 Article no. 22 402 ...	
	mm	mm	mm	mm	mm	mm		£	
Tr 8	1.5	105	6	4.9	6.60	55	3	553.32	**080**
Tr 9	2.0	130	7	5.5	7.20	70	3	532.41	**090**
Tr 10	2.0	130	7	5.5	8.20	70	3	553.32	**102**
Tr 10	3.0	155	7	5.5	7.25	95	3	507.25	**103**
Tr 12	3.0	160	9	7.0	9.25	95	3	608.66	**123**
Tr 14	3.0	170	10	8.0	11.25	100	3	707.00	**143**
Tr 14	4.0	195	10	8.0	10.25	125	3	596.31	**144**
Tr 16	4.0	225	12	9.0	12.25	130	3	596.31	**164**
Tr 18	4.0	225	14	11.0	14.25	116	3	617.81	**184**
Tr 20	4.0	225	16	12.0	16.25	130	3	716.15	**204**
Tr 22	5.0	260	16	12.0	17.25	160	3	830.03	**225**
Tr 24	5.0	285	18	14.5	19.25	165	3	968.19	**245**

Steel	●
Stainless steel	
Cast iron	
Non ferrous metals	
Heat resistant alloys	
Hardened materials	

6

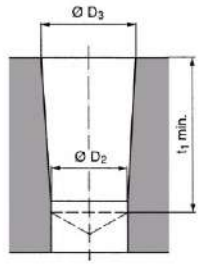
Core hole diameters for taper threads (taper 1:16)

Pre-drilling of cylindrical holes without reamer



		NPT		NPTF				Rc	
Ø D_1 inch	Pitch Gg/1"	Ø D_1 mm	t_1 min. mm	Ø D_1 mm	t_1 min. mm	Ø D_1 inch	Pitch Gg/1"	Ø D_1 mm	t_1 min. mm
1/16	27	6,15	12	6,1	12	1/16	28	6,2	11,9
1/8	27	8,5	12	8,45	12	1/8	28	8,2	11,9
1/4	18	11	17,5	10,9	17,5	1/4	19	10,85	16,3
3/8	18	14,5	17,6	14,3	17,6	3/8	19	14,5	18,1
1/2	14	17,85	22,9	17,6	22,9	1/2	14	18	24
3/4	14	23,2	23	23	23	3/4	14	23,5	25,3
1	11½	29,5	27,4	28,75	27,4	1	11	29,5	30,6
1¼	11½	37,8	28,1	37,5	28,1				
1½	11½	44	28,4	43,75	28,4				
2	11½	56	28,4	55,75	28,4				

Pre-drilling of cylindrical holes and conical boring with reamer

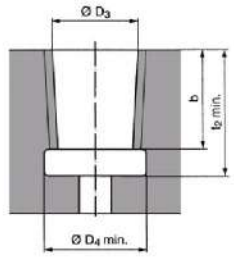


Taper 1:16

		NPT			NPTF		
Ø D_1 inch	Pitch Gg/1"	Ø D_2 mm	Ø D_3 mm	t_1 min. mm	Ø D_2 mm	Ø D_3 mm	t_1 min. mm
1/16	27	5,95	6,39	12	5,95	6,41	12
1/8	27	8,25	8,74	12	8,25	8,76	12
1/4	18	10,75	11,36	17,5	10,75	11,4	17,5
3/8	18	14,1	14,8	17,6	14,1	14,84	17,6
1/2	14	17,5	18,32	22,9	17,5	18,33	22,9
3/4	14	22,7	23,67	23	22,7	23,68	23
1	11½	28,6	29,69	27,4	28,6	29,72	27,4
1¼	11½	37,3	38,45	28,1	37,3	38,48	28,1
1½	11½	43,4	44,52	28,4	43,4	44,5	28,4
2	11½	55,5	56,56	28,4	55,5	56,59	28,4

		Rc		
Ø D_1 inch	Pitch Gg/1"	Ø D_2 mm	Ø D_3 mm	t_1 min. mm
1/16	28	6,1	6,56	11,9
1/8	28	8,1	8,57	11,9
1/4	19	10,75	11,45	17,7
3/8	19	14,25	14,95	18,1
1/2	14	17,75	18,63	24
3/4	14	23	24,12	25,3
1	11	29	30,29	30,6

Recommendation for the pre-drilling of blind hole threads



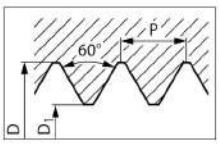
Taper 1:16

		NPT				NPTF			
Ø D_1 inch	Pitch Gg/1"	Ø D_3 mm	b mm	t_2 min. mm	Ø D_4 mm	Ø D_3 mm	b mm	t_2 min. mm	Ø D_4 min. mm
1/16	27	6,39	7	10	7,6	6,41	8	11	7,4
1/8	27	8,74	7	10	10	8,76	8	11	9,8
1/4	18	11,36	10,2	14,5	13,1	11,4	11,6	15,5	12,9
3/8	18	14,8	10,6	15	16,5	14,84	12	16	16,3
1/2	14	18,32	13,8	19	20,5	18,33	15,6	20,5	20,3
3/4	14	23,67	14,2	20	25,8	23,68	16	21,5	25,6
1	11½	29,69	17	24	32,2	29,72	19,2	26	32
1¼	11½	38,45	17,5	24,5	41	38,48	19,7	26,5	40,8
1½	11½	44,52	17,5	24,5	47,2	44,5	19,7	26,5	47
2	11½	56,56	18	25	59,2	56,59	20,2	27	59

		Rc			
Ø D_1 inch	Pitch Gg/1"	Ø D_3 mm	b mm	t_2 min. mm	Ø D_4 min. mm
1/16	28	6,56	5,6	9,5	7,6
1/8	28	8,57	5,6	9,5	9,6
1/4	19	11,45	8,4	14	13
3/8	19	14,95	8,8	14,4	16,5
1/2	14	18,63	11,4	19	20,6
3/4	14	24,12	12,7	20,3	26
1	11	30,29	14,5	24,3	32,8

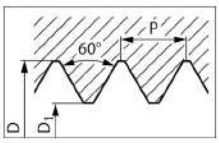
Tapped hole pilot diameter

M ISO metric coarse threads 6H to DIN 13 and DIN ISO 965-1 (M1–M1,4 = 5H)



Thread nominal Ø		Ø D_1		Core hole	Thread nominal Ø		Ø D_1		Core hole
D	P	min.	max.		D	P	min.	max.	
M1	0,25	0,729	0,785	0,75	M12	1,75	10,106	10,441	10,2
M1,1	0,25	0,829	0,885	0,85	M14	2,0	11,835	12,210	12
M1,2	0,25	0,929	0,985	0,95	M16	2,0	13,835	14,210	14
M1,4	0,3	1,075	1,142	1,1	M18	2,5	15,294	15,744	15,5
M1,6	0,35	1,221	1,321	1,25	M20	2,5	17,294	17,744	17,5
M1,8	0,35	1,421	1,521	1,45	M22	2,5	19,294	19,744	19,5
M2	0,4	1,567	1,679	1,6	M24	3,0	20,752	21,252	21
M2,2	0,45	1,713	1,838	1,75	M27	3,0	23,752	24,252	24
M2,5	0,45	2,013	2,138	2,05	M30	3,5	26,211	26,771	26,5
M3	0,5	2,459	2,599	2,5	M33	3,5	29,211	29,771	29,5
M3,5	0,6	2,850	3,010	2,9	M36	4,0	31,670	32,270	32
M4	0,7	3,242	3,422	3,3	M39	4,0	34,670	35,270	35
M4,5	0,75	3,688	3,878	3,7	M42	4,5	37,129	37,799	37,5
M5	0,8	4,134	4,334	4,2	M45	4,5	40,129	40,799	40,5
M6	1,0	4,917	5,153	5	M48	5,0	42,587	43,297	43
M7	1,0	5,917	6,153	6	M52	5,0	46,587	47,297	47
M8	1,25	6,647	6,912	6,8	M56	5,5	50,046	50,796	50,5
M9	1,25	7,647	7,912	7,8	M60	5,5	54,046	54,796	54,5
M10	1,5	8,376	8,676	8,5	M64	6,0	57,505	58,305	58
M11	1,5	9,376	9,676	9,5	M68	6,0	61,505	62,305	62

MF ISO metric fine threads 6H to DIN 13 and DIN ISO 965-1

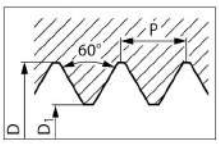


Thread nominal Ø			Ø D_1		Core hole	Thread nominal Ø			Ø D_1		Core hole
D	x	P	min.	max.		D	x	P	min.	max.	
M2	x	0,25	1,729	1,774	1,75	M20	x	1,0	18,917	19,153	19
M2,2	x	0,25	1,929	1,974	1,95	M20	x	1,5	18,376	18,676	18,5
M2,5	x	0,35	2,121	2,221	2,15	M20	x	2,0	17,835	18,210	18
M3	x	0,35	2,621	2,721	2,65	M24	x	1,5	22,376	22,676	22,5
M3,5	x	0,35	3,121	3,221	3,15	M30	x	2,0	27,835	28,210	28
M4	x	0,35	3,621	3,721	3,65	M36	x	1,5	34,376	34,676	34,5
M4	x	0,5	3,459	3,599	3,5	M36	x	3,0	32,752	33,252	33
M4,5	x	0,5	3,959	4,099	4	M42	x	2,0	39,835	40,210	40
M5	x	0,5	4,459	4,599	4,5	M48	x	1,5	46,376	46,676	46,5
M6	x	0,5	5,459	5,599	5,5	M48	x	3,0	44,752	45,252	45
M6	x	0,75	5,188	5,378	5,2	M48	x	4,0	43,670	44,270	44
M8	x	0,75	7,188	7,378	7,2	M56	x	1,5	54,376	54,676	54,5
M8	x	1,0	6,917	7,153	7	M56	x	2,0	53,835	54,210	54
M10	x	0,75	9,188	9,378	9,2	M56	x	3,0	52,752	53,252	53
M10	x	1,0	8,917	9,153	9	M56	x	4,0	51,670	52,270	52
M10	x	1,25	8,647	8,912	8,8	M64	x	3,0	60,752	61,252	61
M12	x	1,0	10,917	11,153	11	M64	x	4,0	59,670	60,270	60
M12	x	1,5	10,376	10,676	10,5	M72	x	4,0	67,670	68,270	68
M14	x	1,25	12,647	12,912	12,8	M80	x	6,0	73,505	74,305	74
M16	x	1,0	14,917	15,153	15	M95	x	6,0	88,505	89,305	89
M16	x	1,5	14,376	14,676	14,5	M110	x	6,0	103,505	104,305	104

Dimensions in mm; P = Pitch

Thread former pilot hole diameter

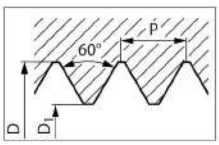
M ISO metric coarse threads 6H to DIN 13 and DIN ISO 965-1 (M1-M1,4 = 5H)



Thread nominal Ø		Ø D_1		Core hole
D	P	min.	max.	
M1	0,25	0,89		0,9
M1,2	0,25	1,09		1,1
M1,4	0,3	1,26		1,26
M1,6	0,35	1,45		1,45
M1,8	0,35	1,65		1,65
M2	0,4	1,83	1,86	1,85
M2,2	0,45	2,00	2,04	2,0
M2,5	0,45	2,30	2,34	2,3
M3	0,5	2,77	2,82	2,8
M3,5	0,6	3,23	3,28	3,25
M4	0,7	3,68	3,73	3,7
M4,5	0,75	4,15	4,21	4,15
M5	0,8	4,63	4,68	4,65

Thread nominal Ø		Ø D_1		Core hole
D	P	min.	max.	
M6	1	5,51	5,59	5,55
M7	1	6,51	6,59	6,55
M8	1,25	7,39	7,48	7,4
M9	1,25	8,39	8,48	8,4
M10	1,5	9,25	9,35	9,3
M11	1,5	10,25	10,35	10,3
M12	1,75	11,12	11,25	11,2
M14	2	13,00	13,15	13,0
M16	2	15,00	15,15	15,0
M18	2,5	16,72	16,90	16,8
M20	2,5	18,72	18,90	18,8
M22	2,5	20,72	20,9	20,8
M24	3	22,46	22,7	22,5

MF ISO metric fine threads 6H to DIN 13 and DIN ISO 965-1



Thread nominal Ø			Ø D_1		Core hole
D	x	P	min.	max.	
M2	x	0,25	1,89		1,9
M2,2	x	0,25	2,09		2,1
M2,5	x	0,25	2,39		2,4
M2,5	x	0,35	2,35		2,35
M3	x	0,25	2,89		2,9
M3	x	0,35	2,85		2,85
M3,5	x	0,35	3,35		3,35
M3,5	x	0,5	3,27	3,32	3,3
M4	x	0,35	3,85		3,85
M4	x	0,5	3,77	3,82	3,8
M4,5	x	0,5	4,27	4,32	4,3
M5	x	0,5	4,77	4,82	4,8
M5	x	0,75	4,65	4,71	4,65
M5,5	x	0,5	5,27	5,32	5,3
M6	x	0,5	5,78	5,83	5,8
M6	x	0,75	5,65	5,71	5,65
M7	x	0,5	6,78	6,83	6,8
M7	x	0,75	6,65	6,71	6,65
M8	x	0,5	7,78	7,83	7,8
M8	x	0,75	7,65	7,71	7,65
M8	x	1,0	7,51	7,59	7,55
M9	x	0,5	8,78	8,83	8,8
M9	x	0,75	8,65	8,71	8,65
M9	x	1,0	8,51	8,59	8,55
M10	x	0,5	9,78	9,83	9,8
M10	x	0,75	9,65	9,71	9,65
M10	x	1,0	9,51	9,59	9,55
M10	x	1,25	9,39	9,48	9,4
M11	x	0,75	10,65	10,71	10,7
M11	x	1,0	10,51	10,59	10,5
M12	x	0,75	11,66	11,72	11,7

Thread nominal Ø			Ø D_1		Core hole
D	x	P	min.	max.	
M12	x	1,0	11,52	11,6	11,5
M12	x	1,25	11,4	11,49	11,4
M12	x	1,5	11,26	11,36	11,3
M13	x	0,75	12,66	12,72	12,7
M13	x	1,0	12,52	12,6	12,5
M13	x	1,5	12,26	12,36	12,3
M14	x	0,75	13,66	13,72	13,7
M14	x	1,0	13,52	13,6	13,5
M14	x	1,25	13,4	13,49	13,4
M14	x	1,5	13,26	13,36	13,3
M15	x	0,75	14,66	14,72	14,7
M15	x	1,0	14,52	14,6	14,5
M15	x	1,5	14,26	14,36	14,3
M16	x	0,75	15,66	15,72	15,7
M16	x	1,0	15,52	15,6	15,5
M16	x	1,5	15,26	15,36	15,3
M18	x	1,0	17,52	17,6	17,5
M18	x	1,5	17,26	17,36	17,3
M18	x	2,0	17	17,15	17
M20	x	1,0	19,52	19,6	19,5
M20	x	1,5	19,26	19,36	19,3
M20	x	2,0	19	19,15	19
M22	x	1,5	21,26	21,36	21,3
M22	x	2,0	21	21,15	21
M24	x	1,5	23,26	23,38	23,3
M24	x	2,0	23,01	23,16	23
M25	x	1,5	24,26	24,38	24,3
M26	x	1,5	25,26	25,38	25,3
M27	x	2,0	26,01	26,16	26
M28	x	1,5	27,26	27,38	27,25
M30	x	1,5	29,26	29,38	29,25
M30	x	2,0	29,01	29,16	29

Dimensions in mm; P = Pitch

Tap Type Explanation

Stabil
Through hole tap type Stabil

- for through holes up to 4xD
- lead form B: 3.5–5 cutting leads, with spiral point
- straight Flutes
- also suitable for synchronised machining, with Wedlon flat and with extra long version
- due to the special geometry of the flutes, the chips are removed in the direction of cut

Salo-Rex
Blind hole tap type Salo-Rex

- for blind holes up to 3xD
- lead form C: 2–3 cutting leads, without spiral point
- lead form E: 1.5–2 cutting leads, without spiral point
- (35°, 42°, 45°, 50°) right hand helix
- also suitable for syncronised machining, with Weldon flat, with extra long version and through coolant
- the high helix angle ensures chips are discharged effectively against the direction of cut

6

TWIN
Through and blind hole tap type TWIN

- for blind and through holes up to 2xD
- lead form C: 2–3 cutting leads, without spiral point
- lead form D: 3.5–5 cutting leads, without spiral point
- lead form E: 1.5–2 cutting leads, without spiral point
- straight Flutes
- for steel, short chipping and hardened materials to 55 (62) HRc
- also with extra long version and through coolant

SL
Blind hole tap type SL

- for blind holes up to 2xD
- lead form C: 2–3 cutting leads, without spiral point
- lead form E: 1.5–2 cutting leads, without spiral point
- (15°, 25°, 30°) slow right hand helix
- for steel, titanium alloys and Inconel 718
- also suitable for synchronised machining, with extra long version and through coolant
- also suitable for difficult operating conditions such as cross holes

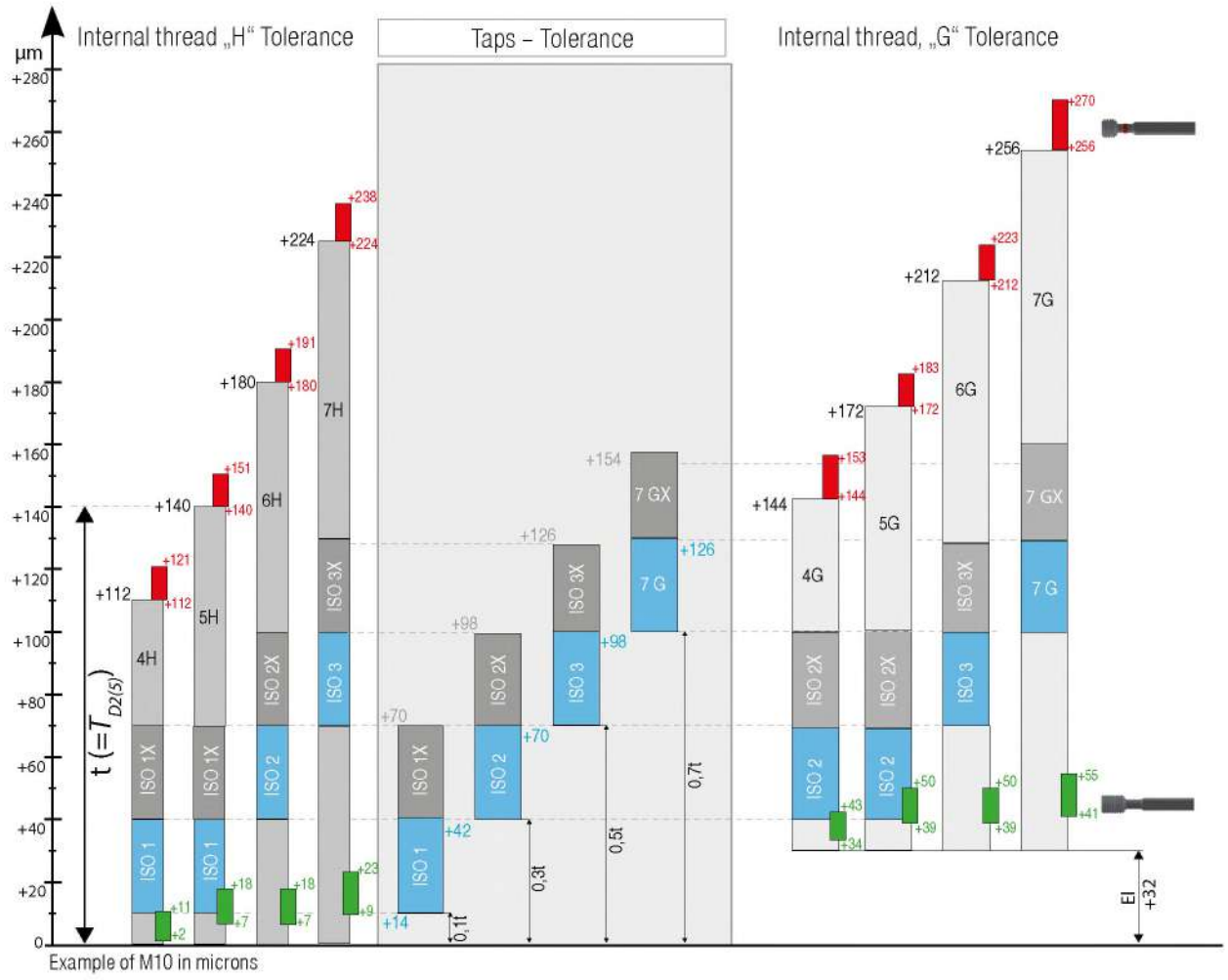
DL
Through hole tap type DL

- for through holes up to 4xD
- lead form C: 3.5–5 cutting leads, without spiral point
- 15° left hand helix
- suitable for steel, titanium alloys and Inconel 718
- the chips are discharged in the direction of cut

Spanlos
Thread former type Spanlos

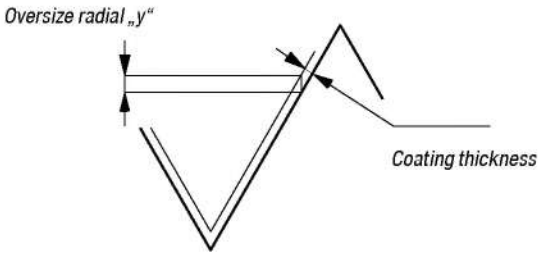
- for blind and through holes up to 3xD
- lead form C: 2–3 cutting leads, without spiral point
- for cold formable materials up to 1400 N/mm^2
- suitable for synchronised machining, with lubrication grooves and internal cooling

Thread tolerances and recommended manufacturing tolerances



Workpieces to be plated require oversize taps.
The interference depends on the coating thickness and the flank angle.

at	60° Flank angle	Oversize ≙ 4 x coating thickness
	55° Flank angle	Oversize ≙ 4.331 x coating thickness
	30° Flank angle	Oversize ≙ 7.727 x coating thickness

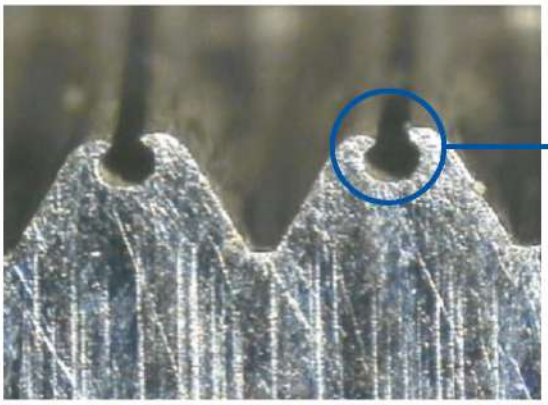


Application class of the tap designation according to		Tolerance class of the internal thread to be cut				
DIN	ISO					
4H	ISO1	4H	5H	-	-	-
6H	ISO2	4G	5G	6H	-	-
6G	ISO3	-	(4E)	6G	7H	8H
7G	-	-	-	(6E)	7G	8G

For special applications, e.g. abrasive cast iron materials or plastics other dimensions have to be chosen which are determined on previous experience. In such cases an „X“ is added to the short designation of the tolerance, e.g. ISO 2X, however the tolerance zone assignment may be limited (6HX for tolerance zone 6H and 5G). In addition it should be taken into account that the dimensions of the internal thread do not only depend on the dimensions of the tap but on the material to be machined and all production conditions. For first taps and intermediate taps no thread dimensions are determined.

Thread formers

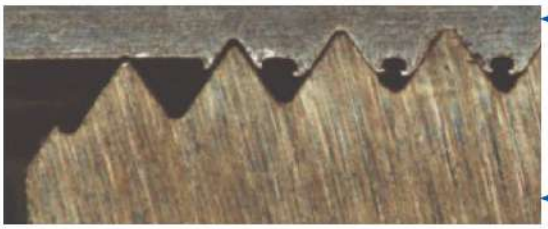
Spanlos thread forming taps for cold-formable materials up to 1400 N/mm² or at least 5 % elongation. The thread is produced by plastic deformation. The molded thread has very high strength.



Prior to forming a thread, you should ensure that a molded thread is acceptable. In certain sectors, the forming of a thread is **not** permitted. Dirt or bacteria can settle in the formed crown.

Important

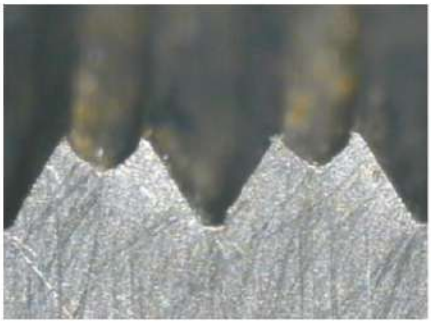
Incremental pressure forming



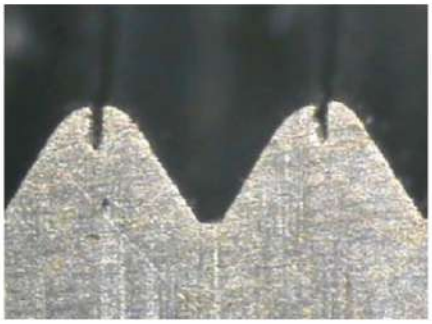
The thread profile is pressed gradually into the material via the start (leading edge) of the tap.

Properties

- one type can be used in different materials
- for through and blind holes
- very good thread surface quality
- high static and dynamic strength thread
- secure machining of deep and counterbored threads
- short machining times
- no chip problems
- no swarf
- high process security
- HSS-E and HSS-PM taps for materials up to 33 HRC with a minimum elongation of 5 %



Underformed – core hole too large



Overformed – core hole too small

Perfect form – core hole correct

Troubleshooting

Poor tool life

Cause

- overload fractures of the cutting edge on the lead
- hardness or tool material not suitable for the application
- core hole too small, or work hardened
- insufficient lubrication or incorrect application parameters

Remedy

- a longer lead or more flutes for the same lead length, giving a greater number of cutting teeth
- in reground tools the hardness can be reduced, apply correct parameters for regrinding
- increase frequency of changes or regrinding of the drill
- use the correct operating parameters for drilling
- select the correct lubricant and ensure adequate supply

Axial thread error

Cause

- selected geometry is not suitable
- spindle speed is wrong compared with feed (synchronisation error)
- blind hole taps are used with high feed pressure
- through hole taps are used with low feed pressure

Remedy

- check programming and pitch control or machine synchronisation
- use tapping chuck with length compensation
- increase retraction feed pessure
- increase feed pessure

Oversize thread

Cause

- thread tolerances of tool and thread gauge do not match
- burred tool edges after regrinding
- cold pressure welding

Remedy

- check the correct tolerances for tool and thread gauge
- carefully deburr
- use appropriate (positive) geometry
- reduce cutting speed
- use different surface treatment or coating
- use tapping chuck with length compensation
- use appropriate lubricant

Broken tool

Cause

- tool is worn
- tool has hit the bottom of the hole
- weld deposits
- core hole too small
- chip trapping
- incorrect cutting speed
- chip trapping in the flute
- insufficient cooling / lubrication

Remedy

- employ set taps
- use a tool with lower helix
- use tools with a shorter / longer lead
- check the pre-drilling depth and the thread depth
- drill core hole deeper
- correct cutting speed
- use a different coating or surface treatment
- use tool holder with length compensation
- use suitable lubricant
- use correct core hole
- change geometry and / or flute type
- note chip shape and chip formation

Coatings

vap.
- vaporised
- vaporisation (vapour-deposition) prevents cold welds from forming on the tool and increases the surface hardness and thus the wear resistance

nitr.
- nitrided
- nitriding increases wear resistance and offers low friction properties

vap. + nitr.
- vaporized + nitrated
- combination of increased surface hardness and lubricant carrier

TiN
- TiN coating
- maximum application temperature: 450 °C

TiN GS
- titanium nitride low friction layer
- high wear resistance with low friction properties
- maximum application temperature: 450 °C

TiCN
- TiCN multilayer coating
- maximum application temperature: 450 °C

Ti200
- TiN coating
- well suited for high cutting speeds during thread forming
- maximum application temperature: 450 °C

OSM
- hard material layer and anti-friction layer
- for use in high-strength steels

CH
- amorphous carbon layer
- for use in non-ferrous metals or aluminum
- reduces the material adhesion

HCr
- hard chromed
- for use in non-ferrous metals or aluminum
- very low surface roughness

CrN
- chromium-nitrogen coating
- very wear-resistant coating
- especially suitable for use in aluminum, but also for P, M and S materials

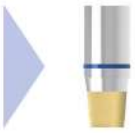
6

Coloured rings – overview

WNT \ Performance

for steel up to 750 N/mm²

Type ST uncoated tap for steel up to 750 N/mm² tensile strength



for steel to 1100 N/mm²

Type ST and VG coated tap for steel up to 1100 N/mm² tensile strength

for steel up to 1400 N/mm²

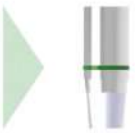
Type HR for steel up to 1400 N/mm² tensile strength

for corrosion and acid-resistant steels

Type VA for stainless steel

for cast iron materials

Type GG for cast iron



for aluminium and non-ferrous metal

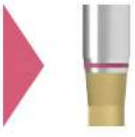
Type NW, Soft and Ms for aluminium, short-chipping brass and soft materials

for heat resistant alloys

Type Ti, Ni and AMPCO for heat-resistant steel, titanium and Inconel

for hardened steels

Type HT for hard machining



for universal application up to 1100 N/mm²

Type UNI for the all-purpose use

New products for machining technicians

NEW Circular Thread Milling Cutter – Type H

▲ Specialist for thread production in hardened and difficult-to-machine materials

Table of contents

WNT \ Performance

Premium quality tools for high performance.

The premium quality tools from the **WNT Performance** product line have been designed for specific applications and are distinguished by their outstanding performance. If you make high demands on the performance of your production and want to achieve the very best results, we recommend the Premium tools in this product line.

WNT \ Standard

Quality tools for standard applications.

The quality tools of the **WNT Standard** product line are high quality, powerful and reliable and enjoy the highest trust of our customers worldwide. Tools from this product line are the first choice for many standard applications and guarantee optimal results.

Symbol explanation

Version


No drilling required


Central internal coolant


Lateral internal coolant


Coolant supply either via the flange or centrally

VHM — Solid carbide

Shank

● = **Main application**

○ = Extended application

Thread / Flank angle

M — Explanation of the types of thread can be found on → **Page 74.**

Flank angle 60°

Applications

Circlip grooves


Full radius slot milling


Slot milling


Multipurpose milling


Chamfering and deburring


Gear milling

IR = internal right, IL = internal left

ER = external right, EL = external left


IR/IL + ER/EL

Overview Circular and Thread Milling Cutters

Modular Circular Milling Cutters with Carbide Indexable Inserts

- the perfect tool for every application
- various holders, depending on overhang
- the same threading insert for different pitches and diameters
- highest flexibility and stability
- in addition to circular thread milling, circular and linear milling operations can also be carried out

1st choice for small batch sizes and large threads

Thread Milling Cutters with Indexable Carbide Inserts

- exchange of the insert for different threads
- same threading insert for different diameters

Solid Carbide Thread Milling Cutters

- short machining times, ideal for volume production
- one tool for all thread types
- one thread milling cutter for different diameters with the same pitch

MicroMill

SGF

UNI

Toolfinder

				from bore diameter in mm
Modular Circular Milling Cutters with Carbide Indexable Inserts	Polygon		▲ high power transmission through polygon connection ▲ 3 and 6 edged inserts ▲ stable holders in solid carbide and steel	9.6
	Mini Mill		▲ three interlocking rib location ▲ compatible with popular manufacturer systems ▲ 3 and 6 edged inserts ▲ stable holders in solid carbide and steel	9.6
	System 300		▲ proven circular milling tool ▲ 3 edged inserts	7.9
Thread Milling Cutters with Indexable Carbide Inserts	MWN		▲ multi tooth thread milling cutter ▲ double sided inserts ▲ exclusively for thread production ▲ holder for tapered threads	9.0
	GZD		▲ multi tooth drilling and thread milling cutter ▲ for thread milling in solid material ▲ core hole and thread with one tool	14.0
	GZG		▲ multi tooth thread milling cutter ▲ exclusively for thread production	18.5
	EAW		▲ single point thread milling cutter ▲ inserts with 2 or 4 cutting edges ▲ exclusively for thread production ▲ insert holder with cylindrical shank DIN 1835	17.5
	EWM		▲ single point thread milling cutter ▲ inserts with 2 or 4 cutting edges ▲ exclusively for thread production ▲ integral insert holder to DIN 69871	43.0
Solid Carbide Thread Milling Cutters	Micro Mill		▲ solid carbide circular milling cutter for small diameters	1.25
	UNI		▲ circular hole and thread milling cutter ▲ core hole, countersink and thread with one tool ▲ up to 3xD in short or long chipping materials	4.5
	H		▲ circular thread milling cutters ▲ core hole, countersink and thread with one tool ▲ specifically for hardened materials, up to 2xD	2.3
	HR		▲ single point thread milling cutter ▲ exclusively for thread production ▲ up to 3xD in materials up to 63 HRC	4.0
	SFSE		▲ solid carbide thread milling cutter with chamfering facet ▲ only one tool for threading and chamfering	2.4
	SGF		▲ solid carbide thread milling cutter without chamfering facet ▲ exclusively for thread production	3.15

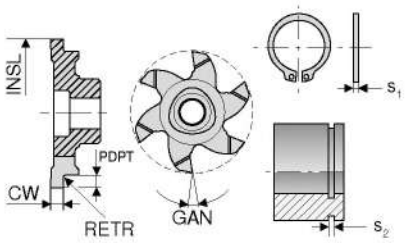
Thread / Flank angle								Applications					Tool holder
60°	55°	55°	60°	60°	80°	60°	30°	DIN 471/472					
M	G	BSW	UN	UNC	Pg	NPT	Tr						
MF		BSF		UNF									
11+12	13	13		15			14	6+7	8+9	10	10	16+17	18+19
27+28	28							20+21	22+23 24	23	25		29+30
34	35	35						31+32	33		33		36
37	38		38		39	39							40+41
42	42												43
44	45		46		45								47
48	48		48										49
50	50		50										51
53									52		52		
54													
55				55									
56													
57+59	57+59			58+60		58+60							
61+63 66	62+63	64		64+65									

7

Milling inserts for circlip grooves without chamfer

Polygon

DIN 471/472



Ti500

Solid carbide
W2

Size	$s_{2\ H13}$ mm	INSL mm	CW $_{-0,03}$ mm	PDPT mm	RETR mm	GAN °	s_1 mm	NOF	Article no. 50 880 ...	£
6	0.90	9.6	0.98	1.20	0.3	6	0.80	3	76.79	292
	1.10	11.7	1.18	1.00	0.3	6	1.00	3	73.61	294
	1.30	11.7	1.38	1.00	0.3	6	1.20	3	73.61	296
	1.60	11.7	1.68	1.00	0.3	6	1.50	3	73.61	298
7	1.10	16.0	1.18	0.90	0.3	6	1.00	6	102.25	301
	1.30	16.0	1.38	1.10	0.3	6	1.20	6	82.35	302
	1.60	16.0	1.68	1.25	0.3	6	1.50	6	82.35	304
	1.85	16.0	1.93	1.25	0.3	6	1.75	6	82.35	306
	1.10	17.7	1.18	0.90	0.3	6	1.00	6	103.77	308
	1.30	17.7	1.38	1.10	0.3	6	1.20	6	103.77	309
	1.60	17.7	1.68	1.25	0.3	6	1.50	6	103.77	310
	1.85	17.7	1.93	1.25	0.3	6	1.75	6	103.77	311
9	1.10	20.0	1.18	0.90	0.3	6	1.00	6	106.68	313
	1.30	20.0	1.38	1.10	0.3	6	1.20	6	106.68	314
	1.60	20.0	1.68	1.25	0.3	6	1.50	6	106.68	315
	1.85	20.0	1.93	1.25	0.3	6	1.75	6	106.68	316
	1.60	21.7	1.68	1.25	0.3	6	1.50	6	107.93	318
	1.85	21.7	1.93	1.25	0.3	6	1.75	6	107.93	319
	2.15	21.7	2.23	1.75	0.3	6	2.00	6	107.93	320
	2.65	21.7	2.73	1.75	0.3	6	2.50	6	107.93	321
10	1.30	26.0	1.38	1.10	0.3	6	1.20	6	89.79	322
	1.60	26.0	1.68	1.25	0.3	6	1.50	6	89.79	324
	1.85	26.0	1.93	1.25	0.3	6	1.75	6	89.79	326
	2.15	26.0	2.23	1.75	0.3	6	2.00	6	89.79	328
	2.65	26.0	2.73	1.75	0.3	6	2.20	6	89.79	330
	3.15	26.0	3.23	2.20	0.3	6	3.00	6	89.79	332

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	●

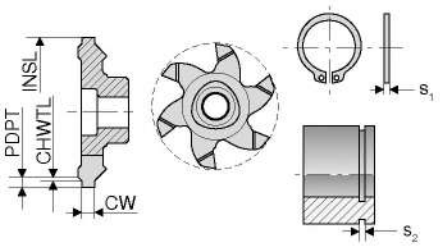
→ v_c/f_z Page 70

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

Milling inserts for circlip grooves with chamfer

▲ both edges chamfered 0.1x45°

Polygon | DIN 471/472



Ti500

Solid carbide

W2

Size	$s_{2\ H13}$ mm	INSL mm	$CW_{-0,03}$ mm	PDPT mm	CHWTL mm	s_1 mm	NOF	Article no. 50 879 ... £	
7	1.10	16.0	1.18	0.50	0.10	1.00	6	109.59	292
	1.30	16.0	1.38	0.85	0.15	1.20	6	90.62	302
	1.60	16.0	1.68	1.00	0.15	1.50	6	90.62	304
	1.85	16.0	1.93	1.25	0.20	1.75	6	90.62	306
9	1.10	20.0	1.18	0.50	0.10	1.00	6	116.64	307
	1.30	20.0	1.38	0.85	0.15	1.20	6	116.64	308
	1.60	20.0	1.68	1.00	0.15	1.50	6	116.64	309
	1.60	21.7	1.68	1.00	0.15	1.50	6	116.64	312
	1.85	20.0	1.93	1.25	0.20	1.75	6	116.64	310
	1.85	21.7	1.93	1.25	0.20	1.75	6	116.64	314
	2.15	21.7	2.23	1.50	0.20	2.00	6	116.64	316
	2.65	21.7	2.73	1.75	0.20	2.50	6	116.64	318
10	1.30	26.0	1.38	0.85	0.15	1.20	6	97.56	322
	1.60	26.0	1.68	1.00	0.15	1.50	6	97.56	324
	1.85	26.0	1.93	1.25	0.20	1.75	6	97.56	326
	2.15	26.0	2.23	1.50	0.20	2.00	6	97.56	328
	2.65	26.0	2.73	1.75	0.20	2.50	6	97.56	330
	3.15	26.0	3.23	1.75	0.20	3.00	6	97.56	332

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	●

→ v_c/f_z Page 70

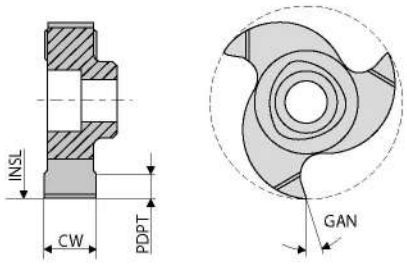
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

7

Milling insert without profile

- with double sided edge break of 0.1x45°
- size 7: from 5.0 mm groove width with ground chip breaker
- size 10: from 6.5 mm groove width with ground chip breaker

Polygon



Ti500

Size	CW +/-0,02 mm	INSL mm	PDPT mm	GAN °	NOF	Solid carbide W2 Article no. 50 875 ... £	
6	1.5	11.7	2.25	6	3	76.79	302
	2.0	11.7	2.25	6	3	76.79	304
	2.5	11.7	2.25	6	3	79.15	306
	3.0	11.7	2.25	6	3	79.15	308
7	3.5	16.0	3.50	0	3	49.75	310
	3.5	16.0	3.50	8	3	49.75	312
	3.5	16.0	3.50	12	3	49.75	314
	5.0	16.0	3.50	0	3	56.45	316
	5.0	16.0	3.50	8	3	56.45	318
	5.0	16.0	3.50	12	3	56.45	320
10	4.0	25.0	5.70	0	3	52.02	330
	4.0	25.0	5.70	8	3	52.02	332
	4.0	25.0	5.70	12	3	52.02	334
	5.0	25.0	5.70	8	3	104.05	337
	6.5	25.0	5.70	0	3	63.41	340
	6.5	25.0	5.70	8	3	63.41	342
	6.5	25.0	5.70	12	3	63.41	344
	8.0	25.0	5.70	0	3	70.12	350
	8.0	25.0	5.70	8	3	70.12	352
	8.0	25.0	5.70	12	3	70.12	354

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	●

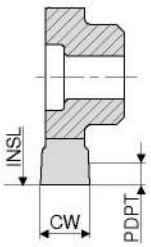
→ v_c/f_z Page 70

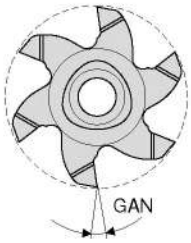
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

Milling insert without profile

▲ both edges chamfered 0.1x45°

Polygon





Ti500

Size	CW +/-0,02 mm	INSL mm	PDPT mm	GAN °	NOF	Solid carbide W2 Article no. 50 876 ... £	
7	1.5	17.7	4.0	6	6	93.67	307
	2.0	17.7	4.0	6	6	94.21	308
	2.5	17.7	4.0	6	6	95.20	309
	3.0	16.0	3.5	6	6	86.06	302
	4.0	16.0	3.5	6	6	91.31	304
	5.0	16.0	3.5	6	6	93.67	306
9	1.5	21.7	5.0	6	6	107.93	314
	2.0	21.7	5.0	6	6	108.76	315
	2.5	21.7	5.0	6	6	108.76	316
	3.0	21.7	5.0	6	6	109.85	317
	3.0	20.0	4.2	6	6	109.85	311
	4.0	20.0	4.2	6	6	113.18	312
	5.0	20.0	4.2	6	6	118.98	313
10	1.5	27.7	6.8	6	6	133.51	330
	2.0	27.7	6.8	6	6	135.30	332
	2.5	27.7	6.8	6	6	135.30	334
	3.0	26.0	6.2	6	6	91.31	322
	3.0	27.7	6.8	6	6	136.85	336
	4.0	26.0	6.2	6	6	96.31	324
	5.0	26.0	6.2	6	6	120.51	326
	6.5	26.0	6.2	6	6	98.80	328

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	●

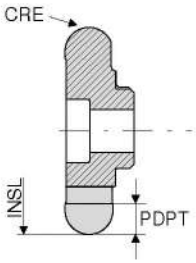
→ v_c/f_z Page 70

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

7

Milling inserts for radius milling

Polygon



Ti500

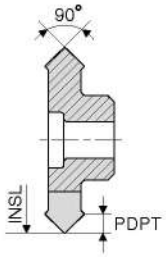
Size	CRE mm	INSL mm	PDPT mm	NOF	Solid carbide W2 Article no. 50 886 ... £	
6	1.100	9.6	1.20	3	73.61	702
	0.788	11.7	2.25	3	73.61	704
	1.100	11.7	2.25	3	73.61	708
	1.190	11.7	2.25	3	73.61	706
7	0.788	17.7	4.20	6	93.12	712
	1.100	17.7	4.20	6	93.12	714
9	0.785	21.7	5.00	6	112.20	720
	1.000	21.7	5.00	6	112.20	722
	1.200	21.7	5.00	6	112.20	724
	1.400	21.7	5.00	6	112.20	726
	1.500	21.7	5.00	6	112.20	728

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	●

→ v_c/f_z Page 70

Milling inserts for chamfering and deburring

Polygon



Ti500

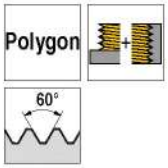
Size	PDPT mm	INSL mm	NOF	Solid carbide W2 Article no. 50 884 ... £	
6	1.2	9.6	3	73.61	292
	1.5	11.7	3	73.61	294
7	1.9	16.0	6	88.96	302
	1.3	17.7	6	111.37	304
9	1.9	20.0	6	114.98	312
	1.6	21.7	6	112.20	314
10	2.1	26.0	6	97.56	322

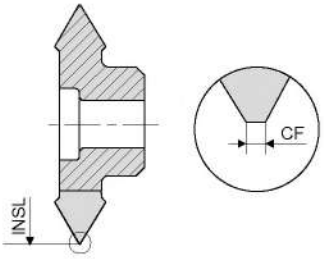
Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	●

→ v_c/f_z Page 70

Thread milling insert – Partial profile

▲ with holder 50 805 010 / 50 805 011 maximum pitch of 3 mm is possible!





Size	TP	INSL	CF	NOF	Solid carbide W2 Article no. 50 882 ... £	
	mm	mm	mm			
6	1 - 3	11.7	0.10	3	106.40	292
7	1 - 3	17.7	0.10	6	119.40	306
	1 - 4	16.0	0.10	6	96.31	302
	2,5 - 4	16.0	0.25	6	119.40	304
9	1 - 2	21.7	0.10	6	121.07	314
	1 - 3	20.0	0.10	6	121.07	312
	2 - 4	21.7	0.15	6	121.07	316
10	1 - 3	26.0	0.10	6	103.64	322
	2,5 - 5	26.0	0.25	6	128.55	324

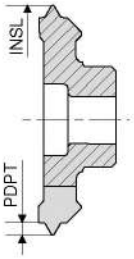
Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	●

→ v_c/f_z Page 70

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

Thread milling insert – Full profile

Polygon | IR/IL | 60° | M



Ti500

Size	TP mm	INSL mm	PDPT mm	NOF	Solid carbide W2 Article no. 50 881 ... £	
6	1	9.6	0.572	3	129.90	292
	1,5	9.6	0.875	3	129.90	293
	2	10.5	1.157	3	129.90	296
7	1,5	16.0	0.875	6	118.98	302
	2	16.0	1.157	6	118.98	304
	2,5	16.0	1.430	6	118.98	306
	3	16.0	1.702	6	118.98	310
	M20x2,5	16.0	1.430	6	124.95	308 1)
9	1,5	20.0	0.875	6	152.07	312
	2	20.0	1.157	6	152.07	314
	M24x3	20.0	1.702	6	152.07	316 1)
10	1,5	26.0	0.875	6	126.32	322
	2	26.0	1.157	6	126.32	324
	3	26.0	1.702	6	126.32	330
	3,5	26.0	1.982	6	126.32	332
	4	26.0	2.263	6	126.32	334
	4,5	26.0	2.553	6	126.32	336
	5	26.0	2.836	6	156.62	337
	M30x3,5	24.0	1.982	6	156.62	331 1)
	M36x4	26.0	2.263	6	156.62	335 1)

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	●

1) profile corrected

→ v_c/f_z Page 70

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

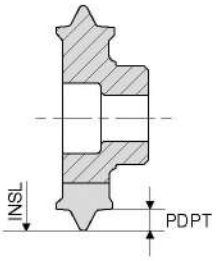
Thread milling insert – Full profile

▲ 50 883 322 for threads > 1"

Polygon

55°

G | BSW | BSF



Ti500

Size	TPI 1/"	TP mm	INSL mm	PDPT mm	NOF	Solid carbide W2 Article no. 50 883 ... £	
6	19	1.337	9.6	0.871	3	129.90	292
7	14	1.814	17.7	1.177	6	144.70	308
	14	1.814	16.0	1.177	6	147.64	304
	11	2.309	16.0	1.494	6	118.98	302
	10	2.540	16.0	1.646	6	147.64	306
9	14	1.814	20.0	1.177	6	152.07	316
	11	2.309	20.0	1.494	6	152.07	314
10	11	2.309	26.0	1.494	6	126.32	322

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	●

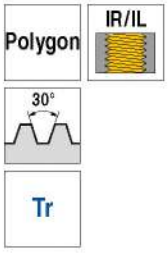
→ v_c/f_z Page 70

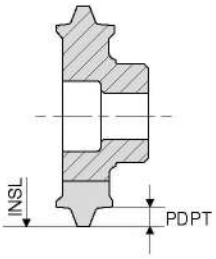
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

7

Thread milling insert – Full profile

▲ DIN 103





Size	TP mm	INSL mm	PDPT mm	NOF	Thread	Solid carbide W2 Article no. 50 872 ... £	
6	2	11.7	1.25	3	Tr 16x2 - Tr 20x2	75.50	292
	3	11.0	1.75	3	Tr 18x3 - Tr 20x3	75.50	294
	4	12.0	2.25	3	Tr 20x4	75.50	296 1)
7	3	14.0	1.75	3	Tr 24x3 - Tr 32x3	102.99	302 2)
	5	15.3	2.75	3	Tr 28x5 - Tr 36x5	102.99	306 3)
	5	15.3	2.75	3	Tr 26x5	102.99	304 3)
	6	16.2	3.50	3	Tr 34x6 - Tr 42x6	102.99	310 2)
	6	16.2	3.50	3	Tr 30x6 - Tr 32x6	102.99	308 2)
10	5	25.0	2.75	3	Tr 44x5 - Tr 48x5	130.41	322 4)
	7	22.0	3.75	3	Tr 38x7 - Tr 42x7	130.41	324 4)
	7	22.0	3.75	3	Tr 44x7	130.41	326 1)
	8	25.0	4.50	3	Tr 46x8 - Tr 48x8	151.03	328 4)
	8	25.0	4.50	3	Tr 50x8 - Tr 52x8	151.03	330 4)
	9	25.0	5.00	3	Tr 55x9 - Tr 60x9	151.03	332 4)
	10	25.0	5.50	3	Tr 65x10 - Tr 80x10	151.03	334 4)

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	●

1) profile corrected
2) Not suitable for the 50 805 011 and 50 805 010 holders
3) Not suitable for the 50 805 011 and 50 805 010 holders / profile corrected
4) Not suitable for the 50 805 026, 50 805 025 and 50 805 024 holders

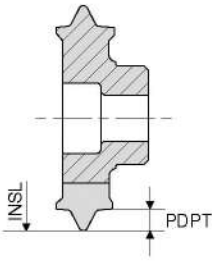
→ v_c/f_z Page 70

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

Thread milling insert – Full profile

▲ with holder 50 805 010 / 50 805 011 maximum pitch of 3 mm is possible!

Polygon | IR/IL | 60° | UNC



Ti500

Size	TPI	INSL	PDPT	NOF	Solid carbide W2 Article no. 50 886 ... £	
	1/"	mm	mm			
6	12.0	9.6	1.228	3	129.90	202
	11.0	10.5	1.355	3	129.90	204
	10.0	11.7	1.485	3	129.90	206
7	9.0	16.0	1.577	6	147.64	212
9	8.0	18.0	1.809	6	152.07	222
	7.0	20.0	2.043	6	152.07	224
10	6.0	24.0	2.454	6	156.62	232
	5.0	26.0	2.979	6	156.62	234
	4.5	26.0	3.289	6	156.62	236

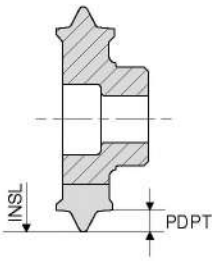
Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	●

→ v_c/f_z Page 70

Thread milling insert – Full profile

▲ with holder 50 805 010 / 50 805 011 maximum pitch of 3 mm is possible!

Polygon | IR/IL | 60° | UNF



Ti500

Size	Thread	INSL	PDPT	NOF	Solid carbide W2 Article no. 50 886 ... £	
		mm	mm			
6	1/2 - 20	9.6	0.733	3	129.90	302
	9/16 - 18	10.5	0.827	3	129.90	304
	3/4 - 16	11.7	0.945	3	129.90	306
7	7/8 - 14	17.7	1.071	6	144.70	312
9	1 - 12	20.0	1.228	6	144.70	322

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	●

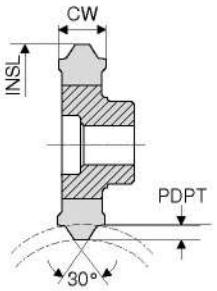
→ v_c/f_z Page 70

Gear cutters, DIN 5480

▲ Z_W = Tooth Number Wave

Polygon 

Ti500



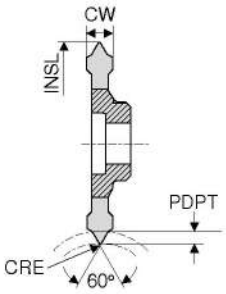
Size	Wave	Module	Z_w	CW mm	INSL mm	PDPT mm	NOF	Solid carbide W2 Article no. 50 874 ... £	
7	W11	0.80	12	3	15.85	0.80	6	102.09	011
	W14	0.80	16	3	16.00	0.80	6	102.09	014
	W16	0.80	18	3	16.00	0.80	6	102.09	016
	W20	0.80	24	3	16.00	0.80	6	102.09	020
	W24	1.25	18	4	16.00	1.25	6	110.06	024
	W25	2.00	11	7	16.00	2.00	3	125.89	025
	W30	1.25	22	4	16.00	1.25	6	110.06	031
	W30	1.25	20	5	16.00	1.25	6	110.06	030
	W35	2.00	16	5	16.00	2.00	6	113.26	035
	W42	1.25	32	4	16.00	1.25	6	110.06	042
	W50	2.00	24	5	16.00	2.00	6	113.26	050

Gear cutters, DIN 5481

▲ Z_W = Tooth Number Wave

Polygon 

Ti500



Size	Wave	Z_w	CW mm	INSL mm	CRE mm	PDPT mm	NOF	Solid carbide W2 Article no. 50 874 ... £	
10	26 x 30	35	3	26	0.3	1.638	6	102.09	126
	40 x 44	38	3	26	0.4	1.940	6	102.09	140

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	●

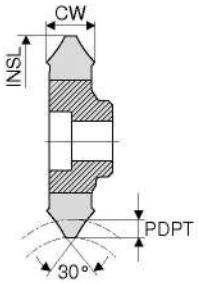
→ v_c/f_z Page 70

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

Gear cutters, DIN 5482

▲ Z_w = Tooth Number Wave

Polygon



Ti500

Size	Wave	Module	Z_w	CW mm	INSL mm	PDPT mm	NOF	Solid carbide W2 Article no. 50 874 ... £	
7	15 x 12	1.60	8	3.0	16	1.50	6	113.26	215
	17 x 14	1.60	9	5.0	16	1.50	6	102.09	217
	20 x 17	1.60	12	5.0	16	1.50	6	102.09	220
	25 x 22	1.60	14	5.0	16	1.65	6	113.26	225
10	35 x 31	1.75	18	6.5	26	2.00	6	117.92	235
	55 x 50	2.00	26	6.5	26	2.75	6	117.92	255

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	●

→ v_c/f_z Page 70

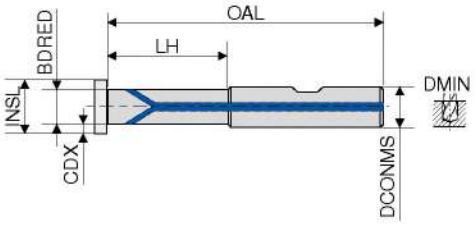
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

7

Polygon circular end milling cutter

- ▲ for maximum machining depth, note insert width (CW)
- ▲ size 6 = for INSL 9,6; 10,5; 11,7; 12
- ▲ size 7 = for INSL 16; 17,7
- ▲ size 9 = for INSL 18; 20; 21,7
- ▲ size 10 = for INSL 24; 25; 26; 27,7

Polygon



Size	LH	CDX	DCONMS $_{h6}$	OAL	BDRED	DMIN	torque moment	HM W1 Article no. 50 805 ...		HM W1 Article no. 50 805 ...	
	mm	mm	mm	mm	mm	mm	Nm	£		£	
	20.00	2.25	12	67.5	7.0	12	1,0			223.16	050 [1]
	20.00	2.25	12	67.5	7.0	12	1,0			347.67	051
	20.00	2.25	12	67.5	7.0	12	1,0	347.67	052		
6	30.00	2.25	12	80.0	7.0	12	1,0			366.49	053
	30.00	2.25	12	80.0	7.0	12	1,0	366.49	054		
	40.00	2.25	12	100.0	7.0	12	1,0			394.58	055
	40.00	2.25	12	100.0	7.0	12	1,0	394.58	056		
	20.90	4.00	12	67.4	9.0	18	1,1			160.64	002 [1]
	21.00	4.00	12	67.4	9.0	18	1,1			469.70	004
	21.00	4.00	12	67.4	9.0	18	1,1	347.67	005		
7	36.00	4.00	12	82.4	9.0	18	1,1			451.46	008
	36.00	4.00	12	82.4	9.0	18	1,1	371.20	085		
		4.00	12	122.5	12.0	18	1,1	462.77	010		
		4.00	12	82.4	12.0	18	1,1	616.19	011		
	29.75	5.00	16	80.0	11.5	22	3,8			223.16	070 [1]
	30.00	5.00	16	80.0	11.5	22	3,8			411.03	071
9	30.00	5.00	16	80.0	11.5	22	3,8	411.03	072		
	50.00	5.00	16	100.0	11.5	22	3,8			422.79	073
	50.00	5.00	16	100.0	11.5	22	3,8	422.79	074		
	20.50	5.70	16	105.0	15.5	28	5,5	870.75	025		
	20.50	6.80	16	149.7	15.5	28	5,5	601.68	024		
	20.50	6.80	20	175.4	15.5	28	5,5	681.09	026		
	30.40	6.80	16	79.6	13.6	28	5,5			168.10	012 [1]
10	30.50	6.80	16	79.6	13.6	28	5,5	411.03	015		
	30.50	6.80	16	79.6	13.6	28	5,5			469.70	014
	45.50	6.80	16	94.6	13.6	28	5,5	422.79	021		
	45.50	6.80	16	94.6	13.6	28	5,5			280.92	020
	60.50	6.80	16	109.6	13.6	28	5,5			290.13	022
	60.50	6.80	16	109.6	13.6	28	5,5	446.30	023		

1) Steel version

Key D

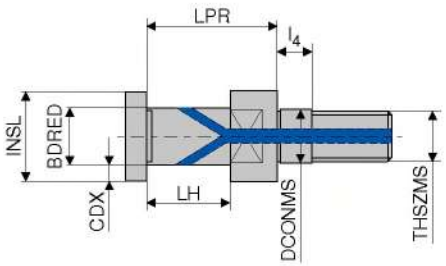
Clamping screw

Spare parts Size		Y7 Article no. 80 950 ... £			2A Article no. 70 960 ... £	
6	T08 - IP	13.49	125	M2,5x7	5.70	246
7	T08 - IP	13.49	125	M3x13	5.70	231
9	T15 - IP	15.77	128	M4x13	5.70	236
10	T20 - IP	16.56	129	M5x13,5	5.70	243

Polygon circular screw-in milling cutter

- size 7 = for INSL 16; 17,7
- size 10 = for INSL 25; 26
- steel version

Polygon



Size	CDX	LH	DCONMS $_{h6}$	LPR	THSZMS	TQX	BDRED	l_4	torque moment	W1 Article no. 50 799 ...	
	mm	mm	mm	mm		Nm	mm	mm	Nm	£	
7	3.5	16.0	8.5	26.0	M8	25	9.0	5.5	1,1	279.47	002
10	5.7	25.5	12.5	38.5	M12	60	13.6	5.0	5,5	279.47	012

7


Key D


Clamping screw

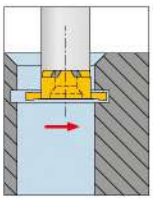
Spare parts		Y7 Article no. 80 950 ...			2A Article no. 70 960 ...	
Size		£			£	
7	T08 - IP	13.49	125	M3x13	5.70	231
10	T20 - IP	16.56	129	M5x13,5	5.70	243

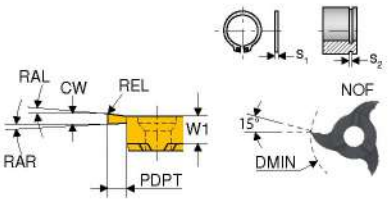
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

MiniMill – Milling insert for circlip grooves

Mini Mill | ≥ Ø 10 mm | DIN 471/472

CWX500





Size	DMIN	$S_{2\ H13}$	$CW_{-0,02}$	PDPT	W1	RAR	REL	s_1	NOF	W2 Article no. 53 006 ...	
	mm	mm	mm	mm	mm	°	mm	mm		£	
10	10	0.70	0.74	1.5	3.50	1		0.60	3	67.52	070
	10	0.80	0.84	1.5	3.50	1		0.70	3	67.52	080
	10	0.90	0.94	1.5	3.50	1		0.80	3	67.52	090
	10	1.10	1.21	1.5	3.50	3		1.00	3	60.48	110
	10	1.30	1.41	1.5	3.50	3	0.10	1.20	3	60.48	130
	10	1.60	1.71	1.5	3.50	3	0.10	1.50	3	60.48	160
	12	1.10	1.21	2.5	3.50	3		1.00	3	60.48	112
	12	1.30	1.41	2.5	3.50	3	0.10	1.20	3	60.48	132
	12	1.60	1.71	2.5	3.50	3	0.10	1.50	3	60.48	162
18	18	0.70	0.74	1.5	5.75	1		0.60	3	69.05	270
	18	0.80	0.84	1.7	5.75	1		0.70	3	69.05	280
	18	0.90	0.94	1.9	5.75	1		0.80	3	69.05	290
	18	1.10	1.21	3.5	5.75	3		1.00	3	64.90	310
	18	1.30	1.41	3.5	5.75	3	0.10	1.20	3	64.90	330
	18	1.60	1.71	3.5	5.75	3	0.10	1.50	3	64.90	360
22	22	0.70	0.74	1.5	5.70	1		0.60	3	73.32	470
	22	0.80	0.84	1.7	5.70	1		0.70	3	73.32	480
	22	0.90	0.94	1.9	5.70	1		0.80	3	65.58	490
	22	1.00	1.04	2.1	5.70	1		0.90	3	69.44	500
	22	1.10	1.21	2.5	5.70	1		1.00	3	69.44	510
	22	1.30	1.41	4.5	5.70	3	0.10	1.20	3	66.13	530
	22	1.60	1.71	4.5	5.70	3	0.10	1.50	3	66.13	560
	22	1.85	1.96	4.5	5.70	3	0.15	1.75	3	66.13	585
	22	2.15	2.26	4.5	5.70	3	0.15	2.00	3	66.13	615
	22	2.65	2.76	4.5	5.70	3	0.15	2.50	3	66.13	665
	22	3.15	3.26	4.5	5.70	3	0.20	3.00	3	66.13	415
	22	4.15	4.26	4.5	5.70	3	0.20	4.00	3	66.13	515
	22	5.15	5.26	4.5	5.70	3	0.20	5.00	3	66.13	605

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	○
Hardened materials	○

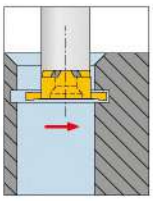
→ v_c/f_z Page 71

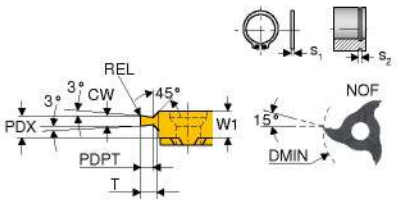
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

MiniMill – Milling insert for circlip grooves with chamfer facet

Mini Mill | ≥ Ø 22 mm | DIN 471/472

CWX500





Size	DMIN mm	$s_{2\ H13}$ mm	$CW_{-0,02}$ mm	T mm	PDPT mm	W1 mm	PDX mm	REL mm	s_1 mm	NOF	W2 Article no. 53 006 ... £	
22	22	1.10	1.21	0.50	0.49	5.85	5.07		1.00	3	71.67	805
	22	1.30	1.41	0.70	0.67	5.85	5.17		1.20	3	71.67	807
	22	1.30	1.41	0.85	0.83	5.85	5.17		1.20	3	71.67	808
	22	1.60	1.71	0.85	0.83	5.85	5.07		1.50	3	71.67	809
	22	1.60	1.71	1.00	0.97	5.85	5.07		1.50	3	71.67	810
	22	1.85	1.96	1.25	1.23	5.85	5.19	0.15	1.75	3	71.67	812
	22	2.15	2.26	1.50	1.47	5.85	5.34	0.15	2.00	3	71.67	815
	22	2.65	2.76	1.75	1.72	5.85	5.09	0.15	2.50	3	71.67	817
	22	2.65	2.76	1.50	1.47	5.85	5.09	0.15	2.50	3	71.67	816
	22	3.15	3.26	1.75	1.72	5.85	5.34	0.20	3.00	3	71.67	818
	22	4.15	4.26	2.50	2.47	5.85	5.34	0.20	4.00	3	71.67	825
	22	4.15	4.26	2.00	1.97	5.85	5.34	0.20	4.00	3	71.67	820

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	○
Hardened materials	○

→ v_c/f_z Page 71

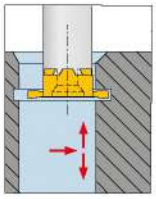
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

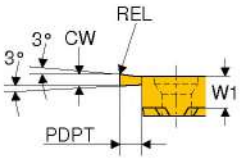
7

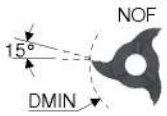
MiniMill – Milling insert for groove milling

