DIAMETAL®

µTOOLS

DE·EN

DIAMETAL

Group

1936

Von Anfang an spezialisierte sich das Unternehmen auf die Entwicklung und Herstellung von Hartmetallwerkzeugen und Verschleissteilen, Uhrenkomponenten sowie Diamant- und CBN-Schleifwerkzeugen.

From the very beginning, the company has specialized in the development and manufacture of carbide tools and wear parts, watch components and diamond and CBN abrasive tools.

Heute ist DIAMETAL dank ihres einzigartigen Know-hows in den Schleiftechnologie-Bereichen für harte Werkstoffe, ein führender Anbieter von Mikrozerspanungswerkzeugen.

Today, due to its unique expertise in hard material grinding technology, DIAMETAL is a leading supplier of superabrasive and micromachining tools.

3

Tätigkeitsbereiche

Sectors of activity

Abrasifs
Swiss Cutting Tool

180

Mitarbeiter/innen, die sich voll und ganz für die ständige Weiterentwicklung der Produktqualität, der Dienstleistungen und der Produktion des Unternehmens einsetzen.

Employees fully committed to the constant evolution of the quality and of the company‘s products, services and production.

YOUR BEST SOLUTION
IDEAL
AND INNOVATIVE

Diametal has „your“ best solution, due to its unique expertise in hard materials and coatings, its strong focus on research and development and its commitment to quality and precision.

ROTARY CUTTING TOOLS
YOUR NEEDS
IN ONE CATALOGUE

Get a comprehensive, high quality micro solution with our complete product range.

STATEMENT ON TOOLING
ADVANTAGES
THAT MAKE THE DIFFERENCE

- *Optimum tool surface quality, Ra 0.02, increasing tool life by 20% compared with the market standard.*
- *Thanks to the DIAcooling, lubrication can be provided at the desired machining point even with a toolwithout lubrification channels*

OUR „EXPERTISE“,

YOUR BEST SOLUTION
IDEAL
UND INNOVATIV

Diametal bietet „Ihre“ beste Lösung dank einzigartigem Know-how in den Bereichen Hartstoff- und Beschichtungstechnologien, Forschung und Entwicklung sowie dem Bekenntnis zu Qualität und Präzision.

ROTARY CUTTING TOOLS
IHRE BEDÜRFNISSE
IN EINEM EINZIGEN KATALOG

Erhalten Sie eine umfassende und qualitativ hochwertige Komplettlösung mit unserem Angebot an Mikrowerkzeugen.

STATEMENT ON TOOLING
DIE VORTEILE,
DIE DEN UNTERSCHIED MACHEN

- Optimale Oberflächengüte des Werkzeugs, Ra 0.02, die Standzeiten des Werkzeugs umdes Werkzeuges um 20% gegenüber dem Marktstandard.
- Dank DIAcooling kann die Schmierung auch bei einem Werkzeug ohne Schmierkanäle an der gewünschten Stelle erfolgen.

YOUR „SOLUTION„

APPLICATION CENTER
THE GUARANTEE OF AN OPTIMAL EXPERTISE

With the brand new application center, Diametal offers its customers complete machining processes and develops new, increasingly optimised applications, taking market requirements into account.

- *Free up your internal resources by letting us take care of the whole development process, from design to testing and prototyping. Find „your“ best solution, which allows you to optimise your production process while ensuring a sustainable and profitable solution in the long term.*
- *You get privileged access to the application and development group, which uses machining simulations to define the necessary tools and to produce prototypes for your testing.*
- *To suit your specific needs, we combine several tools into one to maximise your production efficiency.*

- *Reduction of the cycle times*
- *Improvement of the surface finish of your parts*
- *Manufacture of all cutting tools required for the production of the final piece.*
- *Technology transfer to the customer*

APPLICATION CENTER
DIE GARANTIE EINES OPTIMALEN FACHWISSENS

Mit dem brandneuen Application Center bietet Diametal seinen Kunden komplette Bearbeitungsprozesse an und entwickelt, unter Berücksichtigung der Marktanforderungen, neue, optimierte Anwendungen.

- Setzen Sie Ihre internen Ressourcen frei und überlassen Sie uns den gesamten Entwicklungsprozess. Vom Entwurf bis zum Testen und über die Prototypenerstellung. Finden Sie „Ihre“ beste Lösung, die es Ihnen ermöglicht, Ihren Produktionsprozess zu optimieren und gleichzeitig eine nachhaltige und rentable Lösung langfristig zu gewährleisten.
- Sie profitieren von einem privilegierten Zugang zur Anwendungs- und Entwicklungsgruppe, die mit Hilfe von Bearbeitungssimulationen, die erforderlichen Werkzeuge festlegt und Prototypen für Ihre Tests herstellt.
- Um Ihre spezifischen Anforderungen zu erfüllen, kombinieren wir mehrere Werkzeuge in einem, um Ihre Produktionseffizienz zu maximieren.

- Verkürzung der Zykluszeiten
- Fertigung aller Schneidwerkzeuge für die Herstellung des Bauteils
- Verbesserung der Oberflächengüte Ihrer Teile
- Transfer der Technologie zum Kunden

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Piktogramme
Pictograms

Zylindrisch
Cylindric

Stirngeometrie
Profile geometry

Drallwinkel
Helix angle

1 Schneide
1 Flute

2 Schneiden
2 Flutes

3 Schneiden
3 Flutes

4 Schneiden
4 Flutes

5 Schneiden
5 Flutes

6 Schneiden
6 Flutes

Ungleiche Zahnteilung
Unequally division

Vorschubrichtungen
Feed directions

Progressiver Spiralwinkel
Progressive helix

Kanten frontal
Front chamfer

Doppelkannten
Double chamfer

Kanten sphärisch
Spherical chamfer

Spitzenwinkel
Point angle

Drallwinkel (Bohrer)
Helix angle (Drill)

Bohrtiefe
Drilling depth

2 Zähne (Bohrer)
2 Teeth (Drill)

Innenkühler
Internal coolant

Zustellungsbohrzyklen
Peck drilling cycle

Bohrungsdurchmesser
Drilling diameter

Doppelprofil (Gewindewirbler)
Double profile (Thread whirl cutter)

Einzelprofil (Gewindewirbler)
Single profile (Thread whirl cutter)

Einzelzahn (Gewindewirbler)
Single tooth (Thread whirl cutter)

1 Zahn (Gewindewirbler)
1 Tooth (Thread whirl cutter)

3 Zähne (Gewindewirbler)
3 Teeth (Thread whirl cutter)

4 Zähne (Gewindewirbler)
4 Teeth (Thread whirl cutter)

Gewindebohrer
Thread tap

Gewindeformer
Thread former

Gewindeprofil
Thread profile

Gewindetiefe
Thread depth

2-3 Gewindegänge, Form C
2-3 Chamfered threads. form C

Durchgangsloch / Sackloch
Through hole / Blind hole

Mikromechanik
Micromechanic

Uhrenindustrie
Watch industry

Medizinindustrie
Medical industry

Dentalindustrie
Dental industry

Verbindungsindustrie
Connectors

Automobilindustrie
Automotive industry

Luft und Raumfahrtindustrie
Aerospace industry

Maschinenindustrie
Machine industry

Allgemeine Mechanik
Mechanics

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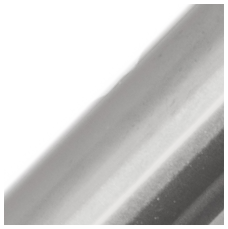
Merkmale
Features



Innovative Oberflächenqualität mit DIAshine

Verbessern Sie Ihre Bearbeitung mit unserer innovativen Oberflächenfinish DIAshine. Mit modernster Technologie entwickelt, verbessert diese Technologie die Werkzeugleistung und garantiert eine feinere Bearbeitung und eine einwandfreie Oberflächenqualität.

Innovative Surface quality with DIAshine

Improve your machining with our innovative DIAshine surface quality. Thanks to the use of our finishing grinding wheels, the surface of the tools turns out to be of excellent quality, this allows to increase the performance of the tool ensuring smoother operations and impeccable surface finishes.

Wolframkarbid

Unsere Werkzeuge sind aus hochwertigem Feinstkorn-Hartmetall, das eine einzigartige Verschleissfestigkeit und eine lange Lebensdauer bietet.
Diese Schneidwerkzeuge aus Vollhartmetall eignen sich daher auch für die anspruchsvollsten Bearbeitungsaufgaben.

Tungsten Carbide

Our tools are made of high-quality micrograin carbide, delivering unmatched wear resistance and extended tool life. Crafted from tungsten carbide, these tools offer exceptional durability, making them ideal for even the most demanding machining tasks.

Beschichtungstechnologie für optimale Produktivität

Unsere Werkzeuge sind mit der neuesten Generation von Beschichtungen ausgestattet, die die höchsten Zerspanungsanforderungen erfüllen. Diese fortschrittliche Beschichtungstechnologie wurde entwckelt, um Reibung zu minimieren und den Werkzeugverschleiss zu reduzieren. Sie erhöht die Produktivität und garantiert eine effiziente und präzise Zerspanung.

Coating Technology for Optimal Productivity

Our tools feature the latest generation coating designed to meet the highest machining standards. Engineered to minimize friction and reduce tool wear, this advanced coating technology enhances productivity, ensuring efficient and precise machining operations.

Grosse Auswahl an Werkzeugen für vielseitige Anwendungen

In unserem Katalog Micro Tools finden Sie ein umfassendes Angebot an Werkzeugen für unterschiedliche Bearbeitungsprozesse. Vom Bohren über Fräsen bis hin zum Gewindeschneiden. Unser breites Angebot garantiert dass Sie für jede Anwendung in der Mikrobearbeitung, dass richtige Werkzeug finden.

Wide Range of Tools for Versatile Applications

Explore our Micro Tools catalog for a complete range of tools tailored to various machining processes. From drilling, milling to threading, our extensive selection ensures that you have the right tools for every application of micromachining.

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Beschichtungen
Coatings

DWS

Universelle Beschichtung gegen abrasiven Verschleiss und Aufbauschneiden.

Universal coating against abrasive wear and material agglomeration on cutting edges.

DWX

Speziell entwickelte Beschichtung gegen Kaltverschweissung und Aufbauschneiden.
Sie bietet einen hervorragenden Schutz gegen abrasiven Verschleiss und wird für die Bearbeitung von rostfreien Stählen, hochfesten Stählen sowie für Anwendungen bei höheren Temperaturen empfohlen.

Coating specially developed to prevent cold welding and agglomeration of material on cutting edges. It offers an excellent protection against abrasive wear and is particularly recommended for the machining of stainless steels, high strength steels as well as for applications with high temperatures.

DWH

Empfohlene Beschichtung für die Bearbeitung von gehärteten Stählen. Ebenfalls sehr gut geeignet für Trockenbearbeitung von Werkstoffen mit einer Härte von 48 bis 63 HRC.

Coating particularly recommended for the machining of hardened steels. It is also very suitable for dry machining of materials with a hardness of 48 to 63 HRC.

DWT

Beschichtung mit hervorragenden Gleit- und Selbstschmiereigenschaften. Sie wurde speziell gegen Kaltverschweißen und Aufbauschneiden entwickelt. Sie wird angewandt bei der Bearbeitung von Nichteisenmetallen wie Aluminium, Kupferlegierungen, Edelmetallen und verstärkten Kunststoffen empfohlen.

Coating with excellent tribological and self-lubrication properties. It is specially developed to prevent cold welding and agglomeration of material on cutting edges. It is recommended for machining of non-ferrous metals such as aluminum alloys, copper alloys, precious metals and reinforced plastics.

DWD

Diamantbeschichtung für die Bearbeitung hochabrasiver Werkstoffe wie Verbundwerkstoffe und Keramik.

Diamond coating for the machining of highly abrasive materials such as composites and ceramics.

DWA

Spezifische Beschichtung, je nach Anwendungsfall ausgewählt und optimiert. Durch unser firmeneigenes Applikationszentrum sind wir in der Lage, gemeinsam mit unseren Kooperationspartnern die optimale Beschichtung zu entwickeln.

Specific coating, selected and optimised according to the application. Thanks to our in-house application center, we are able to develop and test the optimal coating with our partners.

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Werkstoffe
Material

WC

Wolframkarbid ist ein chemischer Werkstoff aus Wolfram und Kohlenstoff mit der chemischen Bezeichnung WC. Es ist ein extrem hartes und widerstandsfähiges Material. Es ist in seiner Härte nur mit Diamant vergleichbar und eignet sich daher für Anwendungen, die eine extreme Verschleissfestigkeit erfordern.

The carbide is a composite formed by tungsten carbide particles (WC) incorporated together by a binder which is usually cobalt (Co). It is a extremy hard and durable material. Second only to that of diamond, making it suitable for situations that demand extreme wear resistance.

MCD

Monokristalliner Diamant (MKD) wird für die Feinstbearbeitung eingesetzt und sorgt für perfekte Oberflächengüten. Besonders für die Bearbeitung von Aluminiumlegierungen,Edelmetalle, sowie auch Kunststoffegeeignet.

Monocrystalline diamond (MCD) is used for the finest machining and offers a near-perfect surface finish. It is highly resistant to wear and ensures long tool life. It is particularly recommended for machining difficult materials such as aluminum alloys, silicon, plastics, nickel, precious metals and many others.

PCD

Der Polykristalliner Diamant (PKD) ist ein Material, dass auf einem Hartmetallkörper montiert ist. Die Eigenschaften der Festigkeit des PKD ist unabhängig von seiner Ausrichtung auf dem Körper. Im Vergleich mit MKD, hat der PKD eine höhere Zähigkeit, aber eine geringere Verschleissfestigkeit. Die Schnittgeschwindigkeit des PKD wird um die hälfte reduziert, aber der Vorschub wird um das zehnfache multipliziert.

Polycrystalline diamond (PCD), for machining very abrasive materials such as electrode materials, graphite and copper, lightweight materials such as aluminum-silicon alloys, metal matrix composites, fiber-reinforced plastics as well as precious metals.

Cer

Empfohlen für Schlichtbearbeitungen, bei denen eine sehr hohe Oberflächengüte erforderlich ist. Sowie für die Bearbeitung von Nichteisenmetallen.

Recommended for finishing operations requiring very high surface quality in non ferrous metals.

DIAMETAL

DIAcooling

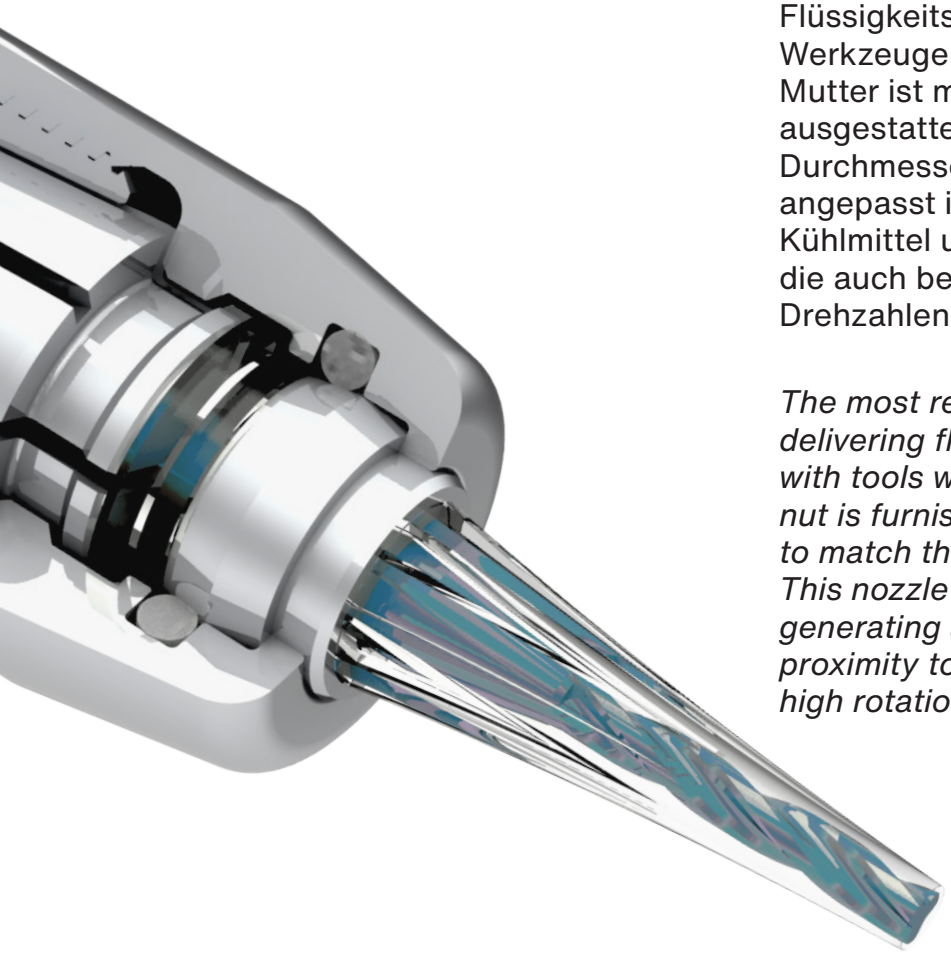
Effektive Flüssigkeitszufuhr an der Schneide

Effective supply of liquid to the cutting edge

Swiss Cutting Tool

DIAcooling

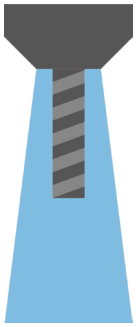
Effektive Zuführung von Flüssigkeit an der Schneide
Effective supply of Liquid to the cutting edge



Die neueste Innovation zur effektiven Flüssigkeitszufuhr zur Schneide, auch bei Werkzeugen ohne Innenschmierung. Die Mutter ist mit einem Düsenring ausgestattet, der entsprechend dem Durchmesser des Werkzeugkörpers angepasst ist. Diese Düse beschleunigt das Kühlmittel und erzeugt eine Strömung, die auch bei niedrigen und hohen Drehzahlen, dicht am Werkzeug bleibt.

The most recent innovation for effectively delivering fluid to the cutting edge, even with tools without internal lubrication. The nut is furnished with a nozzle ring designed to match the diameter of the tool body. This nozzle accelerates the coolant, generating a stream that remains in proximity to the tool, even at both low and high rotational speeds.

Spannzange *Collet* DIN6499	Ø Schaft *Ø Shaft*	Spannzange *Collet*	Spannmutter *Nut*	Gewinde *Thread*	Düsenring *Nozzle ring*	Schlüssel *Wrench*
ER11	3.00	**455761**	**455796**	M14x0.75	**455777**	**455793**
	4.00	**455762**			**455778**	
	5.00	**455763**			**455779**	
	6.00	**455764**			**455780**	
ER16	1.00	**455765**	**455797**	M19x1	**455781**	**455794**
	1.50	**455766**			**455782**	
	2.00	**455767**			**455783**	
	2.50	**455768**			**455784**	
	3.00	**455769**			**455785**	
	4.00	**455770**			**455786**	
	5.00	**455771**			**455787**	
	6.00	**455772**			**455788**	
	3.00	**455769**	**455798**	M20x1	**455785**	
	4.00	**455770**			**455786**	
	5.00	**455771**			**455787**	
	6.00	**455772**			**455788**	
ER20	3.00	**455773**	**455799**	M24x1	**455789**	**455795**
	4.00	**455774**			**455790**	
	5.00	**455775**			**455791**	
	6.00	**455776**			**455792**	
	3.00	**455773**	**455800**	M25x1.5	**455789**	
	4.00	**455774**			**455790**	
	5.00	**455775**			**455791**	
	6.00	**455776**			**455792**	

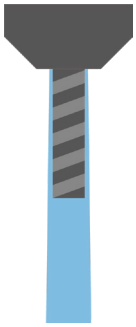


Aktuelle Lösungen:

Mit zunehmender Drehzahl stossen bestehende Lösungen mit Nachteilen wie niedrigem Kühlmittelfluss und hohe dispersion des Sprüheffekt an.
Diese Ineffizienzen verstärken sich und unterstreichen die Notwendigkeit einer effizienteren Lösung.

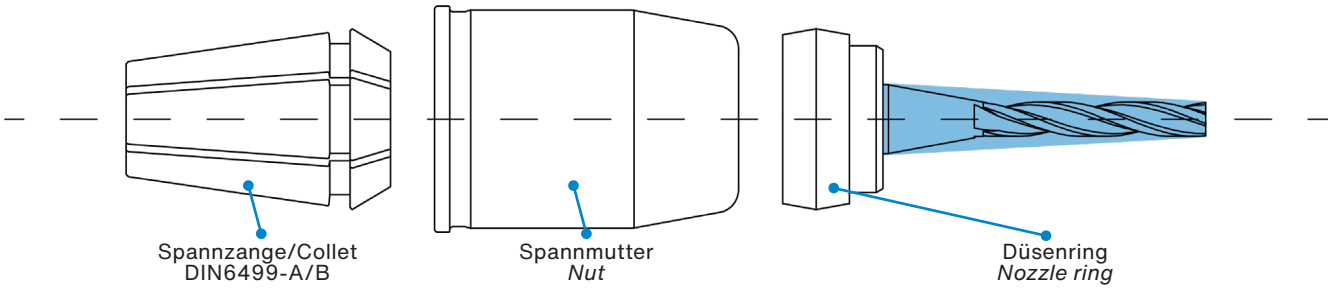
Current solutions:

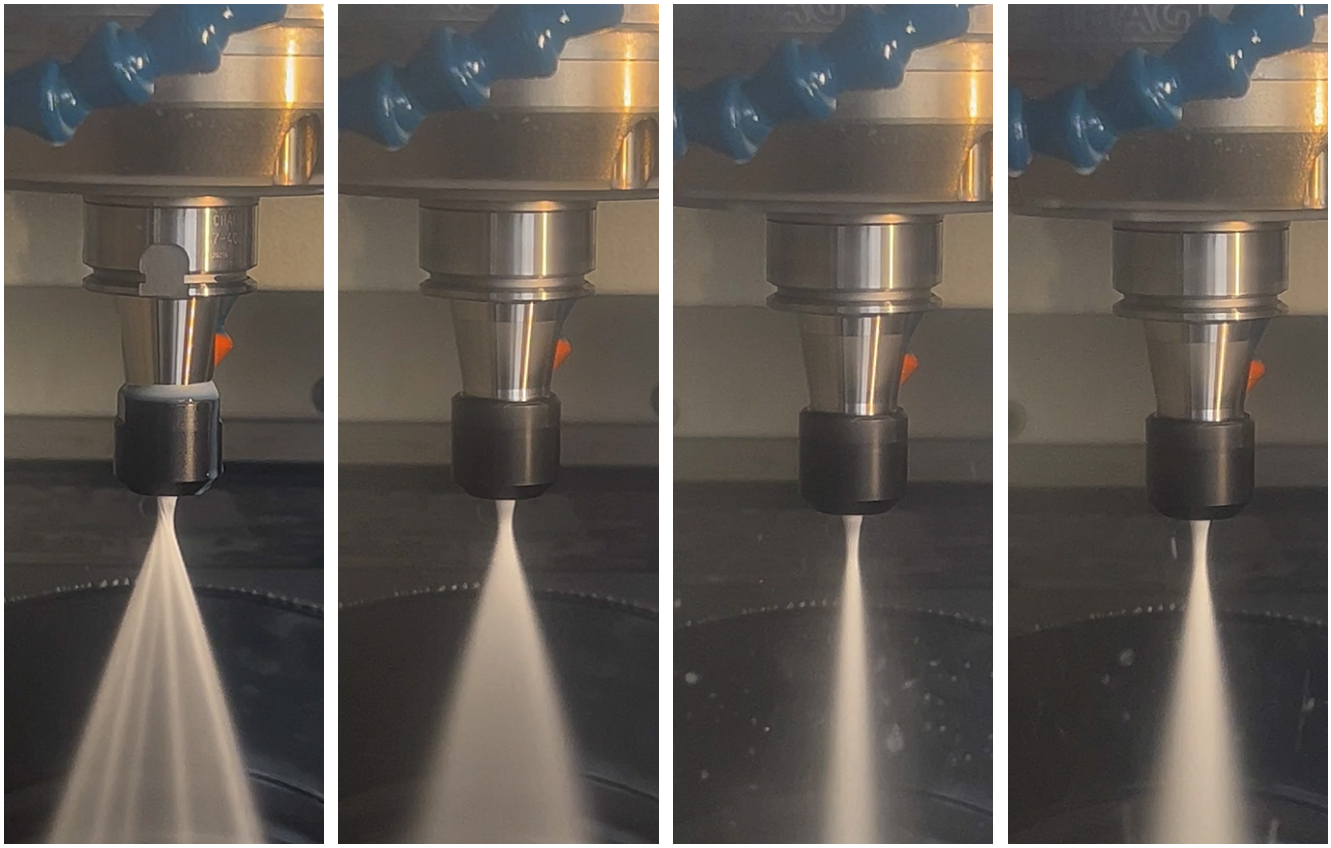
As therevolution speed increases, existing solutions face challenges such as low cooling flow and high dispersion resembling a spray effect. These ineffeiciencies are only amplified, highlighting the need for a more efficient solution.



DIAcooling erzeugt einen beträchtlichen Kühlmittelstrom, der genau auf die Schneidkante gerichtet ist. Die Effizienz der Kühlung verbessert sich mit der Erhöhung der Schnittgeschwindigkeit.
Bis zu zweifache Verlängerung der Werkzeugstandzeit
Bessere Oberflächengüte des Werkstücks. Reduzierung der Gratbildung am gefrästen Bauteil.

DIAcooling generates a substantial coolant flow precisely directed toward the cutting edge. Cooling efficiency improves with the increase in cutting speed. Tool life extended by up to two times Better surface finish of the workpiece. Reduction of burrs on the milled component.





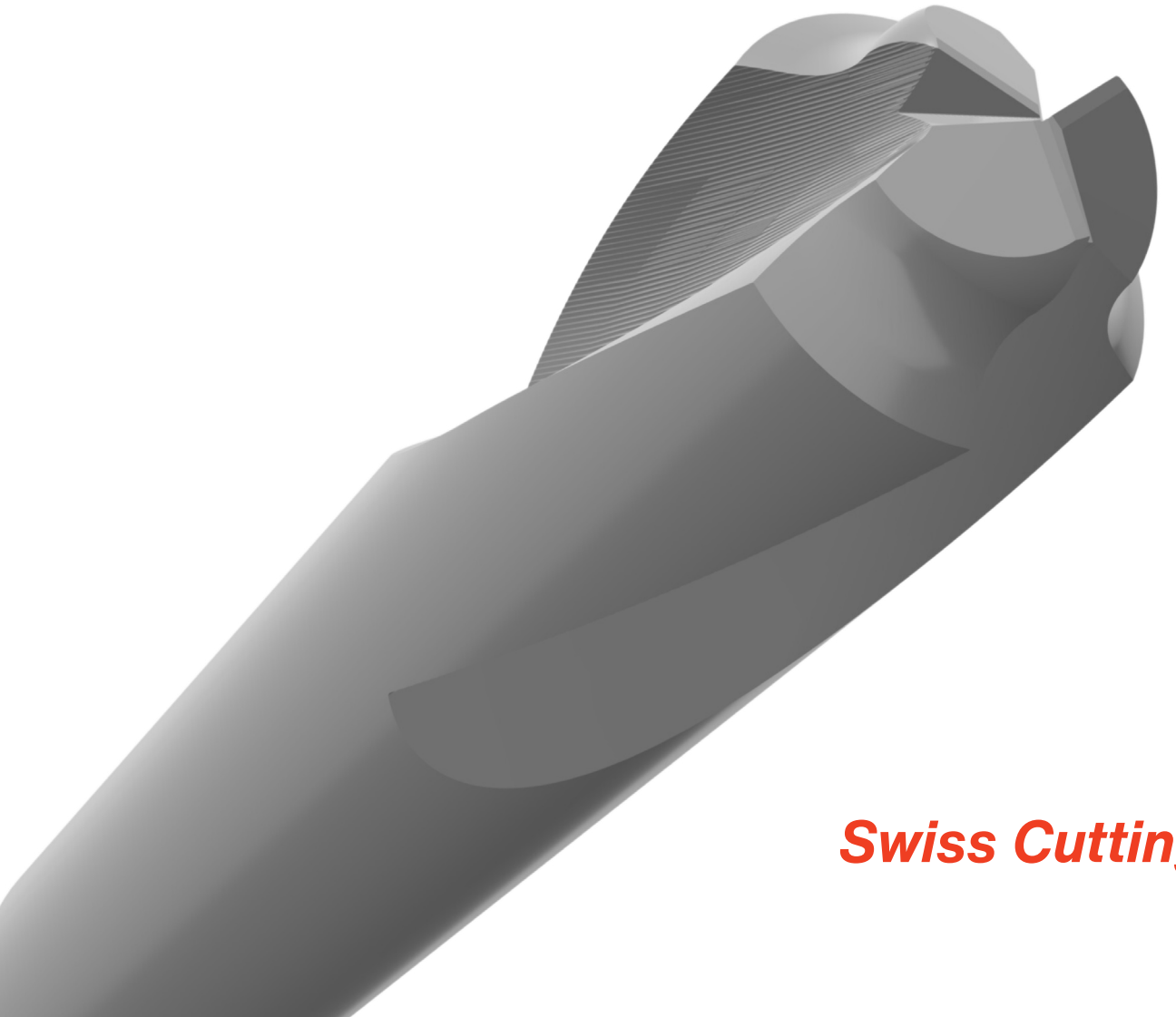
0 rpm **10’000 rpm** **25’000 rpm** **40’000 rpm**

DIAMETAL

DIAmill

Komplettlösungen für die Fräs-Bearbeitung

Complete solutions for milling machining



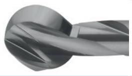
Swiss Cutting Tool

DIAmill

Anwendungen
Applications

	Werkzeug *Tool*	Mikrofräser *Micro end mill*				
	Stirngeometrien *Profile geometry*	90°	90°	90°	90°	90°
	Zähnezahl *Number of teeth*					
	Tiefe *Depth*	2xD	2xD	2xD 3xD	2xD 3xD	2xD
	Spiralwinkel *Helix angle*	0°	0°	30°	30°	45°
	Beschichtung *Coating*	DWS	DWT	DWS	DWT	DWS
	Kodierung *Codificaion*	MI0627-NR01101	MI0627-NR01101	MI0110-NR01101	MI0110-NR01101	MI0110-NR01102
						