Mini Mill | ≥ Ø 10 mm

CWX500







Size	DMIN	CW +0,02	PDPT	W1	REL	NOF	W2 Article no. 53 007 ...	
	mm	mm	mm	mm	mm		£	
10	10	1.0	1.5	3.50		3	67.52	010
	10	1.5	1.5	3.50	0.2	3	60.48	015
	10	2.0	1.5	3.50	0.2	3	60.48	020
	10	2.5	1.5	3.50	0.2	3	60.48	025
	12	1.5	2.0	3.50	0.2	6	60.93	114
	12	1.5	2.5	3.50	0.2	3	60.48	115
	12	2.0	2.0	3.50	0.2	6	60.93	119
	12	2.0	2.5	3.50	0.2	3	60.48	120
	12	2.5	2.5	3.50	0.2	3	60.48	125
14	14	1.0	2.5	4.50		3	69.05	210
	14	1.5	2.5	4.50	0.2	3	63.37	215
	14	2.0	2.5	4.50	0.2	3	63.37	220
	14	2.5	2.5	4.50	0.2	3	63.37	225
	16	1.5	3.5	4.50	0.2	3	63.37	315
	16	2.0	3.5	4.50	0.2	3	63.37	320
	16	2.5	3.5	4.50	0.2	3	63.37	325
18	18	1.5	3.5	5.75	0.1	6	68.97	414
	18	1.5	3.5	5.75	0.2	3	64.90	415
	18	2.0	3.5	5.75	0.2	6	68.97	419
	18	2.0	3.5	5.75	0.2	3	64.90	420
	18	2.5	3.5	5.75	0.2	6	68.97	424
	18	2.5	3.5	5.75	0.2	3	64.90	425
	18	3.0	3.5	5.75	0.2	6	68.97	429
	18	3.0	3.5	5.75	0.2	3	64.90	430
	18	4.0	3.5	5.75	0.2	3	37.68	440
22	22	1.0	4.5	6.20	0.1	6	67.54	810
	22	1.5	4.5	6.20	0.1	6	146.66	815
	22	1.5	4.5	5.70	0.2	3	77.36	515
	22	2.0	4.5	5.70	0.2	3	77.36	520
	22	2.0	4.5	6.20	0.2	6	146.66	820
	22	2.5	4.5	5.70	0.2	3	77.36	525
	22	2.5	4.5	6.20	0.2	6	146.66	825
	22	3.0	4.5	5.70	0.2	3	77.36	530
	22	3.0	4.5	6.20	0.2	6	146.66	830
	22	3.5	4.5	5.70	0.2	3	39.36	535
	22	4.0	4.5	5.70	0.2	3	77.36	540
	22	4.0	4.5	6.20	0.2	6	146.66	840
28	25	2.0	5.0	6.50	0.2	3	77.36	620
	25	2.5	5.0	6.50	0.2	3	77.36	625
	25	3.0	5.0	6.50	0.2	3	77.36	630
	25	3.5	5.0	6.50	0.2	3	77.36	635
	25	4.0	5.0	6.50	0.2	3	77.36	640
	28	1.0	6.5	6.25	0.1	6	75.08	610
	28	1.5	6.5	6.25	0.1	6	74.05	615
	28	1.5	6.5	6.50	0.2	3	77.36	715
	28	2.0	6.5	6.25	0.2	6	74.96	721
	28	2.0	6.5	6.50	0.2	3	77.36	720
	28	2.5	6.5	6.25	0.2	6	75.74	726
	28	2.5	6.5	6.50	0.2	3	77.36	725
	28	3.0	6.5	6.50	0.2	3	77.36	730
	28	3.0	6.5	6.25	0.2	6	76.52	731
	28	3.5	6.5	6.50	0.2	3	77.36	735
	28	4.0	6.5	6.25	0.2	6	78.21	741
	28	4.0	6.5	6.50	0.2	3	77.36	740
	28	5.0	6.5	6.50	0.2	3	45.08	750
	28	6.0	6.5	6.50	0.2	3	46.00	760

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	○
Hardened materials	○

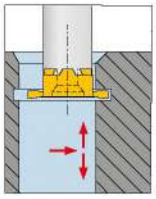
→ v_c/f_z Page 71

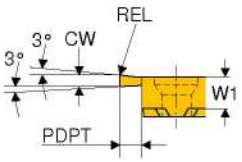
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

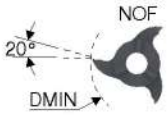
MiniMill – Milling insert for groove milling (specialist for aluminium)

Mini Mill | ≥ Ø 32 mm

CWX500







Size	DMIN mm	CW +0,02 mm	PDPT mm	W1 mm	REL mm	NOF	W2 Article no. 53 007 ... £	
28	32	2.0	8.5	6.5	0.2	3	86.34	920
	32	2.5	8.5	6.5	0.2	3	86.34	925
	32	3.0	8.5	6.5	0.2	3	86.34	930

Steel	
Stainless steel	
Cast iron	
Non ferrous metals	●
Heat resistant alloys	
Hardened materials	

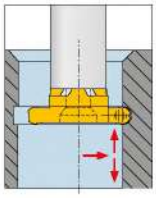
→ v_c/f_z Page 71

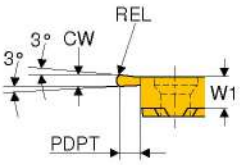
7

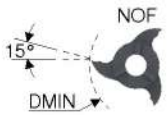
MiniMill – Milling insert for groove milling with full radius

Mini Mill | ≥ Ø 22 mm

CWX500







Size	DMIN mm	CW +0,03 mm	PDPT mm	W1 mm	REL mm	NOF	W2 Article no. 53 008 ... £	
10	12	2.2	2.5	3.50	1.1	3	77.36	011
14	16	2.2	3.5	4.60	1.1	3	78.87	111
18	18	2.2	3.5	5.75	1.1	3	80.25	211
22	22	1.0	4.5	5.75	0.5	3	46.76	305
	22	1.6	4.5	5.75	0.8	3	47.55	308
	22	2.0	4.5	5.75	1.0	3	46.76	310
	22	2.4	4.5	5.75	1.2	3	48.47	312
	22	2.8	4.5	5.75	1.4	3	80.25	314
	22	3.0	4.5	5.75	1.5	3	46.76	315
	22	4.0	4.5	5.75	2.0	3	46.76	320
	22	4.4	4.5	5.75	2.2	3	48.21	322
	22	5.0	4.5	5.75	2.5	3	50.01	325

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	○
Hardened materials	○

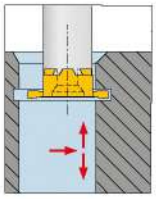
→ v_c/f_z Page 71

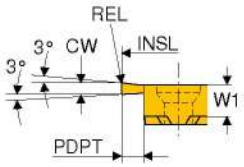
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

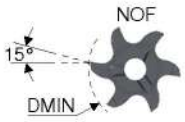
MiniMill – Milling insert for groove milling, cross-pitched

Mini Mill | ≥ Ø 22 mm

CWX500







Size	DMIN mm	INSL mm	CW +0,02 mm	PDPT mm	W1 mm	REL mm	NOF	W2 Article no. 53 015 ... £	
10	12	11.7	1.5	2.0	3.5	0.2	6	57.08	114
	12	11.7	2.0	2.0	3.5	0.2	6	57.08	119
14	16	15.7	1.5	2.5	4.5	0.2	6	58.19	314
	16	15.7	2.0	2.5	4.5	0.2	6	58.19	319
	16	15.7	2.5	2.5	4.5	0.2	6	58.19	324
18	18	17.7	2.0	4.0	5.8	0.2	6	64.91	419
	18	17.7	2.5	4.0	5.8	0.2	6	64.91	424
	18	17.7	3.0	4.0	5.8	0.2	6	64.91	429
	20	19.7	2.0	5.0	5.8	0.2	6	64.91	469
	20	19.7	2.5	5.0	5.8	0.2	6	64.91	474
	20	19.7	3.0	5.0	5.8	0.2	6	64.91	479
22	22	21.7	2.0	4.5	6.2	0.2	6	62.67	820
	22	21.7	2.5	4.5	6.2	0.2	6	62.67	825
	22	21.7	3.0	4.5	6.2	0.2	6	62.67	830
	22	21.7	4.0	4.5	6.2	0.2	6	62.67	840
	37	36.7	1.5	12.0	6.2	0.1	6	81.71	865
	37	36.7	2.0	12.0	6.2	0.2	6	81.71	870
28	25	24.8	2.5	5.0	6.4	0.2	6	71.63	626
	25	24.8	3.0	5.0	6.4	0.2	6	71.63	631
	25	24.8	4.0	5.0	6.4	0.2	6	74.99	641
	25	24.8	5.0	5.0	6.4	0.2	6	78.34	651
	25	24.8	6.0	5.0	6.4	0.2	6	79.46	661
	28	27.7	2.5	6.5	6.2	0.2	6	71.63	726
	28	27.7	3.0	6.5	6.2	0.2	6	71.63	731
	28	27.7	4.0	6.5	6.2	0.2	6	73.86	741
	28	27.7	5.0	6.5	6.2	0.2	6	74.99	751
	28	27.7	6.0	6.5	6.2	0.2	6	74.99	761
	35	34.7	2.0	10.0	6.2	0.2	6	78.34	770
	35	34.7	2.5	10.0	6.2	0.2	6	79.46	775
	35	34.7	3.0	10.0	6.2	0.2	6	79.46	780

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	○
Hardened materials	○

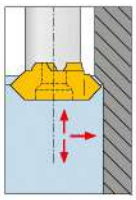
→ v_c/f_z Page 71

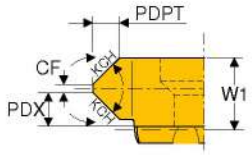
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

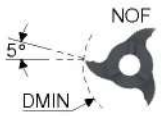
MiniMill – Milling insert for groove milling and chamfering

Mini Mill | ≥ Ø 10 mm

CWX500







Size	DMIN mm	CF +0,03 mm	PDPT mm	W1 mm	KCH °	PDX mm	NOF	W2 Article no. 53 009 ... £	
10	10	0.2	0.35	3.60	15	1.80	6	61.32	015
	10	0.2	0.45	3.60	20	1.80	6	61.32	020
	10	0.2	0.70	3.60	30	1.80	6	61.32	030
	10	0.2	1.20	3.60	45	1.80	6	61.32	045
	12	1.2	0.80	3.50	45	1.20	3	52.02	035
14	16	1.4	1.20	4.50	45	1.60	3	53.57	145
18	18	2.5	1.40	5.85	45	1.70	3	54.39	258
	18	0.2	2.20	5.75	45	3.00	6	67.96	259
22	22	2.0	1.70	5.85	45	2.00	3	57.70	358
	22	0.2	2.50	6.40	45	3.90	6	148.17	463
	22	3.0	3.00	9.40	45	3.25	3	60.48	394 1)
28	28	0.2	1.90	6.05	45	3.75	6	73.92	560

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	○
Hardened materials	○

1) use clamping screw 73 082 006

→ v_c/f_z Page 71

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

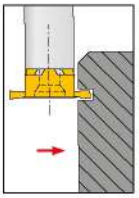
7

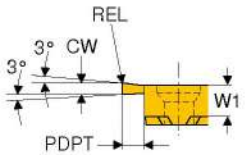
MiniMill – Milling insert for part-off

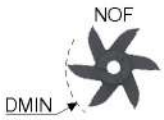
▲ PDPT = 12.0 mm in combination with holder 53 003 624
▲ reduce feed rate by 50 %

Mini Mill | ≥ Ø 37 mm

CWX500







Size	DMIN mm	CW +0,02 mm	PDPT mm	W1 mm	REL mm	NOF	W2 Article no. 53 013 ... £	
22	37	0.5	12	5.6		6	113.30	705 1)
	37	0.6	12	5.7		6	107.30	706 1)
	37	0.8	12	6.0		6	105.87	708 1)
	37	1.0	12	6.2	0.1	6	108.95	710
	37	1.5	12	6.2	0.1	6	92.97	715

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	○

1) the end face is not ground free to the center

→ v_c/f_z Page 71

MiniMill – Set for cut off

▲ size 22

Mini Mill

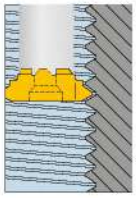
Tool	Designation	Article no.	Hole-Ø mm	Piece	W1 Article no. 53 014 ... £	
Inserts	Milling inserts for separating	53 013 715	37	2	305.06	990
Tool holder	Endmill short	53 003 624		1		
Screw	M5 x 12	73 082 005		1		
Tightening Key	T20			1		

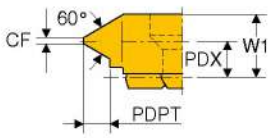
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

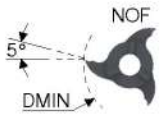
MiniMill – Milling insert for internal thread milling – Partial profile

Mini Mill | ≥ M12 | 60°

CWX500







Size	Thread$_{min}$	TP mm	DMIN mm	CF mm	PDPT mm	W1 mm	PDX mm	NOF	W2 Article no. 53 010 ... £	
10	M12	1,0 - 1,75	9.8	0.13	1.08	3.20	2.4	6	68.74	017
	M14	1,0 - 1,75	11.7	0.13	1.08	3.60	2.8	3	80.25	010
	M14	1,0 - 2,0	10.1	0.13	1.25	3.20	2.2	6	68.74	021
	M14	1,0 - 2,0	11.7	0.13	1.25	3.60	2.8	3	80.25	020
	M16	1,5 - 2,75	11.0	0.19	1.67	3.20	2.0	6	68.74	027
	M16	1,5 - 2,75	11.7	0.19	1.67	3.60	2.4	3	80.25	015
	M16	2,0 - 3,0	11.1	0.25	1.78	3.20	1.9	6	68.74	029
	M16	2,0 - 3,0	11.7	0.25	1.78	3.60	2.2	3	80.25	030
14	M18	1,0 - 1,75	15.7	0.12	1.08	4.60	3.8	3	81.62	210
	M18	1,0 - 2,0	15.7	0.12	1.25	4.60	3.5	3	81.62	220
	M20	1,5 - 2,75	15.7	0.18	1.67	4.60	3.5	3	81.62	215
	M22	2,5 - 3,0	15.7	0.31	1.78	4.60	3.4	3	81.62	230
18	M22	1,0 - 1,75	17.7	0.12	1.03	5.85	5.0	3	87.44	410
	M22	1,0 - 2,0	17.7	0.12	1.19	5.85	4.7	3	81.62	412
	M22	1,0 - 2,0	17.7	0.12	1.19	5.85	5.0	6	80.15	416
	M22	1,5 - 2,75	17.7	0.19	1.62	5.85	4.6	3	81.62	415
	M24	2,0 - 3,0	17.7	0.25	1.73	5.85	4.4	3	87.44	425
	M24	2,0 - 3,5	17.7	0.25	2.06	5.85	4.2	3	81.62	455
	M24	2,0 - 3,5	17.7	0.25	2.06	5.85	4.3	6	81.83	434
	M24	2,0 - 3,75	17.7	0.25	2.22	5.85	4.2	3	81.62	420
	M24	2,5 - 5,0	17.7	0.31	2.98	5.85	3.8	3	81.62	430
	M24	3,0 - 5,5	17.7	0.38	3.25	5.85	4.2	3	81.62	435
22	M27	1,0 - 2,0	21.7	0.12	1.19	5.85	4.6	3	84.55	610
	M27	1,0 - 2,0	21.7	0.12	1.19	6.20	5.0	6	173.76	710
	M27	1,5 - 2,75	21.7	0.18	1.62	5.85	4.5	3	84.55	615
	M27	2,0 - 3,75	21.7	0.25	2.22	5.85	4.2	3	84.55	620
	M27	2,5 - 4,5	21.7	0.25	2.70	5.85	3.7	3	87.44	655
	M27	2,0 - 4,5	21.7	0.25	2.70	6.05	4.2	6	178.48	755
	M30	2,5 - 5,0	21.7	0.31	2.98	5.85	3.8	3	84.55	630
	M30	3,5 - 6,0	21.7	0.44	3.52	5.85	3.4	3	87.44	640
	M30	3,5 - 6,5	21.7	0.44	3.84	5.85	3.2	3	87.44	645
28	M33	1,0 - 2,0	27.7	0.12	1.20	6.60	4.5	3	57.56	820
	M33	1,5 - 2,5	27.7	0.18	1.49	6.60	4.3	3	57.56	825
	M33	1,5 - 2,5	27.7	0.19	1.60	6.10	5.0	6	86.13	826
	M36	2,5 - 5,0	27.7	0.38	2.93	6.10	2.3	6	86.13	850
	M36	2,5 - 5,0	27.7	0.37	2.93	6.60	4.0	3	57.56	840
	M39	4,0 - 6,0	27.7	0.62	3.37	6.60	3.6	3	57.56	860

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	○

→ v_c/f_z Page 71

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

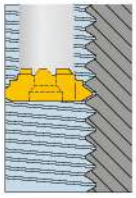
7

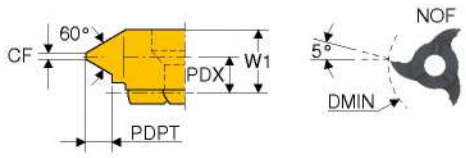
MiniMill – Milling insert for internal thread milling – Full profile

Mini Mill | ≥ M22

60° | M

CWX500





Size	Thread$_{min}$	TP	DMIN	CF	PDPT	W1	PDX	NOF	W2 Article no. 53 011 ...	
		mm	mm	mm	mm	mm	mm		£	
18	M22	1.50	17.7	0.18	0.81	5.85	4.8	3	84.55	415
	M22	1.75	17.7	0.20	0.95	5.85	4.7	3	89.94	417
	M22	2.00	17.7	0.25	1.08	5.85	4.6	3	89.94	420
	M24	2.50	17.7	0.31	1.35	5.85	4.4	3	89.94	425
	M27	3.00	17.7	0.37	1.62	5.85	4.3	3	89.94	430
	M27	3.50	17.7	0.43	1.89	5.85	4.0	3	89.94	435
22	M24	1.50	21.7	0.19	0.81	5.85	4.8	3	88.69	615
	M24	1.50	21.7	0.19	0.81	6.20	5.3	6	78.46	715
	M27	1.75	21.7	0.22	0.95	6.20	5.2	6	82.49	717
	M27	1.75	21.7	0.22	0.95	5.85	4.7	3	88.69	617
	M27	2.00	21.7	0.25	1.08	5.85	4.6	3	92.83	620
	M27	2.00	21.7	0.25	1.08	6.20	5.0	6	82.49	720
	M30	3.00	21.7	0.37	1.62	5.85	4.3	3	92.83	630
	M30	3.00	21.7	0.37	1.62	6.20	4.8	6	84.06	730
	M30	3.50	21.7	0.43	1.89	5.85	4.0	3	99.88	635
	M33	4.00	21.7	0.50	2.16	5.85	3.9	3	99.88	640
	M33	4.00	21.7	0.50	2.16	6.20	4.4	6	88.48	740
	M33	4.50	21.7	0.56	2.43	5.85	3.7	3	99.88	645

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	○

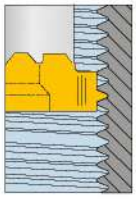
→ v_c/f_z Page 71

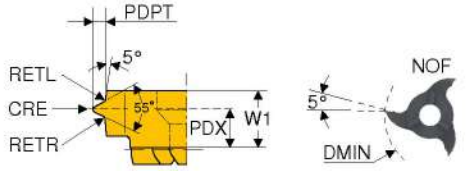
MiniMill – Milling insert for internal thread milling – Full profile

Mini Mill | ≥ G 3/8"

55° | G

CWX500





Size	Thread$_{min}$	TP	DMIN	TPI	W1	PDX	PDPT	CRE	RETL	RETR	NOF	W2 Article no. 53 012 ...	
		mm	mm	1/"	mm	mm	mm	mm	mm	mm		£	
10	G 3/8"	1.34	11.7	19	3.60	2.5	0.860	0.18	0.18	0.18	3	99.63	113
	G 1/2"	1.81	11.7	14	3.60	2.3	1.160	0.24	0.24	0.24	3	99.63	118
	G 1"	2.31	11.7	11	3.60	2.0	1.480	0.31	0.31	0.31	3	99.63	123
18	-	1.34	17.7	19	5.85	4.9	0.856	0.18	0.18	0.18	3	50.01	219
	G 3/4"	1.81	17.7	14	5.85	4.6	1.160	0.24	0.24	0.24	3	50.01	214
	G 1"	2.31	17.7	11	5.85	4.4	1.480	0.31	0.31	0.31	3	50.01	211
22	G 1"	2.31	21.7	11	5.85	4.0	1.480	0.31	0.31	0.31	3	104.05	311
	-	3.17	21.7	8	5.85	3.5	2.030	0.43	0.43	0.43	3	111.25	308
	BSW 1 1/2"	4.23	21.7	6	5.85	3.1	2.710	0.58	0.58	0.58	3	111.25	306

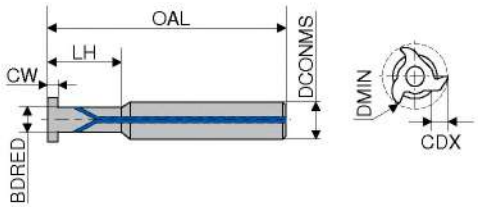
Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	○

→ v_c/f_z Page 71

MiniMill – Circular milling cutter, extra short

▲ steel Version

Mini Mill



Steel
W1

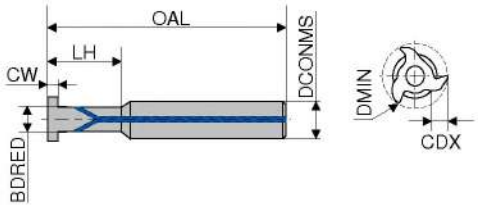
Size	DCONMS h6	BDRED	OAL	LH	DMIN	CW	CDX	torque moment	Article no. 53 004 ...	
	mm	mm	mm	mm	mm	mm	mm	Nm	£	
10	10	6.0	60	15.2	9,7 / 11,7	≤3,35	1,4 / 2,5	2,0	233.41	015
14	10	8.0	60	17.7	13,7 / 15,7	≤4,35	2,5 / 3,5	3,5	233.41	217
	13	8.0	70	25.7	13,7 / 15,7	≤4,35	2,5 / 3,5	3,5	239.07	225
18	10	9.0	60	17.0	17,7	≤5,6	3,5	4,5	233.41	417
	13	9.0	70	25.0	17,7	≤5,6	3,5	4,5	239.07	425
22	10	11.3	60	10.7	21,7	≤9,15	4,5	7,0	239.07	610
	13	11.3	70	25.7	21,7	≤9,15	4	7,0	247.51	625
28	13	14.0	70	10.7	27,7	≤10	6,5	7,0	239.07	810
	20	14.0	100	35.7	27,7	≤10	6,5	7,0	247.51	835

7

MiniMill – Circular milling cutter, short

▲ steel Version

Mini Mill



Steel
W1

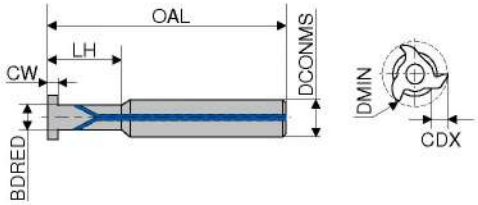
Steel
W1

Size	DCONMS h6	BDRED	OAL	LH	DMIN	CW	CDX	torque moment	Article no. 53 002 ...		Article no. 53 003 ...	
	mm	mm	mm	mm	mm	mm	mm	Nm	£		£	
10	16	6	80	12.0	9,7 / 11,7	≤3,35	1,4 / 2,5	2,0	269.92	012	269.92	012
14	16	8	80	16.0	13,7 / 15,7	≤4,35	2,5 / 3,5	3,5	269.92	216	269.92	216
18	16	9	80	18.0	17,7	≤5,6	3,5	4,5	264.11	418	264.11	418
22	16	12	80	24.0	21,7	≤9,15	4,5	7,0	267.02	624	267.02	624
28	20	14	100	35.7	27,7	≤10	6,5	7,0			506.78	835

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

MiniMill – Circular milling cutter, vibration-damped

Mini Mill



Size	DCONMS h6	BDRED	OAL	LH	DMIN	CW	CDX	torque moment	HM W1 Article no. 53 001 ...		HM W1 Article no. 53 000 ...	
	mm	mm	mm	mm	mm	mm	mm	Nm	£		£	
10	12	6.0	80	21	9,7 / 11,7	≤3,35	1,4 / 2,5	2,0	342.82	021	342.82	021
	12	6.0	90	30	9,7 / 11,7	≤3,35	1,4 / 2,5	2,0	371.04	030	371.04	030
	12	6.0	100	42	9,7 / 11,7	≤3,35	1,4 / 2,5	2,0	424.60	042	424.60	042
	12	7.3	90	30	9,7 / 11,7	≤3,35	0,9 / 1,85	2,0	387.92	130	387.92	130
	16	7.3	100	25	9,7 / 11,7	≤3,35	0,9 / 1,85	2,0	570.68	025	570.68	025
14	12	8.0	95	29	13,7 / 15,7	≤4,35	2,5 / 3,5	3,5	342.82	229	342.82	229
	12	8.0	110	42	13,7 / 15,7	≤4,35	2,5 / 3,5	3,5	373.81	242	373.81	242
	12	8.0	120	56	13,7 / 15,7	≤4,35	2,5 / 3,5	3,5	424.60	256	424.60	256
	12	9.5	110	42	13,7 / 15,7	≤4,35	1,65 / 2,7	3,5	424.60	342	424.60	342
	16	9.5	110	33	13,7 / 15,7	≤4,35	1,65 / 2,7	3,5	522.83	233	522.83	233
18	12	9.0	100	32	17,7	≤5,6	3,5	4,5	427.36	432	427.36	432
	12	9.0	100	45	17,7	≤5,6	3,5	4,5	477.86	445	477.86	445
	12	9.0	120	64	17,7	≤5,6	3,5	4,5	565.01	464	565.01	464
	16	9.0	93	25	17,7	≤5,6	3,5	4,5	477.86	425	477.86	425
	16	9.0	100	32	17,7	≤5,6	3,5	4,5	505.94	532	505.94	532
	16	9.0	110	45	17,7	≤5,6	3,5	4,5	593.10	545	593.10	545
	16	9.0	130	64	17,7	≤5,6	3,5	4,5	683.02	564	683.02	564
	16	13.0	110	64	17,7	≤5,6	1,5	4,5	522.83	465	522.83	465
	16	13.0	130	66	17,7	≤5,6	1,5	4,5	663.39	466	663.39	466
22	12		100	42	21,7	≤9,15	4,5	7,0	376.58	642	376.58	642
	12		130	60	21,7	≤9,15	4,5	7,0	446.87	660	446.87	660
	16	11.5	90	30	21,7	≤9,15	4,5	7,0	477.86	630	477.86	630
	16	12.0	100	42	21,7	≤9,15	4,5	7,0	497.50	742	497.50	742
	16	12.0	130	60	21,7	≤9,15	4,5	7,0	595.87	760	595.87	760
	16	12.0	160	85	21,7	≤9,15	4,5	7,0	677.50	685	677.50	685
	20	16.0	110	45	21,7	≤9,15	2,5	7,0	725.09	645	725.09	645
	20	16.0	130	65	21,7	≤9,15	2,5	7,0	730.73	665	730.73	665
28	16	14.3	100	42	27,7 / 24,8	≤10	6,5 / 5	7,0	528.35	842	528.35	842
	16	14.3	130	60	27,7 / 24,8	≤10	6,5 / 5	7,0	626.71	860	626.71	860
	16	14.3	160	85	27,7 / 24,8	≤10	6,5 / 5	7,0	733.64	885	733.64	885
	20	13.5	104	35	27,7 / 24,8	≤10	6,5 / 5	7,0	652.03	835	652.03	835
	20	14.3	160	85	27,7 / 24,8	≤10	6,5 / 5	7,0	834.65	985	834.65	985

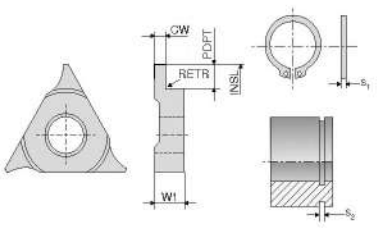
Spare parts		Y7 Article no. 80 950 ...			Y5 Article no. 73 082 ...			Y5 Article no. 73 082 ...	
Size		£			£			£	
10	T08	10.30	110				M2,6	7.14	002
14	T10	12.05	112				M3,5	7.14	003
18	T15	12.26	113				M4	7.14	004
22	T20	13.11	114	M5	13.96	006	M5	7.14	005
28	T20	13.11	114				M5	7.14	005

Clamping screw 73 082 006 only for insert 53 009 394.

Milling inserts for circlip grooves without chamfer

System 300

DIN 471/472



Ti500

Size	$s_{2\ H13}$ mm	INSL mm	W1 mm	$CW_{-0,03}$ mm	PDPT mm	RETR mm	s_1 mm	Solid carbide W2 Article no. 50 853 ... £	
04	0.90	7.9	2.34	0.98	0.70	0.3	0.80	52.02	300
03	0.90	10.6	2.34	0.98	0.70	0.3	0.80	43.05	302
	1.10	10.6	2.34	1.18	0.90	0.3	1.00	43.05	304
	1.30	10.6	2.34	1.38	1.10	0.3	1.20	43.05	306
	1.60	10.6	2.34	1.68	1.25	0.3	1.50	43.05	308
	1.85	10.6	2.34	1.93	1.25	0.3	1.75	43.05	310
02	0.90	17.5	3.50	0.98	0.70	0.3	0.80	39.23	312
	1.10	17.5	3.50	1.18	0.90	0.3	1.00	39.23	314
	1.30	17.5	3.50	1.38	1.10	0.3	1.20	39.23	316
	1.60	17.5	3.50	1.68	1.25	0.3	1.50	39.23	318
	1.85	17.5	3.50	1.93	1.25	0.3	1.75	39.23	320
	2.15	17.5	3.50	2.23	1.75	0.3	2.00	39.23	322
	2.65	17.5	3.50	2.73	1.75	0.3	2.50	39.23	324
	3.15	17.5	3.50	3.23	2.20	0.3	3.00	39.23	326
01	0.90	23.0	4.00	0.98	0.70	0.3	0.80	39.23	328
	1.10	23.0	4.00	1.18	0.90	0.3	1.00	39.23	330
	1.30	23.0	4.00	1.38	1.10	0.3	1.20	39.23	332
	1.60	23.0	4.00	1.68	1.25	0.3	1.50	39.23	334
	1.85	23.0	4.00	1.93	1.25	0.3	1.75	39.23	336
	2.15	23.0	4.00	2.23	1.75	0.3	2.00	39.23	338
	2.65	23.0	4.00	2.73	1.75	0.3	2.50	39.23	340
	3.15	23.0	4.00	3.23	2.20	0.3	3.00	39.23	342

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	○

→ v_c/f_z Page 70

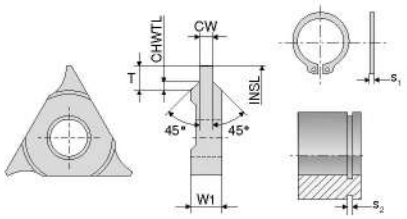
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

7

Milling inserts for circlip grooves with chamfer

System 300

DIN 471/472



Ti500

Solid carbide
W2

Size	$s_{2\ H13}$ mm	INSL mm	W1 mm	$CW_{-0,03}$ mm	T mm	CHWTL mm	s_1 mm	Article no. 50 852 ... £	
03	1.10	10.6	2.34	1.18	0.50	0.10	1.00	46.07	302
02	1.10	17.5	3.50	1.18	0.50	0.10	1.00	40.77	312
	1.30	17.5	3.50	1.38	0.85	0.15	1.20	40.77	314
	1.60	17.5	3.50	1.68	1.00	0.15	1.50	40.77	316
	1.85	17.5	3.50	1.93	1.25	0.20	1.75	40.77	317
	2.15	17.5	3.50	2.23	1.50	0.20	2.00	40.77	318
	2.65	17.5	3.50	2.73	1.50	0.20	2.50	40.77	319
01	1.10	23.0	4.00	1.18	0.50	0.10	1.00	40.77	320
	1.30	23.0	4.00	1.38	0.70	0.15	1.20	40.77	321
	1.30	23.0	4.00	1.38	0.85	0.15	1.20	40.77	322
	1.60	23.0	4.00	1.68	1.00	0.15	1.50	40.77	324
	1.60	23.0	4.00	1.68	0.85	0.15	1.50	40.77	323
	1.85	23.0	4.00	1.93	1.25	0.20	1.75	40.77	325
	2.15	23.0	4.00	2.23	1.50	0.20	2.00	40.77	326
	2.65	23.0	4.00	2.73	1.75	0.20	2.50	40.77	328
	2.65	23.0	4.00	2.73	1.50	0.20	2.50	40.77	327
	3.15	23.0	4.00	3.32	1.75	0.20	3.00	40.77	329

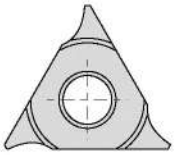
Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	○

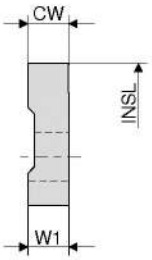
→ v_c/f_z Page 70

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

Milling inserts without profile, ground ready-for-use

System 300





Ti500

Size	CW +0,02 mm	INSL mm	W1 mm	Solid carbide W2 Article no. 50 851 ... £	
04	2.00	7.9	2.34	52.02	302
03	2.34	10.6	2.34	43.05	304
	3.00	10.6	3.00	46.07	306
02	3.50	17.5	3.50	39.23	312
	5.00	17.5	5.00	46.07	314
	6.00	17.5	6.00	49.75	316
01	4.00	23.0	4.00	48.37	322 1)
	6.50	23.0	6.50	48.37	324 1)

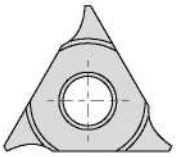
Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	○

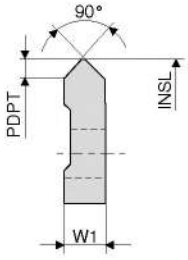
1) with circular milling cutter 50 800 090 PDPT = 3.0 mm

→ v_c/f_z Page 70

Milling inserts for chamfering and deburring

System 300





Ti500

Size	PDPT mm	INSL mm	W1 mm	Solid carbide W2 Article no. 50 857 ... £	
03	1.50	10.6	3.0	43.05	304
02	2.50	17.5	5.0	43.05	314
01	3.25	23.0	6.5	43.05	322 1)

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	○

1) with circular milling cutter 50 800 090 PDPT = 3.0 mm

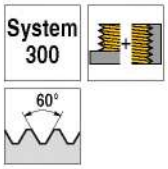
→ v_c/f_z Page 70

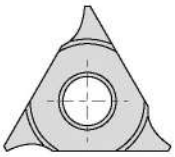
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

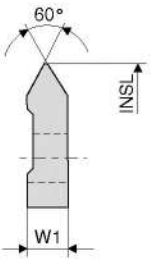
7

Thread milling insert – Partial profile

System 300







Ti500

Solid carbide

Size	TP	INSL	W1	W2 Article no. 50 855 ...	
	mm	mm	mm	£	
02	1 - 3,5	17.5	3.5	48.37	314
01	1 - 4,0	23.0	4.0	48.37	324

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	○

→ v_c/f_z Page 70

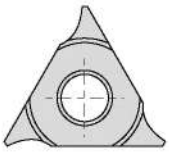
Thread milling insert – Full profile

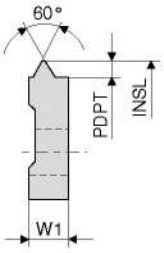
System 300

IR/IL

M

MF





Ti500

Solid carbide

Size	TP	INSL	W1	PDPT	W2 Article no. 50 859 ...		
	mm	mm	mm	mm	£		
03	1.0	10.6	2.34	0.578	58.72	304	
	1.5	10.6	2.34	0.864	58.72	308	
	2.0	10.6	2.34	1.159	58.72	310	
02	1.0	17.5	3.50	0.578	58.72	311	
	1.5	17.5	3.50	0.864	58.72	312	
	2.0	17.5	3.50	1.159	58.72	314	
	2.5	16.0	3.50	1.444	81.11	317	1)
	2.5	17.5	3.50	1.444	58.72	316	
	3.0	17.5	3.50	1.728	73.65	318	
01	1.0	23.0	4.00	0.578	61.14	320	
	1.5	23.0	4.00	0.864	61.14	322	
	2.0	23.0	4.00	1.159	61.14	324	
	2.5	23.0	4.00	1.444	61.14	326	
	3.0	23.0	4.00	1.728	61.14	328	
	3.5	23.0	4.00	2.023	61.14	330	
	4.0	23.0	4.00	2.308	61.14	332	
	4.5	23.0	6.50	2.602	70.12	334	
	5.0	23.0	6.50	2.887	70.12	336	
	6.0	23.0	6.50	3.467	70.12	338	2)

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	○

1) M20x2,5 – profile corrected
2) with circular milling cutter 50 800 090 PDPT = 3.0 mm

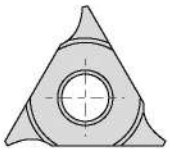
→ v_c/f_z Page 70

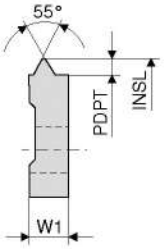
Thread milling insert – Full profile

System 300

55°

G | BSW | BSF





Ti500

Solid carbide
W2

Size	TP mm	TPI 1/"	INSL mm	W1 mm	PDPT mm	Article no. 50 858 ... £	
02	1.814	14	17.5	3.5	1.162	58.72	314
	2.309	11	17.5	3.5	1.494	58.72	312
01	2.309	11	23.0	4.0	1.494	61.14	322

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	○

→ v_c/f_z Page 70

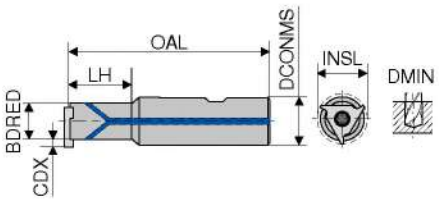
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

7

Circular milling cutter

▲ size refers to milling inserts

System 300



HB

W1

Size	INSL	CDX	LH	DCONMS $_{h6}$	OAL	BDRED	DMIN	torque moment	Article no. 50 800 ...	
	mm	mm	mm	mm	mm	mm	mm	Nm	£	
04	7.9	0.35	17.2	10	57.20	7.1	8	0,9	145.26	015 [1]
03	10.6	1.60	17.2	10	57.20	7.4	11	0,9	149.29	020 [1]
	10.6	1.60	34.2	10	74.20	7.4	11	0,9	322.35	025 [2]
02	17.5	2.60	28.7	12	74.05	12.0	20	3,8	159.10	030
	17.5	2.60	63.7	12	108.70	12.0	20	3,8	340.89	045 [2]
01	23.0	3.45	38.5	16	87.00	16.1	25	5,5	167.13	050
	23.0	3.45	67.5	16	116.00	16.1	25	5,5	167.07	070
	23.0	3.00	88.5	16	137.00	17.0	25	5,5	359.29	090 [2]

1) without through coolant
2) carbide version

Y7

Key D

2A

Clamping screw

Spare parts for Article no.		Article no. 80 950 ... £			Article no. 70 960 ... £	
50 800 050	T20 - IP	16.56	129	M5x15	5.70	234
50 800 070	T20 - IP	16.56	129	M5x15	5.70	234
50 800 090	T20 - IP	16.56	129	M5x15	5.70	234
50 800 030	T15 - IP	15.77	128	M4x12,3	5.70	233
50 800 045	T15 - IP	15.77	128	M4x12,3	5.70	233
50 800 020	T06 - IP	13.68	123	M2x9	3.79	232
50 800 025	T06 - IP	13.68	123	M2x9	3.79	232
50 800 015	T06 - IP	13.68	123	M2x9	3.79	232

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

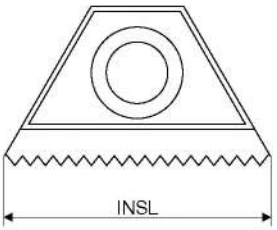
Thread milling insert

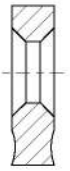
▲ can be used on both sides (except for INSL 10.4)

MWN

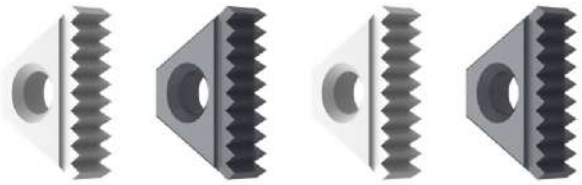
60°

M MF





IR/IL | IR/IL TiAlN | ER/EL | ER/EL TiAlN



INSL	TP	Solid carbide W2 Article no. 50 890 ...		Solid carbide W2 Article no. 50 890 ...		Solid carbide W2 Article no. 50 891 ...		Solid carbide W2 Article no. 50 891 ...	
mm	mm	£		£		£		£	
10.4	0.50	83.83	100						
	0.75	83.83	101						
	1.00	66.83	102	86.14	302				
	1.25	66.83	103						
	1.50	66.83	104	86.14	304				
11.0	0.50	57.29	120						
	0.75	72.93	121						
	1.00	57.29	122	75.25	322				
	1.25	57.29	123						
	1.50	57.29	124	74.11	324				
16.0	0.50	85.42	140						
	0.75	68.13	141						
	1.00	68.13	142	93.13	342	68.13	142	88.03	342
	1.25	68.13	143			68.13	143		
	1.50	68.13	144	88.03	344	68.13	144	88.03	344
	1.75	68.13	145			68.13	145		
	2.00	68.13	146	88.03	346	68.13	146	88.03	346
27.0	1.00	130.03	162	160.51	362	130.03	162	160.51	362
	1.25	130.03	163			130.03	163		
	1.50	130.03	164	160.51	364	130.03	164	160.51	364
	1.75	130.03	165						
	2.00	130.03	166	160.51	366	130.03	166	160.51	366
	2.50	130.03	167			130.03	167		
	3.00	130.03	168	160.51	368	130.03	168	160.51	368
	3.50	130.03	169			130.03	169		
	4.00	130.03	170			130.03	170		

Steel	●	●	●	●
Stainless steel		●		●
Cast iron	●	●	●	●
Non ferrous metals	●	●	●	●
Heat resistant alloys				
Hardened materials				

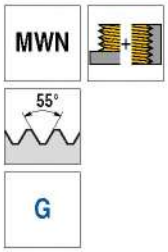
→ v_c/f_z Page 69

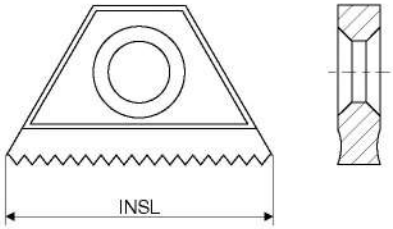
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

7

Thread milling insert

▲ can be used on both sides (except for INSL 10.4)





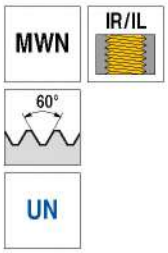
INSL mm	TPI 1/"	TP mm	Solid carbide W2 Article no. 50 895 ...	£	Solid carbide W2 Article no. 50 895 ...	£
10.4	19	1.337	66.83	100	86.14	300
16.0	14	1.814	68.13	142	86.14	342
	11	2.309	68.13	144	86.14	344
27.0	11	2.309	130.03	166	196.11	366

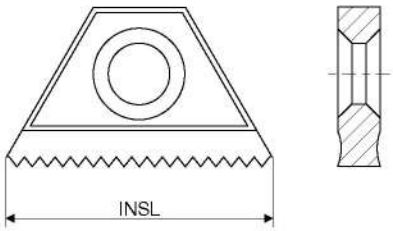
Steel	●	●
Stainless steel		●
Cast iron	●	●
Non ferrous metals	●	●
Heat resistant alloys		
Hardened materials		

→ v_c/f_z Page 69

Thread milling insert

▲ can be used on both sides (except for INSL 10.4)





INSL mm	TPI 1/"	TP mm	Solid carbide W2 Article no. 50 892 ...	£	
10.4	20	1.270	66.83	100	
	18	1.411	66.83	102	
16.0	16	1.588	68.13	144	
	12	2.117	68.13	146	
27.0	12	2.117	130.03	166	
	8	3.175	130.03	168	

Steel	●
Stainless steel	
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	
Hardened materials	

→ v_c/f_z Page 69

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

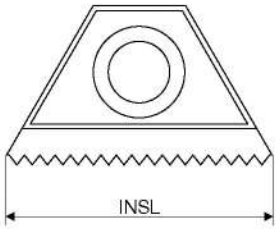
Thread milling insert

▲ double sided

MWN

80°

Pg



Solid carbide
W2

INSL mm	TPI 1/"	TP mm	Article no. 50 896 ... £	
11	18	1.411	69.90	122
16	18	1.411	81.80	142
	16	1.588	66.81	144

Steel	●
Stainless steel	
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	
Hardened materials	

→ v_c/f_z Page 69

7

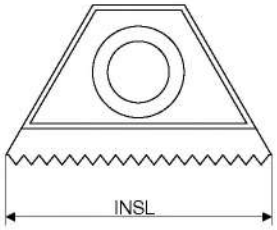
Thread milling insert

▲ double sided

MWN

60°

NPT



Solid carbide
W2

INSL mm	TPI 1/"	TP mm	Article no. 50 897 ... £	
16	14.0	1.814	68.13	142
	11.5	2.209	68.13	144
27	11.5	2.209	130.03	164
	8.0	3.175	130.03	166

Steel	●
Stainless steel	
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	
Hardened materials	

→ v_c/f_z Page 69

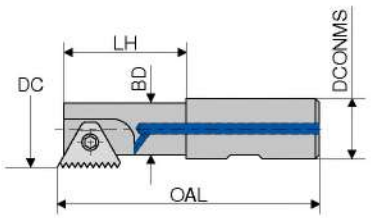
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

Note! Thread milling inserts are marked R (right-hand thread) and L (left-hand thread). The standard tool holder cannot be used to produce a left-hand thread! Tool holder for left-hand thread available on special request.

Circular milling cutter

▲ INSL refers to milling inserts

MWN



B

INSL	BD	LH	DCONMS $_{h6}$	OAL	DC	torque moment	W1 Article no. 50 843 ...	
mm	mm	mm	mm	mm	mm	Nm	£	
10.4	6.8	12	12	69	9.0	0,9	205.23	101
	6.8	17	20	84	9.0	0,9	210.64	102
11.0	8.9	12	12	70	11.5	1,2	205.23	111
	8.9	20	20	85	11.5	1,2	210.64	112
16.0	13.6	22	16	90	17.0	2,5	231.04	161
	16.6	43	20	95	20.0	2,5	231.04	162
	18.6	25	25	125	22.0	2,5	288.64	163
27.0	24.0	52	25	110	30.0	9,0	292.62	271
	31.0	58	32	120	37.0	9,0	324.63	273
	24.0	92	25	150	30.0	9,0	348.01	272
	31.0	98	32	160	37.0	9,0	399.63	274

Pilot hole diameter for circular end mill 50 843 ...

BD	TP in mm									
	0.5 mm 48 G/"	0.75 mm 32 G/"	1.0 mm 24 G/"	1.25 mm 20 G/"	1.5 mm 16 G/"	2.0 mm 12 G/"	2.5 mm 10 G/"	3.0 mm 8 G/"	3.5 mm 7 G/"	4.0 mm 6 G/"
6.8	9.5	10	10.7	11.4	12					
8.9	12	12.5	13.2	13.9	14.5					
13.6	17.6	18.2	19	19.6	20	21				
16.6	20.7	21.4	22	22.6	23	24				
18.6	22.7	23.4	24	24.6	25	26				
24.0	30.7	31.4	32	32.8	33.5	34.6	36.6	39	42	45
31.0	38	38.6	39.5	40.4	41	42	44	46.5	49	52

Key D

Clamping screw

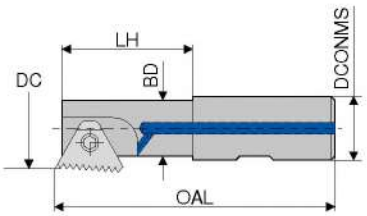
Spare parts INSL	Y7 Article no. 80 950 ...		2A Article no. 70 950 ...		
	£			£	
10.4	T07	10.30 109	M2,2x5,0	1.71	200
11	T08	10.30 110	M2,6x6,5	1.71	201
16	T10	12.05 112	UNC5-40 x 8	1.71	202
27	T25	13.49 115	M5x15	2.65	203

Circular milling cutter NPT

▲ INSL refers to milling inserts

MWN

NPT



INSL	BD	Thread	LH	DCONMS $_{h6}$	OAL	DC	torque moment	W1 Article no. 50 844 ...	
mm	mm		mm	mm	mm	mm	Nm	£	
16	12.5	NPT 1/2	22	16	90	15.5	2,5	210.64	161
	15.0	NPT 3/4 - 1 1/4	23	20	85	19.0	2,5	231.04	162
27	24.0	NPT 1 1/2 - 2	52	25	110	30.0	9,0	292.62	271
	31.0	NPT > 2	58	32	120	37.0	9,0	324.63	272

7

Key D

Clamping screw

Spare parts INSL	Y7 Article no. 80 950 ...			2A Article no. 70 950 ...		
		£			£	
16	T10	12.05	112	UNC5-40 x 8	1.71	202
27	T25	13.49	115	M5x15	2.65	203

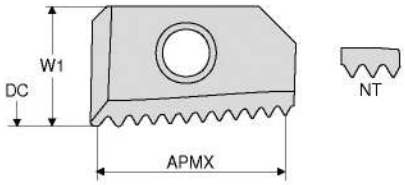
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

Thread milling insert

GZD | IR/IL

60°

M | MF



Ti500

Solid carbide

DC mm	TP mm	W1 mm	APMX mm	NT	W2 Article no. 50 863 ... £	
12	1.0	7.5	12.0	13	56.45	300
	1.5	7.5	10.5	8	56.45	302
17	1.0	11.0	16.0	17	56.45	310
	1.5	11.0	16.5	12	56.45	312
	2.0	11.0	16.0	9	56.45	314
20	1.0	7.5	12.0	13	56.45	320
	1.5	7.5	10.5	8	56.45	322
25	1.0	11.0	16.0	17	56.45	330
	1.5	11.0	16.5	12	56.45	332
	2.0	11.0	16.0	9	56.45	334

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	
hardened materials	

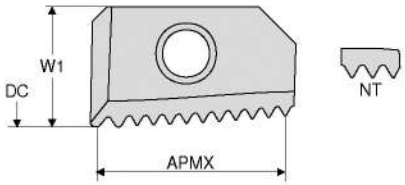
→ v_c/f_z Page 70

Thread milling insert

GZD

55°

G



Ti500

Solid carbide

DC mm	TPI 1/"	W1 mm	APMX mm	NT	W2 Article no. 50 864 ... £	
12	14	7.5	9.07	6	56.45	300
17	14	11.0	16.33	10	73.65	312 1)
	14	11.0	16.33	10	73.65	314 2)
	11	11.0	16.16	8	73.65	310
25	14	11.0	16.33	10	73.65	332
	11	11.0	16.16	8	73.65	330

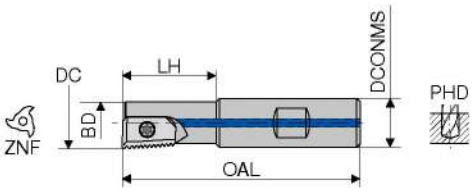
Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	
hardened materials	

1) Thread: 5/8 – 3/4 – 7/8
2) 1/2" Profile corrected

→ v_c/f_z Page 70

Circular milling cutter

GZD



B

W1

DC	LH	DCONMS $_{h6}$	OAL	BD	ZNF	PHD	torque moment	Article no. 50 842 ...	
mm	mm	mm	mm	mm		mm	Nm	£	
12	18	16	74.0	9.4	1	14	1,1	173.49	121
17	30	16	79.0	13.7	1	19	3,8	191.63	171
20	32	20	83.0	17.5	3	22	1,1	230.40	201
25	50	25	107.6	21.7	3	26	3,8	285.46	251
	85	25	142.6	21.7	3	26	3,8	812.32	252 1)

1) heavy metal version with mounted head

7

Y7

Key D

2A

Clamping screw

Spare parts for Article no.		Article no. 80 950 ... £			Article no. 70 960 ... £	
50 842 121	T08 - IP	13.49	125	M2,5x6,5	3.79	244
50 842 171	T15 - IP	15.77	128	M4x7,5	3.79	245
50 842 201	T08 - IP	13.49	125	M2,5x6,5	3.79	244
50 842 251	T15 - IP	15.77	128	M4x7,5	3.79	245
50 842 252	T15 - IP	15.77	128	M4x7,5	3.79	245

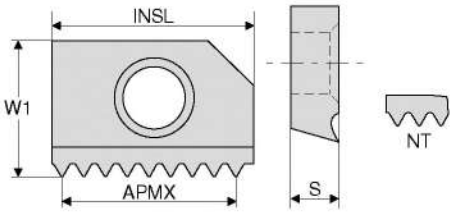
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

Thread milling insert

GZG

60°

M | MF



ER/EL

Ti500

IR/IL

Ti500

INSL	TP	W1	APMX	S	NT	Solid carbide W2 Article no. 50 887 ...		Solid carbide W2 Article no. 50 885 ...	
mm	mm	mm	mm	mm		£		£	
14.5	0.50	10.0	13.50	3.18	28			89.77	350
	0.75	10.0	13.50	3.18	19			89.77	352
	1.00	10.0	13.00	3.18	14	67.70	304	52.02	354
	1.25	10.0	12.50	3.18	11			67.70	356
	1.50	10.0	12.00	3.18	9	67.70	308	52.02	358
	1.75	10.0	12.25	3.18	8			67.70	360
	2.00	10.0	12.00	3.18	7	67.70	312	52.02	362
	2.50	10.0	10.00	3.18	5			61.14	364
	2.50	10.0	10.00	3.18	5			61.14	366 1)
15.0	3.00	10.5	12.00	3.18	5			73.65	370
	3.50	10.5	10.50	3.18	4			73.65	372
21.0	1.00	10.0	19.00	3.18	20			58.72	380
	1.50	10.0	19.50	3.18	14			58.72	382
	1.50	10.0	18.00	3.18	13	67.70	320		
	2.00	10.0	18.00	3.18	10			58.72	384
26.0	1.50	15.0	24.00	5.00	17			101.39	390
	2.00	15.0	24.00	5.00	13			101.39	392
	3.00	15.0	21.00	5.00	8			101.39	396
	3.50	15.0	20.00	5.00	7			149.33	398
	4.00	15.0	20.00	5.00	6			149.33	400

Steel	●	●
Stainless steel	●	●
Cast iron	●	●
Non ferrous metals	●	●
Heat resistant alloys		
Hardened materials		

1) M20x2,5 – profile corrected

→ v_c/f_z Page 70

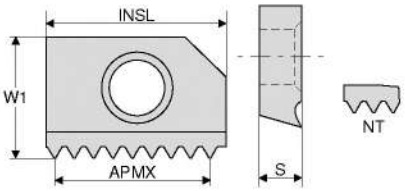
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

Thread milling insert

GZG

55°

G



Ti500

Solid carbide

INSL	TPI	TP	W1	APMX	S	NT	W2 Article no. 50 888 ...	
mm	1/"	mm	mm	mm	mm		£	
14.5	18	1.411	10	11.28	3.18	9	78.02	310
	16	1.587	10	11.11	3.18	8	78.02	312
	14	1.814	10	12.69	3.18	8	56.45	314
	12	2.116	10	10.58	3.18	6	78.02	316
	11	2.309	10	11.54	3.18	6	56.45	318
21.0	14	1.814	10	18.14	3.18	11	67.70	320
	11	2.309	10	18.47	3.18	9	67.70	322
26.0	11	2.309	15	23.09	5.00	11	110.56	330

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	
Hardened materials	

→ v_c/f_z Page 70

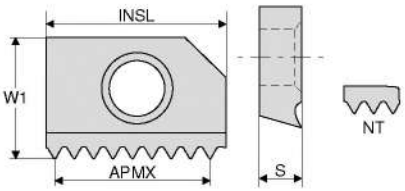
7

Thread milling insert

GZG

80°

Pg



Ti500

Solid carbide

INSL	TPI	TP	W1	APMX	S	NT	W2 Article no. 50 894 ...	
mm	1/"	mm	mm	mm	mm		£	
14.5	18	1.411	10	12.69	3.18	10	82.96	302
	16	1.587	10	11.11	3.18	8	82.96	304

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	
Hardened materials	

→ v_c/f_z Page 70

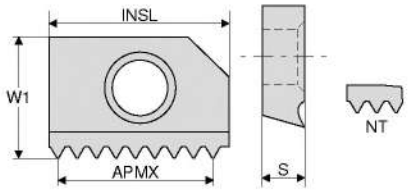
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

Thread milling insert

GZG | IR/IL

60°

UN



Ti500

Solid carbide

INSL	TPI	TP	W1	APMX	S	NT	W2 Article no. 50 889 ...	
mm	1/"	mm	mm	mm	mm		£	
14.5	18	1.411	10	12.69	3.18	10	81.13	310
	16	1.587	10	12.70	3.18	9	85.13	312
21.0	16	1.587	10	19.05	3.18	13	101.45	320
	14	1.814	10	18.14	3.18	11	101.45	322
	12	2.116	10	18.04	3.18	10	101.45	324

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	
Hardened materials	

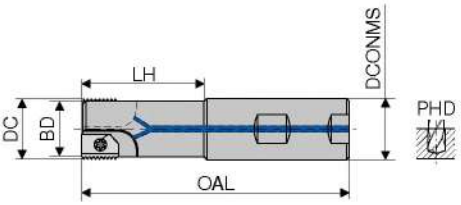
→ v_c/f_z Page 70

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

Circular milling cutter

▲ INSL refers to milling inserts

GZG



B

W1

INSL	DC	LH	DCONMS $_{h6}$	OAL	BD	ZNP	PHD	torque moment	Article no. 50 841 ...	
mm	mm	mm	mm	mm	mm		mm	Nm	£	
	16	30.0	16	78	12.7	1	18.5	3,8	160.15	016
	16	50.0	16	98	12.7	1	18.5	3,8	252.92	017 1)
14.5	20	60.0	20	110	16.8	1	23.0	3,8	193.78	020
	25	48.2	25	106	21.5	2	30.0	3,8	279.41	025
	25	92.2	25	150	21.5	2	30.0	3,8	572.78	026 1)
	22	30.0	16	79	12.7	1	20.0	3,8	188.55	218
15.0	27	48.2	25	106	21.5	2	32.0	3,8	309.70	227
	27	60.0	20	110	16.8	1	26.0	3,8	208.18	222
	16	31.3	20	85	12.7	1	18.5	3,8	179.11	316
	22	32.8	25	92	18.7	1	26.0	3,8	184.06	322
21.0	22	62.8	25	122	18.7	1	26.0	3,8	591.71	323 1)
	28	38.3	32	102	24.7	2	35.0	3,8	353.00	328
	28	78.3	32	142	24.5	2	35.0	3,8	1,402.69	327 1)
26.0	18	48.5	25	107	20.0	1	30.0	3,8	223.62	125

1) heavy metal version

7

Y7

Key D

2A

Clamping screw

Spare parts for Article no.		Article no. 80 950 ... £			Article no. 70 960 ... £	
50 841 016	T15 - IP	15.77	128	M4x6,9	5.70	237
50 841 017	T15 - IP	15.77	128	M4x6,9	5.70	237
50 841 020	T15 - IP	15.77	128	M4x7,5	3.79	245
50 841 025	T15 - IP	15.77	128	M4x8	5.70	242
50 841 026	T15 - IP	15.77	128	M4x8	5.70	242
50 841 218	T15 - IP	15.77	128	M4x6,9	5.70	237
50 841 227	T15 - IP	15.77	128	M4x8	5.70	242
50 841 222	T15 - IP	15.77	128	M4x6,9	5.70	237
50 841 316	T15 - IP	15.77	128	M4x6,9	5.70	237
50 841 322	T15 - IP	15.77	128	M4x6,9	5.70	237
50 841 323	T15 - IP	15.77	128	M4x8	5.70	242
50 841 328	T15 - IP	15.77	128	M4x8	5.70	242
50 841 327	T15 - IP	15.77	128	M4x8	5.70	242
50 841 125	T15 - IP	15.77	128	M4x11,5	5.70	241

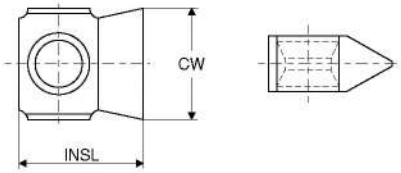
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

Thread milling insert – Partial profile

EAW

60°

M UN



TiN

Solid carbide

W2

DC	TP	TPI	CW	INSL	Article no. 50 867 ...	
mm	mm	1/"	mm	mm	£	
16,5	1,5 - 3,0	16 - 10	5	7.0	72.50	115
18	2,5 - 3,5	10 - 7	5	7.8	72.50	225

55° G

W2

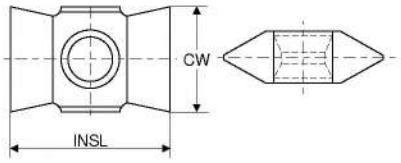
DC	TP	TPI	CW	INSL	Article no. 50 868 ...	
mm	mm	1/"	mm	mm	£	
16,5	1.814	14	5	7	88.77	114

Thread milling insert – Partial profile

EAW

60°

M UN



TiN

Solid carbide

W2

DC	TP	TPI	CW	INSL	Article no. 50 860 ...	
mm	mm	1/"	mm	mm	£	
23,85	1,5 - 2,5	16 - 10	6.35	9.52	55.36	315
23,85	2,5 - 4,0	10 - 6	6.35	9.52	55.36	325
32,85	1,5 - 2,5	16 - 10	8.50	13.50	61.58	415
32,85	2,5 - 5,5	10 - 4,5	8.50	13.50	61.58	425

55° G

W2

DC	TP	TPI	CW	INSL	Article no. 50 861 ...	
mm	mm	1/"	mm	mm	£	
23,85	2.309	11	6.35	9.52	61.58	311
32,85	2.309	11	8.50	13.50	71.10	411

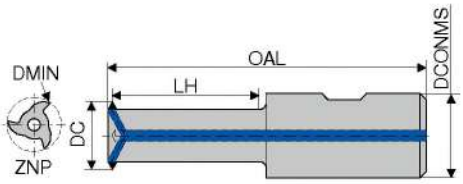
Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	

→ v_c/f_z Page 69

Circular milling cutter

Scope of supply:
including key

EAW | IR/IL



B

W1

DC	DMIN	TP	TPI	LH	DCONMS $_{h6}$	OAL	ZNP	torque moment	Article no. 50 848 ...	
mm	mm	mm	1/"	mm	mm	mm		Nm	£	
16,5 / 18,0	17,5 / 19,0	1,5 - 3,0	16 - 10	60	20	114	2	0,9	438.71	**020**
23,85	25,5	1,5 - 4,0	24 - 6	90	32	154	3	0,9	517.15	**030**
32,85	35,0	1,5 - 5,5	16 - 4,5	115	32	179	3	2,5	536.76	**040**

7

Y7

Key D

2A

Clamping screw

Spare parts		Article no. 80 950 ...			Article no. 70 950 ...	
for Article no.		£			£	
50 848 020	T07 - IP	13.49	**124**	M2,5x8,5	9.47	**739**
50 848 030	T07 - IP	13.49	**124**	M2,5x8,5	9.47	**739**
50 848 040	T09 - IP	14.77	**126**	M3x11	9.47	**740**

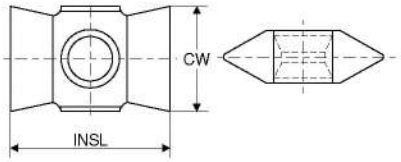
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

Thread milling insert – Partial profile

EWM

60°

M UN



TiN

Solid carbide

DC	TP	TPI	CW	INSL	W2 Article no. 50 870 ...	
mm	mm	1/"	mm	mm	£	
40,25	1,5 - 3,0	16 - 9	9.5	15.50	70.89	515
40,25	3,0 - 6,0	9 - 4	9.5	15.50	70.89	530
52,55 / 66,55	1,5 - 3,0	16 - 9	12.5	19.00	76.81	615
52,55 / 66,55	3,0 - 6,0	9 - 4	12.5	19.00	76.81	630
92	6,0 - 8,0	4	14.3	28.58	125.52	760

55°

G

DC	TP	TPI	CW	INSL	W2 Article no. 50 871 ...	
mm	mm	1/"	mm	mm	£	
40,25	2.309	11	9.5	15.5	81.07	511
52,55	2.309	11	12.5	19.0	94.36	611

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
hardened materials	

→ v_c/f_z Page 69

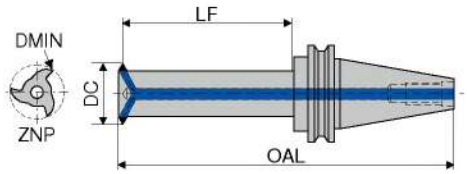
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

Circular milling cutter

Scope of supply:

including key

EWM | IR/IL



DIN 69871

W1

7

DC mm	DMIN mm	TP mm	TPI 1/"	LF mm	OAL mm	Adapter	ZNP	torque moment Nm	Article no. 50 849 ... £	
40.25	43.0	1,5 - 6,0	16 - 4,0	145	280.5	SK 50	4	5,5	1,116.21	**148**
40.25	43.0	1,5 - 6,0	16 - 4,0	145	247.0	SK 40	4	5,5	1,077.13	**048**
52.55	56.0	1,5 - 6,0	16 - 4,0	195	279.6	SK 40	4	8,0	1,233.86	**064**
52.55	56.0	1,5 - 6,0	16 - 4,0	195	331.0	SK 50	4	8,0	1,272.96	**164**
66.55	70.5	1,5 - 6,0	16 - 4,0	260	398.0	SK 50	7	8,0	1,723.12	**080**
92.00	100.0	6,0 - 8,0	4,0	360	497.0	SK 50	7	8,0	2,036.45	**115**

Y7

Key D

2A

Clamping screw

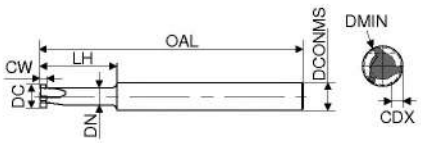
Spare parts DC		Article no. 80 950 ... £			Article no. 70 950 ... £	
40.25	T15 - IP	15.77	**128**	M4x13	9.47	**741**
52.55	T20 - IP	16.56	**129**	M5x15	9.47	**742**
66.55	T20 - IP	16.56	**129**	M5x15	9.47	**742**
92	T20 - IP	16.56	**129**	M5x15	9.47	**742**

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

MicroMill – Solid Carbide Circular End Milling Cutter

Micro Mill

CWX500



HA

Solid carbide

DC	CW ±0,02	CDX	LH	OAL	DN	DCONMS h6	ZEFP	DMIN	W1 Article no. 53 050 ...	
mm	mm	mm	mm	mm	mm	mm		mm	£	
5.8	0.7	0.8	15.2	58	3.8	6	3	6	60.86	070
	0.8	0.8	15.2	58	3.8	6	3	6	60.86	080
	0.9	0.8	15.2	58	3.8	6	3	6	60.86	090
	1.0	0.8	15.2	58	3.8	6	3	6	60.86	100
	1.5	0.8	15.2	58	3.8	6	3	6	60.86	150
7.8	0.7	1.2	25.4	68	5.0	8	3	8	76.78	170
	0.8	1.2	25.4	68	5.0	8	3	8	76.78	180
	0.9	1.2	25.4	68	5.0	8	3	8	76.78	190
	1.0	1.2	25.4	68	5.0	8	3	8	76.78	200
	1.5	1.2	25.4	68	5.0	8	3	8	76.78	250
	2.0	1.2	25.4	68	5.0	8	3	8	76.78	300

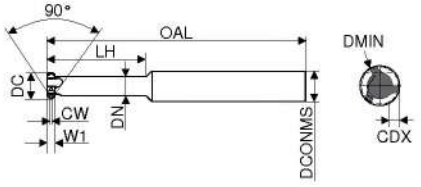
Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	●

→ v_c/f_z Page 71

MicroMill – Solid Carbide Circular End Milling Cutter

Micro Mill

CWX500



HA

Solid carbide

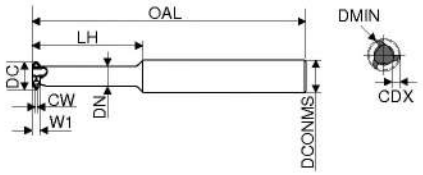
DC	W1	CW	CDX	LH	OAL	DN	DCONMS h6	ZEFP	DMIN	W1 Article no. 53 051 ...	
mm	mm	mm	mm	mm	mm	mm	mm		mm	£	
5.8	2	0.2	0.8	15	58	4.2	6	3	6	58.70	010
	2	0.2	0.8	25	68	4.2	6	3	6	74.51	020
7.8	2	0.2	1.2	25	68	5.0	8	3	8	90.45	110
	2	0.2	1.2	35	78	5.0	8	3	8	95.23	120

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	●

→ v_c/f_z Page 71

MicroMill – Solid Carbide Circular Thread Milling Cutter – Full profile

Micro Mill | IR/IL | 60° | M



CWX500

HA

Solid carbide

Thread	TP	DC	W1	CW	CDX	LH	OAL	DN	DCONMS $_{h6}$	ZEFP	DMIN	W1 Article no. 53 052 ...	
	mm	mm	mm	mm	mm	mm	mm	mm	mm		mm	£	
M1,6	0.35	1.18	0.40	0.04	0.19	4.0	32	0.64	3	3	1.38	71.51	160
M1,8	0.35	1.38	0.50	0.04	0.19	5.0	32	0.70	3	3	1.58	70.68	180
M2	0.40	1.50	0.56	0.05	0.22	5.0	32	0.90	3	4	1.70	78.71	200
M2,5	0.45	1.95	0.60	0.06	0.25	6.0	32	1.15	3	4	2.15	77.85	250
M3	0.50	2.40	0.60	0.06	0.27	7.0	32	1.60	3	4	2.60	77.15	300
M3,5	0.60	2.80	0.74	0.08	0.33	8.0	32	1.80	3	4	3.00	75.46	350
M4	0.70	3.10	0.82	0.09	0.38	9.0	44	1.98	5	4	3.30	81.94	400
M5	0.80	3.60	0.98	0.10	0.43	10.0	44	2.20	5	4	3.80	79.54	500
M6	1.00	4.10	0.98	0.13	0.54	12.2	44	2.70	5	4	4.30	77.85	600

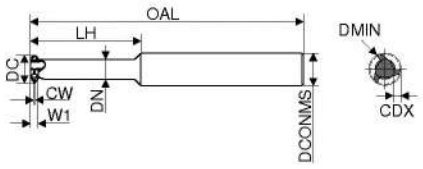
Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	●

→ v_c/f_z Page 71

7

MicroMill – Solid Carbide Circular Thread Milling Cutter – Partial profile

Micro Mill | IR/IL | 60°



CWX500

HA

Solid carbide

TP	DC	W1	CW	CDX	LH	OAL	DN	DCONMS $_{h6}$	ZEFP	DMIN	W1 Article no. 53 053 ...	
mm	mm	mm	mm	mm	mm	mm	mm	mm		mm	£	
0,5 - 1,5	5.8	2	0.06	0.91	15.2	58	3.5	6	3	6	63.50	010
0,5 - 1,5	7.8	2	0.06	0.91	25.4	68	5.5	8	3	8	84.09	110
1,0 - 2,0	7.8	2	0.12	1.19	25.4	68	5.0	8	3	8	84.09	120

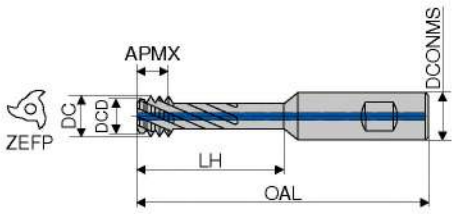
Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	●

→ v_c/f_z Page 71

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

Circular Thread Milling Cutter

UNI | IR/IL | ≤ 2xD | 60° | M



OSM

HB

Solid carbide
W1

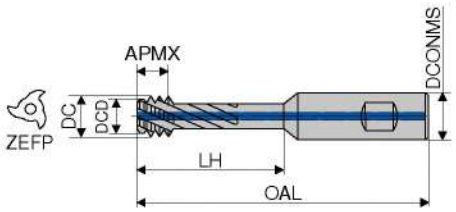
DC mm	Thread	TP mm	APMX mm	LH mm	DCONMS $_{h6}$ mm	DCD mm	OAL mm	ZEFP	Article no. 50 815 ... £	
4.51	M6x1 - M7x1	1.00	4.1	16	8	3.41	60	3	374.79	060
6.23	M8x1,25 - M9x1,25	1.25	5.1	21	10	4.91	71	4	440.86	080
7.75	M10x1,5 - M11x1,5	1.50	6.0	26	10	6.11	76	4	424.18	100
9.16	M12x1,75	1.75	7.0	31	12	7.21	86	4	476.76	120

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	●

→ v_c/f_z Page 68

Circular Thread Milling Cutter

UNI | IR/IL | ≤ 3xD | 60° | M



OSM

HB

Solid carbide
W1

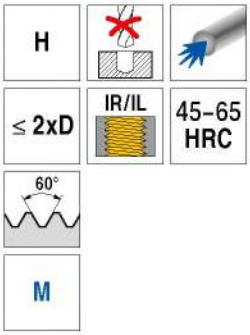
DC mm	Thread	TP mm	APMX mm	LH mm	DCONMS $_{h6}$ mm	DCD mm	OAL mm	ZEFP	Article no. 50 821 ... £	
4.51	M6x1 - M7x1	1.00	4.1	23	8	3.41	65	3	545.76	060
6.23	M8x1,25 - M9x1,25	1.25	5.1	30	10	4.91	80	4	598.34	080
7.75	M10x1,5 - M11x1,5	1.50	6.0	37	10	6.11	85	4	604.89	100
9.16	M12x1,75	1.75	7.0	43	12	7.21	100	4	650.94	120
11.08	M14x2 - M16x2	2.00	8.1	57	16	8.91	113	4	693.62	140
14.38	M18x2,5 - M20x2,5	2.50	10.0	71	20	11.71	129	5	854.73	180

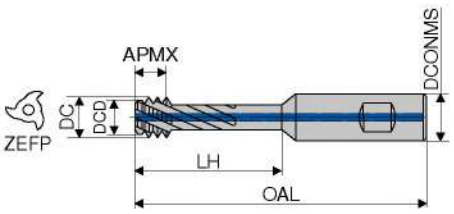
Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	○
Hardened materials	

→ v_c/f_z Page 68

Circular Thread Milling Cutter

▲ note: left-hand cutting (M04)





Solid carbide

NEW W1

DC mm	Thread	TP mm	APMX mm	LH mm	DCONMS $_{h6}$ mm	DCD mm	OAL mm	ZEFP	Article no. 50 840 ...	
									£	
2.3	M3x0,5	0.50	2.0	7.0	6	2.10	51	4	146.73	030 1)
3.0	M4x0,7	0.70	2.8	9.4	6	2.60	51	4	146.92	040 1)
3.8	M5x0,8	0.80	3.2	11.6	6	3.40	51	4	145.60	050 1)
4.6	M6x1 - M7x1	1.00	4.0	14.0	8	4.10	60	4	145.50	060 1)
6.2	M8x1,25 - M10x1,25	1.25	5.0	19.0	10	5.60	71	4	156.84	080
7.8	M10x1,5 - M12x1,5	1.50	6.0	25.0	10	7.00	76	4	168.93	100
9.2	M12x1,75	1.75	7.0	31.0	12	8.30	86	4	179.61	120
11.1	M14x2 - M16x2	2.00	8.0	36.0	16	10.04	98	4	196.33	140

Steel	
Stainless steel	
Cast iron	
Non ferrous metals	
Heat resistant alloys	○
Hardened materials	●

1) without through coolant

→ v_c/f_z Page 68

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

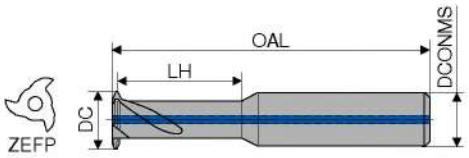
Caution: left-hand cutting (M04) → spindle rotation left!

7

Thread Milling Cutter

▲ available on request: M1 / M1,1 / M1,2 / M1,4 / M1,6 / M1,7 / M1,8 / M2 / M2,2 / M2,3 / M2,5 / M2,6 / M3

HR | IR/IL | ≤ 3xD | 60° | M



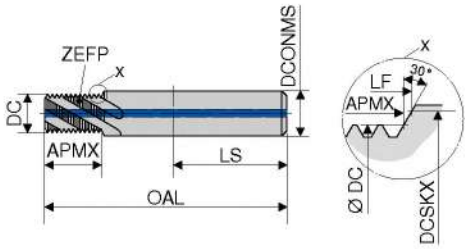
DC mm	Thread	TP mm	LH mm	DCONMS $_{h6}$ mm	OAL mm	ZEFP	Solid carbide W1 Article no. 50 846 ... £		Solid carbide W1 Article no. 50 847 ... £	
3.15	M4	0.70	9	6	55	3	329.04	040	333.11	040
4.00	M5	0.80	11	6	55	3	329.04	050	333.11	050
4.80	M6 - M7	1.00	16	8	60	3	337.02	060	340.80	060
6.40	M8 - M9	1.25	22	10	71	4	376.25	080	380.00	080
8.00	M10 - M12	1.50	26	10	76	4	380.00	100	383.95	100
9.60	M12	1.75	27	12	86	4	427.09	120	431.02	120

Steel	●	●
Stainless steel	●	●
Cast iron		
Non ferrous metals	●	●
Heat resistant alloys	●	●
Hardened materials	●	●

→ v_c/f_z Page 68

Thread Milling Cutter with Chamfer Facet

SFSE | IR/IL | ≤ 2xD | 60° | M | TiAlN



Solid carbide

DC mm	Thread	TP mm	OAL mm	APMX mm	LS mm	DCONMS $_{h6}$ mm	DCSKX mm	LF mm	ZEFP	W1 Article no. 50 811 ... £	
4.0	M5	0.80	62	11	36	8	5.3	11.16	3	277.17	050
4.7	M6	1.00	62	13	36	8	6.3	13.93	3	291.69	060
6.5	M8	1.25	74	18	40	10	8.3	18.62	3	320.66	080
8.0	M10	1.50	74	22	40	10			3	320.34	100 1)
10.0	M12	1.75	90	26	45	14	12.3	26.47	4	493.16	120
12.5	M16	2.00	100	35	48	16			4	585.27	160 2)

1) without chamfer
2) chamfer section at the front of the tool

60° | MF

DC mm	Thread	TP mm	OAL mm	APMX mm	LS mm	DCONMS $_{h6}$ mm	DCSKX mm	LF mm	ZEFP	W1 Article no. 50 816 ... £	
6.5	M8x1	1.00	74	18	40	10	8.3	18.00	3	329.95	082
8.0	M10x1	1.00	74	22	40	10			3	321.40	102 1)
8.0	M10x1,25	1.25	74	22	40	10			3	320.34	103 1)
10.0	M12x1,25	1.25	90	26	45	14	12.3	26.61	4	493.16	123
10.0	M12x1,5	1.50	90	26	45	14	12.3	27.30	4	493.16	124
11.0	M14x1	1.00	100	31	48	16	14.3	32.70	4	585.27	142
11.0	M14x1,5	1.50	100	31	48	16	14.3	32.08	4	585.27	144
12.5	M16x1,5	1.50	100	35	48	16			4	588.18	164 2)

1) without chamfer
2) chamfer section at the front of the tool

55° | G

DC mm	Thread	TP mm	OAL mm	APMX mm	LS mm	DCONMS $_{h6}$ mm	DCSKX mm	LF mm	ZEFP	W1 Article no. 50 818 ... £	
7.6	G 1/8-28	0.907	80	20	45	12	10.0	20.97	3	441.52	018
11.0	G 1/4-19	1.337	100	27	48	16	13.5	28.39	4	650.94	014
13.0	G 3/8-19	1.337	100	34	48	16			4	650.94	038 1)
16.0	G1/2-14	1.814	110	44	50	20			5	920.54	012 1)

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
hardened materials	

1) chamfer section at the front of the tool

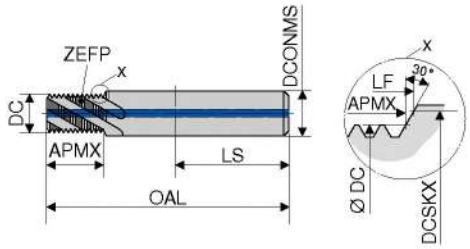
→ v_c/f_z Page 69

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

7

Thread Milling Cutter with Chamfer Facet

SFSE | IR/IL | ≤ 2xD | 60° | UNC | TiAlN



Solid carbide

DC mm	Thread	TP mm	OAL mm	APMX mm	LS mm	DCONMS $_{h6}$ mm	DCSKX mm	LF mm	ZEFP	W1 Article no. 50 823 ... £	
4.7	UNC 1/4-20	1.270	62	14	36	8	6.65	15.14	3	291.69	014
6.1	UNC 5/16-18	1.411	74	17	40	10	8.25	18.23	3	364.39	516
7.6	UNC 3/8-16	1.588	80	21	45	12	9.83	22.05	3	437.24	038
8.8	UNC 7/16-14	1.814	90	24	45	14	11.43	25.21	3	542.57	716
10.1	UNC 1/2-13	1.954	90	26	45	14	13.00	27.67	4	542.57	012
11.4	UNC 9/16-12	2.117	100	31	48	16	14.61	32.15	4	650.94	916
12.7	UNC 5/8-11	2.309	100	34	48	16			4	650.94	058 1)
15.2	UNC 3/4-10	2.540	110	42	50	20	19.35	43.74	5	920.54	034

1) chamfer section at the front of the tool

60° UNF

DC mm	Thread	TP mm	OAL mm	APMX mm	LS mm	DCONMS $_{h6}$ mm	DCSKX mm	LF mm	ZEFP	W1 Article no. 50 824 ... £	
4.7	UNF 1/4-28	0.907	62	14	36	8	6.65	15.59	3	301.79	014
6.1	UNF 5/16-24	1.058	74	17	40	10	8.25	18.05	3	357.93	516
7.6	UNF 3/8-24	1.058	80	21	45	12	9.83	22.30	3	437.24	038
8.8	UNF 7/16-20	1.270	90	24	45	14	11.43	25.49	3	542.57	716
10.1	UNF 1/2-20	1.270	90	26	45	14	13.00	28.46	4	542.57	012
11.4	UNF 9/16-18	1.411	100	31	48	16	14.61	33.03	4	650.94	916
12.7	UNF 5/8-18	1.411	100	34	48	16			4	670.65	058 1)
15.2	UNF 3/4-16	1.588	110	42	50	20	19.35	43.69	5	920.54	034

1) chamfer section at the front of the tool

60° NPT

DC mm	Thread	TP mm	OAL mm	APMX mm	LS mm	DCONMS $_{h6}$ mm	ZEFP	W1 Article no. 50 819 ... £	
5.8	NPT 1/16-27	0.941	62	10	36	8	3	373.29	116 1)
7.6	NPT 1/8-27	0.941	74	10	40	10	3	423.86	018 1)
10.1	NPT 1/4-18	1.411	90	15	45	14	3	621.43	014 1)
16.0	NPT 1/2-14	1.814	110	19	50	20	5	1,068.41	012 1)

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
hardened materials	

1) without chamfer

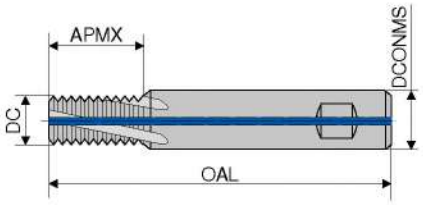
→ v_c/f_z Page 69

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

Thread Milling Cutter with Chamfer Facet

- ▲ profile-corrected
- ▲ hard machining to Ø DC = 4 mm possible
- ▲ chamfer section at end of shank

SFSE | IR/IL | ≤ 2xD | 60° | M



Ti500

HB

Solid carbide

DC mm	Thread	TP mm	APMX mm	DCONMS $_{h6}$ mm	OAL mm	ZEFP	W8 Article no. 54 801 ... £	
4.00	M5	0.80	11	8	62	3	133.93	050 1)
4.80	M6	1.00	13	8	62	3	133.93	060 1)
6.50	M8	1.25	18	10	74	3	157.44	080
7.95	M10	1.50	22	12	80	3	186.78	100
9.90	M12	1.75	26	14	90	4	239.63	120
11.60	M14	2.00	31	16	100	4	274.92	140
11.95	M16	2.00	35	12	90	4	186.78	160 2)
13.95	M18	2.50	39	20	110	4	387.52	180
15.95	M20	2.50	44	16	100	4	274.92	200 2)

1) without through coolant
2) chamfer section at the front of the tool

60° | MF

DC mm	Thread	TP mm	APMX mm	DCONMS $_{h6}$ mm	OAL mm	ZEFP	W8 Article no. 54 803 ... £	
6.0	M8x1	1.00	18	10	74	3	157.44	080
8.0	M10x1	1.00	22	12	80	3	186.78	100
8.0	M10x1,25	1.25	22	12	80	3	186.78	101
9.9	M12x1	1.00	26	14	90	4	239.63	120
9.9	M12x1,25	1.25	26	14	90	4	239.63	121
9.9	M12x1,5	1.50	26	14	90	4	239.63	122
11.6	M14x1	1.00	31	16	100	4	274.92	140
11.6	M14x1,5	1.50	31	16	100	4	284.16	141
12.0	M16x1,5	1.50	35	12	90	4	186.78	160 1)
14.0	M18x1,5	1.50	39	20	110	4	396.93	180
16.0	M20x1,5	1.50	44	16	100	4	239.63	200 1)

1) chamfer section at the front of the tool

55° | G

DC mm	Thread	TP mm	APMX mm	DCONMS $_{h6}$ mm	OAL mm	ZEFP	W8 Article no. 54 805 ... £	
6.00	G 1/16-28	0.907	16	10	74	3	204.35	116
7.95	G 1/8-28	0.907	20	12	80	3	216.11	018
9.90	G 1/4-19	1.337	27	16	100	4	307.68	014
13.95	G 3/8-19	1.337	34	14	90	4	265.49	038 1)
15.95	G 1/2-14	1.814	43	16	100	4	284.16	012 1)
17.95	G 5/8-14	1.814	47	18	110	4	396.93	058 1)

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
hardened materials	●

1) chamfer section at the front of the tool

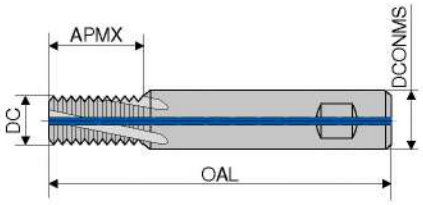
→ v_c/f_z Page 71

7

Thread Milling Cutter with Chamfer Facet

- ▲ profile-corrected
- ▲ hard machining to Ø DC = 4 mm possible
- ▲ chamfer section at end of shank

SFSE | IR/IL | ≤ 2xD | 60° | UNC | Ti500



Solid carbide

DC mm	Thread	TP mm	APMX mm	DCONMS h6 mm	OAL mm	ZEFP	W8 Article no. 54 811 ... £	
4.80	UNC 1/4-20	1.270	14	8	62	3	157.44	014 1)
5.95	UNC 5/16-18	1.411	18	10	74	3	176.25	516
7.95	UNC 3/8-16	1.588	22	12	80	3	213.76	038
7.95	UNC 7/16-14	1.814	22	14	90	3	260.79	716
9.90	UNC 1/2-13	1.954	27	14	90	4	265.49	012
11.80	UNC 9/16-12	2.117	31	16	100	4	317.10	916
12.70	UNC 5/8-11	2.309	34	14	90	4	265.49	058 2)
15.20	UNC 3/4-10	2.540	38	20	110	5	455.71	034

1) without through coolant
2) chamfer section at the front of the tool

60° | UNF

DC mm	Thread	TP mm	APMX mm	DCONMS h6 mm	OAL mm	ZEFP	W8 Article no. 54 813 ... £	
4.80	UNF 1/4-28	0.907	14	8	62	3	157.44	014 1)
5.95	UNF 5/16-24	1.058	18	10	74	3	176.25	516
7.60	UNF 3/8-24	1.058	21	12	80	3	213.76	038
7.95	UNF 7/16-20	1.270	22	14	90	3	260.79	716
9.90	UNF 1/2-20	1.270	26	14	90	4	265.49	012
12.00	UNF 9/16-18	1.411	30	16	100	4	317.10	916
13.50	UNF 5/8-18	1.411	33	14	90	4	265.49	058 2)
17.00	UNF 3/4-16	1.588	38	20	110	5	455.71	034

1) without through coolant
2) chamfer section at the front of the tool

60° | NPT

DC mm	Thread	TP mm	APMX mm	DCONMS h6 mm	OAL mm	ZEFP	W8 Article no. 54 809 ... £	
10.1	NPT 1/4-18	1.411	15	14	90	3	300.64	014 1)
12.8	NPT 3/8-18	1.411	15	16	100	4	361.78	038 1)
16.0	NPT 1/2-14	1.814	19	20	110	5	495.57	012 1)
18.5	NPT 3/4-14	1.814	19	20	110	5	495.57	034 1)

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
hardened materials	●

1) chamfer section at the front of the tool

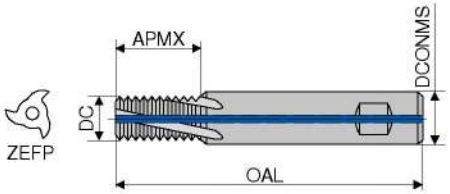
→ v_c/f_z Page 71

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

Thread Milling Cutter

▲ available on request: M30, M36, M42, M48, M56, M64

SGF | IR/IL | ≤ 2xD | 60° | M



TiAlN

Solid carbide

DC mm	Thread	TP mm	APMX mm	DCONMS $_{h6}$ mm	OAL mm	ZEFP	W1 Article no. 50 825 ... £	
2.40	M3	0.50	6	4	42	3	244.93	030 [1]
3.15	M4	0.70	8	6	55	3	263.57	040
4.00	M5	0.80	10	6	55	3	263.57	050
4.80	M6	1.00	12	6	55	3	263.57	060
6.00	M8	1.25	16	6	63	3	270.07	080
8.00	M10	1.50	20	8	70	3	307.83	100
9.90	M12	1.75	24	10	80	4	373.29	120
11.60	M14	2.00	28	12	90	4	439.34	140
12.00	M16	2.00	32	12	90	4	437.24	160
14.00	M18	2.50	36	14	90	4	579.90	180
14.00	M22	2.50	44	14	95	4	807.83	220
14.00	M20	2.50	40	14	90	4	658.62	200

1) without through coolant

60° | MF

DC mm	Thread	TP mm	APMX mm	DCONMS $_{h6}$ mm	OAL mm	ZEFP	W1 Article no. 50 826 ... £	
3.35	M4x0,5	0.50	8	6	55	3	316.69	040
4.20	M5x0,5	0.50	10	6	55	3	316.69	050
5.00	M6x0,75	0.75	12	6	55	3	316.69	061
6.00	M8x0,75	0.75	16	6	63	3	316.69	081
6.00	M8x1	1.00	16	6	63	3	316.69	082
8.00	M10x1	1.00	20	8	70	3	316.69	102
10.00	M12x1	1.00	24	10	80	4	377.00	122
10.00	M12x1,5	1.50	24	10	80	4	377.00	124
10.00	M14x1,5	1.50	28	10	80	4	377.00	144
12.00	M16x1,5	1.50	32	12	90	4	460.94	164
14.00	M18x1,5	1.50	36	14	90	4	575.38	184
14.00	M20x1,5	1.50	40	14	90	4	575.62	204
14.00	M22x1,5	1.50	44	14	95	4	604.74	224
16.00	M24x1,5	1.50	36	16	90	5	673.02	244

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	

→ v_c/f_z Page 69

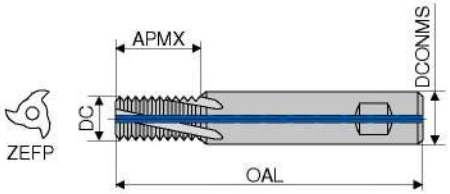
When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

7

Thread Milling Cutter

▲ available on request: M30, M36, M42, M48, M56, M64

SGF | IR/IL | ≤ 2xD | 55° | G



TiAlN

HA

Solid carbide

W1

DC mm	Thread	TP mm	APMX mm	DCONMS $_{h6}$ mm	OAL mm	ZEFP	Article no. 50 827 ... £	
8	G 1/8-28	0.907	19.5	8	70	3	323.28	018
11	G 1/4-19	1.337	26.5	12	90	4	464.85	014
12	G 3/8-19	1.337	33.0	12	90	4	464.85	038
14	G 1/2-14	1.814	42.0	14	95	4	638.57	012
16	G 3/4-14	1.814	34.0	16	90	5	685.88	034
16	G 1-11	2.309	33.0	16	90	5	712.53	100
16	G 5/8-14	1.814	34.0	16	90	5	696.98	058

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	

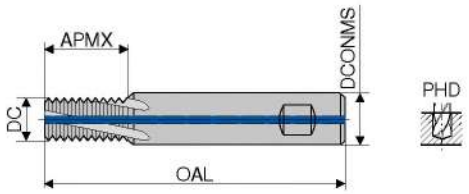
→ v_c/f_z Page 69

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

Thread Milling Cutter

▲ profile corrected
▲ hard machining to Ø DC = 4 mm possible

SGF | IR/IL | ≤ 2xD | 60° | M



Ti500

HB

Solid carbide

DC mm	Thread	TP mm	APMX mm	DCONMS h6 mm	OAL mm	ZEFP	PHD mm	W8 Article no. 54 800 ... £	
2.40	M3	0.50	6.5	4	42	2	2.50	89.94	030 1)
3.15	M4	0.70	9.0	6	55	3	3.30	89.94	040 2)
4.00	M5	0.80	11.0	6	55	3	4.20	89.94	050 2)
4.80	M6	1.00	13.0	6	55	3	5.00	89.94	060 2)
6.00	M8	1.25	18.0	6	60	3	6.75	94.42	080
8.00	M10	1.50	21.0	8	70	3	8.50	114.16	100
9.90	M12	1.75	26.0	10	75	4	10.25	138.02	120
11.60	M14	2.00	30.0	12	85	4	12.00	159.81	140
12.00	M16	2.00	34.0	12	85	4	14.00	167.07	160
14.00	M18	2.50	40.0	14	90	4	15.50	197.85	180
16.00	M20	2.50	42.0	16	90	4	17.50	205.46	200

1) DIN 6535 HA shank / without through coolant
2) without through coolant

60° | MF

DC mm	Thread	TP mm	APMX mm	DCONMS h6 mm	OAL mm	ZEFP	PHD mm	W8 Article no. 54 802 ... £	
4.0	M5	0.50	11	6	55	3	4.50	89.94	050 1)
4.8	M6	0.75	13	6	55	3	5.25	89.94	060 1)
6.0	M8	1.00	18	6	60	3	7.00	94.42	080
8.0	M10	1.25	21	8	70	3	8.75	114.16	100
9.9	M12	1.00	26	10	75	4	11.00	138.02	120
9.9	M12	1.25	26	10	75	4	10.75	138.02	121
9.9	M12	1.50	26	10	75	4	10.50	138.02	122
11.6	M14	1.00	30	12	85	4	13.00	159.81	140
11.6	M14	1.50	30	12	85	4	12.50	159.81	141
12.0	M16	1.50	34	12	85	4	14.50	167.07	160
14.0	M18	1.50	40	14	90	4	16.50	197.85	180
16.0	M20	1.50	42	16	90	4	18.50	205.46	200

1) DIN 6535 HA shank / without through coolant

55° | G

DC mm	Thread	TP mm	APMX mm	DCONMS h6 mm	OAL mm	ZEFP	PHD mm	W8 Article no. 54 804 ... £	
8.0	G 1/8-28	0.907	21	8	70	3	8.80	129.71	018
9.9	G 1/4-19	1.337	26	10	75	4	11.80	146.99	014
14.0	G 3/8-19	1.337	40	14	90	4	15.25	171.21	038
16.0	G 1/2-14	1.814	42	16	90	4	19.00	207.51	012

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	●

→ v_c/f_z Page 71

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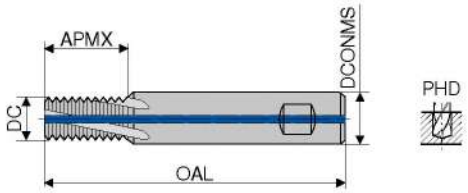
Thread Milling Cutter

▲ profile corrected

SGF | IR/IL | ≤ 2xD | 55° | BSW



Ti500

HB

Solid carbide

DC mm	Thread	TP mm	APMX mm	DCONMS $_{h6}$ mm	OAL mm	ZEFP	PHD mm	W8 Article no. 54 806 ... £	
6.0	BSW 5/16 - 18	1.411	18	6	60	3	6.50	108.95	516
6.0	BSW 3/8 - 16	1.588	18	6	60	3	7.90	110.67	038
8.0	BSW 7/16 - 14	1.814	21	8	70	3	9.25	130.75	716
8.0	BSW 1/2 - 12	2.117	21	8	70	3	10.50	130.87	012
9.9	BSW 5/8 - 11	2.309	26	10	75	4	13.50	152.53	058

55° | BSF

DC mm	Thread	TP mm	APMX mm	DCONMS $_{h6}$ mm	OAL mm	ZEFP	PHD mm	W8 Article no. 54 808 ... £	
6.0	BSF 5/16 - 22	1.155	18	6	60	3	6.8	110.67	516
6.0	BSF 3/8 - 20	1.270	18	6	60	3	8.3	110.67	038
8.0	BSF 7/16 - 18	1.411	21	8	70	3	9.7	130.75	716
8.0	BSF 1/2 - 16	1.588	21	8	70	3	11.1	130.75	012
9.9	BSF 5/8 - 14	1.814	26	10	75	4	14.0	152.53	058

60° | UNC

DC mm	Thread	TP mm	APMX mm	DCONMS $_{h6}$ mm	OAL mm	ZEFP	PHD mm	W8 Article no. 54 810 ... £	
4.80	UNC 1/4-20	1.270	13	6	55	3	5.1	105.01	014 [1]
6.00	UNC 5/16-18	1.411	18	6	60	3	6.6	124.51	516
7.95	UNC 3/8-16	1.588	21	8	70	3	8.0	129.71	038
7.95	UNC 7/16-14	1.814	21	8	70	3	9.4	130.75	716
9.90	UNC 1/2-13	1.954	26	10	75	4	10.8	151.15	012

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	●

1) DIN 6535 HA shank / without through coolant

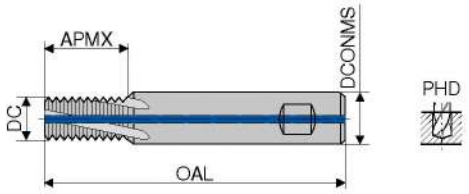
→ v_c/f_z Page 71

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

Thread Milling Cutter

▲ profile corrected

SGF | IR/IL | ≤ 2xD | 60° | UNF



Ti500

HB

Solid carbide

W8

DC mm	Thread	TP mm	APMX mm	DCONMS $_{h6}$ mm	OAL mm	ZEFP	PHD mm	Article no. 54 812 ...	£	
4.8	UNF 1/4-28	0.907	13	6	55	3	5.5	105.01	014	1)
6.0	UNF 5/16-24	1.058	18	6	60	3	6.9	108.95	516	
8.0	UNF 3/8-24	1.058	21	8	70	3	8.5	130.87	038	
8.0	UNF 7/16-20	1.270	21	8	70	3	9.9	130.87	716	
9.9	UNF 1/2-20	1.270	26	10	75	4	11.5	129.71	012	

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	●

1) without through coolant

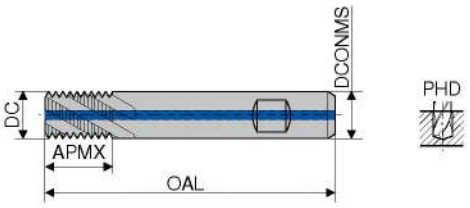
→ v_c/f_z Page 71

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

7

Thread Milling Cutter

SGF | IR/IL | ≤ 2xD | 60° | M | Ti500



Solid carbide

DC	TP	APMX	DCONMS $_{h6}$	OAL	ZEFP	PHD	W8 Article no. 54 832 ...	
mm	mm	mm	mm	mm		mm	£	
8	0.50	12	8	70	3	10	342.21	008
8	0.75	12	8	70	3	11	342.21	080
10	1.00	16	10	75	4	14	346.25	100
10	1.50	16	10	75	4	14	346.25	101
12	1.00	20	12	85	4	16	422.73	120
12	1.50	20	12	85	4	16	422.73	121
12	2.00	20	12	85	4	18	422.73	122
16	1.00	25	16	90	5	22	571.68	160
16	1.50	25	16	90	5	22	523.37	161
16	2.00	25	16	90	5	22	579.72	162
16	3.00	25	16	90	5	24	587.77	164

Steel	●
Stainless steel	●
Cast iron	●
Non ferrous metals	●
Heat resistant alloys	●
Hardened materials	●

→ v_c/f_z Page 70

When calculating the feedrate for circular milling it is important to know whether contour feed v_f or feed on the center path v_{fm} is used. Details on → **Page 72+73.**

Material examples referring to the cutting data tables

	Index	Material	Strength N/mm² / HB / HRC	Material number	Material designation	Material number	Material designation	Material number	Material designation
P	1.1	General construction steel	< 800 N/mm²	1.0402	EN3B				
	1.2	Free cutting steel	< 800 N/mm²	1.0711	EN1A				
	1.3	Hardened steel, non alloyed	< 800 N/mm²	1.0401	EN32C				
	1.4	Alloyed hardened steel	< 1000 N/mm²	1.7325	25 CD4				
	1.5	Tempering steel, unalloyed	< 850 N/mm²	1.5752	EN36	1.0535	EN9		
	1.6	Tempering steel, unalloyed	< 1000 N/mm²	1.6582	EN24				
	1.7	Tempering steel, alloyed	< 800 N/mm²	1.7225	EN19				
	1.8	Tempering steel, alloyed	< 1300 N/mm²	1.8515	EN40B				
	1.9	Steel castings	< 850 N/mm²	0.9650	G-X 260 Cr 27	1.6750	GS-20 NiCrMo 3 7	1.6582	GS-34 CrNiMo 6
	1.10	Nitriding steel	< 1000 N/mm²	1.8509	EN41B				
	1.11	Nitriding steel	< 1200 N/mm²	1.1186	EN8	1.1160	EN14A		
	1.12	Roller bearing steel	< 1200 N/mm²	1.3505	534A99				
	1.13	Spring steel	< 1200 N/mm²		EN45		EN47		EN43
	1.14	High-speed steel	< 1300 N/mm²	1.3343	M2	1.3249	M34		
	1.15	Cold working tool steel	< 1300 N/mm²	1.2379	D2	1.2311	P20		
	1.16	Hot working tool steel	< 1300 N/mm²	1.2344	H13				
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm²	1.4581	318				
	2.2	Stainless steel, ferritic	< 750 N/mm²	1.4000	403				
	2.3	Stainless steel, martensitic	< 900 N/mm²	1.4057	EN57				
	2.4	Stainless steel, ferritic / martensitic	<1100 N/mm²	1.4028	EN56B				
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm²	1.4542	17-4PH				
	2.6	Stainless steel, austenitic	< 750 N/mm²	1.4305	303	1.4401	316	1.4301	304
	2.7	Heat resistant steel	< 1100 N/mm²	1.4876	Incoloy 800				
K	3.1	Grey cast iron with lamellar graphite	100–350 N/mm²	0.6015	Grade 150	0.6020	Grade 220	0.6025	Grade 260
	3.2	Grey cast iron with lamellar graphite	300–500 N/mm²	0.6030	Grade 300	0.6035	Grade 350	0.6040	Grade 400
	3.3	Gray cast iron with spheroidal graphite	300–500 N/mm²	0.7040	SG 400-12	0.7043	SG 370-17	0.7050	SG 500-7
	3.4	Gray cast iron with spheroidal graphite	500–900 N/mm²	0.7060	SG 600-3	0.7070	SG 700-2	0.7080	SG 800-2
	3.5	White malleable cast iron	270–450 N/mm²	0.8035	GTW-35	0.8045	GTW-45		
	3.6	White malleable cast iron	500–650 N/mm²	0.8055	GTW-55	0.8065	GTW-65		
	3.7	Black malleable cast iron	300–450 N/mm²	0.8135	GTS-35	0.8145	GTS-45		
	3.8	Black malleable cast iron	500–800 N/mm²	0.8155	GTS-55	0.8170	GTS-70		
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm²	3.0255	1050 A	3.0275	1070 A	3.0285	1080 A (A8)
	4.2	Aluminium alloys < 0.5 % Si	< 500 N/mm²	3.1325	2017 A (AU4G)	3.4335	7005 (AZ5G)	3.4365	7075 (AZ5GU)
	4.3	Aluminium alloy 0.5–10 % Si	< 400 N/mm²	3.2315	A- G S1	3.2373	A-S9 G	3.2151	A-S 6 U4
	4.4	Aluminium alloys 10–15 % Si	< 400 N/mm²	3.2581	A-S12	3.2583	A-S12 U		
	4.5	Aluminum alloys > 15 % Si	< 400 N/mm²		A-S18	A-S17 U4			
	4.6	Copper (non alloyed, low alloyed)	< 350 N/mm²	2.0040	Cu-c1	2.0060	Cu-a1	2.0090	Cu-b1
	4.7	Copper wrought alloys	< 700 N/mm²	2.1247	Cub2 (Berylium Copper)	2.0855	CuN2S (Nickel Copper)	2.1310	CU-Fe2P
	4.8	Special copper alloys	< 200 HB	2.0916	Cu-A5	2.1525	Cu-S3 M		Ampco 8 (Cu-A6Fe2)
	4.9	Special copper alloys	< 300 HB	2.0978	Cu-Al11 Fe5 Ni5)		Ampco 18 (Cu- A10 Fe3)		
	4.10	Special copper alloys	> 300 HB	2.1247	Cu Be2		Ampco M4		
	4.11	Short-chipping brass, bronze, red bronze	< 600 N/mm²	2.0331	Cu Zn36 Pb1,5	2.0380	Cu Zn39 Pb2 (Ms 56)	2.0410	Cu Zn44 Pb2
	4.12	Long-chipping brass	< 600 N/mm²	2.0335	Cu Zn 36 (Ms63)	2.1293	Cu Cr1 Zr		
	4.13	Thermoplastics		PE	PVC	PS	Polystyrene		Plexiglas
	4.14	Duroplastics		PF	Bakelite		Pertinax		
	4.15	Fibre-reinforced plastics			Carbon Fibre		Fibreglass		Aramid Fibre (Kevlar)
	4.16	Magnesium and magnesium alloys	< 850 N/mm²	3.5812	Mg A7 Z1	3.5662	Mg A9	3.5105	Mg Tr3 Z2 Zn 1
	4.17	Graphite			R8500X		R8650		Technograph 15
	4.18	Tungsten and tungsten alloys			W-Ni Fe (Densimet)		W- Ni Cu (Inermet)		Denal
	4.19	Molybdenum and molybdenum alloys			TZM		MHQ		Mo W
S	5.1	Pure nickel		2.4066	Ni99 (Nickel 200)	2.4068	Lc Ni99 (Nickel 201)		
	5.2	Nickel alloys		1.3912	Fe-Ni36 (Invar)	1.3917	Fe -Ni42 (N42)	1.3922	Fe-Ni48 (N48)
	5.3	Nickel alloys	< 850 N/mm²	2.4375	Ni Cu30 Al (Monel K500)	2.4360	Ni Cu30Fe (Monel 400)	2.4668	
	5.4	Nickel molybdenum alloys		2.4600	Ni Mo30Cr2 (Hastelloy B4)	2.4617	Ni Mo28 (Hastelloy B2)	2.4819	Ni Mo16Cr16 Hastell. C276
	5.5	Nickel-chromium alloys	< 1300 N/mm²	2.4951	Ni Cr20TiAl (Nimonic 80A)	2.4858	Ni Cr21Mo (Inconel 825)	2.4856	Ni Cr22Mo9Nb Inconel 625
	5.6	Cobalt Chrome Alloys	< 1300 N/mm²	2.4964	Co Cr20 W15 Ni10		Co Cr20 Ni16 Mo7		Co Cr28 Mo 6
	5.7	Heat resistant alloys	< 1300 N/mm²	1.4718	Z45 C S 9-3	1.4747	Z80 CSN 20-02	1.4845	Z12 CN 25-20
	5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm²	2.4851	Ni Cr23Fe (Inconel 601)	2.4668	Ni Cr19NbMo (Inconel 718)	2.4602	Ni Cr21Mo14 Hastelloy C22
	5.9	Pure titanium	< 900 N/mm²	3.7025	T35 (Titanium Grade 1)	3.7034	T40 (Titanium Grade 2)	3.7064	T60 (Titanium Grade 4)
	5.10	Titanium alloys	< 700 N/mm²		T-A6-Nb7 (367)		T-A5-Sn2-Mo4-Cr4 (Ti17)		T-A3-V2,5 (Gr18)
	5.11	Titanium alloys	< 1200 N/mm²	3.7165	T-A6-V4 (Ta6V)		T-A4-3V-Mo2-Fe2 (SP700)		T-A5-Sn1-Zr1-V1-Mo (Gr32)
H	6.1	Tempered steel	< 45 HRC						
	6.2		46–55 HRC						
	6.3		56–60 HRC						
	6.4		61–65 HRC						
	6.5		65–70 HRC						

7

Cutting data appoximate values

	UNI VHM OSM 2xD 50 815 ...			UNI VHM OSM 3xD 50 821 ...			H VHM 2xD 50 840 ...				HR VHM 50 846 ..., 50 847 ...		
Index	v_c m/min	Ø 6–10 f_z	Ø 12–20 f_z	v_c m/min	Ø 6–10 f_z	Ø 12–20 f_z	v_c m/min	Ø 3–5 f_z	Ø 6–10 f_z	Ø 12–16 f_z	v_c m/min	< 10 f_z	> 10 f_z
1.1	**200–250**	0,04–0,06	0,07–0,10	**150–200**	0,04–0,06	0,07–0,10							
1.2	**200–250**	0,04–0,06	0,07–0,10	**150–200**	0,04–0,06	0,07–0,10							
1.3	**200–250**	0,04–0,06	0,07–0,10	**150–200**	0,04–0,06	0,07–0,10							
1.4	**100–200**	0,02–0,04	0,04–0,07	**100–130**	0,02–0,04	0,04–0,07					**120–220**	0,02–0,04	0,04–0,07
1.5	**100–200**	0,02–0,04	0,04–0,07	**100–130**	0,02–0,04	0,04–0,07					**120–220**	0,02–0,04	0,04–0,07
1.6	**100–200**	0,02–0,04	0,04–0,07	**100–130**	0,02–0,04	0,04–0,07					**120–220**	0,02–0,04	0,04–0,07
1.7	**100–200**	0,02–0,04	0,04–0,07	**100–130**	0,02–0,04	0,04–0,07					**120–220**	0,02–0,04	0,04–0,07
1.8	**100–200**	0,02–0,04	0,04–0,07								**120–220**	0,02–0,04	0,04–0,07
1.9	**200–250**	0,04–0,06	0,07–0,10	**150–200**	0,04–0,06	0,07–0,10							
1.10	**100–200**	0,02–0,04	0,04–0,07	**100–130**	0,02–0,04	0,04–0,07					**120–220**	0,02–0,04	0,04–0,07
1.11	**100–200**	0,02–0,04	0,04–0,07								**120–220**	0,02–0,04	0,04–0,07
1.12	**100–200**	0,02–0,04	0,04–0,07								**120–220**	0,02–0,04	0,04–0,07
1.13	**100–200**	0,02–0,04	0,04–0,07								**120–220**	0,02–0,04	0,04–0,07
1.14	**100–200**	0,02–0,04	0,04–0,07								**120–220**	0,02–0,04	0,04–0,07
1.15	**100–200**	0,02–0,04	0,04–0,07								**120–220**	0,02–0,04	0,04–0,07
1.16	**100–200**	0,02–0,04	0,04–0,07								**120–220**	0,02–0,04	0,04–0,07
2.1	**100–200**	0,02–0,03	0,04–0,05	**80–160**	0,02–0,03	0,04–0,05					**60–120**	0,015–0,03	0,03–0,06
2.2	**100–200**	0,02–0,03	0,04–0,05	**80–160**	0,02–0,03	0,04–0,05					**60–120**	0,015–0,03	0,03–0,06
2.3	**100–200**	0,02–0,03	0,04–0,05								**60–120**	0,015–0,03	0,03–0,06
2.4	**100–200**	0,02–0,03	0,04–0,05								**60–120**	0,015–0,03	0,03–0,06
2.5	**100–200**	0,02–0,03	0,04–0,05	**80–160**	0,02–0,03	0,04–0,05					**60–120**	0,015–0,03	0,03–0,06
2.6	**100–200**	0,02–0,03	0,04–0,05	**80–160**	0,02–0,03	0,04–0,05					**60–120**	0,015–0,03	0,03–0,06
2.7	**100–200**	0,02–0,03	0,04–0,05								**60–120**	0,015–0,03	0,03–0,06
3.1	**200–300**	0,05–0,07	0,07–0,12	**160–240**	0,05–0,07	0,07–0,12							
3.2	**200–300**	0,05–0,07	0,07–0,12	**160–240**	0,05–0,07	0,07–0,12							
3.3	**200–300**	0,05–0,07	0,07–0,12	**160–240**	0,05–0,07	0,07–0,12							
3.4	**200–300**	0,05–0,07	0,07–0,12	**160–240**	0,05–0,07	0,07–0,12							
3.5	**150–220**	0,03–0,05	0,06–0,08	**120–160**	0,03–0,05	0,06–0,08							
3.6	**150–220**	0,03–0,05	0,06–0,08	**120–160**	0,03–0,05	0,06–0,08							
3.7	**150–220**	0,03–0,05	0,06–0,08	**120–160**	0,03–0,05	0,06–0,08							
3.8	**150–220**	0,03–0,05	0,06–0,08	**120–160**	0,03–0,05	0,06–0,08							
4.1													
4.2													
4.3													
4.4													
4.5	**220–250**	0,05–0,07	0,06–0,08	**180–200**	0,05–0,07	0,06–0,08							
4.6													
4.7													
4.8													
4.9											**60–80**	0,02–0,04	0,03–0,05
4.10											**60–80**	0,02–0,04	0,03–0,05
4.11	**250–300**	0,05–0,07	0,06–0,08	**200–240**	0,05–0,07	0,06–0,08							
4.12													
4.13													
4.14													
4.15	**250–300**	0,05–0,07	0,06–0,08	**180–200**	0,05–0,07	0,06–0,08					**400–500**	0,05–0,08	0,07–0,10
4.16	**250–300**	0,05–0,07	0,06–0,08	**180–200**	0,05–0,07	0,06–0,08							
4.17													
4.18	**50–80**	0,015–0,025	0,020–0,035								**40–60**	0,015–0,025	0,020–0,035
4.19	**100–200**	0,02–0,04	0,04–0,07								**120–220**	0,02–0,04	0,04–0,07
5.1	**200–250**	0,04–0,06	0,07–0,10	150–200	0,04–0,06	0,07–0,10							
5.2											**60–80**	0,02–0,03	0,03–0,04
5.3											**60–80**	0,02–0,03	0,03–0,04
5.4							40–80	0,005–0,015	0,015–0,03	0,02–0,05	**30–60**	0,01–0,02	0,02–0,03
5.5							40–80	0,005–0,015	0,015–0,03	0,02–0,05	**30–60**	0,01–0,02	0,02–0,03
5.6							60–100	0,005–0,015	0,02–0,04	0,03–0,06	**30–60**	0,01–0,02	0,02–0,03
5.7	**70–100**	0,02–0,03	0,04–0,05				80–120	0,005–0,015	0,02–0,04	0,03–0,06	**40–60**	0,01–0,02	0,02–0,03
5.8							40–80	0,005–0,015	0,015–0,03	0,02–0,05	**30–60**	0,01–0,02	0,02–0,03
5.9											**60–80**	0,02–0,03	0,03–0,04
5.10											**60–80**	0,02–0,03	0,03–0,04
5.11							40–80	0,005–0,015	0,015–0,03	0,02–0,05	**60–80**	0,02–0,03	0,03–0,04
6.1	**80–120**	0,02–0,04	0,04–0,06				**80–120**	0,005–0,015	0,03–0,06	0,03–0,06	**60–100**	0,02–0,04	0,03–0,06
6.2	**80–120**	0,02–0,04	0,04–0,06				**60–100**	0,005–0,015	0,02–0,04	0,02–0,04	**60–100**	0,02–0,04	0,03–0,06
6.3	**50–80**	0,015–0,025	0,020–0,035				**30–60**	0,005–0,01	0,01–0,03	0,01–0,03	**40–60**	0,015–0,025	0,020–0,035
6.4	**50–80**	0,015–0,025	0,020–0,035				**30–60**	0,005–0,01	0,005–0,015	0,005–0,02	**40–60**	0,015–0,025	0,020–0,035
6.5													

Cutting data appoximate values

	SFSE VHM TiAlN 50 811 ..., 50 816 ..., 50 818 ..., 50 819 ..., 50 823 ..., 50 824 ...			SGF VHM TiAlN 50 825 ..., 50 826 ..., 50 827 ...			MWN uncoated 50 890 ..., 50 891 ..., 50 892 ..., 50 895 ..., 50 896 ..., 50 897 ...		MWN TiAlN 50 890 ..., 50 891 ..., 50 895 ...		EAW / EWM 50 860 ..., 50 861 ..., 50 867 ..., 50 868 ..., 50 870 ..., 50 871 ...		
Index	v_c m/min	Ø 6–10 f_z	Ø 12–20 f_z	v_c m/min	Ø 6–10 f_z	Ø 12–20 f_z	v_c m/min	f_z	v_c m/min	f_z	v_c m/min	EAW f_z	EWM f_z
1.1	**100–200**	0,04–0,08	0,06–0,12	**80–150**	0,03–0,07	0,06–0,10	**50–100**	0,10–0,20	**100–200**	0,10–0,20	**250–500**	0,10–0,20	0,10–0,20
1.2	**100–200**	0,04–0,08	0,06–0,12	**80–150**	0,03–0,07	0,06–0,10	**50–100**	0,10–0,20	**100–200**	0,10–0,20	**250–500**	0,10–0,20	0,10–0,20
1.3	**100–200**	0,04–0,08	0,06–0,12	**80–150**	0,03–0,07	0,06–0,10	**50–100**	0,10–0,20	**100–200**	0,10–0,20	**250–500**	0,10–0,20	0,10–0,20
1.4	**40–80**	0,01–0,03	0,03–0,05	**40–60**	0,01–0,03	0,02–0,04	**40–70**	0,05–0,10	**80–140**	0,05–0,10	**150–250**	0,06–0,12	0,06–0,12
1.5	**40–80**	0,01–0,03	0,03–0,05	**40–60**	0,01–0,03	0,02–0,04	**40–70**	0,05–0,10	**80–140**	0,05–0,10	**150–250**	0,06–0,12	0,06–0,12
1.6	**40–80**	0,01–0,03	0,03–0,05	**40–60**	0,01–0,03	0,02–0,04	**40–70**	0,05–0,10	**80–140**	0,05–0,10	**150–250**	0,06–0,12	0,06–0,12
1.7	**40–80**	0,01–0,03	0,03–0,05	**40–60**	0,01–0,03	0,02–0,04	**40–70**	0,05–0,10	**80–140**	0,05–0,10	**150–250**	0,06–0,12	0,06–0,12
1.8	**40–80**	0,01–0,03	0,03–0,05										
1.9	**100–200**	0,04–0,08	0,06–0,12	**80–150**	0,03–0,07	0,06–0,10	**50–100**	0,10–0,20	**100–200**	0,10–0,20	**250–500**	0,10–0,20	0,10–0,20
1.10	**40–80**	0,01–0,03	0,03–0,05	**40–60**	0,01–0,03	0,02–0,04	**40–70**	0,05–0,10	**80–140**	0,05–0,10	**150–250**	0,06–0,12	0,06–0,12
1.11	**40–80**	0,01–0,03	0,03–0,05								**150–250**	0,06–0,12	0,06–0,12
1.12	**40–80**	0,01–0,03	0,03–0,05								**150–250**	0,06–0,12	0,06–0,12
1.13	**40–80**	0,01–0,03	0,03–0,05								**150–250**	0,06–0,12	0,06–0,12
1.14	**40–80**	0,01–0,03	0,03–0,05								**150–250**	0,06–0,12	0,06–0,12
1.15	**40–80**	0,01–0,03	0,03–0,05								**150–250**	0,06–0,12	0,06–0,12
1.16	**40–80**	0,01–0,03	0,03–0,05								**150–250**	0,06–0,12	0,06–0,12
2.1	**60–100**	0,02–0,06	0,05–0,08	**60–100**	0,02–0,06	0,05–0,08			**100–200**	0,02–0,05	**60–120**	0,03–0,09	0,03–0,09
2.2	**60–100**	0,02–0,06	0,05–0,08	**60–100**	0,02–0,06	0,05–0,08			**100–200**	0,02–0,05	**60–120**	0,03–0,09	0,03–0,09
2.3	**60–100**	0,02–0,06	0,05–0,08	**60–100**	0,02–0,06	0,05–0,08			**100–200**	0,02–0,05	**60–120**	0,03–0,09	0,03–0,09
2.4	**60–100**	0,02–0,06	0,05–0,08	**60–100**	0,02–0,06	0,05–0,08			**100–200**	0,02–0,05	**60–120**	0,03–0,09	0,03–0,09
2.5	**60–100**	0,02–0,06	0,05–0,08	**60–100**	0,02–0,06	0,05–0,08			**100–200**	0,02–0,05	**60–120**	0,03–0,09	0,03–0,09
2.6	**60–100**	0,02–0,06	0,05–0,08	**60–100**	0,02–0,06	0,05–0,08			**100–200**	0,02–0,05	**60–120**	0,03–0,09	0,03–0,09
2.7	**60–100**	0,02–0,06	0,05–0,08	**60–100**	0,02–0,06	0,05–0,08			**100–200**	0,02–0,05	**60–120**	0,03–0,09	0,03–0,09
3.1	**100–200**	0,04–0,08	0,08–0,14	**100–200**	0,04–0,08	0,08–0,14	**70–120**	0,10–0,15	**100–180**	0,10–0,15	**200–350**	0,10–0,20	0,10–0,20
3.2	**100–200**	0,04–0,08	0,08–0,14	**100–200**	0,04–0,08	0,08–0,14	**70–120**	0,10–0,15	**100–180**	0,10–0,15	**200–350**	0,10–0,20	0,10–0,20
3.3	**100–200**	0,04–0,08	0,08–0,14	**100–200**	0,04–0,08	0,08–0,14	**70–120**	0,10–0,15	**100–180**	0,10–0,15	**200–350**	0,10–0,20	0,10–0,20
3.4	**100–200**	0,04–0,08	0,08–0,14	**100–200**	0,04–0,08	0,08–0,14	**70–120**	0,10–0,15	**100–180**	0,10–0,15	**200–350**	0,10–0,20	0,10–0,20
3.5	**80–150**	0,03–0,06	0,05–0,08	**80–150**	0,03–0,06	0,05–0,08	**50–100**	0,08–0,12	**80–150**	0,08–0,12	**150–250**	0,04–0,12	0,04–0,12
3.6	**80–150**	0,03–0,06	0,05–0,08	**80–150**	0,03–0,06	0,05–0,08	**50–100**	0,08–0,12	**80–150**	0,08–0,12	**150–250**	0,04–0,12	0,04–0,12
3.7	**80–150**	0,03–0,06	0,05–0,08	**80–150**	0,03–0,06	0,05–0,08	**50–100**	0,08–0,12	**80–150**	0,08–0,12	**150–250**	0,04–0,12	0,04–0,12
3.8	**80–150**	0,03–0,06	0,05–0,08	**80–150**	0,03–0,06	0,05–0,08	**50–100**	0,08–0,12	**80–150**	0,08–0,12	**150–250**	0,04–0,12	0,04–0,12
4.1	**275–300**	0,06–0,09	0,08–0,10	**275–300**	0,06–0,09	0,08–0,10	**100–200**	0,10–0,20	**200–250**	0,10–0,20	**400–500**	0,08–0,15	0,08–0,15
4.2	**275–300**	0,06–0,09	0,08–0,10	**275–300**	0,06–0,09	0,08–0,10	**100–200**	0,10–0,20	**200–250**	0,10–0,20	**400–500**	0,08–0,15	0,08–0,15
4.3	**225–275**	0,05–0,07	0,06–0,08	**225–275**	0,05–0,07	0,06–0,08	**100–200**	0,10–0,20	**200–250**	0,10–0,20	**400–500**	0,08–0,15	0,08–0,15
4.4	**200–225**	0,04–0,06	0,05–0,07	**200–225**	0,04–0,06	0,05–0,07	**100–200**	0,10–0,20	**200–250**	0,10–0,20	**300–400**	0,06–0,10	0,06–0,10
4.5	**180–200**	0,03–0,05	0,04–0,06	**180–200**	0,03–0,05	0,04–0,06			**150–200**	0,08–0,10	**300–400**	0,06–0,10	0,06–0,10
4.6	**275–300**	0,06–0,09	0,08–0,10	**275–300**	0,06–0,09	0,08–0,10	**100–200**	0,12–0,15	**200–250**	0,12–0,15	**400–500**	0,08–0,15	0,08–0,15
4.7	**275–300**	0,06–0,09	0,08–0,10	**275–300**	0,06–0,09	0,08–0,10	**100–200**	0,12–0,15	**200–250**	0,12–0,15	**400–500**	0,08–0,15	0,08–0,15
4.8	**275–300**	0,06–0,09	0,08–0,10	**275–300**	0,06–0,09	0,08–0,10			**200–250**	0,03–0,06	**400–500**	0,08–0,15	0,08–0,15
4.9	**60–80**	0,02–0,03	0,03–0,04	**50–70**	0,02–0,03	0,03–0,04			**40–80**	0,12–0,15	**150–200**	0,08–0,12	0,08–0,12
4.10	**60–80**	0,02–0,03	0,03–0,04	**50–70**	0,02–0,03	0,03–0,04			**40–80**	0,12–0,15	**150–200**	0,08–0,12	0,08–0,12
4.11	**200–225**	0,04–0,06	0,05–0,07	**200–225**	0,04–0,06	0,05–0,07	**70–120**	0,04–0,08	**100–150**	0,04–0,08	**400–500**	0,08–0,15	0,08–0,15
4.12	**275–300**	0,06–0,09	0,08–0,10	**275–300**	0,06–0,09	0,08–0,10	**90–180**	0,08–0,10	**150–200**	0,08–0,10	**400–500**	0,08–0,15	0,08–0,15
4.13	**350–450**	0,10–0,13	0,12–0,15	**350–450**	0,10–0,13	0,12–0,15	**180–250**	0,15–0,20	**250–300**	0,15–0,20	**600–800**	0,15–0,25	0,15–0,25
4.14	**300–400**	0,10–0,13	0,12–0,15	**300–400**	0,10–0,13	0,12–0,15	**100–200**	0,12–0,15	**200–250**	0,12–0,15	**600–800**	0,15–0,25	0,15–0,25
4.15	**180–200**	0,04–0,06	0,05–0,07	**180–200**	0,04–0,06	0,05–0,07			**100–150**	0,04–0,08	**150–200**	0,08–0,12	0,08–0,12
4.16	**200–225**	0,04–0,06	0,05–0,07	**200–225**	0,04–0,06	0,05–0,07			**100–130**	0,04–0,08	**400–500**	0,08–0,15	0,08–0,15
4.17	**100–200**	0,04–0,08	0,08–0,14	**100–200**	0,04–0,08	0,08–0,14							
4.18													
4.19	**40–80**	0,01–0,03	0,03–0,05								**150–250**	0,08–0,12	0,08–0,12
5.1	**100–200**	0,04–0,08	0,06–0,12	**80–150**	0,03–0,07	0,06–0,10					**250–500**	0,10–0,20	0,10–0,20
5.2	**50–80**	0,02–0,04	0,03–0,05	**50–80**	0,02–0,04	0,03–0,05					**50–100**	0,02–0,08	0,02–0,08
5.3	**50–80**	0,02–0,04	0,03–0,05								**50–100**	0,02–0,08	0,02–0,08
5.4													
5.5													
5.6													
5.7													
5.8													
5.9	**50–80**	0,02–0,04	0,03–0,05	**50–80**	0,02–0,04	0,03–0,05					**50–100**	0,02–0,08	0,02–0,08
5.10	**50–80**	0,02–0,04	0,03–0,05	**50–80**	0,02–0,04	0,03–0,05					**50–100**	0,02–0,08	0,02–0,08
5.11	**50–80**	0,02–0,04	0,03–0,05	**50–80**	0,02–0,04	0,03–0,05					**50–100**	0,02–0,08	0,02–0,08
6.1													
6.2													
6.3													
6.4													
6.5													