	Seiten *Pages*	28	28	30	30	34
ISO	Werkstoffe *Materials*	Ø 0.20 - 6.00	Ø 0.20 - 6.00	Ø 0.20 - 6.00	Ø 0.30 - 6.00	Ø 0.50 - 6.00
P1	Automatenstahl *Free-cutting steel*	▸▸▸		▸▸▸		▸▸▸
P2	Automatenstahl bleifrei *Lead-free free-cutting steel*	▸▸▸		▸▸▸		▸▸▸
P3	Unlegierter Stahl (Rm < 800 N/mm²) *Unalloyed steel (Rm < 800 N/mm²)*	▸▸▸		▸▸▸		▸▸▸
P4	Niedriglegierter Stahl (Rm < 900 N/mm²) *Low alloy steel (Rm < 900 N/mm²)*	▸▸▸		▸▸▸		▸▸▸
P5	Hochlegierter Stahl (Rm < 1200 N/mm²) *High alloy steel (Rm < 1200 N/mm²)*	▸▸▸		▸▸▸		▸▸▸
M1	Ferritischer rostfreier Stahl *Ferritic stainless steel*	▸▸▸		▸▸▸		▸▸▸
M2	Martensitischer rostfreier Stahl *Martensitic stainless steel*	▸▸▸		▸▸▸		▸▸▸
M3	Austenitischer rostfreier Stahl *Austenitic stainless steel*	▸▸▸		▸▸▸		▸▸▸
K1	Gusseisen *Cast iron*	▸▸▸	▸▸▸	▸▸▸	▸	▸▸▸
N1	Aluminiumguss *Cast aluminum*	▸	▸▸▸	▸	▸▸▸	▸
N2	Aluminium Legierungen *Aluminum alloys*	▸	▸▸▸	▸	▸▸▸	▸
N3	Messing, Bronze *Brass, Bronze*	▸	▸▸▸	▸	▸▸▸	▸
N4	Messing bleifrei *Lead-free brass*	▸	▸▸▸	▸	▸▸▸	▸
N5	Kupfer *Copper*	▸	▸▸▸	▸	▸▸▸	▸
N6	Edelmetalle *Precious metals*	▸	▸▸▸	▸	▸▸▸	▸
N7	Platin, Palladium *Platinum, Palladium*	▸	▸▸▸	▸	▸▸▸	▸
N8	Kunststoffe *Plastics*	▸	▸▸▸	▸	▸▸▸	▸
S1	Titan rein *Pure Titanium*	▸▸▸		▸▸▸		▸▸▸
S2	Titan Legierungen *Titanium alloys*	▸▸▸		▸▸▸		▸▸▸
S3	Super Legierungen (Cr, Co, Ni) *Superalloys (Cr, Co, Ni)*	▸▸▸		▸▸▸		▸▸▸
H1	Gehärteter Stahl (< 55 HRC) *Hardened steel (< 55 HRC)*	▸		▸		▸
H2	Gehärteter Stahl (> 55 HRC) *Hardened steel (> 55 HRC)*					

▸▸▸ Optimal / *Optimal* ▸▸ Gut / *Good* ▸ Funktionell / *Functional*

				Kantenfräser *Chamfering and mill*		Keramikmikrofräser *Ceramic micro end mill*
90°	45°	45°				R
2xD				3xD	3xD	1.5xD 2xD
45°	38° 48° A≠B	42° A≠B	10°	10°	10°	30°
DWT	DWS	DWT	DWS	DWS	DWS	
MI0110-NR01102	MI0114-NR01103 MI0115-NR01103	MI0114-SR01104 MI0115-SR01104	MI0418-NR01101	MI0419-NR01101	MI0420-NR01101	MI0112-SR04105
						
34	36	38	40	42	44	46
Ø 0.50 - 6.00	Ø 3.00 - 6.00	Ø 3.00 - 6.00	Ø 1.00 - 6.00	Ø 0.90 - 5.70	Ø 1.00 - 6.00	Ø 0.50 - 6.00
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▶ ▶ ▶	▶	▶ ▶ ▶	▶ ▶	▶ ▶	▶ ▶	▶ ▶ ▶
▶ ▶ ▶	▶	▶ ▶ ▶	▶ ▶	▶ ▶	▶ ▶	▶ ▶ ▶
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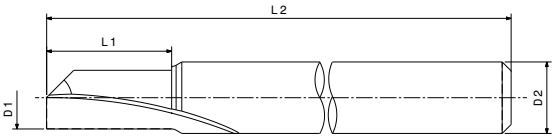
	▶ ▶ ▶		▶ ▶ ▶	▶ ▶ ▶	▶ ▶ ▶	
	▶ ▶ ▶		▶ ▶ ▶	▶ ▶ ▶	▶ ▶ ▶	
	▶ ▶ ▶		▶ ▶ ▶	▶ ▶ ▶	▶ ▶ ▶	
	▶ ▶		▶ ▶	▶ ▶	▶ ▶	

Richtwerte
Indicative values

MI0627-NR01101

Gerade genutete Mikrofräser Z1 3/4
Micro end mill with Straight flute Z1 3/4



DWS

P1	P2	P3	P4	P5	M1	M2	M3	K1	N1	N2
N3	N4	N5	N6	N7	N8	S1	S2	S3	H1	

DWT

						K1	N1	N2
N3	N4	N5	N6	N7	N8			

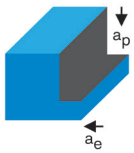
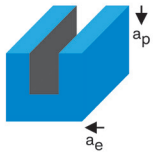
VHM h5 0° 2xD 90°

D1 +0.005 / -0.01	L1	D2	L2	Z	DWS Art. N°	DWT Art. N°
0.20	0.40	3	39	1	**452673**	**452708**
0.30	0.60	3	39	1	**452674**	**452709**
0.40	0.80	3	39	1	**452675**	**452710**
0.50	1.00	3	39	1	**452676**	**452711**
0.60	1.20	3	39	1	**452677**	**452712**
0.70	1.40	3	39	1	**452678**	**452713**
0.80	1.60	3	39	1	**452679**	**452714**
0.90	1.80	3	39	1	**452680**	**452715**
1.00	2.00	3	39	1	**452681**	**452716**
1.10	2.20	3	39	1	**452682**	**452717**
1.20	2.40	3	39	1	**452683**	**452718**
1.30	2.60	3	39	1	**452684**	**452719**
1.40	2.80	3	39	1	**452685**	**452720**
1.50	3.00	3	39	1	**452686**	**452721**
1.60	3.20	3	39	1	**452687**	**452722**
1.70	3.40	3	39	1	**452688**	**452723**
1.80	3.60	3	39	1	**452689**	**452724**
1.90	3.80	3	39	1	**452690**	**452725**
2.00	4.00	3	39	1	**452691**	**452726**
2.10	4.20	3	39	1	**452692**	**452727**
2.20	4.40	3	39	1	**452693**	**452728**
2.30	4.60	3	39	1	**452694**	**452729**
2.40	4.80	3	39	1	**452695**	**452730**
2.50	5.00	3	39	1	**452696**	**452731**
2.60	5.20	3	39	1	**452697**	**452732**
2.70	5.40	3	39	1	**452698**	**452733**
2.80	5.60	3	39	1	**452699**	**452734**
2.90	5.80	3	39	1	**452700**	**452735**
3.00	6.00	4	40	1	**452701**	**452736**
3.50	7.00	4	40	1	**452702**	**452737**
4.00	8.00	6	51	1	**452703**	**452738**
4.50	9.00	6	51	1	**452704**	**452739**
5.00	10.00	6	51	1	**452705**	**452740**
5.50	11.00	6	51	1	**452706**	**452741**
6.00	12.00	8	59	1	**452707**	**452742**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

MI0627-NR01101

Schnittparameter
Cutting parameters

Anwendung *Application*	Eckfräsen *Side Milling*		Nutenfräsen *Slotting*	
Funktion *Function*				
	a_p	≤1xD_1	a_p	≤0.5xD_1
	a_e	≤0.4xD_1	a_e	1xD_1
	V_c	x1	V_c	x0.7
	f_z	x1	f_z	x0.6

		f_z [mm]			
ISO	V_c [m/min]	Ø 0.20 - 0.80	Ø 0.90 - 1.20	Ø 1.30 - 2.90	Ø 3.00 - 6.00
P1	60 - 90	0.004 - 0.009	0.008 - 0.020	0.015 - 0.030	0.020 - 0.040
P2	60 - 90	0.004 - 0.009	0.008 - 0.020	0.015 - 0.030	0.020 - 0.040
P3	40 - 60	0.004 - 0.009	0.008 - 0.020	0.015 - 0.030	0.020 - 0.040
P4	30 - 50	0.004 - 0.009	0.008 - 0.020	0.015 - 0.030	0.020 - 0.040
P5	30 - 50	0.004 - 0.009	0.008 - 0.020	0.015 - 0.030	0.020 - 0.040
M1	50 - 70	0.003 - 0.008	0.007 - 0.015	0.010 - 0.030	0.015 - 0.035
M2	50 - 70	0.003 - 0.008	0.007 - 0.015	0.010 - 0.030	0.015 - 0.035
M3	50 - 70	0.003 - 0.008	0.007 - 0.015	0.010 - 0.030	0.015 - 0.035
K1	90 - 120	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N1	200 - 250	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N2	200 - 250	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N3	140 - 180	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N4	140 - 180	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N5	110 - 160	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N6	100 - 200	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N7	100 - 200	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N8	200 - 250	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
S1	30 - 50	0.003 - 0.008	0.008 - 0.015	0.015 - 0.030	0.025 - 0.045
S2	25 - 35	0.003 - 0.008	0.008 - 0.015	0.015 - 0.030	0.025 - 0.045
S3	30 - 50	0.003 - 0.008	0.008 - 0.015	0.015 - 0.030	0.025 - 0.045
H1	25 - 35	0.002 - 0.004	0.003 - 0.005	0.004 - 0.006	0.005 - 0.008
H2					

Richtwerte
Indicative values

MIO110-NRO1101

Mikrofräser
Micro end mill

DWS

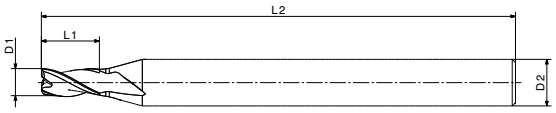
P1	P2	P3	P4	P5	M1	M2	M3	K1	N1	N2
N3	N4	N5	N6	N7	N8	S1	S2	S3	H1	

DWT

								K1	N1	N2
N3	N4	N5	N6	N7	N8					

VHM

h5 | 30° | 2xD | 90°

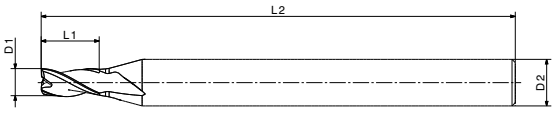


D1 +0.005 / -0.01	L1	D2 h5	L2	Z	DWS Art. N°	DWT Art. N°
0.30	0.60	3	39	3	**443445**	**443479**
0.40	0.80	3	39	3	**443446**	**443480**
0.50	1.00	3	39	3	**443447**	**443481**
0.60	1.20	3	39	3	**443448**	**443482**
0.70	1.40	3	39	3	**443449**	**443484**
0.75	1.50	3	39	3	**443450**	**443485**
0.80	1.60	3	39	3	**443451**	**443486**
0.90	1.80	3	39	3	**443452**	**443487**
1.00	2.00	3	39	3	**443453**	**443488**
1.10	2.20	3	39	3	**443454**	**443489**
1.20	2.40	3	39	3	**443455**	**443490**
1.30	2.60	3	39	3	**443456**	**443491**
1.40	2.80	3	39	3	**443457**	**443492**
1.50	3.00	3	39	3	**443458**	**443493**
1.60	3.20	3	39	3	**443459**	**443494**
1.70	3.40	3	39	3	**443460**	**443495**
1.80	3.60	3	39	3	**443461**	**443496**
1.90	3.80	3	39	3	**443462**	**443497**
2.00	4.00	3	39	3	**443463**	**443499**
2.10	4.20	3	39	3	**443464**	**443500**
2.20	4.40	3	39	3	**443465**	**443501**
2.30	4.60	3	39	3	**443466**	**443502**
2.40	4.80	3	39	3	**443467**	**443503**
2.50	5.00	3	39	3	**443468**	**443504**
2.60	5.20	3	39	3	**443469**	**443505**
2.70	5.40	3	39	3	**443470**	**443506**
2.80	5.60	3	39	3	**443471**	**443507**
2.90	5.80	3	39	3	**443472**	**443508**
3.00	6.00	5	51	3	**443475**	**443509**
4.00	8.00	5	51	3	**443476**	**443510**
5.00	10.00	6	58	3	**443477**	**443511**
6.00	12.00	6	58	3	**443478**	**443512**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

MIO110-NRO1101

Mikrofräser
Micro end mill



DWS

P1	P2	P3	P4	P5	M1	M2	M3	K1	N1	N2
N3	N4	N5	N6	N7	N8	S1	S2	S3	H1	

DWT

								K1	N1	N2
N3	N4	N5	N6	N7	N8					

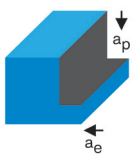
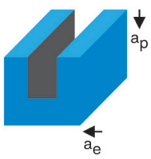
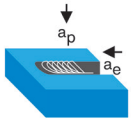
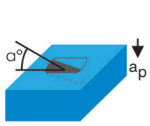
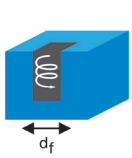
VHM h5 30° 3xD 90°

D1 +0.005 / -0.01	L1	D2	L2	Z	DWS Art. N°	DWT Art. N°
0.30	0.90	3	39	3	**443516**	**443573**
0.40	1.20	3	39	3	**443517**	**443574**
0.50	1.50	3	39	3	**443518**	**443575**
0.60	1.80	3	39	3	**443519**	**443576**
0.70	2.10	3	39	3	**443520**	**443577**
0.75	2.30	3	39	3	**443521**	**443578**
0.80	2.40	3	39	3	**443522**	**443579**
0.90	2.70	3	39	3	**443523**	**443580**
1.00	3.00	3	39	3	**443524**	**443581**
1.10	3.30	3	39	3	**443525**	**443582**
1.20	3.60	3	39	3	**443526**	**443583**
1.30	3.90	3	39	3	**443539**	**443584**
1.40	4.20	3	39	3	**443540**	**443585**
1.50	4.50	3	39	3	**443541**	**443586**
1.60	4.80	3	39	3	**443542**	**443587**
1.70	5.10	3	39	3	**443543**	**443588**
1.80	5.40	3	39	3	**443544**	**443589**
1.90	5.70	3	39	3	**443545**	**443590**
2.00	6.00	3	39	3	**443546**	**443591**
2.10	6.30	3	39	3	**443547**	**443592**
2.20	6.60	3	39	3	**443548**	**443593**
2.30	6.90	3	39	3	**443549**	**443594**
2.40	7.20	3	39	3	**443550**	**443595**
2.50	7.50	3	39	3	**443551**	**443596**
2.60	7.80	3	39	3	**443552**	**443597**
2.70	8.10	3	39	3	**443553**	**443598**
2.80	8.40	3	39	3	**443554**	**443599**
2.90	8.70	3	39	3	**443555**	**443600**
3.00	9.00	5	51	3	**443556**	**443601**
4.00	12.00	5	51	3	**443557**	**443602**
5.00	15.00	6	58	3	**443558**	**443603**
6.00	18.00	6	58	3	**443559**	**443604**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

MIO110-NRO1101

Schnittparameter
Cutting parameters

Anwendung *Application*	Eckfräsen *Side Milling*		Nutenfräsen *Slotting*		Trochoidalfräsen *Trochoidal milling*		Rampenfräsen *Diagonal plunging*		Helixinterpolation *Helical interpolation*	
Funktion *Function*										
a_p	≤1xD1		a_p	≤0.5xD1	a_p	≤1.5xD1	Angle	8°	Angle	8°
a_e	≤0.4xD1		a_e	1xD1	a_e	≤0.2xD1	a_p	≤1xD1	D_f	1.7xD1
V_c	x1		V_c	x0.7	V_c	x1.2	f_z	x0.7		
f_z	x1		f_z	x0.6	f_z	x1.2				

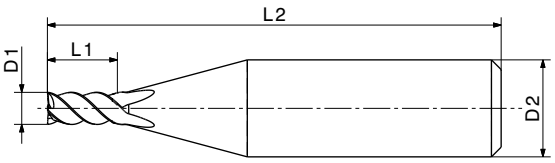
		f_z [mm]			
ISO	V_c [m/min]	Ø 0.30 - 0.80	Ø 0.90 - 1.20	Ø 1.30 - 2.90	Ø 3.00 - 6.00
P1	60 - 90	0.004 - 0.009	0.008 - 0.020	0.015 - 0.030	0.020 - 0.040
P2	60 - 90	0.004 - 0.009	0.008 - 0.020	0.015 - 0.030	0.020 - 0.040
P3	40 - 60	0.004 - 0.009	0.008 - 0.020	0.015 - 0.030	0.020 - 0.040
P4	30 - 50	0.004 - 0.009	0.008 - 0.020	0.015 - 0.030	0.020 - 0.040
P5	30 - 50	0.004 - 0.009	0.008 - 0.020	0.015 - 0.030	0.020 - 0.040
M1	50 - 70	0.003 - 0.008	0.007 - 0.015	0.010 - 0.030	0.015 - 0.035
M2	50 - 70	0.003 - 0.008	0.007 - 0.015	0.010 - 0.030	0.015 - 0.035
M3	50 - 70	0.003 - 0.008	0.007 - 0.015	0.010 - 0.030	0.015 - 0.035
K1	90 - 120	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N1	200 - 250	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N2	200 - 250	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N3	140 - 180	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N4	140 - 180	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N5	110 - 160	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N6	100 - 200	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N7	100 - 200	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N8	200 - 250	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
S1	30 - 50	0.003 - 0.008	0.008 - 0.015	0.015 - 0.030	0.025 - 0.045
S2	25 - 35	0.003 - 0.008	0.008 - 0.015	0.015 - 0.030	0.025 - 0.045
S3	30 - 50	0.003 - 0.008	0.008 - 0.015	0.015 - 0.030	0.025 - 0.045
H1	25 - 35	0.002 - 0.004	0.003 - 0.005	0.004 - 0.006	0.005 - 0.008
H2					

Richtwerte
Indicative values

MI0110-NR01102

Schlicht Mikrofräser
Finishing Micro end mill

DWS	P1	P2	P3	P4	P5	M1	M2	M3	K1	N1	N2
	N3	N4	N5	N6	N7	N8	S1	S2	S3	H1	
DWT									K1	N1	N2
	N3	N4	N5	N6	N7	N8					



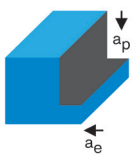
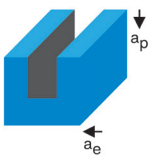
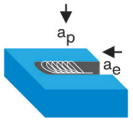
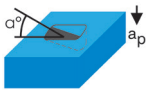
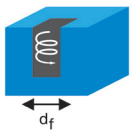
VHM h5 45° 2xD 90°

D1 h10	L1	D2	L2	Z	DWS Art. N°	DWT Art. N°
0.50	1.00	6	40	4	**452743**	**452774**
0.60	1.20	6	40	4	**452744**	**452775**
0.70	1.40	6	40	4	**452745**	**452776**
0.80	1.60	6	40	4	**452746**	**452777**
0.90	1.80	6	40	4	**452747**	**452778**
1.00	2.00	6	40	4	**452748**	**452779**
1.10	2.20	6	40	4	**452749**	**452780**
1.20	2.40	6	40	4	**452750**	**452781**
1.30	2.60	6	40	4	**452751**	**452782**
1.40	2.80	6	40	4	**452752**	**452783**
1.50	3.00	6	40	4	**452753**	**452784**
1.60	3.20	6	40	4	**452754**	**452785**
1.70	3.40	6	40	4	**452755**	**452786**
1.80	3.60	6	40	4	**452756**	**452787**
1.90	3.80	6	40	4	**452757**	**452788**
2.00	4.00	6	40	4	**452758**	**452789**
2.10	4.20	6	40	4	**452759**	**452790**
2.20	4.40	6	40	4	**452760**	**452791**
2.30	4.60	6	40	4	**452761**	**452792**
2.40	4.80	6	40	4	**452762**	**452793**
2.50	5.00	6	40	4	**452763**	**452794**
2.60	5.20	6	40	4	**452764**	**452795**
2.70	5.40	6	40	4	**452765**	**452796**
2.80	5.60	6	40	4	**452766**	**452797**
2.90	5.80	6	40	4	**452767**	**452798**
3.00	6.00	6	40	4	**452768**	**452799**
3.50	7.00	6	40	4	**452769**	**452800**
4.00	8.00	6	40	4	**452770**	**452801**
4.50	9.00	6	40	4	**452771**	**452802**
5.00	10.00	6	40	4	**452772**	**452803**
6.00	12.00	6	40	4	**452773**	**452804**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

MIO110-NR01102

Schnittparameter
Cutting parameters

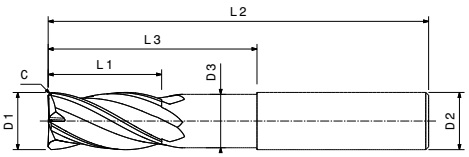
Anwendung *Application*	Eckfräsen *Side Milling*		Nutenfräsen *Slotting*		Trochoidalfräsen *Trochoidal milling*		Rampenfräsen *Diagonal plunging*		Helixinterpolation *Helical interpolation*	
Funktion *Function*										
	a_p	≤1xD1	a_p	≤0.5xD1	a_p	≤1.5xD1	Angle	8°	Angle	8°
	a_e	≤0.4xD1	a_e	1xD1	a_e	≤0.2xD1	a_p	≤1xD1	D_f	≤1xD1
	V_c	x1	V_c	x0.7	V_c	x1.2	f_z	x0.7		
	f_z	x1	f_z	x0.6	f_z	x1.2				

		f_z [mm]			
ISO	V_c [m/min]	Ø 0.50 - 0.80	Ø 0.90 - 1.20	Ø 1.30 - 2.90	Ø 3.00 - 6.00
P1	60 - 90	0.004 - 0.009	0.008 - 0.020	0.015 - 0.030	0.020 - 0.040
P2	60 - 90	0.004 - 0.009	0.008 - 0.020	0.015 - 0.030	0.020 - 0.040
P3	40 - 60	0.004 - 0.009	0.008 - 0.020	0.015 - 0.030	0.020 - 0.040
P4	30 - 50	0.004 - 0.009	0.008 - 0.020	0.015 - 0.030	0.020 - 0.040
P5	30 - 50	0.004 - 0.009	0.008 - 0.020	0.015 - 0.030	0.020 - 0.040
M1	50 - 70	0.003 - 0.008	0.007 - 0.015	0.010 - 0.030	0.015 - 0.035
M2	50 - 70	0.003 - 0.008	0.007 - 0.015	0.010 - 0.030	0.015 - 0.035
M3	50 - 70	0.003 - 0.008	0.007 - 0.015	0.010 - 0.030	0.015 - 0.035
K1	90 - 120	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N1	200 - 250	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N2	200 - 250	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N3	140 - 180	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N4	140 - 180	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N5	110 - 160	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N6	100 - 200	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N7	100 - 200	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N8	200 - 250	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
S1	30 - 50	0.003 - 0.008	0.008 - 0.015	0.015 - 0.030	0.025 - 0.045
S2	25 - 35	0.003 - 0.008	0.008 - 0.015	0.015 - 0.030	0.025 - 0.045
S3	30 - 50	0.003 - 0.008	0.008 - 0.015	0.015 - 0.030	0.025 - 0.045
H1	25 - 35	0.002 - 0.004	0.003 - 0.005	0.004 - 0.006	0.005 - 0.008
H2					

Richtwerte
Indicative values

MI0114-NR01103

Hochleistungsfräser
High performance end mill



P1	P2	P3	P4	P5	M1	M2	M3	K1	N1	N2
N3	N4	N5	N6	N7	N8	S1	S2	S3	H1	

VHM | h5 | 34° 37° | 45°

D1 h10	L1	D2 h6	L2	D3	L3	C	Z	DWS Art. N°
3.00	8.00	6	58	-	-	0.05x45°	4	**443702**
4.00	11.00	6	58	-	-	0.05x45°	4	**443704**
5.00	13.00	6	58	-	-	0.05x45°	4	**443706**

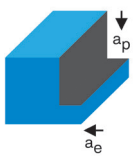
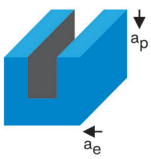
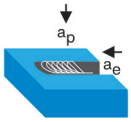
MI0115-NR01103

D1 h10	L1	D2 h6	L2	D3	L3	C	Z	DWS Art. N°
4.00	11.00	4	51	3.80	16.00	0.05x45°	4	**443703**
5.00	13.00	5	51	4.80	18.00	0.05x45°	4	**443705**
6.00	13.00	6	58	5.70	20.00	0.05x45°	4	**443707**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

MI0114-NR01103 / MI0115-NR01103

Schnittparameter
Cutting parameters

Anwendung *Application*	Eckfräsen *Side Milling*		Nutenfräsen *Slotting*		Trochoidalfräsen *Trochoidal milling*	
Funktion *Function*						
a_p	≤2xD1		a_p	≤1.5xD1	a_p	≤2xD1
a_e	≤0.5xD1		a_e	1xD1	a_e	≤0.1xD1
V_c	x1		V_c	x0.9	V_c	x1.2
f_z	x1		f_z	x0.8	f_z	x1.2

		f_z [mm]			
ISO	V_c [m/min]	Ø 3.00	Ø 4.00	Ø 5.00	Ø 6.00
P1	140 - 170	0.015	0.020	0.030	0.045
P2	140 - 170	0.015	0.020	0.030	0.045
P3	140 - 170	0.015	0.020	0.030	0.045
P4	120 - 150	0.015	0.020	0.030	0.045
P5	90 - 120	0.010	0.020	0.030	0.040
M1	50 - 70	0.010	0.020	0.030	0.040
M2	40 - 60	0.010	0.020	0.030	0.040
M3	40 - 60	0.010	0.020	0.030	0.040
K1	140 - 170	0.015	0.020	0.030	0.045
N1	600 - 800	0.015	0.020	0.035	0.050
N2	600 - 800	0.015	0.020	0.035	0.050
N3	400 - 500	0.015	0.020	0.035	0.050
N4	400 - 500	0.015	0.020	0.035	0.050
N5	350 - 450	0.015	0.020	0.035	0.050
N6	200 - 300	0.015	0.020	0.035	0.050
N7	200 - 300	0.015	0.020	0.035	0.050
N8	500 - 600	0.015	0.020	0.035	0.050
S1	30 - 50	0.010	0.012	0.015	0.020
S2	30 - 50	0.010	0.012	0.015	0.020
S3	30 - 50	0.010	0.012	0.015	0.020
H1	30 - 50	0.010	0.012	0.015	0.020
H2					

Richtwerte
Indicative values

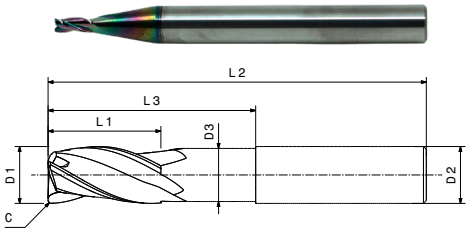
MI0114-SR01104

Hochleistungsfräser
High performance end mill

K1 N1 N2

N3 N4 N5 N6 N7 N8

VHM h5 42° 45°



D1 h10	L1	D2 h6	L2	D3	L3	C	Z	DWT Art. N°
3.00	8.00	6	58	-	-	0.05x45°	3	**443708**
4.00	11.00	6	58	-	-	0.05x45°	3	**443709**
5.00	13.00	6	58	-	-	0.10X45°	3	**443710**

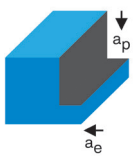
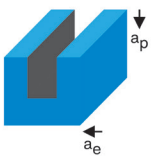
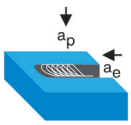
MI0115-SR01104

D1 h10	L1	D2 h6	L2	D3	L3	C	Z	DWT Art. N°
6.00	13.00	6	58	5.70	20.00	0.10X45°	3	**443711**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

MI0114-SR01104 / MI0115-SR01104

Schnittparameter
Cutting parameters

Anwendung *Application*	Eckfräsen *Side Milling*		Nutenfräsen *Slotting*		Trochoidalfräsen *Trochoidal milling*	
Funktion *Function*						
a_p	≤1.5xD1		a_p	≤1xD1	a_p	≤1.5xD1
a_e	≤0.25xD1		a_e	1xD1	a_e	≤0.25xD1
V_c	x1		V_c	x0.8	V_c	x1
f_z	x1		f_z	x1	f_z	x1

		f_z [mm]			
ISO	V_c [m/min]	Ø 3.00	Ø 4.00	Ø 5.00	Ø 6.00
P1					
P2					
P3					
P4					
P5					
M1					
M2					
M3					
K1	140 - 170	0.015	0.020	0.030	0.045
N1	600 - 800	0.015	0.020	0.035	0.050
N2	600 - 800	0.015	0.020	0.035	0.050
N3	400 - 500	0.015	0.020	0.035	0.050
N4	400 - 500	0.015	0.020	0.035	0.050
N5	350 - 450	0.015	0.020	0.035	0.050
N6	200 - 300	0.015	0.020	0.035	0.050
N7	200 - 300	0.015	0.020	0.035	0.050
N8	500 - 600	0.015	0.020	0.035	0.050
S1					
S2					
S3					
H1					
H2					

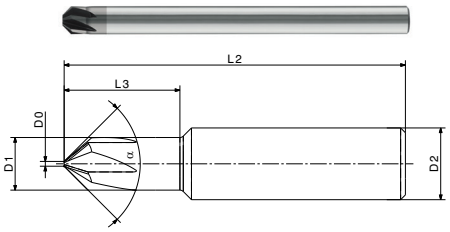
Richtwerte
Indicative values

MI0418-NR01101

Kantenfräser frontal 90°
Front chamfer end mill 90°

P1	P2	P3	P4	P5	M1	M2	M3	K1	N1	N2
N3	N4	N5	N6	N7	N8	S1	S2	S3	H1	

VHM | 10° | h5



D1 ±0.02	L3	D2	L2	D0	α	Z	DWS Art. N°
1.00	3.00	3	39	0.30	90°	4	**452045**
2.00	6.00	3	39	0.60	90°	4	**452046**
3.00	-	3	51	1.00	90°	5	**452047**
4.00	-	4	51	1.50	90°	6	**452048**
6.00	-	6	51	2.00	90°	6	**452049**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

MI0418-NR01101

Schnittparameter
Cutting parameters

		f_z [mm]	
ISO	V_c [m/min]	Ø 1.00 - 2.00	Ø 3.00 - 6.00
P1	120	0.010 - 0.040	0.030 - 0.050
P2	120	0.010 - 0.040	0.030 - 0.050
P3	120	0.010 - 0.040	0.030 - 0.050
P4	100	0.010 - 0.030	0.020 - 0.040
P5	80	0.010 - 0.020	0.010 - 0.020
M1	50	0.010 - 0.020	0.020 - 0.030
M2	80	0.010 - 0.020	0.010 - 0.030
M3	50	0.010 - 0.020	0.020 - 0.030
K1	60	0.010 - 0.020	0.010 - 0.030
N1	200	0.020 - 0.050	0.030 - 0.070
N2	200	0.020 - 0.050	0.030 - 0.070
N3	200	0.020 - 0.050	0.020 - 0.030
N4	40	0.010 - 0.020	0.030 - 0.070
N5	40	0.010 - 0.020	0.020 - 0.030
N6	200	0.020 - 0.050	0.030 - 0.070
N7	200	0.020 - 0.050	0.030 - 0.070
N8	200	0.020 - 0.050	0.030 - 0.070
S1	40	0.010 - 0.020	0.020 - 0.030
S2	40	0.010 - 0.020	0.020 - 0.030
S3	50	0.010 - 0.020	0.020 - 0.030
H1	60	0.010 - 0.020	0.010 - 0.030
H2			