7

Cutting data appoximate values

	SGF VHM Ti500			GZG / GZD				Polygon		System 300		
	54 832 ...			50 863 ..., 50 864 ..., 50 887 ..., 50 885 ..., 50 888 ..., 50 889 ..., 50 894 ...				50 872 ..., 50 874 ..., 50 875 ..., 50 876 ..., 50 879 ..., 50 880 ..., 50 881 ..., 50 882 ..., 50 883 ..., 50 884 ..., 50 886 ...		50 851 ..., 50 852 ..., 50 853 ..., 50 855 ..., 50 857 ..., 50 858 ..., 50 859 ...		
	Ti500	size		uncoated	Ti500	size		Ti500		uncoated	Ti500	
Index	v_c m/min	8 mm f_z	10–16 mm f_z	v_c m/min	v_c m/min	12–17 mm f_z	20–26 mm f_z	v_c m/min	f_z	v_c m/min	v_c m/min	f_z
1.1	80–250	0,04–0,07	0,05–0,15		180–260	0,1–0,3	0,05–0,3	150–200	0,05–0,25		120–180	0,05–0,12
1.2	80–250	0,04–0,07	0,05–0,15		180–260	0,1–0,3	0,05–0,3	150–200	0,05–0,25		120–180	0,05–0,12
1.3	80–250	0,04–0,07	0,05–0,15		180–260	0,1–0,3	0,05–0,3	100–150	0,05–0,25		120–180	0,05–0,12
1.4	60–120	0,04–0,07	0,05–0,10		180–220	0,1–0,3	0,05–0,3	100–150	0,05–0,25		100–120	0,05–0,12
1.5	60–100	0,04–0,07	0,05–0,10		180–260	0,1–0,3	0,05–0,3	150–200	0,05–0,25		120–180	0,05–0,12
1.6	60–120	0,04–0,07	0,05–0,10		180–220	0,1–0,3	0,05–0,3	100–150	0,05–0,25		100–120	0,05–0,12
1.7	80–200	0,04–0,07	0,05–0,10		180–260	0,1–0,3	0,05–0,3	100	0,05–0,25		120–180	0,05–0,12
1.8	40–100	0,03–0,05	0,04–0,06		100–150	0,1–0,2	0,05–0,2	100	0,05–0,25		80–100	0,05–0,12
1.9	60–100	0,04–0,07	0,05–0,10		180–260	0,1–0,3	0,05–0,3	100	0,05–0,25		100–120	0,05–0,12
1.10	60–120	0,04–0,07	0,05–0,10		100–150	0,1–0,2	0,05–0,2	120	0,05–0,25		100–120	0,05–0,12
1.11	40–100	0,03–0,05	0,04–0,06		100–150	0,1–0,2	0,05–0,2	100	0,05–0,25		80–100	0,05–0,12
1.12	40–100	0,03–0,05	0,04–0,06		100–150	0,1–0,2	0,05–0,2	100	0,05–0,25		80–100	0,05–0,12
1.13	40–100	0,03–0,05	0,04–0,06		100–150	0,1–0,2	0,05–0,2	100	0,05–0,25		80–100	0,05–0,12
1.14	40–100	0,03–0,05	0,04–0,06		100–120	0,1–0,2	0,05–0,2	100	0,05–0,25		80–100	0,05–0,12
1.15	40–100	0,03–0,05	0,04–0,06		100–150	0,1–0,2	0,05–0,2	100	0,05–0,25		80–100	0,05–0,12
1.16	40–100	0,03–0,05	0,04–0,06		100–150	0,1–0,2	0,05–0,2	100	0,05–0,25		80–100	0,05–0,12
2.1	50–150	0,04–0,07	0,05–0,12		130–180	0,1–0,3	0,05–0,3				120–150	0,05–0,12
2.2	50–150	0,04–0,07	0,05–0,12		130–180	0,1–0,3	0,05–0,3				120–150	0,05–0,12
2.3	50–150	0,04–0,07	0,05–0,12		130–180	0,1–0,3	0,05–0,3	120	0,05–0,25		100–120	0,05–0,12
2.4	50–150	0,04–0,07	0,05–0,12		130–180	0,1–0,3	0,05–0,3	120	0,05–0,25		100–120	0,05–0,12
2.5	50–150	0,04–0,07	0,05–0,12		130–180	0,1–0,3	0,05–0,3	120	0,05–0,25		120–180	0,05–0,12
2.6	50–150	0,04–0,07	0,05–0,12		130–180	0,1–0,3	0,05–0,3	180	0,05–0,25		120–180	0,05–0,12
2.7	50–150	0,04–0,07	0,05–0,12		130–180	0,1–0,3	0,05–0,3				80–100	0,05–0,12
3.1	80–200	0,04–0,07	0,05–0,15	100–150	130–200	0,1–0,3	0,05–0,3	180	0,05–0,25	80–120	120–180	0,05–0,12
3.2	80–200	0,04–0,07	0,05–0,15	80–120	130–200	0,1–0,3	0,05–0,3	120	0,05–0,25	80–120	120–180	0,05–0,12
3.3	80–200	0,04–0,07	0,05–0,15		130–200	0,1–0,3	0,05–0,3	180	0,05–0,25	80–120	120–180	0,05–0,12
3.4	80–200	0,04–0,07	0,05–0,15		130–200	0,1–0,3	0,05–0,3	180	0,05–0,25	80–120	120–180	0,05–0,12
3.5	80–160	0,04–0,07	0,05–0,15		130–200	0,1–0,3	0,05–0,3	180	0,05–0,25	80–120	120–180	0,05–0,12
3.6	80–160	0,04–0,07	0,05–0,15		130–200	0,1–0,3	0,05–0,3	120	0,05–0,25	80–120	120–180	0,05–0,12
3.7	80–160	0,04–0,07	0,05–0,15		130–200	0,1–0,3	0,05–0,3	180	0,05–0,25	80–120	120–180	0,05–0,12
3.8	80–160	0,04–0,07	0,05–0,15		130–200	0,1–0,3	0,05–0,3	120	0,05–0,25	80–120	120–180	0,05–0,12
4.1	250–500	0,05–0,08	0,07–0,2	300–400	400–600	0,1–0,3	0,05–0,3	400	0,15–0,4	400–500		0,05–0,25
4.2	250–500	0,05–0,08	0,07–0,2	300–400	400–600	0,1–0,3	0,05–0,3	400	0,15–0,4	300–400		0,05–0,25
4.3	250–500	0,05–0,08	0,07–0,2					300	0,15–0,4			
4.4	250–500	0,05–0,08	0,07–0,2					250	0,15–0,4			
4.5	180–250	0,05–0,07	0,06–0,12									
4.6	250–300	0,05–0,07	0,06–0,08					500	0,15–0,4		300–500	0,05–0,25
4.7												
4.8								120	0,05–0,15			
4.9												
4.10												
4.11	250–300	0,05–0,07	0,06–0,08					400	0,15–0,4		200–300	0,05–0,25
4.12								400	0,15–0,4			
4.13	350–450	0,08–0,1						500	0,15–0,4		300–500	0,05–0,25
4.14	80–400	0,05–0,1	0,08–0,25					500	0,15–0,4		300–500	0,05–0,25
4.15	180–200	0,02–0,04	0,03–0,04									
4.16												
4.17								500	0,15–0,4		300–500	0,05–0,25
4.18												
4.19												
5.1												
5.2								120	0,05–0,25		80–120	0,05–0,12
5.3								120	0,05–0,25		80–120	0,05–0,12
5.4												
5.5												
5.6												
5.7												
5.8												
5.9												
5.10								80	0,01–0,08		70–100	0,01–0,05
5.11	40–60	0,03–0,05	0,04–0,1					60	0,01–0,08		60–90	0,01–0,05
6.1	40–60	0,03–0,05	0,04–0,1								80–100	0,03–0,1
6.2	40–60	0,03–0,05	0,04–0,1					100	0,05–0,15		80	0,03–0,1
6.3								100	0,05–0,10			
6.4												
6.5												

Cutting data appoximate values

	SFSE / SGF VHM Ti500 54 800 ..., 54 801 ..., 54 802 ..., 54 803 ..., 54 804 ..., 54 805 ..., 54 806 ..., 54 808 ..., 54 809 ..., 54 810 ..., 54 811 ..., 54 812 ..., 54 813 ...				MiniMill 53 006 ..., 53 007 ..., 53 008 ..., 53 009 ..., 53 010 ..., 53 011 ..., 53 012 ..., 53 013 ..., 53 015 ...			MicroMill 53 050 ..., 53 051 ..., 53 052 ..., 53 053 ...	
Index	v_c m/min	Ø 2,4 + 3,15 f_z	Ø 4 f_z	Ø 4,8–16 f_z	v_c m/min	f_z (drilling)	f_z (threading)	v_c m/min	f_z (drilling)
1.1	**80–250**	0,03–0,04	0,03–0,06	0,05–0,15	**80–200**	0,03–0,10	0,10–0,25	**60–200**	0,02–0,05
1.2	**80–250**	0,03–0,04	0,03–0,06	0,05–0,15	**80–200**	0,03–0,10	0,10–0,25	**60–200**	0,02–0,05
1.3	**80–250**	0,03–0,04	0,03–0,06	0,05–0,15	**80–200**	0,03–0,10	0,10–0,25	**60–200**	0,02–0,05
1.4	**60–120**	0,01–0,02	0,01–0,03	0,05–0,10	**60–180**	0,03–0,08	0,10–0,15	**60–160**	0,01–0,04
1.5	**60–120**	0,01–0,02	0,01–0,03	0,05–0,10	**60–180**	0,03–0,08	0,10–0,15	**60–160**	0,02–0,05
1.6	**60–120**	0,01–0,02	0,01–0,03	0,05–0,10	**60–180**	0,03–0,08	0,10–0,15	**60–160**	0,01–0,04
1.7	**80–200**	0,03–0,04	0,03–0,06	0,05–0,10	**60–160**	0,03–0,10	0,10–0,20	**50–140**	0,02–0,05
1.8	**40–100**	0,01–0,02	0,03–0,05	0,04–0,06	**60–160**	0,02–0,07	0,10–0,20	**50–140**	0,007–0,03
1.9	**60–120**	0,01–0,02	0,04–0,07	0,05–0,10	**60–160**	0,03–0,10	0,10–0,20	**50–140**	0,02–0,05
1.10	**60–120**	0,01–0,02	0,04–0,07	0,05–0,10	**60–160**	0,03–0,10	0,10–0,20	**50–140**	0,01–0,04
1.11	**40–100**	0,01–0,02	0,03–0,05	0,04–0,06	**60–160**	0,02–0,08	0,10–0,20	**50–140**	0,007–0,03
1.12	**40–100**	0,01–0,02	0,03–0,05	0,04–0,06	**30–100**	0,02–0,07	0,10–0,20	**10–60**	0,007–0,03
1.13	**40–100**	0,01–0,02	0,03–0,05	0,04–0,06	**30–100**	0,02–0,07	0,10–0,20	**10–60**	0,007–0,03
1.14	**40–100**	0,01–0,02	0,03–0,05	0,04–0,06	**30–100**	0,02–0,07	0,10–0,20	**10–60**	0,007–0,03
1.15	**40–100**	0,01–0,02	0,03–0,05	0,04–0,06	**30–100**	0,02–0,07	0,10–0,20	**10–60**	0,007–0,03
1.16	**40–100**	0,01–0,02	0,03–0,05	0,04–0,06	**30–100**	0,02–0,07	0,10–0,20	**10–60**	0,007–0,03
2.1	**50–150**	0,03–0,04	0,03–0,04	0,05–0,12	**80–120**	0,03–0,08	0,10–0,25	**60–120**	0,01–0,04
2.2	**50–150**	0,03–0,04	0,03–0,04	0,05–0,12	**80–120**	0,03–0,10	0,10–0,25	**60–120**	0,02–0,05
2.3	**50–150**	0,03–0,04	0,03–0,04	0,05–0,12	**80–120**	0,02–0,07	0,10–0,25	**60–120**	0,007–0,03
2.4	**50–150**	0,03–0,04	0,03–0,04	0,05–0,12	**80–120**	0,02–0,07	0,10–0,25	**60–120**	0,007–0,03
2.5	**50–150**	0,03–0,04	0,03–0,04	0,05–0,12	**80–120**	0,02–0,07	0,10–0,25	**60–120**	0,007–0,03
2.6	**50–150**	0,03–0,04	0,03–0,04	0,05–0,12	**80–120**	0,02–0,07	0,10–0,25	**60–120**	0,007–0,03
2.7	**50–150**	0,03–0,04	0,03–0,04	0,05–0,12	**80–120**	0,02–0,07	0,10–0,25	**60–120**	0,007–0,03
3.1	**100–200**	0,03–0,07	0,03–0,07	0,04–0,08	**100–170**	0,03–0,10	0,2–0,3	**70–170**	0,02–0,05
3.2	**100–200**	0,03–0,07	0,03–0,07	0,04–0,08	**100–170**	0,03–0,10	0,2–0,3	**70–170**	0,02–0,05
3.3	**100–200**	0,03–0,07	0,03–0,07	0,04–0,08	**100–170**	0,03–0,10	0,2–0,3	**70–170**	0,02–0,05
3.4	**100–200**	0,03–0,07	0,03–0,07	0,04–0,08	**100–170**	0,03–0,10	0,2–0,3	**70–170**	0,02–0,05
3.5	**100–200**	0,03–0,07	0,03–0,07	0,04–0,08	**100–170**	0,03–0,10	0,2–0,3	**70–170**	0,02–0,05
3.6	**100–200**	0,03–0,07	0,03–0,07	0,04–0,08	**100–170**	0,03–0,10	0,2–0,3	**70–170**	0,02–0,05
3.7	**100–200**	0,03–0,07	0,03–0,07	0,04–0,08	**100–170**	0,03–0,10	0,2–0,3	**70–170**	0,02–0,05
3.8	**100–200**	0,03–0,07	0,03–0,07	0,04–0,08	**100–170**	0,03–0,10	0,2–0,3	**70–170**	0,02–0,05
4.1	**250–500**	0,05–0,07	0,05–0,07	0,06–0,12	**250–800**	0,04–0,15	0,05–0,2	**100–600**	0,02–0,07
4.2	**250–500**	0,05–0,07	0,05–0,07	0,06–0,12	**250–800**	0,04–0,15	0,05–0,2	**100–600**	0,02–0,07
4.3	**250–500**	0,05–0,07	0,05–0,07	0,06–0,12	**250–800**	0,04–0,15	0,05–0,2	**100–600**	0,02–0,07
4.4	**250–500**	0,05–0,07	0,05–0,07	0,06–0,12	**250–800**	0,04–0,15	0,05–0,2	**100–600**	0,02–0,07
4.5	**180–250**	0,05–0,07	0,05–0,07	0,06–0,12	**250–800**	0,04–0,15	0,05–0,2	**100–600**	0,02–0,07
4.6	**250–300**	0,05–0,07	0,05–0,07	0,06–0,08	**200–500**	0,04–0,15	0,05–0,2	**100–300**	0,02–0,07
4.7					**200–500**	0,04–0,15	0,05–0,2	**100–300**	0,02–0,07
4.8					**200–500**	0,04–0,15	0,05–0,2	**100–300**	0,02–0,07
4.9					**200–500**	0,04–0,15	0,05–0,2	**100–300**	0,02–0,07
4.10					**200–500**	0,04–0,15	0,05–0,2	**100–300**	0,02–0,07
4.11	**250–300**	0,05–0,07	0,05–0,07	0,06–0,08	**150–180**	0,04–0,15	0,05–0,2	**120–180**	0,02–0,07
4.12					**150–180**	0,04–0,15	0,05–0,2	**120–180**	0,02–0,07
4.13	**350–450**	0,08–0,1	0,08–0,1	0,1–0,12	**20–100**	0,04–0,15	0,05–0,2	**10–50**	0,02–0,1
4.14	**300–400**	0,08–0,1	0,08–0,1	0,1–0,12	**20–100**	0,04–0,15	0,05–0,2	**10–50**	0,02–0,1
4.15	**180–200**	0,02–0,04	0,02–0,04	0,03–0,04	**20–100**	0,04–0,15	0,05–0,2	**10–50**	0,02–0,07
4.16					**20–100**	0,02–0,10	0,05–0,2	**10–50**	0,02–0,05
4.17					**20–100**	0,04–0,15	0,05–0,2	**10–50**	0,02–0,07
4.18					**20–100**	0,02–0,10	0,05–0,2	**10–50**	0,02–0,05
4.19					**20–100**	0,02–0,10	0,05–0,2	**10–50**	0,02–0,05
5.1					10–100	0,005–0,05	0,05–0,1	**10–60**	0,007–0,02
5.2					10–100	0,005–0,05	0,05–0,1	**10–60**	0,007–0,02
5.3	**60–80**	0,02–0,04	0,02–0,04	0,03–0,04	10–100	0,005–0,05	0,05–0,1	**10–60**	0,007–0,02
5.4					10–100	0,005–0,05	0,05–0,1	**10–60**	0,007–0,02
5.5					10–100	0,005–0,05	0,05–0,1	**10–60**	0,007–0,02
5.6					10–100	0,005–0,05	0,05–0,1	**10–60**	0,007–0,02
5.7					10–100	0,005–0,05	0,05–0,1	**10–60**	0,007–0,02
5.8					10–100	0,005–0,05	0,05–0,1	**10–60**	0,007–0,02
5.9					10–100	0,005–0,05	0,05–0,1	**10–60**	0,007–0,02
5.10					10–100	0,005–0,05	0,05–0,1	**10–60**	0,007–0,02
5.11	**50–80**	0,01–0,03	0,01–0,03	0,01–0,03	10–100	0,005–0,05	0,05–0,1	**10–60**	0,007–0,02
6.1	**40–60**		0,03–0,05	0,03–0,05	10–60	0,002–0,05		**10–40**	0,007–0,02
6.2	**40–50**		0,03–0,05	0,03–0,05	10–60	0,002–0,05		**10–40**	0,007–0,02
6.3	**30–40**		0,02–0,04	0,02–0,04	10–60	0,002–0,05		**10–40**	0,007–0,02
6.4								**10–40**	0,007–0,02
6.5									

7

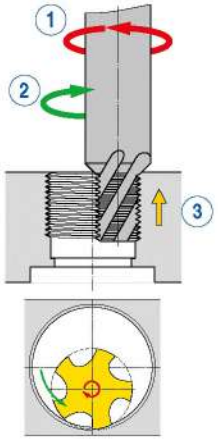
Milling Procedures

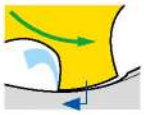
Climb milling

Characteristics:

1. Tool rotation direction „right“
2. Toolpath counter clockwise
3. Feed direction „outwards“

Right hand thread





When climb milling, the chip thickness at the end of cut is always 0 (h = 0)

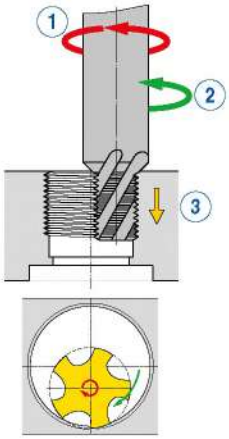
h = 0

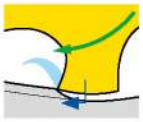
Conventional milling

Characteristics:

1. Tool rotation direction „right“
2. Toolpath clockwise
3. Feed direction „inwards“

Right hand thread

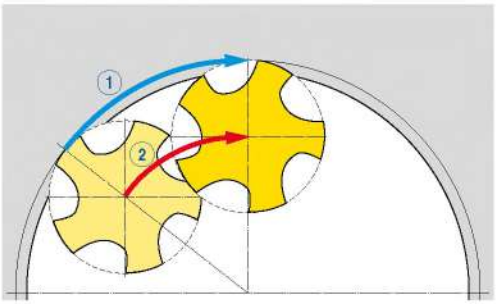




When conventional milling, the chip thickness at the end of cut is always at maximum (h = max)

h = max

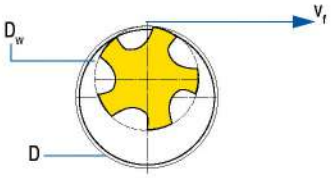
Feed rate calculation



1. Peripheral feedrate v_f
2. Centerline feedrate v_{fm}

Peripheral feedrate v_f

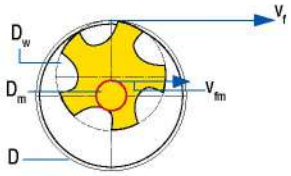
$$v_f = n \cdot f_z \cdot z \quad \text{mm/min.}$$



D_w = Effective diameter in mm
n = RPM in min^{-1}
f_z = Feed per tooth in mm

Centerline feedrate v_{fm}

$$v_{fm} = \frac{v_f \cdot (D - D_w)}{D} \quad \text{mm/min.}$$



z = Number of cutting edges (radial)
D = Nominal thread diameter = external profile diameter in mm
D_m = Centre path diameter ($D - D_W$) in mm

Tips for the User

With thread milling there are two different programme possibilities with the feed motion of the tool.

On the one hand the machine controls the feed at the diameter of the tool, on the other hand the feed control is the tool center line.
In order to ascertain which method the machine control uses, the following method should be employed:

- enter the thread milling routine into the control
- enter a safety margin into the program, so that the tool runs in air
- run the program through and check the operating time
- compare the actual time with the calculated theoretical time

If the time is longer than the calculated time the feed is controlling the tool center line.
If the time is shorter than the calculated time the feed is controlling the diameter of the tool.

Numeric calculation of cutting data for thread milling

$$n = \frac{v_c \cdot 1000}{d \cdot \pi}$$

$$v_c = \frac{d \cdot \pi \cdot n}{1000}$$

$$v_f = f_z \cdot z \cdot n$$

$$n = \frac{v_f}{f_z \cdot z}$$

$$f_z = \frac{v_f}{z \cdot n}$$

Milling – external contour

$$v_{fm} = \frac{v_f \cdot (D + d)}{D}$$

$$v_f = \frac{D \cdot v_{fm}}{(D + d)}$$

Milling – internal contour

$$v_{fm} = \frac{v_f \cdot (D - d)}{D}$$

$$v_f = \frac{D \cdot v_{fm}}{(D - d)}$$

Helical plunging

$$U_{arc} = 0{,}25 \cdot v_{fm}$$

Ramping in the arc

$$U_{arc} = v_{fm}$$

n	=	rpm	rev./min.
v_c	=	cutting speed	m/min
d	=	tool diameter	mm
D	=	nominal thread-Ø	mm
v_f	=	feed rate at the diameter	mm/min.
v_{fm}	=	feed rate at the centre	mm/min.
U_{arc}	=	programmed ramping feed rate	mm/min.
f_z	=	feed per tooth	mm
z	=	number of cutting edges of the cutter	piece

7

Correction values for the internal thread milling

The cutting edge diameter of the thread milling cutter which is entered into the machine control, can be calculated as follows:

half the cutter Ø – 0.05 x pitch p

Example: M30x3
Cutter-Ø: 20 mm

$$Ø\frac{20}{2} - (0.05 \cdot 3) = \underline{\underline{9.85 \text{ mm}}}$$

9.85 mm is the cutting radius to be entered into the machine control

Thread types

M	Metric ISO standard thread
MF	Metric ISO fine thread
G	Whitworth thread
UNF	Unified fine thread
NPT	American taper pipe thread
BSF	Whitworth fine thread
BSW	Whitworth thread
Pg	Steel conduit thread
UN	Unified thread
Tr	Trapezoidal thread

Tool types

EAW	Thread milling cutter with solid carbide inserts and weldon flat
EWM	Thread milling cutter with solid carbide inserts and SK adaptor
GZD	Thread milling cutter with carbide inserts and Weldon flat
GZG	Thread milling cutter with carbide inserts and Weldon flat
HR	Single point thread milling cutter
SFSE	Thread milling cutter with chamfer facet
Mini Mill	Circular milling cutter with solid carbide insert
MWN	Thread milling cutter with carbide inserts and Weldon flat
Polygon	Circular milling cutter with polygon insert seat
SGF	Thread milling cutter
Micro Mill	Solid Carbide Circular End Milling Cutter
System 300	Circular milling cutter with solid carbide insert
UNI	Thread milling cutter for universal application

Coatings

TiN	▲ TiN coating ▲ maximum application temperature: 450 °C
TiAlN	▲ TiAlN multilayer coating ▲ maximum application temperature: 900 °C
Ti500	▲ TiAlN-coating ▲ maximum application temperature: 500 °C
CWX500	▲ carbide, TiAlN-coated ▲ ISO | **K30** ▲ the universal carbide grade for almost all materials
OSM	▲ hard material layer and anti-friction layer ▲ for use in high-strength steels
TiCN	▲ TiCN multilayer coating ▲ maximum application temperature: 450 °C

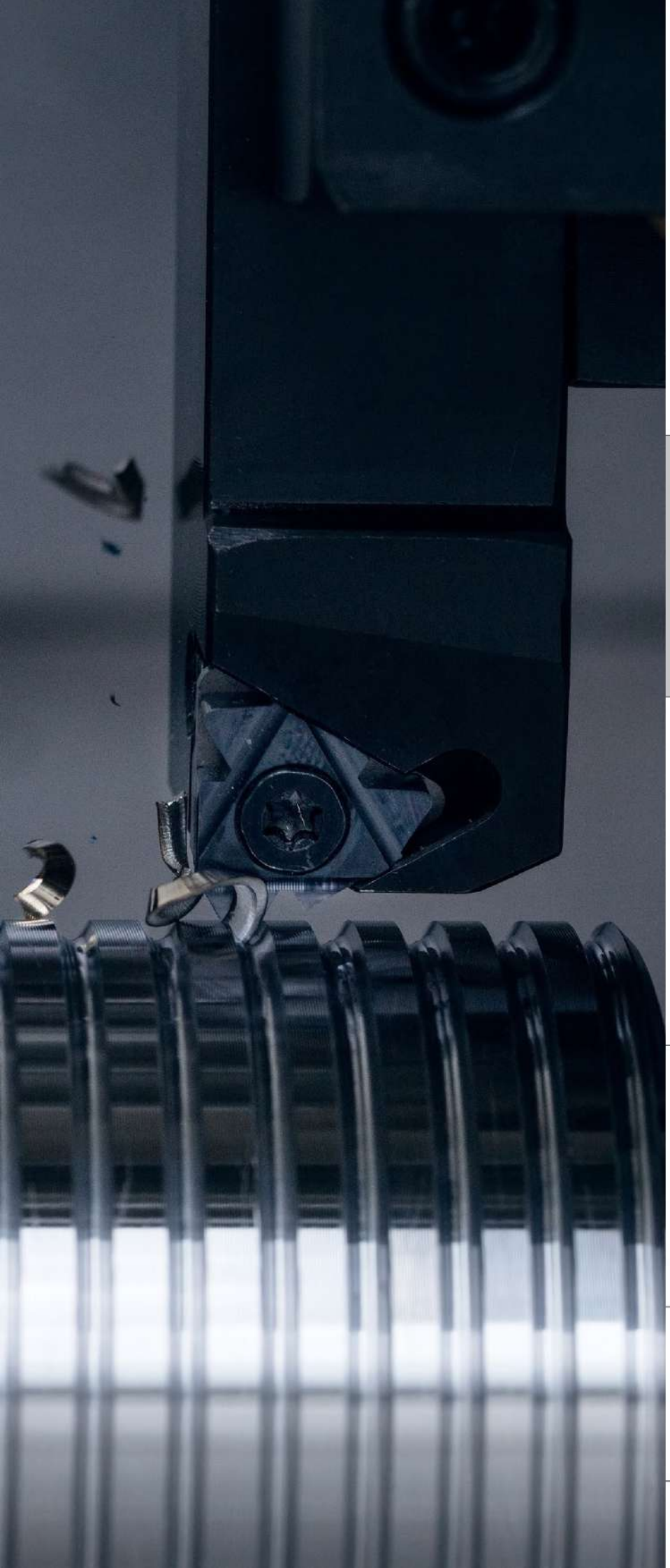


Table of contents

WNT \ Performance

Premium quality tools for high performance.

The premium quality tools from the **WNT Performance** product line have been designed for specific applications and are distinguished by their outstanding performance. If you make high demands on the performance of your production and want to achieve the very best results, we recommend the Premium tools in this product line.

Toolfinder

TC threading system (external thread)

M — Full profile, Partial profile
BSW — Full profile, Partial profile

→ **Chapter 11 – Grooving tools**

TC threading system (internal thread)

M — Full profile, Partial profile
BSW — Full profile, Partial profile

→ **Chapter 11 – Grooving tools**

MiniCut

M — Full profile, Partial profile
G — Partial profile
Tr — Partial profile

→ **Chapter 12 – Miniature turning tools**

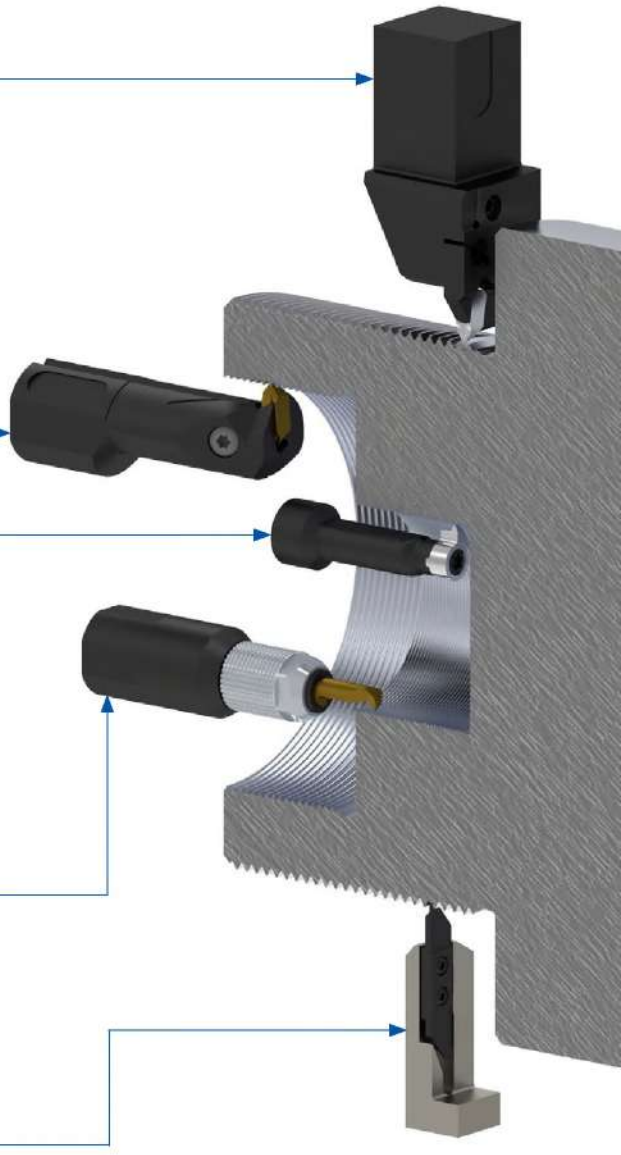
UltraMini

M — Full profile, Partial profile
MF — Full profile, Partial profile
G — Partial profile
Tr — Partial profile

→ **Chapter 12 – Miniature turning tools**

VertiClamp/System 25

→ **Sliding head tooling catalogue, Chapter 3 – Turning**



Symbol explanation

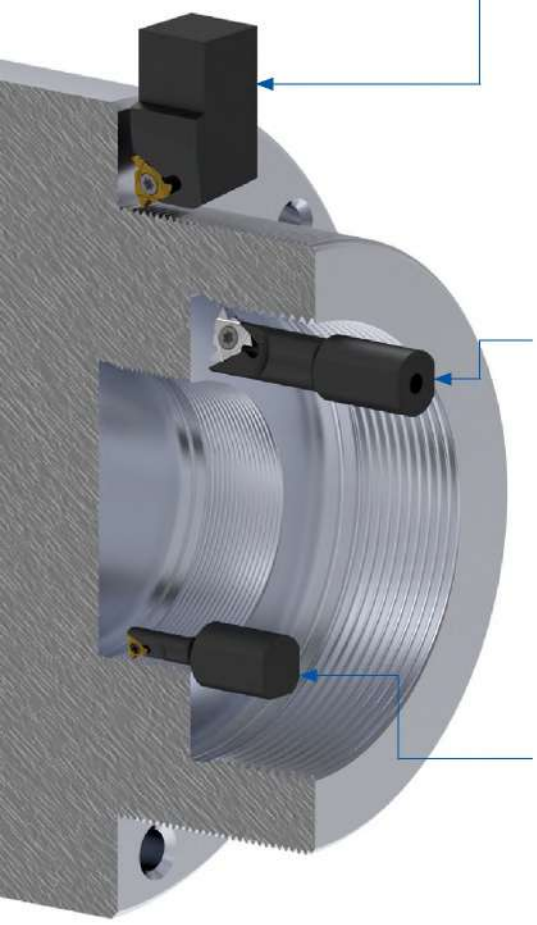
Flank angle

- 30° — Flank angle 30° (Trapezoidal thread)
- 30° — Flank angle 30° (Round thread)
- 55° — Flank angle 55°
- 60° — Flank angle 60°
- 80° — Flank angle 80° (Conduit thread)

● = **Main Application**
○ = Extended application

Threading

M	ISO metric coarse thread DIN 13
MF	ISO Metric fine thread DIN 13
MJ	Metric thread for the aerospace industry DIN ISO 5855
BSW	British Whitworth thread BS 84
UN	American unified thread BS 1580 (ASME B 1.1)
UNC	American unified thread (coarse) BS 1580 (ASME B 1.1)
UNF	American unified thread (fine) BS 1580 (ASME B 1.1)
UNEF	American unified thread (extra fine) BS 1580 (ASME B 1.1)
NPT	American pipe thread ANSI/ASME B 1.20.3
Tr	Trapezoidal thread DIN 103
Rd	Round Thread DIN 405
Pg	Conduit Threads DIN 40430



Standard external thread turning

Full profile

M	MJ	BSW	UN	UNC	UNF	UNEF	NPT	Tr	Rd	Pg
4+5	9	11+12	15+16	15+16	15+16	15+16	19	21	23	25

Partial profile

60°	55°
27	29

Multi-cutting edge

M
8

Suitable holder

31

Standard internal thread turning

Full profile

M	MJ	BSW	UN	UNC	UNF	UNEF	NPT	Tr	Rd	Pg
6+7	10	13+14	17+18	17+18	17+18	17+18	20	22	24	26

Partial profile

60°	55°
28	30

Suitable holder

32+33

Mini 06

Full profile

M	BSW
34	34

Partial profile

60°	55°
35	35

Mini 08

Full profile

M
36

Partial profile

60°	55°
36	37

Suitable holder

38

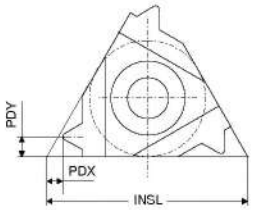
Information on the different thread profiles can be found on → **Page 46.**

Right hand external thread turning insert

- Full profile
- CCN7525 grade with sintered chip breaker for universal application

M | MF | 60°

CCN20 | CWN1525 | HCN2525 | CWK20 | CCN7525



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	mm	mm	mm	mm	£		£		£		£		£	
11 ER 0,35	0.35	11	0.8	0.4	23.14	204					16.92	604		
11 ER 0,4	0.40	11	0.7	0.4	23.14	206					16.92	606		
11 ER 0,45	0.45	11	0.7	0.4	23.14	208					16.92	608		
11 ER 0,5	0.50	11	0.6	0.6	23.14	209					16.92	609		
11 ER 0,6	0.60	11	0.6	0.6	23.14	210					16.92	610		
11 ER 0,7	0.70	11	0.6	0.6	23.14	211					16.92	611		
11 ER 0,75	0.75	11	0.6	0.6	23.14	212					16.92	612		
11 ER 0,8	0.80	11	0.6	0.6	23.14	213					16.92	613		
11 ER 1,0	1.00	11	0.7	0.7	23.14	214					16.92	614		
11 ER 1,25	1.25	11	0.8	0.9	23.14	216					16.92	616		
11 ER 1,5	1.50	11	0.8	1.0	23.14	218					16.92	618		
11 ER 1,75	1.75	11	0.8	1.1	23.14	220					16.92	620		
16 ER 0,35	0.35	16	0.8	0.4	23.95	234			21.81	734	17.52	634		
16 ER 0,4	0.40	16	0.7	0.4	23.95	236			21.81	736	17.52	636		
16 ER 0,45	0.45	16	0.7	0.4	23.95	238					17.52	638		
16 ER 0,5	0.50	16	0.6	0.6	23.95	240	14.97	140	16.99	740	17.52	640	16.99	940
16 ER 0,7	0.70	16	0.6	0.6	23.95	241	16.57	141	17.54	741	17.52	641		
16 ER 0,75	0.75	16	0.6	0.6	23.95	242	15.56	142	16.99	742	17.52	642	16.99	942
16 ER 0,8	0.80	16	0.6	0.6	23.95	243	15.56	143	16.99	743	17.52	643	16.99	943
16 ER 1,0	1.00	16	0.7	0.7	23.95	244	14.53	144	16.57	744	17.05	644	16.57	944
16 ER 1,25	1.25	16	0.8	0.9	23.95	246	14.53	146	16.57	746	17.52	646	16.57	946
16 ER 1,5	1.50	16	0.8	1.0	23.95	248	14.53	148	16.57	748	17.05	648	16.57	948
16 ER 1,75	1.75	16	0.9	1.2	23.95	250	14.53	150	16.57	750	17.52	650		
16 ER 2,0	2.00	16	1.0	1.3	23.95	252	14.53	152	16.57	752	17.52	652	16.57	952
16 ER 2,5	2.50	16	1.1	1.5	23.95	254	14.53	154	16.57	754	17.52	654	16.57	954
16 ER 3,0	3.00	16	1.2	1.6	23.95	256	14.53	156	16.57	756	17.52	656	16.57	956
22 ER 3,5	3.50	22	1.6	2.3	33.08	270	22.68	170	24.95	770	28.79	670		
22 ER 4,0	4.00	22	1.6	2.3	33.08	272	23.66	172	26.31	772	28.79	672		
22 ER 4,5	4.50	22	1.7	2.4	33.08	274	25.52	174	27.79	774	28.79	674		
22 ER 5,0	5.00	22	1.7	2.5	33.08	276	25.52	176	27.79	776	28.79	676		
22 ER 5,5	5.50	22	1.7	2.6			25.52	178						
22 ER 5,5	5.50	22	1.9	2.7	33.08	278					28.79	678		
22 EN 5,5	5.50	22	2.3	11.0	33.08	282 [1]					28.79	682 [1]		
22 ER 6,0	6.00	22	1.9	2.7			25.52	180	27.79	780				
22 ER 6,0	6.00	22	2.0	2.9	33.08	280					28.79	680		
22 EN 6,0	6.00	22	2.6	11.0	33.08	284 [1]					28.79	684 [1]		

Steel	●	●	○		●
Stainless steel	●	○	●		●
Cast iron		●	○	●	●
Non ferrous metals	○	●	○	●	○
Heat resistant alloys			○	○	●

1) Neutral version (N) – for right and left hand thread applications. Neutral Toolholder marked (U) is required.

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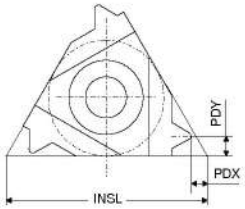
Left hand external thread turning insert

▲ Full profile

M | MF | 60°



CCN20 | CWN1525 | HCN2525 | CWK20

Designation	TP	INSL	PDX	PDY	EL X3 Article no. 71 222 ... £		EL X3 Article no. 71 222 ... £		EL X3 Article no. 71 222 ... £		EL Y1 Article no. 71 222 ... £	
	mm	mm	mm	mm								
11 EL 0,35	0.35	11	0.8	0.4	23.14	204					16.92	604
11 EL 0,4	0.40	11	0.7	0.4	23.14	206					16.92	606
11 EL 0,45	0.45	11	0.7	0.4	23.14	208					16.92	608
11 EL 0,5	0.50	11	0.6	0.6	23.14	209					16.92	609
11 EL 0,6	0.60	11	0.6	0.6	23.14	210					16.92	610
11 EL 0,7	0.70	11	0.6	0.6	23.14	211					16.92	611
11 EL 0,75	0.75	11	0.6	0.6	23.14	212					16.92	612
11 EL 0,8	0.80	11	0.6	0.6	23.14	213					16.92	613
11 EL 1,0	1.00	11	0.7	0.7	23.14	214					16.92	614
11 EL 1,25	1.25	11	0.8	0.9	23.14	216					16.92	616
11 EL 1,5	1.50	11	0.8	1.0	23.14	218					16.92	618
11 EL 1,75	1.75	11	0.8	1.1	23.14	220					16.92	620
16 EL 0,35	0.35	16	0.8	0.4	23.95	234					17.52	634
16 EL 0,4	0.40	16	0.7	0.4	23.95	236					17.52	636
16 EL 0,45	0.45	16	0.7	0.4	23.95	238					17.52	638
16 EL 0,5	0.50	16	0.6	0.6	23.95	240					17.52	640
16 EL 0,7	0.70	16	0.6	0.6	23.95	241					17.52	641
16 EL 0,75	0.75	16	0.6	0.6	23.95	242					17.52	642
16 EL 0,8	0.80	16	0.6	0.6	23.95	243					17.52	643
16 EL 1,0	1.00	16	0.7	0.7	23.95	244	15.55	144	17.44	744	17.05	644
16 EL 1,25	1.25	16	0.8	0.9	23.95	246	16.54	146			17.52	646
16 EL 1,5	1.50	16	0.8	1.0	23.95	248	15.55	148	17.44	748	17.05	648
16 EL 1,75	1.75	16	0.9	1.2	23.95	250			20.35	750	17.52	650
16 EL 2,0	2.00	16	1.0	1.3	23.95	252	16.54	152			17.52	652
16 EL 2,5	2.50	16	1.1	1.5	23.95	254					17.52	654
16 EL 3,0	3.00	16	1.2	1.6	23.95	256	21.36	156			17.52	656
22 EL 3,5	3.50	22	1.6	2.3	33.08	270					28.79	670
22 EL 4,0	4.00	22	1.6	2.3	33.08	272					28.79	672
22 EL 4,5	4.50	22	1.7	2.4	33.08	274					28.79	674
22 EL 5,0	5.00	22	1.7	2.5	33.08	276					28.79	676
22 EL 5,5	5.50	22	1.9	2.7	33.08	278					28.79	678
22 EL 6,0	6.00	22	2.0	2.9	33.08	280					28.79	680

Steel	●	●	○	
Stainless steel	●	○	●	
Cast iron		●	○	●
Non ferrous metals	○	●	○	●
Heat resistant alloys			○	○

→ v_c Page 42

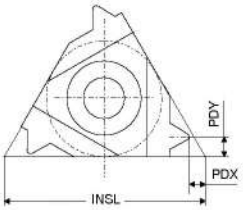
8

Right hand internal thread turning insert

- Full profile
- CCN7525 grade with sintered chip breaker for universal application

M | MF | 60°

CCN20 | CWN1525 | HCN2525 | CWK20 | CCN7525



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	mm	mm	mm	mm	£		£		£		£		£	
11 IR 0,35	0.35	11	0.8	0.3	23.95	204					17.52	604		
11 IR 0,4	0.40	11	0.8	0.4	23.95	206					17.52	606		
11 IR 0,45	0.45	11	0.8	0.4	23.95	208					17.52	608		
11 IR 0,5	0.50	11	0.6	0.6	23.95	210					17.52	610		
11 IR 0,7	0.70	11	0.6	0.6	23.95	211					17.52	611		
11 IR 0,75	0.75	11	0.6	0.6	23.95	212					17.52	612	20.35	912
11 IR 0,8	0.80	11	0.6	0.6	23.95	213			24.86	713	17.52	613		
11 IR 1,0	1.00	11	0.6	0.6									16.57	914
11 IR 1,0	1.00	11	0.6	0.7	23.95	214	14.53	114	16.57	714	17.05	614		
11 IR 1,25	1.25	11	0.8	0.9	23.95	216					17.52	616		
11 IR 1,5	1.50	11	0.8	0.9									16.57	918
11 IR 1,5	1.50	11	0.8	1.0	23.95	218	14.53	118	16.57	718	17.05	618		
11 IR 1,75	1.75	11	0.9	1.1	23.95	220					17.52	620		
11 IR 2,0	2.00	11	0.8	0.9			14.53	122	16.57	722				
11 IR 2,0	2.00	11	0.9	1.1	23.95	222					17.52	622		
11 IR 2,5	2.50	11	0.8	1.2			16.54	124	17.97	724				
11 IR 2,5	2.50	11	0.9	1.1	23.95	224					17.52	624		
16 IR 0,35	0.35	16	0.8	0.4	23.95	234					17.52	634		
16 IR 0,4	0.40	16	0.7	0.4	23.95	236					17.52	636		
16 IR 0,45	0.45	16	0.7	0.4	23.95	238					17.52	638		
16 IR 0,5	0.50	16	0.6	0.6	23.95	240					17.52	640		
16 IR 0,7	0.70	16	0.6	0.6	23.95	241					17.52	641		
16 IR 0,75	0.75	16	0.6	0.6	23.95	242	18.25	142	20.35	742	17.52	642		
16 IR 0,8	0.80	16	0.6	0.6	23.95	243					17.52	643		
16 IR 1,0	1.00	16	0.6	0.7			14.53	144	16.57	744			16.57	944
16 IR 1,0	1.00	16	0.7	0.7	23.95	244					17.05	644		
16 IR 1,25	1.25	16	0.8	0.9	23.95	246			17.44	746	17.52	646	17.44	946
16 IR 1,5	1.50	16	0.8	1.0	23.95	248	14.53	148	16.57	748	17.05	648	16.57	948
16 IR 1,75	1.75	16	0.9	1.2	23.95	250			20.35	750	17.52	650		
16 IR 2,0	2.00	16	1.0	1.3	23.95	252	14.53	152	16.57	752	17.52	652	16.57	952
16 IR 2,5	2.50	16	1.1	1.5	23.95	254	14.53	154	16.57	754	17.52	654	16.57	954
16 IR 3,0	3.00	16	1.1	1.5	23.95	256	14.53	156	16.57	756	17.52	656	16.57	956
22 IR 3,5	3.50	22	1.6	2.3	33.08	270	23.66	170	26.31	770	28.79	670		
22 IR 4,0	4.00	22	1.6	2.3	33.08	272	23.66	172	26.31	772	28.79	672		
22 IR 4,5	4.50	22	1.6	2.4			25.52	174	27.79	774				
22 IR 4,5	4.50	22	1.7	2.4	33.08	274					28.79	674		
22 IR 5,0	5.00	22	1.6	2.3			25.52	176						
22 IR 5,0	5.00	22	1.7	2.5	33.08	276					28.79	676		
22 IR 5,5	5.50	22	1.6	2.3			28.78	178						
22 IR 5,5	5.50	22	1.9	2.7	33.08	278					28.79	678		
22 IN 5,5	5.50	22	2.3	11.0	33.08	282 [1]					28.79	682 [1]		
22 IR 6,0	6.00	22	1.6	2.4			25.52	180						
22 IR 6,0	6.00	22	2.0	2.9	33.08	280					28.79	680		
22 IN 6,0	6.00	22	2.6	11.0	33.08	284 [1]					28.79	684 [1]		

Steel	●	●	○		●
Stainless steel	●	○	●		●
Cast iron		●	○	●	●
Non ferrous metals	○	●	○	●	○
Heat resistant alloys			○	○	●

1) Neutral version (N) – for right and left hand thread applications. Neutral Toolholder marked (U) is required.

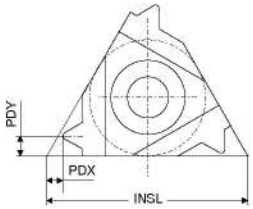
→ v_c Page 42

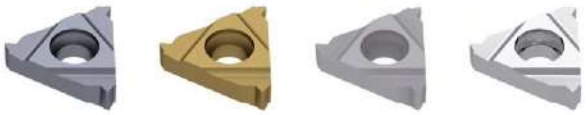
Left hand internal thread turning insert

▲ Full profile

M | MF | 60°

CCN20 | CWN1525 | HCN2525 | CWK20





Designation	TP	INSL	PDX	PDY	IL X3 Article no. 71 226 ... £		IL X3 Article no. 71 226 ... £		IL X3 Article no. 71 226 ... £		IL Y1 Article no. 71 226 ... £	
	mm	mm	mm	mm								
11 IL 0,35	0.35	11	0.8	0.3	23.95	204					17.52	604
11 IL 0,4	0.40	11	0.8	0.4	23.95	206					17.52	606
11 IL 0,45	0.45	11	0.8	0.4	23.95	208					17.52	608
11 IL 0,5	0.50	11	0.6	0.6	23.95	210					17.52	610
11 IL 0,7	0.70	11	0.6	0.6	23.95	211					17.52	611
11 IL 0,75	0.75	11	0.6	0.6	23.95	212					17.52	612
11 IL 0,8	0.80	11	0.6	0.6	23.95	213					17.52	613
11 IL 1,0	1.00	11	0.6	0.7	23.95	214					17.05	614
11 IL 1,25	1.25	11	0.8	0.9	23.95	216					17.52	616
11 IL 1,5	1.50	11	0.8	1.0	23.95	218					17.05	618
11 IL 1,75	1.75	11	0.9	1.1	23.95	220					17.52	620
11 IL 2,0	2.00	11	0.9	1.1	23.95	222					17.52	622
11 IL 2,5	2.50	11	0.9	1.1	23.95	224					17.52	624
16 IL 0,35	0.35	16	0.8	0.4	23.95	234					17.52	634
16 IL 0,4	0.40	16	0.7	0.4	23.95	236					17.52	636
16 IL 0,45	0.45	16	0.7	0.4	23.95	238					17.52	638
16 IL 0,5	0.50	16	0.6	0.6	23.95	240					17.52	640
16 IL 0,7	0.70	16	0.6	0.6	23.95	241					17.52	641
16 IL 0,75	0.75	16	0.6	0.6	23.95	242					17.52	642
16 IL 0,8	0.80	16	0.6	0.6	23.95	243					17.52	643
16 IL 1,0	1.00	16	0.6	0.7			21.36	144				
16 IL 1,0	1.00	16	0.7	0.7	23.95	244					17.05	644
16 IL 1,25	1.25	16	0.8	0.9	23.95	246					17.52	646
16 IL 1,5	1.50	16	0.8	1.0	23.95	248	18.39	148	20.35	748	17.05	648
16 IL 1,75	1.75	16	0.9	1.2	23.95	250					17.52	650
16 IL 2,0	2.00	16	1.0	1.3	23.95	252	16.54	152			17.52	652
16 IL 2,5	2.50	16	1.1	1.5	23.95	254					17.52	654
16 IL 3,0	3.00	16	1.2	1.6	23.95	256					17.52	656
22 IL 3,5	3.50	22	1.6	2.3	33.08	270					28.79	670
22 IL 4,0	4.00	22	1.6	2.3	33.08	272					28.79	672
22 IL 4,5	4.50	22	1.7	2.4	33.08	274					28.79	674
22 IL 5,0	5.00	22	1.7	2.5	33.08	276					28.79	676
22 IL 5,5	5.50	22	1.9	2.7	33.08	278					28.79	678
22 IL 6,0	6.00	22	2.0	2.9	33.08	280					28.79	680

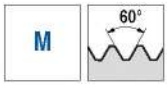
Steel	●	●	○	
Stainless steel	●	○	●	
Cast iron		●	○	●
Non ferrous metals	○	●	○	●
Heat resistant alloys			○	○

→ v_c Page 42

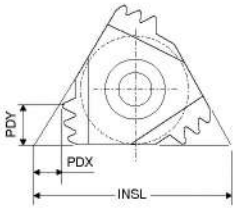
8

Right hand external thread turning insert

▲ Multi edge insert



HCN2525



Designation	TP	INSL	PDX	PDY	NT	ER X3 Article no. 71 221 ...	
	mm	mm	mm	mm		£	
16 ER 1,0 3M	1.0	16	1.7	2.5	3	35.06	**700**
16 ER 1,5 2M	1.5	16	1.5	2.3	2	34.43	**702**

Steel	○
Stainless steel	●
Cast iron	○
Non ferrous metals	○
Heat resistant alloys	○

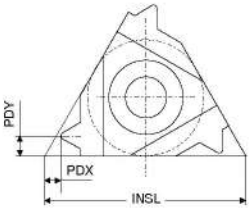
→ v_c Page 42

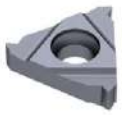
Right hand external thread turning insert

▲ Full profile

MJ 60°

CCN20 CWK20





Designation	TP	INSL	PDX	PDY	ER X3 Article no. 71 286 ...		ER Y1 Article no. 71 286 ...	
	mm	mm	mm	mm	£		£	
11 ER 1,0	1.00	11	0.7	0.8	31.80	**214**	25.51	**614**
11 ER 1,25	1.25	11	0.8	0.9	31.80	**216**	25.51	**616**
11 ER 1,5	1.50	11	0.8	1.0	31.80	**218**	25.51	**618**
11 ER 2,0	2.00	11	0.9	1.0	31.80	**222**	25.51	**622**
16 ER 1,0	1.00	16	0.7	0.8	31.80	**244**	25.51	**644**
16 ER 1,25	1.25	16	0.8	0.9	31.80	**246**	25.51	**646**
16 ER 1,5	1.50	16	0.8	1.0	31.80	**248**	25.51	**648**
16 ER 2,0	2.00	16	1.0	1.3	31.80	**252**	25.51	**652**

Steel	●	
Stainless steel	●	
Cast iron		●
Non ferrous metals	○	●
Heat resistant alloys		○

→ v_c Page 42

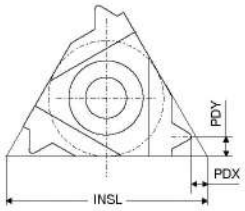
8

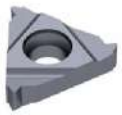
Left hand external thread turning insert

▲ Full profile

MJ 60°

CCN20 CWK20





Designation	TP	INSL	PDX	PDY	EL X3 Article no. 71 287 ...		EL Y1 Article no. 71 287 ...	
	mm	mm	mm	mm	£		£	
11 EL 1,0	1.00	11	0.7	0.8	31.80	**214**	25.51	**614**
11 EL 1,25	1.25	11	0.8	0.9	31.80	**216**	25.51	**616**
11 EL 1,5	1.50	11	0.8	1.0	31.80	**218**	25.51	**618**
11 EL 2,0	2.00	11	0.9	1.0	31.80	**222**	25.51	**622**
16 EL 1,0	1.00	16	0.7	0.8	31.80	**244**	25.51	**644**
16 EL 1,25	1.25	16	0.8	0.9	31.80	**246**	25.51	**646**
16 EL 1,5	1.50	16	0.8	1.0	31.80	**248**	25.51	**648**
16 EL 2,0	2.00	16	1.0	1.3	31.80	**252**	25.51	**652**

Steel	●	
Stainless steel	●	
Cast iron		●
Non ferrous metals	○	●
Heat resistant alloys		○

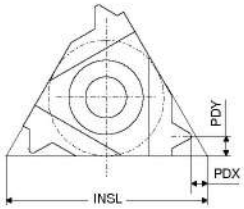
→ v_c Page 42

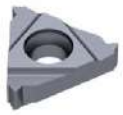
Right hand internal thread turning insert

▲ Full profile

MJ 60°

CCN20 CWK20





Designation	TP	INSL	PDX	PDY	IR X3 Article no. 71 284 ...		IR Y1 Article no. 71 284 ...	
	mm	mm	mm	mm	£		£	
11 IR 1,0	1.00	11	0.7	0.8	31.80	214	25.51	614
11 IR 1,25	1.25	11	0.8	0.9	31.80	216	25.51	616
11 IR 1,5	1.50	11	0.8	1.0	31.80	218	25.51	618
11 IR 2,0	2.00	11	0.9	1.0	31.80	222	25.51	622
16 IR 1,0	1.00	16	0.7	0.8	31.80	244	25.51	644
16 IR 1,25	1.25	16	0.8	0.9	31.80	246	25.51	646
16 IR 1,5	1.50	16	0.8	1.0	31.80	248	25.51	648
16 IR 2,0	2.00	16	1.0	1.3	31.80	252	25.51	652

Steel	●	
Stainless steel	●	
Cast iron		●
Non ferrous metals	○	●
Heat resistant alloys		○

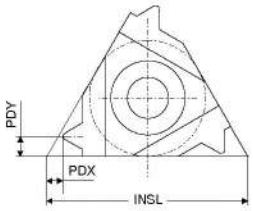
→ v_c Page 42

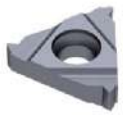
Left hand internal thread turning insert

▲ Full profile

MJ 60°

CCN20 CWK20





Designation	TP	INSL	PDX	PDY	IL X3 Article no. 71 285 ...		IL Y1 Article no. 71 285 ...	
	mm	mm	mm	mm	£		£	
11 IL 1,0	1.00	11	0.7	0.8	31.80	214	25.51	614
11 IL 1,25	1.25	11	0.8	0.9	31.80	216	25.51	616
11 IL 1,5	1.50	11	0.8	1.0	31.80	218	25.51	618
11 IL 2,0	2.00	11	0.9	1.0	31.80	222	25.51	622
16 IL 1,0	1.00	16	0.7	0.8	31.80	244	25.51	644
16 IL 1,25	1.25	16	0.8	0.9	31.80	246	25.51	646
16 IL 1,5	1.50	16	0.8	1.0	31.80	248	25.51	648
16 IL 2,0	2.00	16	1.0	1.3	31.80	252	25.51	652

Steel	●	
Stainless steel	●	
Cast iron		●
Non ferrous metals	○	●
Heat resistant alloys		○

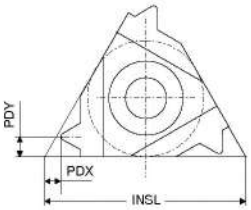
→ v_c Page 42

Right hand external thread turning insert

- Full profile
- CCN7525 grade with sintered chip breaker for universal application

BSW | 55°

CCN20 | CWN1525 | HCN2525 | CWK20 | CCN7525



Designation	TPI	INSL	PDX	PDY	ER X3 Article no. 71 228 ...		ER X3 Article no. 71 228 ...		ER X3 Article no. 71 228 ...		ER Y1 Article no. 71 228 ...		ER X3 Article no. 71 228 ...	
	1/"	mm	mm	mm	£		£		£		£		£	
11 ER 72	72.0	11	0.7	4.0	23.14	202					16.92	602		
11 ER 60	60.0	11	0.7	4.0	23.14	204					16.92	604		
11 ER 56	56.0	11	0.7	4.0	23.14	206					16.92	606		
11 ER 48	48.0	11	0.6	0.6	23.14	208					16.92	608		
11 ER 40	40.0	11	0.6	0.6	23.14	210					16.92	610		
11 ER 36	36.0	11	0.6	0.6	23.14	212					16.92	612		
11 ER 32	32.0	11	0.6	0.6	23.14	214					16.92	614		
11 ER 28	28.0	11	0.6	0.7	23.14	216					16.92	616		
11 ER 26	26.0	11	0.7	0.8	23.14	218					16.92	618		
11 ER 24	24.0	11	0.7	0.8	23.14	220					16.92	620		
11 ER 22	22.0	11	0.8	0.9	23.14	222					16.92	622		
11 ER 20	20.0	11	0.8	0.9	23.14	224					16.92	624		
11 ER 19	19.0	11	0.8	1.0	23.14	226					16.92	626		
11 ER 18	18.0	11	0.8	1.0	23.14	228					16.92	628		
11 ER 16	16.0	11	0.9	1.1	23.14	230					16.92	630		
11 ER 14	14.0	11	0.9	1.1	23.14	232					16.92	632		
16 ER 40	40.0	16	0.6	0.6	23.95	240					17.52	640		
16 ER 36	36.0	16	0.6	0.6	23.95	242					17.52	642		
16 ER 32	32.0	16	0.6	0.6	23.95	244					17.52	644		
16 ER 28	28.0	16	0.6	0.7	23.95	246	18.82	146	20.92	746	17.52	646		
16 ER 26	26.0	16	0.7	0.7					24.95	748				
16 ER 26	26.0	16	0.7	0.8	23.95	248					17.52	648		
16 ER 24	24.0	16	0.7	0.8	23.95	250					17.52	650		
16 ER 22	22.0	16	0.8	0.9	23.95	252					17.52	652		
16 ER 20	20.0	16	0.8	0.9	23.95	254			24.95	754	17.52	654		
16 ER 19	19.0	16	0.8	1.0	23.95	256	16.95	156	19.05	756	17.52	656	19.05	956
16 ER 18	18.0	16	0.8	1.0	23.95	258					17.52	658		
16 ER 16	16.0	16	0.9	1.1	23.95	260	20.67	160	22.80	760	17.52	660		
16 ER 14	14.0	16	1.0	1.2	23.95	262	16.95	162	19.05	762	17.52	662	19.05	962
16 ER 12	12.0	16	1.1	1.4	23.95	264	20.67	164	22.80	764	17.52	664		
16 ER 11	11.0	16	1.1	1.5	23.95	266	16.95	166	19.05	766	17.52	666	19.05	966
16 ER 10	10.0	16	1.1	1.5	23.95	268					17.52	668		
16 ER 9	9.0	16	1.2	1.7	23.95	270					17.52	670		
16 ER 8	8.0	16	1.2	1.5	23.95	272					17.52	672		
22 ER 7	7.0	22	1.6	2.3	33.08	280					28.79	680		
22 ER 6	6.0	22	1.6	2.3	33.08	282					28.79	682		
22 ER 5	5.0	22	1.7	2.4	33.08	284					28.79	684		
22 EN 4,5	4.5	22	2.3	11.0	33.08	290 [1]					28.79	690 [1]		
22 EN 4	4.0	22	1.8	11.0	33.08	292 [1]					28.79	692 [1]		

Steel	●	●	○		●
Stainless steel	●	○	●		●
Cast iron		●	○	●	●
Non ferrous metals	○	●	○	●	○
Heat resistant alloys			○	○	●

1) Neutral version (N) – for right and left hand thread applications. Neutral Toolholder marked (U) is required.

→ v_c Page 42

8

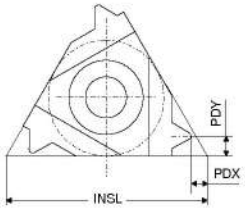
Left hand external thread turning insert

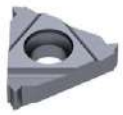
▲ Full profile

BSW

CCN20

CWK20





Designation	TPI	INSL	PDX	PDY	EL X3 Article no. 71 229 ...		EL Y1 Article no. 71 229 ...	
	1/"	mm	mm	mm	£		£	
11 EL 72	72	11	0.7	4.0	23.14	202	16.92	602
11 EL 60	60	11	0.7	4.0	23.14	204	16.92	604
11 EL 56	56	11	0.7	4.0	23.14	206	16.92	606
11 EL 48	48	11	0.6	0.6	23.14	208	16.92	608
11 EL 40	40	11	0.6	0.6	23.14	210	16.92	610
11 EL 36	36	11	0.6	0.6	23.14	212	16.92	612
11 EL 32	32	11	0.6	0.6	23.14	214	16.92	614
11 EL 28	28	11	0.6	0.7	23.14	216	16.92	616
11 EL 26	26	11	0.7	0.8	23.14	218	16.92	618
11 EL 24	24	11	0.7	0.8	23.14	220	16.92	620
11 EL 22	22	11	0.8	0.9	23.14	222	16.92	622
11 EL 20	20	11	0.8	0.9	23.14	224	16.92	624
11 EL 19	19	11	0.8	1.0	23.14	226	16.92	626
11 EL 18	18	11	0.8	1.0	23.14	228	16.92	628
11 EL 16	16	11	0.9	1.1	23.14	230	16.92	630
11 EL 14	14	11	0.9	1.1	23.14	232	16.92	632
16 EL 40	40	16	0.6	0.6	23.95	240	17.52	640
16 EL 36	36	16	0.6	0.6	23.95	242	17.52	642
16 EL 32	32	16	0.6	0.6	23.95	244	17.52	644
16 EL 28	28	16	0.6	0.7	23.95	246	17.52	646
16 EL 26	26	16	0.7	0.8	23.95	248	17.52	648
16 EL 24	24	16	0.7	0.8	23.95	250	17.52	650
16 EL 22	22	16	0.8	0.9	23.95	252	17.52	652
16 EL 20	20	16	0.8	0.9	23.95	254	17.52	654
16 EL 19	19	16	0.8	1.0	23.95	256	17.52	656
16 EL 18	18	16	0.8	1.0	23.95	258	17.52	658
16 EL 16	16	16	0.9	1.1	23.95	260	17.52	660
16 EL 14	14	16	1.0	1.2	23.95	262	17.52	662
16 EL 12	12	16	1.1	1.4	23.95	264	17.52	664
16 EL 11	11	16	1.1	1.5	23.95	266	17.52	666
16 EL 10	10	16	1.1	1.5	23.95	268	17.52	668
16 EL 9	9	16	1.2	1.7	23.95	270	17.52	670
16 EL 8	8	16	1.2	1.5	23.95	272	17.52	672
22 EL 7	7	22	1.6	2.3	35.84	280	28.79	680
22 EL 6	6	22	1.6	2.3	35.84	282	28.79	682
22 EL 5	5	22	1.7	2.4	30.65	284	28.79	684

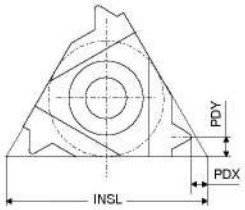
Steel	●	
Stainless steel	●	
Cast iron		●
Non ferrous metals	○	●
Heat resistant alloys		○

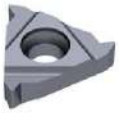
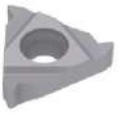
→ v_c Page 42

Right hand internal thread turning insert

- Full profile
- CCN7525 grade with sintered chip breaker for universal application

BSW | 55°



CCN20	CWN1525	HCN2525	CWK20	CCN7525
				

Designation	TPI	INSL	PDX	PDY	IR X3 Article no. 71 230 ...		IR X3 Article no. 71 230 ...		IR X3 Article no. 71 230 ...		IR Y1 Article no. 71 230 ...		IR X3 Article no. 71 230 ...	
	1/"	mm	mm	mm	£		£		£		£		£	
11 IR 48	48	11	0.6	0.6	23.95	206					17.52	606		
11 IR 40	40	11	0.6	0.6	23.95	208					17.52	608		
11 IR 36	36	11	0.6	0.6	23.95	210					17.52	610		
11 IR 32	32	11	0.6	0.6	23.95	212					17.52	612		
11 IR 28	28	11	0.6	0.7	23.95	214					17.52	614		
11 IR 26	26	11	0.7	0.8	23.95	216					17.52	616		
11 IR 24	24	11	0.7	0.8	23.95	218					17.52	618		
11 IR 22	22	11	0.8	0.9	23.95	220					17.52	620		
11 IR 20	20	11	0.8	0.9	23.95	222					17.52	622		
11 IR 19	19	11	0.8	0.9									19.91	924
11 IR 19	19	11	0.8	1.0	23.95	224	17.80	124	19.91	724	17.52	624		
11 IR 18	18	11	0.8	1.0	23.95	226					17.52	626		
11 IR 16	16	11	0.9	1.1	23.95	228					17.52	628		
11 IR 14	14	11	0.8	0.9									19.91	930
11 IR 14	14	11	0.9	1.1	23.95	230	17.80	130	19.91	730	17.52	630		
16 IR 40	40	16	0.6	0.6	23.95	240					17.52	640		
16 IR 36	36	16	0.6	0.6	23.95	242					17.52	642		
16 IR 32	32	16	0.6	0.6	23.95	244					17.52	644		
16 IR 28	28	16	0.6	0.7	23.95	246					17.52	646		
16 IR 26	26	16	0.7	0.8	23.95	248					17.52	648		
16 IR 24	24	16	0.7	0.8	23.95	250					17.52	650		
16 IR 22	22	16	0.8	0.9	23.95	252					17.52	652		
16 IR 20	20	16	0.8	0.9	23.95	254					17.52	654		
16 IR 19	19	16	0.8	1.0	23.95	256					17.52	656		
16 IR 18	18	16	0.8	1.0	23.95	258					17.52	658		
16 IR 16	16	16	0.9	1.1	23.95	260			24.95	760	17.52	660		
16 IR 14	14	16	1.0	1.2	23.95	262	16.95	162	19.05	762	17.52	662	19.05	962
16 IR 12	12	16	1.1	1.4	23.95	264					17.52	664		
16 IR 11	11	16	1.1	1.5	23.95	266	16.95	166	19.05	766	17.52	666	19.05	966
16 IR 10	10	16	1.1	1.5	23.95	268					17.52	668		
16 IR 9	9	16	1.2	1.7	23.95	270					17.52	670		
16 IR 8	8	16	1.2	1.5	23.95	272					17.52	672		
22 IR 7	7	22	1.6	2.3	33.08	280					28.79	680		
22 IR 6	6	22	1.6	2.3	33.08	282					28.79	682		
22 IR 5	5	22	1.7	2.4	33.08	284					28.79	684		

Steel	●	●	○		●
Stainless steel	●	○	●		●
Cast iron		●	○	●	●
Non ferrous metals	○	●	○	●	○
Heat resistant alloys			○	○	●

→ v_c Page 42

8

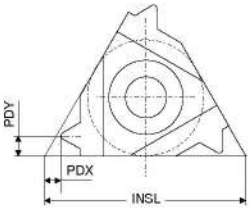
Left hand internal thread turning insert

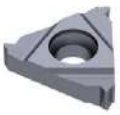
▲ Full profile

BSW

CCN20

CWK20





Designation	TPI	INSL	PDX	PDY	IL X3 Article no. 71 231 ...		IL Y1 Article no. 71 231 ...	
	1/"	mm	mm	mm	£		£	
11 IL 48	48	11	0.6	0.6	23.95	206	17.52	606
11 IL 40	40	11	0.6	0.6	23.95	208	17.52	608
11 IL 36	36	11	0.6	0.6	23.95	210	17.52	610
11 IL 32	32	11	0.6	0.6	23.95	212	17.52	612
11 IL 28	28	11	0.6	0.7	23.95	214	17.52	614
11 IL 26	26	11	0.7	0.8	23.95	216	17.52	616
11 IL 24	24	11	0.7	0.8	23.95	218	17.52	618
11 IL 22	22	11	0.8	0.9	23.95	220	17.52	620
11 IL 20	20	11	0.8	0.9	23.95	222	17.52	622
11 IL 19	19	11	0.8	1.0	23.95	224	17.52	624
11 IL 18	18	11	0.8	1.0	23.95	226	17.52	626
11 IL 16	16	11	0.9	1.1	23.95	228	17.52	628
11 IL 14	14	11	0.9	1.1	23.95	230	17.52	630
16 IL 40	40	16	0.6	0.6	23.95	240	17.52	640
16 IL 36	36	16	0.6	0.6	23.95	242	17.52	642
16 IL 32	32	16	0.6	0.6	23.95	244	17.52	644
16 IL 28	28	16	0.6	0.7	23.95	246	17.52	646
16 IL 26	26	16	0.7	0.8	23.95	248	17.52	648
16 IL 24	24	16	0.7	0.8	23.95	250	17.52	650
16 IL 22	22	16	0.8	0.9	23.95	252	17.52	652
16 IL 20	20	16	0.8	0.9	23.95	254	17.52	654
16 IL 19	19	16	0.8	1.0	23.95	256	17.52	656
16 IL 18	18	16	0.8	1.0	23.95	258	17.52	658
16 IL 16	16	16	0.9	1.1	23.95	260	17.52	660
16 IL 14	14	16	1.0	1.2	23.95	262	17.52	662
16 IL 12	12	16	1.1	1.4	23.95	264	17.52	664
16 IL 11	11	16	1.1	1.5	23.95	266	17.52	666
16 IL 10	10	16	1.1	1.5	23.95	268	17.52	668
16 IL 9	9	16	1.2	1.7	23.95	270	17.52	670
16 IL 8	8	16	1.2	1.5	23.95	272	17.52	672
22 IL 7	7	22	1.6	2.3	33.08	280	28.79	680
22 IL 6	6	22	1.6	2.3	33.08	282	28.79	682
22 IL 5	5	22	1.7	2.4	33.08	284	28.79	684

Steel	●	
Stainless steel	●	
Cast iron		●
Non ferrous metals	○	●
Heat resistant alloys		○

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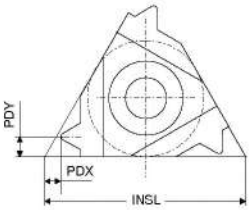
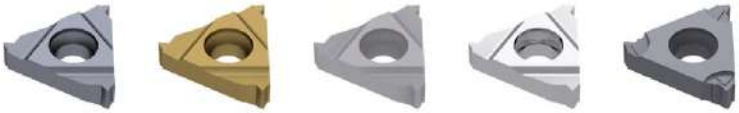
Right hand external thread turning insert

- Full profile
- CCN7525 grade with sintered chip breaker for universal application

UN | UNC | UNF | UNEF | 60°

CCN20 | CWN1525 | HCN2525 | CWK20 | CCN7525





Designation	TPI	INSL	PDX	PDY	ER X3 Article no. 71 264 ...		ER X3 Article no. 71 264 ...		ER X3 Article no. 71 264 ...		ER Y1 Article no. 71 264 ...		ER X3 Article no. 71 264 ...	
	1/"	mm	mm	mm	£		£		£		£		£	
11 ER 72	72.0	11	0.8	0.4	23.14	202					16.92	602		
11 ER 64	64.0	11	0.8	0.4	23.14	204					16.92	604		
11 ER 56	56.0	11	0.7	0.4	23.14	206					16.92	606		
11 ER 48	48.0	11	0.6	0.6	23.14	208					16.92	608		
11 ER 44	44.0	11	0.6	0.6	23.14	210					16.92	610		
11 ER 40	40.0	11	0.6	0.6	23.14	212					16.92	612		
11 ER 36	36.0	11	0.6	0.6	23.14	214					16.92	614		
11 ER 32	32.0	11	0.6	0.6	23.14	216					16.92	616		
11 ER 28	28.0	11	0.6	0.7	23.14	218					16.92	618		
11 ER 27	27.0	11	0.7	0.8	23.14	220					16.92	620		
11 ER 24	24.0	11	0.7	0.8	23.14	222					16.92	622		
11 ER 20	20.0	11	0.8	0.9	23.14	224					16.92	624		
11 ER 18	18.0	11	0.8	1.0	23.14	226					16.92	626		
11 ER 16	16.0	11	0.9	1.1	23.14	228					16.92	628		
11 ER 14	14.0	11	0.9	1.1	23.14	230					16.92	630		
16 ER 72	72.0	16	0.8	0.4	23.95	232					17.52	632		
16 ER 64	64.0	16	0.8	0.4	23.95	234					17.52	634		
16 ER 56	56.0	16	0.7	0.4	23.95	236					17.52	636		
16 ER 48	48.0	16	0.6	0.6	23.95	238					17.52	638		
16 ER 44	44.0	16	0.6	0.6	23.95	240					17.52	640		
16 ER 40	40.0	16	0.6	0.6	23.95	242					17.52	642		
16 ER 36	36.0	16	0.6	0.6	23.95	244					17.52	644		
16 ER 32	32.0	16	0.6	0.6	23.95	246			24.41	746	17.52	646		
16 ER 28	28.0	16	0.6	0.7	23.95	248			22.80	748	17.52	648		
16 ER 27	27.0	16	0.7	0.8	23.95	250					17.52	650		
16 ER 24	24.0	16	0.7	0.8	23.95	252	18.82	152	20.92	752	17.52	652		
16 ER 20	20.0	16	0.8	0.9	23.95	254	17.80	154	19.91	754	17.52	654	19.91	954
16 ER 18	18.0	16	0.8	1.0	23.95	256	18.82	156	20.92	756	17.52	656		
16 ER 16	16.0	16	0.9	1.1	23.95	258	17.80	158	19.91	758	17.52	658	19.91	958
16 ER 14	14.0	16	1.0	1.2	23.95	260	18.82	160	20.92	760	17.52	660		
16 ER 13	13.0	16	1.0	1.3	23.95	262					17.52	662		
16 ER 12	12.0	16	1.1	1.4	23.95	264	18.82	164	20.92	764	17.52	664		
16 ER 11,5	11.5	16	1.1	1.5	23.95	266					17.52	666		
16 ER 11	11.0	16	1.1	1.5	23.95	268	23.23	168			17.52	668		
16 ER 10	10.0	16	1.1	1.5	23.95	270					17.52	670		
16 ER 9	9.0	16	1.2	1.7	23.95	272					17.52	672		
16 ER 8	8.0	16	1.1	1.1									24.95	974
16 ER 8	8.0	16	1.1	1.5			23.23	174						
16 ER 8	8.0	16	1.2	1.6	23.95	274					17.52	674		
22 ER 7	7.0	22	1.6	2.3	33.08	276					28.79	676		
22 ER 6	6.0	22	1.6	2.3	33.08	278					28.79	678		
22 ER 5	5.0	22	1.7	2.5	33.08	280					28.79	680		
22 EN 4,5	4.5	22	2.0	11.0	33.08	282 [1]					28.79	682 [1]		
22 EN 4	4.0	22	2.0	11.0	33.08	284 [1]					28.79	684 [1]		

Steel	●	●	○		●
Stainless steel	●	○	●		●
Cast iron		●	○	●	●
Non ferrous metals	○	●	○	●	○
Heat resistant alloys			○	○	●

1) Neutral version (N) – for right and left hand thread applications. Neutral Toolholder marked (U) is required.

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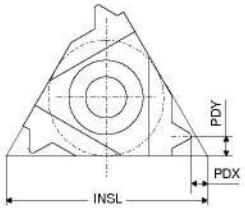
8

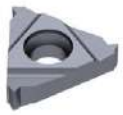
Left hand external thread turning insert

▲ Full profile

UN | UNC | UNF | UNEF | 60°

CCN20 | CWK20





Designation	TPI	INSL	PDX	PDY	EL X3 Article no. 71 266 ...		EL Y1 Article no. 71 266 ...	
	1/"	mm	mm	mm	£		£	
11 EL 72	72.0	11	0.8	0.4	23.14	202	16.92	602
11 EL 64	64.0	11	0.8	0.4	23.14	204	16.92	604
11 EL 56	56.0	11	0.7	0.4	23.14	206	16.92	606
11 EL 48	48.0	11	0.6	0.6	23.14	208	16.92	608
11 EL 44	44.0	11	0.6	0.6	23.14	210	16.92	610
11 EL 40	40.0	11	0.6	0.6	23.14	212	16.92	612
11 EL 36	36.0	11	0.6	0.6	23.14	214	16.92	614
11 EL 32	32.0	11	0.6	0.6	23.14	216	16.92	616
11 EL 28	28.0	11	0.6	0.7	23.14	218	16.92	618
11 EL 27	27.0	11	0.7	0.8	23.14	220	16.92	620
11 EL 24	24.0	11	0.7	0.8	23.14	222	16.92	622
11 EL 20	20.0	11	0.8	0.9	23.14	224	16.92	624
11 EL 18	18.0	11	0.8	1.0	23.14	226	16.92	626
11 EL 16	16.0	11	0.9	1.1	23.14	228	16.92	628
11 EL 14	14.0	11	0.9	1.1	23.14	230	16.92	630
16 EL 72	72.0	16	0.8	0.4	23.95	232	17.52	632
16 EL 64	64.0	16	0.8	0.4	23.95	234	17.52	634
16 EL 56	56.0	16	0.7	0.4	23.95	236	17.52	636
16 EL 48	48.0	16	0.6	0.6	23.95	238	17.52	638
16 EL 44	44.0	16	0.6	0.6	23.95	240	17.52	640
16 EL 40	40.0	16	0.6	0.6	23.95	242	17.52	642
16 EL 36	36.0	16	0.6	0.6	23.95	244	17.52	644
16 EL 32	32.0	16	0.6	0.6	23.95	246	17.52	646
16 EL 28	28.0	16	0.6	0.7	23.95	248	17.52	648
16 EL 27	27.0	16	0.7	0.8	23.95	250	17.52	650
16 EL 24	24.0	16	0.7	0.8	23.95	252	17.52	652
16 EL 20	20.0	16	0.8	0.9	23.95	254	17.52	654
16 EL 18	18.0	16	0.8	1.0	23.95	256	17.52	656
16 EL 16	16.0	16	0.9	1.1	23.95	258	17.52	658
16 EL 14	14.0	16	1.0	1.2	23.95	260	17.52	660
16 EL 13	13.0	16	1.0	1.3	23.95	262	17.52	662
16 EL 12	12.0	16	1.1	1.4	23.95	264	17.52	664
16 EL 11,5	11.5	16	1.1	1.5	23.95	266	17.52	666
16 EL 11	11.0	16	1.1	1.5	23.95	268	17.52	668
16 EL 10	10.0	16	1.1	1.5	23.95	270	17.52	670
16 EL 9	9.0	16	1.2	1.7	23.95	272	17.52	672
16 EL 8	8.0	16	1.2	1.6	23.95	274	17.52	674
22 EL 7	7.0	22	1.6	2.3	33.08	276	28.79	676
22 EL 6	6.0	22	1.6	2.3	33.08	278	28.79	678
22 EL 5	5.0	22	1.7	2.5	33.08	280	28.79	680

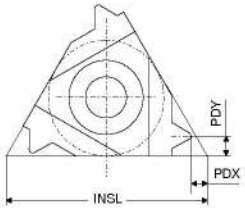
Steel	●	
Stainless steel	●	
Cast iron		●
Non ferrous metals	○	●
Heat resistant alloys		○

→ v_c Page 42

Right hand internal thread turning insert

▲ Full profile

UN | UNC | UNF | UNEF | 60°



CCN20 | CWN1525 | HCN2525 | CWK20

Designation	TPI	INSL	PDX	PDY	IR X3 Article no. 71 268 ...		IR X3 Article no. 71 268 ...		IR X3 Article no. 71 268 ...		IR Y1 Article no. 71 268 ...	
	1/"	mm	mm	mm	£		£		£		£	
11 IR 72	72.0	11	0.8	0.3	23.95	202					17.52	602
11 IR 64	64.0	11	0.8	0.4	23.95	204					17.52	604
11 IR 56	56.0	11	0.7	0.4	23.95	206					17.52	606
11 IR 48	48.0	11	0.6	0.6	23.95	208					17.52	608
11 IR 44	44.0	11	0.6	0.6	23.95	210					17.52	610
11 IR 40	40.0	11	0.6	0.6	23.95	212					17.52	612
11 IR 36	36.0	11	0.6	0.6	23.95	214					17.52	614
11 IR 32	32.0	11	0.6	0.6	23.95	216					17.52	616
11 IR 28	28.0	11	0.6	0.7	23.95	218					17.52	618
11 IR 27	27.0	11	0.7	0.8	23.95	220					17.52	620
11 IR 24	24.0	11	0.7	0.8	23.95	222					17.52	622
11 IR 20	20.0	11	0.8	0.9	23.95	224					17.52	624
11 IR 18	18.0	11	0.8	1.0	23.95	226					17.52	626
11 IR 16	16.0	11	0.9	1.1	23.95	228					17.52	628
11 IR 14	14.0	11	1.0	1.1	23.95	230					17.52	630
16 IR 72	72.0	16	0.8	0.3	23.95	232					17.52	632
16 IR 64	64.0	16	0.8	0.4	23.95	234					17.52	634
16 IR 56	56.0	16	0.7	0.4	23.95	236					17.52	636
16 IR 48	48.0	16	0.6	0.6	23.95	238					17.52	638
16 IR 44	44.0	16	0.6	0.6	23.95	240					17.52	640
16 IR 40	40.0	16	0.6	0.6	23.95	242					17.52	642
16 IR 36	36.0	16	0.6	0.6	23.95	244					17.52	644
16 IR 32	32.0	16	0.6	0.6	23.95	246					17.52	646
16 IR 28	28.0	16	0.6	0.7	23.95	248					17.52	648
16 IR 27	27.0	16	0.7	0.8	23.95	250					17.52	650
16 IR 24	24.0	16	0.7	0.8	23.95	252					17.52	652
16 IR 20	20.0	16	0.8	0.9	23.95	254					17.52	654
16 IR 18	18.0	16	0.8	1.0	23.95	256					17.52	656
16 IR 16	16.0	16	0.9	1.1	23.95	258					17.52	658
16 IR 14	14.0	16	1.0	1.2	23.95	260			24.95	760	17.52	660
16 IR 13	13.0	16	1.0	1.3	23.95	262					17.52	662
16 IR 12	12.0	16	1.1	1.4	23.95	264	18.82	164	20.92	764	17.52	664
16 IR 11,5	11.5	16	1.1	1.5	23.95	266					17.52	666
16 IR 11	11.0	16	1.1	1.5	23.95	268					17.52	668
16 IR 10	10.0	16	1.1	1.5	23.95	270					17.52	670
16 IR 9	9.0	16	1.2	1.7	23.95	272					17.52	672
16 IR 8	8.0	16	1.2	1.6	23.95	274					17.52	674
16 IR 8	8.0	16	1.1	1.5					24.95	774		
22 IR 7	7.0	22	1.6	2.3	33.08	276			32.66	776	28.79	676
22 IR 6	6.0	22	1.6	2.3	33.08	278					28.79	678
22 IR 5	5.0	22	1.7	2.5	33.08	280					28.79	680
22 IN 4,5	4.5	22	2.0	11.0	33.08	282 [1]					28.79	682 [1]
22 IN 4	4.0	22	2.0	11.0	33.08	284 [1]					28.79	684 [1]

Steel	●	●	○	
Stainless steel	●	○	●	
Cast iron		●	○	●
Non ferrous metals	○	●	○	●
Heat resistant alloys			○	○

1) Neutral version (N) – for right and left hand thread applications. Neutral Toolholder marked (U) is required.

→ v_c Page 42

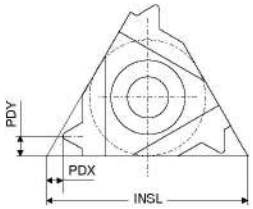
8

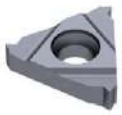
Left hand internal thread turning insert

▲ Full profile

UN | UNC | UNF | UNEF | 60°

CCN20 | CWK20





Designation	TPI	INSL	PDX	PDY	IL X3 Article no. 71 270 ...		IL Y1 Article no. 71 270 ...	
	1/"	mm	mm	mm	£		£	
11 IL 72	72.0	11	0.8	0.3	23.95	202	17.52	602
11 IL 64	64.0	11	0.8	0.4	23.95	204	17.52	604
11 IL 56	56.0	11	0.7	0.4	23.95	206	17.52	606
11 IL 48	48.0	11	0.6	0.6	23.95	208	17.52	608
11 IL 44	44.0	11	0.6	0.6	23.95	210	17.52	610
11 IL 40	40.0	11	0.6	0.6	23.95	212	17.52	612
11 IL 36	36.0	11	0.6	0.6	23.95	214	17.52	614
11 IL 32	32.0	11	0.6	0.6	23.95	216	17.52	616
11 IL 28	28.0	11	0.6	0.7	23.95	218	17.52	618
11 IL 27	27.0	11	0.7	0.8	23.95	220	17.52	620
11 IL 24	24.0	11	0.7	0.8	23.95	222	17.52	622
11 IL 20	20.0	11	0.8	0.9	23.95	224	17.52	624
11 IL 18	18.0	11	0.8	1.0	23.95	226	17.52	626
11 IL 16	16.0	11	0.9	1.1	23.95	228	17.52	628
11 IL 14	14.0	11	0.9	1.1	23.95	230	17.52	630
16 IL 72	72.0	16	0.8	0.3	33.22	232	17.52	632
16 IL 64	64.0	16	0.8	0.4	23.95	234	17.52	634
16 IL 56	56.0	16	0.7	0.4	23.95	236	17.52	636
16 IL 48	48.0	16	0.6	0.6	23.95	238	17.52	638
16 IL 44	44.0	16	0.6	0.6	23.95	240	17.52	640
16 IL 40	40.0	16	0.6	0.6	23.95	242	17.52	642
16 IL 36	36.0	16	0.6	0.6	23.95	244	17.52	644
16 IL 32	32.0	16	0.6	0.6	23.95	246	17.52	646
16 IL 28	28.0	16	0.6	0.7	23.95	248	17.52	648
16 IL 27	27.0	16	0.7	0.8	23.95	250	17.52	650
16 IL 24	24.0	16	0.7	0.8	23.95	252	17.52	652
16 IL 20	20.0	16	0.8	0.9	23.95	254	17.52	654
16 IL 18	18.0	16	0.8	1.0	23.95	256	17.52	656
16 IL 16	16.0	16	0.9	1.1	23.95	258	17.52	658
16 IL 14	14.0	16	1.0	1.2	23.95	260	17.52	660
16 IL 13	13.0	16	1.0	1.3	23.95	262	17.52	662
16 IL 12	12.0	16	1.1	1.4	23.95	264	17.52	664
16 IL 11,5	11.5	16	1.1	1.5	23.95	266	17.52	666
16 IL 11	11.0	16	1.1	1.5	23.95	268	17.52	668
16 IL 10	10.0	16	1.1	1.5	23.95	270	17.52	670
16 IL 9	9.0	16	1.2	1.7	23.95	272	17.52	672
16 IL 8	8.0	16	1.2	1.6	23.95	274	17.52	674
22 IL 7	7.0	22	1.6	2.3	33.08	276	28.79	676
22 IL 6	6.0	22	1.6	2.3	33.08	278	28.79	678
22 IL 5	5.0	22	1.7	2.5	33.08	280	28.79	680

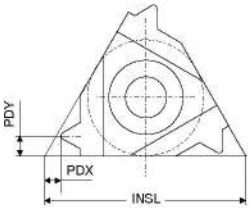
Steel	●	
Stainless steel	●	
Cast iron		●
Non ferrous metals	○	●
Heat resistant alloys		○

→ v_c Page 42

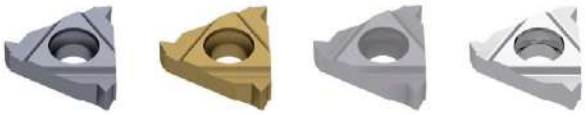
Right hand external thread turning insert

▲ Full profile

NPT 60°



CCN20 | CWN1525 | HCN2525 | CWK20



Designation	TPI	INSL	PDX	PDY	ER X3 Article no. 71 256 ...		ER X3 Article no. 71 256 ...		ER X3 Article no. 71 256 ...		ER Y1 Article no. 71 256 ...	
	1/"	mm	mm	mm	£		£		£		£	
16 ER 27	27.0	16	0.7	0.8	26.43	**240**					21.17	**640**
16 ER 18	18.0	16	0.8	1.0	26.43	**242**			24.66	**742**	21.17	**642**
16 ER 14	14.0	16	0.9	1.2	26.43	**244**	20.67	**144**	22.68	**744**	21.17	**644**
16 ER 11,5	11.5	16	1.1	1.5	26.43	**246**	22.51	**146**	24.66	**746**	21.17	**646**
16 ER 8	8.0	16	1.3	1.8	26.43	**248**					21.17	**648**

Steel	●	●	○	
Stainless steel	●	○	●	
Cast iron		●	○	●
Non ferrous metals	○	●	○	●
Heat resistant alloys			○	○

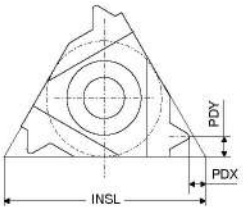
→ v_c Page 42

8

Left hand external thread turning insert

▲ Full profile

NPT 60°



CCN20 | CWK20

Designation	TPI	INSL	PDX	PDY	EL X3 Article no. 71 258 ...		EL Y1 Article no. 71 258 ...	
	1/"	mm	mm	mm	£		£	
16 EL 27	27.0	16	0.7	0.8	26.43	**240**	21.17	**640**
16 EL 18	18.0	16	0.8	1.0	26.43	**242**	21.17	**642**
16 EL 14	14.0	16	0.9	1.2	26.43	**244**	21.17	**644**
16 EL 11,5	11.5	16	1.1	1.5	26.43	**246**	21.17	**646**
16 EL 8	8.0	16	1.3	1.8	26.43	**248**	21.17	**648**

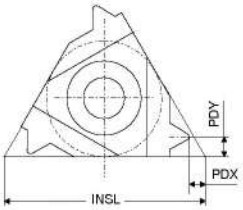
Steel	●	
Stainless steel	●	
Cast iron		●
Non ferrous metals	○	●
Heat resistant alloys		○

→ v_c Page 42

Right hand internal thread turning insert

▲ Full profile
▲ CCN7525 grade with sintered chip breaker for universal application

NPT 60°



CCN20 | HCN2525 | CWK20 | CCN7525

Designation	TPI	INSL	PDX	PDY	IR X3 Article no. 71 260 ... £		IR X3 Article no. 71 260 ... £		IR Y1 Article no. 71 260 ... £		IR X3 Article no. 71 260 ... £	
	1/"	mm	mm	mm								
11 IR 27	27.0	11	0.7	0.8	26.43	**210**			21.17	**610**		
11 IR 18	18.0	11	0.8	1.0	26.43	**212**			21.17	**612**		
11 IR 14	14.0	11	0.9	1.1	26.43	**214**			21.17	**614**		
16 IR 27	27.0	16	0.7	0.8	26.43	**240**			21.17	**640**		
16 IR 18	18.0	16	0.8	1.0	26.43	**242**			21.17	**642**		
16 IR 14	14.0	16	0.9	1.2	26.43	**244**	26.08	**744**	21.17	**644**	26.08	**944**
16 IR 11,5	11.5	16	1.1	1.5	26.43	**246**			21.17	**646**	29.22	**946**
16 IR 8	8.0	16	1.3	1.8	26.43	**248**			21.17	**648**		

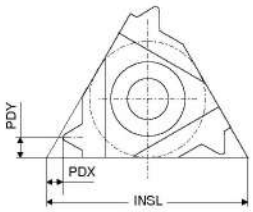
Steel	●	○		●
Stainless steel	●	●		●
Cast iron		○	●	●
Non ferrous metals	○	○	●	○
Heat resistant alloys		○	○	●

→ v_c Page 42

Left hand internal thread turning insert

▲ Full profile

NPT 60°



CCN20 | CWK20

Designation	TPI	INSL	PDX	PDY	IL X3 Article no. 71 262 ... £		IL Y1 Article no. 71 262 ... £	
	1/"	mm	mm	mm				
11 IL 27	27.0	11	0.7	0.8	26.43	**210**	21.17	**610**
11 IL 18	18.0	11	0.8	1.0	26.43	**212**	21.17	**612**
11 IL 14	14.0	11	0.9	1.1	26.43	**214**	21.17	**614**
16 IL 27	27.0	16	0.7	0.8	26.43	**240**	21.17	**640**
16 IL 18	18.0	16	0.8	1.0	26.43	**242**	21.17	**642**
16 IL 14	14.0	16	0.9	1.2	26.43	**244**	21.17	**644**
16 IL 11,5	11.5	16	1.1	1.5	26.43	**246**	21.17	**646**
16 IL 8	8.0	16	1.3	1.8	26.43	**248**	21.17	**648**

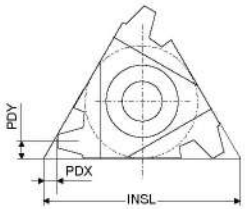
Steel	●	
Stainless steel	●	
Cast iron		●
Non ferrous metals	○	●
Heat resistant alloys		○

→ v_c Page 42

Right hand external thread turning insert

▲ Full profile
▲ Trapezoidal thread DIN 103

Tr | 30°



Designation	TP	INSL	PDX	PDY	ER X3 Article no. 71 232 ...		ER X3 Article no. 71 232 ...		ER X3 Article no. 71 232 ...		ER Y1 Article no. 71 232 ...	
	mm	mm	mm	mm	£		£		£		£	
16 ER 1,5	1.5	16	1.0	1.1	26.43	240					21.17	640
16 ER 2,0	2.0	16	1.1	1.3	26.43	242					21.17	642
16 ER 2,0	2.0	16	1.0	1.3			22.25	142	24.95	742		
16 ER 3,0	3.0	16	1.3	1.5	26.43	244	21.78	144			21.17	644
22 ER 4,0	4.0	22	1.7	1.9	37.78	270					33.27	670
22 ER 4,0	4.0	22	1.8	1.9			30.51	170	34.58	770		
22 ER 5,0	5.0	22	2.0	2.4			33.86	172				
22 ER 5,0	5.0	22	2.1	2.5	37.78	272					33.27	672
22 ER 6,0	6.0	22	2.3	2.7	37.78	274					33.27	674
22 EN 6,0	6.0	22	2.0	11.0	37.78	276 [1]					33.27	676 [1]
22 EN 7,0	7.0	22	2.3	11.0	37.78	278 [1]					33.27	678 [1]
Steel					●		●		○			
Stainless steel					●		○		●			
Cast iron							●		○		●	
Non ferrous metals					○		●		○		●	
Heat resistant alloys									○		○	

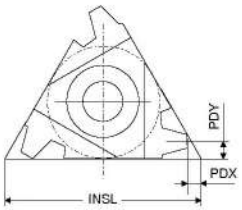
1) Neutral version (N) – for right and left hand thread applications. Neutral Toolholder marked (U) is required.

→ v_c Page 42

Left hand external thread turning insert

▲ Full profile
▲ Trapezoidal thread DIN 103

Tr | 30°



Designation	TP	INSL	PDX	PDY	EL X3 Article no. 71 234 ...		EL Y1 Article no. 71 234 ...	
	mm	mm	mm	mm	£		£	
16 EL 1,5	1.5	16	1.0	1.1	26.43	240	21.17	640
16 EL 2,0	2.0	16	1.1	1.3	26.43	242	21.17	642
16 EL 3,0	3.0	16	1.3	1.5	26.43	244	21.17	644
22 EL 4,0	4.0	22	1.7	1.9	37.78	270	33.27	670
22 EL 5,0	5.0	22	2.1	2.5	37.78	272	33.27	672
22 EL 6,0	6.0	22	2.3	2.7	37.78	274	33.27	674
Steel					●			
Stainless steel					●			
Cast iron							●	
Non ferrous metals					○		●	
Heat resistant alloys							○	

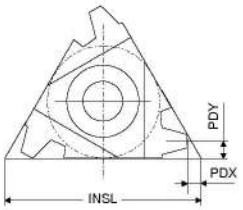
→ v_c Page 42

8

Right hand internal thread turning insert

▲ Full profile
▲ Trapezoidal thread DIN 103

Tr | 30°



CCN20 | CWN1525 | CWK20

Designation	TP	INSL	PDX	PDY	IR X3 Article no. 71 236 ...		IR X3 Article no. 71 236 ...		IR Y1 Article no. 71 236 ...	
	mm	mm	mm	mm	£		£		£	
11 IR 1,5	1.5	11	0.8	0.9	26.43	**210**			21.17	**610**
16 IR 1,5	1.5	16	1.0	1.1	26.43	**240**			21.17	**640**
16 IR 2,0	2.0	16	1.1	1.3	26.43	**242**			21.17	**642**
16 IR 3,0	3.0	16	1.3	1.5	26.43	**244**	24.70	**144**	21.17	**644**
22 IR 4,0	4.0	22	1.8	1.9			34.51	**170**		
22 IR 4,0	4.0	22	1.7	1.9	37.78	**270**			33.27	**670**
22 IR 5,0	5.0	22	2.0	2.4			36.46	**172**		
22 IR 5,0	5.0	22	2.1	2.5	37.78	**272**			33.27	**672**
22 IR 6,0	6.0	22	2.3	2.7	37.78	**274**			33.27	**674**
22 IN 6,0	6.0	22	2.0	11.0	37.78	**276** 1)			33.27	**676** 1)
22 IN 7,0	7.0	22	2.3	11.0	37.78	**278** 1)			33.27	**678** 1)
Steel					●		●			
Stainless steel					●		○			
Cast iron							●		●	
Non ferrous metals					○		●		●	
Heat resistant alloys									○	

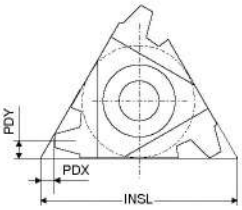
1) Neutral version (N) – for right and left hand thread applications. Neutral Toolholder marked (U) is required.

→ v_c Page 42

Left hand internal thread turning insert

▲ Full profile
▲ Trapezoidal thread DIN 103

Tr | 30°



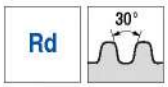
CCN20 | CWK20

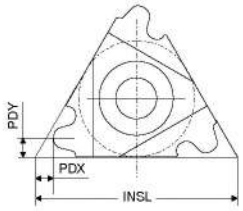
Designation	TP	INSL	PDX	PDY	IL X3 Article no. 71 238 ...		IL Y1 Article no. 71 238 ...	
	mm	mm	mm	mm	£		£	
11 IL 1,5	1.5	11	0.8	0.9	26.43	**210**	21.17	**610**
16 IL 1,5	1.5	16	1.0	1.1	26.43	**240**	21.17	**640**
16 IL 2,0	2.0	16	1.1	1.3	26.43	**242**	21.17	**642**
16 IL 3,0	3.0	16	1.3	1.5	26.43	**244**	21.17	**644**
22 IL 4,0	4.0	22	1.7	1.9	37.78	**270**	33.27	**670**
22 IL 5,0	5.0	22	2.1	2.5	37.78	**272**	33.27	**672**
22 IL 6,0	6.0	22	2.3	2.7	37.78	**274**	33.27	**674**
Steel					●			
Stainless steel					●			
Cast iron							●	
Non ferrous metals					○		●	
Heat resistant alloys							○	

→ v_c Page 42

Right hand external thread turning insert

▲ Full profile
▲ Round thread DIN 405





CCN20 | HCN2525 | CWK20

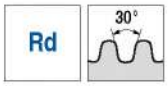
Designation	TPI	INSL	PDX	PDY	ER X3 Article no. 71 248 ...		ER X3 Article no. 71 248 ...		ER Y1 Article no. 71 248 ...	
	1/"	mm	mm	mm	£		£		£	
16 ER 10	10	16	1.1	1.2	26.43	**240**			21.17	**640**
16 ER 8	8	16	1.4	1.3	26.43	**242**			21.17	**642**
16 ER 6	6	16	1.5	1.7	26.43	**246**	27.18	**746**	21.17	**646**
22 ER 6	6	22	1.5	1.7	37.78	**270**			34.35	**670**
22 ER 4	4	22	2.2	2.3	37.78	**272**			34.35	**672**

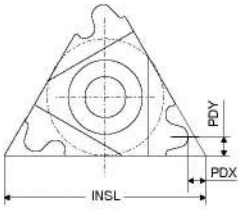
Steel	●	○	
Stainless steel	●	●	
Cast iron		○	●
Non ferrous metals	○	○	●
Heat resistant alloys		○	○

→ v_c Page 42

Left hand external thread turning insert

▲ Full profile
▲ Round thread DIN 405





CCN20 | CWK20

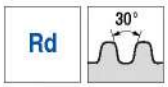
Designation	TPI	INSL	PDX	PDY	EL X3 Article no. 71 250 ...		EL Y1 Article no. 71 250 ...	
	1/"	mm	mm	mm	£		£	
16 EL 10	10	16	1.1	1.2	26.43	**240**	21.17	**640**
16 EL 8	8	16	1.4	1.3	26.43	**242**	21.17	**642**
16 EL 6	6	16	1.5	1.7	26.43	**246**	21.17	**646**
22 EL 6	6	22	1.5	1.7	37.78	**270**	34.35	**670**
22 EL 4	4	22	2.2	2.3	37.78	**272**	34.35	**672**

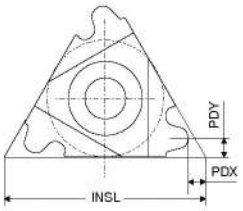
Steel	●	
Stainless steel	●	
Cast iron		●
Non ferrous metals	○	●
Heat resistant alloys		○

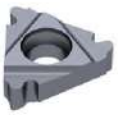
→ v_c Page 42

Right hand internal thread turning insert

▲ Full profile
▲ Round thread DIN 405







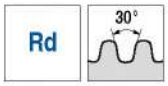
Designation	TPI	INSL	PDX	PDY	IR X3 Article no. 71 252 ...		IR X3 Article no. 71 252 ...		IR Y1 Article no. 71 252 ...	
	1/"	mm	mm	mm	£		£		£	
16 IR 10	10	16	1.1	1.2	26.43	**240**			21.17	**640**
16 IR 8	8	16	1.4	1.4	26.43	**242**			21.17	**642**
16 IR 6	6	16	1.4	1.5	26.43	**246**	29.35	**746**	21.17	**646**
22 IR 6	6	22	1.5	1.7	37.78	**270**			34.35	**670**
22 IR 4	4	22	2.2	2.3	37.78	**272**			34.35	**672**

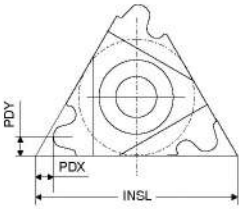
Steel	●	○	
Stainless steel	●	●	
Cast iron		○	●
Non ferrous metals	○	○	●
Heat resistant alloys		○	○

→ v_c Page 42

Left hand internal thread turning insert

▲ Full profile
▲ Round thread DIN 405





Designation	TPI	INSL	PDX	PDY	IL X3 Article no. 71 254 ...		IL Y1 Article no. 71 254 ...	
	1/"	mm	mm	mm	£		£	
16 IL 10	10	16	1.1	1.2	26.43	**240**	21.17	**640**
16 IL 8	8	16	1.4	1.4	26.43	**242**	21.17	**642**
16 IL 6	6	16	1.4	1.5	26.43	**246**	21.17	**646**
22 IL 6	6	22	1.5	1.7	37.78	**270**	34.35	**670**
22 IL 4	4	22	2.2	2.3	37.78	**272**	34.35	**672**

Steel	●	
Stainless steel	●	
Cast iron		●
Non ferrous metals	○	●
Heat resistant alloys		○

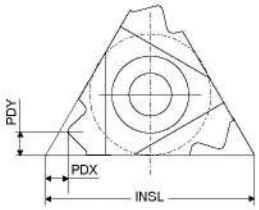
→ v_c Page 42

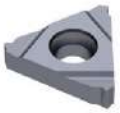
Right hand external thread turning insert

▲ Full profile
▲ Conduit thread DIN 40430

Pg | 80°

CCN20 | CWK20





Designation	TPI	INSL	PDX	PDY	ER X3 Article no. 71 240 ...		ER Y1 Article no. 71 240 ...	
	1/"	mm	mm	mm	£		£	
16 ER 20	20	16	0.8	0.8	26.43	**240**	21.17	**640**
16 ER 18	18	16	0.8	0.9	26.43	**242**	21.17	**642**
16 ER 16	16	16	0.8	1.0	26.43	**244**	21.17	**644**

Steel	●	
Stainless steel	●	
Cast iron		●
Non ferrous metals	○	●
Heat resistant alloys		○

→ v_c Page 42

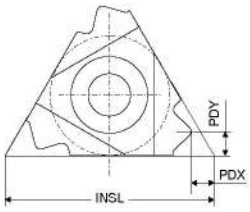
8

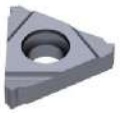
Left hand external thread turning insert

▲ Full profile
▲ Conduit thread DIN 40430

Pg | 80°

CCN20 | CWK20





Designation	TPI	INSL	PDX	PDY	EL X3 Article no. 71 242 ...		EL Y1 Article no. 71 242 ...	
	1/"	mm	mm	mm	£		£	
16 EL 20	20	16	0.8	0.8	26.43	**240**	21.17	**640**
16 EL 18	18	16	0.8	0.9	26.43	**242**	21.17	**642**
16 EL 16	16	16	0.8	1.0	26.43	**244**	21.17	**644**

Steel	●	
Stainless steel	●	
Cast iron		●
Non ferrous metals	○	●
Heat resistant alloys		○

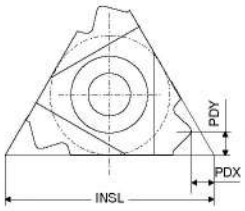
→ v_c Page 42

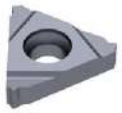
Right hand internal thread turning insert

▲ Full profile
▲ Conduit thread DIN 40430

Pg | 80°

CCN20 | CWK20





Designation	TPI	INSL	PDX	PDY	IR X3 Article no. 71 244 ...		IR Y1 Article no. 71 244 ...	
	1/"	mm	mm	mm	£		£	
11 IR 18	18	11	0.8	0.9	26.43	**238**	21.17	**638**
16 IR 18	18	16	0.8	0.9	26.43	**242**	21.17	**642**
16 IR 16	16	16	0.8	1.0	26.43	**244**	21.17	**644**

Steel	●	
Stainless steel	●	
Cast iron		●
Non ferrous metals	○	●
Heat resistant alloys		○

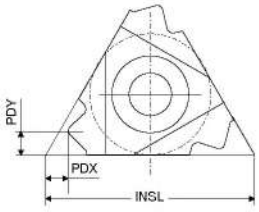
→ v_c Page 42

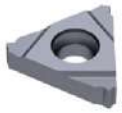
Left hand internal thread turning insert

▲ Full profile
▲ Conduit thread DIN 40430

Pg | 80°

CCN20 | CWK20





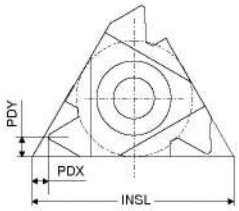
Designation	TPI	INSL	PDX	PDY	IL X3 Article no. 71 246 ...		IL Y1 Article no. 71 246 ...	
	1/"	mm	mm	mm	£		£	
11 IL 18	18	11	0.8	0.9	26.43	**238**	21.17	**638**
16 IL 18	18	16	0.8	0.9	26.43	**242**	21.17	**642**
16 IL 16	16	16	0.8	1.0	26.43	**244**	21.17	**644**

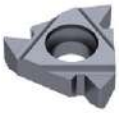
Steel	●	
Stainless steel	●	
Cast iron		●
Non ferrous metals	○	●
Heat resistant alloys		○

→ v_c Page 42

Right hand external thread turning insert

▲ Partial profile
▲ CCN7525 grade with sintered chip breaker for universal application







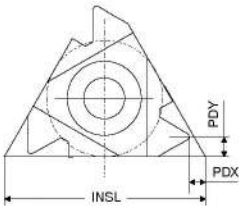
Designation	TP	INSL	PDX	PDY	ER X3 Article no. 71 206 ... £		ER X3 Article no. 71 206 ... £		ER X3 Article no. 71 206 ... £		ER Y1 Article no. 71 206 ... £		ER X3 Article no. 71 206 ... £	
	mm	mm	mm	mm										
16 ER A60	0,5 - 1,5	16	0.8	0.9	23.95	**240**	16.39	**140**	17.80	**740**	17.52	**640**	17.80	**940**
16 ER G60	1,75 - 3	16	1.2	1.7	23.95	**242**	17.54	**142**	19.47	**742**	17.52	**642**	19.47	**942**
16 ER AG60	0,5 - 3	16	1.2	1.7	23.95	**244**	15.99	**144**	17.25	**744**	17.52	**644**	17.25	**944**
22 ER N60	3,5 - 5	22	1.7	2.5	33.08	**270**	29.78	**170**			28.79	**670**		
22 EN U60	5,5 - 8	22	0.9	11.0	33.08	**272** [1]					28.79	**672** [1]		
Steel					●		●		○				●	
Stainless steel					●		○		●				●	
Cast iron							●		○		●		●	
Non ferrous metals					○		●		○		●		○	
Heat resistant alloys									○		○		●	

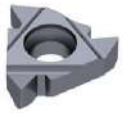
1) Neutral version (N) – for right and left hand thread applications. Neutral Toolholder marked (U) is required.

→ v_c Page 42

Left hand external thread turning insert

▲ Partial profile






Designation	TP	INSL	PDX	PDY	EL X3 Article no. 71 208 ... £		EL Y1 Article no. 71 208 ... £	
	mm	mm	mm	mm				
16 EL A60	0,5 - 1,5	16	0.8	0.9	23.95	**240**	17.52	**640**
16 EL G60	1,75 - 3	16	1.2	1.7	23.95	**242**	17.52	**642**
16 EL AG60	0,5 - 3	16	1.2	1.7	23.95	**244**	17.52	**644**
22 EL N60	3,5 - 5	22	1.7	2.5	33.08	**270**	28.79	**670**
Steel					●			
Stainless steel					●			
Cast iron							●	
Non ferrous metals					○		●	
Heat resistant alloys							○	

→ v_c Page 42

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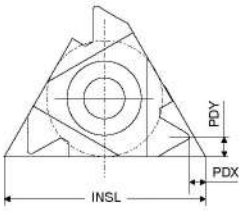
Right hand internal thread turning insert

▲ Partial profile
▲ CCN7525 grade with sintered chip breaker for universal application



CCN20 | CWN1525 | HCN2525 | CWK20 | CCN7525

Designation	TP	INSL	PDX	PDY	IR X3 Article no. 71 210 ...		IR X3 Article no. 71 210 ...		IR X3 Article no. 71 210 ...		IR Y1 Article no. 71 210 ...		IR X3 Article no. 71 210 ...	
	mm	mm	mm	mm	£		£		£		£		£	
11 IR A60	0,5 - 1,5	11	0.8	0.9	23.95	**210**	16.54	**110**			17.52	**610**		
16 IR A60	0,5 - 1,5	16	0.8	0.9	23.95	**240**	21.67	**140**			17.52	**640**		
16 IR G60	1,75 - 3	16	1.2	1.7	23.95	**242**	17.54	**142**			17.52	**642**		
16 IR AG60	0,5 - 3	16	1.2	1.7	23.95	**244**	16.99	**144**	18.25	**744**	17.52	**644**	18.25	**944**
22 IR N60	3,5 - 5	22	1.7	2.5	33.08	**270**	28.61	**170**			28.79	**670**		
22 IN U60	5,5 - 8	22	0.9	11.0	33.08	**272** 1)					28.79	**672** 1)		

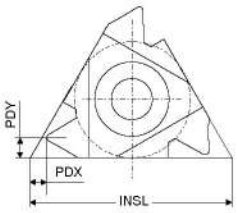
Steel	●	●	○		●
Stainless steel	●	○	●		●
Cast iron		●	○	●	●
Non ferrous metals	○	●	○	●	○
Heat resistant alloys			○	○	●

1) Neutral version (N) – for right and left hand thread applications. Neutral Toolholder marked (U) is required.

→ v_c Page 42

Left hand internal thread turning insert

▲ Partial profile



CCN20 | CWK20

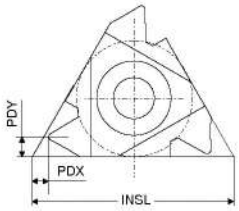
Designation	TP	INSL	PDX	PDY	IL X3 Article no. 71 212 ...		IL Y1 Article no. 71 212 ...	
	mm	mm	mm	mm	£		£	
11 IL A60	0,5 - 1,5	11	0.8	0.9	23.95	**210**	17.52	**610**
16 IL A60	0,5 - 1,5	16	0.8	0.9	23.95	**240**	17.52	**640**
16 IL G60	1,75 - 3	16	1.2	1.7	23.95	**242**	17.52	**642**
16 IL AG60	0,5 - 3	16	1.2	1.7	23.95	**244**	17.52	**644**
22 IL N60	3,5 - 5	22	1.7	2.5	33.08	**270**	27.54	**670**

Steel	●	
Stainless steel	●	
Cast iron		●
Non ferrous metals	○	●
Heat resistant alloys		○

→ v_c Page 42

Right hand external thread turning insert

▲ Partial profile
▲ CCN7525 grade with sintered chip breaker for universal application



CCN20 | CWN1525 | HCN2525 | CWK20 | CCN7525

Designation	TPI	INSL	PDX	PDY	ER X3 Article no. 71 200 ... £		ER X3 Article no. 71 200 ... £		ER X3 Article no. 71 200 ... £		ER Y1 Article no. 71 200 ... £		ER X3 Article no. 71 200 ... £	
	1/"	mm	mm	mm										
16 ER A55	48 - 16	16	0.8	0.9	23.95	**240**	19.39	**140**	20.67	**740**	17.52	**640**	20.67	**940**
16 ER AG55	48 - 8	16	1.2	1.7	23.95	**244**	17.54	**144**	19.47	**744**	17.52	**644**	19.47	**944**
16 ER G55	14 - 8	16	1.2	1.7	23.95	**242**	19.39	**142**	21.36	**742**	17.52	**642**	21.36	**942**
22 ER N55	7 - 5	22	1.7	2.5	33.08	**270**	34.51	**170**	37.36	**770**	28.79	**670**		
22 EN U55	4,5 - 3,25	22	0.9	11.0	33.08	**272** 1)					28.79	**672** 1)		
Steel					●		●		○				●	
Stainless steel					●		○		●				●	
Cast iron							●		○		●		●	
Non ferrous metals					○		●		○		●		○	
Heat resistant alloys									○		○		●	

1) Neutral version (N) – for right and left hand thread applications. Neutral Toolholder marked (U) is required.

→ v_c Page 42

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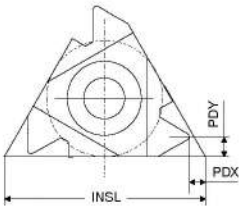
Left hand external thread turning insert

▲ Partial profile



CCN20 | CWK20

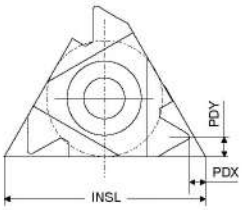
Designation	TPI	INSL	PDX	PDY	EL X3 Article no. 71 202 ... £		EL Y1 Article no. 71 202 ... £	
	1/"	mm	mm	mm				
16 EL A55	48 - 16	16	0.8	0.9	23.95	**240**	17.52	**640**
16 EL AG55	48 - 8	16	1.2	1.7	23.95	**244**	17.52	**644**
16 EL G55	14 - 8	16	1.2	1.7	23.95	**242**	17.52	**642**
22 EL N55	7 - 5	22	1.7	2.5	33.08	**270**	28.79	**670**
Steel					●			
Stainless steel					●			
Cast iron							●	
Non ferrous metals					○		●	
Heat resistant alloys							○	

→ v_c Page 42

Right hand internal thread turning insert

▲ Partial profile
▲ CCN7525 grade with sintered chip breaker for universal application

CCN20 | CWN1525 | CWK20 | CCN7525



Designation	TPI	INSL	PDX	PDY	IR X3 Article no. 71 204 ...		IR X3 Article no. 71 204 ...		IR Y1 Article no. 71 204 ...		IR X3 Article no. 71 204 ...	
	1/"	mm	mm	mm	£		£		£		£	
11 IR A55	48 - 16	11	0.8	0.9	23.95	**210**			17.52	**610**		
16 IR A55	48 - 16	16	0.8	0.9	23.95	**240**			17.52	**640**		
16 IR AG55	48 - 8	16	1.2	1.7	23.95	**244**			17.52	**644**		
16 IR G55	14 - 8	16	1.2	1.7	23.95	**242**	19.39	**142**	17.52	**642**	21.36	**942**
22 IR N55	7 - 5	22	1.7	2.5	33.08	**270**			28.79	**670**		
22 IN U55	4,5 - 3,25	22	0.9	11.0	33.08	**272** 1)			28.79	**672** 1)		
Steel					●		●					●
Stainless steel					●		○					●
Cast iron							●		●			●
Non ferrous metals					○		●		●			○
Heat resistant alloys									○			●

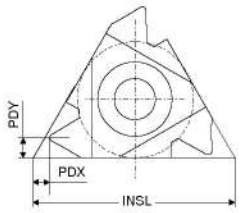
1) Neutral version (N) – for right and left hand thread applications. Neutral Toolholder marked (U) is required.

→ v_c Page 42

Left hand internal thread turning insert

▲ Partial profile

CCN20 | CWK20



Designation	TPI	INSL	PDX	PDY	IL X3 Article no. 71 203 ...		IL Y1 Article no. 71 203 ...	
	1/"	mm	mm	mm	£		£	
11 IL A55	48 - 16	11	0.8	0.9	22.14	**210**	17.52	**610**
16 IL A55	48 - 16	16	0.8	0.9	22.14	**240**	17.52	**640**
16 IL AG55	48 - 8	16	1.2	1.7	22.14	**244**	17.52	**644**
16 IL G55	14 - 8	16	1.2	1.7	22.14	**242**	17.52	**642**
22 IL N55	7 - 5	22	1.7	2.5	31.14	**270**	28.79	**670**
Steel					●			
Stainless steel					●			
Cast iron								●
Non ferrous metals					○			●
Heat resistant alloys								○

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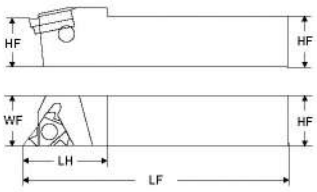
Standard External Thread Turning Holder

▲ Tool Holder with Approach Angle ß = 1,5°



Illustrations show right-hand versions

Designation	HF mm	WF mm	LF mm	LH mm	Insert	Left-hand Y2 Article no. 71 281 ... £		Right-hand Y2 Article no. 71 280 ... £	
SE R/L 08 08 H11	8	11	100	16	11 ..	106.74	908 [2]	106.74	908 [2]
SE R/L 10 10 H11	10	12	100	18	11 ..	106.74	910 [2]	106.74	910 [2]
SE R/L 12 12 K11	12	12	125	20	11 ..	106.74	912 [2]	106.74	912 [2]
SE R/L 12 12 F16	12	16	80	22	16 ..	106.74	012	106.74	012
SE R/L 16 16 H16	16	16	100	25	16 ..	131.39	016	131.39	016
SE R/L 20 20 K16	20	20	125	30	16 ..	131.39	020	131.39	020
SE R/L 25 25 M16	25	25	150	30	16 ..	149.95	025	149.95	025
SE R/L 32 32 P16	32	32	170	30	16 ..	164.80	032	164.80	032
SE R/L 25 25 M22	25	25	150	32	22 ..	164.80	125	164.80	125
SE R 32 32 P22	32	32	170	34	22 ..			172.22	132
SE R 32 32 P22U	32	21	170	32	22 .N			172.22	232 [1]

1) Neutral insert indicated by marking (N)
2) without shim

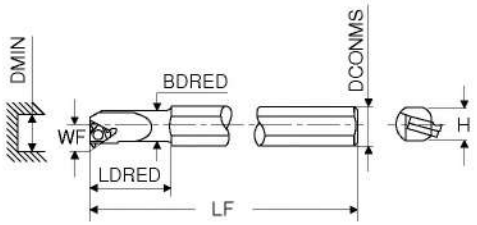
8

Spare parts for Article no.		Y2 Multi tooth shim Article no. 71 950 ... £			Y2 Shim Article no. 71 950 ... £		Y2 Screw-U Article no. 71 950 ... £			Y7 Key D Article no. 80 950 ... £		Y2 Clamping screw Article no. 71 950 ... £	
71 280 908 / 71 281 908									T08	10.30	110	2.03	230
71 280 910 / 71 281 910									T08	10.30	110	2.03	230
71 280 912 / 71 281 912									T08	10.30	110	2.03	230
71 280 012	ER 16 / IL 16	17.17	101	ER 16 / IL 16	13.96	121	1.97	234	T10	12.05	112	1.45	231
71 281 012	EL 16 / IR 16	17.17	108	EL 16 / IR 16	13.96	129	1.97	234	T10	12.05	112	1.45	231
71 280 016	ER 16 / IL 16	17.17	101	ER 16 / IL 16	13.96	121	1.97	234	T10	12.05	112	1.45	231
71 281 016	EL 16 / IR 16	17.17	108	EL 16 / IR 16	13.96	129	1.97	234	T10	12.05	112	1.45	231
71 280 020	ER 16 / IL 16	17.17	101	ER 16 / IL 16	13.96	121	1.97	234	T10	12.05	112	1.45	231
71 281 020	EL 16 / IR 16	17.17	108	EL 16 / IR 16	13.96	129	1.97	234	T10	12.05	112	1.45	231
71 280 025	ER 16 / IL 16	17.17	101	ER 16 / IL 16	13.96	121	1.97	234	T10	12.05	112	1.45	231
71 281 025	EL 16 / IR 16	17.17	108	EL 16 / IR 16	13.96	129	1.97	234	T10	12.05	112	1.45	231
71 280 032	ER 16 / IL 16	17.17	101	ER 16 / IL 16	13.96	121	1.97	234	T10	12.05	112	1.45	231
71 281 032	EL 16 / IR 16	17.17	108	EL 16 / IR 16	13.96	129	1.97	234	T10	12.05	112	1.45	231
71 280 125	ER 22 / IL 22	23.66	110	ER 22 / IL 22	22.25	137	2.44	235	T20	13.11	114	2.44	232
71 281 125	EL 22 / IR 22	23.66	115	EL 22 / IR 22	22.25	145	2.44	235	T20	13.11	114	2.44	232
71 280 132				ER 22 / IL 22	22.25	137	2.44	235	T20	13.11	114	2.44	232
71 280 232				ER 22U / IL 22U	22.25	153	2.44	235	T20	13.11	114	2.44	232

Shims for correction of helix angle see page → **Page 39.**

Standard Internal Thread Turning Holder

▲ Tool Holder with Approach Angle ß = 1,5°



Illustrations show right-hand versions

Designation	H	LF	LDRED	DCONMS	BDRED	WF	DMIN	Insert	Left-hand Y2 Article no. 71 283 ...		Right-hand Y2 Article no. 71 282 ...	
	mm	mm	mm	mm	mm	mm	mm		£		£	
SI R 0010 H11	9.0	100	25	10	9.5	7.4	12	11 ..			149.95	011 [1]
SI R/L 0010 K11	14.0	125	25	16	10.0	7.4	12	11 ..	115.05	010 [1]	115.05	010 [1]
SI R 0013 L11	14.0	140	32	16	12.0	8.9	15	11 ..			123.23	013 [1]
SI R/L 0013 M16	14.0	150	32	16	13.0	10.2	16	16 ..	125.30	015 [1]	125.30	015 [1]
SI R/L 0016 P16	18.0	170	40	20	15.0	11.7	19	16 ..	125.30	016 [1]	125.30	016 [1]
SI R/L 0020 P16	18.0	170	40	20	19.5	13.7	24	16 ..	147.72	020	147.72	020
SI R 0025 R16	22.6	200	40	25	24.5	16.2	29	16 ..			179.64	026
SI R/L 0032 S16	28.8	250	50	32	31.5	19.7	36	16 ..	193.00	032	193.00	032
SI R 0040 T16	36.0	300	50	40	39.5	23.7	44	16 ..			286.53	040
SI R 0020 P22	18.0	170	40	20	19.5	15.6	24	22 ..			139.71	120 [1]
SI R/L 0025 R22	22.6	200	40	25	24.5	18.1	29	22 ..	161.82	126	179.64	126
SI R 0032 S22	28.8	250	50	32	31.5	21.6	38	22 ..			198.93	132
SI R 0040 T22	36.0	300	60	40	39.5	25.6	46	22 ..			293.95	140
SI R 0032 S22U	28.8	250	60	32	31.5	24.4	38	22 .N			175.79	133 [2]

1) without shim
2) Neutral insert indicated by marking (N)


Y2 Multi tooth shim


Y2 Shim


Y2 Screw-U


Y7 Key D

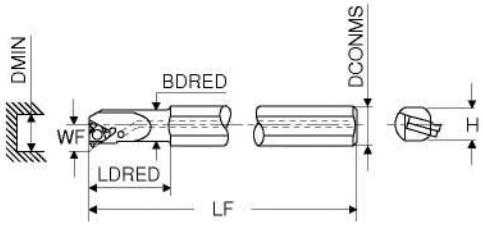

Y2 Clamping screw

Spare parts for Article no.		Multi tooth shim Y2 Article no. 71 950 ... £			Shim Y2 Article no. 71 950 ... £		Screw-U Y2 Article no. 71 950 ... £			Key D Y7 Article no. 80 950 ... £		Clamping screw Y2 Article no. 71 950 ... £	
71 282 011									T08	10.30	110	2.03	230
71 282 010 / 71 283 010									T08	10.30	110	2.03	230
71 282 013									T08	10.30	110	2.03	230
71 282 015 / 71 283 015									T10	12.05	112	2.24	236
71 282 016 / 71 283 016									T10	12.05	112	2.24	236
71 282 020	EL 16 / IR 16	17.17	108	EL 16 / IR 16	13.96	129	1.97	234	T10	12.05	112	1.45	231
71 283 020	ER 16 / IL 16	17.17	101	ER 16 / IL 16	13.96	121	1.97	234	T10	12.05	112	1.45	231
71 282 026	EL 16 / IR 16	17.17	108	EL 16 / IR 16	13.96	129	1.97	234	T10	12.05	112	1.45	231
71 282 032	EL 16 / IR 16	17.17	108	EL 16 / IR 16	13.96	129	1.97	234	T10	12.05	112	1.45	231
71 283 032	ER 16 / IL 16	17.17	101	ER 16 / IL 16	13.96	121	1.97	234	T10	12.05	112	1.45	231
71 282 040	EL 16 / IR 16	17.17	108	EL 16 / IR 16	13.96	129	1.97	234	T10	12.05	112	1.45	231
71 282 120							1.97	234	T20	13.11	114	2.40	237
71 282 126	EL 22 / IR 22	23.66	115	EL 22 / IR 22	22.25	145	2.44	235	T20	13.11	114	2.44	232
71 283 126	ER 22 / IL 22	23.66	110	ER 22 / IL 22	22.25	137	2.44	235	T20	13.11	114	2.44	232
71 282 132	EL 22 / IR 22	23.66	115	EL 22 / IR 22	22.25	145	2.44	235	T20	13.11	114	2.44	232
71 282 140	EL 22 / IR 22	23.66	115	EL 22 / IR 22	22.25	145	2.44	235	T20	13.11	114	2.44	232

Shims for correction of helix angle see page → **Page 39.**

Standard Internal Thread Turning Holder with thro' coolant

▲ Tool Holder with Approach Angle ß = 1,5°



Illustrations show right-hand versions

Designation	H	LF	LDRED	DCONMS	BDRED	WF	DMIN	Insert	Left-hand Y2 Article no. 71 283 ...		Right-hand Y2 Article no. 71 282 ...	
	mm	mm	mm	mm	mm	mm	mm		£		£	
SI R 0010 M11CB	9.0	150	25	10	9.5	7.4	12	11 ..			470.61	510 [2]
SI R 0012 P11CB	11.0	170	30	12	11.5	8.4	15	11 ..			500.31	512 [2]
SI R/L 0010 K11B	14.0	125	25	16	10.0	7.4	12	11 ..	137.77	310	137.77	310
SI R/L 0013 M16B	14.0	150	32	16	13.0	10.2	16	16 ..	149.95	315	149.95	315
SI R 0016 P16B	18.0	170	40	20	16.0	11.7	19	16 ..			149.95	316
SI R 0020 P16B	18.0	170	40	20	19.5	13.7	24	16 ..			176.65	320 [1]
SI R/L 0032 S16B	28.8	250	50	32	31.5	19.7	36	16 ..	218.23	332 [1]	218.23	332 [1]

1) with shim seat
2) Carbide version

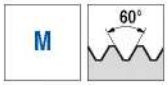
8

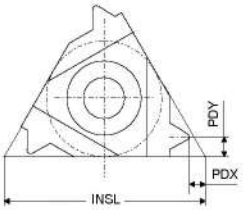
Spare parts for Article no.		Y2 Multi tooth shim Article no. 71 950 ... £			Y2 Shim Article no. 71 950 ... £		Y2 Screw-U Article no. 71 950 ... £			Y7 Key D Article no. 80 950 ... £		Y2 Clamping screw Article no. 71 950 ... £	
71 282 510									T08	10.30	110	2.03	230
71 282 512									T08	10.30	110	2.03	230
71 282 310 / 71 283 310									T08	10.30	110	2.03	230
71 282 315 / 71 283 315									T10	12.05	112	2.24	236
71 282 316									T10	12.05	112	2.24	236
71 282 320	EL 16 / IR 16	17.17	108	EL 16 / IR 16	13.96	129	1.97	234	T10	12.05	112	1.45	231
71 282 332	EL 16 / IR 16	17.17	108	EL 16 / IR 16	13.96	129	1.97	234	T10	12.05	112	1.45	231
71 283 332	ER 16 / IL 16	17.17	101	ER 16 / IL 16	13.96	121	1.97	234	T10	12.05	112	1.45	231