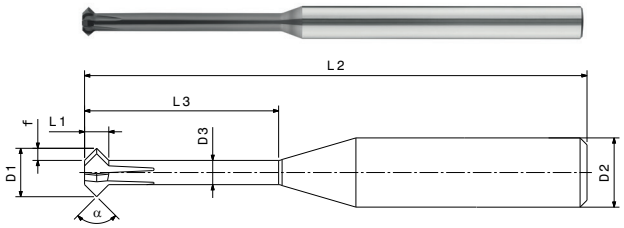
Richtwerte
Indicative values

MI0419-NR01101

Doppelkantenfräser 90°
Double chamfer end mill 90°

P1	P2	P3	P4	P5	M1	M2	M3	K1	N1	N2
N3	N4	N5	N6	N7	N8	S1	S2	S3	H1	

VHM | 10° | h5 | 3xD



D1	L1	D2	L2	D3	L3	f	α	Z	DWS Art. N°
0.90	0.45	4	51	0.45	3.15	0.23	90°	4	**452064**
1.40	0.70	4	51	0.70	4.90	0.35	90°	5	**452065**
1.80	0.90	4	55	0.90	6.30	0.45	90°	5	**452066**
2.80	1.40	4	60	1.40	9.80	0.70	90°	5	**452067**
3.70	1.85	4	60	1.85	12.95	0.93	90°	5	**452068**
4.70	2.35	6	70	2.35	16.45	1.18	90°	5	**452069**
5.70	2.85	6	70	2.85	19.95	1.43	90°	6	**452070**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

MI0419-NR01101

Schnittparameter
Cutting parameters

ISO	V_C [m/min]	f_Z [mm] Ø 0.90 - 1.20	f_Z [mm] Ø 2.80 - 5.70
P1	120	0.030	0.040
P2	120	0.030	0.040
P3	120	0.030	0.040
P4	100	0.020	0.030
P5	80	0.050	0.030
M1	50	0.010	0.030
M2	80	0.015	0.030
M3	50	0.015	0.030
K1	60	0.015	0.030
N1	200	0.030	0.040
N2	200	0.030	0.040
N3	200	0.030	0.040
N4	40	0.020	0.040
N5	40	0.020	0.030
N6	200	0.030	0.040
N7	200	0.030	0.040
N8	200	0.030	0.040
S1	40	0.020	0.030
S2	40	0.020	0.030
S3	50	0.015	0.030
H1	60	0.015	0.020
H2			

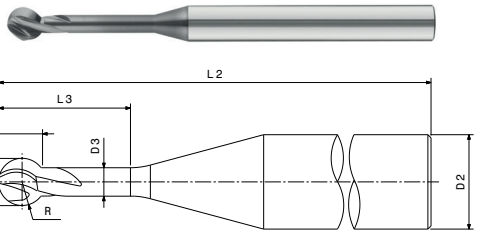
Richtwerte
Indicative values

MI0420-NR01101

Sphärische Kantenfräser
Spherical chamfer end mill

P1	P2	P3	P4	P5	M1	M2	M3	K1	N1	N2
N3	N4	N5	N6	N7	N8	S1	S2	S3	H1	

VHM | 10° | h5 | 3xD



D1	L1	D2	L2	D3	L3	R	Z	DWS Art. N°
1.00	1.00	4	50	0.50	4.00	0.50	3	**452085**
1.50	1.50	4	50	0.75	6.00	0.75	3	**452086**
2.00	2.00	4	60	1.00	8.00	1.00	3	**452087**
2.50	2.50	4	60	1.25	10.00	1.25	3	**452088**
3.00	3.00	4	60	1.50	12.00	1.50	3	**452089**
4.00	4.00	6	70	2.00	16.00	2.00	3	**452090**
6.00	6.00	6	70	3.00	24.00	3.00	3	**452091**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

MI0420-NR01101

Schnittparameter
Cutting parameters

		f_z [mm]	
ISO	V_c [m/min]	Ø 1.00 - 2.00	Ø 2.50 - 6.00
P1	120	0.030	0.040
P2	120	0.030	0.040
P3	120	0.030	0.040
P4	100	0.020	0.030
P5	80	0.050	0.030
M1	50	0.010	0.030
M2	80	0.015	0.030
M3	50	0.015	0.030
K1	60	0.015	0.030
N1	200	0.030	0.040
N2	200	0.030	0.040
N3	200	0.030	0.040
N4	40	0.020	0.040
N5	40	0.020	0.030
N6	200	0.030	0.040
N7	200	0.030	0.040
N8	200	0.030	0.040
S1	40	0.020	0.030
S2	40	0.020	0.030
S3	50	0.015	0.030
H1	60	0.015	0.020
H2			

Richtwerte
Indicative values

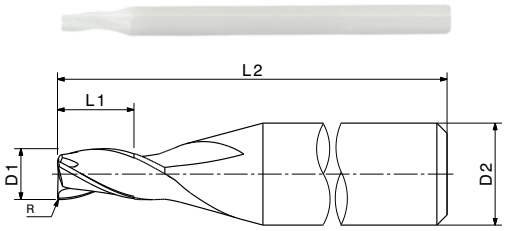
MI0112-SR04105

Keramik Mikrofräser
Ceramic micro end mill

K1 N1 N2

N3 N4 N5 N6 N7 N8

Cer h5 30° 2xD R



D1 ±0.01	L1	D2	L2	R	Z	CER Art. N°
1.00	2.00	3	39	0.03	3	**443856**
1.50	3.00	3	39	0.04	3	**443857**
2.00	4.00	3	39	0.05	3	**443858**
3.00	6.00	5	39	0.08	3	**443859**
4.00	8.00	5	51	0.10	3	**443860**
5.00	10.00	6	51	0.13	3	**443861**
6.00	12.00	6	51	0.15	3	**443862**

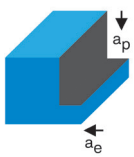
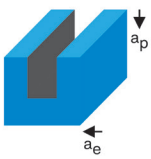
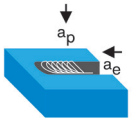
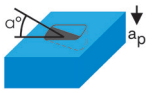
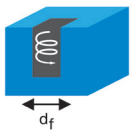
Cer h5 30° 1.5xD R

D1 ±0.01	L1	D2	L2	R	Z	CER Art. N°
0.50	0.75	3	39	0.02	3	**443850**
0.80	1.20	3	39	0.02	3	**443851**
1.00	1.50	3	39	0.03	3	**443852**
1.50	2.25	3	39	0.04	3	**443853**
2.00	3.00	3	39	0.05	3	**443854**
3.00	4.50	5	51	0.08	3	**443855**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

MI0112-SR04105

Schnittparameter
Cutting parameters

Anwendung *Application*	Eckfräsen *Side Milling*		Nutenfräsen *Slotting*		Trochoidalfräsen *Trochoidal milling*		Rampenfräsen *Diagonal plunging*		Helixinterpolation *Helical interpolation*	
Funktion *Function*										
	a_p	≤1xD1	a_p	≤0.5xD1	a_p	≤1.5xD1	Angle	8°	Angle	8°
	a_e	≤0.15xD1	a_e	1xD1	a_e	≤0.1xD1	a_p	≤1xD1	D_f	≤1xD1
	V_c	x1	V_c	x0.7	V_c	x1.2	f_z	x0.7	f_z	x0.7
	f_z	x1	f_z	x0.6	f_z	x1.2				

		f_z [mm]			
ISO	V_c [m/min]	Ø 0.30 - 0.80	Ø 0.90 - 1.20	Ø 1.30 - 2.90	Ø 3.00 - 6.00
P1					
P2					
P3					
P4					
P5					
M1					
M2					
M3					
K1	90 - 120	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N1	220 - 270	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N2	220 -270	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N3	160 - 200	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N4	160 - 200	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N5	160 - 200	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N6	160 - 200	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N7	160 - 200	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
N8	250 - 300	0.004 - 0.009	0.008 - 0.025	0.020 - 0.040	0.030 - 0.060
S1					
S2					
S3					
H1					
H2					

Richtwerte
Indicative values

DIAeasy

DIAmill

Formular
Form

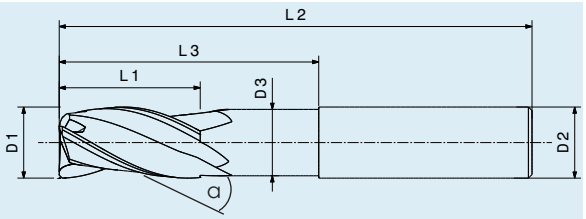
Kundendaten
Customer data

Kunde *Customer*	
Kontakt *Contact person*	
Ort *Address*	
Telefon *Phone*	
E-mail	

Messung
Dimension

Referenz-Artikel *Reference article*	
Schnittrichtung *Cutting direction*	
Innenkühlung *Internal coolant*	
D1	
L1	
α	
D2	
D3	
L3	
Anzahl Zähne *Number of teeth*	
Zentrumschnitt *Center cut*	
Werkzeugmaterial *Tool material*	

Datum *Date*	
Menge *Quantity*	
Gewünschtes Datum *Desired date*	



Nein *No*	Ja *Yes*

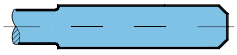
Zeichnung
Sketch

Ausführung der Schneidecken (bitte einkreisen)
Execution of the cutting corners (encircle please)

Weitere
Others

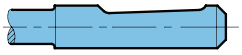
Schaftform (bitte einkreisen)
Shank form (encircle please)

Standard



Weldon

Wistle Notch



Weitere
Others

Werkstoff
Material

Werkstoffgruppe (Beispiel P1) *Material group (Example P1)*	
Werkstoffnummer *Material number*	
Härte *Hardness* [N/mm²], [HB], [HRC]	

Beschichtung (bitte einkreisen)
Coating (encircle please)

DWS **DWX** **DWH** **DWT** **DWD** **DWA**

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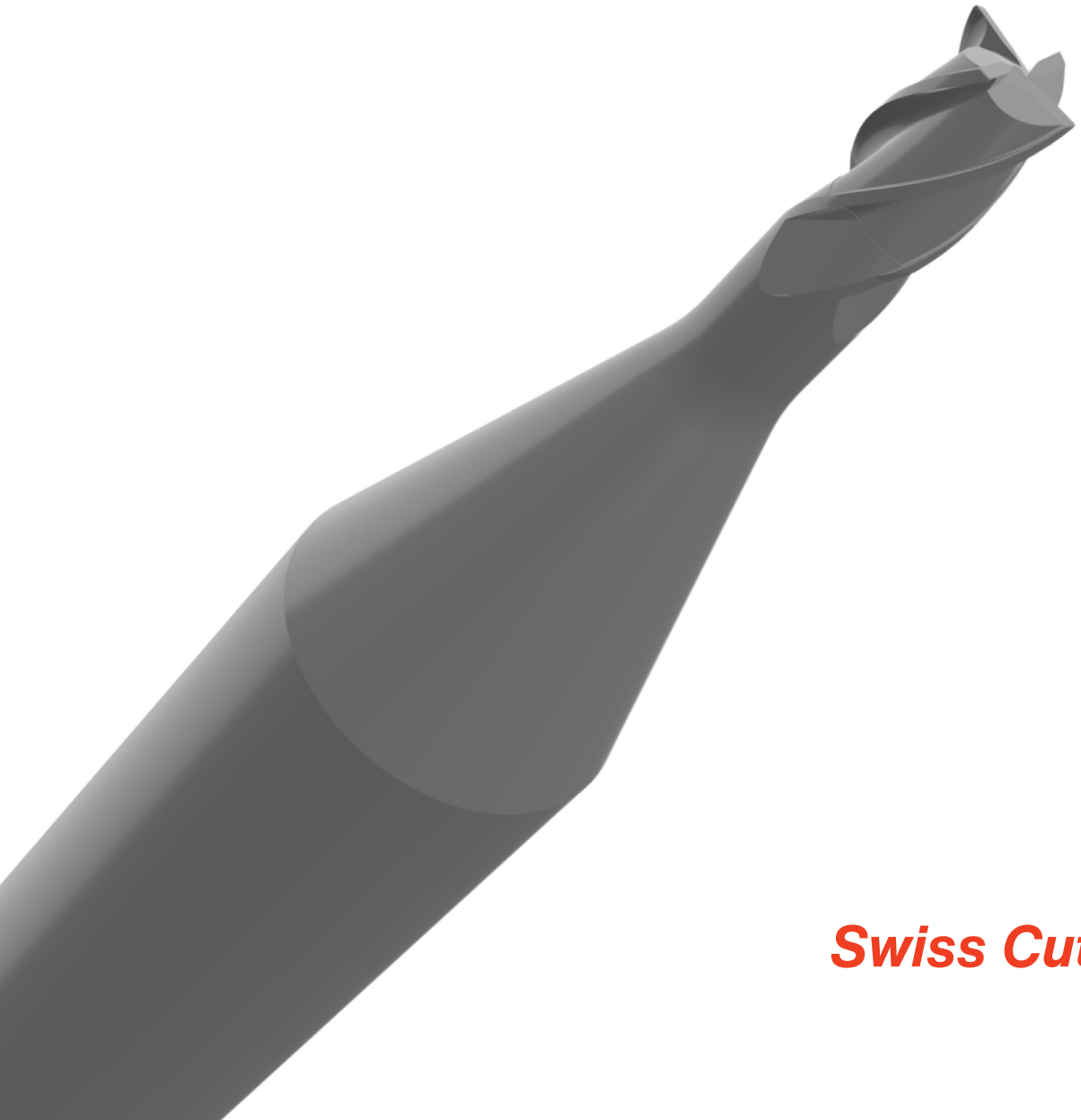
DIAMETAL

Torx®solution

Komplettlösungen für die Torx-Bearbeitung

Complete solutions for Torx machining



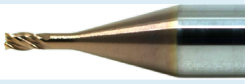
Swiss Cutting Tool

Torx®solution

Inhaltsverzeichnis
Table of contents

Torx®solution

Anwendungen
Applications

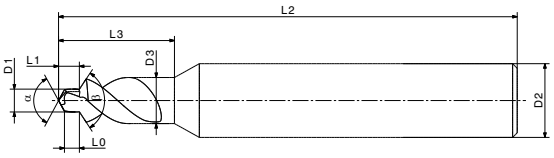
	Werkzeug *Tool*	Torx Pilotbohrer *Torx Pilot drill*	Torx Fräser *Torx milling cutter*
	Stirngeometrien *Profile geometry*	140°	0.01x45°
	Zähnezahl *Number of teeth*		
	Tiefe *Depth*		3xD / 5xD
	Spiralwinkel *Helix angle*	20°	33°
	Beschichtung *Coating*	DWX	DWX
	Kodierung *Codificaion*	DR0608-AR01101	MI0108-AR01106
			
	Seiten *Pages*	56	58
ISO	Werkstoffe *Materials*	T 4 - 30	T 4 - 30
P1	Automatenstahl *Free-cutting steel*		
P2	Automatenstahl bleifrei *Lead-free free-cutting steel*		
P3	Unlegierter Stahl (Rm < 800 N/mm²) *Unalloyed steel (Rm < 800 N/mm²)*		
P4	Niedriglegierter Stahl (Rm < 900 N/mm²) *Low alloy steel (Rm < 900 N/mm²)*		
P5	Hochlegierter Stahl (Rm < 1200 N/mm²) *High alloy steel (Rm < 1200 N/mm²)*		
M1	Ferritischer rostfreier Stahl *Ferritic stainless steel*	▸▸	▸▸
M2	Martensitischer rostfreier Stahl *Martensitic stainless steel*	▸▸	▸▸
M3	Austenitischer rostfreier Stahl *Austenitic stainless steel*	▸▸	▸▸
K1	Gusseisen *Cast iron*		
N1	Aluminiumguss *Cast aluminum*		
N2	Aluminium Legierungen *Aluminum alloys*		
N3	Messing, Bronze *Brass, Bronze*		
N4	Messing bleifrei *Lead-free brass*		
N5	Kupfer *Copper*		
N6	Edelmetalle *Precious metals*		
N7	Platin, Palladium *Platinum, Palladium*		
N8	Kunststoffe *Plastics*		
S1	Titan rein *Pure Titanium*	▸▸▸	▸▸▸
S2	Titan Legierungen *Titanium alloys*	▸▸▸	▸▸▸
S3	Super Legierungen (Cr, Co, Ni) *Superalloys (Cr, Co, Ni)*	▸▸▸	▸▸▸
H1	Gehärteter Stahl (< 55 HRC) *Hardened steel (< 55 HRC)*		
H2	Gehärteter Stahl (> 55 HRC) *Hardened steel (> 55 HRC)*		

▸▸▸ Optimal / *Optimal* ▸▸ Gut / *Good* ▸ Funktionell / *Functional*

Richtwerte
Indicative values

DR0608-AR01101

Torx® Pilotbohrer
Torx® Pilot drill



P1	P2	P3	P4	P5	M1	M2	M3	K1	N1	N2
N3	N4	N5	N6	N7	N8	S1	S2	S3	H1	

VHM | 140° | h5 | 20°

Torx®	D1 ±0.01	L1	D2	L2	D3	L3	L0	β	DWX Art. N°
T4	0.90	0.70	3	39	2.20	4.5	0.54	120	**444174**
T5	1.00	0.88	3	39	2.20	5	0.70	120	**444175**
T6	1.20	1.06	3	39	2.30	6	0.84	120	**444176**
T7	1.40	1.05	3	39	3.00	-	0.80	120	**444177**
T8	1.60	1.41	3	39	3.00	-	1.12	120	**444178**
T10	1.90	1.42	4	51	4.00	-	1.07	120	**444179**
T15	2.30	1.80	4	51	4.00	-	1.38	120	**444180**
T20	2.70	2.15	6	51	5.00	-	1.66	120	**444181**
T25	3.10	2.84	6	51	6.00	-	2.28	120	**444182**
T30	3.80	3.52	6	51	6.00	-	2.83	120	**444183**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

DR0608-AR01101

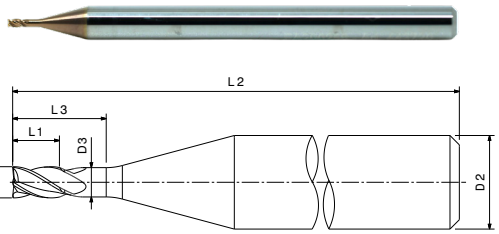
Schnittparameter
Cutting parameters

ISO	V_c [m/min]	f_z [mm] T 4 - 8	f_z [mm] T 10 - 15	f_z [mm] T 20 - 30
P1				
P2				
P3				
P4				
P5				
M1	20 - 30	0.020 - 0.035	0.040 - 0.060	0.060 - 0.080
M2	20 - 30	0.020 - 0.035	0.040 - 0.060	0.060 - 0.080
M3	20 - 30	0.020 - 0.035	0.040 - 0.060	0.060 - 0.080
K1				
N1				
N2				
N3				
N4				
N5				
N6				
N7				
N8				
S1	20 - 30	0.010 - 0.020	0.020 - 0.030	0.030 - 0.060
S2	20 - 30	0.010 - 0.020	0.020 - 0.030	0.030 - 0.060
S3	20 - 30	0.010 - 0.020	0.020 - 0.030	0.030 - 0.060
H1				
H2				

Richtwerte
Indicative values

MI0108-AR01106

Torx® Fräser
Torx® milling cutter



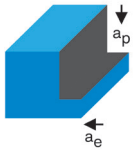
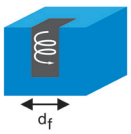
Torx®	D1 +0 / -0.01	L1	D2	L2	D3	L3	Z	DWX Art. N°
T4	0.20	0.30	3	39	0.18	0.60	3	**443713**
T5	0.25	0.38	3	39	0.24	0.75	3	**443715**
T6 / T7	0.30	0.45	3	39	0.28	0.90	3	**443716**
T8 / T10	0.40	0.60	3	39	0.38	1.20	4	**443717**
T10 / T15	0.50	0.75	3	39	0.47	1.50	4	**443718**
T20	0.60	0.90	3	39	0.56	1.80	4	**443719**
T25	0.80	1.20	3	39	0.75	2.40	4	**443720**
T30	1.00	1.50	3	39	0.94	3.00	4	**443721**

Torx®	D1 +0 / -0.01	L1	D2	L2	D3	L3	Z	DWX Art. N°
T4	0.20	0.30	3	39	0.18	1.00	3	**443722**
T5	0.25	0.38	3	39	0.24	1.25	3	**443723**
T6 / T7	0.30	0.45	3	39	0.28	1.50	3	**443724**
T8 / T10	0.40	0.60	3	39	0.38	2.00	4	**443725**
T10 / T15	0.50	0.75	3	39	0.47	2.50	4	**443726**
T20	0.60	0.90	3	39	0.56	3.00	4	**443727**
T25	0.80	1.20	3	39	0.75	4.00	4	**443728**
T30	1.00	1.50	3	39	0.94	5.00	4	**443729**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

MI0108-AR01106

Schnittparameter
Cutting parameters

Anwendung *Application*	Eckfräsen *Side Milling*		Helixinterpolation *Helical interpolation*	
Funktion *Function*				
	a_p	≤0.5xD1	Pitch	0.2-0.8xD1
	a_e	≤0.1xD1		
	V_c	x1		
	f_z	x1		

	V_c [m/min]			f_z [mm]		
ISO	T 4 - 7	T 8 - 15	T 20 - 30	T 4 - 7	T 8 - 15	T 20 - 30
P1						
P2						
P3						
P4						
P5						
M1	30 - 50	40 - 70	60 - 100	0.001 - 0.003	0.003 - 0.006	0.006 - 0.010
M2	30 - 50	40 - 70	60 - 100	0.001 - 0.003	0.003 - 0.006	0.006 - 0.010
M3	30 - 50	40 - 70	60 - 100	0.001 - 0.003	0.003 - 0.006	0.006 - 0.010
K1						
N1						
N2						
N3						
N4						
N5						
N6						
N7						
N8						
S1	30 - 50	40 - 70	60 - 100	0.001 - 0.003	0.003 - 0.006	0.006 - 0.010
S2	30 - 50	40 - 70	60 - 100	0.001 - 0.003	0.003 - 0.006	0.006 - 0.010
S3	30 - 50	40 - 70	60 - 100	0.001 - 0.003	0.003 - 0.006	0.006 - 0.010
H1						
H2						

Richtwerte
Indicative values

DIAeasy

Torx®pilot

Formular
Form

Kundendaten
Customer data

Kunde
Customer

Kontakt
Contact person

Ort
Address

Telefon
Phone

E-mail

Messung
Dimension

Torx®

Referenz-Artikel
Reference article

Schnittrichtung
Cutting direction

Innenkühlung
Internal coolant

D1

L1

α

β

D2

D3

L3

L0

Anzahl Zähne
Number of teeth

Werkstoff
Material

Werkstoffgruppe (Beispiel P1)
Material group (Example P1)

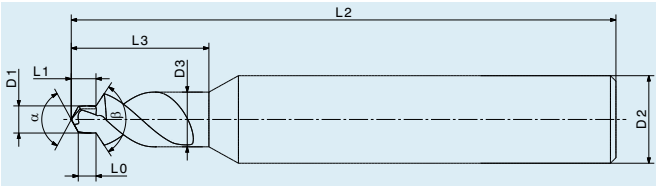
Werkstoffnummer
Material number

Härte
Hardness
[N/mm²], [HB], [HRC]

Datum
Date

Menge
Quantity

Gewünschtes Datum
Desired date



Nein
No

Ja
Yes

Zeichnung
Sketch

Beschichtung (bitte einkreisen)
Coating (encircle please)

DWS **DWX** **DWH** **DWT** **DWD** **DWA**

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DIAeasy

Torx®fräser

Formular
Form

Kundendaten
Customer data

Kunde
Customer

Kontakt
Contact person

Ort
Address

Telefon
Phone

E-mail

Mesures
Dimensioni

Torx®

Referenz-Artikel
Reference article

Schnittrichtung
Cutting direction

Innenkühlung
Internal coolant

D1

L1

α

D2

D3

L3

Anzahl Zähne
Number of teeth

Zentrumschnitt
Center cut

Werkstoff
Material

Werkstoffgruppe (Beispiel P1)
Material group (Example P1)

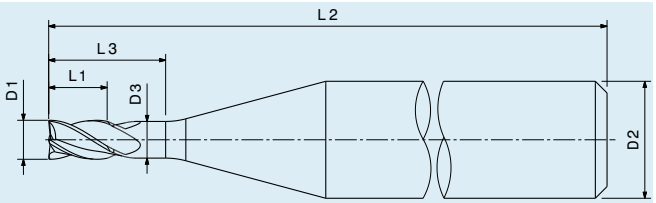
Werkstoffnummer
Material number

Härte
Hardness
[N/mm²], [HB], [HRC]

Datum
Date

Menge
Quantity

Gewünschtes Datum
Desired date



Nein
No

Ja
Yes

Zeichnung
Sketch

Beschichtung (bitte einkreisen)
Coating (encircle please)

DWS **DWX** **DWH** **DWT** **DWD** **DWA**

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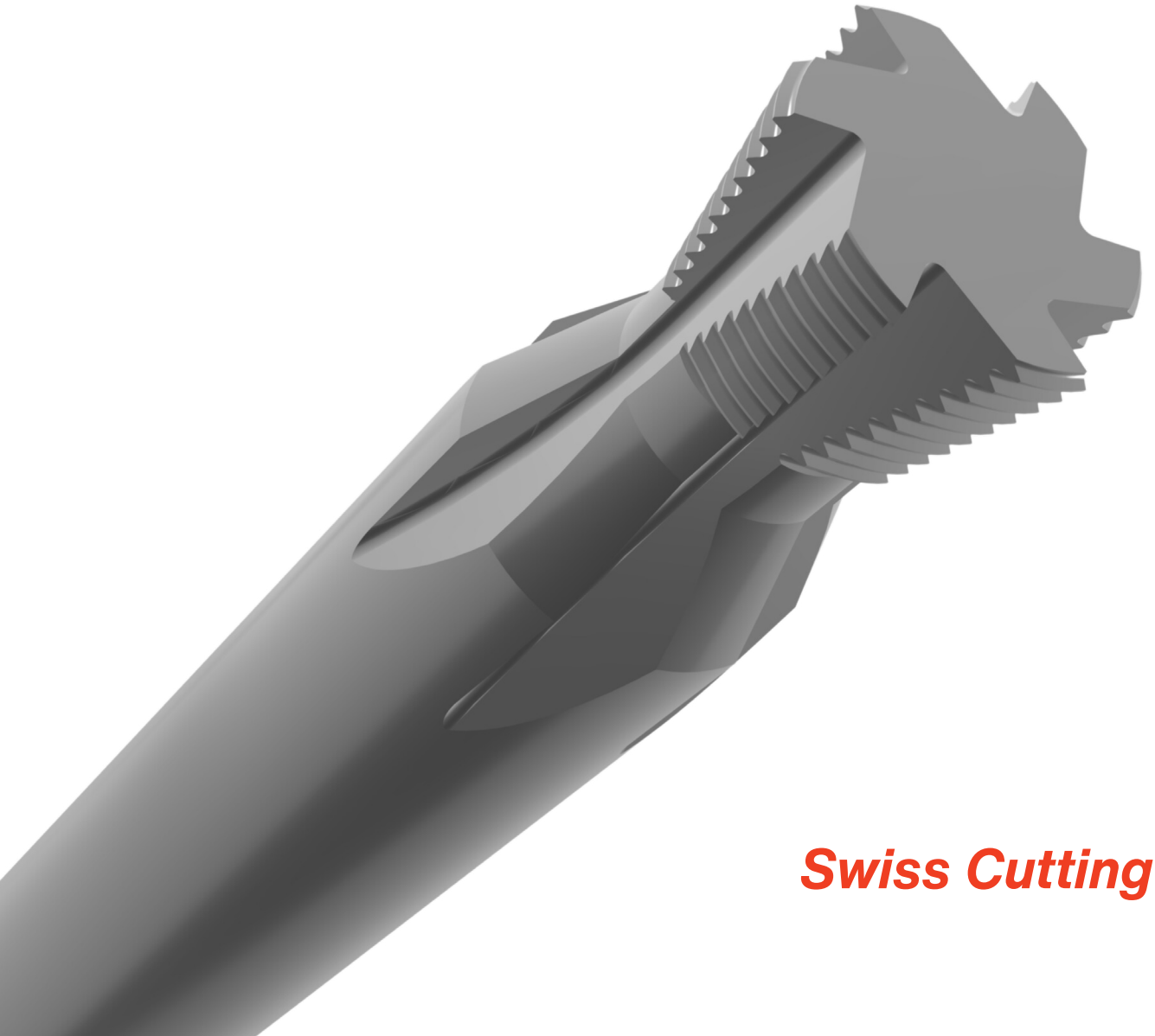
DIAMETAL

DIAthread

Komplettlösungen
für die Gewinde-Bearbeitung

Complete solutions
for thread machining



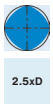
Swiss Cutting Tool

DIAthread

Anwendungen
Applications

		Doppelprofil Gewindewirbler *Double profile thread whirl cutter*	Einzelprofil Gewindewirbler *Single profile thread whirl cutter*	Einzelzahn Gewindewirbler *Single tooth thread whirl cutter*
Werkzeug *Tool*				
Stirngeometrien *Profile geometry*				
Zähnezahl *Number of teeth*				
Tiefe *Depth*		2.5xØ 3xØ	2.5xØ	2.5xØ
Spiralwinkel *Helix angle*				
Beschichtung *Coating*		DWS	DWS	DWS
Kodierung *Codificaion*		TH0342-NR01101	TH0343-NR01101	TH0344-NR01102
				
Seiten *Pages*		68	72	74
ISO	Werkstoffe *Materials*	M 0.80 - 6.00	M 0.80 - 6.00 S 0.50 - 1.40	S 0.30 - 0.60
P1	Automatenstahl *Free-cutting steel*	▸▸▸	▸▸▸	▸▸▸
P2	Automatenstahl bleifrei *Lead-free free-cutting steel*	▸▸▸	▸▸▸	▸▸▸
P3	Unlegierter Stahl (Rm < 800 N/mm²) *Unalloyed steel (Rm < 800 N/mm²)*	▸▸▸	▸▸▸	▸▸▸
P4	Niedriglegierter Stahl (Rm < 900 N/mm²) *Low alloy steel (Rm < 900 N/mm²)*	▸▸▸	▸▸▸	▸▸
P5	Hochlegierter Stahl (Rm < 1200 N/mm²) *High alloy steel (Rm < 1200 N/mm²)*	▸▸▸	▸▸▸	▸▸
M1	Ferritischer rostfreier Stahl *Ferritic stainless steel*	▸▸▸	▸▸▸	▸▸
M2	Martensitischer rostfreier Stahl *Martensitic stainless steel*	▸▸▸	▸▸▸	▸▸
M3	Austenitischer rostfreier Stahl *Austenitic stainless steel*	▸▸▸	▸▸▸	▸▸
K1	Gusseisen *Cast iron*	▸▸▸	▸▸▸	▸▸▸
N1	Aluminiumguss *Cast aluminum*	▸▸▸	▸▸▸	▸▸▸
N2	Aluminium Legierungen *Aluminum alloys*	▸▸▸	▸▸▸	▸▸▸
N3	Messing, Bronze *Brass, Bronze*	▸▸▸	▸▸▸	▸▸▸
N4	Messing bleifrei *Lead-free brass*	▸▸▸	▸▸▸	▸▸▸
N5	Kupfer *Copper*	▸▸▸	▸▸▸	▸▸▸
N6	Edelmetalle *Precious metals*	▸▸▸	▸▸▸	▸▸▸
N7	Platin, Palladium *Platinum, Palladium*	▸▸▸	▸▸▸	▸▸▸
N8	Kunststoffe *Plastics*	▸▸▸	▸▸▸	▸▸▸
S1	Titan rein *Pure Titanium*	▸▸▸	▸▸▸	▸▸
S2	Titan Legierungen *Titanium alloys*	▸▸▸	▸▸▸	▸▸
S3	Super Legierungen (Cr, Co, Ni) *Superalloys (Cr, Co, Ni)*	▸▸▸	▸▸▸	▸
H1	Gehärteter Stahl (< 55 HRC) *Hardened steel (< 55 HRC)*	▸▸	▸	
H2	Gehärteter Stahl (> 55 HRC) *Hardened steel (> 55 HRC)*			

▸▸▸ Optimal / *Optimal* ▸▸ Gut / *Good* ▸ Funktionell / *Functional*

Keramik Gewindewirbler *Ceramic thread whirl cutter*	Gewindebohrer *Thread tap*	Gewindeformer *Thread former*	Bohrer für DIAthread *Drill for DIAthread*
			
	DWS	DWS	DWS
TH0343-SR04103	TH0141-SR01101	TH0205-SR01101	DR0101-NR01101
			
76	78	80	82
M 1.60 - 6.00 S 0.50 - 1.40	M 0.30 - 3.00 S 0.30 - 1.40	M 0.50 - 3.00 S 0.50 - 1.40	Ø 0.23 - 5.30
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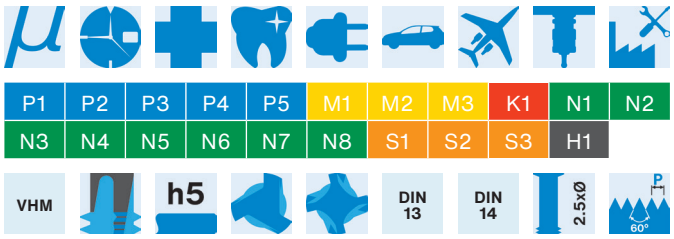
Richtwerte
Indicative values

TH0342-NR01101 (2.5xD)

Doppelprofil Gewindewirbler
Double profile thread whirl cutter

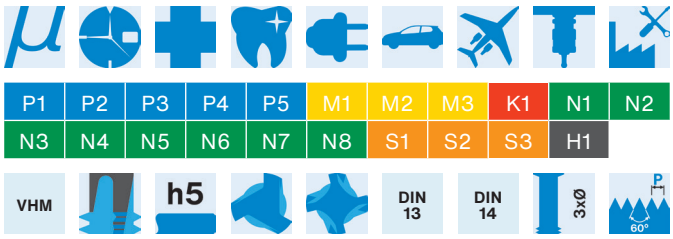


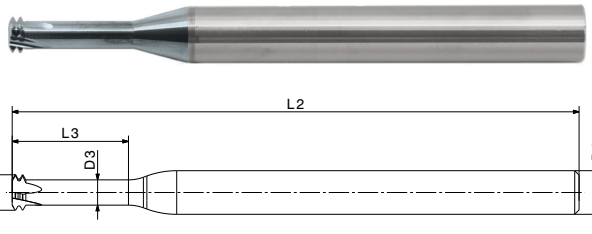
M	P	D1 ±0.01	L3	D2	L2	D3	Z		Art. N°	DWS Art. N°
0.80	0.200	0.58	2.20	3	39	0.30	3	0.66	**439792**	**439662**
0.90	0.225	0.65	2.50	3	39	0.33	3	0.74	**439793**	**439728**
1.00	0.250	0.72	2.80	3	39	0.37	3	0.75	**439794**	**439729**
1.20	0.250	0.92	3.30	3	39	0.57	3	0.95	**439796**	**439730**
1.40	0.300	1.06	3.80	3	39	0.64	3	1.10	**439798**	**439 731**
1.60	0.350	1.21	4.40	3	39	0.72	3	1.30	**439800**	**439 732**
1.80	0.350	1.41	4.90	3	39	0.92	3	1.50	**439801**	**439 733**
2.00	0.200	1.78	5.20	3	39	1.50	3	1.80	**443383**	**443327**
2.00	0.250	1.72	5.30	3	39	1.37	3	1.75	**443382**	**443328**
2.00	0.400	1.55	5.40	3	39	0.99	3	1.65	**439802**	**439734**
2.30	0.400	1.85	6.20	3	39	1.29	3	1.90	**439803**	**439735**
2.50	0.200	2.28	6.50	3	39	2.00	3	2.30	**443385**	**443329**
2.50	0.250	2.22	6.50	3	39	1.87	3	2.25	**443384**	**443330**
2.50	0.450	2.00	6.70	3	39	1.37	3	2.10	**439804**	**439736**
2.60	0.450	2.10	7.00	3	39	1.47	3	2.15	**439805**	**439738**
3.00	0.350	2.61	7.90	3	39	2.12	4	2.65	**443386**	**443331**
3.00	0.500	2.44	8.00	3	39	1.74	4	2.55	**439806**	**439739**
3.50	0.600	2.82	9.40	5	51	1.98	4	2.90	**443387**	**443342**
4.00	0.500	3.43	10.50	5	51	2.73	4	3.50	**443389**	**443343**
4.00	0.700	3.20	10.70	5	51	2.22	4	3.30	**443 388**	**443344**
5.00	0.500	4.43	13.00	5	51	3.73	4	4.50	**443391**	**443345**
5.00	0.800	4.09	13.30	5	51	2.97	4	4.20	**443390**	**443346**
6.00	0.750	4.95	15.80	5	51	3.90	4	5.30	**443393**	**443347**
6.00	1.000	4.86	16.00	5	51	3.46	4	5.00	**443392**	**443348**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

TH0342-NR01101 (3xD)

Doppelprofil Gewindewirbler
Double profile thread whirl cutter





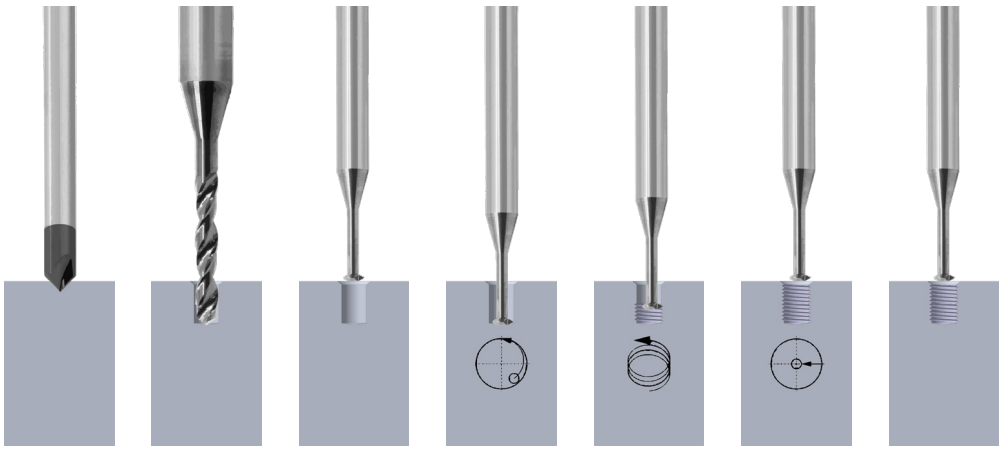
M	P	D1 ±0.01	L3	D2	L2	D3	Z		Art. N°	DWS Art. N°
0.80	0.200	0.58	2.60	3	39	0.30	3	0.66	**439792**	**439745**
0.90	0.225	0.65	3.00	3	39	0.33	3	0.74	**439793**	**439746**
1.00	0.250	0.72	3.30	3	39	0.37	3	0.75	**439794**	**439747**
1.20	0.250	0.92	3.90	3	39	0.57	3	0.95	**439796**	**439748**
1.40	0.300	1.06	4.50	3	39	0.64	3	1.10	**439798**	**439749**
1.60	0.350	1.21	5.20	3	39	0.72	3	1.30	**439800**	**439750**
1.80	0.350	1.41	5.80	3	39	0.92	3	1.50	**439801**	**439751**
2.00	0.200	1.78	5.20	3	39	1.50	3	1.80	**443383**	**443332**
2.00	0.250	1.72	5.30	3	39	1.37	3	1.75	**443382**	**443333**
2.00	0.400	1.55	6.40	3	39	0.99	3	1.65	**439802**	**439752**
2.30	0.400	1.85	7.30	3	39	1.29	3	1.90	**439803**	**439753**
2.50	0.200	2.28	7.70	3	39	2.00	3	2.30	**443385**	**443334**
2.50	0.250	2.22	7.80	3	39	1.87	3	2.25	**443384**	**443335**
2.50	0.450	2.00	8.00	3	39	1.37	3	2.10	**439804**	**439754**
2.60	0.450	2.10	8.30	3	39	1.47	3	2.15	**439805**	**439755**
3.00	0.350	2.61	9.40	3	39	2.12	4	2.65	**443386**	**443336**
3.00	0.500	2.44	9.50	3	39	1.74	4	2.55	**439806**	**439756**
3.50	0.600	2.82	11.10	5	51	1.98	4	2.90	**443387**	**443349**
4.00	0.500	3.43	12.50	5	51	2.73	4	3.50	**443389**	**443350**
4.00	0.700	3.20	12.70	5	51	2.22	4	3.30	**443388**	**443351**
5.00	0.500	4.43	15.50	5	51	3.73	4	4.50	**443391**	**443352**
5.00	0.800	4.09	15.80	5	51	2.97	4	4.20	**443390**	**443353**
6.00	0.750	4.95	18.80	5	51	3.90	4	5.30	**443393**	**443354**
6.00	1.000	4.86	19.00	5	51	3.46	4	5.00	**443392**	**443355**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

TH0342-NR01101

Schnittparameter
Cutting parameters

Bearbeitungsprozess
Machining process



		f_z [mm]			
ISO	V_c [m/min]	Ø 0.30 - 0.80	Ø 0.81 - 1.20	Ø 1.21 - 3.00	Ø 3.01 - 6.00
P1	80 - 110	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
P2	80 - 110	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
P3	60 - 90	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
P4	60 - 80	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.040 - 0.080
P5	40 - 60	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.040 - 0.080
M1	40 - 60	0.003 - 0.008	0.008 - 0.020	0.020 - 0.045	0.030 - 0.050
M2	40 - 60	0.003 - 0.008	0.008 - 0.020	0.020 - 0.045	0.030 - 0.050
M3	40 - 60	0.003 - 0.008	0.008 - 0.020	0.020 - 0.045	0.030 - 0.050
K1	90 - 120	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N1	220 - 280	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N2	220 - 280	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N3	200 - 250	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N4	200 - 250	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N5	200 - 250	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N6	70 - 110	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N7	70 - 110	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N8	150 - 220	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
S1	30 - 50	0.003 - 0.008	0.008 - 0.015	0.015 - 0.030	0.020 - 0.040
S2	15 - 35	0.003 - 0.008	0.008 - 0.015	0.015 - 0.030	0.020 - 0.040
S3	30 - 50	0.003 - 0.008	0.008 - 0.015	0.015 - 0.030	0.020 - 0.040
H1	20 - 40	0.003 - 0.008	0.008 - 0.015	0.015 - 0.030	0.015 - 0.030
H2					

Richtwerte
Indicative values

TH0343-NR01101

Einzelprofil Gewindewirbler
Single profile thread whirl cutter

P1	P2	P3	P4	P5	M1	M2	M3	K1	N1	N2
N3	N4	N5	N6	N7	N8	S1	S2	S3	H1	

VHM | h5 | DIN 13 | DIN 14 | 2.5xØ | P 60°

M	P	D1 ±0.01	L3	D2	L2	D3	Z		Art. N°	DWS Art. N°
0.80	0.200	0.58	2.20	3	39	0.30	3	0.66	**439792**	**439681**
0.90	0.225	0.65	2.50	3	39	0.33	3	0.74	**439793**	**439762**
1.00	0.250	0.72	2.80	3	39	0.37	3	0.75	**439794**	**439763**
1.20	0.250	0.92	3.30	3	39	0.57	3	0.95	**439796**	**439764**
1.40	0.300	1.06	3.80	3	39	0.64	3	1.10	**439798**	**439765**
1.60	0.350	1.21	4.40	3	39	0.72	3	1.30	**439800**	**439766**
1.80	0.350	1.41	4.90	3	39	0.92	3	1.50	**439801**	**439767**
2.00	0.400	1.55	5.40	3	39	0.99	3	1.65	**439802**	**439768**
2.30	0.400	1.85	6.20	3	39	1.29	3	1.90	**439803**	**439769**
2.50	0.450	2.00	6.70	3	39	1.37	3	2.10	**439804**	**439770**
2.60	0.450	2.10	7.00	3	39	1.47	3	2.15	**439805**	**439771**
3.00	0.500	2.44	8.00	3	39	1.74	4	2.55	**439806**	**443369**
3.50	0.600	2.82	9.40	5	51	1.98	4	2.90	**443387**	**443371**
4.00	0.700	3.20	10.70	5	51	2.22	4	3.30	**443388**	**443372**
5.00	0.800	4.09	13.30	5	51	2.97	4	4.20	**443390**	**443373**
6.00	1.000	4.86	16.00	5	51	3.46	4	5.00	**443392**	**443374**

VHM | h5 | NIHS | 2.5xØ | P 60°

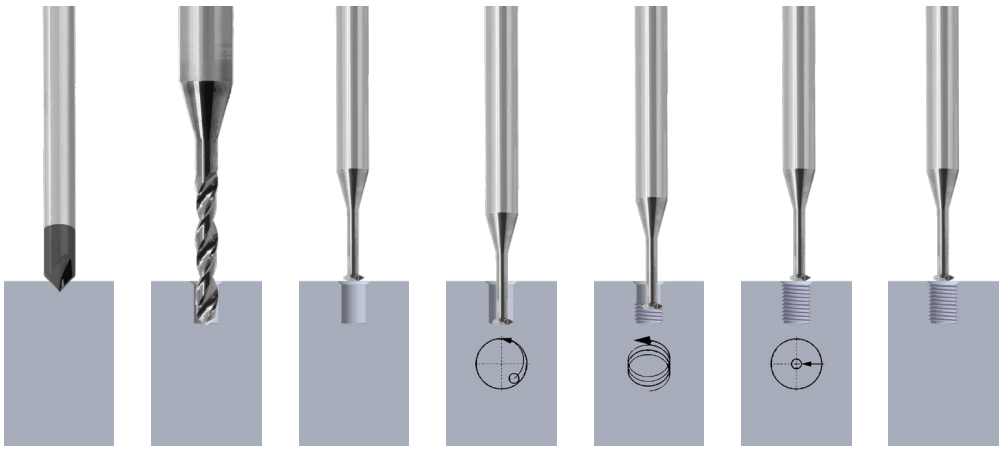
S	P	D1 ±0.01	L3	D2	L2	D3	Z		Art. N°	DWS Art. N°
0.50	0.125	0.36	1.40	3	39	0.19	3	0.41	**439789**	**439772**
0.60	0.150	0.43	1.70	3	39	0.22	3	0.50	**439790**	**439773**
0.70	0.175	0.50	2.00	3	39	0.26	3	0.58	**439791**	**439774**
0.80	0.200	0.58	2.20	3	39	0.30	3	0.66	**439792**	**439775**
0.90	0.225	0.65	2.50	3	39	0.33	3	0.74	**439793**	**439776**
1.00	0.250	0.72	2.80	3	39	0.37	3	0.82	**439795**	**439777**
1.20	0.250	0.92	3.30	3	39	0.57	3	1.02	**439797**	**439778**
1.40	0.300	1.06	3.80	3	39	0.64	3	1.18	**439799**	**439779**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

TH0343-NR01101

Schnittparameter
Cutting parameters

Bearbeitungsprozess
Machining process



		f_z [mm]			
ISO	V_c [m/min]	Ø 0.30 - 0.80	Ø 0.81 - 1.20	Ø 1.21 - 3.00	Ø 3.01 - 6.00
P1	80 - 110	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
P2	80 - 110	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
P3	60 - 90	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
P4	60 - 80	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.040 - 0.080
P5	40 - 60	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.040 - 0.080
M1	40 - 60	0.003 - 0.008	0.008 - 0.020	0.020 - 0.045	0.030 - 0.050
M2	40 - 60	0.003 - 0.008	0.008 - 0.020	0.020 - 0.045	0.030 - 0.050
M3	40 - 60	0.003 - 0.008	0.008 - 0.020	0.020 - 0.045	0.030 - 0.050
K1	90 - 120	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N1	220 - 280	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N2	220 - 280	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N3	200 - 250	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N4	200 - 250	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N5	200 - 250	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N6	70 - 110	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N7	70 - 110	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N8	150 - 220	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
S1	30 - 50	0.003 - 0.008	0.008 - 0.015	0.015 - 0.030	0.020 - 0.040
S2	15 - 35	0.003 - 0.008	0.008 - 0.015	0.015 - 0.030	0.020 - 0.040
S3	30 - 50	0.003 - 0.008	0.008 - 0.015	0.015 - 0.030	0.020 - 0.040
H1	20 - 40	0.003 - 0.008	0.008 - 0.015	0.015 - 0.030	0.015 - 0.030
H2					

Richtwerte
Indicative values

TH0344-NR01102

Einzelzahn Gewindewirbler
Single tooth thread whirl cutter

P1	P2	P3	P4	P5	M1	M2	M3	K1	N1	N2
N3	N4	N5	N6	N7	N8	S1	S2	S3		

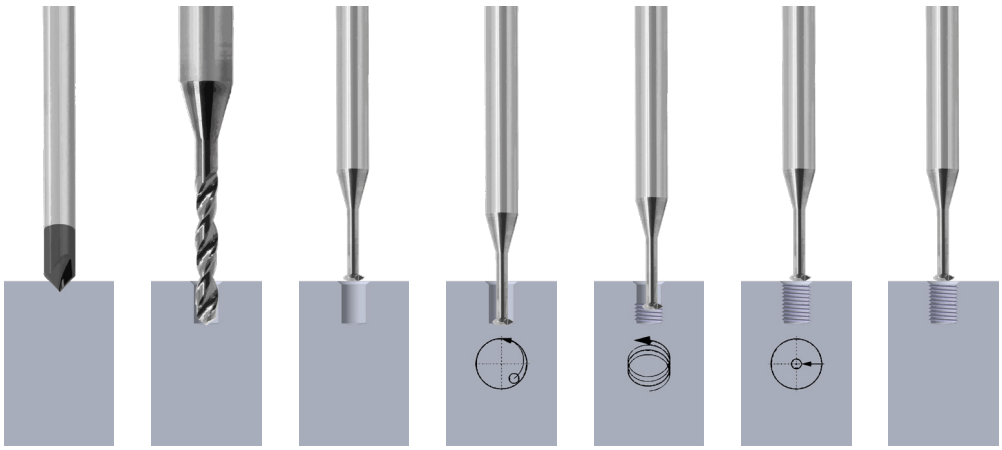
S	P	D1 ±0.005	L3	D2	L2	D3	Z		Art. N°	DWS Art. N°
0.30	0.080	0.21	0.90	3	39	0.11	1	0.23	**439665**	**439682**
0.35	0.090	0.25	1.00	3	39	0.13	1	0.28	**439787**	**439780**
0.40	0.100	0.29	1.10	3	39	0.16	1	0.32	**439788**	**439781**
0.50	0.125	0.36	1.40	3	39	0.20	1	0.41	**439789**	**439782**
0.60	0.150	0.43	1.70	3	39	0.24	1	0.50	**439790**	**439783**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

TH0344-NR01101

Schnittparameter
Cutting parameters

Bearbeitungsprozess
Machining process



		f_z [mm]			
ISO	V_c [m/min]	Ø 0.30 - 0.80	Ø 0.81 - 1.20	Ø 1.21 - 3.00	Ø 3.01 - 6.00
P1	80 - 110	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
P2	80 - 110	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
P3	60 - 90	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
P4	60 - 80	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.040 - 0.080
P5	40 - 60	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.040 - 0.080
M1	40 - 60	0.003 - 0.008	0.008 - 0.020	0.020 - 0.045	0.030 - 0.050
M2	40 - 60	0.003 - 0.008	0.008 - 0.020	0.020 - 0.045	0.030 - 0.050
M3	40 - 60	0.003 - 0.008	0.008 - 0.020	0.020 - 0.045	0.030 - 0.050
K1	90 - 120	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N1	220 - 280	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N2	220 - 280	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N3	200 - 250	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N4	200 - 250	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N5	200 - 250	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N6	70 - 110	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N7	70 - 110	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N8	150 - 220	0.004 - 0.009	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
S1	30 - 50	0.003 - 0.008	0.008 - 0.015	0.015 - 0.030	0.020 - 0.040
S2	15 - 35	0.003 - 0.008	0.008 - 0.015	0.015 - 0.030	0.020 - 0.040
S3	30 - 50	0.003 - 0.008	0.008 - 0.015	0.015 - 0.030	0.020 - 0.040
H1	20 - 40	0.003 - 0.008	0.008 - 0.015	0.015 - 0.030	0.015 - 0.030
H2					

Richtwerte
Indicative values

TH0343-SR04103

Keramik Gewindewirbler
Ceramic thread whirl cutter

K1 | N1 | N2

N3 | N4 | N5 | N6 | N7 | N8

Cer | h5 | DIN 13 | 2.5xØ | P 60°

M	P	D1 ±0.005	L3	D2	L2	D3	Z		Art. N°	Cer Art. N°
1.60	0.350	1.21	4.40	3	39	0.72	3	1.30	**439800**	**443762**
1.80	0.350	1.41	4.90	3	39	0.92	3	1.50	**439801**	**443763**
2.00	0.400	1.55	5.40	3	39	0.99	3	1.65	**439802**	**443764**
2.30	0.400	1.85	6.20	3	39	1.29	3	1.90	**439803**	**443765**
2.50	0.450	2.00	6.70	3	39	1.37	3	2.10	**439804**	**443766**
2.60	0.450	2.10	7.00	3	39	1.47	3	2.15	**439805**	**443767**
3.00	0.500	2.44	8.00	3	39	1.74	4	2.55	**439806**	**443768**
3.50	0.600	2.82	9.40	5	51	1.98	4	2.90	**443387**	**443769**
4.00	0.700	3.20	10.70	5	51	2.22	4	3.30	**443388**	**443770**
5.00	0.800	4.09	13.30	5	51	2.97	4	4.20	**443390**	**443771**
6.00	1.000	4.86	16.00	5	51	3.46	4	5.00	**443392**	**443772**

Cer | h5 | NIHS | 2.5xØ | P 60°

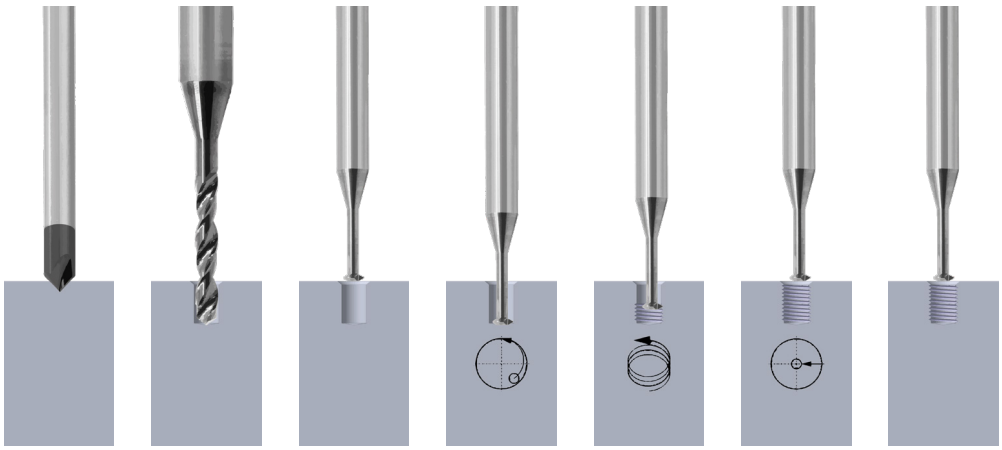
S	P	D1 ±0.005	L3	D2	L2	D3	Z		Art. N°	Cer Art. N°
0.50	0.125	0.36	1.40	3	39	0.19	3	0.41	**439789**	**440551**
0.60	0.150	0.43	1.70	3	39	0.22	3	0.50	**439790**	**440552**
0.70	0.175	0.50	2.00	3	39	0.26	3	0.58	**439791**	**440553**
0.80	0.200	0.58	2.20	3	39	0.30	3	0.66	**439792**	**440554**
0.90	0.225	0.65	2.50	3	39	0.33	3	0.74	**439793**	**440555**
1.00	0.250	0.72	2.80	3	39	0.37	3	0.82	**439795**	**440556**
1.20	0.250	0.92	3.30	3	39	0.57	3	1.02	**439797**	**440557**
1.40	0.300	1.06	3.80	3	39	0.64	3	1.18	**439799**	**440558**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

TH0343-SR04102

Schnittparameter
Cutting parameters

Bearbeitungsprozess
Machining process



		f_z [mm]		
ISO	V_c [m/min]	Ø 0.50 - 1.40	Ø 1.41 - 3.50	Ø 3.51 - 6.00
P1				
P2				
P3				
P4				
P5				
M1				
M2				
M3				
K1	150 - 200	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N1	220 - 300	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N2	220 - 300	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N3	250 - 300	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N4	220 - 300	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N5	200 - 250	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N6	100 - 150	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N7	100 - 150	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
N8	150 - 220	0.009 - 0.025	0.025 - 0.050	0.050 - 0.100
S1				
S2				
S3				
H1				
H2				

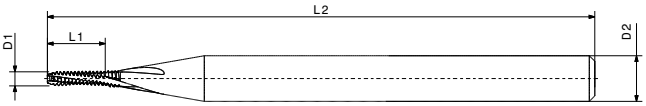
Richtwerte
Indicative values

TH0141-SR01101

Gewindebohrer rechtsgenutet
Right hand spiral thread tap

K1 | N1 | N2

N3 | N4 | N5 | N6 | N7 | N8



VHM | h5 | DIN 13 | DIN 14 | 3xD | P 60° | C 2.5xP

M	P	D1	L1	D2	L2	Z		Art. N°	DWS Art. N°
0.30	0.080	0.30	1.10	1.5	32	3	0.23	**439665**	**455824**
0.35	0.090	0.35	1.30	1.5	32	3	0.28	**439787**	**455825**
0.40	0.100	0.40	1.50	1.5	32	3	0.32	**439788**	**455826**
0.50	0.125	0.50	1.90	1.5	32	3	0.41	**439789**	**455827**
0.60	0.150	0.60	2.30	1.5	32	3	0.50	**439790**	**455828**
0.70	0.175	0.70	2.60	1.5	32	3	0.58	**439791**	**455829**
0.80	0.200	0.80	3.00	1.5	32	3	0.66	**439792**	**455830**
0.90	0.225	0.90	3.40	1.5	32	3	0.74	**439793**	**455831**
1.00	0.250	1.00	3.80	2.0	32	3	0.75	**439794**	**455832**
1.20	0.250	1.20	4.50	2.0	32	3	0.95	**439796**	**455833**
1.40	0.300	1.40	5.30	2.0	32	3	1.10	**439798**	**455834**
1.60	0.350	1.60	6.00	2.0	32	3	1.25	**456100**	**455835**
1.80	0.350	1.80	6.80	2.0	32	3	1.25	**456101**	**455836**
2.00	0.400	2.00	7.50	3.0	39	3	1.60	**439802**	**455837**
2.30	0.400	2.30	8.60	3.0	39	3	1.90	**439803**	**455838**
2.50	0.450	2.50	9.40	3.0	39	3	2.10	**439804**	**455839**
2.60	0.450	2.60	9.80	3.0	39	3	2.15	**439805**	**455840**
3.00	0.500	3.00	11.30	3.0	51	3	2.55	**439806**	**455841**

VHM | h5 | NIHS | 3xD | P 60° | C 2.5xP

S	P	D1	L1	D2	L2	Z		Art. N°	DWS Art. N°
0.30	0.080	0.30	1.10	1.5	32	3	0.23	**439665**	**455842**
0.35	0.090	0.35	1.30	1.5	32	3	0.28	**439787**	**455843**
0.40	0.100	0.40	1.50	1.5	32	3	0.32	**439788**	**455844**
0.50	0.125	0.50	1.90	1.5	32	3	0.41	**439789**	**455845**
0.60	0.150	0.60	2.30	1.5	32	3	0.50	**439790**	**455846**
0.70	0.175	0.70	2.60	1.5	32	3	0.58	**439791**	**455847**
0.80	0.200	0.80	3.00	1.5	32	3	0.66	**439792**	**455848**
0.90	0.225	0.90	3.40	1.5	32	3	0.74	**439793**	**455849**
1.00	0.250	1.00	3.80	2.0	32	3	0.82	**439795**	**455850**
1.20	0.250	1.20	4.50	2.0	32	3	1.02	**439797**	**455851**
1.40	0.300	1.40	5.30	2.0	32	3	1.18	**439799**	**455852**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

TH0141-SR01101

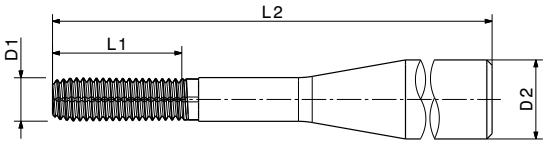
Schnittparameter
Cutting parameters

ISO	V_c [m/min] Ø 0.30 - 1.40	Ø 1.60 - 3.00
P1		
P2		
P3		
P4		
P5		
M1		
M2		
M3		
K1	6 - 12	14 - 20
N1	6 - 12	14 - 20
N2	6 - 12	14 - 20
N3	6 - 12	14 - 20
N4	6 - 12	14 - 20
N5	6 - 12	14 - 20
N6	6 - 12	14 - 20
N7	6 - 12	14 - 20
N8	6 - 12	14 - 20
S1		
S2		
S3		
H1		
H2		