Shims for correction of helix angle see page → **Page 39.**

Right hand internal thread turning insert – Mini size 06

▲ Full profile
▲ Thread production from diameter 6mm





CWS80 | CCN1525 | CWN30

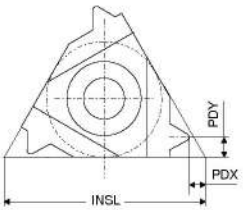
Designation	TP	PDX	PDY	INSL	HSS IR Y1 Article no. 71 276 ... £		IR X3 Article no. 71 271 ... £		IR Y1 Article no. 71 276 ... £	
	mm	mm	mm	mm						
06 IR 0,5	0.50	0.9	0.5	6	26.57	710	22.80	110	26.57	310
06 IR 0,75	0.75	0.8	0.5	6	26.57	712	22.80	112	26.57	312
06 IR 1,0	1.00	0.7	0.6	6	25.01	714	22.80	114	25.01	314
06 IR 1,25	1.25	0.6	0.6	6	26.57	716	22.80	116	26.57	316

Steel	○	●	●
Stainless steel	●	●	●
Cast iron	○	●	○
Non ferrous metals	○	○	○
Heat resistant alloys			○

→ v_c Page 42

Right hand internal thread turning insert – Mini size 06

▲ Full profile
▲ Thread production from diameter 6mm



CWS80 | CWN30

Designation	TPI	PDX	PDY	INSL	HSS IR Y1 Article no. 71 278 ... £		IR Y1 Article no. 71 278 ... £	
	1/"	mm	mm	mm				
06 IR 26	26	0.6	0.6	6	26.57	716	26.57	316
06 IR 22	22	0.6	0.6	6	26.57	720	26.57	320
06 IR 20	20	0.6	0.6	6	26.57	722	26.57	322
06 IR 19	19	0.6	0.6	6	26.57	724	26.57	324
06 IR 18	18	0.6	0.6	6	26.57	726	26.57	326

Steel	○	●
Stainless steel	●	●
Cast iron	○	○
Non ferrous metals	○	○
Heat resistant alloys		○

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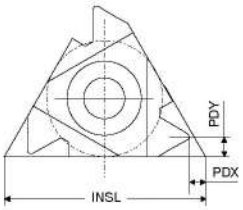
Right hand internal thread turning insert – Mini size 06

▲ Partial profile
▲ Thread production from diameter 6mm



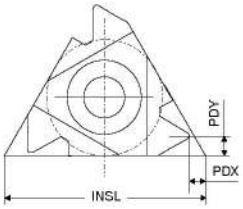
Designation	TP	INSL	PDX	PDY	HSS IR Y1 Article no. 71 272 ... £		IR X3 Article no. 71 274 ... £		IR Y1 Article no. 71 272 ... £	
	mm	mm	mm	mm						
06 IR A60	0,5 - 1,25	6	0.6	0.6	26.57	**710**	22.80	**210**	26.57	**310**
Steel					○		●		●	
Stainless steel					●		●		●	
Cast iron					○		●		○	
Non ferrous metals					○		○		○	
Heat resistant alloys									○	

→ v_c Page 42

8

Right hand internal thread turning insert – Mini size 06

▲ Partial profile
▲ Thread production from diameter 6mm



Designation	TPI	INSL	PDX	PDY	HSS IR Y1 Article no. 71 274 ... £		IR Y1 Article no. 71 274 ... £	
	1/"	mm	mm	mm				
06 IR A55	48 - 20	6	0.5	0.6	26.57	**710**	26.57	**310**
Steel					○		●	
Stainless steel					●		●	
Cast iron					○		○	
Non ferrous metals					○		○	
Heat resistant alloys							○	

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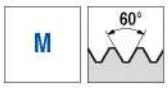
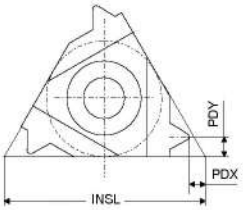
Right hand internal thread turning insert – Mini size 08

▲ Full profile
▲ Thread production from diameter 8mm





CWS80 CWN30

Designation	TP	PDX	PDY	INSL	HSS IR Y1 Article no. 71 277 ...		IR Y1 Article no. 71 277 ...	
	mm	mm	mm	mm	£		£	
08 IR 0,5	0.50	0.6	0.5	8	26.57	**710**	26.57	**310**
08 IR 0,75	0.75	0.6	0.5	8	26.57	**712**	26.57	**312**
08 IR 1,0	1.00	0.6	0.6	8	25.01	**714**	25.01	**314**
08 IR 1,25	1.25	0.6	0.7	8	26.57	**716**	26.57	**316**
08 IR 1,5	1.50	0.6	0.7	8	25.01	**718**	25.01	**318**
08 IR 1,75	1.75	0.6	0.8	8	26.57	**720**	26.57	**320**
08 IN 2,0	2.00	1.0	4.0	8	31.80	**784** 1)	31.80	**384** 1)

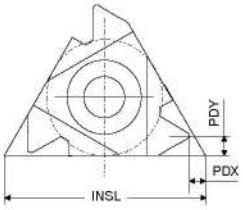
Steel	○	●
Stainless steel	●	●
Cast iron	○	○
Non ferrous metals	○	○
Heat resistant alloys		○

1) Neutral version (N)

→ v_c Page 42

Right hand internal thread turning insert – Mini size 08

▲ Partial profile
▲ Thread production from diameter 8mm



CWS80 CWN30

Designation	TP	PDX	PDY	INSL	HSS IR Y1 Article no. 71 273 ...		IR Y1 Article no. 71 273 ...	
	mm	mm	mm	mm	£		£	
08 IR A60	0,5 - 1,5	0.6	0.7	8	26.57	**710**	26.57	**310**
08 IN M60	1,75 - 2,0	0.8	4.0	8	31.80	**772** 1)	31.80	**372** 1)

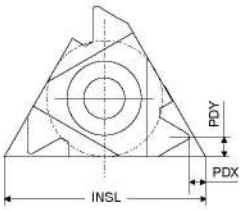
Steel	○	●
Stainless steel	●	●
Cast iron	○	○
Non ferrous metals	○	○
Heat resistant alloys		○

1) Neutral version (N)

→ v_c Page 42

Right hand internal thread turning insert – Mini size 08

- Partial profile
- Thread production from diameter 8mm



CWS80

CWN30

Designation	TPI	INSL	PDX	PDY	HSS IR Y1 Article no. 71 275 ...		IR Y1 Article no. 71 275 ...	
	1/"	mm	mm	mm	£		£	
08 IR A55	48 - 16	8	0.6	0.7	26.57	**710**	26.57	**310**
08 IN M55	14 - 11	8	0.9	4.0	31.80	**772** 1)	31.80	**372** 1)
Steel						○		●
Stainless steel						●		●
Cast iron						○		○
Non ferrous metals						○		○
Heat resistant alloys								○

1) Neutral version (N)

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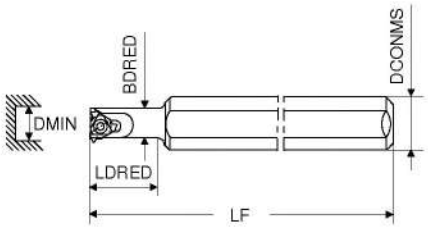
Right Hand Internal Thread Holder – Mini size 06

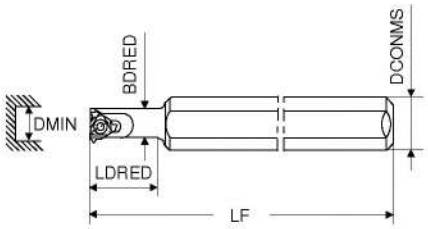


Designation	LF	LDRED	DCONMS	BDRED	DMIN	Insert	Right-hand Y2 Article no. 71 294 ...	
	mm	mm	mm	mm	mm		£	
SI R 0005 H06	100	12	12	5.2	6	06 ..	190.68	**005**
SI R 0005 H06 C	100	25	6	5.2	6	06 ..	339.97	**105** 1)

1) Solid Carbide Shank with Thro' Coolant

Spare parts for Article no.		Y7 Article no. 80 950 ...		Y2 Article no. 71 950 ...	
		£		£	
71 294 005	T06	11.15	**108**	3.29	**029**
71 294 105	T06	11.15	**108**	3.29	**029**

Right Hand Internal Thread Holder – Mini size 08



Designation	LF	LDRED	DCONMS	BDRED	DMIN	Insert	Right-hand Y2 Article no. 71 295 ...	
	mm	mm	mm	mm	mm		£	
SI R 0007 K08	125	18	16	6.7	7.8	08 ..	190.68	**007**
SI R 0007 K08U	125	21	16	7.5	9.0	08 .N	217.01	**008** 1)
SI R 0007 K08C	125	30	8	6.5	7.8	08 ..	385.83	**107** 2)

1) Neutral insert indicated by marking (N)
2) Solid Carbide Shank with Thro' Coolant

Spare parts for Article no.		Y7 Article no. 80 950 ...		Y2 Article no. 71 950 ...	
		£		£	
71 295 007	T06	11.15	**108**	3.29	**033**
71 295 008	T06	11.15	**108**	3.29	**033**
71 295 107	T06	11.15	**108**	3.29	**033**

Shims for Standard Threading Inserts






Pitch-angle β	AE 16 ER 16 / IL 16 Y2 Article no. 71 950 ...		AI 16 EL 16 / IR 16 Y2 Article no. 71 950 ...		AE 22 ER 22 / IL 22 Y2 Article no. 71 950 ...		AI 22 EL 22 / IR 22 Y2 Article no. 71 950 ...		AE 22 U ER 22 / IL 22 Y2 Article no. 71 950 ...		AI 22 U EL 22 / IR 22 Y2 Article no. 71 950 ...	
	£		£		£		£		£		£	
+ 4,5°	13.55	118	13.55	126	21.59	134	21.59	142	22.25	150 [1]	22.25	158 [1]
+ 3,5°	13.55	119	13.55	127	21.59	135	21.59	143	22.25	151 [1]	22.25	159 [1]
+ 2,5°	13.55	120	13.55	128	21.59	136	21.59	144	22.25	152 [1]	22.25	160 [1]
+ 1,5°	13.96	121	13.96	129	22.25	137	22.25	145	22.25	153 [1]	22.25	161 [1]
+ 0,5°	13.55	122	13.55	130	21.59	138	21.59	146	22.25	154 [1]	22.25	162 [1]
0°	13.55	123	13.55	131	21.59	139	21.59	147				
- 0,5°	13.55	124	13.55	132	21.59	140	21.59	148	22.25	156 [1]	22.25	164 [1]
- 1,5°	13.55	125	13.55	133	21.59	141	21.59	149	22.25	157 [1]	22.25	165 [1]

1) Neutral version for tool holder identified by (U).

Shims for Multi-Tooth Threading Inserts




Pitch-angle β	AE 16 M ER 16 / IL 16 Y2 Article no. 71 950 ...		AI 16 M EL 16 / IR 16 Y2 Article no. 71 950 ...		AE 22 M ER 22 / IL 22 Y2 Article no. 71 950 ...		AI 22 M EL 22 / IR 22 Y2 Article no. 71 950 ...	
	£		£		£		£	
+ 1,5°	17.17	101	17.17	108	23.66	110	23.66	115

8

Pitch angle

Important Information about Standard Shims

- the pitch angle should be determined through calculation or by using the chart below
- the standard WNT threading holder is supplied with a 1.5° inclined insert seat and a shim without angular correction.
  Hence the WNT Tool holders are delivered with an angle of inclination β of 1.5°.

Without the appropriate correction of the helix angle, the following may occur

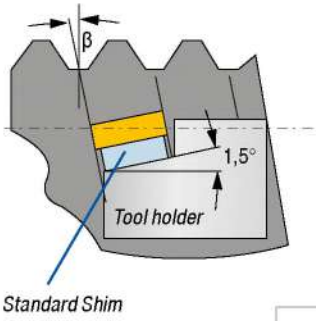
- the profile will be distorted.
- insufficient clearance angle.
- the tool life of the insert is greatly reduced.

Method 1: Calculation

Calculating the helix angle β:

$$\beta = \frac{20 \times TP}{DMIN}$$

20 = constant
β = Helix angle (°)
TP = Pitch (mm)
DMIN = Nominal diameter (mm)



Example calculation

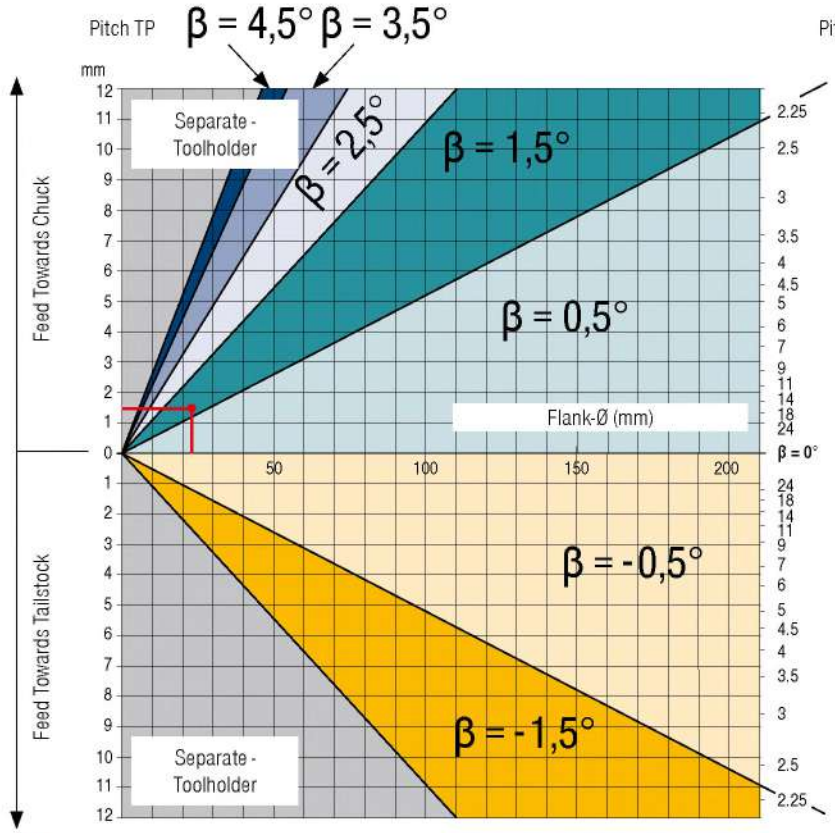
External thread M24 x 1.5
Feed towards chuck
DMIN = Nominal Ø: M24 = 24 mm
TP = Pitch: 1.5 mm

$$\beta = \frac{20 \times 1{,}5 \text{ mm}}{24 \text{ mm}}$$

β = 1,25°

Method 2: Diagram

From the flank Ø in the diagram, a line is drawn vertically upwards until it intersects with the line of the pitch of the thread to be produced. In the color-coded region in which it is now, a horizontal line to the edge of the chart indicates the appropriate factor.



calculated pitch angle β value	Shim
0,0°–0,99°	0,5°
1,0°–1,99°	1,5°
2,0°–2,99°	2,5°
3,0°–3,99°	3,5°
4,0°–4,99°	4,5°
0,0°–(-0,99°)	-0,5°
-1,0°–(-1,99°)	-1,5°

Material examples referring to the cutting data tables

	Index	Material	Strength N/mm² / HB / HRC	Material number	Material designation	Material number	Material designation	Material number	Material designation
P	1.1	General construction steel	< 800 N/mm²	1.0402	EN3B				
	1.2	Free cutting steel	< 800 N/mm²	1.0711	EN1A				
	1.3	Hardened steel, non alloyed	< 800 N/mm²	1.0401	EN32C				
	1.4	Alloyed hardened steel	< 1000 N/mm²	1.7325	25 CD4				
	1.5	Tempering steel, unalloyed	< 850 N/mm²	1.5752	EN36	1.0535	EN9		
	1.6	Tempering steel, unalloyed	< 1000 N/mm²	1.6582	EN24				
	1.7	Tempering steel, alloyed	< 800 N/mm²	1.7225	EN19				
	1.8	Tempering steel, alloyed	< 1300 N/mm²	1.8515	EN40B				
	1.9	Steel castings	< 850 N/mm²	0.9650	G-X 260 Cr 27	1.6750	GS-20 NiCrMo 3 7	1.6582	GS-34 CrNiMo 6
	1.10	Nitriding steel	< 1000 N/mm²	1.8509	EN41B				
	1.11	Nitriding steel	< 1200 N/mm²	1.1186	EN8	1.1160	EN14A		
	1.12	Roller bearing steel	< 1200 N/mm²	1.3505	534A99				
	1.13	Spring steel	< 1200 N/mm²		EN45		EN47		EN43
	1.14	High-speed steel	< 1300 N/mm²	1.3343	M2	1.3249	M34		
	1.15	Cold working tool steel	< 1300 N/mm²	1.2379	D2	1.2311	P20		
	1.16	Hot working tool steel	< 1300 N/mm²	1.2344	H13				
M	2.1	Cast steel and sulphured stainless steel	< 850 N/mm²	1.4581	318				
	2.2	Stainless steel, ferritic	< 750 N/mm²	1.4000	403				
	2.3	Stainless steel, martensitic	< 900 N/mm²	1.4057	EN57				
	2.4	Stainless steel, ferritic / martensitic	<1100 N/mm²	1.4028	EN56B				
	2.5	Stainless steel, austenitic / ferritic	< 850 N/mm²	1.4542	17-4PH				
	2.6	Stainless steel, austenitic	< 750 N/mm²	1.4305	303	1.4401	316	1.4301	304
	2.7	Heat resistant steel	< 1100 N/mm²	1.4876	Incoloy 800				
K	3.1	Grey cast iron with lamellar graphite	100–350 N/mm²	0.6015	Grade 150	0.6020	Grade 220	0.6025	Grade 260
	3.2	Grey cast iron with lamellar graphite	300–500 N/mm²	0.6030	Grade 300	0.6035	Grade 350	0.6040	Grade 400
	3.3	Gray cast iron with spheroidal graphite	300–500 N/mm²	0.7040	SG 400-12	0.7043	SG 370-17	0.7050	SG 500-7
	3.4	Gray cast iron with spheroidal graphite	500–900 N/mm²	0.7060	SG 600-3	0.7070	SG 700-2	0.7080	SG 800-2
	3.5	White malleable cast iron	270–450 N/mm²	0.8035	GTW-35	0.8045	GTW-45		
	3.6	White malleable cast iron	500–650 N/mm²	0.8055	GTW-55	0.8065	GTW-65		
	3.7	Black malleable cast iron	300–450 N/mm²	0.8135	GTS-35	0.8145	GTS-45		
	3.8	Black malleable cast iron	500–800 N/mm²	0.8155	GTS-55	0.8170	GTS-70		
N	4.1	Aluminium (non alloyed, low alloyed)	< 350 N/mm²	3.0255	1050 A	3.0275	1070 A	3.0285	1080 A (A8)
	4.2	Aluminium alloys < 0.5 % Si	< 500 N/mm²	3.1325	2017 A (AU4G)	3.4335	7005 (AZ5G)	3.4365	7075 (AZ5GU)
	4.3	Aluminium alloy 0.5–10 % Si	< 400 N/mm²	3.2315	A-G S1	3.2373	A-S9 G	3.2151	A-S 6 U4
	4.4	Aluminium alloys 10–15 % Si	< 400 N/mm²	3.2581	A-S12	3.2583	A-S12 U		
	4.5	Aluminum alloys > 15 % Si	< 400 N/mm²		A-S18	A-S17 U4			
	4.6	Copper (non alloyed, low alloyed)	< 350 N/mm²	2.0040	Cu-c1	2.0060	Cu-a1	2.0090	Cu-b1
	4.7	Copper wrought alloys	< 700 N/mm²	2.1247	Cub2 (Berylium Copper)	2.0855	CuN2S (Nickel Copper)	2.1310	CU-Fe2P
	4.8	Special copper alloys	< 200 HB	2.0916	Cu-A5	2.1525	Cu-S3 M		Ampco 8 (Cu-A6Fe2)
	4.9	Special copper alloys	< 300 HB	2.0978	Cu-Al11 Fe5 Ni5)		Ampco 18 (Cu- A10 Fe3)		
	4.10	Special copper alloys	> 300 HB	2.1247	Cu Be2		Ampco M4		
	4.11	Short-chipping brass, bronze, red bronze	< 600 N/mm²	2.0331	Cu Zn36 Pb1,5	2.0380	Cu Zn39 Pb2 (Ms 56)	2.0410	Cu Zn44 Pb2
	4.12	Long-chipping brass	< 600 N/mm²	2.0335	Cu Zn 36 (Ms63)	2.1293	Cu Cr1 Zr		
	4.13	Thermoplastics		PE	PVC	PS	Polystyrene		Plexiglas
	4.14	Duroplastics		PF	Bakelite		Pertinax		
	4.15	Fibre-reinforced plastics			Carbon Fibre		Fibreglass		Aramid Fibre (Kevlar)
	4.16	Magnesium and magnesium alloys	< 850 N/mm²	3.5812	Mg A7 Z1	3.5662	Mg A9	3.5105	Mg Tr3 Z2 Zn 1
	4.17	Graphite			R8500X		R8650		Technograph 15
	4.18	Tungsten and tungsten alloys			W-Ni Fe (Densimet)		W- Ni Cu (Inermet)		Denal
	4.19	Molybdenum and molybdenum alloys			TZM		MHQ		Mo W
S	5.1	Pure nickel		2.4066	Ni99 (Nickel 200)	2.4068	Lc Ni99 (Nickel 201)		
	5.2	Nickel alloys		1.3912	Fe-Ni36 (Invar)	1.3917	Fe -Ni42 (N42)	1.3922	Fe-Ni48 (N48)
	5.3	Nickel alloys	< 850 N/mm²	2.4375	Ni Cu30 Al (Monel K500)	2.4360	Ni Cu30Fe (Monel 400)	2.4668	
	5.4	Nickel molybdenum alloys		2.4600	Ni Mo30Cr2 (Hastelloy B4)	2.4617	Ni Mo28 (Hastelloy B2)	2.4819	Ni Mo16Cr16 Hastell. C276
	5.5	Nickel-chromium alloys	< 1300 N/mm²	2.4951	Ni Cr20TiAl (Nimonic 80A)	2.4858	Ni Cr21Mo (Inconel 825)	2.4856	Ni Cr22Mo9Nb Inconel 625
	5.6	Cobalt Chrome Alloys	< 1300 N/mm²	2.4964	Co Cr20 W15 Ni10		Co Cr20 Ni16 Mo7		Co Cr28 Mo 6
	5.7	Heat resistant alloys	< 1300 N/mm²	1.4718	Z45 C S 9-3	1.4747	Z80 CSN 20-02	1.4845	Z12 CN 25-20
	5.8	Nickel-cobalt-chromium alloys	< 1400 N/mm²	2.4851	Ni Cr23Fe (Inconel 601)	2.4668	Ni Cr19NbMo (Inconel 718)	2.4602	Ni Cr21Mo14 Hastelloy C22
	5.9	Pure titanium	< 900 N/mm²	3.7025	T35 (Titanium Grade 1)	3.7034	T40 (Titanium Grade 2)	3.7064	T60 (Titanium Grade 4)
	5.10	Titanium alloys	< 700 N/mm²		T-A6-Nb7 (367)		T-A5-Sn2-Mo4-Cr4 (Ti17)		T-A3-V2,5 (Gr18)
	5.11	Titanium alloys	< 1200 N/mm²	3.7165	T-A6-V4 (Ta6V)		T-A4-3V-Mo2-Fe2 (SP700)		T-A5-Sn1-Zr1-V1-Mo (Gr32)
H	6.1	Tempered steel	< 45 HRC						
	6.2		46–55 HRC						
	6.3		56–60 HRC						
	6.4		61–65 HRC						
	6.5		65–70 HRC						

8

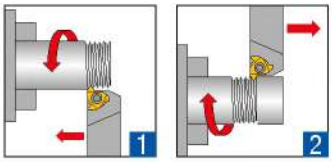
Cutting data appoximate values

	Mini CWN30	Mini CWS80	Mini CCN1525	CWN1525	HCN2525	CCN7525	CCN20	CWK20
Index	v_c in m/min							
1.1	20–100	30-50	80–100	120–140	190-210	150–170	120–180	
1.2	20–100	30-50	80–100	120–140	190-210	150–170	140–200	
1.3	20–100	30-50	80–100	120–140	190-210	150–170	110–180	
1.4	20–80	25-40	60–80	70–90	120-140	90–110	100–155	
1.5	20–80	25-40	90–110	100–120	160-180	130–150	110–180	
1.6	20–80	25-40	90–110	100–120	160-180	130–150	100–155	
1.7	20–100	30-50	50–60	50–70	70-90	60–80	110–180	
1.8	20–80	25-40	50–60	50–70	70-90	60–80	80–135	
1.9	20–100	25-40	60–80	90–100	120-140	100–120		
1.10	20–80	25-40	50–60	50–60	60-80	50–70		
1.11	20–80	25-40	50–60	50–60	60-80	50–70		
1.12	20–80	25-40	50–60	50–60	60-80	50–70	80–135	
1.13		25-40	50–60	50–60	60-80	50–70		
1.14			50–60	50–60	60-80	50–70		
1.15			50–60	50–60	60-80	50–70		
1.16			50–60	50–60	60-80	50–70		
2.1	20–70	10–25	40–50	50-70	140–160	90–110	70–120	
2.2	20–70	10–25	40–50	50-70	140–160	90–110	70–120	
2.3	20–70	10–25	40–50	50-70	140–160	90–110	60–95	
2.4	20–70	10–25	40–50	50-70	140–160	90–110	60–95	
2.5	20–70	10–25	40–50	50-70	140–160	90–110	40–90	
2.6	20–70	10–25	40–50	50-70	140–160	90–110	70–100	
2.7	20–70	10–25	40–50	50-70	140–160	90–110	70–100	
3.1	40-90	20-40	60–80	90–110	140-150	120–130		70–100
3.2	40-90	20-40	60–80	90–110	140-150	120–130		70–100
3.3	40-90	20-40	60–80	90–110	140-150	120–130		70–100
3.4	40-90	20-40	60–80	90–110	140-150	120–130		70–100
3.5	40-90	20-40	50–70	80–100	120-130	100–110		70–100
3.6	40-90	20-40	50–70	80–100	120-130	100–110		70–100
3.7	40-90	20-40	50–70	80–100	120-130	100–110		70–100
3.8	40-90	20-40	50–70	80–100	120-130	100–110		70–100
4.1	80-180	40-100	550-570	600–650	800-900			100–250
4.2	80-180	40-100	300-330	480–520	800-900			100–250
4.3	60-150		300-330	480–520	800-900			100–250
4.4	60-130		300-330	480–520	800-900			100–250
4.5	40-120		300-330	480–520	800-900			100–250
4.6	80-150	40-80	120-150	200–220	300-320		80-200	100–250
4.7	80-150	40-80	110-130	180–200	280-300		80-200	100–250
4.8	80-150	40-80	110-130	160–180	250-280		80-200	100–250
4.9	80-150	40-80	110-130	160–180	250-280		80-200	100–250
4.10	80-150	40-80	100-120	150–170	220-250		80-200	100–250
4.11	80-150	40-80	100-120	180–200	230-240		80-200	100–250
4.12	80-150		100-120	180–200	230-240		80-200	100–250
4.13			180-200	250–300				
4.14			180-200	250–300				
4.15			180-200	250–300				
4.16			60-80	80–100	120-150			100–250
4.17			60-80	80–100	120-150	100-120		100–250
4.18			60-80	80–100	120-150			100–250
4.19			60-80	80–100	120-150			100–250
5.1					45-55	30–40		
5.2					45-55	30–40		20-30
5.3					45-55	30–40		20-30
5.4					45-55	30–40		20-30
5.5					35-40	25		20-30
5.6					35-40	25–35		20-30
5.7					35-40	25–35		
5.8					35-40	25–35		
5.9	20-90				40-50	35–45		25-50
5.10	20-90				40-50	35–45		20-30
5.11	20-90				40-50	35–45		20-30
6.1					50-60	45-55	40-60	
6.2					45-55		40-60	
6.3					40-45			
6.4					35-45			
6.5								

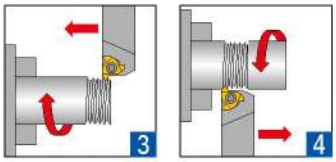
The cutting data depends extremely on the external conditions, the material and machine type. The indicated values are possible values which have to be increased or reduced according to the application conditions.

Thread turning methods

External right-hand thread

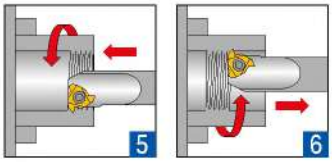


External left-hand thread

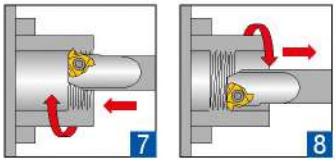


The machining examples 2, 4, 6 and 8 require negative shims!
These shims can be found on → **Page 39.**

Internal right-hand thread

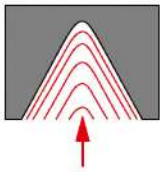


Internal left-hand thread



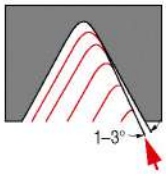
Thread infeed methods

Radial Infeed



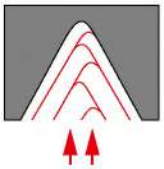
- for pitches less than 1.5 mm
- for short chipping materials
- for machining hardened materials
- simple and quick method

Flank infeed



- for pitches larger than 1.5 mm
- with radial penetration the effective cutting edge length is too large, which may lead to chattering
- with trapezoidal and ACME threads, chip flow on three sides can be problematic

Alternating infeed



- with large pitches
- for long chipping materials
- uniform wear of the cutting edges
- complicated programming process

8

Recommended number of cuts and cutting depths

Standard Threading Inserts

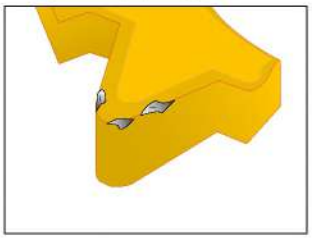
Pitch	mm	0,50	0,75	1,00	1,25	1,50	1,75	2,00	2,50	3,00	3,50	4,00	4,50	5,00	5,50	6,00	8,00
	TPI	48	32	24	20	16	14	12	10	8	7	6	5.5	5	4.5	4	3
Number of passes		4-6	4-7	4-8	5-9	6-10	7-12	7-12	8-14	9-16	10-18	11-18	11-19	12-20	12-20	12-20	15-24
Number of passes	(CCN7525)	3-4	3-4	3-5	4-6	5-6	6-8	6-8	8-10								
Number of passes	Mini Inserts	6-9	6-11	6-12	8-14	9-15	11-18	11-18									

Multi edge thread turning insert

Standard	Insert	Insert size		Pitch	Edges	Designation	Passes	Cutting depth per pass		
		IC	L mm					1	2	3
ISO external	M	3/8"	16	1,0 mm	3	3 ER 1.0 ISO 3M	2	0,38	0,25	
ISO external	M	3/8"	16	1,5 mm	2	3 ER 1.5 ISO 2M	3	0,42	0,30	0,20

Troubleshooting

Edge chipping



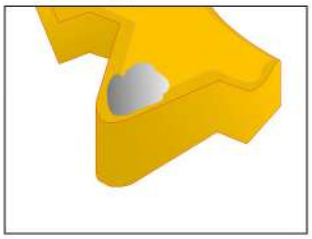
Cause

- Common in stainless materials
- Incorrect grade

Corrective measures

- Minimize tool overhang length
- Check that the insert is clamped
- Minimize vibration
- Use a tougher grade

Cratering



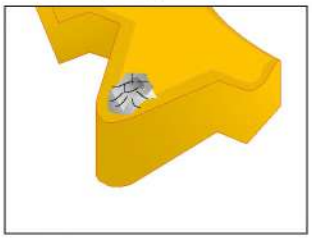
Cause

- Common in stainless materials
- Cutting speed too high
- Incorrect grade

Remedy

- Apply coolant
- Reduce depth of cut
- Use a harder grade

Built-up edge



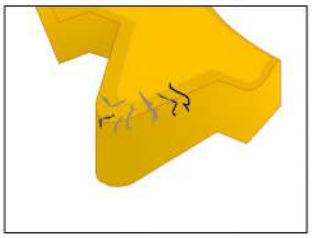
Cause

- Cutting speed too low
- Incorrect grade

Remedy

- Apply coolant
- Increase cutting speed
- Use a tougher grade

Thermal cracking



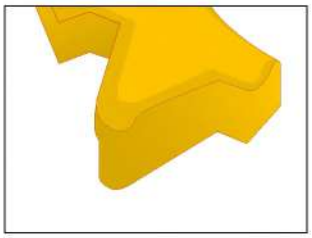
Cause

- Insufficient coolant
- Cutting speed too high
- Incorrect grade

Remedy

- Apply coolant
- Reduce cutting speed
- Use a tougher grade

Plastic deformation



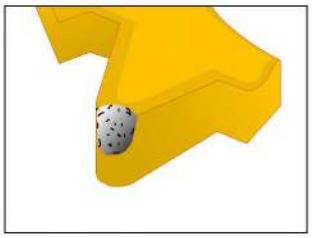
Cause

- Infeed too large
- Insufficient coolant
- Cutting speed too high
- Incorrect grade

Remedy

- Apply coolant
- Reduce depth of cut
- Reduce cutting speed
- Use a harder grade

Breakage



Cause

- Infeed too large
- Insufficient coolant
- Plastic deformation
- Instability
- Helix angle not appropriate
- Incorrect grade

Remedy

- Reduce depth of cut
- Check machine and tool stability
- Reduce cutting speed
- Check helix angle
- Use a tougher grade

WNT Designation Key

Inserts

16	E	R	AG 60	
Insert size	Insert	Cutting design	Pitch	Number of teeth

Insert size

L	I.C.
06	5/32"
08	3/16"
11	1/4"
16	3/8"
22	1/2"

Insert

E	External
I	Internal

Cutting design

R	Right-hand
L	Left-hand
N	Neutral

Pitch

Full profile

	mm	G/Z
	0,35	72-4

Partial profile

	mm	G/Z
A	0,5-1,5	48-16
AG	0,5-3,0	48-8
M	1,7-2,0	14-11
G	1,75-3,0	14-8
N	3,5-5,0	7-5
U	5,5-8,0	4,5-3,5

Flank angle
55°
60°

Number of teeth

2M	Multi-tooth insert with 2 teeth
3M	Multi-tooth insert with 3 teeth

Example

16 ER AG 60
16 mm right hand – external insert with a pitch of 0.5-3.0 mm

Tool holder

SE	R	1212	F	16	
Tool holder	Cutting design	Shank cross-section	Overall length	Insert size	Properties

Tool holder

SE	External
SI	Internal

Cutting design

R	Right-hand
L	Left-hand

Shank cross-section

Example	
External holder square shank	1212 = 12 mm x 12 mm
Internal boring bar	0020 = 20 mm Diameter

Overall length

	mm
F	80
H	100
K	125
L	140
M	150
P	170
R	200
S	250
T	300

Insert size

L	I.C.
06	5/32"
08	3/16"
11	1/4"
16	3/8"
22	1/2"

Properties

B	Diameter
C	With thro' coolant
U	With carbide shank

Example

SE R 1212 F 16
Right hand holder with 12 x 12 mm square shank, overall length of 80 mm, only suitable for an 16 mm threading insert

Grade description

Universal

CCN7525
- Carbide, TiAlN-coated
- ISO | **P25** | **M25** | **K25** | N25 | **S25**
- The universal carbide grade with sintered chip breaker for medium to high cutting speeds

CWN30
- Carbide, TiN-coated
- ISO | **P30** | **M30**
- The coated carbide grade for machining steels and stainless steels at low cutting speeds

CCN1525
- Carbide, TiN-coated
- ISO | **P25** | **M25**
- The coated carbide grade for machining steels and stainless steels at low cutting speeds

Non-ferrous metals

CWK20
- Carbide, uncoated
- ISO | **N10** | **S10** | K10
- The wear-resistant carbide grade for machining aluminium and other non-ferrous metals

Steel

CCN20
- Carbide, TiAlN-coated
- ISO | **P20** | **M20**
- The all-round carbide grade for machining steels at low cutting speeds

CWN1525
- Carbide, TiN-coated
- ISO | **P25** | M25 | **K25** | **N25**
- The universal carbide grade for machining steels and non-ferrous metals at low cutting speeds

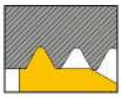
Stainless steel

HCN2525
- Carbide, TiAlN-coated
- ISO | P25 | **M25** | K25 | N25 | S25
- The coated carbide grade for machining stainless steels at high cutting speeds
- Also suitable for exotic materials

CWS80
- HSS, TiN-coated
- ISO | P | **M** | K | N
- The coated HSS grade for stainless machining at low cutting speeds
- Also suitable for exotic materials

Profile Type Description

Full profile



- Thread diameter must not be turned to final thread size
- a minimum infeed of 0.07 mm is necessary
- Insert can only be used only for a specific pitch

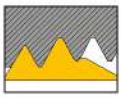
Advantages:
- High-quality thread
- No burr formation
- No rework
- In part longer service life

Partial profile

- Core diameter must be premachined to the finished size
- A minimum infeed of 0.07 mm is required

Advantages:
- One threading insert can be used to machine several pitches
- Threading insert can be used for any application
- Reduced stock requirements

Multi-Tooth Thread Turning Insert

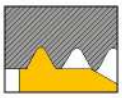


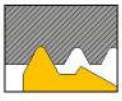
- Thread diameter must not be turned to final thread size
- a minimum infeed of 0.07 mm is necessary
- Insert can only be used only for a specific pitch

Advantages:
- Fewer passes required
- Thread production in less time

Attention:
- Check there is sufficient thread run-out

Mini Thread Turning Insert



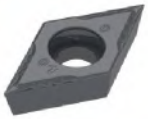


- From a min. core hole diameter of Ø 6 mm or Ø 8 mm

Advantages:
- Special cutting materials for low cutting speeds
- 3 cutting edges for miniature applications

New products for machining technicians

NEW High precision finishing insert in “E” tolerance

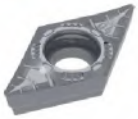


F05 – extremely sharp chip breaker ideal for fine finishing of superalloys and stainless steels.
New universal grade of the X7 line for machining almost all materials.

NEW New CBN grades CTB H15U and CTB H15C

Coated and uncoated CBN grade for smooth cutting from 32 HRC.

NEW Precision sintered insert with -29 chip breaker



Comprehensive aluminum turning insert with -29 chip breaker for medium to rough machining.
Uncoated and with proven AMZ coating.

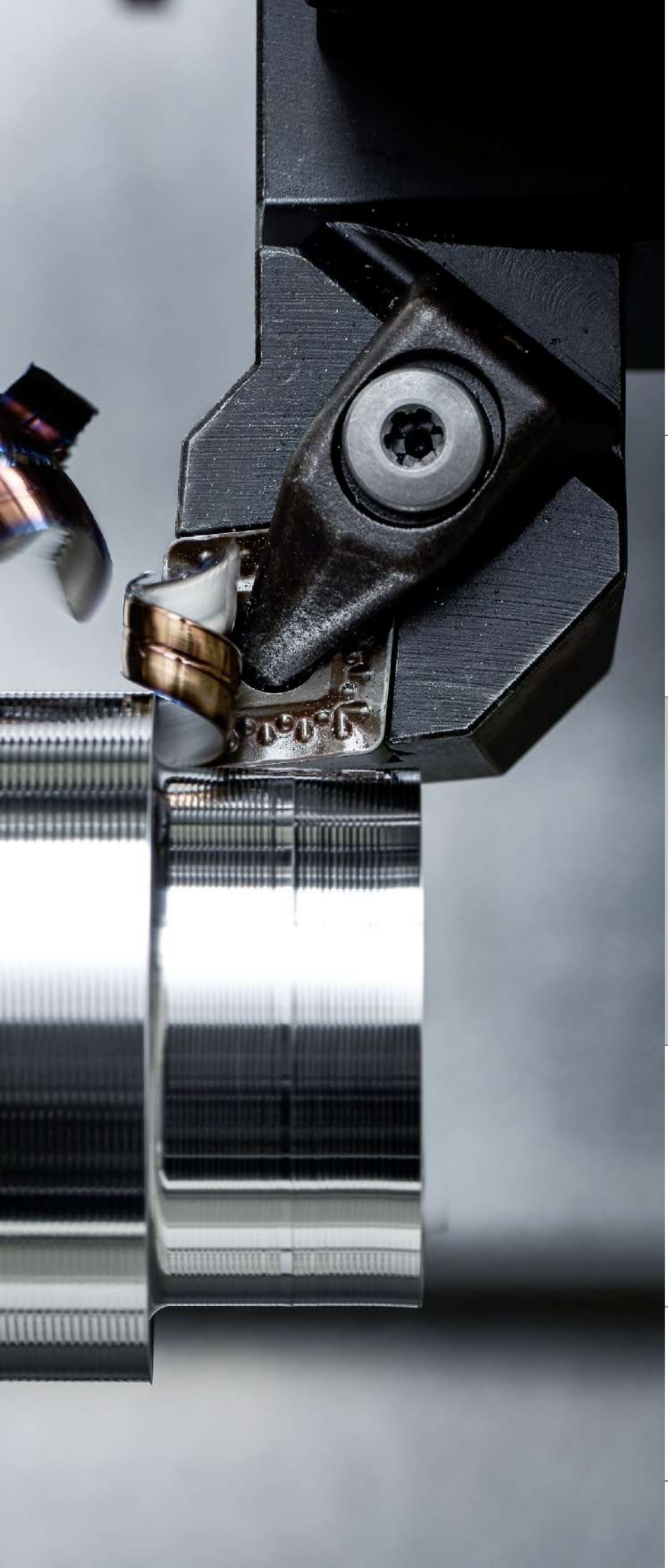


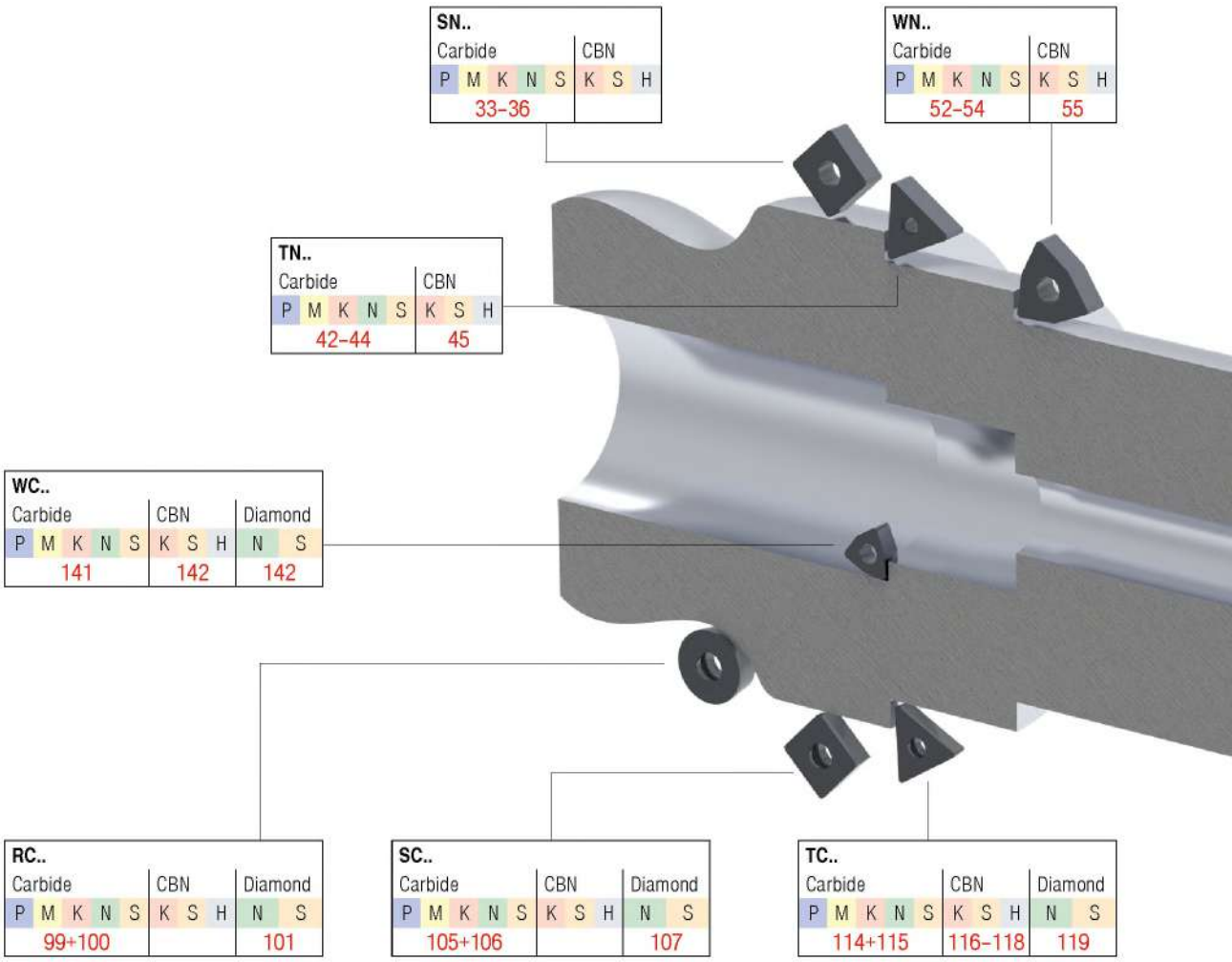
Table of contents

CERATIZIT \ Performance

Premium quality tools for high performance.

The premium quality tools from the **CERATIZIT Performance** product line have been designed for specific applications and are distinguished by their outstanding performance. If you make high demands on the performance of your production and want to achieve the very best results, we recommend the Premium tools in this product line.

Toolfinder – Application



Coding of the chip breakers

All new chip breakers are coded according to the following key:

-M50

Inserts – Basic Type	Application range	Material		Chip breaker width
	F = Fine	1 = Steel	5 = Heat Resistant alloys	1 = Narrow
0 | N = Negative Inserts	M = Medium	2 = Stainless steel	6 = Hard	
5 | P = Positive Inserts	R = Rough	3 = Cast Iron	7 = Universal	
		4 = Non Ferrous Metals		9 = Wide

-NM15

Detailed information on the chip breakers can be found in the technical appendix → **pages 168–175**

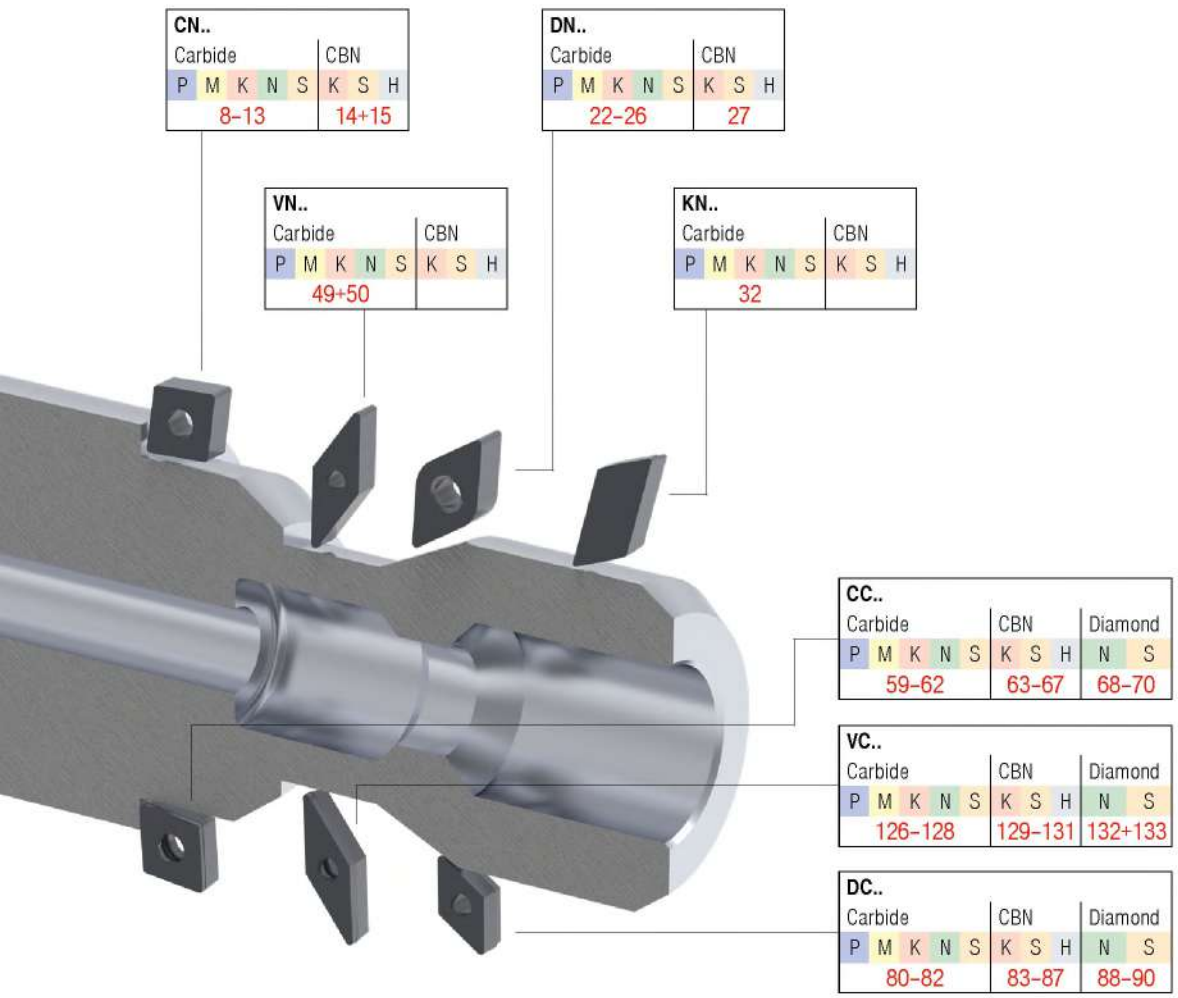
Symbol explanation

CTCP125
HCX1125
Carbide Grade

F	Fine Machining
M	Medium Machining
R	Rough Machining

Smooth cut
Irregular cutting depth
Interrupted cut

A detailed overview of grades can be found in the technical appendix on → **page 186**



Toolfinder – negative inserts

				Steel	Stainless steel	Cast iron	Non ferrous metals	Heat resistant alloys	Geometry						
				P	M	K	N	S	CN..	DN..	KN..	SN..	TN..	VN..	WN..
Main application: **Steel and cast iron**	sharp → stable	Fine	-CF / -CF20 (-CF / -NF12)	●	○	○			8	22					52
			-F40	●	○	○								49	
			-F50 (-NF15)	●	○	○		○	8	22		33	42	49	52
			-TFQ	●	○	○			8+9	22+23					52
		Medium	-42	●	○			○	9						
			-XU	●	○	○			9	23				49	53
			-M40	●	○	○								49	
			-M50 (-NM15)	●	○	●		○	9+10	23+24		33	42	49	53
			-TMQ	●	○	○			10	24					53
			-M70 | -11, -12 (-NM19)	●	○	●		○	10+11	24	32	33+34	42+43		53
		Rough	.NMA			●			11	24		34+35	43		54
			-R28 (-NR14)	●	○	○		○	11	24		35	43		
			-R58 (-NR17)	●	○	○		○	12	24+25		35	43		
			-R88 (-NR19)	●	○	○		○	12			36			
Main application: **Stainless**	sharp → stable	Fine	-F30 (-NF23)	○	●				12	25		36	44	49	54
		Medium	-42	○	●			●	13						
			-M30 (-NM23)	○	●			○	13	25		36	44	49	54
			-M42	○	●			●	13	25		36	44		54
			-M60 (-NM26)	○	●			○	13	25		36	44		54
			-M70 (-NM19)	○	●			●	13	25		36	44		54
Main application: **Heat-resistant**	sharp → stable	Fine	-F32		●	○	○	●	13	25				49	
		Medium	-M34		○			●	13	26		36	44	49+50	54
			-M42	○	●	○	○	●	13	26			44		54
			-M52		○	○	○	●	13	26		36	44		54
			Suitable tool holders						16–19	28+29	32	37–40	46+47	51	56
			Suitable boring bars						20+21	30+31		41	48		57+58

Toolfinder – negative inserts

Main application				Cast iron K	Sintered steels P	Heat-resistant S	Hardened H	Geometry CN..	DN..	KN..	SN..	TN..	VN..	WN..
Cast iron, sintered steels, heat resistant, hardened	Fine	CTBS10U (PBC10) CTBS20C (PBC15-S)		●	●	●		14	27			45		55
		CTBH15U CTBH15C	< 32 HRC				●	14	27					
		CTBH21U (PBC25)	52–65 HRC				●	15	27			45		55
		CTBH20C (PBC25-S)	48–62 HRC											
		CTBH40U (PBC40)	54–65 HRC				●	15	27			45		55
		CTBH40C (PBC40-S)	48–65 HRC											
		Suitable tool holders						16–19	28+29			46+47		56
		Suitable boring bars						20+21	30+31			48		57+58

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Toolfinder – positive inserts

				Steel	Stainless steel	Cast iron	Non-ferrous metals	Heat-resistant	Geometry								
				P	M	K	N	S	CC..	DC..	RC..	SC..	SP..	TC..	TP..	VC..	WC..
Main application: **Steel and cast iron**	sharp ↕ stable	Fine	-CF05 (-PF14)	●	○	○			59	80		105		114		126	
			-SF (-ZF)	●	○	○		○	59+60	80		105		114		126	
		Medium	-CF55 (-PF15)	●	○	○			60	80		105		114		126	
			-SMF	●	○	●		○	60	80	99	105		114+115		126+127	
			-SM (-ZM)	●	○	●		○	60	80+81	99	105		115		127	
			-SMQ	●	○	○			60+61	81							
			EN, EL, ER	●	○	●		○				105	113		123		
Main application: **Stainless**	sharp ↕ stable	Fine	-SF (-ZF)	○	●			●	61	81						127	141
			-F43	○	●			●	61	81				115			
			-M81		●		○		61	81						127	
		Medium	-M25 (-PF23)	○	●				61	81				115		127	
			-SM (-ZM)	○	●			●	61	81		105		115		127	
			-M55 (-PF26)	○	●				61	81		106		115		127	
Main application: **Non-ferrous metals**	sharp ↕ stable	Fine	-23P			○	●	○	61	82							
		Medium	-25P	○	○	○	●	○	61	82		106				127	
			-25Q	○	○	○	●	○	61	82						128	
			-27 (-AL)	○	○	○	●	○	61+62	82	99+100	106		115		128	
			-29	○	○	○	●	○	62	82						128	
		Diamond	-CB1				●	○	69+70	89+90	101	107		119		133	
			-CB2				●	○	69+70	90	101	107		119		133	
			-CB3				●	○	70	90		107		119		133	
			Smooth				●	○	68+69	88–90				119		132	142
			Suitable tool holders						71–74	91–93	102–104	108–110		120+121	124	134–137	
			Suitable boring bars						75–79	94–98		111+112		122	125	138–140	143

Toolfinder – positive inserts

Main application: Heat-resistant (sharp → stable)				Steel P	Stainless steel M	Cast iron K	Non-ferrous metals N	Heat-resistant S	Geometry CC..	DC..	RC..	SC..	SP..	TC..	TP..	VC..	WC..
	Fine	-F05 (-F05)		●	●	○	○	●		82						128	
	Fine	-F23 (-F23)			●	○	○	●	62	82						128	

Main application: Cast iron, sintered steels, heat resistant, hardened				Cast iron K	Sintered steels P	Heat-resistant S	Hardened H									
	Fine	CTBS10U (PBC10) CTBS20C (PBC15-S)		●	●	●		63+64	83+84				116		129+130	142
	Fine	CTBH15U CTBH15C	< 32 HRC				●	65	85				116–118		129+130	142
	Fine	CTBH21U (PBC25)	52–65 HRC				●	66	85–87				117+118		130+131	142
	Fine	CTBH20C (PBC25-S)	48–62 HRC													
	Fine	CTBH40U (PBC40)	54–65 HRC				●	67	85–87				117+118		130+131	142
	Fine	CTBH40C (PBC40-S)	48–65 HRC													
		Suitable tool holders						71–74	91–93	102–104	108–110		120+121	124	134–137	
		Suitable boring bars						75–79	94–98		111+112		122	125	138–140	143

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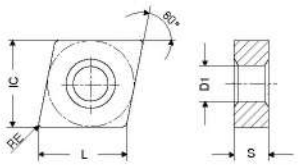
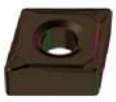
CNMG / CNMA / CNMM / CNGP

Designation	L	S	D1	IC
	mm	mm	mm	mm
CNMG 0903..	9.7	3.18	3.81	9.52
CN.. 1204..	12.9	4.76	5.16	12.70
CNM. 1606..	16.1	6.35	6.35	15.87
CNM. 1906..	19.3	6.35	7.94	19.05
CNMM 2509..	25.8	9.52	9.12	25.40



CNMG

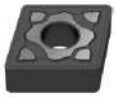
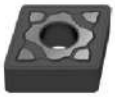
		-CF TCM10	-CF20 CTEP110	-F50 CTCP115	-F50 CTCP125	-F50 CTCP135	-TFQ CTEP110	-TFQ CTCP115
		-CF CWC10	-NF12 DCC1110	-NF15 HCX1115	-NF15 HCX1125	-NF15 HCR1135	-TFQ DCC1110	-TFQ HCX1115
			DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		F	F	F	F	F	F	F
		CERMET CNMG 1A/78	CERMET CNMG 1A/78	CNMG 1A/08	CNMG 1A/08	CNMG 1A/08	CERMET CNMG 1A/78	CNMG 1A/08
ISO	RE	Article no. 70 101 ...	Article no. 76 101 ...	Article no. 76 132 ...	Article no. 76 132 ...	Article no. 76 132 ...	Article no. 76 110 ...	Article no. 76 110 ...
	mm	£	£	£	£	£	£	£
090304EN	0.4			6.75 316	6.77 516	6.75 716		
090308EN	0.8			6.75 318	6.77 518	6.75 718		
120404EN	0.4	8.80 904	9.19 028	10.38 328	10.38 528	10.38 728	10.68 028	11.90 328
120408EN	0.8	8.80 908	9.19 030	10.38 330	10.38 530	10.38 730	10.68 030	11.90 330
120412EN	1.2			10.38 332	10.38 532	10.38 732	10.68 032	11.90 320
Steel		●	●	●	●	●	●	●
Stainless steel			○	○	○	○	○	○
Cast iron		○	○	○	○		○	○
Non ferrous metals								
Heat resistant alloys						○		

CNMG

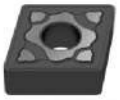
		-TFQ CTCP125		-42 CTCP135		-XU CTCP115		-XU CTCP125		-M50 CTCK110		-M50 CTCK120		-M50 CTCP115	
		-TFQ HCX1125		-42 HCR1135		-XU HCX1115		-XU HCX1125		-NM15 DCX3110		-NM15 HCF3120		-NM15 HCX1115	
		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN	
															
		F		M		M		M		M		M		M	
		CNMG		CNMG		CNMG		CNMG		CNMG		CNMG		CNMG	
		1A/08		1A/08		1A/08		1A/08		1A/08		1A/08		1A/08	
ISO	RE	Article no. 76 110 ...		Article no. 76 103 ...		Article no. 76 290 ...		Article no. 76 290 ...		Article no. 70 132 ...		Article no. 70 132 ...		Article no. 76 135 ...	
	mm	£		£		£		£		£		£		£	
120404EN	0.4	11.90	528			10.42	328	10.42	528	10.38	028			10.38	328
120408EN	0.8	11.90	530	10.38	730	10.42	330	10.42	530	10.38	030	10.38	530	10.38	330
120412EN	1.2	11.90	532			10.42	332	10.42	532	10.38	032	10.38	532	10.38	320
120416EN	1.6													10.38	334
160608EN	0.8													16.78	342
160612EN	1.2													16.78	344
160616EN	1.6													16.78	346
Steel		●		●		●		●		●		●		●	
Stainless steel		○		○		○		○		○				○	
Cast iron		○				○		○		●		●		○	
Non ferrous metals															
Heat resistant alloys				○											

9

CNMG

		-M50 CTCP125	-M50 CTCP135	-TMQ CTCP115	-TMQ CTCP125	-M70 CTCK110	-M70 CTCK120	-M70 CTCP115
		-NM15 HCX1125	-NM15 HCR1135	-TMQ HCX1115	-TMQ HCX1125	-NM19 DCX3110	-NM19 HCF3120	-NM19 HCX1115
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		M	M	M	M	M	M	M
		CNMG	CNMG	CNMG	CNMG	CNMG	CNMG	CNMG
		1A/08	1A/08	1A/08	1A/08	1A/08	1A/08	1A/08
ISO	RE	Article no. 76 135 ...	Article no. 76 135 ...	Article no. 76 196 ...	Article no. 76 196 ...	Article no. 70 119 ...	Article no. 70 119 ...	Article no. 76 119 ...
	mm	£	£	£	£	£	£	£
120404EN	0.4	10.38 528	10.38 728					
120408EN	0.8	10.38 530	10.38 730		11.90 530	10.38 030	10.38 530	10.38 330
120412EN	1.2	10.38 532	10.38 732	11.90 320	11.90 532	10.38 032	10.38 532	10.38 320
120416EN	1.6	10.38 534	10.38 734			10.38 034	10.38 534	10.38 334
160608EN	0.8	16.78 542	16.78 742			16.78 042	16.78 542	16.78 342
160612EN	1.2	16.78 544	16.78 744			16.78 044	16.78 544	16.78 344
160616EN	1.6	16.78 546	16.78 746			16.78 046	16.78 546	16.78 346
160624EN	2.4							16.78 348
190608EN	0.8							23.70 354
190612EN	1.2					23.70 056	23.70 556	23.70 356
190616EN	1.6					23.70 058	23.70 558	23.70 358
190624EN	2.4							23.70 360
Steel		●	●	●	●	●	●	●
Stainless steel		○	○	○	○	○		○
Cast iron		○		○	○	●	●	○
Non ferrous metals								
Heat resistant alloys			○					

CNMG / CNMA / CNMM

		-M70 CTCP125	-M70 CTCP135	CTCK110	CTCK120	-R28 CTCP115	-R28 CTCP125	-R28 CTCP135
		-NM19 HCX1125	-NM19 HCR1135	DCX3110	HCF3120	-NR14 HCX1115	-NR14 HCX1125	-NR14 HCR1135
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		M	M	R	R	R	R	R
		CNMG	CNMG	CNMA	CNMA	CNMM	CNMM	CNMM
		1A/08	1A/08	1A/08	1A/08	1A/08	1A/08	1A/08
ISO	RE mm	Article no. 76 119 ... £	Article no. 76 119 ... £	Article no. 70 100 ... £	Article no. 70 100 ... £	Article no. 76 114 ... £	Article no. 76 114 ... £	Article no. 76 114 ... £
120404EN	0.4			10.38 028	10.38 528			
120408EN	0.8	10.38 530	10.38 730	10.38 030	10.38 530	10.57 330	10.57 530	
120412EN	1.2	10.38 532	10.38 732	10.38 032	10.38 532	10.57 332	10.57 532	10.57 732
120416EN	1.6	10.38 534	10.38 734	10.38 034	10.38 534	10.57 334	10.57 534	10.57 734
160608EN	0.8	16.78 542	16.78 742	16.78 042	16.78 542			
160612EN	1.2	16.78 544	16.78 744	16.78 044	16.78 544	16.78 344	16.78 544	16.78 744
160616EN	1.6	16.78 546	16.78 746	16.78 046	16.78 546	16.78 346	16.78 546	16.78 746
160624EN	2.4	16.78 548	16.78 748					
190608EN	0.8	23.70 554	23.70 754					
190612EN	1.2	23.70 556	23.70 756	23.70 056	23.70 556	23.70 356	23.70 556	23.70 756
190616EN	1.6	23.70 558	23.70 758	23.70 058	23.73 558	23.70 358	23.70 558	23.70 758
190624EN	2.4	23.70 560	23.70 760			23.70 360	23.70 560	23.70 760
250924EN	2.4					54.71 38400	54.71 58400	54.71 78400
Steel		●	●			●	●	●
Stainless steel		○	○			○	○	○
Cast iron		○		●	●	○	○	
Non ferrous metals								
Heat resistant alloys			○					○

9

CNMM / CNMG

		-R58 CTCP115		-R58 CTCP125		-R58 CTCP135		-R88 CTCP115		-R88 CTCP125		-R88 CTCP135		-F30 CTPM125	
		-NR17 HCX1115		-NR17 HCX1125		-NR17 HCR1135		-NR19 HCX1115		-NR19 HCX1125		-NR19 HCR1135		-NF23 HCN2125	
		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN	
															
		R		R		R		R		R		R		F	
		CNMM		CNMM		CNMM		CNMM		CNMM		CNMM		CNMG	
		1A/08		1A/08		1A/08		1A/08		1A/08		1A/08		1A/08	
ISO	RE	Article no. 76 115 ...		Article no. 76 115 ...		Article no. 76 115 ...		Article no. 76 133 ...		Article no. 76 133 ...		Article no. 76 133 ...		Article no. 75 010 ...	
	mm	£		£		£		£		£		£		£	
120404EN	0.4													10.38	280
120408EN	0.8	10.57	330	10.57	530	10.57	730							10.38	230
120412EN	1.2	10.57	332	10.57	532	10.57	732								
120416EN	1.6	10.57	334	10.57	534	10.57	734								
160612EN	1.2	16.78	344	16.78	544	16.78	744								
160616EN	1.6	16.78	346	16.78	546	16.78	746								
160624EN	2.4	16.78	348	16.78	548	16.78	748								
160624SN	2.4							16.78	348	16.78	548	16.78	748		
190612EN	1.2	23.70	356	23.70	556	23.70	756								
190616EN	1.6	23.70	358	23.70	558	23.70	758								
190616SN	1.6							23.70	358	23.70	558	23.70	758		
190624EN	2.4	23.70	360	23.70	524	23.70	760								
190624SN	2.4							23.70	360	23.70	560	23.70	760		
250924EN	2.4	54.71	384	54.71	584	54.71	784								
250924SN	2.4							54.71	384	54.71	584	54.71	784		
Steel		●		●		●		●		●		●		○	
Stainless steel		○		○		○		○		○		○		●	
Cast iron		○		○				○		○					
Non ferrous metals															
Heat resistant alloys						○						○			

CNMG / CNGP

		-42 CTC2135	-M30 CTPM125	-M42 CTC2135	-M60 CTPM125	-M70 CTC2135	-F32 CTP2120	-M34 CTP5110
		-42 CWN2135	-NM23 HCN2125	-M42 CWN2135	-NM26 HCN2125	-NM19 CWN2135	-F32 CCN2120	-M34 HCN5110
			DRAGONSKIN		DRAGONSKIN			DRAGONSKIN
								
		M	M	M	M	M	F	M
		CNMG	CNMG	CNMG	CNMG	CNMG	CNGP	CNMG
		1A/08	1A/08	1A/08	1A/08	1A/08	1A/08	1A/08
ISO	RE	Article no. 70 103 ...	Article no. 75 011 ...	Article no. 70 130 ...	Article no. 75 012 ...	Article no. 70 119 ...	Article no. 70 102 ...	Article no. 75 003 ...
	mm	£	£	£	£	£	£	£
120402FN	0.2						13.94 602	
120404EN	0.4			9.30 404				9.77 428
120404FN	0.4						13.94 604	
120408EN	0.8	9.30 462	10.38 230	9.30 408	10.38 230	9.30 430		9.77 430
120408FN	0.8						13.94 608	
120412EN	1.2		10.38 232	9.30 410	10.38 232	9.30 432		9.77 432
120416EN	1.6		10.38 234		10.38 234			
160612EN	1.2					16.78 442		
190612EN	1.2					23.70 456		
190616EN	1.6					23.70 458		
Steel		○	○	○	○	○		
Stainless steel		●	●	●	●	●	●	○
Cast iron							○	
Non ferrous metals							○	
Heat resistant alloys		●	○	●	○	●	●	●

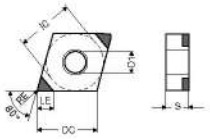
9

CNMG

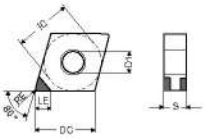
		-M34 CTP5115	-M42 CTP2120	-M52 CTP2120
		-M34 HCN5115	-M42 CCN2120	-M52 CCN2120
		DRAGONSKIN		
				
		M	M	M
		CNMG	CNMG	CNMG
		1A/08	1A/08	1A/08
ISO	RE	Article no. 75 003 ...	Article no. 70 130 ...	Article no. 70 117 ...
	mm	£	£	£
120404EN	0.4	9.77 528	9.30 604	9.30 604
120408EN	0.8	9.77 530	9.30 608	9.30 608
120412EN	1.2	9.77 532		
120416EN	1.6	9.77 534		
Steel				
Stainless steel		○	○	○
Cast iron			○	○
Non ferrous metals			○	○
Heat resistant alloys		●	●	●

CNGA

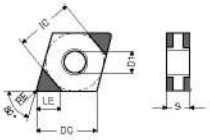
Designation	L	S	D1	IC
	mm	mm	mm	mm
CNGA 1204..	12.9	4.76	5.13	12.7



-B

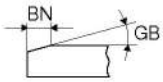


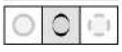
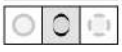
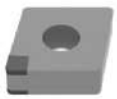
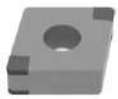
-K (-2SC)



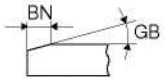
-L (-4SC)

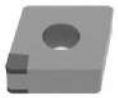
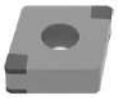
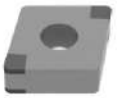
CNGA



	-K CTBS20C	-L CTBS20C	-B CTBH15C	-B CTBH15C
	-2SC PBC15-S	-4SC PBC15-S		
				
				
	F	F	F	F
	CBN CNGA	CBN CNGA	CBN CNGA	CBN CNGA
	Y0	Y0	NEW Y0	NEW Y0
ISO	Article no. 71 400 ...	Article no. 71 401 ...	Article no. 71 003 ...	Article no. 71 005 ...
	£	£	£	£
120404SN		84.59 122		
120404SN		84.59 132		
120404SN	54.73 142			
120404SN			79.70 32814	
120404SN		84.59 152		
120404SN	54.73 162			
120404SN			79.70 32829	
120404SN	54.73 182	84.59 182		
120404RN			79.70 22800	
120408SN		84.59 124		
120408SN		84.59 134		
120408SN	54.73 144			
120408SN			79.70 33014	
120408SN		84.59 154		
120408SN	54.73 164			
120408SN			79.70 33029	
120408SN	54.73 184	84.59 184		
120408RN			79.70 23000	
120412SN		84.59 126		
120412SN		84.59 136		
120412SN	54.73 146			
120412SN				79.70 33214
120412SN		84.59 156		
120412SN	54.73 166			
120412SN				79.70 33229
120412SN	54.73 186	84.59 186		
120412RN				79.70 23200
Cast iron	●	●		
Sintered steels	●	●		
Heat resistant alloys	●	●		
hardened < 45 HRC			●	●
hardened 46-55 HRC			●	●
hardened 56-60 HRC			●	●
hardened 61-65 HRC				

CNGA



ISO	RE	GB	BN	LE	-K CTBH20C -2SC PBC25-S		-L CTBH20C -4SC PBC25-S		-K CTBH40C -2SC PBC40-S		-L CTBH40C -4SC PBC40-S	
												
					F		F		F		F	
					CBN CNGA Y0		CBN CNGA Y0		CBN CNGA Y0		CBN CNGA Y0	
	mm	°	mm	mm	Article no. 71 400 ... £		Article no. 71 401 ... £		Article no. 71 400 ... £		Article no. 71 401 ... £	
120404TN	0.4	15	0.09	2.8	54.73	222						
120404SN	0.4	20	0.09	2.8							84.59	332
120404SN	0.4	20	0.11	2.8			84.59	242				
120404TN	0.4	25	0.11	2.8	54.73	252						
120404SN	0.4	25	0.11	2.8					54.73	352	84.59	352
120404SN	0.4	25	0.13	2.8			84.59	262				
120404FN	0.4			2.8	54.73	212						
120404SN	0.4	30	0.14	2.8							84.59	372
120404SN	0.4	35	0.14	2.8					54.73	382		
120408TN	0.8	15	0.09	2.5	54.73	224						
120408TN	0.8	20	0.09	2.5	54.73	234						
120408SN	0.8	20	0.09	2.5							84.59	334
120408SN	0.8	20	0.11	2.5			84.59	244				
120408TN	0.8	25	0.11	2.5	54.73	254						
120408SN	0.8	25	0.11	2.5					54.73	354	84.59	354
120408SN	0.8	25	0.13	2.5			84.59	264			84.59	364
120408SN	0.8	30	0.14	2.5			84.59	274			84.59	374
120408SN	0.8	35	0.14	2.5					54.73	384		
120408EN	0.8			2.5					54.73	314		
120412TN	1.2	15	0.09	2.2	54.73	226						
120412SN	1.2	20	0.09	2.2							84.59	336
120412SN	1.2	20	0.11	2.2			84.59	246				
120412TN	1.2	25	0.11	2.2	54.73	256						
120412SN	1.2	25	0.11	2.2					54.73	356	84.59	356
120412SN	1.2	25	0.13	2.2			84.59	266			84.59	366
120412SN	1.2	30	0.14	2.2							84.59	376
120412SN	1.2	35	0.14	2.2					54.73	386		
120412FN	1.2			2.2	54.73	216						

Cast iron				
Sintered steels				
Heat resistant alloys				
hardened < 45 HRC				
hardened 46-55 HRC	●	●	●	●
hardened 56-60 HRC	●	●	●	●
hardened 61-65 HRC			●	●

For fast and efficient determination of the most appropriate edge preparation CNGA test inserts are available. → **Page 161**

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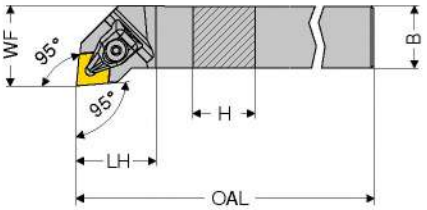
MaxiLock-D – DCLN 95° – Toolholder with top clamping



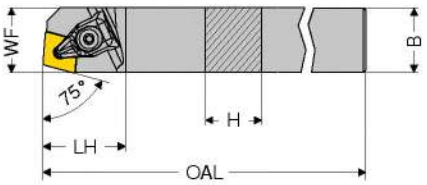
Illustrations show right-hand versions

ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Left-hand 2A/24 Article no. 70 509 ...		Right-hand 2A/24 Article no. 70 508 ...	
	mm	mm	mm	mm	mm	Nm		£		£	
DCLN R/L 1616 H09	16	16	100	23	20	2	CN.. 0903	69.39	516	69.39	516
DCLN R/L 2020 K09	20	20	125	24	25	2	CN.. 0903	77.31	520	77.31	520
DCLN R/L 2020 K12	20	20	125	32	25	4	CN.. 1204	77.31	620	77.31	620
DCLN R/L 2525 M12	25	25	150	32	32	4	CN.. 1204	79.97	625	79.97	625
DCLN R/L 3225 P12	32	25	170	32	32	4	CN.. 1204	85.79	632	85.79	632
DCLN R/L 2525 M16	25	25	150	38	32	6,5	CN.. 1606	79.97	725	79.97	725
DCLN R/L 3232 P16	32	32	170	36	40	6,5	CN.. 1606	108.00	732	108.00	732
DCLN R/L 3232 P19	32	32	170	42	40	6,5	CN.. 1906	108.00	832	108.00	832
DCLN R/L 4040 S19	40	40	250	42	50	6,5	CN.. 1906	134.27	940	134.27	940
DCLN R/L 4040 S25	40	40	250	60	50	6,5	CN.. 2509	134.27	440	134.27	440

Tool holders with HSK-T or PSC interface can be found in → **Chapter 16.**

Spare parts for Article no.	2A/28 XPress type Article no. 70 950 ... £		Y7 Key D Article no. 80 950 ... £		2A/28 Clamping screw Article no. 70 950 ... £		2A/28 Carbide type C Article no. 70 950 ... £	
70 508 516 / 70 509 516	21.91	823	T09 - IP	14.77	126	M3x7 - IP	2.85	819	6.47	848
70 508 520 / 70 509 520	21.91	823	T09 - IP	14.77	126	M3x7 - IP	2.85	819	6.47	848
70 508 620 / 70 509 620	21.61	824	T15 - IP	15.77	128	M4,5x12 - IP	2.71	820	7.17	810
70 508 625 / 70 509 625	21.61	824	T15 - IP	15.77	128	M4,5x12 - IP	2.71	820	7.17	810
70 508 632 / 70 509 632	21.61	824	T15 - IP	15.77	128	M4,5x12 - IP	2.71	820	7.17	810
70 508 725 / 70 509 725	24.26	825	T20 - IP	16.56	129	M5x14 - IP	3.85	821	10.95	814
70 508 732 / 70 509 732	24.26	825	T20 - IP	16.56	129	M5x14 - IP	3.85	821	10.95	814
70 508 832 / 70 509 832	26.54	826	T20 - IP	16.56	129	M5x14 - IP	3.85	821	11.74	816
70 508 940 / 70 509 940	26.54	826	T20 - IP	16.56	129	M5x14 - IP	3.85	821	11.74	816
70 508 440 / 70 509 440	41.34	827	T25 - IP	19.11	130	M6x16 - IP	7.31	822	22.50	625

MaxiLock-D – DCBN 75° – Toolholder with top clamping

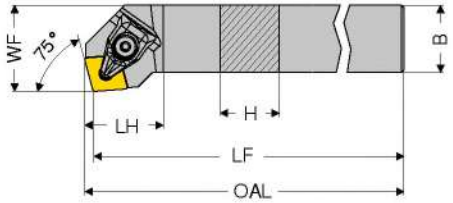


Illustrations show right-hand versions

ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Left-hand 2A/24 Article no. 70 501 ...	£	Right-hand 2A/24 Article no. 70 500 ...	£
	mm	mm	mm	mm	mm	Nm					
DCBN R/L 2525 M12	25	25	150	32	22	4	CN.. 1204	77.31	825	77.31	825

Spare parts	2A/28 XPress type Article no. 70 950 ...	£		Y7 Key D Article no. 80 950 ...	£		2A/28 Clamping screw Article no. 70 950 ...	£	2A/28 Carbide type C Article no. 70 950 ...	£
for Article no.										
70 501 825 / 70 500 825	21.61	824	T15 - IP	15.77	128	M4,5x12 - IP	2.71	820	7.17	810

MaxiLock-D – DCKN 75° – Toolholder with top clamping



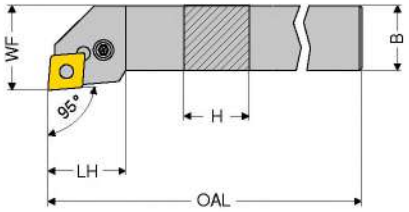
Illustrations show right-hand versions

ISO designation	H	B	OAL	LF	LH	WF	torque moment	Insert	Left-hand 2A/24 Article no. 70 505 ...	£	Right-hand 2A/24 Article no. 70 504 ...	£
	mm	mm	mm	mm	mm	mm	Nm					
DCKN R/L 2525 M12	25	25	152.9	150	28.9	32	4	CN.. 1204	77.31	825	77.31	825

Spare parts	2A/28 XPress type Article no. 70 950 ...	£		Y7 Key D Article no. 80 950 ...	£		2A/28 Clamping screw Article no. 70 950 ...	£	2A/28 Carbide type C Article no. 70 950 ...	£
for Article no.										
70 505 825 / 70 504 825	21.61	824	T15 - IP	15.77	128	M4,5x12 - IP	2.71	820	7.17	810

9

MaxiLock-N – PCLN 95° – Toolholder with lever clamping

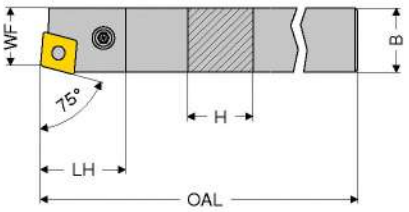


Illustrations show right-hand versions

ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Left-hand 2A/24 Article no. 70 509 ...		Right-hand 2A/24 Article no. 70 508 ...	
	mm	mm	mm	mm	mm	Nm		£		£	
PCLN R/L 1616 H12	16	16	100	26.2	20	4	CN.. 1204	69.39	016	69.39	016
PCLN R/L 2020 K12	20	20	125	27.5	25	4	CN.. 1204	77.31	020	77.31	020
PCLN R/L 2525 M12	25	25	150	28.1	32	4	CN.. 1204	79.97	025	79.97	025
PCLN R/L 3225 P12	32	25	170	28.1	32	4	CN.. 1204	85.79	032	85.79	032
PCLN R/L 2525 M16	25	25	150	32.7	32	4	CN.. 1606	79.97	125	79.97	125
PCLN R/L 3232 P16	32	32	170	32.6	40	4	CN.. 1606	108.00	132	108.00	132
PCLN R/L 3232 P19	32	32	170	38.0	40	8	CN.. 1906	108.00	232	108.00	232
PCLN R/L 4040 S25	40	40	250	50.0	50	8	CN.. 2509	134.27	340	134.27	340

Spare parts		2A/28 Key I Article no. 70 950 ...		2A/28 Shim Article no. 70 950 ...		2A/28 Assembly pin Article no. 70 950 ...		2A/28 Lever Article no. 70 950 ...		2A/28 Clamping screw Article no. 70 950 ...		2A/28 Carbide type C Article no. 70 950 ...	
for Article no.		£		£		£		£		£		£	
70 508 016 / 70 509 016	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	7.17	233
70 508 020 / 70 509 020	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	7.17	233
70 508 025 / 70 509 025	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	7.17	233
70 508 032 / 70 509 032	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	7.17	233
70 508 125 / 70 509 125	SW3	2.23	176	1.02	391	1.11	394	11.35	385	3.45	388	11.35	380
70 508 132 / 70 509 132	SW3	2.23	176	1.02	391	1.11	394	11.35	385	3.45	388	11.35	380
70 508 232 / 70 509 232	SW4	2.34	396	1.60	392	1.11	395	17.37	386	3.45	389	17.46	381
70 508 340 / 70 509 340	SW5	3.35	265	1.02	621	1.72	623	23.48	620	2.07	622	22.50	624

MaxiLock-N – PCBN 75° – Toolholder with lever clamping

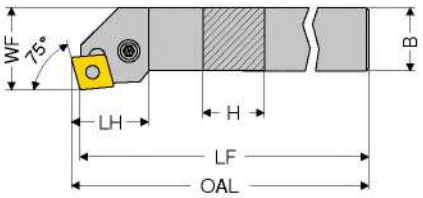


Illustrations show right-hand versions

ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Left-hand 2A/24 Article no. 70 501 ...		Right-hand 2A/24 Article no. 70 500 ...	
	mm	mm	mm	mm	mm	Nm		£		£	
PCBN R/L 2525 M12	25	25	150	27.70	22	4	CN.. 1204	77.31	025	77.31	025
PCBN R 2525 M16	25	25	150	31.81	22	4	CN.. 1606			77.31	125
PCBN R/L 3232 P19	32	32	170	38.00	27	8	CN.. 1906	108.00	032	108.00	032

Spare parts		2A/28 Key I Article no. 70 950 ...		2A/28 Shim Article no. 70 950 ...		2A/28 Assembly pin Article no. 70 950 ...		2A/28 Lever Article no. 70 950 ...		2A/28 Clamping screw Article no. 70 950 ...		2A/28 Carbide type C Article no. 70 950 ...	
for Article no.		£		£		£		£		£		£	
70 500 025 / 70 501 025	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	7.17	233
70 500 125	SW3	2.23	176	1.02	391	1.11	394	11.35	385	3.45	388	11.35	380
70 500 032 / 70 501 032	SW4	2.34	396	1.60	392	1.11	395	17.37	386	3.45	389	17.46	381

MaxiLock-N – PCKN 75° – Toolholder with lever clamping



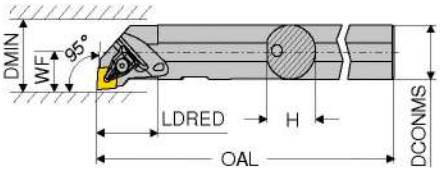
Illustrations show right-hand versions

ISO designation	H	B	OAL	LF	LH	WF	torque moment	Insert	Left-hand 2A/24 Article no. 70 505 ...		Right-hand 2A/24 Article no. 70 504 ...	
	mm	mm	mm	mm	mm	mm	Nm		£		£	
PCKN R/L 2525 M12	25	25	153.07	150	31.4	32	4	CN.. 1204	77.31	025	77.31	025

Spare parts		2A/28 Key I Article no. 70 950 ...		2A/28 Shim Article no. 70 950 ...		2A/28 Assembly pin Article no. 70 950 ...		2A/28 Lever Article no. 70 950 ...		2A/28 Clamping screw Article no. 70 950 ...		2A/28 Carbide type C Article no. 70 950 ...	
for Article no.		£		£		£		£		£		£	
70 505 025 / 70 504 025	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	7.17	233

9

MaxiLock-D – DCLN 95° – Boring bar with top clamping



Illustrations show right-hand versions

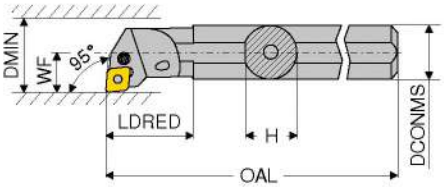
ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand 2A/24 Article no. 70 557 ... £		Right-hand 2A/24 Article no. 70 556 ... £	
A20Q DCLN R/L 09	20	19	180	35	13	25	2	CN.. 0903	181.27	720	181.27	720
A25R DCLN R/L 12	25	24	200	36	17	32	4	CN.. 1204	202.00	825	202.00	825
A32S DCLN R/L 12	32	31	250	40	22	40	4	CN.. 1204	208.91	832	208.91	832
A40T DCLN R/L 12	40	39	300	45	27	50	4	CN.. 1204	232.73	840	232.73	840

Tool holders with HSK-T interface can be found in → **Chapter 16.**

Spare parts for Article no.	2A/28 XPress type Article no. 70 950 ... £		Y7 Key D Article no. 80 950 ... £		2A/28 Clamping screw Article no. 70 950 ... £		2A/28 Carbide type C Article no. 70 950 ... £	
70 556 720 / 70 557 720	21.91	823	T09 - IP	14.77 126	M3x7 - IP	2.85 819	6.47	848
70 556 825 / 70 557 825	21.61	824	T15 - IP	15.77 128	M4,5x12 - IP	2.71 820		
70 556 832 / 70 557 832	21.61	824	T15 - IP	15.77 128	M4,5x12 - IP	2.71 820	7.17	810
70 556 840 / 70 557 840	21.61	824	T15 - IP	15.77 128	M4,5x12 - IP	2.71 820	7.17	810

MaxiLock-N – PCLN 95° – Boring bar with lever clamping

- A... = with thro' coolant
- S... = without thro' coolant



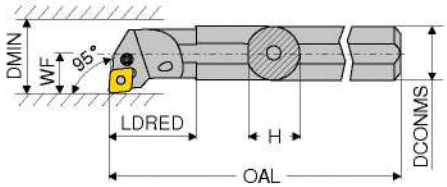
Illustrations show right-hand versions

ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand 2A/24 Article no. 70 557 ... £		Right-hand 2A/24 Article no. 70 556 ... £	
A25R PCLN R/L 12	25	23	200	36.0	17	32	4	CN.. 1204	202.00	225	202.00	225
S25T PCLN R/L 12	25	23	300	22.0	17	32	4	CN.. 1204	202.00	025	202.00	025
A32S PCLN R/L 12	32	30	250	50.0	22	40	4	CN.. 1204	208.91	232	208.91	232
S32U PCLN R/L 12	32	30	350	24.1	22	40	4	CN.. 1204	208.91	032	208.91	032
A40T PCLN R/L 12	40	38	300	60.0	27	50	4	CN.. 1204	232.73	240	232.73	240
S40V PCLN R/L 12	40	38	400	24.1	27	50	4	CN.. 1204	232.73	040	232.73	040
S50W PCLN R/L 16	50	47	450	31.0	35	63	4	CN.. 1606	288.00	050	288.00	050

Spare parts for Article no.		2A/28 Key I Article no. 70 950 ... £		2A/28 Shim Article no. 70 950 ... £		2A/28 Assembly pin Article no. 70 950 ... £		2A/28 Lever Article no. 70 950 ... £		2A/28 Clamping screw Article no. 70 950 ... £		2A/28 Carbide type C Article no. 70 950 ... £	
70 556 225 / 70 557 225	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.89	205	7.17	233
70 556 025 / 70 557 025	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.89	205	7.17	233
70 556 232 / 70 557 232	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.89	205	7.17	233
70 556 032 / 70 557 032	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.89	205	7.17	233
70 556 240 / 70 557 240	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	7.17	233
70 556 040 / 70 557 040	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	7.17	233
70 556 050 / 70 557 050	SW3	2.23	176	1.02	391	1.11	394	11.35	385	3.45	388	11.35	380

MaxiLock-N – PCLN 95° – Boring bar with lever clamping

▲ with carbide core



Illustrations show right-hand versions

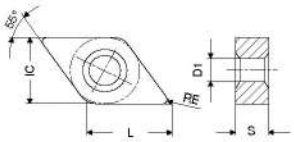
ISO designation	DCONMS	H	OAL	LDRED	WF	DMIN	torque moment	Insert	Left-hand 2A Article no. 70 559 ...		Right-hand 2A Article no. 70 558 ...	
	mm	mm	mm	mm	mm	mm	Nm		£		£	
E-A25R PCLN R/L 12	25	23	200	40	17	31	4	CN.. 1204	645.09	025	645.09	025
E-A32S PCLN R/L 12	32	30	250	50	22	39	4	CN.. 1204	851.55	032	851.55	032
E-A40T PCLN R/L 12	40	38	300	60	27	48	4	CN.. 1204	1,016.36	040	1,016.36	040

Spare parts for Article no.		2A/28 Key I Article no. 70 950 ... £		2A/28 Shim Article no. 70 950 ... £		2A/28 Assembly pin Article no. 70 950 ... £		2A/28 Lever Article no. 70 950 ... £		2A/28 Clamping screw Article no. 70 950 ... £		2A/28 Carbide type C Article no. 70 950 ... £	
70 558 025 / 70 559 025	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.89	205	7.17	233
70 558 032 / 70 559 032	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.89	205	7.17	233
70 558 040 / 70 559 040	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	7.17	233

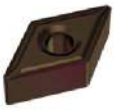
9

DNMG / DNMA / DNMM / DNGP

Designation	L	S	D1	IC
	mm	mm	mm	mm
DNMG 1104..	11.6	4.76	3.81	9.52
DN.. 1504..	15.5	4.76	5.16	12.70
DN.. 1506..	15.5	6.35	5.16	12.70



DNMG

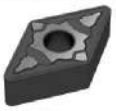
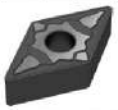
	-CF TCM10	-CF20 CTEP110	-F50 CTCP115	-F50 CTCP125	-F50 CTCP135	-TFQ CTEP110	-TFQ CTCP115
	-CF CWC10	-NF12 DCC1110	-NF15 HCX1115	-NF15 HCX1125	-NF15 HCR1135	-TFQ DCC1110	-TFQ HCX1115
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
	F	F	F	F	F	F	F
	CERMET DNMG 1A/78	CERMET DNMG 1A/78	DNMG 1A/08	DNMG 1A/08	DNMG 1A/08	CERMET DNMG 1A/78	DNMG 1A/08
ISO / RE	Article no. 70 155 ...	Article no. 76 102 ...	Article no. 76 134 ...	Article no. 76 134 ...	Article no. 76 134 ...	Article no. 76 153 ...	Article no. 76 153 ...
mm	£	£	£	£	£	£	£
110402EN 0.2			11.08 302	11.08 502	11.08 702		
110404EN 0.4	10.57 904	11.08 004	11.08 304	11.08 504	11.08 704		
110408EN 0.8		11.08 006	11.08 306	11.08 506	11.08 706		
110412EN 1.2			11.08 308	11.08 508	11.08 708		
150404EN 0.4			13.43 316	13.43 516	13.43 716		
150408EN 0.8			13.43 318	13.43 518	13.43 718		
150412EN 1.2			13.43 320	13.43 520	13.43 720		
150604EN 0.4	13.85 914	14.55 028	14.55 328	14.55 528	14.55 728	16.17 028	16.78 32800
150608EN 0.8		14.55 030	14.55 330	14.55 530	14.55 730	16.17 030	16.78 330
150612EN 1.2		14.55 032	14.55 332	14.55 532	14.55 732		
Steel	●	●	●	●	●	●	●
Stainless steel		○	○	○	○	○	○
Cast iron	○	○	○	○		○	○
Non ferrous metals							
Heat resistant alloys					○		

DNMG

		-TFQ CTCP125	-XU CTCP115	-XU CTCP125	-M50 CTCK110	-M50 CTCK120	-M50 CTCP115	-M50 CTCP125
		-TFQ HCX1125	-XU HCX1115	-XU HCX1125	-NM15 DCX3110	-NM15 HCF3120	-NM15 HCX1115	-NM15 HCX1125
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		F	M	M	M	M	M	M
		DNMG	DNMG	DNMG	DNMG	DNMG	DNMG	DNMG
		1A/08	1A/08	1A/08	1A/08	1A/08	1A/08	1A/08
ISO	RE	Article no. 76 153 ...	Article no. 76 291 ...	Article no. 76 291 ...	Article no. 70 133 ...	Article no. 70 133 ...	Article no. 76 136 ...	Article no. 76 136 ...
	mm	£	£	£	£	£	£	£
110404EN	0.4						11.08 304	11.08 504
110408EN	0.8						11.08 306	11.08 506
110412EN	1.2						11.08 308	11.08 508
150404EN	0.4						13.43 316	13.43 514
150408EN	0.8				13.43 018	13.43 518	13.43 318	13.43 518
150412EN	1.2				13.43 020	13.43 520	13.43 320	13.43 516
150416EN	1.6						13.43 322	13.43 522
150604EN	0.4	16.78 528	14.55 328	14.55 528			14.55 328	14.55 528
150608EN	0.8	16.78 530	14.55 330	14.55 530	14.55 030	14.55 530	14.55 330	14.55 530
150612EN	1.2		14.55 332	14.55 532	14.55 032	14.55 532	14.55 332	14.55 532
150616EN	1.6						14.55 334	14.55 534
Steel		●	●	●	●	●	●	●
Stainless steel		○	○	○	○		○	○
Cast iron		○	○	○	●	●	○	○
Non ferrous metals								
Heat resistant alloys								

9

DNMG

		-M50 CTCP135	-TMQ CTCP125	-M70 CTCK110	-M70 CTCK120	-M70 CTCP115	-M70 CTCP125	-M70 CTCP135
		-NM15 HCR1135	-TMQ HCX1125	-NM19 DCX3110	-NM19 HCF3120	-NM19 HCX1115	-NM19 HCX1125	-NM19 HCR1135
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		M	M	M	M	M	M	M
		DNMG	DNMG	DNMG	DNMG	DNMG	DNMG	DNMG
		1A/08	1A/08	1A/08	1A/08	1A/08	1A/08	1A/08
ISO	RE	Article no. 76 136 ...	Article no. 76 197 ...	Article no. 70 263 ...	Article no. 70 263 ...	Article no. 76 263 ...	Article no. 76 263 ...	Article no. 76 263 ...
	mm	£	£	£	£	£	£	£
110404EN	0.4	11.08 704						
110408EN	0.8	11.08 706				11.08 306	11.08 506	11.08 706
110412EN	1.2	11.08 708				11.08 308	11.08 508	11.08 708
150404EN	0.4	13.43 716						
150408EN	0.8	13.43 718		13.43 018	13.43 518	13.43 318	13.43 518	13.43 718
150412EN	1.2	13.43 720		13.43 020	13.43 520	13.43 320	13.43 520	13.43 720
150416EN	1.6	13.43 722				13.43 322	13.43 522	13.43 722
150604EN	0.4	14.55 728						
150608EN	0.8	14.55 730	16.78 530	14.55 030	14.55 530	14.55 330	14.55 530	14.55 730
150612EN	1.2	14.55 732	16.78 532	14.55 032	14.55 532	14.55 332	14.55 532	14.55 732
150616EN	1.6	14.55 734		14.55 034	14.55 534	14.55 334	14.55 534	14.55 734
Steel		●	●	●	●	●	●	●
Stainless steel		○	○	○		○	○	○
Cast iron			○	●	●	○	○	
Non ferrous metals								
Heat resistant alloys		○						○

DNMA / DNMM

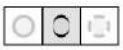
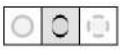
		CTCK110	CTCK120	-R28 CTCP115	-R28 CTCP125	-R28 CTCP135	-R58 CTCP115	-R58 CTCP125
		DCX3110	HCF3120	-NR14 HCX1115	-NR14 HCX1125	-NR14 HCR1135	-NR17 HCX1115	-NR17 HCX1125
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		R	R	R	R	R	R	R
		DNMA	DNMA	DNMM	DNMM	DNMM	DNMM	DNMM
		1A/08	1A/08	1A/08	1A/08	1A/08	1A/08	1A/08
ISO	RE	Article no. 70 156 ...	Article no. 70 156 ...	Article no. 76 165 ...	Article no. 76 165 ...	Article no. 76 165 ...	Article no. 76 166 ...	Article no. 76 166 ...
	mm	£	£	£	£	£	£	£
150408EN	0.8	13.43 018	13.43 518					
150412EN	1.2	13.43 020	13.43 520					
150608EN	0.8	14.55 030	14.55 530					
150612EN	1.2	14.55 032	14.55 532	14.55 332	14.55 532	14.55 732	14.55 332	14.55 532
150616EN	1.6			14.55 334	14.55 534	14.55 734	14.55 334	14.55 534
Steel				●	●	●	●	●
Stainless steel				○	○	○	○	○
Cast iron		●	●	○	○		○	○
Non ferrous metals								
Heat resistant alloys						○		

DNMM / DNMG / DNGP

		-R58 CTCP135	-F30 CTPM125	-M30 CTPM125	-M42 CTC2135	-M60 CTPM125	-M70 CTC2135	-F32 CTP2120
		-NR17 HCR1135	-NF23 HCN2125	-NM23 HCN2125	-M42 CWN2135	-NM26 HCN2125	-NM19 CWN2135	-F32 CCN2120
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN		DRAGONSKIN		
								
		R	F	M	M	M	M	F
		DNMM	DNMG	DNMG	DNMG	DNMG	DNMG	DNGP
		1A/08	1A/08	1A/08	1A/08	1A/08	1A/08	1A/08
ISO	RE	Article no. 76 166 ...	Article no. 75 013 ...	Article no. 75 014 ...	Article no. 70 158 ...	Article no. 75 015 ...	Article no. 70 263 ...	Article no. 70 118 ...
	mm	£	£	£	£	£	£	£
110404EN	0.4		11.08 204		11.08 600			
110408EN	0.8		11.08 206	11.08 206	11.08 602		11.08 406	
110412EN	1.2			11.08 208				
150402FN	0.2							17.79 602
150404EN	0.4				13.43 614			
150404FN	0.4							17.79 604
150408EN	0.8				13.43 618			
150408FN	0.8							17.79 608
150602FN	0.2							19.43 610
150604EN	0.4		14.55 228		14.55 620			
150604FN	0.4							19.43 612
150608EN	0.8		14.55 230	14.55 230	14.55 622	14.55 230		
150608FN	0.8							19.43 614
150612EN	1.2	14.55 732		14.55 232		14.55 232		
150616EN	1.6	14.55 734						
Steel		●	○	○	○	○	○	
Stainless steel		○	●	●	●	●	●	●
Cast iron								○
Non ferrous metals								○
Heat resistant alloys		○		○	●	○	●	●

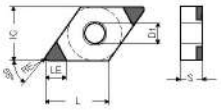
9

DNMG

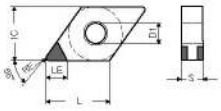
		-M34 CTP5110		-M34 CTP5115		-M42 CTP2120		-M52 CTP2120	
		-M34 HCN5110		-M34 HCN5115		-M42 CCN2120		-M52 CCN2120	
		DRAGONSKIN		DRAGONSKIN					
									
		M		M		M		M	
		DNMG		DNMG		DNMG		DNMG	
		1A/08		1A/08		1A/08		1A/08	
ISO	RE	Article no. 75 004 ...		Article no. 75 004 ...		Article no. 70 158 ...		Article no. 70 119 ...	
	mm	£		£		£		£	
150404EN	0.4	14.03	416	14.03	516	13.43	604		
150408EN	0.8	14.03	418	14.03	518				
150412EN	1.2	14.03	420	14.03	520				
150604EN	0.4					14.55	610	14.55	612
150608EN	0.8	15.36	430	15.36	530	14.55	612	14.55	614
150612EN	1.2	15.36	432	15.36	532				
Steel									
Stainless steel		○		○		○		○	
Cast iron						○		○	
Non ferrous metals						○		○	
Heat resistant alloys		●		●		●		●	

DNGA

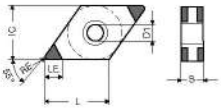
Designation	L	S	D1	IC
	mm	mm	mm	mm
DNGA 1506..	15.5	6.35	5.16	12.7



-B

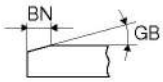


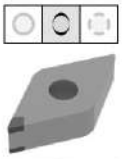
-K (-2SC)



-L (-4SC)

DNGA



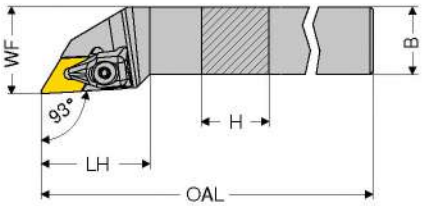
	-L CTBS20C	-B CTBH15C	-K CTBH20C	-L CTBH20C	-K CTBH40C	-L CTBH40C
	-4SC PBC15-S		-2SC PBC25-S	-4SC PBC25-S	-2SC PBC40-S	-4SC PBC40-S
						
	F	F	F	F	F	F
	CBN DNGA	CBN DNGA	CBN DNGA	CBN DNGA	CBN DNGA	CBN DNGA
	Y0	NEW Y0	Y0	Y0	Y0	Y0

ISO	RE	GB	BN	LE	Article no. 71 403 ...	£	Article no. 71 017 ...	£	Article no. 71 402 ...	£	Article no. 71 403 ...	£	Article no. 71 402 ...	£	Article no. 71 403 ...	£
	mm	°	mm	mm												
150604SN	0.4	10	0.09	2.8	84.59	122										
150604TN	0.4	15	0.09	2.8					54.73	222						
150604SN	0.4	15	0.09	2.8	84.59	132										
150604SN	0.4	15	0.11	2.8			79.70	32814								
150604SN	0.4	20	0.09	2.8	84.59	152									84.59	332
150604SN	0.4	20	0.11	2.8							84.59	242				
150604TN	0.4	25	0.11	2.8					54.73	252						
150604SN	0.4	25	0.11	2.8									54.73	352	84.59	352
150604SN	0.4	25	0.13	2.8			79.70	32829			84.59	262				
150604FN	0.4			2.8					54.73	212						
150604SN	0.4	30	0.14	2.8											84.59	372
150604SN	0.4	30	0.18	2.8	84.59	182										
150604SN	0.4	35	0.14	2.8									54.73	382		
150608FN	0.8			2.6					54.73	214						
150608SN	0.8	10	0.09	2.6	84.59	124										
150608SN	0.8	15	0.09	2.6	84.59	134										
150608TN	0.8	15	0.09	2.6					54.73	224						
150608SN	0.8	15	0.11	2.6			79.70	33014								
150608SN	0.8	20	0.09	2.6	84.59	154									84.59	334
150608SN	0.8	20	0.11	2.6							84.59	244				
150608TN	0.8	25	0.11	2.6					54.73	254						
150608SN	0.8	25	0.11	2.6									54.73	354	84.59	354
150608SN	0.8	25	0.13	2.6			79.70	33029			84.59	264			84.59	364
150608SN	0.8	30	0.14	2.6							84.59	274			84.59	374
150608SN	0.8	30	0.18	2.6	84.59	184										
150608SN	0.8	35	0.14	2.6									54.73	384		
150612SN	1.2	15	0.11	2.8			79.70	33214								
150612SN	1.2	25	0.13	2.8			79.70	33229								

Cast iron	●					
Sintered steels	●					
Heat resistant alloys	●					
hardened < 45 HRC		●				
hardened 46-55 HRC		●	●	●	●	●
hardened 56-60 HRC		●	●	●	●	●
hardened 61-65 HRC					●	●

9

MaxiLock-D – DDJN 93° – Toolholder with top clamping



Illustrations show right-hand versions

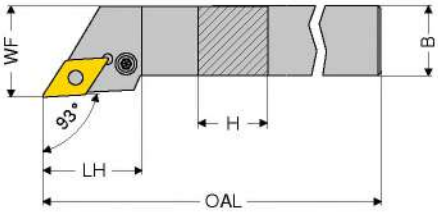
ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Left-hand 2A/24 Article no. 70 541 ...	£	Right-hand 2A/24 Article no. 70 540 ...	£
	mm	mm	mm	mm	mm	Nm					
DDJN R/L 1616 H11	16	16	100	33	20	2	DN.. 1104	69.39	816	69.39	816
DDJN R/L 2020 K11	20	20	125	33	25	2	DN.. 1104	77.31	820	77.31	820
DDJN R/L 2525 M11	25	25	150	33	32	2	DN.. 1104	79.97	825	79.97	825
DDJN R/L 2020 K15	20	20	125	40	25	4	DN.. 1504 / 1506	77.31	720	77.31	720
DDJN R/L 2525 M15	25	25	150	40	32	4	DN.. 1504 / 1506	79.97	725	79.97	725
DDJN R/L 3225 P15	32	25	170	40	32	4	DN.. 1504 / 1506	85.79	832	85.79	832

Tool holders with HSK-T or PSC interface can be found in → **Chapter 16.**

When using DN.. 1504 indexable inserts, use insert seat article no. 70 950 40000.

Spare parts	2A/28 XPress type Article no. 70 950 ...	£	Y7 Key D Article no. 80 950 ...	£	2A/28 Clamping screw Article no. 70 950 ...	£	2A/28 Solid Carbide Seat D Article no. 70 950 ...	£
for Article no.								
70 541 816 / 70 540 816	26.15	835	T09 - IP	14.77	126	M3x7 - IP	2.85	819	3.21	808
70 541 820 / 70 540 820	26.15	835	T09 - IP	14.77	126	M3x7 - IP	2.85	819	3.21	808
70 541 825 / 70 540 825	26.15	835	T09 - IP	14.77	126	M3x7 - IP	2.85	819	3.21	808
70 541 720 / 70 540 720	21.61	824	T15 - IP	15.77	128	M4,5x12 - IP	2.71	820	7.17	811
70 541 725 / 70 540 725	21.61	824	T15 - IP	15.77	128	M4,5x12 - IP	2.71	820	7.17	811
70 541 832 / 70 540 832	21.61	824	T15 - IP	15.77	128	M4,5x12 - IP	2.71	820	7.17	811

MaxiLock-N – PDJN 93° – Toolholder with lever clamping

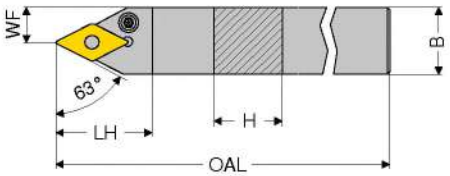


Illustrations show right-hand versions

ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Left-hand 2A/24 Article no. 70 541 ...	£	Right-hand 2A/24 Article no. 70 540 ...	£
	mm	mm	mm	mm	mm	Nm					
PDJN R/L 1616 H11	16	16	100	30.0	20	3	DN.. 1104	69.39	116	69.39	116
PDJN R/L 2020 K11	20	20	125	30.0	25	3	DN.. 1104	77.31	120	77.31	120
PDJN R/L 2525 M11	25	25	150	30.0	32	3	DN.. 1104	79.97	125	79.97	125
PDJN R/L 2020 K15	20	20	125	34.9	25	3,2	DN.. 1506	77.31	020	77.31	020
PDJN R/L 2525 M15	25	25	150	35.4	32	3,2	DN.. 1506	79.97	025	79.97	025
PDJN R/L 3225 P15	32	25	170	35.4	32	3,2	DN.. 1506	85.79	032	85.79	032

Spare parts		2A/28 Key I Article no. 70 950 ...	£	2A/28 Shim Article no. 70 950 ...	£	2A/28 Assembly pin Article no. 70 950 ...	£	2A/28 Lever Article no. 70 950 ...	£	2A/28 Clamping screw Article no. 70 950 ...	£	2A/28 Solid Carbide Seat D Article no. 70 950 ...	£
for Article no.													
70 541 116 / 70 540 116	SW2,5	2.23	175	1.87	122	1.11	191	13.61	121	2.90	208	6.55	120
70 541 120 / 70 540 120	SW2,5	2.23	175	1.87	122	1.11	191	13.61	121	2.90	208	6.55	120
70 541 125 / 70 540 125	SW2,5	2.23	175	1.87	122	1.11	191	13.61	121	2.90	208	6.55	120
70 541 020 / 70 540 020	SW3	2.23	176	1.60	198	1.11	192	12.44	188	3.45	388	7.17	236
70 541 025 / 70 540 025	SW3	2.23	176	1.60	198	1.11	192	12.44	188	3.45	388	7.17	236
70 541 032 / 70 540 032	SW3	2.23	176	1.60	198	1.11	192	12.44	188	3.45	388	7.17	236

MaxiLock-N – PDNN 63° – Toolholder with lever clamping



Illustrations show right-hand versions

ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Left-hand 2A/24 Article no. 70 537 ...		Right-hand 2A/24 Article no. 70 536 ...	
	mm	mm	mm	mm	mm	Nm		£		£	
PDNN R/L 2525 M11	25	25	150	30.0	12.5	3	DN.. 1104	79.97	125	79.97	125
PDNN R/L 2525 M15	25	25	150	36.5	12.5	3,2	DN.. 1506	79.97	025	79.97	025


Key I


Shim

Assembly pin

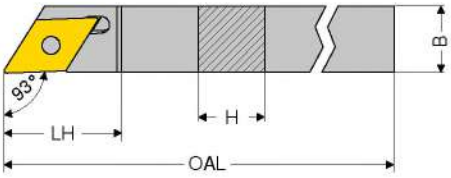

Lever


Clamping screw


Solid Carbide Seat D

Spare parts for Article no.		2A/28 Article no. 70 950 ...		2A/28 Article no. 70 950 ...		2A/28 Article no. 70 950 ...		2A/28 Article no. 70 950 ...		2A/28 Article no. 70 950 ...		2A/28 Article no. 70 950 ...	
		£		£		£		£		£		£	
70 537 125 / 70 536 125	SW2,5	2.23	175	1.87	122	1.11	191	13.61	121	2.90	208	6.55	120
70 537 025 / 70 536 025	SW3	2.23	176	1.60	198	1.11	192	12.44	188	3.45	388	7.17	236

MaxiLock-S – SDJN 93° – Toolholder with screw clamping



Illustrations show right-hand versions

ISO designation	H	B	OAL	LH	torque moment	Insert	Left-hand X0 Article no. 70 699 ...		Right-hand X0 Article no. 70 698 ...	
	mm	mm	mm	mm	Nm		£		£	
SDJN R/L 1012 H11	10	12	100	21.3	3,2	DNGU 1104	203.60	010	203.60	010
SDJN R/L 1212 H11	12	12	100	21.3	3,2	DNGU 1104	203.60	012	203.60	012
SDJN R/L 1616 K11	16	16	125	21.3	3,2	DNGU 1104	235.79	016	235.79	016
SDJN R/L 2020 K11	20	20	125	21.3	3,2	DNGU 1104	224.63	020	224.63	020
SDJN R/L 2525 M11	25	25	150	21.3	3,2	DNGU 1104	264.60	025	264.60	025

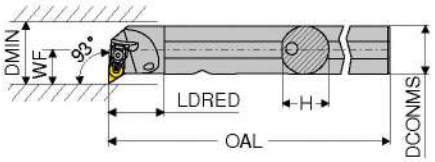

Key D


Clamping screw

Spare parts for Article no.		Y7 Article no. 80 950 ...			2A Article no. 72 950 ...		
		£				£	
70 699 010 / 70 698 010	T15 - IP	15.77	128	M4x11		4.36	007
70 699 012 / 70 698 012	T15 - IP	15.77	128	M4x11		4.36	007
70 699 016 / 70 698 016	T15 - IP	15.77	128	M4x11		4.36	007
70 699 020 / 70 698 020	T15 - IP	15.77	128	M4x11		4.36	007
70 699 025 / 70 698 025	T15 - IP	15.77	128	M4x11		4.36	007

9

MaxiLock-D – DDUN 93° – Boring bar with top clamping



Illustrations show right-hand versions

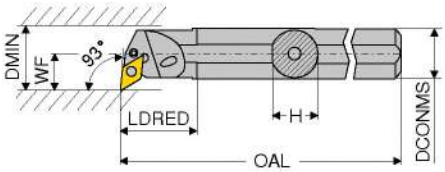
ISO designation	DCONMS	H	OAL	LDRED	WF	DMIN	torque moment	Insert	Left-hand 2A/24 Article no. 70 569 ...	£	Right-hand 2A/24 Article no. 70 568 ...	£
	mm	mm	mm	mm	mm	mm	Nm					
A25R DDUN R/L 11	25	24	200	30	17	32	2	DN.. 1104	202.00	725	202.00	725
A32S DDUN R/L 11	32	31	250	40	22	40	2	DN.. 1104	208.91	732	208.91	732
A40T DDUN R/L 15	40	39	300	45	27	50	4	DN.. 1506	232.73	840	232.73	840

Tool holders with HSK-T interface can be found in → **Chapter 16.**

Spare parts		2A/28 XPress type Article no. 70 950 ...	£		Y7 Key D Article no. 80 950 ...	£		2A/28 Clamping screw Article no. 70 950 ...	£		2A/28 Solid Carbide Seat D Article no. 70 950 ...	£	
for Article no.													
70 568 725 / 70 569 725		26.15	835	T09 - IP	14.77	126	M3x7 - IP	2.85	819		3.21	808	
70 568 732 / 70 569 732		26.15	835	T09 - IP	14.77	126	M3x7 - IP	2.85	819		3.21	808	
70 568 840 / 70 569 840		21.61	824	T15 - IP	15.77	128	M4,5x12 - IP	2.71	820		7.17	811	

MaxiLock-N – PDUN 93° – Boring bar with lever clamping

▲ A... = with thro' coolant
▲ S... = without thro' coolant



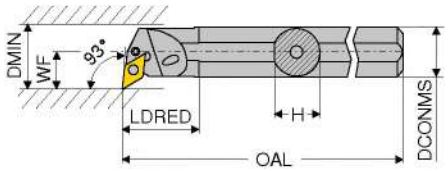
Illustrations show right-hand versions

ISO designation	DCONMS	H	OAL	LDRED	WF	DMIN	torque moment	Insert	Left-hand 2A/24 Article no. 70 569 ...	£	Right-hand 2A/24 Article no. 70 568 ...	£
	mm	mm	mm	mm	mm	mm	Nm					
A20Q PDUN R/L 11	20	18.5	180	36	16.0	28	3	DN.. 1104	181.27	120	181.27	120
A25R PDUN R/L 11	25	23.0	200	36	18.5	32	3	DN.. 1104	202.00	125	202.00	125
A32S PDUN R/L 11	32	30.0	250	36	22.0	40	3	DN.. 1104	208.91	132	208.91	132
A32S PDUN R/L 15	32	30.0	250	50	22.0	40	3,2	DN.. 1506	208.91	232	208.91	232
A40T PDUN R/L 15	40	38.0	300	60	27.0	50	3,2	DN.. 1506	232.73	240	232.73	240
S50W PDUN R/L 15	50	47.0	450	31	35.0	63	3,2	DN.. 1506	288.00	050	288.00	050

Spare parts		2A/28 Key I Article no. 70 950 ...	£		2A/28 Shim Article no. 70 950 ...	£		2A/28 Assembly pin Article no. 70 950 ...	£		2A/28 Lever Article no. 70 950 ...	£		2A/28 Clamping screw Article no. 70 950 ...	£		2A/28 Solid Carbide Seat D Article no. 70 950 ...	£	
for Article no.																			
70 568 120 / 70 569 120	SW2,5	2.23	175								13.61	125		1.97	126				
70 568 125 / 70 569 125	SW2,5	2.23	175		1.87	122		1.11	191		13.61	121		2.90	208		6.55	120	
70 568 132 / 70 569 132	SW2,5	2.23	175		1.87	122		1.11	191		13.61	121		2.90	208		6.55	120	
70 568 232 / 70 569 232	SW3	2.23	176		1.60	198		1.11	192		12.44	188		3.18	209		7.17	236	
70 568 240 / 70 569 240	SW3	2.23	176		1.60	198		1.11	192		12.44	188		3.18	209		7.17	236	
70 568 050 / 70 569 050	SW3	2.23	176		1.60	198		1.11	192		12.44	188		3.45	388		7.17	236	

MaxiLock-N – PDUN 93° – Boring bar with lever clamping

▲ with carbide core



Illustrations show right-hand versions

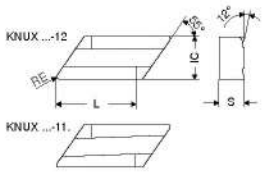
ISO designation	DCONMS	H	OAL	LDRED	WF	DMIN	torque moment	Insert	Left-hand 2A Article no. 70 563 ...		Right-hand 2A Article no. 70 562 ...	
	mm	mm	mm	mm	mm	mm	Nm		£		£	
E-A25R PDUN R/L 11	25	23	200	40	17	31	3	DN.. 1104	645.09	025	645.09	025
E-A32S PDUN R/L 15	32	30	250	50	22	39	3,2	DN.. 1506	851.55	032	851.55	032
E-A40T PDUN R/L 15	40	38	300	60	27	48	3,2	DN.. 1506	1,016.36	040	1,016.36	040

Spare parts for Article no.		2A/28 Key I Article no. 70 950 ...		2A/28 Shim Article no. 70 950 ...		2A/28 Assembly pin Article no. 70 950 ...		2A/28 Lever Article no. 70 950 ...		2A/28 Clamping screw Article no. 70 950 ...		2A/28 Solid Carbide Seat D Article no. 70 950 ...	
		£		£		£		£		£		£	
70 562 025 / 70 563 025	SW2,5	2.23	175	1.87	122	1.11	191	13.61	121	2.90	208	6.55	120
70 562 032 / 70 563 032	SW3	2.23	176	1.60	198	1.11	192	12.44	188	3.45	388	7.17	236
70 562 040 / 70 563 040	SW3	2.23	176	1.60	198	1.11	192	12.44	188	3.45	388	7.17	236

9

KNUX

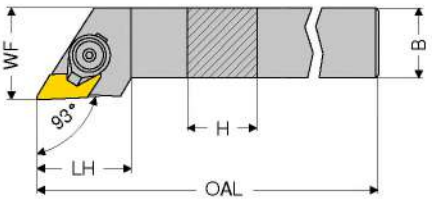
Designation	L	S	IC
	mm	mm	mm
KNUX 1604..	16	4.76	9.52



KNUX

	-11 CTCK110	-11 CTCK120	-11 CTCP135	-12 CTCP135
	-11 DCX3110	-11 HCF3120	-11 HCR1135	-12 HCR1135
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
				
	F	F	F	M
	KNUX	KNUX	KNUX	KNUX
	1A/13	1A/13	1A/13	1A/13
ISO / RE mm	Article no. 70 240 ... £	Article no. 70 240 ... £	Article no. 76 240 ... £	Article no. 76 242 ... £
160405EL / 0.5	13.43 002	13.43 552	13.43 702	13.43 702
160405ER / 0.5	13.43 000	13.43 500	13.43 700	13.43 700
160410EL / 1.0			13.43 706	13.43 706
160410ER / 1.0			13.43 704	13.43 704
Steel	●	●	●	●
Stainless steel	○		○	○
Cast iron	●	●		
Non ferrous metals				
Heat resistant alloys			○	○

Simplex – CKJN 93° – Toolholder with top clamping



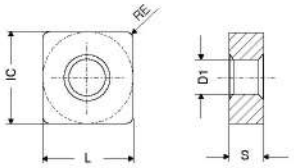
Illustrations show right-hand versions

ISO designation	H mm	B mm	OAL mm	LH mm	WF mm	torque moment Nm	Insert	Left-hand 2A/23 Article no. 70 799 ... £	Right-hand 2A/23 Article no. 70 798 ... £
CKJN R/L 2525 M16	25	25	150	35	32	7	KNUX 1604	128.00 025	128.00 025

	2A/28 Clamp	2A/28 Key I	2A/28 Clamping screw	2A/28 Countersunk head grooved pin	2A/28 Carbide type C	2A/28 Spring pin	2A/28 Spring washer
Spare parts for Article no.	Article no. 70 950 ... £	Article no. 70 950 ... £	Article no. 70 950 ... £	Article no. 70 950 ... £	Article no. 70 950 ... £	Article no. 70 950 ... £	Article no. 70 950 ... £
70 798 025	15.49 612	2.34 396	5.08 615	1.00 603	10.25 613	2.23 616	1.00 617
70 799 025	15.49 618	2.34 396	5.08 615	1.00 603	10.25 614	2.23 616	1.00 617

SNMG / SNMA / SNMM

Designation	L	S	D1	IC
	mm	mm	mm	mm
SNMG 0903..	9.52	3.18	3.81	9.52
SNM. 1204..	12.70	4.76	5.16	12.70
SNM. 1506..	15.87	6.35	6.35	15.87
SNM. 1906..	19.05	6.35	7.94	19.05
SNMM 2507..	25.40	7.94	9.12	25.40
SNMM 2509..	25.40	9.52	9.12	25.40



SNMG

		-F50 CTCP115	-F50 CTCP125	-F50 CTCP135	-M50 CTCP115	-M50 CTCP125	-M50 CTCP135	-M70 CTCK110
		-NF15 HCX1115	-NF15 HCX1125	-NF15 HCR1135	-NM15 HCX1115	-NM15 HCX1125	-NM15 HCR1135	-NM19 DCX3110
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		F	F	F	M	M	M	M
		SNMG 1A/08	SNMG 1A/08	SNMG 1A/08	SNMG 1A/08	SNMG 1A/08	SNMG 1A/08	SNMG 1A/08
ISO	RE	Article no. 76 140 ...	Article no. 76 140 ...	Article no. 76 140 ...	Article no. 76 137 ...	Article no. 76 137 ...	Article no. 76 137 ...	Article no. 70 225 ...
	mm	£	£	£	£	£	£	£
090308EN	0.8	6.75 306	6.75 506	6.75 706				
120404EN	0.4	10.57 316	10.57 516	10.57 716				
120408EN	0.8	10.57 318	10.57 518	10.57 718	10.57 318	10.57 518	10.57 718	10.57 018
120412EN	1.2	10.57 320	10.57 520	10.57 720	10.57 320	10.57 520	10.57 720	10.57 020
120416EN	1.6				10.57 322	10.57 522	10.57 722	10.57 022
150608EN	0.8				16.78 330	16.78 530	16.78 730	
150612EN	1.2				16.78 332	16.78 532	16.78 732	16.78 032
150616EN	1.6				16.78 334	16.78 534	16.78 734	16.78 034
190612EN	1.2							23.70 044
190616EN	1.6							23.70 046
Steel		●	●	●	●	●	●	●
Stainless steel		○	○	○	○	○	○	○
Cast iron		○	○		○	○		●
Non ferrous metals								
Heat resistant alloys				○			○	

9

SNMG / SNMA

		-M70 CTCK120		-M70 CTCP115		-M70 CTCP125		-M70 CTCP135		CTCP125		CTCP135		CTCK110	
		-NM19 HCF3120		-NM19 HCX1115		-NM19 HCX1125		-NM19 HCR1135		HCX1125		HCR1135		DCX3110	
		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN	
															
		M		M		M		M		M		M		R	
		SNMG		SNMG		SNMG		SNMG		SNMG		SNMG		SNMA	
		1A/08		1A/08		1A/08		1A/08		1A/08		1A/08		1A/08	
ISO	RE	Article no. 70 225 ...		Article no. 76 225 ...		Article no. 76 225 ...		Article no. 76 225 ...		Article no. 76 116 ...		Article no. 76 116 ...		Article no. 70 114 ...	
	mm	£		£		£		£		£		£		£	
090308EN	0.8									6.75	506	6.75	706		
120408EN	0.8	10.57	518	10.57	318	10.57	518	10.57	718					10.57	018
120412EN	1.2	10.57	520	10.57	320	10.57	520	10.57	720					10.57	020
120416EN	1.6	10.57	522	10.57	322	10.57	522	10.57	722					10.57	022
150612EN	1.2	16.78	532	16.78	332	16.78	532	16.78	732					16.78	032
150616EN	1.6	16.78	534	16.78	334	16.78	534	16.78	734					16.78	034
190612EN	1.2	23.70	544	23.70	344	23.70	544	23.70	744					23.70	044
190616EN	1.6	23.70	546	23.70	346	23.70	546	23.70	746					23.70	046
190624EN	2.4			23.70	348	23.70	548	23.70	748						
Steel		●		●		●		●		●		●			
Stainless steel				○		○		○		○		○			
Cast iron		●		○		○				○				●	
Non ferrous metals															
Heat resistant alloys								○				○			

SNMA / SNMM

		CTCK120	-R28 CTCP115	-R28 CTCP125	-R28 CTCP135	-R58 CTCP115	-R58 CTCP125	-R58 CTCP135
		HCF3120	-NR14 HCX1115	-NR14 HCX1125	-NR14 HCR1135	-NR17 HCX1115	-NR17 HCX1125	-NR17 HCR1135
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		R	R	R	R	R	R	R
		SNMA	SNMM	SNMM	SNMM	SNMM	SNMM	SNMM
		1A/08	1A/08	1A/08	1A/08	1A/08	1A/08	1A/08
ISO	RE mm	Article no. 70 114 ... £	Article no. 76 128 ... £	Article no. 76 128 ... £	Article no. 76 128 ... £	Article no. 76 129 ... £	Article no. 76 129 ... £	Article no. 76 129 ... £
120408EN	0.8	10.57 518				10.57 318	10.57 518	10.57 718
120412EN	1.2	10.57 520				10.57 320	10.57 520	10.57 720
120416EN	1.6	10.57 522						
150612EN	1.2	16.78 532	16.78 332	16.78 532	16.78 732	16.78 332	16.78 532	16.78 732
150616EN	1.6	16.78 534	16.78 334	16.78 534	16.78 734	16.78 334	16.78 534	16.78 734
190612EN	1.2	23.70 544				23.70 344	23.70 544	23.70 744
190616EN	1.6	23.70 546	23.70 346	23.70 546	23.70 746	23.70 346	23.70 546	23.70 746
190624EN	2.4					23.70 348	23.70 548	23.70 748
250724EN	2.4				46.58 760	46.58 360	46.58 560	46.58 760
250924EN	2.4		54.71 370	54.71 570	54.71 770	54.71 370	54.71 570	54.71 770
Steel			●	●	●	●	●	●
Stainless steel			○	○	○	○	○	○
Cast iron		●	○	○		○	○	
Non ferrous metals								
Heat resistant alloys					○			○

9

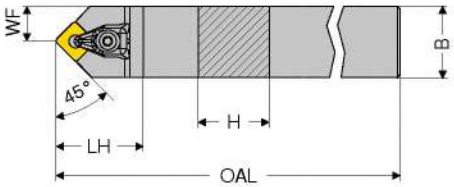
SNMM / SNMG

		-R88 CTCP115	-R88 CTCP125	-R88 CTCP135	-F30 CTPM125	-M30 CTPM125	-M42 CTC2135	-M60 CTPM125
		-NR19 HCX1115	-NR19 HCX1125	-NR19 HCR1135	-NF23 HCN2125	-NM23 HCN2125	-M42 CWN2135	-NM26 HCN2125
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN		DRAGONSKIN
								
		R	R	R	F	M	M	M
		SNMM	SNMM	SNMM	SNMG	SNMG	SNMG	SNMG
		1A/08	1A/08	1A/08	1A/08	1A/08	1A/08	1A/08
ISO	RE mm	Article no. 76 130 ... £	Article no. 76 130 ... £	Article no. 76 130 ... £	Article no. 75 016 ... £	Article no. 75 017 ... £	Article no. 70 002 ... £	Article no. 75 018 ... £
120404EN	0.4				10.57 216			
120408EN	0.8				10.57 218	10.57 218	10.57 408	10.57 218
120412EN	1.2				10.57 220		10.57 412	10.57 210
120416EN	1.6							10.57 220
190616SN	1.6	23.70 346	23.70 546	23.70 746				
190624SN	2.4	23.70 348	23.70 548	23.70 748				
250724SN	2.4	46.58 36000	46.58 56000	46.58 760				
250924SN	2.4	54.71 37000	54.71 57000	54.71 770				
Steel		●	●	●	○	○	○	○
Stainless steel		○	○	○	●	●	●	●
Cast iron		○	○					
Non ferrous metals								
Heat resistant alloys				○		○	●	○

SNMG

		-M70 CTC2135	-M34 CTP5110	-M34 CTP5115	-M52 CTP2120
		-NM19 CWN2135	-M34 HCN5110	-M34 HCN5115	-M52 CCN2120
			DRAGONSKIN	DRAGONSKIN	
					
		M	M	M	M
		SNMG	SNMG	SNMG	SNMG
		1A/08	1A/08	1A/08	1A/08
ISO	RE mm	Article no. 70 225 ... £	Article no. 75 005 ... £	Article no. 75 005 ... £	Article no. 70 129 ... £
120408EN	0.8	10.57 418	11.08 418	11.08 518	10.57 608
120412EN	1.2	10.57 420	11.08 420	11.08 520	
190616EN	1.6	23.70 446			
Steel		○			
Stainless steel		●	○	○	○
Cast iron					○
Non ferrous metals					○
Heat resistant alloys		●	●	●	●

MaxiLock-D – DSDN 45° – Toolholder with top clamping



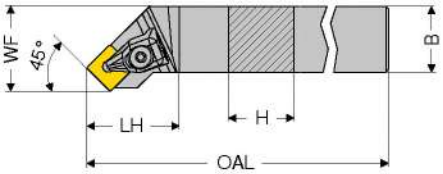
ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Neutral 2A/24 Article no. 70 516 ...	
	mm	mm	mm	mm	mm	Nm		£	
DSDN N 2020 K12	20	20	125	38	10.3	4	SN.. 1204	77.31	620
DSDN N 2525 M12	25	25	150	38	12.5	4	SN.. 1204	79.97	625

Tool holders with HSK-T interface can be found in → **Chapter 16.**

Spare parts	2A/28 XPress type Article no. 70 950 ...		Y7 Key D Article no. 80 950 ...		2A/28 Clamping screw Article no. 70 950 ...		2A/28 Solid Carbide support S Article no. 70 950 ...	
for Article no.	£		£		£		£	
70 516 620	21.61	824	T15 - IP	15.77 128	M4,5x12 - IP	2.71	820	7.17	813
70 516 625	21.61	824	T15 - IP	15.77 128	M4,5x12 - IP	2.71	820	7.17	813

MaxiLock-D – DSSN 45° – Toolholder with top clamping

9

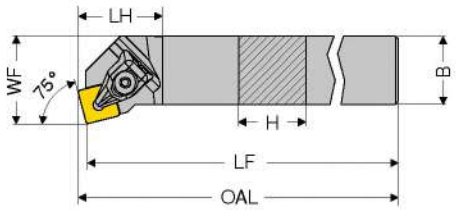


Illustrations show right-hand versions

ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Left-hand 2A/24 Article no. 70 513 ...		Right-hand 2A/24 Article no. 70 512 ...	
	mm	mm	mm	mm	mm	Nm		£		£	
DSSN R/L 2020 K12	20	20	125	35	25	4	SN.. 1204	77.31	620	77.31	620
DSSN R/L 2525 M12	25	25	150	35	32	4	SN.. 1204	79.97	625	79.97	625
DSSN R/L 3225 P12	32	25	170	35	32	4	SN.. 1204	85.79	632	85.79	632

Spare parts	2A/28 XPress type Article no. 70 950 ...		Y7 Key D Article no. 80 950 ...		2A/28 Clamping screw Article no. 70 950 ...		2A/28 Solid Carbide support S Article no. 70 950 ...	
for Article no.	£		£		£		£	
70 512 620 / 70 513 620	21.61	824	T15 - IP	15.77 128	M4,5x12 - IP	2.71	820	7.17	813
70 512 625 / 70 513 625	21.61	824	T15 - IP	15.77 128	M4,5x12 - IP	2.71	820	7.17	813
70 512 632 / 70 513 632	21.61	824	T15 - IP	15.77 128	M4,5x12 - IP	2.71	820	7.17	813

MaxiLock-D – DSKN 75° – Toolholder with top clamping

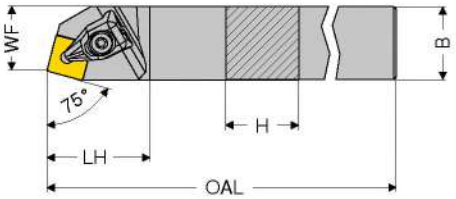


Illustrations show right-hand versions

ISO designation	H	B	OAL	LF	LH	WF	torque moment	Insert	Left-hand 2A/24 Article no. 70 525 ...	£	Right-hand 2A/24 Article no. 70 524 ...	£
	mm	mm	mm	mm	mm	mm	Nm					
DSKN R/L 2525 M12	25	25	153.3	150	28	32	4	SN.. 1204	79.97	625	79.97	625

Spare parts	2A/28 XPress type Article no. 70 950 ...	£	Y7 Key D Article no. 80 950 ...	£	2A/28 Clamping screw Article no. 70 950 ...	£	2A/28 Solid Carbide support S Article no. 70 950 ...	£
for Article no.								
70 525 625 / 70 524 625	21.61	824	T15 - IP	15.77	128	M4,5x12 - IP	2.71	820	7.17	813

MaxiLock-D – DSBN 75° – Toolholder with top clamping



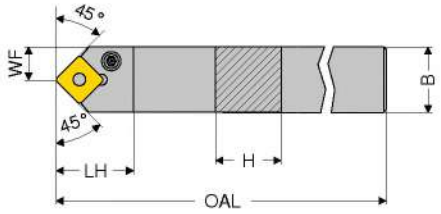
Illustrations show right-hand versions

ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Left-hand 2A/24 Article no. 70 521 ...	£	Right-hand 2A/24 Article no. 70 520 ...	£
	mm	mm	mm	mm	mm	Nm					
DSBN R/L 2020 K12	20	20	125	35	17	4	SN.. 1204	77.31	620	77.31	620
DSBN R/L 2525 M12	25	25	150	35	22	4	SN.. 1204	79.97	625	79.97	625
DSBN R/L 2525 M15	25	25	150	42	22	6,5	SN.. 1506	79.97	725	79.97	725
DSBN R/L 3232 P15	32	32	170	42	27	6,5	SN.. 1506	108.00	832	108.00	832
DSBN R/L 3232 P19	32	32	170	48	27	6,5	SN.. 1906	108.00	732	108.00	732
DSBN R/L 4040 S19	40	40	250	48	35	6,5	SN.. 1906	134.27	840	134.27	840
DSBN R/L 4040 S25	40	40	250	57	35	6,5	SN.. 2507 / SN.. 2509	134.27	940	134.27	940

When using SN.. 2509 indexable inserts, use insert seat article no. 70 950 40100.