Richtwerte
Indicative values

TH0205-SR01101

Gewindeformer
Thread former



N3 | N4 | N5 | N6 | N7 | N8

VHM | h5 | DIN 13 | DIN 14 | 2.5xD | C 2.5xP

M	P	D1	L1	D2	L2		Art. N°	DWS Art. N°
0.50	0.125	0.50	1.50	1.5	32	0.44	**455743**	**455801**
0.60	0.150	0.60	1.80	1.5	32	0.53	**455744**	**455802**
0.70	0.175	0.70	2.10	1.5	32	0.62	**455745**	**455803**
0.80	0.200	0.80	2.40	1.5	32	0.71	**455746**	**455804**
0.90	0.225	0.90	2.70	1.5	32	0.80	**455747**	**455805**
1.00	0.250	1.00	3.00	2.0	32	0.88	**455748**	**455806**
1.20	0.250	1.20	3.60	2.0	32	1.08	**455749**	**455807**
1.40	0.300	1.40	4.20	2.0	32	1.25	**456100**	**455808**
1.60	0.350	1.60	4.80	2.0	32	1.45	**456101**	**455809**
1.80	0.350	1.80	5.40	2.0	32	1.65	**439802**	**455810**
2.00	0.400	2.00	6.00	3.0	39	1.80	**443383**	**455811**
2.30	0.400	2.30	6.90	3.0	39	2.10	**439804**	**455812**
2.50	0.450	2.50	7.50	3.0	39	2.30	**443385**	**455813**
2.60	0.450	2.60	7.80	3.0	39	2.40	**455750**	**455814**
3.00	0.500	3.00	9.00	3.0	51	2.80	**455751**	**455815**

VHM | h5 | NIHS | 3xD | C 2.5xP

S	P	D1	L1	D2	L2		Art. N°	DWS Art. N°
0.50	0.125	0.50	1.50	1.5	32	0.44	**455743**	**455816**
0.60	0.150	0.60	1.80	1.5	32	0.53	**455744**	**455817**
0.70	0.175	0.70	2.10	1.5	32	0.62	**455745**	**455818**
0.80	0.200	0.80	2.40	1.5	32	0.71	**455746**	**455819**
0.90	0.225	0.90	2.70	1.5	32	0.80	**455747**	**455820**
1.00	0.250	1.00	3.00	2.0	32	0.88	**455748**	**455821**
1.20	0.250	1.20	3.60	2.0	32	1.08	**455749**	**455822**
1.40	0.300	1.40	4.20	2.0	32	1.25	**456100**	**455823**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

TH0205-SR01101

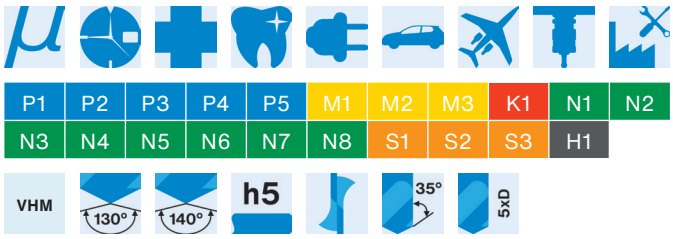
Schnittparameter
Cutting parameters

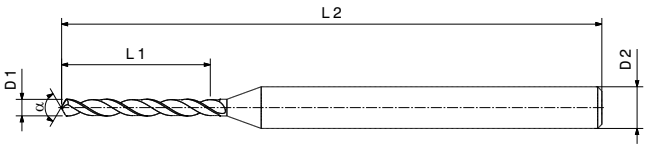
ISO	V_c [m/min] Ø 0.30 - 1.40	V_c [m/min] Ø 1.60 - 3.00
P1		
P2		
P3		
P4		
P5		
M1		
M2		
M3		
K1		
N1	6 - 12	14 - 20
N2	6 - 12	14 - 20
N3	6 - 12	14 - 20
N4	6 - 12	14 - 20
N5	6 - 12	14 - 20
N6	6 - 12	14 - 20
N7	6 - 12	14 - 20
N8	6 - 12	14 - 20
S1		
S2		
S3		
H1		
H2		

Richtwerte
Indicative values

DR0101-NR01101

Bohrer für Diathread
Drill for Diathread





D1	L1	D2	L2	α	DWS Art. N°
0.23	1.50	3	39	130°	**439665**
0.28	1.80	3	39	130°	**439787**
0.32	1.80	3	39	130°	**439788**
0.41	2.70	3	39	130°	**439789**
0.44	2.70	3	39	130°	**455743**
0.50	3.20	3	39	130°	**439790**
0.53	3.20	3	39	130°	**455744**
0.58	3.60	3	39	130°	**439791**
0.62	3.90	3	39	130°	**455745**
0.66	3.90	3	39	130°	**439792**
0.71	4.50	3	39	130°	**455746**
0.74	4.50	3	39	130°	**439793**
0.75	4.50	3	39	130°	**439794**
0.80	5.00	3	39	130°	**455747**
0.82	5.00	3	39	130°	**439795**
0.88	5.70	3	39	130°	**455748**
0.95	5.70	3	39	130°	**439796**
1.02	6.50	3	39	130°	**439797**
1.08	7.30	3	39	130°	**455749**
1.10	7.30	3	39	130°	**439798**
1.18	8.20	3	39	130°	**439799**
1.25	8.20	3	39	130°	**456100**
1.30	8.20	3	39	130°	**439800**
1.45	9.20	3	39	130°	**456101**
1.50	9.20	3	39	130°	**439801**
1.65	11.20	3	39	130°	**439802**
1.75	11.20	3	39	130°	**443382**
1.80	11.20	3	39	130°	**443383**
1.90	11.20	3	39	130°	**439803**
2.10	12.50	3	39	130°	**439804**
2.15	12.50	3	39	130°	**439805**
2.25	12.50	3	39	130°	**443384**
2.30	12.50	3	39	130°	**443385**
2.40	12.00	3	39	130°	**455750**
2.55	14.00	3	39	130°	**439806**
2.65	14.00	3	39	130°	**443386**
2.80	14.00	3	39	130°	**455751**
2.90	15.00	6	66	140°	**443387**
3.30	17.00	6	66	140°	**443388**
3.50	18.00	6	66	140°	**443389**
4.20	21.00	6	74	140°	**443390**
4.50	23.00	6	74	140°	**443391**
5.00	25.00	6	82	140°	**443392**
5.30	27.00	6	82	140°	**443393**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

DR0101-NR01101

Schnittparameter
Cutting parameters

	V_c [m/min]				f_u [mm]			
ISO	Ø 0.23 - 0.50	Ø 0.51 - 1.00	Ø 1.01 - 2.55	Ø 2.90 - 5.30	Ø 0.23 - 0.50	Ø 0.51 - 1.00	Ø 1.01 - 2.55	Ø 2.90 - 5.30
P1	6 - 12	12 - 35	35 - 60	60 - 110	0.004 - 0.008	0.008 - 0.015	0.015 - 0.030	0.070 - 0.130
P2	6 - 12	12 - 35	35 - 60	60 - 110	0.004 - 0.008	0.008 - 0.015	0.015 - 0.030	0.070 - 0.130
P3	6 - 12	12 - 35	35 - 60	60 - 110	0.004 - 0.008	0.008 - 0.015	0.015 - 0.030	0.070 - 0.130
P4	4 - 9	9 - 25	25 - 50	50 - 90	0.003 - 0.006	0.006 - 0.014	0.014 - 0.028	0.060 - 0.120
P5	3 - 6	6 - 20	20 - 40	40 - 60	0.002 - 0.005	0.005 - 0.011	0.011 - 0.023	0.050 - 0.100
M1	4 - 9	9 - 25	25 - 50	40 - 60	0.002 - 0.005	0.005 - 0.012	0.012 - 0.024	0.050 - 0.080
M2	4 - 9	9 - 25	25 - 50	40 - 60	0.002 - 0.005	0.005 - 0.012	0.012 - 0.024	0.050 - 0.080
M3	3 - 6	6 - 20	20 - 35	40 - 60	0.002 - 0.004	0.004 - 0.009	0.009 - 0.022	0.050 - 0.080
K1	6 - 12	12 - 35	35 - 60	60 - 90	0.004 - 0.008	0.008 - 0.015	0.015 - 0.030	0.100 - 0.150
N1	7 - 19	19 - 45	45 - 80	90 - 170	0.003 - 0.006	0.006 - 0.012	0.012 - 0.024	0.090 - 0.150
N2	6 - 15	15 - 35	35 - 65	90 - 170	0.003 - 0.006	0.006 - 0.012	0.012 - 0.024	0.090 - 0.150
N3	7 - 18	18 - 40	40 - 70	90 - 170	0.003 - 0.006	0.006 - 0.012	0.012 - 0.024	0.090 - 0.150
N4	6 - 15	15 - 35	35 - 65	90 - 170	0.003 - 0.006	0.006 - 0.012	0.012 - 0.024	0.090 - 0.150
N5	6 - 15	15 - 35	35 - 65	90 - 170	0.003 - 0.006	0.006 - 0.012	0.012 - 0.024	0.090 - 0.150
N6	5 - 10	10 - 25	25 - 50	90 - 170	0.003 - 0.006	0.006 - 0.012	0.012 - 0.024	0.090 - 0.150
N7	5 - 10	10 - 25	25 - 50	90 - 170	0.003 - 0.006	0.006 - 0.012	0.012 - 0.024	0.090 - 0.150
N8	6 - 12	12 - 35	35 - 60	90 - 170	0.004 - 0.008	0.008 - 0.016	0.016 - 0.032	0.090 - 0.150
S1	5 - 9	9 - 18	18 - 35	35 - 55	0.003 - 0.006	0.006 - 0.012	0.012 - 0.024	0.030 - 0.060
S2	5 - 9	9 - 18	18 - 35	35 - 55	0.003 - 0.006	0.006 - 0.012	0.012 - 0.024	0.030 - 0.060
S3	3 - 6	6 - 12	12 - 20	35 - 55	0.002 - 0.005	0.005 - 0.009	0.009 - 0.015	0.030 - 0.060
H1	3 - 6	6 - 12	12 - 20	25 - 40	0.002 - 0.005	0.005 - 0.009	0.009 - 0.015	0.030 - 0.060
H2								

Richtwerte
Indicative values

DIAeasy

DIAthread

Formular
Form

Kundendaten ***Customer data***	
Kunde *Customer*	Datum *Date*
Kontakt *Contact person*	Menge *Quantity*
Ort *Address*	Gewünschtes Datum *Desired date*
Telefon *Phone*	
E-mail	

Messung ***Dimension***	**Zeichnung** ***Sketch***
Referenz-Artikel *Reference article*	
Innenkühlung *Internal coolant*	
Gewindeprofil (Norm, Dimension und Steigung) *Thread profile (norm, dimension e pitch)*	
Gewindelänge *Thread length*	
Innengewinde *Internal thread*	
Aussengewinde *External thread*	

Ausführung der Schneidecken (bitte einkreisen)
Execution of the cutting corners (encircle please)

Werkstoff ***Material***	**Beschichtung (bitte einkreisen)** ***Coating (encircle please)***
Werkstoffgruppe (Beispiel P1) *Material group (Example P1)*	**DWS** **DWX** **DWH** **DWT** **DWD** **DWA**
Werkstoffnummer *Material number*	
Härte *Hardness* [N/mm²], [HB], [HRC]	

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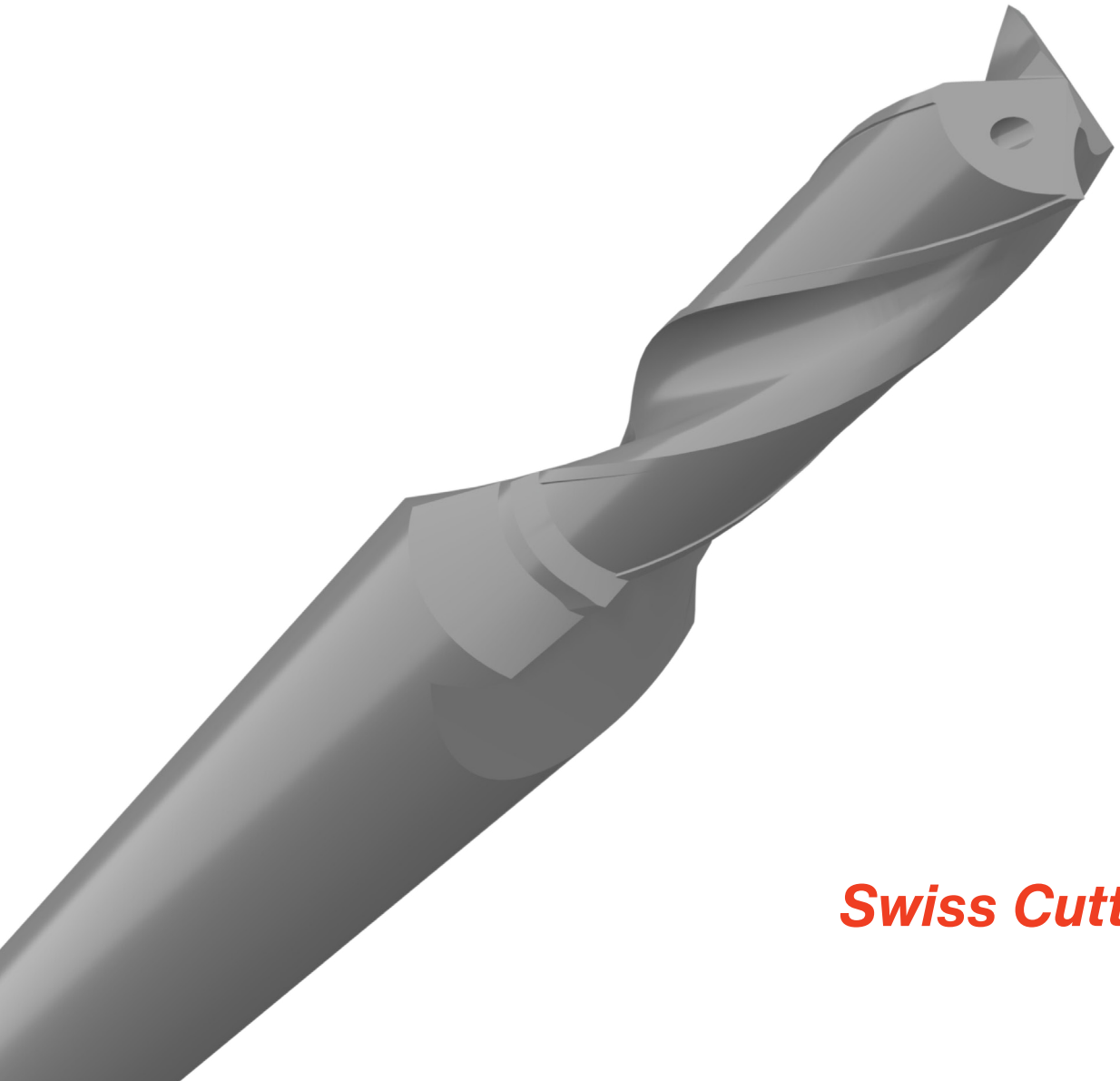
Komplettlösungen für die Bohr-Bearbeitung

Complete solutions for drill machining



Swiss Cutting Tool

DIAdrill

Anwendungen
Applications

Werkzeug *Tool*	Zentrierbohrer *Center drill*		Pilotbohrer *Pilot drill*	
Stirngeometrien *Profile geometry*	90° 130° 140°	130°	180°	
Zähnezahl *Number of teeth*				
Tiefe *Depth*		2xD	3,5xD	
Spiralwinkel *Helix angle*		25°		
Beschichtung *Coating*	DWS	DWS	DWS	
Kodierung *Codificaion*	DR0505-NR01101	DR0606-NR01102	DR0607-NR01103	DR(
				
Seiten *Pages*	92	94	98	

ISO	Werkstoffe *Materials*	Ø 3.00 - 6.00	Ø 1.00 - 4.00	Ø 0.80 - 6.00	Ø
P1	Automatenstahl *Free-cutting steel*	▸▸▸	▸▸▸	▸▸▸	
P2	Automatenstahl bleifrei *Lead-free free-cutting steel*	▸▸▸	▸▸▸	▸▸▸	
P3	Unlegierter Stahl (Rm < 800 N/mm²) *Unalloyed steel (Rm < 800 N/mm²)*	▸▸▸	▸▸▸	▸▸▸	
P4	Niedriglegierter Stahl (Rm < 900 N/mm²) *Low alloy steel (Rm < 900 N/mm²)*	▸▸▸	▸▸▸	▸▸▸	
P5	Hochlegierter Stahl (Rm < 1200 N/mm²) *High alloy steel (Rm < 1200 N/mm²)*	▸▸▸	▸▸▸	▸▸▸	
M1	Ferritischer rostfreier Stahl *Ferritic stainless steel*	▸▸▸	▸▸▸	▸▸▸	
M2	Martensitischer rostfreier Stahl *Martensitic stainless steel*	▸▸▸	▸▸▸	▸▸▸	
M3	Austenitischer rostfreier Stahl *Austenitic stainless steel*	▸▸▸	▸▸▸	▸▸▸	
K1	Gusseisen *Cast iron*	▸▸▸	▸▸▸	▸▸▸	
N1	Aluminiumguss *Cast aluminum*	▸▸▸	▸▸▸	▸▸▸	
N2	Aluminium Legierungen *Aluminum alloys*	▸▸▸	▸▸▸	▸▸▸	
N3	Messing, Bronze *Brass, Bronze*	▸▸▸	▸▸▸	▸▸▸	
N4	Messing bleifrei *Lead-free brass*	▸▸▸	▸▸▸	▸▸▸	
N5	Kupfer *Copper*	▸▸▸	▸▸▸	▸▸▸	
N6	Edelmetalle *Precious metals*	▸▸▸	▸▸▸	▸▸▸	
N7	Platin, Palladium *Platinum, Palladium*	▸▸▸	▸▸▸	▸▸▸	
N8	Kunststoffe *Plastics*	▸▸▸	▸▸▸	▸▸▸	
S1	Titan rein *Pure Titanium*	▸▸▸	▸▸▸	▸▸▸	
S2	Titan Legierungen *Titanium alloys*	▸▸▸	▸▸▸	▸▸▸	
S3	Super Legierungen (Cr, Co, Ni) *Superalloys (Cr, Co, Ni)*	▸▸▸	▸▸	▸▸	
H1	Gehärteter Stahl (< 55 HRC) *Hardened steel (< 55 HRC)*	▸▸	▸▸	▸▸	
H2	Gehärteter Stahl (> 55 HRC) *Hardened steel (> 55 HRC)*				

▸▸▸ Optimal / *Optimal* ▸▸ Gut / *Good* ▸ Funktionell / *Functional*

	Mikrobohrer *Micro drill*			Spiral Kanonenbohrer *Helical gun drill*
140° 3xD 30° DWS	130° 6xD 25° DWS	130° 12xD 25° DWS	130° 18xD 25° DWS	118°-180°
0101-NR01102	DR0101-NR11103 (6xD)	DR0101-NR11103 (12xD)	DR0101-NR11103 (18xD)	DR0304-NR01101
				
102	104	108	112	116
0.80 - 3.00	Ø 1.00 - 4.00	Ø 1.00 - 4.00	Ø 1.00 - 4.00	Ø 4.00 - 6.00
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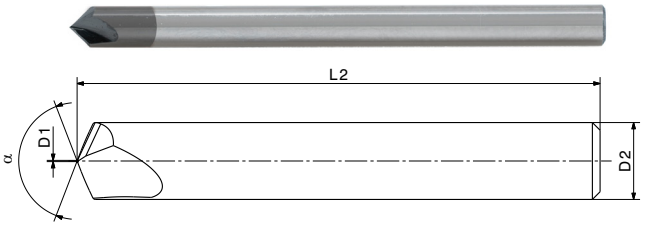
Richtwerte
Indicative values

DR0505-NR01101

Zentrierbohrer
Center drill

P1	P2	P3	P4	P5	M1	M2	M3	K1	N1	N2
N3	N4	N5	N6	N7	N8	S1	S2	S3	H1	



D1	D2	L2	α	DWS Art. N°
0.04	3	39	90°	**440518**
0.04	3	39	130°	**440519**
0.04	3	39	140°	**440520**
0.05	4	51	90°	**443394**
0.05	4	51	130°	**443395**
0.05	4	51	140°	**443396**
0.06	6	58	90°	**443397**
0.06	6	58	130°	**443398**
0.06	6	58	140°	**443399**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

DR0505-NR01101

Schnittparameter
Cutting parameters

		f_u [mm]	
ISO	V_c [m/min]	Ø 3.00	Ø 4.00 - 6.00
P1	70 - 100	0.060 - 0.090	0.070 - 0.120
P2	70 - 100	0.060 - 0.090	0.070 - 0.120
P3	60 - 90	0.060 - 0.090	0.070 - 0.120
P4	50 - 70	0.060 - 0.090	0.070 - 0.120
P5	30 - 50	0.060 - 0.090	0.070 - 0.120
M1	40 - 60	0.050 - 0.080	0.060 - 0.100
M2	40 - 60	0.050 - 0.080	0.060 - 0.100
M3	40 - 60	0.050 - 0.080	0.060 - 0.100
K1	70 - 100	0.060 - 0.090	0.070 - 0.120
N1	100 - 130	0.080 - 0.130	0.090 - 0.150
N2	100 - 130	0.080 - 0.130	0.090 - 0.150
N3	90 - 120	0.080 - 0.130	0.090 - 0.150
N4	90 - 120	0.070 - 0.120	0.080 - 0.140
N5	90 - 120	0.080 - 0.130	0.090 - 0.150
N6	60 - 90	0.070 - 0.120	0.080 - 0.140
N7	60 - 90	0.080 - 0.130	0.090 - 0.150
N8	70 - 100	0.090 - 0.150	0.100 - 0.170
S1	30 - 50	0.050 - 0.080	0.060 - 0.100
S2	15 - 35	0.050 - 0.080	0.060 - 0.100
S3	30 - 50	0.050 - 0.080	0.060 - 0.100
H1	20 - 40	0.030 - 0.060	0.040 - 0.070
H2			

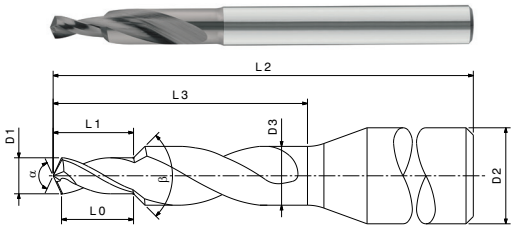
Richtwerte
Indicative values

DR0606-NR01102

Hochleistungs-Pilotbohrer mit verstärktem Shaft
High-performance Pilot Drill with reinforced shank

P1	P2	P3	P4	P5	M1	M2	M3	K1	N1	N2
N3	N4	N5	N6	N7	N8	S1	S2	S3	H1	

VHM | 130° | h5 | 25° | 2xD



D1 m5	L1	D2	L2	D3	L3	L0	β	DWS Art. N°
1.00	2.23	4	45	1.80	7.30	2.00	90°	**451425**
1.05	2.34	4	45	1.80	7.70	2.10	90°	**451426**
1.10	2.46	4	45	1.80	8.05	2.20	90°	**451427**
1.15	2.57	4	45	1.80	8.40	2.30	90°	**451428**
1.20	2.68	4	45	2.10	8.80	2.40	90°	**451429**
1.25	2.79	4	45	2.10	9.15	2.50	90°	**451430**
1.30	2.90	4	45	2.10	9.50	2.60	90°	**451431**
1.35	3.01	4	45	2.10	9.90	2.70	90°	**451432**
1.40	3.13	4	45	2.10	10.25	2.80	90°	**451433**
1.45	3.24	4	45	2.45	10.60	2.90	90°	**451434**
1.50	3.35	4	48	2.45	10.95	3.00	90°	**451435**
1.55	3.46	4	48	2.45	11.35	3.10	90°	**451436**
1.60	3.57	4	48	2.45	11.70	3.20	90°	**451437**
1.65	3.68	4	48	2.45	12.05	3.30	90°	**451438**
1.70	3.80	4	48	2.80	12.45	3.40	90°	**451439**
1.75	3.91	4	48	2.80	12.80	3.50	90°	**451440**
1.80	4.02	4	48	2.80	13.15	3.60	90°	**451441**
1.85	4.13	4	48	2.80	13.55	3.70	90°	**451442**
1.90	4.24	4	48	2.80	13.90	3.80	90°	**451443**
1.95	4.35	4	48	2.80	14.25	3.90	90°	**451444**
2.00	4.47	4	51	3.30	14.60	4.00	90°	**451445**
2.05	4.58	4	51	3.30	15.00	4.10	90°	**451446**
2.10	4.69	4	51	3.30	15.35	4.20	90°	**451447**
2.15	4.80	4	51	3.30	15.70	4.30	90°	**451448**
2.20	4.91	4	51	3.30	16.10	4.40	90°	**451449**
2.25	5.02	4	51	3.30	16.45	4.50	90°	**451450**
2.30	5.14	4	51	3.60	16.80	4.60	90°	**451451**
2.35	5.25	4	51	3.60	17.20	4.70	90°	**451452**
2.40	5.36	4	51	3.60	17.55	4.80	90°	**451453**
2.45	5.47	4	51	3.60	17.90	4.90	90°	**451454**
2.50	5.58	4	56	3.60	18.25	5.00	90°	**451455**
2.55	5.69	4	56	3.60	18.65	5.10	90°	**451456**
2.60	5.81	4	56	-	-	5.20	90°	**451457**
2.65	5.92	4	56	-	-	5.30	90°	**451458**
2.70	6.03	4	56	-	-	5.40	90°	**451459**
2.75	6.14	4	56	-	-	5.50	90°	**451460**
2.80	6.25	4	56	-	-	5.60	90°	**451461**
2.85	6.36	4	56	-	-	5.70	90°	**451462**
2.90	6.48	4	56	-	-	5.80	90°	**451463**
2.95	6.59	4	56	-	-	5.90	90°	**451464**
3.00	6.70	6	60	4.80	21.90	6.00	90°	**451465**
3.05	6.81	6	60	4.80	22.30	6.10	90°	**451466**
3.10	6.92	6	60	4.80	22.65	6.20	90°	**451467**
3.15	7.03	6	60	4.80	23.00	6.30	90°	**451468**
3.20	7.15	6	60	4.80	23.40	6.40	90°	**451469**
3.25	7.26	6	60	4.80	23.75	6.50	90°	**451470**
3.30	7.37	6	60	4.80	24.10	6.60	90°	**451471**
3.35	7.48	6	60	4.80	24.50	6.70	90°	**451472**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

DR0606-NR01102

Hochleistungs-Pilotbohrer mit verstärktem Shaft
High-performance Pilot Drill with reinforced shank

D1 m5	L1	D2	L2	D3	L3	β	L0	DWS Art. N°
3.40	7.59	6	60	4.80	24.85	90°	6.80	**451473**
3.45	7.70	6	60	4.80	25.20	90°	6.90	**451474**
3.50	7.82	6	65	5.50	25.55	90°	7.00	**451475**
3.55	7.93	6	65	5.50	25.95	90°	7.10	**451476**
3.60	8.04	6	65	5.50	26.30	90°	7.20	**451477**
3.65	8.15	6	65	5.50	26.65	90°	7.30	**451478**
3.70	8.26	6	65	5.50	27.05	90°	7.40	**451479**
3.75	8.37	6	70	5.50	27.40	90°	7.50	**451480**
3.80	8.49	6	70	5.50	27.75	90°	7.60	**451481**
3.85	8.60	6	70	5.50	28.15	90°	7.70	**451482**
3.90	8.71	6	70	5.50	28.50	90°	7.80	**451483**
3.95	8.82	6	70	5.50	28.85	90°	7.90	**451484**
4.00	8.93	6	70	5.50	29.20	90°	8.00	**451485**
4.10	9.16	6	75	6.00	-	90°	8.20	**455663**
4.20	9.38	6	75	6.00	-	90°	8.40	**455664**
4.30	9.60	6	75	6.00	-	90°	8.60	**455665**
4.40	9.83	6	75	6.00	-	90°	8.80	**455666**
4.50	10.05	6	75	6.00	-	90°	9.00	**455667**
4.60	10.27	6	75	6.00	-	90°	9.20	**455668**
4.70	10.50	6	75	6.00	-	90°	9.40	**455669**
4.80	10.72	6	75	6.00	-	90°	9.60	**455670**
4.90	10.94	6	75	6.00	-	90°	9.80	**455671**
5.00	11.17	8	80	8.00	-	90°	10.00	**455672**
5.10	11.39	8	80	8.00	-	90°	10.20	**455673**
5.20	11.61	8	80	8.00	-	90°	10.40	**455674**
5.30	11.84	8	80	8.00	-	90°	10.60	**455675**
5.40	12.06	8	80	8.00	-	90°	10.80	**455676**
5.50	12.28	8	80	8.00	-	90°	11.00	**455677**
5.60	12.51	8	80	8.00	-	90°	11.20	**455678**
5.70	12.73	8	80	8.00	-	90°	11.40	**455679**
5.80	12.95	8	80	8.00	-	90°	11.60	**455680**
5.90	13.18	8	80	8.00	-	90°	11.80	**455681**
6.00	13.40	8	80	8.00	-	90°	12.00	**455682**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