Spare parts	2A/28 XPress type Article no. 70 950 ...	£	Y7 Key D Article no. 80 950 ...	£	2A/28 Clamping screw Article no. 70 950 ...	£	2A/28 Solid Carbide support S Article no. 70 950 ...	£
for Article no.								
70 521 620 / 70 520 620	21.61	824	T15 - IP	15.77	128	M4,5x12 - IP	2.71	820	7.17	813
70 521 625 / 70 520 625	21.61	824	T15 - IP	15.77	128	M4,5x12 - IP	2.71	820	7.17	813
70 521 725 / 70 520 725	24.26	825	T20 - IP	16.56	129	M5x14 - IP	3.85	821	10.95	833
70 521 832 / 70 520 832	24.26	825	T20 - IP	16.56	129	M5x14 - IP	3.85	821	10.95	833
70 521 732 / 70 520 732	26.54	826	T20 - IP	16.56	129	M5x14 - IP	3.85	821	11.74	817
70 521 840 / 70 520 840	26.54	826	T20 - IP	16.56	129	M5x14 - IP	3.85	821	11.74	817
70 521 940 / 70 520 940	41.34	827	T25 - IP	19.11	130	M6x16 - IP	7.31	822	21.91	818

MaxiLock-N – PSDN 45° – Toolholder with lever clamping



ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Neutral 2A/24 Article no. 70 516 ...	
	mm	mm	mm	mm	mm	Nm		£	
PSDN N 1616 H09	16	16	100	21.0	8.3	3	SNM. 0903	69.39	016
PSDN N 2020 K12	20	20	125	27.6	10.3	4	SNM. 1204	77.31	020
PSDN N 2525 M12	25	25	150	27.6	12.8	4	SNM. 1204	79.97	025
PSDN N 3225 P19	32	25	170	40.4	12.5	8	SNM. 1906	85.79	03200
PSDN N 4040 S25	40	40	250	48.8	20.0	8	SNM. 2507 / 2509	134.27	04000

When using SN.. 2509 indexable inserts, use insert seat article no. 70 950 40200.

Spare parts		2A/28 Key I Article no. 70 950 ...		2A/28 Shim Article no. 70 950 ...		2A/28 Assembly pin Article no. 70 950 ...		2A/28 Lever Article no. 70 950 ...		2A/28 Clamping screw Article no. 70 950 ...		2A/28 Solid Carbide support S Article no. 70 950 ...	
for Article no.		£		£		£		£		£		£	
70 516 016	SW2,5	2.23	175	1.60	197	1.11	191	11.35	185	2.90	208	5.55	229
70 516 020	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	5.55	230
70 516 025	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	5.55	230
70 516 03200	SW4	2.34	396	1.60	392	1.11	395	17.37	386	3.45	389	17.46	383
70 516 04000	SW5	3.35	265	1.02	621	1.72	623	23.48	620	2.07	622	35.92	27600

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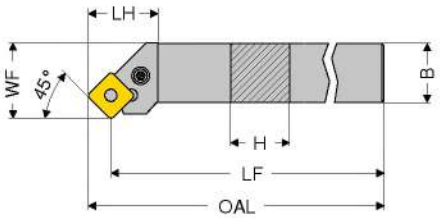
MaxiLock-N – PSSN 45° – Toolholder with lever clamping



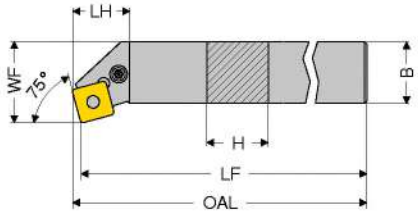
Illustrations show right-hand versions

ISO designation	H	B	OAL	LF	LH	WF	torque moment	Insert	Left-hand 2A/24 Article no. 70 513 ...		Right-hand 2A/24 Article no. 70 512 ...	
	mm	mm	mm	mm	mm	mm	Nm		£		£	
PSSN R/L 1616 H09	16	16	106.7	100	21.2	20	3	SNM. 0903	69.39	016	69.39	016
PSSN R/L 2020 K12	20	20	134.0	125	29.3	25	4	SNM. 1204	77.31	020	77.31	020
PSSN R/L 2525 M12	25	25	159.0	150	29.3	32	4	SNM. 1204	79.97	025	79.97	025
PSSN R/L 3225 P12	32	25	179.0	170	32.0	32	4	SNM. 1204	85.79	032	85.79	032
PSSN R 2525 M15	25	25	161.2	150	29.3	32	4	SNM. 1506			79.97	125
PSSN R 3232 P15	32	32	181.2	170	32.0	40	4	SNM. 1506			108.00	132
PSSN R/L 3232 P19	32	32	183.5	170	40.2	40	8	SNM. 1906	108.00	232	108.00	232
PSSN R 4040 S25	40	40	268.0	250	48.8	50	8	SNM. 2507 / 2509			131.73	04000

When using SN.. 2509 indexable inserts, use insert seat article no. 70 950 40200.

Spare parts		2A/28 Key I Article no. 70 950 ...		2A/28 Shim Article no. 70 950 ...		2A/28 Assembly pin Article no. 70 950 ...		2A/28 Lever Article no. 70 950 ...		2A/28 Clamping screw Article no. 70 950 ...		2A/28 Solid Carbide support S Article no. 70 950 ...	
for Article no.		£		£		£		£		£		£	
70 512 016 / 70 513 016	SW2.5	2.23	175	1.60	197	1.11	191	11.35	185	2.90	208	5.55	229
70 512 020 / 70 513 020	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	5.55	230
70 512 025 / 70 513 025	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	5.55	230
70 512 032 / 70 513 032	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	5.55	230
70 512 125	SW3	2.23	176	1.02	391	1.11	394	11.35	385	3.45	388	11.35	382
70 512 132	SW3	2.23	176	1.02	391	1.11	394	11.35	385	3.45	388	11.35	382
70 512 232 / 70 513 232	SW4	2.34	396	1.60	392	1.11	395	17.37	386	3.45	389	17.46	383
70 512 04000	SW5	3.35	265	1.02	621	1.72	623	23.48	620	2.07	622	35.92	27600

MaxiLock-N – PSKN 75° – Toolholder with lever clamping

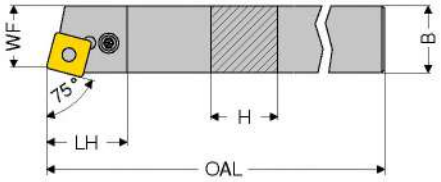


Illustrations show right-hand versions

ISO designation	H	LF	B	OAL	LH	WF	torque moment	Insert	Left-hand 2A/24 Article no. 70 525 ...		Right-hand 2A/24 Article no. 70 524 ...	
	mm	mm	mm	mm	mm	mm	Nm		£		£	
PSKN R/L 1616 H09	16	100	16	102.5	18.7	20	3	SNM. 0903	69.39	016	69.39	016
PSKN R/L 2020 K12	20	125	20	128.3	22.7	25	4	SNM. 1204	77.31	020	77.31	020
PSKN R/L 2525 M12	25	150	25	153.3	22.7	32	4	SNM. 1204	79.97	025	79.97	025

Spare parts		2A/28 Key I Article no. 70 950 ...		2A/28 Shim Article no. 70 950 ...		2A/28 Assembly pin Article no. 70 950 ...		2A/28 Lever Article no. 70 950 ...		2A/28 Clamping screw Article no. 70 950 ...		2A/28 Solid Carbide support S Article no. 70 950 ...	
for Article no.		£		£		£		£		£		£	
70 525 016 / 70 524 016	SW2,5	2.23	175	1.60	197	1.11	191	11.35	185	2.90	208	5.55	229
70 525 020 / 70 524 020	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	5.55	230
70 525 025 / 70 524 025	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	5.55	230

MaxiLock-N – PSBN 75° – Toolholder with lever clamping



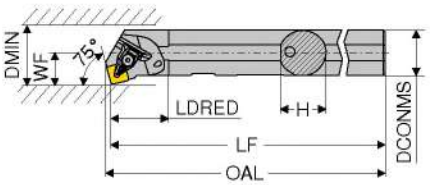
Illustrations show right-hand versions

ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Left-hand 2A/24 Article no. 70 521 ...		Right-hand 2A/24 Article no. 70 520 ...	
	mm	mm	mm	mm	mm	Nm		£		£	
PSBN R/L 2020 K12	20	20	125	27.5	17	4	SNM. 1204	77.31	020	77.31	020
PSBN R/L 2525 M12	25	25	150	27.5	22	4	SNM. 1204	79.97	025	79.97	025
PSBN R/L 3225 P12	32	25	170	32.0	22	4	SNM. 1204	85.79	032	85.79	032
PSBN R/L 3232 P15	32	32	170	32.0	27	4	SNM. 1506	108.00	132	108.00	132
PSBN R/L 3232 P19	32	32	170	39.2	27	8	SNM. 1906	108.00	232	108.00	232
PSBN R/L 4040 S19	40	40	250	39.2	35	8	SNM. 1906	134.27	04000	134.27	04000
PSBN R/L 4040 S25	40	40	250	48.0	35	8	SNM. 2507 / 2509	134.27	14000	134.27	14000

When using SN.. 2509 indexable inserts, use insert seat article no. 70 950 40200.

Spare parts		2A/28 Key I Article no. 70 950 ...		2A/28 Shim Article no. 70 950 ...		2A/28 Assembly pin Article no. 70 950 ...		2A/28 Lever Article no. 70 950 ...		2A/28 Clamping screw Article no. 70 950 ...		2A/28 Solid Carbide support S Article no. 70 950 ...	
for Article no.		£		£		£		£		£		£	
70 520 020 / 70 521 020	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	5.55	230
70 520 025 / 70 521 025	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	5.55	230
70 520 032 / 70 521 032	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	5.55	230
70 520 132 / 70 521 132	SW3	2.23	176	1.02	391	1.11	394	11.35	385	3.45	388	11.35	382
70 520 232 / 70 521 232	SW4	2.34	396	1.60	392	1.11	395	17.37	386	3.45	389	17.46	383
70 520 04000 / 70 521 04000	SW4	2.34	396	1.60	392	1.11	395	17.37	386	3.45	389	17.46	383
70 520 14000 / 70 521 14000	SW5	3.35	265	1.02	621	1.72	623	23.48	620	2.07	622	35.92	27600

MaxiLock-D – DSKN 75° – Boring bar with top clamping

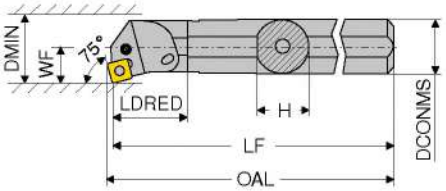


Illustrations show right-hand versions

ISO designation	DCONMS mm	H mm	LF mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand 2A/24 Article no. 70 561 ... £		Right-hand 2A/24 Article no. 70 560 ... £	
A32S DSKN R/L 12	32	31	250	254.2	40	22	40	4	SN.. 1204	208.91	832	208.91	832

Spare parts for Article no.	2A/28 XPress type Article no. 70 950 ... £		Y7 Key D Article no. 80 950 ... £		2A/28 Clamping screw Article no. 70 950 ... £		2A/28 Solid Carbide support S Article no. 70 950 ... £	
70 561 832 / 70 560 832	21.61	824	T15 - IP 15.77	128	M4,5x12 - IP 2.71	820	7.17	813

MaxiLock-N – PSKN 75° – Boring bar with lever clamping



Illustrations show right-hand versions

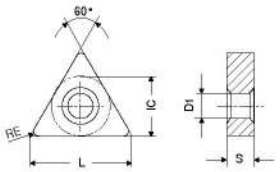
ISO designation	DCONMS mm	H mm	LF mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand 2A/24 Article no. 70 561 ... £		Right-hand 2A/24 Article no. 70 560 ... £	
A25R PSKN R/L 12	25	23	200	203	15.5	17	32	4	SNM. 1204	202.00	225	202.00	225
A32S PSKN R/L 12	32	30	250	253	16.0	22	40	4	SNM. 1204	208.91	232	208.91	232
A40T PSKN R/L 12	40	38	300	303	23.0	27	50	4	SNM. 1204	232.73	240	232.73	240

Spare parts for Article no.		2A/28 Key I Article no. 70 950 ... £		2A/28 Shim Article no. 70 950 ... £		2A/28 Assembly pin Article no. 70 950 ... £		2A/28 Lever Article no. 70 950 ... £		2A/28 Clamping screw Article no. 70 950 ... £		2A/28 Solid Carbide support S Article no. 70 950 ... £	
70 561 225 / 70 560 225	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.89	205	5.55	230
70 561 232 / 70 560 232	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.89	205	5.55	230
70 561 240 / 70 560 240	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	5.55	230

9

TNMG / TNMA / TNMM

Designation	L	S	D1	IC
	mm	mm	mm	mm
TNMG 1103..	11.0	3.18	2.26	6.35
TNM. 1604..	16.5	4.76	3.81	9.52
TNM. 2204..	22.0	4.76	5.16	12.70



TNMG

	-CF20 CTEP110	-F50 CTCP115	-F50 CTCP125	-F50 CTCP135	-M50 CTCP115	-M50 CTCP125	-M50 CTCP135
	-NF12 DCC1110	-NF15 HCX1115	-NF15 HCX1125	-NF15 HCR1135	-NM15 HCX1115	-NM15 HCX1125	-NM15 HCR1135
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
	F	F	F	F	M	M	M
	CERMET TNMG 1A/78	TNMG 1A/08	TNMG 1A/08	TNMG 1A/08	TNMG 1A/08	TNMG 1A/08	TNMG 1A/08
ISO / RE	Article no. 76 149 ...	Article no. 76 146 ...	Article no. 76 146 ...	Article no. 76 146 ...	Article no. 76 138 ...	Article no. 76 138 ...	Article no. 76 138 ...
mm	£	£	£	£	£	£	£
110304EN 0.4		5.85 304	5.85 504	5.85 704			
110308EN 0.8		5.85 306	5.85 506	5.85 706			
160404EN 0.4	9.19 016	9.27 316	9.27 516	9.27 716	9.27 316	9.27 516	9.27 716
160408EN 0.8	9.19 018	9.27 318	9.27 518	9.27 718	9.27 318	9.27 518	9.27 718
160412EN 1.2	9.19 020	9.27 320	9.27 520	9.27 720	9.27 320	9.27 520	9.27 720
220408EN 0.8					12.51 330	12.51 530	12.51 730
220412EN 1.2					12.51 332	12.51 532	12.51 732
Steel	●	●	●	●	●	●	●
Stainless steel	○	○	○	○	○	○	○
Cast iron	○	○	○		○	○	
Non ferrous metals							
Heat resistant alloys				○			○

TNMG

		-M70 CTCK110	-M70 CTCK120	-M70 CTCP115	-M70 CTCP125	-M70 CTCP135	CTCP125	CTCP135
		-NM19 DCX3110	-NM19 HCF3120	-NM19 HCX1115	-NM19 HCX1125	-NM19 HCR1135	HCX1125	HCR1135
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		M	M	M	M	M	M	M
		TNMG	TNMG	TNMG	TNMG	TNMG	TNMG	TNMG
		1A/08	1A/08	1A/08	1A/08	1A/08	1A/08	1A/08
ISO	RE	Article no. 70 155 ...	Article no. 70 155 ...	Article no. 76 155 ...	Article no. 76 155 ...	Article no. 76 155 ...	Article no. 76 142 ...	Article no. 76 142 ...
	mm	£	£	£	£	£	£	£
110302EN	0.2							5.85 702
160404ER	0.4						9.27 516	9.27 716
160408EL	0.8						9.27 518	
160408EN	0.8	9.27 018	9.27 518	9.27 318	9.27 518	9.27 718		
160408ER	0.8						9.27 517	9.27 717
160412EN	1.2	9.27 020	9.27 520	9.27 320	9.27 520	9.27 720		
220404EN	0.4				12.51 528			
220408EN	0.8	12.51 030	12.51 530	12.51 330	12.51 530	12.51 730		
220412EN	1.2	12.51 032	12.51 532	12.51 332	12.51 532	12.51 732		
220416EN	1.6	12.51 034	12.51 534	12.51 334	12.51 534	12.51 734		
Steel		●	●	●	●	●	●	●
Stainless steel		○		○	○	○	○	○
Cast iron		●	●	○	○		○	
Non ferrous metals								
Heat resistant alloys						○		○

TNMA / TNMM

		CTCK110	CTCK120	-R28 CTCP115	-R28 CTCP125	-R28 CTCP135	-R58 CTCP115	-R58 CTCP125
		DCX3110	HCF3120	-NR14 HCX1115	-NR14 HCX1125	-NR14 HCR1135	-NR17 HCX1115	-NR17 HCX1125
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		R	M	R	R	R	R	R
		TNMA	TNMA	TNMM	TNMM	TNMM	TNMM	TNMM
		1A/08	1A/08	1A/08	1A/08	1A/08	1A/08	1A/08
ISO	RE	Article no. 70 134 ...	Article no. 70 134 ...	Article no. 76 154 ...	Article no. 76 154 ...	Article no. 76 154 ...	Article no. 76 152 ...	Article no. 76 152 ...
	mm	£	£	£	£	£	£	£
160408EN	0.8	9.27 018	9.27 518					
160412EN	1.2	9.27 020	9.27 520					
160416EN	1.6	9.27 022	9.27 522					
220408EN	0.8	12.51 030	12.51 530					
220412EN	1.2	12.51 032	12.51 532				12.51 332	12.51 532
220416EN	1.6	12.51 034	12.51 534	12.51 334	12.51 534	12.51 734		
Steel				●	●	●	●	●
Stainless steel				○	○	○	○	○
Cast iron		●	●	○	○		○	○
Non ferrous metals								
Heat resistant alloys						○		

9

TNMM / TNMG

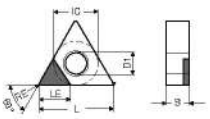
		-R58 CTCP135	-F30 CTPM125	-M30 CTPM125	-M42 CTC2135	-M60 CTPM125	-M70 CTC2135	-M34 CTP5115
		-NR17 HCR1135	-NF23 HCN2125	-NM23 HCN2125	-M42 CWN2135	-NM26 HCN2125	-NM19 CWN2135	-M34 HCN5115
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN		DRAGONSKIN		DRAGONSKIN
								
		R	F	M	M	M	M	M
		TNMM	TNMG	TNMG	TNMG	TNMG	TNMG	TNMG
		1A/08	1A/08	1A/08	1A/08	1A/08	1A/08	1A/08
ISO	RE	Article no. 76 152 ...	Article no. 75 019 ...	Article no. 75 020 ...	Article no. 70 148 ...	Article no. 75 021 ...	Article no. 70 155 ...	Article no. 75 006 ...
	mm	£	£	£	£	£	£	£
160404EN	0.4		9.27 216		9.19 404			
160408EN	0.8		9.27 218	9.27 218	9.19 408	9.27 218	9.19 418	9.19 516
160412EN	1.2			9.27 220		9.27 220		
220404EN	0.4							13.23 528
220408EN	0.8							13.23 530
220412EN	1.2	12.51 732						
220416EN	1.6							13.23 534
Steel		●	○	○	○	○	○	
Stainless steel		○	●	●	●	●	●	○
Cast iron								
Non ferrous metals								
Heat resistant alloys		○		○	●	○	●	●

TNMG

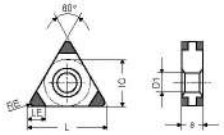
		-M42 CTP2120	-M52 CTP2120
		-M42 CCN2120	-M52 CCN2120
			
		M	M
		TNMG	TNMG
		1A/08	1A/08
ISO	RE	Article no. 70 148 ...	Article no. 70 152 ...
	mm	£	£
160404EN	0.4		9.19 604
160408EN	0.8	9.19 608	9.19 608
Steel			
Stainless steel		○	○
Cast iron		○	○
Non ferrous metals		○	○
Heat resistant alloys		●	●

TNGA

Designation	L	S	D1	IC
	mm	mm	mm	mm
TNGA 1103..	11.0	3.18	2.26	6.35
TNGA 1604..	16.5	4.76	3.81	9.52

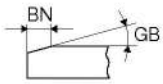


-A



-M (-6SC)

TNGA



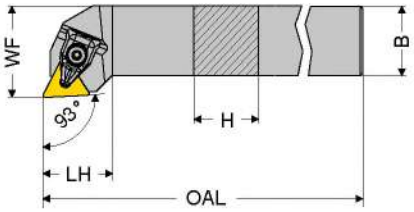
ISO	RE	GB	BN	LE	-A CTBH21U PBC25 F CBN TNGA Y0 Article no. 71 108 ... £		-M CTBH20C -6SC PBC25-S F CBN TNGA Y0 Article no. 71 404 ... £		-A CTBH40U PBC40 F CBN TNGA Y0 Article no. 71 108 ... £		-M CTBH40C -6SC PBC40-S F CBN TNGA Y0 Article no. 71 404 ... £	
	mm	°	mm	mm								
110304TN	0.4	20	0.14	2.8	52.75	500						
110308FN	0.8			2.5					52.75	802 [1]		
110308TN	0.8	20	0.14	2.5	52.75	502						
160404FN	0.4			3.5	52.75	404 [1]			52.75	804 [1]		
160404TN	0.4	15	0.09	2.8			128.25	222				
160404SN	0.4	20	0.09	2.8							128.25	332
160404SN	0.4	20	0.11	2.8			128.25	242			128.25	342
160404TN	0.4	20	0.14	3.5	52.75	504						
160404SN	0.4	25	0.11	2.8							128.25	352
160404TN	0.4	25	0.11	2.8			128.25	252				
160404TN	0.4	25	0.12	3.5					52.75	904		
160404FN	0.4			2.8			128.25	212				
160404SN	0.4	25	0.13	2.8			128.25	262				
160404SN	0.4	30	0.14	2.8							128.25	372
160404SN	0.4	35	0.14	2.8							128.25	382
160408TN	0.8	15	0.09	2.5			128.25	224				
160408SN	0.8	15	0.09	2.5							128.25	324
160408SN	0.8	20	0.09	2.5							128.25	334
160408TN	0.8	20	0.09	2.5			128.25	234				
160408SN	0.8	20	0.11	2.5			128.25	244			128.25	344
160408TN	0.8	20	0.14	3.0	52.75	506						
160408SN	0.8	25	0.11	2.5							128.25	354
160408TN	0.8	25	0.11	2.5			128.25	254				
160408TN	0.8	25	0.12	3.0					52.75	906		
160408SN	0.8	25	0.13	2.5			128.25	264			128.25	364
160408SN	0.8	30	0.14	2.5							128.25	374
160408SN	0.8	35	0.14	2.5							128.25	384
160408FN	0.8			2.5			128.25	214				
160408FN	0.8			3.0	52.75	406 [1]						
160408EN	0.8			2.5							128.25	314
160412TN	1.2	15	0.09	2.2			128.25	226				
160412SN	1.2	20	0.09	2.2							128.25	336
160412SN	1.2	20	0.11	2.2			128.25	246			128.25	346
160412SN	1.2	25	0.11	2.2							128.25	356
160412TN	1.2	25	0.11	2.2			128.25	256				
160412SN	1.2	25	0.13	2.2			128.25	266			128.25	366
160412SN	1.2	30	0.14	2.2							128.25	376
160412SN	1.2	35	0.14	2.2							128.25	386
160412FN	1.2			2.2			128.25	216				

Cast iron				
Sintered steels				
Heat resistant alloys				
hardened < 45 HRC				
hardened 46–55 HRC	•	•	•	•
hardened 56–60 HRC	•	•	•	•
hardened 61–65 HRC			•	•

1) Machining to 60 HRC

9

MaxiLock-D – DTJN 93° – Toolholder with top clamping

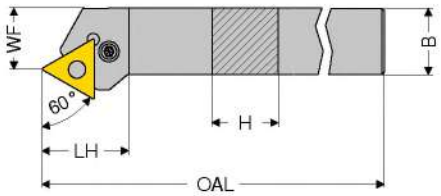


Illustrations show right-hand versions

ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Left-hand 2A/24 Article no. 70 591 ...		Right-hand 2A/24 Article no. 70 590 ...	
	mm	mm	mm	mm	mm	Nm		£		£	
DTJN R/L 2020 K16	20	20	125	23	25	2	TNM. 1604	77.31	820	77.31	820
DTJN R/L 2525 M16	25	25	150	24	32	2	TNM. 1604	79.97	825	79.97	825

Spare parts	2A/28 XPress type Article no. 70 950 ...		Y7 Key D Article no. 80 950 ...		2A/28 Clamping screw Article no. 70 950 ...		2A/28 Solid Carbide Seat T Article no. 70 950 ...	
for Article no.	£		£		£		£	
70 590 820 / 70 591 820	21.91	823	T09 - IP	14.77 126	M3x7 - IP	2.85	819	6.31 847
70 590 825 / 70 591 825	21.91	823	T09 - IP	14.77 126	M3x7 - IP	2.85	819	6.31 847

MaxiLock-N – PTTN 60° – Toolholder with lever clamping

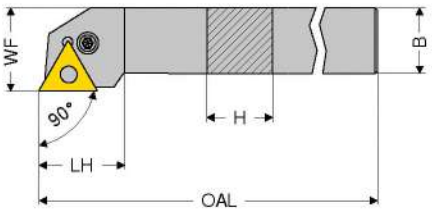


Illustrations show right-hand versions

ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Left-hand 2A/24 Article no. 70 529 ...		Right-hand 2A/24 Article no. 70 528 ...	
	mm	mm	mm	mm	mm	Nm		£		£	
PTTN R/L 2020 K16	20	20	125	25.9	17	3	TNM. 1604	77.31	020	77.31	020
PTTN R/L 2525 M22	25	25	150	32.7	22	4	TNM. 2204	79.97	025	79.97	025

Spare parts		2A/28 Key I Article no. 70 950 ...		2A/28 Shim Article no. 70 950 ...		2A/28 Assembly pin Article no. 70 950 ...		2A/28 Lever Article no. 70 950 ...		2A/28 Clamping screw Article no. 70 950 ...		2A/28 Solid Carbide Seat T Article no. 70 950 ...	
for Article no.		£		£		£		£		£		£	
70 529 020 / 70 528 020	SW2,5	2.23	175	1.60	197	1.11	191	11.35	185	2.90	208	6.31	225
70 529 025 / 70 528 025	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	9.03	226

MaxiLock-N – PTGN 90° – Toolholder with lever clamping



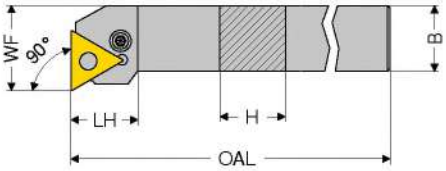
Illustrations show right-hand versions

ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Left-hand 2A/24 Article no. 70 533 ...		Right-hand 2A/24 Article no. 70 532 ...	
	mm	mm	mm	mm	mm	Nm		£		£	
PTGN R/L 1616 H16	16	16	100	20	20	3	TNM. 1604	69.39	016	69.39	016
PTGN R/L 2020 K16	20	20	125	20	25	3	TNM. 1604	77.31	020	77.31	020
PTGN R/L 2525 M16	25	25	150	22	32	3	TNM. 1604	79.97	025	79.97	025
PTGN R/L 3225 P16	32	25	170	22	32	3	TNM. 1604	85.79	032	85.79	032
PTGN R/L 2525 M22	25	25	150	29	32	4	TNM. 2204	79.97	125	79.97	125
PTGN R/L 3232 P22	32	32	170	29	40	4	TNM. 2204	108.00	132	108.00	132

Spare parts for Article no.		2A/28 Key I Article no. 70 950 ... £		2A/28 Shim Article no. 70 950 ... £		2A/28 Assembly pin Article no. 70 950 ... £		2A/28 Lever Article no. 70 950 ... £		2A/28 Clamping screw Article no. 70 950 ... £		2A/28 Solid Carbide Seat T Article no. 70 950 ... £	
70 532 016 / 70 533 016	SW2,5	2.23	175	1.60	197	1.11	191	11.35	185	2.90	208	6.31	225
70 532 020 / 70 533 020	SW2,5	2.23	175	1.60	197	1.11	191	11.35	185	2.90	208	6.31	225
70 532 025 / 70 533 025	SW2,5	2.23	175	1.60	197	1.11	191	11.35	185	2.90	208	6.31	225
70 532 032 / 70 533 032	SW2,5	2.23	175	1.60	197	1.11	191	11.35	185	2.90	208	6.31	225
70 532 125 / 70 533 125	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	9.03	226
70 532 132 / 70 533 132	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	9.03	226

9

MaxiLock-N – PTFN 90° – Toolholder with lever clamping



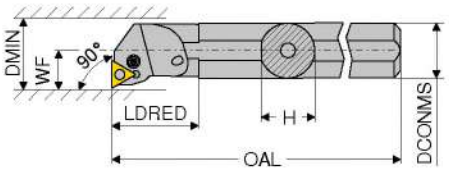
Illustrations show right-hand versions

ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Left-hand 2A/24 Article no. 70 535 ...		Right-hand 2A/24 Article no. 70 534 ...	
	mm	mm	mm	mm	mm	Nm		£		£	
PTFN R/L 1616 H16	16	16	100	19.7	20	3	TNM. 1604	69.39	016	69.39	016
PTFN R/L 2020 K16	20	20	125	20.2	25	3	TNM. 1604	77.31	020	77.31	020
PTFN R/L 2525 M16	25	25	150	20.2	32	3	TNM. 1604	79.97	025	79.97	025
PTFN R/L 2525 M22	25	25	150	25.2	32	4	TNM. 2204	79.97	125	79.97	125
PTFN R/L 3225 P22	32	25	170	25.2	32	4	TNM. 2204	85.79	132	85.79	132

Spare parts for Article no.		2A/28 Key I Article no. 70 950 ... £		2A/28 Shim Article no. 70 950 ... £		2A/28 Assembly pin Article no. 70 950 ... £		2A/28 Lever Article no. 70 950 ... £		2A/28 Clamping screw Article no. 70 950 ... £		2A/28 Solid Carbide Seat T Article no. 70 950 ... £	
70 534 016 / 70 535 016	SW2,5	2.23	175	1.60	197	1.11	191	11.35	185	2.90	208	6.31	225
70 534 020 / 70 535 020	SW2,5	2.23	175	1.60	197	1.11	191	11.35	185	2.90	208	6.31	225
70 534 025 / 70 535 025	SW2,5	2.23	175	1.60	197	1.11	191	11.35	185	2.90	208	6.31	225
70 534 125 / 70 535 125	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	9.03	226
70 534 132 / 70 535 132	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	9.03	226

MaxiLock-N – PTFN 90° – Boring bar with lever clamping

▲ A... = with thro' coolant
▲ S... = without thro' coolant



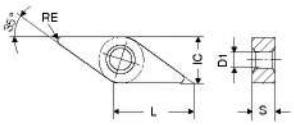
Illustrations show right-hand versions

ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand 2A/24 Article no. 70 565 ... £		Right-hand 2A/24 Article no. 70 564 ... £	
A16M PTFN R/L 11	16	15.0	150	14.0	11	20	2,2	TNM. 1103	134.27	**216**	134.27	**216**
A20Q PTFN R/L 11	20	18.5	180	14.0	13	25	2,2	TNM. 1103	181.27	**220**	181.27	**220**
A25R PTFN R/L 16	25	23.0	200	17.5	17	32	3	TNM. 1604	202.00	**225**	202.00	**225**
A32S PTFN R/L 16	32	30.0	250	18.0	22	40	3	TNM. 1604	208.91	**232**	208.91	**232**
A40T PTFN R/L 22	40	38.0	300	27.0	27	50	4	TNM. 2204	232.73	**240**	232.73	**240**
S50W PTFN R 22	50	47.0	450	35.0	35	63	4	TNM. 2204			288.00	**050**

Spare parts for Article no.	2A/28 Key I Article no. 70 950 ... £		2A/28 Shim Article no. 70 950 ... £		2A/28 Assembly pin Article no. 70 950 ... £		2A/28 Lever Article no. 70 950 ... £		2A/28 Clamping screw Article no. 70 950 ... £		2A/28 Solid Carbide Seat T Article no. 70 950 ... £	
70 564 216 / 70 565 216	2.23	**177**					11.45	**184**	1.93	**207**		
70 564 220 / 70 565 220	2.23	**177**					11.45	**184**	1.93	**207**		
70 564 225 / 70 565 225	2.23	**175**	1.60	**197**	1.11	**191**	11.35	**185**	2.90	**208**	6.31	**225**
70 564 232 / 70 565 232	2.23	**175**	1.60	**197**	1.11	**191**	11.35	**185**	2.90	**208**	6.31	**225**
70 564 240 / 70 565 240	2.23	**176**	1.60	**198**	1.11	**192**	11.45	**187**	3.18	**209**	9.03	**226**
70 564 050	2.23	**176**	1.60	**198**	1.11	**192**	11.45	**187**	3.18	**209**	9.03	**226**

VNMG / VNGP

Designation	L	S	D1	IC
	mm	mm	mm	mm
VN.. 1604..	16.6	4.76	3.81	9.52



VNMG

	-F40 CTCP125	-F50 CTCP115	-F50 CTCP125	-F50 CTCP135	-XU CTCP115	-XU CTCP125	-M40 CTCP125
	-F40 HCX1125	-NF15 HCX1115	-NF15 HCX1125	-NF15 HCR1135	-XU HCX1115	-XU HCX1125	-M40 HCX1125
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
	F	F	F	F	M	M	M
	VNMG	VNMG	VNMG	VNMG	VNMG	VNMG	VNMG
	1A/08	1A/08	1A/08	1A/08	1A/08	1A/08	1A/08
ISO / RE mm	Article no. 76 000 ... £	Article no. 76 156 ... £	Article no. 76 156 ... £	Article no. 76 156 ... £	Article no. 76 294 ... £	Article no. 76 294 ... £	Article no. 76 001 ... £
160404EN 0.4	18.71 516	18.71 316	18.71 516	18.71 716	18.67 316	18.67 516	18.71 516
160408EN 0.8	18.71 518	18.71 318	18.71 518	18.71 718	18.67 318	18.67 518	18.71 518
Steel	●	●	●	●	●	●	●
Stainless steel	○	○	○	○	○	○	○
Cast iron	○	○	○		○	○	○
Non ferrous metals							
Heat resistant alloys				○			

9

VNMG / VNGP

	-M50 CTCK120	-M50 CTCP115	-M50 CTCP125	-F30 CTPM125	-M30 CTPM125	-F32 CTP2120	-M34 CTP5110
	-NM15 HCF3120	-NM15 HCX1115	-NM15 HCX1125	-NF23 HCN2125	-NM23 HCN2125	-F32 CCN2120	-M34 HCN5110
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN		DRAGONSKIN
							
	M	M	M	F	M	F	M
	VNMG	VNMG	VNMG	VNMG	VNMG	VNGP	VNMG
	1A/08	1A/08	1A/08	1A/08	1A/08	1A/08	1A/08
ISO / RE mm	Article no. 70 131 ... £	Article no. 76 131 ... £	Article no. 76 131 ... £	Article no. 75 022 ... £	Article no. 75 023 ... £	Article no. 70 167 ... £	Article no. 75 009 ... £
160402FN 0.2						24.92 602	
160404EN 0.4		18.71 316	18.71 516	18.71 216			17.79 416
160404FN 0.4						24.92 604	
160408EN 0.8	18.71 518	18.71 318	18.71 518	18.71 218	18.71 218		17.79 418
160412EN 1.2	18.71 520	18.71 320	18.71 520				17.79 420
Steel	●	●	●	○	○		
Stainless steel		○	○	●	●	●	○
Cast iron	●	○	○			○	
Non ferrous metals						○	
Heat resistant alloys					○	●	●

VNMG

-M34 CTP5115

-M34 HCN5115

DRAGONSKIN

M

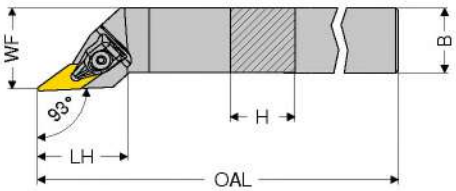
VNMG

1A/08

ISO	RE mm	Article no. 75 009 ... £	
160404EN	0.4	17.79	516
160408EN	0.8	17.79	518
160412EN	1.2	17.79	520

Steel	
Stainless steel	○
Cast iron	
Non ferrous metals	
Heat resistant alloys	●

MaxiLock-D – DVJN 93° – Toolholder with top clamping



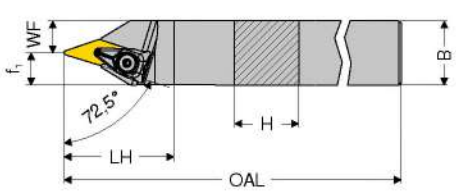
Illustrations show right-hand versions

ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Left-hand 2A/24 Article no. 70 503 ...		Right-hand 2A/24 Article no. 70 502 ...	
	mm	mm	mm	mm	mm	Nm		£		£	
DVJN R/L 2020 K16	20	20	125	39	25	2	VN.. 1604	88.94	620	88.94	620
DVJN R/L 2525 M16	25	25	150	39	32	2	VN.. 1604	94.36	725	94.36	725

Tool holders with HSK-T interface can be found in → **Chapter 16.**

Spare parts	2A/28 XPress type Article no. 70 950 ...		Y7 Key D Article no. 80 950 ...		2A/28 Clamping screw Article no. 70 950 ...		2A/28 Solid Carbide Seat V Article no. 70 950 ...	
for Article no.	£		£		£		£	
70 502 620 / 70 503 620	26.15	835	T09 - IP	14.77	126	M3x7 - IP	2.85	819	5.08	806
70 502 725 / 70 503 725	26.15	835	T09 - IP	14.77	126	M3x7 - IP	2.85	819	5.08	806

MaxiLock-D – DVVN 72.5° – Toolholder with top clamping

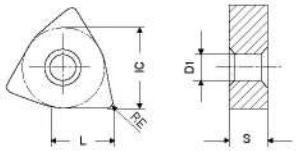


ISO designation	H	B	OAL	LH	WF	f_1	torque moment	Insert	Neutral 2A/24 Article no. 70 506 ...	
	mm	mm	mm	mm	mm	mm	Nm		£	
DVVN N 2020 K16	20	20	125	43	7.5	12.5	2	VN.. 1604	88.94	620
DVVN N 2525 M16	25	25	150	43	12.5	12.5	2	VN.. 1604	94.36	625

Spare parts	2A/28 XPress type Article no. 70 950 ...		Y7 Key D Article no. 80 950 ...		2A/28 Clamping screw Article no. 70 950 ...		2A/28 Solid Carbide Seat V Article no. 70 950 ...	
for Article no.	£		£		£		£	
70 506 620	26.15	835	T09 - IP	14.77	126	M3x7 - IP	2.85	819	5.08	806
70 506 625	26.15	835	T09 - IP	14.77	126	M3x7 - IP	2.85	819	5.08	806

WNMG / WNMA

Designation	L	S	D1	IC
	mm	mm	mm	mm
WNMG 0604..	6.5	4.76	3.81	9.52
WNM. 0804..	8.6	4.76	5.16	12.70



WNMG

	-CF20 CTEP110	-F50 CTCP115	-F50 CTCP125	-F50 CTCP135	-TFQ CTEP110	-TFQ CTCP115	-TFQ CTCP125
	-NF12 DCC1110	-NF15 HCX1115	-NF15 HCX1125	-NF15 HCR1135	-TFQ DCC1110	-TFQ HCX1115	-TFQ HCX1125
	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
							
	F	F	F	F	F	F	F
	CERMET WNMG 1A/78	WNMG 1A/08	WNMG 1A/08	WNMG 1A/08	CERMET WNMG 1A/78	WNMG 1A/08	WNMG 1A/08
ISO / RE mm	Article no. 76 171 ... £	Article no. 76 157 ... £	Article no. 76 157 ... £	Article no. 76 157 ... £	Article no. 76 177 ... £	Article no. 76 177 ... £	Article no. 76 177 ... £
060404EN 0.4	8.80 004	9.05 304	9.05 504	9.05 704		10.47 304	10.47 514
060408EN 0.8	8.80 006	9.05 306	9.05 506	9.05 706	10.47 006	10.47 306	10.47 506
080404EN 0.4		11.39 316	11.39 516	11.39 716	13.11 016		
080408EN 0.8	11.39 018	11.39 318	11.39 518	11.39 718	13.11 018	13.11 318	13.11 518
080412EN 1.2		11.39 320	11.39 520	11.39 720		13.11 320	13.11 520
Steel	●	●	●	●	●	●	●
Stainless steel	○	○	○	○	○	○	○
Cast iron	○	○	○		○	○	○
Non ferrous metals							
Heat resistant alloys				○			

WNMG

		-XU CTCP115	-XU CTCP125	-M50 CTCK110	-M50 CTCK120	-M50 CTCP115	-M50 CTCP125	-M50 CTCP135
		-XU HCX1115	-XU HCX1125	-NM15 DCX3110	-NM15 HCF3120	-NM15 HCX1115	-NM15 HCX1125	-NM15 HCR1135
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		M	M	M	M	M	M	M
		WNMG	WNMG	WNMG	WNMG	WNMG	WNMG	WNMG
		1A/08	1A/08	1A/08	1A/08	1A/08	1A/08	1A/08
ISO	RE	Article no. 76 295 ...	Article no. 76 295 ...	Article no. 70 139 ...	Article no. 70 139 ...	Article no. 76 139 ...	Article no. 76 139 ...	Article no. 76 139 ...
	mm	£	£	£	£	£	£	£
060404EN	0.4					9.05 304	9.05 504	9.05 704
060408EN	0.8					9.05 306	9.05 506	9.05 706
060412EN	1.2					9.05 308	9.05 508	9.05 708
080404EN	0.4	11.40 316	11.40 516			11.39 316	11.39 516	11.39 716
080408EN	0.8	11.40 318	11.40 518	11.39 018	11.39 518	11.39 318	11.39 518	11.39 718
080412EN	1.2	11.40 320	11.40 520	11.39 020	11.39 520	11.39 320	11.39 520	11.39 720
080416EN	1.6					11.39 322	11.39 522	11.39 722
Steel		●	●	●	●	●	●	●
Stainless steel		○	○	○		○	○	○
Cast iron		○	○	●	●	○	○	
Non ferrous metals								
Heat resistant alloys								○

9

WNMG

		-TMQ CTCP115	-TMQ CTCP125	-M70 CTCK110	-M70 CTCK120	-M70 CTCP115	-M70 CTCP125	-M70 CTCP135
		-TMQ HCX1115	-TMQ HCX1125	-NM19 DCX3110	-NM19 HCF3120	-NM19 HCX1115	-NM19 HCX1125	-NM19 HCR1135
		DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN	DRAGONSKIN
								
		M	M	M	M	M	M	M
		WNMG	WNMG	WNMG	WNMG	WNMG	WNMG	WNMG
		1A/08	1A/08	1A/08	1A/08	1A/08	1A/08	1A/08
ISO	RE	Article no. 76 198 ...	Article no. 76 198 ...	Article no. 70 273 ...	Article no. 70 273 ...	Article no. 76 273 ...	Article no. 76 273 ...	Article no. 76 273 ...
	mm	£	£	£	£	£	£	£
060408EN	0.8					9.05 306	9.05 506	9.05 706
060412EN	1.2					9.05 308	9.05 508	9.05 708
080408EN	0.8	13.11 31800	13.11 518	11.39 018	11.39 518	11.39 318	11.39 518	11.39 718
080412EN	1.2	13.11 320	13.11 520	11.39 020	11.39 520	11.39 320	11.39 520	11.39 720
080416EN	1.6			11.39 022	11.39 522	11.39 322	11.39 522	11.39 722
Steel		●	●	●	●	●	●	●
Stainless steel		○	○	○		○	○	○
Cast iron		○	○	●	●	○	○	
Non ferrous metals								
Heat resistant alloys								○

WNMA / WNMG

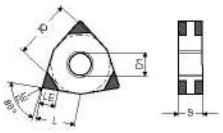
		CTCK110		CTCK120		-F30 CTPM125		-M30 CTPM125		-M42 CTC2135		-M60 CTPM125		-M70 CTC2135	
		DCX3110		HCF3120		-NF23 HCN2125		-NM23 HCN2125		-M42 CWN2135		-NM26 HCN2125		-NM19 CWN2135	
		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN		DRAGONSKIN				DRAGONSKIN			
		R		R		F		M		M		M		M	
		WNMA		WNMA		WNMG		WNMG		WNMG		WNMG		WNMG	
		1A/08		1A/08		1A/08		1A/08		1A/08		1A/08		1A/08	
ISO	RE	Article no. 70 169 ...		Article no. 70 169 ...		Article no. 75 024 ...		Article no. 75 025 ...		Article no. 70 178 ...		Article no. 75 026 ...		Article no. 70 273 ...	
	mm	£		£		£		£		£		£		£	
060404EN	0.4					9.05	204			8.80	400				
060408EN	0.8					9.05	206	9.05	206	8.80	402	9.05	206		
060412EN	1.2							9.05	208			9.05	208		
080404EN	0.4					11.39	216			11.39	404				
080408EN	0.8	11.39	018	11.39	518	11.39	218	11.39	218	11.39	406	11.39	218	11.39	418
080412EN	1.2	11.39	020	11.39	520			11.39	220	11.39	408	11.39	220		
080416EN	1.6	11.39	022	11.39	522										
Steel						○		○		○		○		○	
Stainless steel						●		●		●		●		●	
Cast iron		●		●											
Non ferrous metals															
Heat resistant alloys								○		●		○		●	

WNMG

		-M34 CTP5110		-M34 CTP5115		-M42 CTP2120		-M52 CTP2120	
		-M34 HCN5110		-M34 HCN5115		-M42 CCN2120		-M52 CCN2120	
		DRAGONSKIN		DRAGONSKIN					
		M		M		M		M	
		WNMG		WNMG		WNMG		WNMG	
		1A/08		1A/08		1A/08		1A/08	
ISO	RE	Article no. 75 008 ...		Article no. 75 008 ...		Article no. 70 178 ...		Article no. 70 179 ...	
	mm	£		£		£		£	
060404EN	0.4							8.80	604
060408EN	0.8							8.80	608
080404EN	0.4							11.39	612
080408EN	0.8	11.90	418	11.90	518	11.39	608	11.39	614
080412EN	1.2	11.90	420	11.90	520				
Steel									
Stainless steel		○		○		○		○	
Cast iron						○		○	
Non ferrous metals						○		○	
Heat resistant alloys		●		●		●		●	

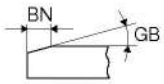
WNGA

Designation	L	S	D1	IC
	mm	mm	mm	mm
WNGA 0804..	8.5	4.76	5.13	12.7



-M (-6SC)

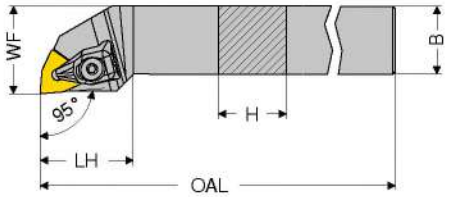
WNGA



ISO	RE	GB	BN	LE	-M CTBS20C -6SC PBC15-S		-M CTBH20C -6SC PBC25-S		-M CTBH40C -6SC PBC40-S	
	mm	°	mm	mm	F CBN WNGA Y0 Article no. 71 405 ... £		F CBN WNGA Y0 Article no. 71 405 ... £		F CBN WNGA Y0 Article no. 71 405 ... £	
080404SN	0.4	10	0.09	2.8	125.05	122				
080404SN	0.4	15	0.09	2.8	125.05	132				
080404SN	0.4	20	0.09	2.8	125.05	152			125.05	332
080404SN	0.4	20	0.11	2.8			125.05	242		
080404SN	0.4	25	0.11	2.8					125.05	352
080404SN	0.4	25	0.13	2.8			125.05	262		
080404SN	0.4	30	0.14	2.8					125.05	372
080408SN	0.8	10	0.09	2.5	125.05	124				
080408SN	0.8	15	0.09	2.5	125.05	134				
080408SN	0.8	20	0.09	2.5	125.05	154			125.05	334
080408SN	0.8	20	0.11	2.5			125.05	244		
080408SN	0.8	25	0.11	2.5					125.05	354
080408SN	0.8	25	0.13	2.5			125.05	264	125.05	364
080408SN	0.8	25	0.16	2.5	125.05	174				
080408SN	0.8	30	0.14	2.5			125.05	274	125.05	376
Cast iron					●					
Sintered steels					●					
Heat resistant alloys					●					
hardened < 45 HRC										
hardened 46-55 HRC							●		●	
hardened 56-60 HRC							●		●	
hardened 61-65 HRC									●	

9

MaxiLock-D – DWLN 95° – Toolholder with top clamping



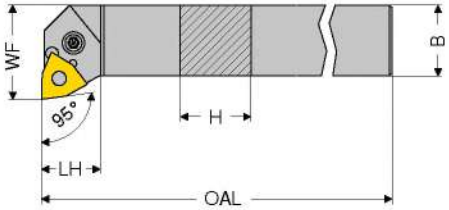
Illustrations show right-hand versions

ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Left-hand 2A/24 Article no. 70 543 ...	£	Right-hand 2A/24 Article no. 70 542 ...	£
	mm	mm	mm	mm	mm	Nm					
DWLN R/L 1616 H06	16	16	100	25	20	2	WN.. 0604	69.39	716	69.39	716
DWLN R/L 2020 K06	20	20	125	27	25	2	WN.. 0604	77.31	720	77.31	720
DWLN R/L 2525 M06	25	25	150	27	32	2	WN.. 0604	79.97	725	79.97	725
DWLN R/L 2020 K08	20	20	125	34	25	4	WN.. 0804	77.31	620	77.31	620
DWLN R/L 2525 M08	25	25	150	34	32	4	WN.. 0804	79.97	625	79.97	625

Tool holders with HSK-T or PSC interface can be found in → **Chapter 16.**

Spare parts	2A/28 XPress type Article no. 70 950 ...	£		Y7 Key D Article no. 80 950 ...	£		2A/28 Clamping screw Article no. 70 950 ...	£		2A/28 Solid Carbide Seat W Article no. 70 950 ...	£	
for Article no.												
70 543 716 / 70 542 716	21.91	823		T09 - IP	14.77	126	M3x7 - IP	2.85	819	3.09	807	
70 543 720 / 70 542 720	21.91	823		T09 - IP	14.77	126	M3x7 - IP	2.85	819	3.09	807	
70 543 725 / 70 542 725	21.91	823		T09 - IP	14.77	126	M3x7 - IP	2.85	819	3.09	807	
70 543 620 / 70 542 620	21.61	824		T15 - IP	15.77	128	M4,5x12 - IP	2.71	820	9.03	812	
70 543 625 / 70 542 625	21.61	824		T15 - IP	15.77	128	M4,5x12 - IP	2.71	820	9.03	812	

MaxiLock-N – PWLN 95° – Toolholder with lever clamping

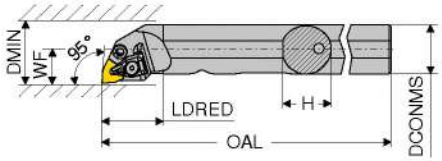


Illustrations show right-hand versions

ISO designation	H	B	OAL	LH	WF	torque moment	Insert	Left-hand 2A/24 Article no. 70 543 ...	£	Right-hand 2A/24 Article no. 70 542 ...	£
	mm	mm	mm	mm	mm	Nm					
PWLN R/L 1616 H06	16	16	100	20	22.5	3	WNMG 0604	69.39	116	69.39	116
PWLN R/L 2020 K06	20	20	125	26	25.0	3	WNMG 0604	77.31	120	77.31	120
PWLN R/L 2525 M06	25	25	150	19	32.0	3	WNMG 0604	79.97	125	79.97	125
PWLN R/L 2020 K08	20	20	125	22	25.0	4	WNMG 0804	77.31	020	77.31	020
PWLN R/L 2525 M08	25	25	150	22	32.0	4	WNMG 0804	79.97	025	79.97	025
PWLN R/L 3225 P08	32	25	170	22	32.0	4	WNMG 0804	85.79	032	85.79	032

Spare parts		2A/28 Key I Article no. 70 950 ...	£		2A/28 Shim Article no. 70 950 ...	£		2A/28 Assembly pin Article no. 70 950 ...	£		2A/28 Lever Article no. 70 950 ...	£		2A/28 Clamping screw Article no. 70 950 ...	£		2A/28 Solid Carbide Seat W Article no. 70 950 ...	£	
for Article no.																			
70 542 116 / 70 543 116	SW2,5	2.23	175		1.87	122		1.11	191		11.35	185		2.90	208		6.55	127	
70 542 120 / 70 543 120	SW2,5	2.23	175		1.87	122		1.11	191		11.35	185		2.90	208		6.55	127	
70 542 125 / 70 543 125	SW2,5	2.23	175		1.87	122		1.11	191		11.35	185		2.90	208		6.55	127	
70 542 020 / 70 543 020	SW3	2.23	176		1.60	198		1.11	192		11.45	187		3.18	209		7.93	235	
70 542 025 / 70 543 025	SW3	2.23	176		1.60	198		1.11	192		11.45	187		3.18	209		7.93	235	
70 542 032 / 70 543 032	SW3	2.23	176		1.60	198		1.11	192		11.45	187		3.18	209		7.93	235	

MaxiLock-D – DWLN 95° – Boring bar with top clamping



Illustrations show right-hand versions

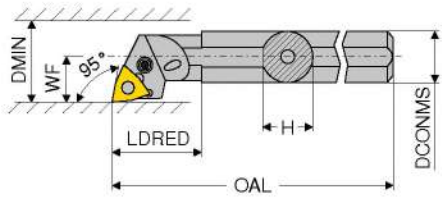
ISO designation	DCONMS	H	OAL	LDRED	WF	DMIN	torque moment	Insert	Left-hand 2A/24 Article no. 70 573 ...	£	Right-hand 2A/24 Article no. 70 572 ...	£
	mm	mm	mm	mm	mm	mm	Nm					
A25R DWLN R/L 06	25	24	200	32	17	32	2	WN.. 0604	202.00	725	202.00	725
A32S DWLN R/L 08	32	31	250	40	22	40	4	WN.. 0804	208.91	732	208.91	732
A40T DWLN R 08	40	39	300	45	27	50	4	WN.. 0804			232.73	640

Tool holders with HSK-T interface can be found in → **Chapter 16.**

Spare parts	2A/28 XPress type Article no. 70 950 ...	£	Y7 Key D Article no. 80 950 ...	£	2A/28 Clamping screw Article no. 70 950 ...	£	2A/28 Hydrant Article no. 70 950 ...	£	2A/28 Solid Carbide Seat W Article no. 70 950 ...	£
for Article no.										
70 572 725 / 70 573 725	21.91	823	T09 - IP	14.77	126	M3x7 - IP	2.85	819	18.95	834	3.09	807
70 572 732 / 70 573 732	21.61	824	T15 - IP	15.77	128	M4,5x12 - IP	2.71	820	18.95	834	9.03	812
70 572 640	21.61	824	T15 - IP	15.77	128	M4,5x12 - IP	2.71	820	18.95	834	9.03	812

9

MaxiLock-N – PWLN 95° – Boring bar with lever clamping



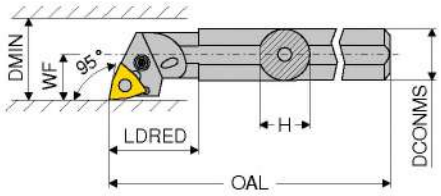
Illustrations show right-hand versions

ISO designation	DCONMS	H	OAL	LDRED	WF	DMIN	torque moment	Insert	Left-hand 2A/24 Article no. 70 573 ...	£	Right-hand 2A/24 Article no. 70 572 ...	£
	mm	mm	mm	mm	mm	mm	Nm					
A16M PWLN R/L 06	16	15	150	20	11	20	3	WNMG 0604	164.09	116	164.09	116
A20Q PWLN R/L 06-1	20	19	180	30	13	25	3	WNMG 0604	181.27	121	181.27	121
A25R PWLN R/L 06	25	23	200	25	17	32	3	WNMG 0604	202.00	125	202.00	125
A32S PWLN R/L 06	32	30	250	50	22	40	3	WNMG 0604	208.91	132	208.91	132
A25R PWLN R/L 08	25	23	200	40	17	31	4	WNMG 0804	202.09	225	202.09	225
A32S PWLN R/L 08	32	30	250	50	22	40	4	WNMG 0804	208.91	032	208.91	032
A40T PWLN R/L 08	40	39	300	60	27	50	4	WNMG 0804	232.73	040	232.73	040

Spare parts		2A/28 Key I Article no. 70 950 ...	£	2A/28 Shim Article no. 70 950 ...	£	2A/28 Assembly pin Article no. 70 950 ...	£	2A/28 Lever Article no. 70 950 ...	£	2A/28 Clamping screw Article no. 70 950 ...	£	2A/28 Solid Carbide Seat W Article no. 70 950 ...	£
for Article no.													
70 572 116 / 70 573 116	SW2	2.23	177					13.61	129	3.85	217		
70 572 121 / 70 573 121	SW2	2.23	177					13.61	129	3.85	217		
70 572 125 / 70 573 125	SW2,5	2.23	175	1.87	122	1.11	191	11.35	185	2.90	208	6.55	127
70 572 132 / 70 573 132	SW2,5	2.23	175	1.87	122	1.11	191	11.35	185	2.90	208	6.55	127
70 572 225 / 70 573 225	SW3	2.23	176					11.45	187	3.89	205		
70 572 032 / 70 573 032	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	7.93	235
70 572 040 / 70 573 040	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	7.93	235

MaxiLock-N – PWLN 95° – Boring bar with lever clamping

▲ with carbide core



Illustrations show right-hand versions

ISO designation	DCONMS mm	H mm	OAL mm	LDRED mm	WF mm	DMIN mm	torque moment Nm	Insert	Left-hand 2A Article no. 70 567 ... £		Right-hand 2A Article no. 70 566 ... £	
E-A16M PWLN R/L 06	16	15	150	24	11	20	3	WNMG 0604	582.18	016	582.18	016
E-A20Q PWLN R/L 06	20	18	180	29	13	27	3	WNMG 0604	622.36	020	622.36	020
E-A25R PWLN R/L 06	25	23	200	40	17	31	3	WNMG 0604	645.09	025	645.09	025
E-A25R PWLN R/L 08	25	23	200	40	17	31	4	WNMG 0804	645.09	125	645.09	125
E-A32S PWLN R/L 08	32	30	250	50	22	39	4	WNMG 0804	851.55	032	851.55	032
E-A40T PWLN R/L 08	40	38	300	60	27	48	4	WNMG 0804	1,016.36	040	1,016.36	040

Spare parts for Article no.		2A/28 Key I Article no. 70 950 ... £		2A/28 Shim Article no. 70 950 ... £		2A/28 Assembly pin Article no. 70 950 ... £		2A/28 Lever Article no. 70 950 ... £		2A/28 Clamping screw Article no. 70 950 ... £		2A/28 Solid Carbide Seat W Article no. 70 950 ... £	
70 566 016 / 70 567 016	SW2	2.23	177					13.61	129	3.85	217		
70 566 020 / 70 567 020	SW2	2.23	177					13.61	129	3.85	217		
70 566 025 / 70 567 025	SW2,5	2.23	175	1.87	122	1.11	191	11.35	185	2.90	208	6.55	127
70 566 125 / 70 567 125	SW3	2.23	176					11.45	187	3.18	209		
70 566 032 / 70 567 032	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	7.93	235
70 566 040 / 70 567 040	SW3	2.23	176	1.60	198	1.11	192	11.45	187	3.18	209	7.93	235