DR0606-NR01102

Schnittparameter
Cutting parameters

ISO	V_c [m/min]	Ø 1.00 - 1.45	Ø 1.50 - 1.95	Ø 2.00 - 2.45	Ø 2.50 - 2.95	Ø 3.00 -
P1	30 - 60	0.060 - 0.080	0.080 - 0.100	0.100 - 0.120	0.120 - 0.140	0.140 - 0
P2	30 - 60	0.060 - 0.080	0.080 - 0.100	0.100 - 0.120	0.120 - 0.140	0.140 - 0
P3	30 - 60	0.060 - 0.080	0.080 - 0.100	0.100 - 0.120	0.120 - 0.140	0.140 - 0
P4	30 - 55	0.050 - 0.070	0.070 - 0.090	0.090 - 0.110	0.110 - 0.130	0.130 - 0
P5	25 - 45	0.040 - 0.060	0.060 - 0.080	0.080 - 0.100	0.100 - 0.120	0.120 - 0
M1	25 - 40	0.030 - 0.040	0.040 - 0.050	0.050 - 0.060	0.060 - 0.070	0.070 - 0
M2	25 - 40	0.030 - 0.040	0.040 - 0.050	0.050 - 0.060	0.060 - 0.070	0.070 - 0
M3	20 - 35	0.020 - 0.030	0.030 - 0.040	0.040 - 0.050	0.050 - 0.060	0.060 - 0
K1	40 - 80	0.060 - 0.070	0.070 - 0.080	0.080 - 0.090	0.090 - 0.100	0.100 - 0
N1	80 - 140	0.060 - 0.070	0.070 - 0.090	0.090 - 0.110	0.110 - 0.130	0.130 - 0
N2	80 - 120	0.065 - 0.075	0.075 - 0.090	0.090 - 0.105	0.105 - 0.120	0.120 - 0
N3	50 - 120	0.070 - 0.080	0.080 - 0.095	0.095 - 0.110	0.110 - 0.125	0.125 - 0
N4	35 - 70	0.040 - 0.060	0.060 - 0.075	0.075 - 0.090	0.090 - 0.105	0.105 - 0
N5	40 - 80	0.050 - 0.060	0.060 - 0.070	0.070 - 0.085	0.085 - 0.100	0.100 - 0
N6	80 - 140	0.060 - 0.070	0.070 - 0.090	0.090 - 0.110	0.110 - 0.130	0.130 - 0
N7	80 - 140	0.060 - 0.070	0.070 - 0.090	0.090 - 0.110	0.110 - 0.130	0.130 - 0
N8	80 - 140	0.060 - 0.070	0.070 - 0.090	0.090 - 0.110	0.110 - 0.130	0.130 - 0
S1	15 - 30	0.020 - 0.030	0.030 - 0.040	0.040 - 0.050	0.050 - 0.060	0.060 - 0
S2	15 - 30	0.040 - 0.050	0.050 - 0.060	0.060 - 0.070	0.070 - 0.080	0.080 - 0
S3	30 - 40	0.030 - 0.045	0.045 - 0.060	0.060 - 0.070	0.070 - 0.080	0.080 - 0
H1	15 - 25	0.005 - 0.008	0.008 - 0.012	0.012 - 0.016	0.016 - 0.020	0.020 - 0
H2						

	f_u [mm]				
3.45	Ø 3.50 - 3.95	Ø 4.00 - 4.45	Ø 4.50 - 4.95	Ø 5.00 - 5.45	Ø 5.50 - 6.00
.160	0.160 - 0.200	0.200 - 0.240	0.240 - 0.280	0.280 - 0.320	0.320 - 0.360
.160	0.160 - 0.200	0.200 - 0.240	0.240 - 0.280	0.280 - 0.320	0.320 - 0.360
.160	0.160 - 0.200	0.200 - 0.240	0.240 - 0.280	0.280 - 0.320	0.320 - 0.360
.150	0.150 - 0.180	0.180 - 0.210	0.210 - 0.240	0.240 - 0.270	0.270 - 0.300
.140	0.140 - 0.170	0.170 - 0.200	0.200 - 0.230	0.230 - 0.260	0.260 - 0.290
.080	0.080 - 0.090	0.090 - 0.100	0.100 - 0.110	0.110 - 0.120	0.120 - 0.130
.080	0.080 - 0.090	0.090 - 0.100	0.100 - 0.110	0.110 - 0.120	0.120 - 0.130
.070	0.070 - 0.080	0.080 - 0.090	0.090 - 0.100	0.100 - 0.110	0.110 - 0.120
.120	0.120 - 0.140	0.140 - 0.160	0.160 - 0.180	0.180 - 0.200	0.200 - 0.220
.150	0.150 - 0.170	0.170 - 0.190	0.190 - 0.210	0.210 - 0.230	0.230 - 0.250
.135	0.135 - 0.150	0.150 - 0.165	0.165 - 0.180	0.180 - 0.195	0.195 - 0.210
.140	0.140 - 0.170	0.170 - 0.200	0.200 - 0.230	0.230 - 0.260	0.260 - 0.290
.120	0.120 - 0.135	0.135 - 0.150	0.150 - 0.165	0.165 - 0.180	0.180 - 0.195
.115	0.115 - 0.130	0.130 - 0.145	0.145 - 0.160	0.160 - 0.175	0.175 - 0.180
.150	0.150 - 0.170	0.170 - 0.190	0.190 - 0.210	0.210 - 0.230	0.230 - 0.250
.150	0.150 - 0.170	0.170 - 0.190	0.190 - 0.210	0.210 - 0.230	0.230 - 0.250
.150	0.150 - 0.170	0.170 - 0.190	0.190 - 0.210	0.210 - 0.230	0.230 - 0.250
.070	0.060 - 0.080	0.060 - 0.090	0.060 - 0.100	0.060 - 0.110	0.060 - 0.120
.090	0.090 - 0.100	0.100 - 0.110	0.110 - 0.120	0.120 - 0.130	0.130 - 0.140
.090	0.090 - 0.100	0.100 - 0.110	0.110 - 0.120	0.120 - 0.130	0.130 - 0.140
.025	0.025 - 0.030	0.030 - 0.035	0.035 - 0.040	0.040 - 0.045	0.045 - 0.050

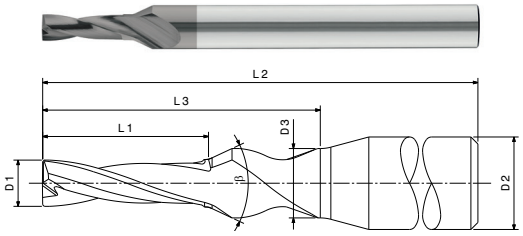
Richtwerte
Indicative values

DR0607-NR01103

180° Pilotbohrer mit verstärktem Shaft
180° Pilot Drill with reinforced shank

P1	P2	P3	P4	P5	M1	M2	M3	K1	N1	N2
N3	N4	N5	N6	N7	N8	S1	S2	S3	H1	

VHM | 180° | h5 | 3.5xD



D1 m5	L1	D2	L2	D3	L3	β	DWS Art. N°
0.80	2.80	4	40	1.70	6.00	50°	**451228**
0.85	3.00	4	40	1.70	6.00	50°	**451229**
0.90	3.20	4	40	1.80	6.30	50°	**451230**
0.95	3.30	4	40	1.90	6.70	50°	**451231**
1.00	3.50	4	40	2.00	7.00	50°	**451232**
1.05	3.70	4	40	2.10	7.40	50°	**451233**
1.10	3.90	4	40	2.20	7.70	50°	**451234**
1.15	4.00	4	40	2.30	8.10	50°	**451235**
1.20	4.20	4	40	2.40	8.40	50°	**451236**
1.25	4.40	4	40	2.50	8.80	50°	**451237**
1.30	4.60	4	40	2.60	9.10	50°	**451238**
1.35	4.70	4	40	2.70	9.50	50°	**451239**
1.40	4.90	4	40	2.80	9.80	50°	**451240**
1.45	5.10	4	40	2.90	10.20	50°	**451241**
1.50	5.30	4	40	3.00	10.50	50°	**451242**
1.55	5.40	4	40	3.05	10.70	50°	**451243**
1.60	5.60	4	40	3.10	10.90	50°	**451244**
1.65	5.80	4	40	3.15	11.00	50°	**451245**
1.70	6.00	4	40	3.20	11.20	50°	**451246**
1.75	6.10	4	40	3.25	11.40	50°	**451247**
1.80	6.30	4	40	3.30	11.60	50°	**451248**
1.85	6.50	4	40	3.35	11.70	50°	**451249**
1.90	6.70	4	40	3.40	11.90	50°	**451250**
1.95	6.80	4	40	3.45	12.10	50°	**451251**
2.00	7.00	6	51	3.50	12.30	50°	**451252**
2.05	7.20	6	51	3.55	12.40	50°	**451253**
2.10	7.40	6	51	3.60	12.60	50°	**451254**
2.15	7.50	6	51	3.65	12.80	50°	**451255**
2.20	7.70	6	51	3.70	13.00	50°	**451256**
2.25	7.90	6	51	3.75	13.10	50°	**451257**
2.30	8.10	6	51	3.80	13.30	50°	**451258**
2.35	8.20	6	51	3.85	13.50	50°	**451259**
2.40	8.40	6	51	3.90	13.70	50°	**451260**
2.45	8.60	6	51	3.95	13.80	50°	**451261**
2.50	8.80	6	51	4.00	14.00	50°	**451262**
2.55	8.90	6	51	4.05	14.20	50°	**451263**
2.60	9.10	6	51	4.10	14.40	50°	**451264**
2.65	9.30	6	51	4.15	14.50	50°	**451265**
2.70	9.40	6	51	4.20	14.70	50°	**451266**
2.75	9.60	6	51	4.25	14.90	50°	**451267**
2.80	9.80	6	51	4.30	15.10	50°	**451268**
2.85	10.00	6	51	4.35	15.20	50°	**451269**
2.90	10.00	6	51	4.40	15.40	50°	**451270**
2.95	10.30	6	51	4.45	15.60	50°	**451271**
3.00	10.50	6	60	4.50	15.80	50°	**451272**
3.10	10.90	6	60	4.60	16.10	50°	**451273**
3.20	11.20	6	60	4.70	16.50	50°	**451274**
3.30	11.60	6	60	4.80	16.80	50°	**451275**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

DR0607-NR01103

180° Pilotbohrer mit verstärktem Shaft
180° Pilot Drill with reinforced shank

D1 m5	L1	D2	L2	D3	L3	β	DWS Art. N°
3.40	11.90	6	60	4.90	17.20	50°	**451276**
3.50	12.30	6	60	5.00	17.50	50°	**451277**
3.60	12.60	6	60	-	-	-	**451278**
3.70	13.00	6	60	-	-	-	**451279**
3.80	13.30	6	60	-	-	-	**451280**
3.90	13.70	6	60	-	-	-	**451281**
4.00	14.00	6	60	-	-	-	**451282**
4.10	14.40	6	60	-	-	-	**451283**
4.20	14.70	6	60	-	-	-	**451284**
4.30	15.10	6	60	-	-	-	**451285**
4.40	15.40	6	60	-	-	-	**451286**
4.50	15.80	6	60	-	-	-	**451287**
4.60	16.10	6	60	-	-	-	**451288**
4.70	16.50	6	60	-	-	-	**451289**
4.80	16.80	6	60	-	-	-	**451290**
4.90	17.20	6	60	-	-	-	**451291**
5.00	17.50	6	60	-	-	-	**451292**
5.10	17.90	8	70	-	-	-	**451293**
5.20	18.20	8	70	-	-	-	**451294**
5.30	18.60	8	70	-	-	-	**451295**
5.40	18.90	8	70	-	-	-	**451296**
5.50	19.30	8	70	-	-	-	**451297**
5.60	19.60	8	70	-	-	-	**451298**
5.70	20.00	8	70	-	-	-	**451299**
5.80	20.30	8	70	-	-	-	**451300**
5.90	20.70	8	70	-	-	-	**451301**
6.00	21.00	8	70	-	-	-	**451302**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

DR0607-NR01103

Schnittparameter
Cutting parameters

ISO	V_C [m/min]	Ø 0.80 - 1.00	Ø 1.05 - 1.45	Ø 1.50 - 2.00	Ø 2.05 - 2.45	Ø 2.50 - 3.00
P1	65 - 80	0.008 - 0.010	0.010 - 0.015	0.015 - 0.020	0.020 - 0.025	0.025 - 0.030
P2	65 - 80	0.008 - 0.010	0.010 - 0.015	0.015 - 0.020	0.020 - 0.025	0.025 - 0.030
P3	65 - 80	0.008 - 0.010	0.010 - 0.015	0.015 - 0.020	0.020 - 0.025	0.025 - 0.030
P4	50 - 60	0.006 - 0.008	0.008 - 0.013	0.013 - 0.018	0.018 - 0.023	0.023 - 0.028
P5	40 - 50	0.006 - 0.008	0.008 - 0.013	0.013 - 0.018	0.018 - 0.023	0.023 - 0.028
M1	35 - 40	0.003 - 0.004	0.005 - 0.006	0.007 - 0.008	0.009 - 0.010	0.009 - 0.010
M2	40 - 50	0.006 - 0.008	0.010 - 0.012	0.014 - 0.016	0.018 - 0.020	0.018 - 0.020
M3	25 - 30	0.003 - 0.004	0.005 - 0.006	0.007 - 0.008	0.009 - 0.010	0.009 - 0.010
K1	70 - 80	0.008 - 0.010	0.010 - 0.015	0.015 - 0.020	0.020 - 0.025	0.025 - 0.030
N1	115 - 125	0.010 - 0.015	0.015 - 0.020	0.020 - 0.025	0.025 - 0.035	0.035 - 0.045
N2	115 - 125	0.010 - 0.015	0.015 - 0.020	0.020 - 0.025	0.025 - 0.035	0.035 - 0.045
N3	90 - 100	0.010 - 0.015	0.015 - 0.020	0.020 - 0.025	0.025 - 0.035	0.035 - 0.045
N4	80 - 90	0.006 - 0.008	0.008 - 0.013	0.013 - 0.018	0.018 - 0.023	0.023 - 0.028
N5	65 - 80	0.006 - 0.008	0.008 - 0.013	0.013 - 0.018	0.018 - 0.023	0.023 - 0.028
N6	115 - 125	0.010 - 0.015	0.015 - 0.020	0.020 - 0.025	0.025 - 0.035	0.035 - 0.045
N7	115 - 125	0.010 - 0.015	0.015 - 0.020	0.020 - 0.025	0.025 - 0.035	0.035 - 0.045
N8	115 - 125	0.010 - 0.015	0.015 - 0.020	0.020 - 0.025	0.025 - 0.035	0.035 - 0.045
S1	20 - 30	0.006 - 0.008	0.010 - 0.012	0.014 - 0.016	0.018 - 0.020	0.022 - 0.026
S2	20 - 30	0.006 - 0.008	0.010 - 0.012	0.014 - 0.016	0.018 - 0.020	0.022 - 0.026
S3	15 - 20	0.003 - 0.004	0.005 - 0.006	0.007 - 0.008	0.009 - 0.010	0.009 - 0.010
H1	15 - 20	0.002 - 0.003	0.004 - 0.005	0.006 - 0.007	0.008 - 0.009	0.010 - 0.011
H2						

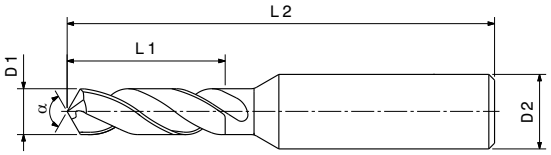
f_u [mm]					
Ø 3.10 - 3.50	Ø 3.60 - 4.00	Ø 4.10 - 4.50	Ø 4.60 - 5.00	Ø 5.00 - 5.50	Ø 5.60 - 6.00
0.030 - 0.035	0.035 - 0.040	0.040 - 0.045	0.045 - 0.050	0.050 - 0.055	0.055 - 0.060
0.030 - 0.035	0.035 - 0.040	0.040 - 0.045	0.045 - 0.050	0.050 - 0.055	0.055 - 0.060
0.030 - 0.035	0.035 - 0.040	0.040 - 0.045	0.045 - 0.050	0.050 - 0.055	0.055 - 0.060
0.028 - 0.033	0.033 - 0.038	0.038 - 0.043	0.043 - 0.048	0.048 - 0.053	0.048 - 0.053
0.028 - 0.033	0.033 - 0.038	0.038 - 0.043	0.043 - 0.048	0.048 - 0.053	0.048 - 0.053
0.014 - 0.016	0.017 - 0.019	0.020 - 0.022	0.022 - 0.024	0.026 - 0.028	0.026 - 0.028
0.028 - 0.032	0.034 - 0.038	0.040 - 0.044	0.044 - 0.048	0.050 - 0.055	0.050 - 0.055
0.014 - 0.016	0.017 - 0.019	0.020 - 0.022	0.022 - 0.024	0.026 - 0.028	0.026 - 0.028
0.030 - 0.035	0.035 - 0.040	0.040 - 0.045	0.045 - 0.050	0.050 - 0.055	0.055 - 0.060
0.045 - 0.055	0.055 - 0.065	0.065 - 0.075	0.075 - 0.085	0.085 - 0.095	0.095 - 0.011
0.045 - 0.055	0.055 - 0.065	0.065 - 0.075	0.075 - 0.085	0.085 - 0.095	0.095 - 0.011
0.045 - 0.055	0.055 - 0.065	0.065 - 0.075	0.075 - 0.085	0.085 - 0.095	0.095 - 0.011
0.028 - 0.033	0.033 - 0.038	0.038 - 0.043	0.043 - 0.048	0.048 - 0.053	0.048 - 0.053
0.028 - 0.033	0.033 - 0.038	0.038 - 0.043	0.043 - 0.048	0.048 - 0.053	0.048 - 0.053
0.045 - 0.055	0.055 - 0.065	0.065 - 0.075	0.075 - 0.085	0.085 - 0.095	0.095 - 0.011
0.045 - 0.055	0.055 - 0.065	0.065 - 0.075	0.075 - 0.085	0.085 - 0.095	0.095 - 0.011
0.045 - 0.055	0.055 - 0.065	0.065 - 0.075	0.075 - 0.085	0.085 - 0.095	0.095 - 0.011
0.028 - 0.032	0.034 - 0.038	0.040 - 0.044	0.044 - 0.048	0.050 - 0.055	0.050 - 0.055
0.028 - 0.032	0.034 - 0.038	0.040 - 0.044	0.044 - 0.048	0.050 - 0.055	0.050 - 0.055
0.014 - 0.016	0.017 - 0.019	0.020 - 0.022	0.022 - 0.024	0.026 - 0.028	0.026 - 0.028
0.012 - 0.013	0.014 - 0.015	0.016 - 0.017	0.018 - 0.019	0.020 - 0.022	0.020 - 0.022

Richtwerte
Indicative values

DR0101-NR01102

Mikrobohrer
Micro drill

P1	P2	P3	P4	P5	M1	M2	M3	K1	N1	N2
N3	N4	N5	N6	N7	N8	S1	S2	S3	H1	



D1 h6	L1	D2	L2	DWS Art. N°
0.80	3.40	3	39	**451033**
0.85	3.60	3	39	**451034**
0.90	3.80	3	39	**451035**
0.95	4.00	3	39	**451036**
1.00	4.30	3	39	**451037**
1.05	4.50	3	39	**451038**
1.10	4.70	3	39	**451039**
1.15	4.90	3	39	**451040**
1.20	5.10	3	39	**451041**
1.25	5.30	3	39	**451042**
1.30	5.50	3	39	**451043**
1.35	5.70	3	39	**451044**
1.40	6.00	3	39	**451045**
1.45	6.20	3	45	**451046**
1.50	6.40	3	45	**451047**
1.55	6.60	3	45	**451048**
1.60	6.80	3	45	**451049**
1.65	7.00	3	45	**451050**
1.70	7.20	3	45	**451051**
1.75	7.40	3	45	**451052**
1.80	7.70	3	45	**451053**
1.85	7.90	3	45	**451054**
1.90	8.10	3	45	**451055**
1.95	8.30	3	45	**451056**
2.00	8.50	3	45	**451057**
2.05	8.70	3	45	**451058**
2.10	8.90	3	45	**451059**
2.15	9.10	3	45	**451060**
2.20	9.40	3	45	**451061**
2.25	9.60	3	45	**451062**
2.30	9.80	3	45	**451063**
2.35	10.00	3	45	**451064**
2.40	10.20	3	45	**451065**
2.45	10.40	3	45	**451066**
2.50	10.60	3	45	**451067**
2.55	10.80	3	45	**451068**
2.60	11.10	3	45	**451069**
2.65	11.30	3	45	**451070**
2.70	11.50	3	45	**451071**
2.75	11.70	3	45	**451072**
2.80	11.90	3	45	**451073**
2.85	12.10	3	45	**451074**
2.90	12.30	3	45	**451075**
2.95	12.50	3	45	**451076**
3.00	12.80	3	45	**451077**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

DR0101-NR01102

Schnittparameter
Cutting parameters

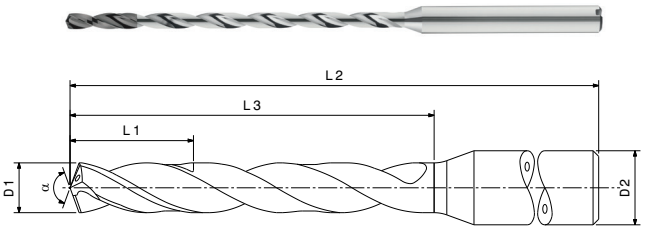
		f_U [mm]		
ISO	V_C [m/min]	Ø 0.80 - 1.00	Ø 1.05 - 2.00	Ø 2.05 - 3.00
P1	40 - 70	0.010 - 0.016	0.015 - 0.023	0.020 - 0.030
P2	40 - 70	0.010 - 0.016	0.015 - 0.023	0.020 - 0.030
P3	40 - 70	0.010 - 0.016	0.015 - 0.023	0.020 - 0.030
P4	30 - 60	0.010 - 0.016	0.015 - 0.023	0.020 - 0.030
P5	30 - 50	0.010 - 0.016	0.015 - 0.023	0.020 - 0.030
M1	20 - 40	0.008 - 0.014	0.012 - 0.020	0.018 - 0.025
M2	25 - 50	0.008 - 0.014	0.012 - 0.020	0.018 - 0.025
M3	20 - 30	0.008 - 0.014	0.012 - 0.020	0.018 - 0.025
K1	40 -70	0.010 - 0.016	0.015 - 0.023	0.020 - 0.030
N1	80 - 150	0.015 - 0.023	0.020 - 0.038	0.035-0.050
N2	80 - 150	0.015 - 0.023	0.020 - 0.038	0.035-0.050
N3	60 - 100	0.012 - 0.020	0.018 - 0.032	0.030-0.045
N4	50 - 80	0.010 - 0.016	0.015 - 0.023	0.020-0.030
N5	40 - 70	0.010 - 0.016	0.015 - 0.023	0.020-0.030
N6	80 - 150	0.015 - 0.023	0.020 - 0-038	0.035-0.050
N7	80 - 150	0.015 - 0.023	0.020 - 0.038	0.035-0.050
N8	80 - 150	0.015 - 0.023	0.020 - 0.038	0.035-0.050
S1	20 - 40	0.008 - 0.014	0.012 - 0.020	0.018 - 0.025
S2	15 - 30	0.008 - 0.014	0.012 - 0.020	0.018 - 0.025
S3	20 - 40	0.002 - 0.004	0.003 - 0.006	0.005 - 0.012
H1	20 - 40	0.002 - 0.004	0.003 - 0.006	0.005 - 0.012
H2	15 - 30	0.002 - 0.004	0.003 - 0.006	0.005 - 0.012

Richtwerte
Indicative values

DR0101-NR11103 (6xD)

Hochleistungs-Spiralbohrer mit Kühlkanälen und verstärktem Schaft
High-performance twist drill with coolant holes and reinforced shank

P1	P2	P3	P4	P5	M1	M2	M3	K1	N1	N2
N3	N4	N5	N6	N7	N8	S1	S2	S3	H1	



D1 k5	L1	D2	L2	L3	DWS Art. N°
1.00	4.40	3	50	9.30	**451608**
1.05	4.65	3	50	9.80	**451609**
1.10	4.85	3	50	10.25	**451610**
1.15	5.10	3	50	10.70	**451611**
1.20	5.30	3	50	11.20	**451612**
1.25	5.50	3	50	11.65	**451613**
1.30	5.75	3	52	12.10	**451614**
1.35	5.95	3	52	12.60	**451615**
1.40	6.20	3	52	13.05	**451616**
1.45	6.40	3	52	13.50	**451617**
1.50	6.60	3	52	13.95	**451618**
1.55	6.85	3	55	14.45	**451619**
1.60	7.05	3	55	14.90	**451620**
1.65	7.30	3	55	15.35	**451621**
1.70	7.50	3	55	15.85	**451622**
1.75	7.70	3	55	16.30	**451623**
1.80	7.95	3	57	16.75	**451624**
1.85	8.15	3	57	17.25	**451625**
1.90	8.40	3	57	17.70	**451626**
1.95	8.60	3	57	18.15	**451627**
2.00	8.80	4	57	18.60	**451628**
2.05	9.05	4	60	19.10	**451629**
2.10	9.25	4	60	19.55	**451630**
2.15	9.50	4	60	20.00	**451631**
2.20	9.70	4	60	20.50	**451632**
2.25	9.90	4	60	20.95	**451633**
2.30	10.15	4	62	21.40	**451634**
2.35	10.35	4	62	21.90	**451635**
2.40	10.60	4	62	22.35	**451636**
2.45	10.80	4	62	22.80	**451637**
2.50	11.00	4	62	23.25	**451638**
2.55	11.25	4	65	23.75	**451639**
2.60	11.45	4	65	24.20	**451640**
2.65	11.70	4	65	24.65	**451641**
2.70	11.90	4	65	25.15	**451642**
2.75	12.10	4	65	25.60	**451643**
2.80	12.35	4	67	26.05	**451644**
2.85	12.55	4	67	26.55	**451645**
2.90	12.80	4	67	27.00	**451646**
2.95	13.00	4	67	27.45	**451647**
3.00	13.20	6	70	27.90	**451648**
3.05	13.45	6	70	28.40	**451649**
3.10	13.65	6	70	28.85	**451650**
3.15	13.90	6	70	29.30	**451651**
3.20	14.10	6	70	29.80	**451652**
3.25	14.30	6	70	30.25	**451653**
3.30	14.55	6	72	30.70	**451654**
3.35	14.75	6	72	31.20	**451655**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

DR0101-NR11103 (6xD)

Hochleistungs-Spiralbohrer mit Kühlkanälen und verstärktem Schaft
High-performance twist drill with coolant holes and reinforced shank

D1 k5	L1	D2	L2	L3	DWS Art. N°
3.40	15.00	6	72	31.65	**451656**
3.45	15.20	6	72	32.10	**451657**
3.50	15.40	6	72	32.55	**451658**
3.55	15.65	6	75	33.05	**451659**
3.60	15.85	6	75	33.50	**451660**
3.65	16.10	6	75	33.95	**451661**
3.70	16.30	6	75	34.45	**451662**
3.75	16.50	6	75	34.90	**451663**
3.80	16.75	6	77	35.35	**451664**
3.85	16.95	6	77	35.85	**451665**
3.90	17.20	6	77	36.30	**451666**
3.95	17.40	6	77	36.75	**451667**
4.00	17.60	6	80	37.20	**451668**
4.10	18.05	6	80	38.15	**455683**
4.20	18.50	6	80	39.10	**455684**
4.30	18.95	6	80	40.00	**455685**
4.40	19.40	6	80	40.95	**455686**
4.50	19.80	6	80	41.85	**455687**
4.60	20.25	6	85	42.80	**455688**
4.70	20.70	6	85	43.75	**455689**
4.80	21.15	6	85	44.65	**455690**
4.90	21.60	6	85	45.60	**455691**
5.00	22.00	6	85	46.50	**455692**
5.10	22.45	6	90	47.45	**455693**
5.20	22.90	6	90	48.40	**455694**
5.30	23.35	6	90	49.30	**455695**
5.40	23.80	6	90	50.25	**455696**
5.50	24.20	6	90	51.15	**455697**
5.60	24.65	6	95	52.10	**455698**
5.70	25.10	6	95	53.05	**455699**
5.80	25.55	6	95	53.95	**455700**
5.90	26.00	6	95	54.90	**455701**
6.00	26.40	6	95	55.80	**455702**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

DR0101-NR11103 (6xD)

Schnittparameter
Cutting parameters

ISO	V_c [m/min]	Ø 1.00 - 1.45	Ø 1.50 - 1.95	Ø 2.00 - 2.45	Ø 2.50 - 2.95	Ø 3.00 -
P1	50 - 80	0.060 - 0.080	0.080 - 0.100	0.100 - 0.120	0.120 - 0.140	0.140 - 0
P2	50 - 80	0.060 - 0.080	0.080 - 0.100	0.100 - 0.120	0.120 - 0.140	0.140 - 0
P3	50 - 80	0.060 - 0.080	0.080 - 0.100	0.100 - 0.120	0.120 - 0.140	0.140 - 0
P4	45 - 65	0.050 - 0.070	0.070 - 0.090	0.090 - 0.110	0.110 - 0.130	0.130 - 0
P5	40 - 60	0.040 - 0.060	0.060 - 0.080	0.080 - 0.100	0.100 - 0.120	0.120 - 0
M1	35 - 50	0.030 - 0.040	0.050 - 0.060	0.065 - 0.075	0.080 - 0.090	0.095 - 0
M2	30 - 45	0.030 - 0.040	0.050 - 0.060	0.065 - 0.075	0.080 - 0.090	0.095 - 0
M3	30 - 45	0.020 - 0.030	0.040 - 0.050	0.055 - 0.065	0.070 - 0.080	0.085 - 0
K1	80 - 100	0.060 - 0.080	0.080 - 0.100	0.100 - 0.120	0.120 - 0.140	0.140 - 0
N1	100 - 160	0.050 - 0.065	0.065 - 0.080	0.080 - 0.095	0.095 - 0.110	0.110 - 0
N2	80 - 140	0.060 - 0.075	0.075 - 0.090	0.090 - 0.105	0.105 - 0.120	0.120 - 0
N3	80 - 140	0.070 - 0.080	0.080 - 0.095	0.095 - 0.110	0.110 - 0.125	0.125 - 0
N4	60 - 120	0.040 - 0.060	0.060 - 0.075	0.075 - 0.090	0.090 - 0.105	0.105 - 0
N5	60 - 120	0.050 - 0.060	0.060 - 0.070	0.070 - 0.085	0.085 - 0.100	0.100 - 0
N6	100 - 160	0.050 - 0.065	0.065 - 0.080	0.080 - 0.095	0.095 - 0.110	0.110 - 0
N7	100 - 160	0.050 - 0.065	0.065 - 0.080	0.080 - 0.095	0.095 - 0.110	0.110 - 0
N8	100 - 160	0.050 - 0.065	0.065 - 0.080	0.080 - 0.095	0.095 - 0.110	0.110 - 0
S1	10 - 25	0.050 - 0.030	0.030 - 0.040	0.040 - 0.050	0.050 - 0.060	0.060 - 0
S2	15 - 30	0.040 - 0.050	0.050 - 0.060	0.060 - 0.070	0.070 - 0.080	0.080 - 0
S3	35 - 50	0.030 - 0.045	0.045 - 0.060	0.060 - 0.070	0.070 - 0.080	0.080 - 0
H1	20 - 30	0.005 - 0.008	0.008 - 0.012	0.012 - 0.016	0.016 - 0.020	0.020 - 0
H2						

	f_u [mm]				
3.45	Ø 3.50 - 3.95	Ø 4.00 - 4.45	Ø 4.50 - 4.95	Ø 5.00 - 5.45	Ø 5.50 - 6.00
.160	0.160 - 0.180	0.180 - 0.200	0.200 - 0.220	0.220 - 0.240	0.240 - 0.260
.160	0.160 - 0.180	0.180 - 0.200	0.200 - 0.220	0.220 - 0.240	0.240 - 0.260
.160	0.160 - 0.180	0.180 - 0.200	0.200 - 0.220	0.220 - 0.240	0.240 - 0.260
.150	0.150 - 0.170	0.170 - 0.190	0.190 - 0.210	0.210 - 0.230	0.230 - 0.250
.140	0.140 - 0.160	0.160 - 0.180	0.180 - 0.200	0.200 - 0.220	0.220 - 0.240
.105	0.110 - 0.120	0.120 - 0.130	0.130 - 0.140	0.140 - 0.150	0.150 - 0.160
.105	0.110 - 0.120	0.120 - 0.130	0.130 - 0.140	0.140 - 0.150	0.150 - 0.160
.095	0.100 - 0.110	0.110 - 0.120	0.120 - 0.130	0.130 - 0.140	0.140 - 0.150
.160	0.160 - 0.180	0.180 - 0.200	0.200 - 0.220	0.220 - 0.240	0.240 - 0.260
.125	0.125 - 0.140	0.140 - 0.155	0.155 - 0.160	0.160 - 0.175	0.175 - 0.180
.135	0.135 - 0.150	0.150 - 0.165	0.165 - 0.180	0.180 - 0.195	0.195 - 0.210
.140	0.140 - 0.155	0.155 - 0.170	0.170 - 0.185	0.185 - 0.200	0.200 - 0.215
.120	0.120 - 0.135	0.135 - 0.150	0.150 - 0.165	0.165 - 0.180	0.180 - 0.195
.115	0.115 - 0.130	0.130 - 0.145	0.145 - 0.160	0.160 - 0.175	0.175 - 0.190
.125	0.125 - 0.140	0.140 - 0.155	0.155 - 0.160	0.160 - 0.175	0.175 - 0.180
.125	0.125 - 0.140	0.140 - 0.155	0.155 - 0.160	0.160 - 0.175	0.175 - 0.180
.125	0.125 - 0.140	0.140 - 0.155	0.155 - 0.160	0.160 - 0.175	0.175 - 0.180
.070	0.070 - 0.080	0.080 - 0.090	0.090 - 0.100	0.100 - 0.110	0.110 - 0.120
.090	0.090 - 0.100	0.100 - 0.110	0.110 - 0.120	0.120 - 0.130	0.130 - 0.140
.090	0.090 - 0.100	0.100 - 0.110	0.110 - 0.120	0.120 - 0.130	0.130 - 0.140
.025	0.025 - 0.03	0.030 - 0.035	0.035 - 0.04	0.040 - 0.045	0.045 - 0.050

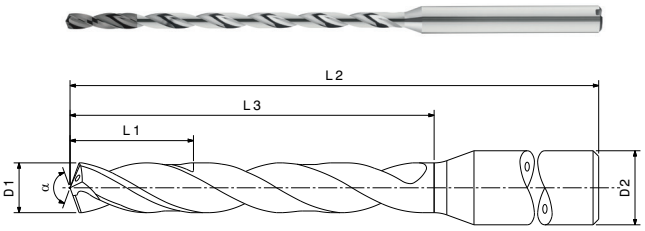
Richtwerte
Indicative values

DR0101-NR11103 (12xD)

Hochleistungs-Spiralbohrer mit Kühlkanälen und verstärktem Schaft
High-performance twist drill with coolant holes and reinforced shank

P1	P2	P3	P4	P5	M1	M2	M3	K1	N1	N2
N3	N4	N5	N6	N7	N8	S1	S2	S3	H1	

VHM | 130° | h5 | 25° | 12xD



D1 k5	L1	D2	L2	L3	DWS Art. N°
1.00	4.40	3	58	15.30	**451791**
1.05	4.65	3	58	16.10	**451792**
1.10	4.85	3	58	16.85	**451793**
1.15	5.10	3	58	17.60	**451794**
1.20	5.30	3	58	18.40	**451795**
1.25	5.50	3	58	19.15	**451796**
1.30	5.75	3	64	19.90	**451797**
1.35	5.95	3	64	20.70	**451798**
1.40	6.20	3	64	21.45	**451799**
1.45	6.40	3	64	22.20	**451800**
1.50	6.60	3	64	22.95	**451801**
1.55	6.85	3	68	23.75	**451802**
1.60	7.05	3	68	24.50	**451803**
1.65	7.30	3	68	25.25	**451804**
1.70	7.50	3	68	26.05	**451805**
1.75	7.70	3	68	26.80	**451806**
1.80	7.95	3	72	27.55	**451807**
1.85	8.15	3	72	28.35	**451808**
1.90	8.40	3	72	29.10	**451809**
1.95	8.60	3	72	29.85	**451810**
2.00	8.80	4	72	30.60	**451811**
2.05	9.05	4	76	31.40	**451812**
2.10	9.25	4	76	32.15	**451813**
2.15	9.50	4	76	32.90	**451814**
2.20	9.70	4	76	33.70	**451815**
2.25	9.90	4	76	34.45	**451816**
2.30	10.15	4	80	35.20	**451817**
2.35	10.35	4	80	36.00	**451818**
2.40	10.60	4	80	36.75	**451819**
2.45	10.80	4	80	37.50	**451820**
2.50	11.00	4	80	38.25	**451821**
2.55	11.25	4	84	39.05	**451822**
2.60	11.45	4	84	39.80	**451823**
2.65	11.70	4	84	40.55	**451824**
2.70	11.90	4	84	41.35	**451825**
2.75	12.10	4	84	42.10	**451826**
2.80	12.35	4	88	42.85	**451827**
2.85	12.55	4	88	43.65	**451828**
2.90	12.80	4	88	44.40	**451829**
2.95	13.00	4	88	45.15	**451830**
3.00	13.20	6	92	45.90	**451831**
3.05	13.45	6	92	46.70	**451832**
3.10	13.65	6	92	47.45	**451833**
3.15	13.90	6	92	48.20	**451834**
3.20	14.10	6	92	49.00	**451835**
3.25	14.30	6	92	49.75	**451836**
3.30	14.55	6	96	50.50	**451837**
3.35	14.75	6	96	51.30	**451838**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

DR0101-NR11103 (12xD)

Hochleistungs-Spiralbohrer mit Kühlkanälen und verstärktem Schaft
High-performance twist drill with coolant holes and reinforced shank

D1 k5	L1	D2	L2	L3	**DWS Art. N°**
3.40	15.00	6	96	52.05	**451839**
3.45	15.20	6	96	52.80	**451840**
3.50	15.40	6	96	53.55	**451841**
3.55	15.65	6	100	54.35	**451842**
3.60	15.85	6	100	55.10	**451843**
3.65	16.10	6	100	55.85	**451844**
3.70	16.30	6	100	56.65	**451845**
3.75	16.50	6	100	57.40	**451846**
3.80	16.75	6	104	58.15	**451847**
3.85	16.95	6	104	58.95	**451848**
3.90	17.20	6	104	59.70	**451849**
3.95	17.40	6	104	60.45	**451850**
4.00	17.60	6	108	61.20	**451851**
4.10	18.05	6	108	62.75	**455703**
4.20	18.50	6	108	64.30	**455704**
4.30	18.95	6	108	65.80	**455705**
4.40	19.40	6	108	67.35	**455706**
4.50	19.80	6	108	68.85	**455707**
4.60	20.25	6	115	70.40	**455708**
4.70	20.70	6	115	71.95	**455709**
4.80	21.15	6	115	73.45	**455710**
4.90	21.60	6	115	75.00	**455711**
5.00	22.00	6	115	76.50	**455712**
5.10	22.45	6	122	78.05	**455713**
5.20	22.90	6	122	79.60	**455714**
5.30	23.35	6	122	81.10	**455715**
5.40	23.80	6	122	82.65	**455716**
5.50	24.20	6	122	84.15	**455717**
5.60	24.65	6	130	85.70	**455718**
5.70	25.10	6	130	87.25	**455719**
5.80	25.55	6	130	88.75	**455720**
5.90	26.00	6	130	90.30	**455721**
6.00	26.40	6	130	26.40	**455722**

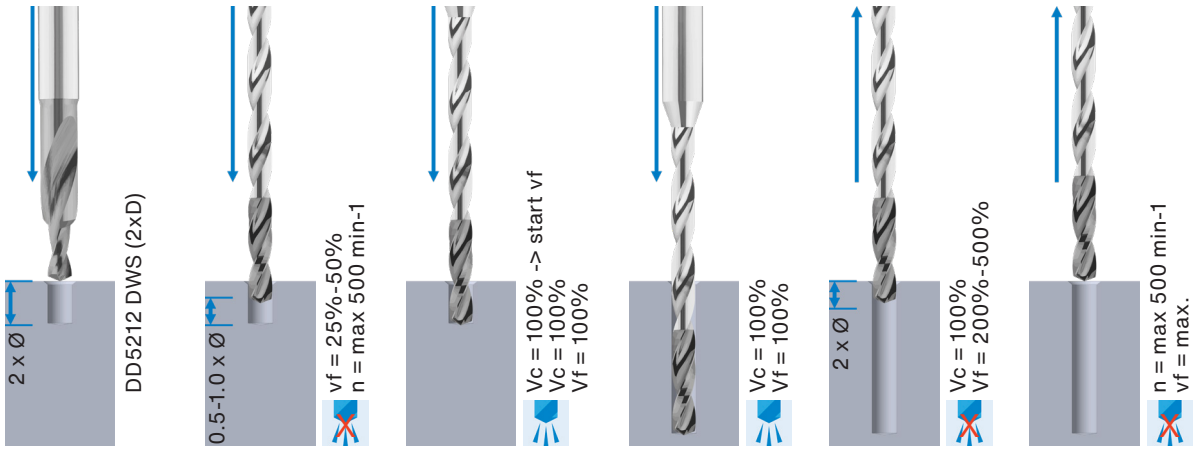
Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

DR0101-NR11103 (12xD)

Schnittparameter
Cutting parameters

ISO	V_C [m/min]	Ø 1.00 - 1.45	Ø 1.50 - 1.95	Ø 2.00 - 2.45	Ø 2.50 - 2.95	Ø 3.00 -
P1	50 - 80	0.060 - 0.080	0.080 - 0.100	0.100 - 0.120	0.120 - 0.140	0.140 - 0
P2	50 - 80	0.060 - 0.080	0.080 - 0.100	0.100 - 0.120	0.120 - 0.140	0.140 - 0
P3	50 - 80	0.060 - 0.080	0.080 - 0.100	0.100 - 0.120	0.120 - 0.140	0.140 - 0
P4	45 - 65	0.050 - 0.070	0.070 - 0.090	0.090 - 0.110	0.110 - 0.130	0.130 - 0
P5	40 - 60	0.040 - 0.060	0.060 - 0.080	0.080 - 0.100	0.100 - 0.120	0.120 - 0
M1	35 - 50	0.030 - 0.040	0.050 - 0.060	0.065 - 0.075	0.080 - 0.090	0.095 - 0
M2	30 - 45	0.030 - 0.040	0.050 - 0.060	0.065 - 0.075	0.080 - 0.090	0.095 - 0
M3	30 - 45	0.020 - 0.030	0.040 - 0.050	0.055 - 0.065	0.070 - 0.080	0.085 - 0
K1	80 - 100	0.060 - 0.080	0.080 - 0.100	0.100 - 0.120	0.120 - 0.140	0.140 - 0
N1	100 - 160	0.050 - 0.065	0.065 - 0.080	0.080 - 0.095	0.095 - 0.110	0.110 - 0.
N2	80 - 140	0.060 - 0.075	0.075 - 0.090	0.090 - 0.105	0.105 - 0.120	0.120 - 0
N3	80 - 140	0.070 - 0.080	0.080 - 0.095	0.095 - 0.110	0.110 - 0.125	0.125 - 0
N4	60 - 120	0.040 - 0.060	0.060 - 0.075	0.075 - 0.090	0.090 - 0.105	0.105 - 0
N5	60 - 120	0.050 - 0.060	0.060 - 0.070	0.070 - 0.085	0.085 - 0.100	0.100 - 0
N6	100 - 160	0.050 - 0.065	0.065 - 0.080	0.080 - 0.095	0.095 - 0.110	0.110 - 0.
N7	100 - 160	0.050 - 0.065	0.065 - 0.080	0.080 - 0.095	0.095 - 0.110	0.110 - 0.
N8	100 - 160	0.050 - 0.065	0.065 - 0.080	0.080 - 0.095	0.095 - 0.110	0.110 - 0.
S1	10 - 25	0.050 - 0.030	0.030 - 0.040	0.040 - 0.050	0.050 - 0.060	0.060 - 0
S2	15 - 30	0.040 - 0.050	0.050 - 0.060	0.060 - 0.070	0.070 - 0.080	0.080 - 0
S3	35 - 50	0.030 - 0.045	0.045 - 0.060	0.060 - 0.070	0.070 - 0.080	0.080 - 0
H1	20 - 30	0.005 - 0.008	0.008 - 0.012	0.012 - 0.016	0.016 - 0.020	0.020 - 0
H2						

Bearbeitungsprozess
Machining process

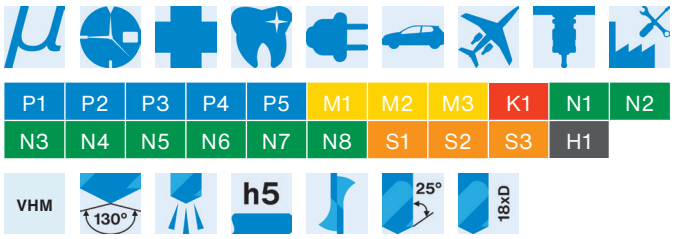


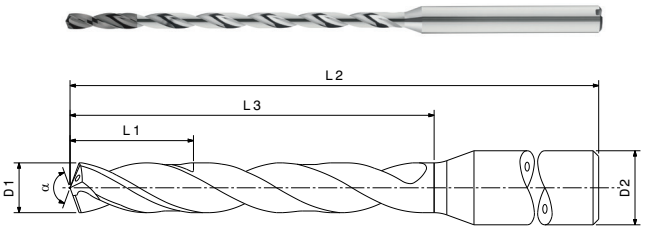
f_u [mm]					
3.45	Ø 3.50 - 3.95	Ø 4.00 - 4.45	Ø 4.50 - 4.95	Ø 5.00 - 5.45	Ø 5.50 - 6.00
.160	0.160 - 0.180	0.180 - 0.200	0.200 - 0.220	0.220 - 0.240	0.240 - 0.260
.160	0.160 - 0.180	0.180 - 0.200	0.200 - 0.220	0.220 - 0.240	0.240 - 0.260
.160	0.160 - 0.180	0.180 - 0.200	0.200 - 0.220	0.220 - 0.240	0.240 - 0.260
.150	0.150 - 0.170	0.170 - 0.190	0.190 - 0.210	0.210 - 0.230	0.230 - 0.250
.140	0.140 - 0.160	0.160 - 0.180	0.180 - 0.200	0.200 - 0.220	0.220 - 0.240
.105	0.110 - 0.120	0.120 - 0.130	0.130 - 0.140	0.140 - 0.150	0.150 - 0.160
.105	0.110 - 0.120	0.120 - 0.130	0.130 - 0.140	0.140 - 0.150	0.150 - 0.160
.095	0.100 - 0.110	0.110 - 0.120	0.120 - 0.130	0.130 - 0.140	0.140 - 0.150
.160	0.160 - 0.180	0.180 - 0.200	0.200 - 0.220	0.220 - 0.240	0.240 - 0.260
.125	0.125 - 0.140	0.140 - 0.155	0.155 - 0.160	0.160 - 0.175	0.175 - 0.180
.135	0.135 - 0.150	0.150 - 0.165	0.165 - 0.180	0.180 - 0.195	0.195 - 0.210
.140	0.140 - 0.155	0.155 - 0.170	0.170 - 0.185	0.185 - 0.200	0.200 - 0.215
.120	0.120 - 0.135	0.135 - 0.150	0.150 - 0.165	0.165 - 0.180	0.180 - 0.195
.115	0.115 - 0.130	0.130 - 0.145	0.145 - 0.160	0.160 - 0.175	0.175 - 0.190
.125	0.125 - 0.140	0.140 - 0.155	0.155 - 0.160	0.160 - 0.175	0.175 - 0.180
.125	0.125 - 0.140	0.140 - 0.155	0.155 - 0.160	0.160 - 0.175	0.175 - 0.180
.125	0.125 - 0.140	0.140 - 0.155	0.155 - 0.160	0.160 - 0.175	0.175 - 0.180
.070	0.070 - 0.080	0.080 - 0.090	0.090 - 0.100	0.100 - 0.110	0.110 - 0.120
.090	0.090 - 0.100	0.100 - 0.110	0.110 - 0.120	0.120 - 0.130	0.130 - 0.140
.090	0.090 - 0.100	0.100 - 0.110	0.110 - 0.120	0.120 - 0.130	0.130 - 0.140
.025	0.025 - 0.03	0.030 - 0.035	0.035 - 0.04	0.040 - 0.045	0.045 - 0.050

Richtwerte
Indicative values

DR0101-NR11103 (18xD)

Hochleistungs-Spiralbohrer mit Kühlkanälen und verstärktem Schaft
High-performance twist drill with coolant holes and reinforced shank





D1 k5	L1	D2	L2	L3	DWS Art. N°
1.00	4.40	3	64	21.30	**451974**
1.05	4.65	3	64	22.40	**451975**
1.10	4.85	3	64	23.45	**451976**
1.15	5.10	3	64	24.50	**451977**
1.20	5.30	3	64	25.60	**451978**
1.25	5.50	3	64	26.65	**451979**
1.30	5.75	3	72	27.70	**451980**
1.35	5.95	3	72	28.80	**451981**
1.40	6.20	3	72	29.85	**451982**
1.45	6.40	3	72	30.90	**451983**
1.50	6.60	3	72	31.95	**451984**
1.55	6.85	3	80	33.05	**451985**
1.60	7.05	3	80	34.10	**451986**
1.65	7.30	3	80	35.15	**451987**
1.70	7.50	3	80	36.25	**451988**
1.75	7.70	3	80	37.30	**451989**
1.80	7.95	3	88	38.35	**451990**
1.85	8.15	3	88	39.45	**451991**
1.90	8.40	3	88	40.50	**451992**
1.95	8.60	3	88	41.55	**451993**
2.00	8.80	4	88	42.60	**451994**
2.05	9.05	4	94	43.70	**451995**
2.10	9.25	4	94	44.75	**451996**
2.15	9.50	4	94	45.80	**451997**
2.20	9.70	4	94	46.90	**451998**
2.25	9.90	4	94	47.95	**451999**
2.30	10.15	4	100	49.00	**452000**
2.35	10.35	4	100	50.10	**452001**
2.40	10.60	4	100	51.15	**452002**
2.45	10.80	4	100	52.20	**452003**
2.50	11.00	4	100	53.25	**452004**
2.55	11.25	4	106	54.35	**452005**
2.60	11.45	4	106	55.40	**452006**
2.65	11.70	4	106	56.45	**452007**
2.70	11.90	4	106	57.55	**452008**
2.75	12.10	4	106	58.60	**452009**
2.80	12.35	4	110	59.65	**452010**
2.85	12.55	4	110	60.75	**452011**
2.90	12.80	4	110	61.80	**452012**
2.95	13.00	4	110	62.85	**452013**
3.00	13.20	6	114	63.90	**452014**
3.05	13.45	6	114	65.00	**452015**
3.10	13.65	6	114	66.05	**452016**
3.15	13.90	6	114	67.10	**452017**
3.20	14.10	6	114	68.20	**452018**
3.25	14.30	6	114	69.25	**452019**
3.30	14.55	6	118	70.30	**452020**
3.35	14.75	6	118	71.40	**452021**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

DR0101-NR11103 (18xD)

Hochleistungs-Spiralbohrer mit Kühlkanälen und verstärktem Schaft
High-performance twist drill with coolant holes and reinforced shank

D1 k5	L1	D2	L2	L3	**DWS Art. N°**
3.40	15.00	6	118	72.45	**452022**
3.45	15.20	6	118	73.50	**452023**
3.50	15.40	6	118	74.55	**452024**
3.55	15.65	6	122	75.65	**452025**
3.60	15.85	6	122	76.70	**452026**
3.65	16.10	6	122	77.75	**452027**
3.70	16.30	6	122	78.85	**452028**
3.75	16.50	6	122	79.90	**452029**
3.80	16.75	6	126	80.95	**452030**
3.85	16.95	6	126	82.05	**452031**
3.90	17.20	6	126	83.10	**452032**
3.95	17.40	6	126	84.15	**452033**
4.00	17.60	6	130	85.20	**452034**
4.10	18.05	6	130	87.35	**455723**
4.20	18.50	6	130	89.50	**455724**
4.30	18.95	6	130	91.60	**455725**
4.40	19.40	6	130	93.75	**455726**
4.50	19.80	6	130	95.85	**455727**
4.60	20.25	6	142	98.00	**455728**
4.70	20.70	6	142	100.15	**455729**
4.80	21.15	6	142	102.25	**455730**
4.90	21.60	6	142	104.40	**455731**
5.00	22.00	6	142	106.50	**455732**
5.10	22.45	6	153	108.65	**455733**
5.20	22.90	6	153	110.80	**455734**
5.30	23.35	6	153	112.90	**455735**
5.40	23.80	6	153	115.05	**455736**
5.50	24.20	6	153	117.15	**455737**
5.60	24.65	6	165	119.30	**455738**
5.70	25.10	6	165	121.45	**455739**
5.80	25.55	6	165	123.55	**455740**
5.90	26.00	6	165	125.70	**455741**
6.00	26.40	6	165	127.80	**455742**

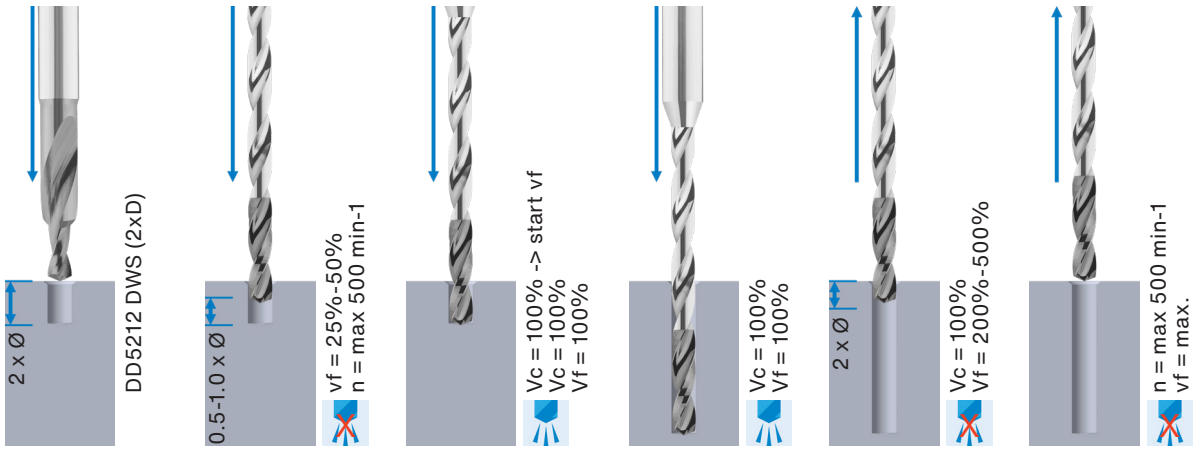
Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

DR0101-NR11103 (18xD)

Schnittparameter
Cutting parameters

ISO	V_C [m/min]	Ø 1.00 - 1.45	Ø 1.50 - 1.95	Ø 2.00 - 2.45	Ø 2.50 - 2.95	Ø 3.00 -
P1	50 - 80	0.060 - 0.080	0.080 - 0.100	0.100 - 0.120	0.120 - 0.140	0.140 - 0
P2	50 - 80	0.060 - 0.080	0.080 - 0.100	0.100 - 0.120	0.120 - 0.140	0.140 - 0
P3	50 - 80	0.060 - 0.080	0.080 - 0.100	0.100 - 0.120	0.120 - 0.140	0.140 - 0
P4	45 - 65	0.050 - 0.070	0.070 - 0.090	0.090 - 0.110	0.110 - 0.130	0.130 - 0
P5	40 - 60	0.040 - 0.060	0.060 - 0.080	0.080 - 0.100	0.100 - 0.120	0.120 - 0
M1	35 - 50	0.030 - 0.040	0.050 - 0.060	0.065 - 0.075	0.080 - 0.090	0.095 - 0
M2	30 - 45	0.030 - 0.040	0.050 - 0.060	0.065 - 0.075	0.080 - 0.090	0.095 - 0
M3	30 - 45	0.020 - 0.030	0.040 - 0.050	0.055 - 0.065	0.070 - 0.080	0.085 - 0
K1	80 - 100	0.060 - 0.080	0.080 - 0.100	0.100 - 0.120	0.120 - 0.140	0.140 - 0
N1	100 - 160	0.050 - 0.065	0.065 - 0.080	0.080 - 0.095	0.095 - 0.110	0.110 - 0.
N2	80 - 140	0.060 - 0.075	0.075 - 0.090	0.090 - 0.105	0.105 - 0.120	0.120 - 0
N3	80 - 140	0.070 - 0.080	0.080 - 0.095	0.095 - 0.110	0.110 - 0.125	0.125 - 0
N4	60 - 120	0.040 - 0.060	0.060 - 0.075	0.075 - 0.090	0.090 - 0.105	0.105 - 0
N5	60 - 120	0.050 - 0.060	0.060 - 0.070	0.070 - 0.085	0.085 - 0.100	0.100 - 0
N6	100 - 160	0.050 - 0.065	0.065 - 0.080	0.080 - 0.095	0.095 - 0.110	0.110 - 0.
N7	100 - 160	0.050 - 0.065	0.065 - 0.080	0.080 - 0.095	0.095 - 0.110	0.110 - 0.
N8	100 - 160	0.050 - 0.065	0.065 - 0.080	0.080 - 0.095	0.095 - 0.110	0.110 - 0.
S1	10 - 25	0.050 - 0.030	0.030 - 0.040	0.040 - 0.050	0.050 - 0.060	0.060 - 0
S2	15 - 30	0.040 - 0.050	0.050 - 0.060	0.060 - 0.070	0.070 - 0.080	0.080 - 0
S3	35 - 50	0.030 - 0.045	0.045 - 0.060	0.060 - 0.070	0.070 - 0.080	0.080 - 0
H1	20 - 30	0.005 - 0.008	0.008 - 0.012	0.012 - 0.016	0.016 - 0.020	0.020 - 0
H2						

Bearbeitungsprozess
Machining process



f_u [mm]					
3.45	Ø 3.50 - 3.95	Ø 4.00 - 4.45	Ø 4.50 - 4.95	Ø 5.00 - 5.45	Ø 5.50 - 6.00
.160	0.160 - 0.180	0.180 - 0.200	0.200 - 0.220	0.220 - 0.240	0.240 - 0.260
.160	0.160 - 0.180	0.180 - 0.200	0.200 - 0.220	0.220 - 0.240	0.240 - 0.260
.160	0.160 - 0.180	0.180 - 0.200	0.200 - 0.220	0.220 - 0.240	0.240 - 0.260
.150	0.150 - 0.170	0.170 - 0.190	0.190 - 0.210	0.210 - 0.230	0.230 - 0.250
.140	0.140 - 0.160	0.160 - 0.180	0.180 - 0.200	0.200 - 0.220	0.220 - 0.240
.105	0.110 - 0.120	0.120 - 0.130	0.130 - 0.140	0.140 - 0.150	0.150 - 0.160
.105	0.110 - 0.120	0.120 - 0.130	0.130 - 0.140	0.140 - 0.150	0.150 - 0.160
.095	0.100 - 0.110	0.110 - 0.120	0.120 - 0.130	0.130 - 0.140	0.140 - 0.150
.160	0.160 - 0.180	0.180 - 0.200	0.200 - 0.220	0.220 - 0.240	0.240 - 0.260
.125	0.125 - 0.140	0.140 - 0.155	0.155 - 0.160	0.160 - 0.175	0.175 - 0.180
.135	0.135 - 0.150	0.150 - 0.165	0.165 - 0.180	0.180 - 0.195	0.195 - 0.210
.140	0.140 - 0.155	0.155 - 0.170	0.170 - 0.185	0.185 - 0.200	0.200 - 0.215
.120	0.120 - 0.135	0.135 - 0.150	0.150 - 0.165	0.165 - 0.180	0.180 - 0.195
.115	0.115 - 0.130	0.130 - 0.145	0.145 - 0.160	0.160 - 0.175	0.175 - 0.190
.125	0.125 - 0.140	0.140 - 0.155	0.155 - 0.160	0.160 - 0.175	0.175 - 0.180
.125	0.125 - 0.140	0.140 - 0.155	0.155 - 0.160	0.160 - 0.175	0.175 - 0.180
.125	0.125 - 0.140	0.140 - 0.155	0.155 - 0.160	0.160 - 0.175	0.175 - 0.180
.070	0.070 - 0.080	0.080 - 0.090	0.090 - 0.100	0.100 - 0.110	0.110 - 0.120
.090	0.090 - 0.100	0.100 - 0.110	0.110 - 0.120	0.120 - 0.130	0.130 - 0.140
.090	0.090 - 0.100	0.100 - 0.110	0.110 - 0.120	0.120 - 0.130	0.130 - 0.140
.025	0.025 - 0.03	0.030 - 0.035	0.035 - 0.04	0.040 - 0.045	0.045 - 0.050

Richtwerte
Indicative values

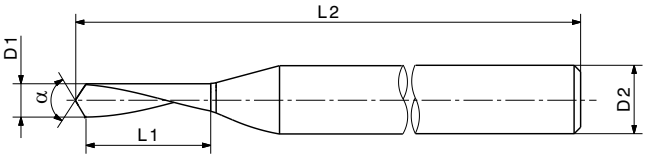
DR0304-NR01101

Spiral Kanonenbohrer
Helical gun drill

P1	P2	P3	P4	P5	M1	M2	M3	K1	N1	N2
N3	N4	N5	N6	N7	N8	S1	S2	S3	H1	

VHM

h5



D1	L1	D2	L2
0.70 - 1.98	9	2.00	39
1.99 - 2.48	9	2.50	39
2.49 - 2.98	9	3.00	39
2.99 - 3.48	12	4.00	51
3.49 - 3.98	12	4.00	51
3.99 - 4.48	12	5.00	51
4.49 - 4.98	12	5.00	51
4.99 - 5.48	12	6.00	51
5.49 - 5.98	12	6.00	51
5.99 - 6.00	12	8.00	59

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

DR0304-NR01101

Schnittparameter
Cutting parameters

		f_u [mm]				
ISO	V_c [m/min]	Ø 0.70 - 2.98	Ø 2.99 - 4.48	Ø 5.99 - 7.48	Ø 7.49 - 8.98	Ø 8.99 - 10.50
P1	50 - 80	0.005 - 0.020	0.020 - 0.050	0.050 - 0.100	0.100 - 0.150	0.150 - 0.200
P2	40 - 70	0.005 - 0.020	0.020 - 0.050	0.050 - 0.100	0.100 - 0.150	0.150 - 0.200
P3	40 - 70	0.005 - 0.020	0.020 - 0.050	0.050 - 0.100	0.100 - 0.150	0.150 - 0.200
P4	35 - 65	0.005 - 0.020	0.020 - 0.050	0.050 - 0.100	0.100 - 0.150	0.150 - 0.200
P5	30 - 50	0.005 - 0.020	0.020 - 0.050	0.050 - 0.100	0.100 - 0.150	0.150 - 0.200
M1	30 - 50	0.005 - 0.020	0.020 - 0.050	0.050 - 0.100	0.100 - 0.150	0.150 - 0.200
M2	30 - 50	0.005 - 0.020	0.020 - 0.050	0.050 - 0.100	0.100 - 0.150	0.150 - 0.200
M3	30 - 50	0.005 - 0.020	0.020 - 0.050	0.050 - 0.100	0.100 - 0.150	0.150 - 0.200
K1	80 - 100	0.005 - 0.020	0.020 - 0.050	0.050 - 0.100	0.100 - 0.150	0.150 - 0.200
N1	80 - 100	0.008 - 0.025	0.025 - 0.060	0.060 - 0.100	0.100 - 0.150	0.150 - 0.200
N2	60 - 90	0.008 - 0.025	0.025 - 0.060	0.060 - 0.100	0.100 - 0.150	0.150 - 0.200
N3	80 - 120	0.008 - 0.025	0.025 - 0.060	0.060 - 0.100	0.100 - 0.150	0.150 - 0.200
N4	80 - 120	0.008 - 0.025	0.025 - 0.060	0.060 - 0.100	0.100 - 0.150	0.150 - 0.200
N5	80 - 100	0.008 - 0.025	0.025 - 0.060	0.060 - 0.100	0.100 - 0.150	0.150 - 0.200
N6	60 - 80	0.008 - 0.025	0.025 - 0.060	0.060 - 0.100	0.100 - 0.150	0.150 - 0.200
N7	50 - 80	0.008 - 0.025	0.025 - 0.060	0.060 - 0.100	0.100 - 0.150	0.150 - 0.200
N8	80 - 100	0.008 - 0.025	0.025 - 0.060	0.060 - 0.100	0.100 - 0.150	0.150 - 0.200
S1	25 - 45	0.005 - 0.020	0.020 - 0.050	0.050 - 0.100	0.100 - 0.150	0.150 - 0.200
S2	25 - 45	0.005 - 0.020	0.020 - 0.050	0.050 - 0.100	0.100 - 0.150	0.150 - 0.200
S3	25 - 45	0.005 - 0.020	0.020 - 0.050	0.050 - 0.100	0.100 - 0.150	0.150 - 0.200
H1	20 - 30	0.005 - 0.020	0.020 - 0.050	0.050 - 0.100	0.100 - 0.150	0.150 - 0.200
H2						

Richtwerte
Indicative values

Formular
Form

Kundendaten
Customer data

Kunde
Customer

Kontakt
Contact person

Ort
Address

Telefon
Phone

E-mail

Datum
Date

Menge
Quantity

Gewünschtes Datum
Desired date

Messung
Dimension

Referenz-Artikel
Reference article

Schnittrichtung
Cutting direction

Innenkühlung
Internal coolant

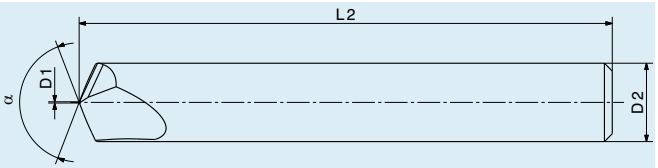
D1

α

D2

L3

Anzahl Zähne
Number of teeth



Zeichnung
Sketch

Werkstoff
Material

Werkstoffgruppe (Beispiel P1)
Material group (Example P1)

Werkstoffnummer
Material number

Härte
Hardness
[N/mm²], [HB], [HRC]

Beschichtung (bitte einkreisen)
Coating (encircle please)

DWS **DWX** **DWH** **DWT** **DWD** **DWA**

Bitte senden Sie das Formular per E-Mail an sales@diametal.com
Return the form by E-mail at sales@diametal.com

DIAeasy

DIAdrill

Formular
Form

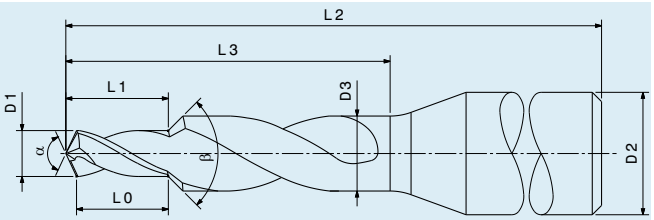
Kundendaten ***Customer data***
Kunde *Customer*
Kontakt *Contact person*
Ort *Address*
Telefon *Phone*
E-mail

Messung ***Dimension***
Referenz-Artikel *Reference article*
Schnittrichtung *Cutting direction*
Innenkühlung *Internal coolant*
D1
L1
α
β
D2
D3
L3
L0
Anzahl Zähne *Number of teeth*

Werkstoff ***Material***
Werkstoffgruppe (Beispiel P1) *Material group (Example P1)*
Werkstoffnummer *Material number*
Härte *Hardness* [N/mm²], [HB], [HRC]

Datum *Date*

Menge *Quantity*
Gewünschtes Datum *Desired date*



Zeichnung ***Sketch***

Beschichtung (bitte einkreisen) ***Coating (encircle please)***

DWS	DWX	DWH	DWT	DWD	DWA

Bitte senden Sie das Formular per E-Mail an sales@diametal.com
Return the form by E-mail at sales@diametal.com

Formular
Form

Kundendaten
Customer data

Kunde
Customer

Kontakt
Contact person

Ort
Address

Telefon
Phone

E-mail

Messung
Dimension

Referenz-Artikel
Reference article

Schnittrichtung
Cutting direction

Innenkühlung
Internal coolant

D1

L1

α

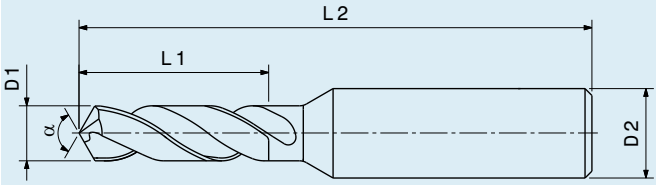
D2

L2

Datum
Date

Menge
Quantity

Gewünschtes Datum
Desired date



Zeichnung
Sketch

Werkstoff
Material

Werkstoffgruppe (Beispiel P1)
Material group (Example P1)

Werkstoffnummer
Material number

Härte
Hardness
[N/mm²], [HB], [HRC]

Beschichtung (bitte einkreisen)
Coating (encircle please)

DWS **DWX** **DWH** **DWT** **DWD** **DWA**

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DIAMETAL

DIAreamer

Komplettlösungen für die Reib-Bearbeitung

Complete solutions for reaming machining

Swiss Cutting Tool

DIAreamer

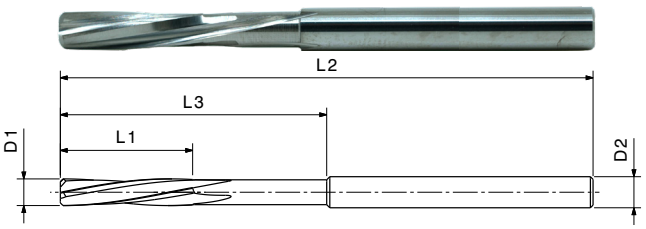
Inhaltsverzeichnis
Table of contents

RE0140-NR01101

Reibahle Rechtsschneidend / Linksgenutet
Reamer Right hand cutting / Left hand spiral

P1	P2	P3	P4	P5	M1	M2	M3	K1	N1	N2
N3	N4	N5	N6	N7	N8	S1	S2	S3	H1	

VHM h5



D1	L1	D2	L2	L3	Z
0.30 - 0.39	2	2.00	50	-	3
0.40 - 0.49	3	2.00	50	-	3
0.50 - 069	4	2.00	50	-	3
0.70 - 0.79	6	2.00	50	-	3
0.80 - 1.46	8	2.00	50	-	3
1.47 - 1.96	10	2.00	50	10	3
1.97 - 2.46	10	2.50	50	25	3
2.47 - 2.96	15	3.00	60	30	4
2.97 - 3.46	15	3.50	60	30	4
3.47 - 3.96	18	4.00	60	33	4
3.97 - 4.46	20	4.50	60	35	4
4.47 - 4.96	20	5.00	75	45	6
4.97 - 5.46	23	5.50	75	45	6
5.47 - 5.96	23	6.00	75	45	6
5.97 - 6.00	23	6.50	75	45	6

Pendelhalter auf Anfrage
Floating holders on request

Rechtsschneidend / Rechtsgenutet auf Anfrage
Right hand cutting / Right hand spiral on request

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

RE0140-NR01101

Schnittparameter
Cutting parameters

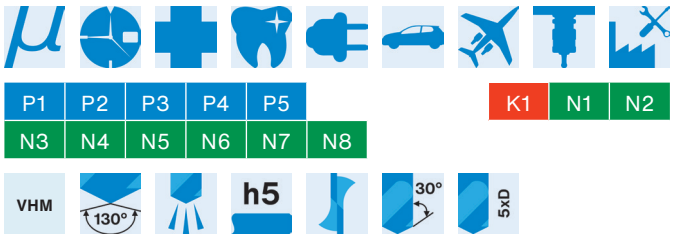
		Ø 0.30 - 0.80		Ø 0.81 - 1.20		Ø 1.21 - 2.50		
ISO	V_c [m/min]	f_u [mm]	Spantiefe [mm] *Depth of cut [mm]*	f_u [mm]	Spantiefe [mm] *Depth of cut [mm]*	f_u [mm]	Spantiefe [mm] *Depth of cut [mm]*	f_u [
P1	20 - 30	0.020 - 0.030	0.050	0.040 - 0.040	0.050	0.050 - 0.060	0.100	0.070 -
P2	20 - 30	0.020 - 0.030	0.050	0.040 - 0.040	0.050	0.050 - 0.060	0.100	0.070 -
P3	20 - 30	0.020 - 0.030	0.050	0.040 - 0.040	0.050	0.050 - 0.060	0.100	0.070 -
P4	15 - 25	0.010 - 0.020	0.050	0.020 - 0.030	0.050	0.040 - 0.050	0.100	0.050 -
P5	10 - 15	0.010 - 0.020	0.050	0.020 - 0.030	0.050	0.030 - 0.040	0.100	0.040 -
M1	10 - 15	0.010 - 0.020	0.050	0.020 - 0.030	0.050	0.030 - 0.040	0.100	0.040 -
M2	10 - 15	0.010 - 0.020	0.050	0.020 - 0.030	0.050	0.030 - 0.040	0.100	0.040 -
M3	10 - 15	0.010 - 0.020	0.050	0.020 - 0.030	0.050	0.030 - 0.040	0.100	0.040 -
K1	20 - 30	0.020 - 0.030	0.050	0.040 - 0.040	0.050	0.050 - 0.060	0.100	0.070 -
N1	30 - 40	0.030 - 0.040	0.050	0.050 - 0.060	0.050	0.070 - 0.080	0.100	0.090 -
N2	30 - 40	0.030 - 0.040	0.050	0.050 - 0.060	0.050	0.070 - 0.080	0.100	0.090 -
N3	30 - 40	0.030 - 0.040	0.050	0.050 - 0.060	0.050	0.070 - 0.080	0.100	0.090 -
N4	30 - 40	0.030 - 0.040	0.050	0.050 - 0.060	0.050	0.070 - 0.080	0.100	0.090 -
N5	30 - 40	0.030 - 0.040	0.050	0.050 - 0.060	0.050	0.070 - 0.080	0.100	0.090 -
N6	30 - 40	0.030 - 0.040	0.050	0.050 - 0.060	0.050	0.070 - 0.080	0.100	0.090 -
N7	30 - 40	0.030 - 0.040	0.050	0.050 - 0.060	0.050	0.070 - 0.080	0.100	0.090 -
N8	30 - 40	0.030 - 0.040	0.050	0.050 - 0.060	0.050	0.070 - 0.080	0.100	0.090 -
S1	5 - 10	0.010 - 0.020	0.050	0.020 - 0.030	0.050	0.030 - 0.040	0.050	0.040 -
S2	5 - 10	0.010 - 0.020	0.050	0.020 - 0.030	0.050	0.030 - 0.040	0.050	0.040 -
S3	5 - 10	0.010 - 0.020	0.050	0.020 - 0.030	0.050	0.030 - 0.040	0.050	0.040 -
H1	5 - 10	0.010 - 0.020	0.050	0.020 - 0.030	0.050	0.030 - 0.040	0.050	0.040 -
H2								

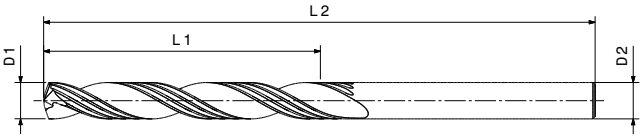
	Ø 2.51 - 4.20	Ø 4.21 - 6.20		Ø 6.21 - 8.00		Ø 8.01 - 13.50	
mm]	Spantiefe [mm] *Depth of cut [mm]*	f_u [mm]	Spantiefe [mm] *Depth of cut [mm]*	f_u [mm]	Spantiefe [mm] *Depth of cut [mm]*	f_u [mm]	Spantiefe [mm] *Depth of cut [mm]*
- 0.090	0.100	0.100 - 0.150	0.200	0.160 - 0.200	0.200	0.200 - 0.300	0.200
- 0.090	0.100	0.100 - 0.150	0.200	0.160 - 0.200	0.200	0.200 - 0.300	0.200
- 0.090	0.100	0.100 - 0.150	0.200	0.160 - 0.200	0.200	0.200 - 0.300	0.200
- 0.060	0.100	0.070 - 0.090	0.200	0.100 - 0.120	0.200	0.130 - 0.150	0.200
- 0.050	0.100	0.050 - 0.060	0.200	0.060 - 0.070	0.200	0.070 - 0.090	0.200
- 0.050	0.100	0.050 - 0.060	0.200	0.060 - 0.070	0.200	0.070 - 0.090	0.200
- 0.050	0.100	0.050 - 0.060	0.200	0.060 - 0.070	0.200	0.070 - 0.090	0.200
- 0.050	0.100	0.050 - 0.060	0.200	0.060 - 0.070	0.200	0.070 - 0.090	0.200
- 0.090	0.100	0.100 - 0.150	0.200	0.160 - 0.200	0.200	0.200 - 0.300	0.200
- 0.100	0.100	0.120 - 0.160	0.200	0.170 - 0.220	0.200	0.220 - 0.320	0.200
- 0.100	0.100	0.120 - 0.160	0.200	0.170 - 0.220	0.200	0.220 - 0.320	0.200
- 0.100	0.100	0.120 - 0.160	0.200	0.170 - 0.220	0.200	0.220 - 0.320	0.200
- 0.100	0.100	0.120 - 0.160	0.200	0.170 - 0.220	0.200	0.220 - 0.320	0.200
- 0.100	0.100	0.120 - 0.160	0.200	0.170 - 0.220	0.200	0.220 - 0.320	0.200
- 0.100	0.100	0.120 - 0.160	0.200	0.170 - 0.220	0.200	0.220 - 0.320	0.200
- 0.100	0.100	0.120 - 0.160	0.200	0.170 - 0.220	0.200	0.220 - 0.320	0.200
- 0.100	0.100	0.120 - 0.160	0.200	0.170 - 0.220	0.200	0.220 - 0.320	0.200
- 0.050	0.050	0.050 - 0.060	0.100	0.060 - 0.070	0.100	0.070 - 0.090	0.100
- 0.050	0.050	0.050 - 0.060	0.100	0.060 - 0.070	0.100	0.070 - 0.090	0.100
- 0.050	0.050	0.050 - 0.060	0.100	0.060 - 0.070	0.100	0.070 - 0.090	0.100
- 0.050	0.050	0.050 - 0.060	0.100	0.060 - 0.070	0.100	0.070 - 0.090	0.100

Richtwerte
Indicative values

RE0201-NR11101

Bohrreibahle H7
Drill reamer H7





D1	L1	D2	L2	DWS Art. N°
4	29	6	74	**455752**
5	43	6	91	**455576**
6	43	6	91	**455753**

Weitere Beschichtungen oder kundenspezifische Lösungen auf Anfrage
Other coatings or customized solutions are available on request

RE0201-NR11101

Schnittparameter
Cutting parameters

		f_U [mm]		
ISO	V_C [m/min]	Ø 4.00	Ø 5.00	Ø 6.00
P1	60 - 80	0.110	0.130	0.140
P2	60 - 80	0.110	0.130	0.140
P3	50 - 60	0.110	0.150	0.160
P4	50 - 60	0.080	0.090	0.100
P5	50 - 60	0.080	0.090	0.100
M1				
M2				
M3				
K1	70 - 90	0.170	0.190	0.220
N1	150 - 200	0.140	0.160	0.180
N2	150 - 200	0.140	0.160	0.180
N3	150 - 200	0.140	0.160	0.180
N4	150 - 200	0.140	0.160	0.180
N5	150 - 200	0.140	0.160	0.180
N6	150 - 200	0.140	0.160	0.180
N7	150 - 200	0.140	0.160	0.180
N8	150 - 200	0.140	0.160	0.180
S1				
S2				
S3				
H1				
H2				

Richtwerte
Indicative values

DIAeasy

DIAreamer

Formular
Form

Kundendaten
Customer data

Kunde
Customer

Kontakt
Contact person

Ort
Address

Telefon
Phone

E-mail

Messung
Dimension

Referenz-Artikel
Reference article

Schnittrichtung
Cutting direction

Innenkühlung
Internal coolant

D1

L1

D2

L2

L3

Anzahl Zähne
Number of teeth

Rechtsschneidend / Linksgenutet
Right hand cutting / Left hand spiral

Rechtsschneidend / Rechtsgenutet
Right hand cutting / Right hand spiral

Werkstoff
Material

Werkstoffgruppe (Beispiel P1)
Material group (Example P1)

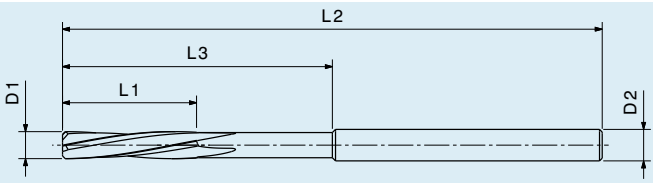
Werkstoffnummer
Material number

Härte
Hardness
[N/mm²], [HB], [HRC]

Datum
Date

Menge
Quantity

Gewünschtes Datum
Desired date



Zeichnung
Sketch

Beschichtung (bitte einkreisen)
Coating (encircle please)

DWS **DWX** **DWH** **DWT** **DWD** **DWA**

Bitte senden Sie das Formular per E-Mail an sales@diametal.com
Return the form by E-mail at sales@diametal.com

DIAMETAL

DIAWM701S

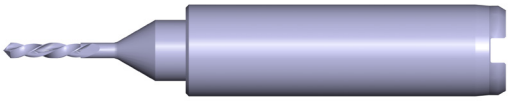
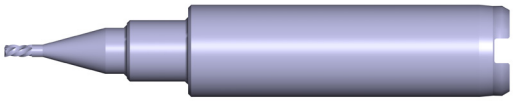
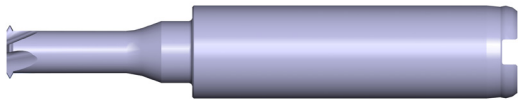
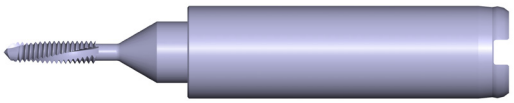
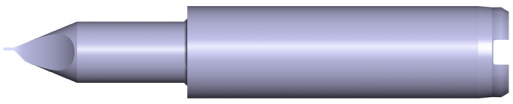
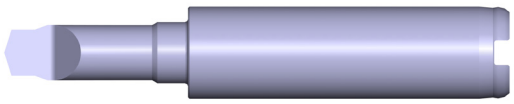
Komplettlösungen
für die Willemin-Macodel WM701S

Complete solutions
for the Willemin-Macodel WM701S

Swiss Cutting Tool

DIAWM701S

Anwendungen
Applications

Werkzeuge auf Anfrage *Tools on request*	Typ *Type*	Dimensionen *Dimensions*	Zahn N° *Teeth N°*
	Spiralbohrer *Twist drill*	Ø 0.30 - 3.50	
	Schaftfräser *End mill*	Ø 0.30 - 3.50	
	Gewindewirbler *Thread whirl cutter*	S 0.50 - 1.40 M0.80 - 3.50	
	Gewindewirbler *Thread tap*	S 0.30 - 1.40 M 0.80 - 3.50	
	Kernbohrer *Core drill*		
	Hobel *Planer*		

Weitere Lösungen auf Anfrage
Other solutions are available on request

	Double chamfered ...	
	Beiseitiger Radius ... *Double radius ...*	36
	Vollradius ... *Full radius ...*	37
	kreuzverzahnt ... *Alternate teeth ...*	38
	Standard ... *Standard ...*	05
	Torx® ... *Torx® ...*	08
	Schruppfräser ... *Roughing ...*	39
	Spezial ... *Special ...*	99
	Normal *Normal*	N
	Zäh *Tough*	T
	Weich *Soft*	S
	Superlegierungen und Titan *Super alloys and titanium*	A
	Hart *Hard*	H
	Rechts schneiden *Right hand cut*	R
	Links schneiden *Left hand cut*	L
	Ohne Kühlkanälen *Without trough coolant*	0
	Mit Kühlkanälen *With trough coolant*	1
	Wolframkarbid (WC) *Carbide (WC)*	1
	Monokristalliner Diamant (MKD) *Monocrystalline diamond (MCD)*	2
	Polykristalliner Diamant (PKD) *Polycristalline diamond (PCD)*	3
	Keramik *Ceramic*	4
	Schnellarbeitsstahl (HSS) *High-speed steel (HSS)*	5
	Zylindrisch *Cylindrical*	1
	WM701S *WM701S*	2
	Weldon *Weldon*	3
	Whistle Notch *Whistle Notch*	4
	Interner Code *Internal code*	01

DIAmill

Code
Code

	MI	06	27	-	N	R	0	1	1	01
■	Schaftfräser *End mill*	01								
■	Kegelfräser *Tapermill*	02								
■	Kantenfräser *Chamfering end mill*	04								
■	Gravierfräser *Engraving end mill*	05								
■	Einzahnfräser *1 tooth end mill*	06								
■	T-Nutenfräser *T-slot end mill*	07								
■	Bogensegmentfräser *Curve segment mill*	09								
■ ■	... Scharfkantig *Square ...*		10							
■	... Scharfkantig mit Halsscaricato *Square with neck ...*		11							
■ ■	... mit Eckenradius *Corner radius ...*		12							
■	... mit Eckenradius und Hals *Corner radius with neck ...*		13							
■ ■	... mit Fase *Corner chamfer ...*		14							
■	... mit Fase und Hals *Corner chamfer with neck ...*		15							
■ ■	... Kugelfräser *Ball ...*		16							
■	... Kugelfräser mit Hals *Ball with neck ...*		17							
■	... frontal 90° *Front ... 90°*		18							
■	Doppel ... 90° *Double ... 90°*		19							
■	... sphärisch *Spherical ...*		20							
■	... 3/4 scharfkantig *... 3/4 with flat*		21							
■	... 1/2 scharfkantig *... 1/2 with flat*		22							
■	... 3/4 mit Radius *... 3/4 with radius*		23							
■	... 1/2 mit Radius *... 1/2 with radius*		24							
■	... spiral scharfkantig *... Helical with flat*		25							
■	... spiral mit Radius *... Helical with radius*		26							
■	Spiral ... *Helical ...*		04							
■	... Geradegenuteter 3/4 *Straight flute 3/4 ...*		27							
■	... Geradegenuteter 1/2 *Straight flute 1/2 ...*		28							
■	Zylindrischer ... *Cylindrical ...*		29							
■	Kegel ... *Front tapered ...*		30							
■	Rückkegel ... *Rear tapered ...*		31							
■	Doppelkegel ... *Biconical ...*		32							
■	Fase vorne ... *Front chamfered ...*		33							
■	Fase hinten ... *Back chamfered ...*		34							
■	Beiseitige Fase ...		35							

DIAthread

Code
Code

TH	03	42	-	N	R	0	1	1	01
Gewindebohrer *Thread tap*	01								
Gewindeformer *Thread former*	02								
Gewindewirbler *Thread whirl cutter*	03								
Gewindefräser *Thread milling cutter*	04								
Bohrgewindefräser *Circular drill thread milling cutter*	06								
... rechtsgenutet *Right hand spiral ...*		41							
... linksgenutet *Left hand spiral ...*		40							
... geradegenutet *Straight flute ...*		03							
Standard ... *Standard ...*		05							
Doppelprofil ... *Double profile ...*		42							
... Einzelprofil *Single profile ...*		43							
Einzelzahn ... *Single tooth ...*		44							
Anfasen möglich *Chamfering capability*		45							
Spezial ... *Special ...*		99							
Normal *Normal*				N					
Zäh *Tough*				T					
Weich *Soft*				S					
Superlegierungen und Titan *Super alloys and titanium*				A					
Hart *Hard*				H					
Rechts schneiden *Right hand cut*					R				
Links schneiden *Left hand cut*					L				
Ohne Kühlkanälen *Without trough coolant*						0			
Mit Kühlkanälen *With trough coolant*						1			
Wolframkarbid (WC) *Carbide (WC)*							1		
Monokristalliner Diamant (MKD) *Monocrystalline diamond (MCD)*							2		
Polykristalliner Diamant (PKD) *Polycristalline diamond (PCD)*							3		
Keramik *Ceramic*							4		
Schnellarbeitsstahl (HSS) *High-speed steel (HSS)*							5		
Zylindrisch *Cylindrical*								1	
WM701S *WM701S*								2	
Weldon *Weldon*								3	
Whistle Notch								4	

Interner Code
Internal code

Weldon
Whistle Notch
Whistle Notch

01

4

DIAdrill

Code
Code

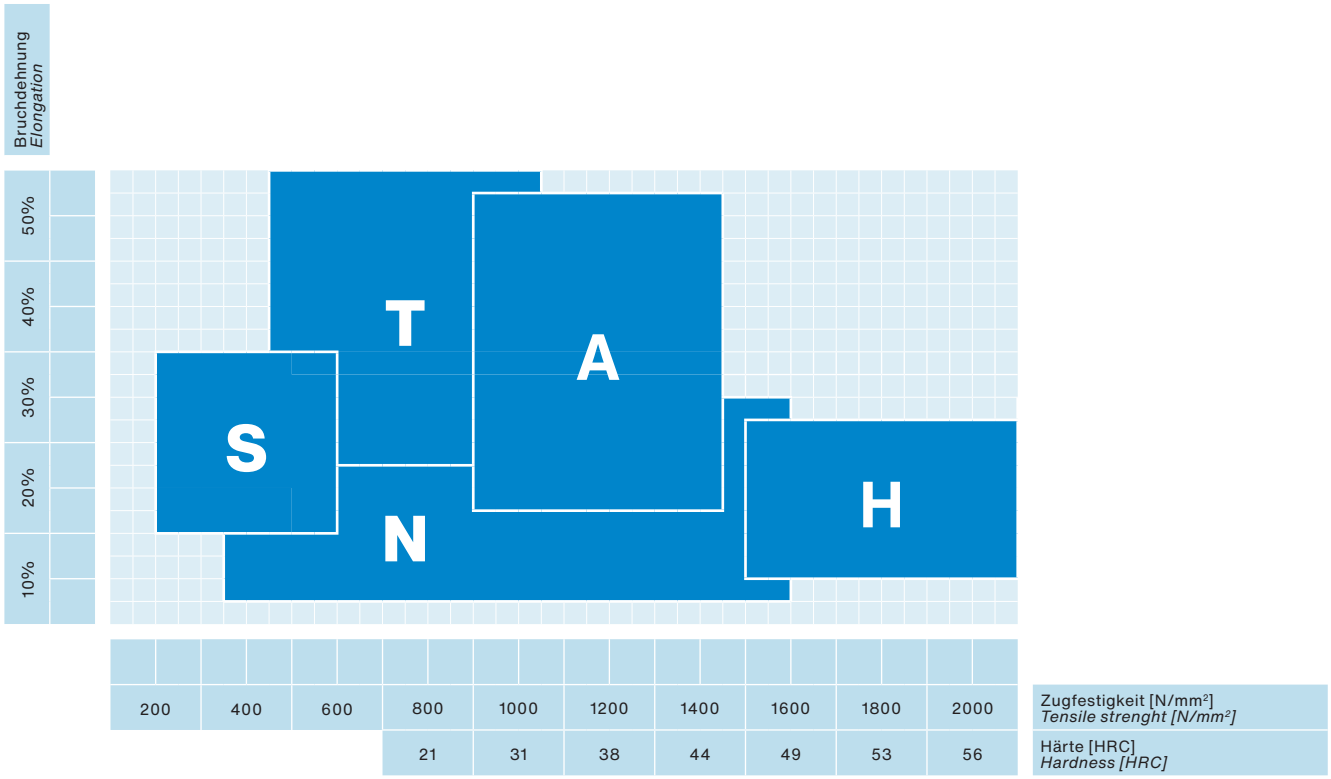
DR	01	01	-	N	R	0	1	1	01
Bohrer *Drill*	01								
Stufenbohrer *Step drill*	02								
Kanonenbohrer *Gun drill*	03								
Stufenkanonenbohrer *Step gun drill*	04								
Zentrierbohrer *Center drill*	05								
Pilotbohrer *Pilot drill*	06								
Spiral ... *Twist ...*		01							
Flach ... *Flat ...*		02							
Geradegenutet ... *Straight flute ...*		03							
Spiral ... *Helical ...*		04							
Standard ... *Standard ...*		05							
Hochleistungs- ... mit verstärktem Schaft *High-performance ... with reinforced shank*		06							
... 180° mit verstärktem Schaft *180° ... with reinforced shank*		07							
Torx® ... *Torx® ...*		08							
Spezial ... *Special ...*		99							
Normal *Normal*				N					
Zäh *Tough*				T					
Weich *Soft*				S					
Superlegierungen und Titan *Super alloys and titanium*				A					
Hart *Hard*				H					
Rechts schneiden *Right hand cut*					R				
Links schneiden *Left hand cut*					L				
Ohne Kühlkanälen *Without trough coolant*						0			
Mit Kühlkanälen *With trough coolant*						1			
Wolframkarbid (WC) *Carbide (WC)*							1		
Monokristalliner Diamant (MKD) *Monocrystalline diamond (MCD)*							2		
Polykristalliner Diamant (PKD) *Polycristalline diamond (PCD)*							3		
Keramik *Ceramic*							4		
Schnellarbeitsstahl (HSS) *High-speed steel (HSS)*							5		
Zylindrisch *Cylindrical*								1	
WM701S *WM701S*								2	
Weldon								3	

DIAreamer

Code
Code

RE	01	40	-	N	R	0	1	1	01
Reibahle *Reamer*	01								
Bohrreibahle *Drill reamer*	02								
Kegelreibahle *Taper reamer*	03								
Rollierfeilen *Burnisher*	05								
... linksgenutet *Left hand spiral ...*		40							
... rechtsgenutet *Right hand spiral ...*		41							
... geradegenutet *Straight flute ...*		03							
Spiral ... *Twist ...*		01							
Standard ... *Standard ...*		05							
Spezial ... *Special ...*		99							
Normal *Normal*				N					
Zäh *Tough*				T					
Weich *Soft*				S					
Superlegierungen und Titan *Super alloys and titanium*				A					
Hart *Hard*				H					
Rechts schneiden *Right hand cut*					R				
Links schneiden *Left hand cut*					L				
Ohne Kühlkanälen *Without trough coolant*						0			
Mit Kühlkanälen *With trough coolant*						1			
Wolframkarbid (WC) *Carbide (WC)*							1		
Monokristalliner Diamant (MKD) *Monocrystalline diamond (MCD)*							2		
Polykristalliner Diamant (PKD) *Polycristalline diamond (PCD)*							3		
Keramik *Ceramic*							4		
Schnellarbeitsstahl (HSS) *High-speed steel (HSS)*							5		
Zylindrisch *Cylindrical*								1	
WM701S *WM701S*								2	
Weldon *Weldon*								3	
Whistle Notch *Whistle Notch*								4	
Interner Code *Internal code*									01

Zu bearbeitende Materialien
Machined materials



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