Tools to create your success.

maykestag

PERFORMANCE
IN PRECISION

UPDATE 2021

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Speeddrill 4.0 Speeddrill

VHM-Hochleistungsbohrer
Solid carbide high performance drills
Punte MDI ad alto rendimento
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VHM-Bohrer
Solid carbide drills
Punte elicoidali in metallo duro integrale
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VHM-Senker und VHM-Maschinenreibahlen
Solid carbide countersinks and solid carbide machine reamers
Svasatori e alesatori in metallo duro integrale
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Speedcut 4.0 Speedcut eco Speedcut HPC MTC STC STC+ HSC
Turbo Twister Speedtwister
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VHM-Fräser
Solid carbide milling cutters
Frese in metallo duro integrale
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Hartmetall-Frässtifte
Tungsten carbide rotary burrs
Frese rotative in metallo duro
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HSS-Bohrer
HSS drills
HSS punte elicoidali
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Speedtap 4.0 Speedtap
Hochleistungsgewindewerkzeuge
High performance threading tools
Maschi per alto rendimento
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HSS-Gewindewerkzeuge
HSS taps and dies
HSS maschi e filiere
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HSS Reibahlen
HSS reamers
HSS alesatori
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HSS Senker
HSS countersinks
HSS svasatori
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HSS Fräser
HSS milling cutters
HSS frese
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Create new opportunities.

ANYONE WHO WANTS TO
SET NEW QUALITY STANDARDS
MUST KEEP DEVELOPING.



D **Um Ihnen das optimale Arbeitsergebnis zu ermöglichen, stellen wir an drei Produktionsstandorten in Österreich hochqualitative Bohr- und Fräswerkzeuge her. Für uns als Familienunternehmen stehen Vertrauen, Handschlagsqualität und Kundennähe im Fokus.**

Wir produzieren jährlich mehr als 35 Millionen Qualitätswerkzeuge. Über 300 Spezialisten setzen Tag für Tag alles daran, Präzisionswerkzeuge auf höchstem Niveau für Sie herzustellen. Denn jedes einzelne Stück wird mit dem Ziel geschaffen, Ihre wirtschaftliche Leistung weiter zu verbessern. Deshalb vertrauen internationale Kunden aus der Automobil- und Luftfahrtindustrie sowie aus der Medizin- und Messtechnik auf unsere Hightech-Werkzeuge.

Im Mittelpunkt stehen immer Ihre Bedürfnisse. Sie sollen Werkzeuge zur Hand haben, die sich durch höhere Leistungsfähigkeit und längere Lebensdauer auszeichnen. Deshalb verwenden wir nur hochwertigste Schneidstoffe aus Hartmetall und HSS. Dementsprechend hoch ist der Anspruch, den wir an unsere Entwicklungsabteilung stellen. Denn nur durch ständige Innovation können wir Ihnen den Vorteil verschaffen, mit dem Sie sich dauerhaft im internationalen Wettbewerb behaupten.

Wir ermöglichen Ihnen höchste Prozesssicherheit bei geringen Stückkosten.

E **To enable you to achieve optimum work results we manufacture high quality cutting tools at three production plants in Austria. For us as a family business our focus is on inspiring trust, being true to our word and having a close relationship with our customers.**

We produce more than 35 million quality tools annually. More than 300 specialists do their utmost day in day out to produce precision tools at the highest level for you. As each individual piece is created with the aim of improving your economic performance. For this reason international customers from the automotive and aeronautical industries as well as from medical and measuring technologies rely on our high-tech tools.

Your needs are always central. You should always have tools to hand that are characterised by higher efficiency and longer service life. For this reason we only use carbide and HSS materials of the highest quality. The demands that we make on our development department is correspondingly high. As it is only through constant innovation that we can give you the edge with which you can permanently hold your own in international competition.

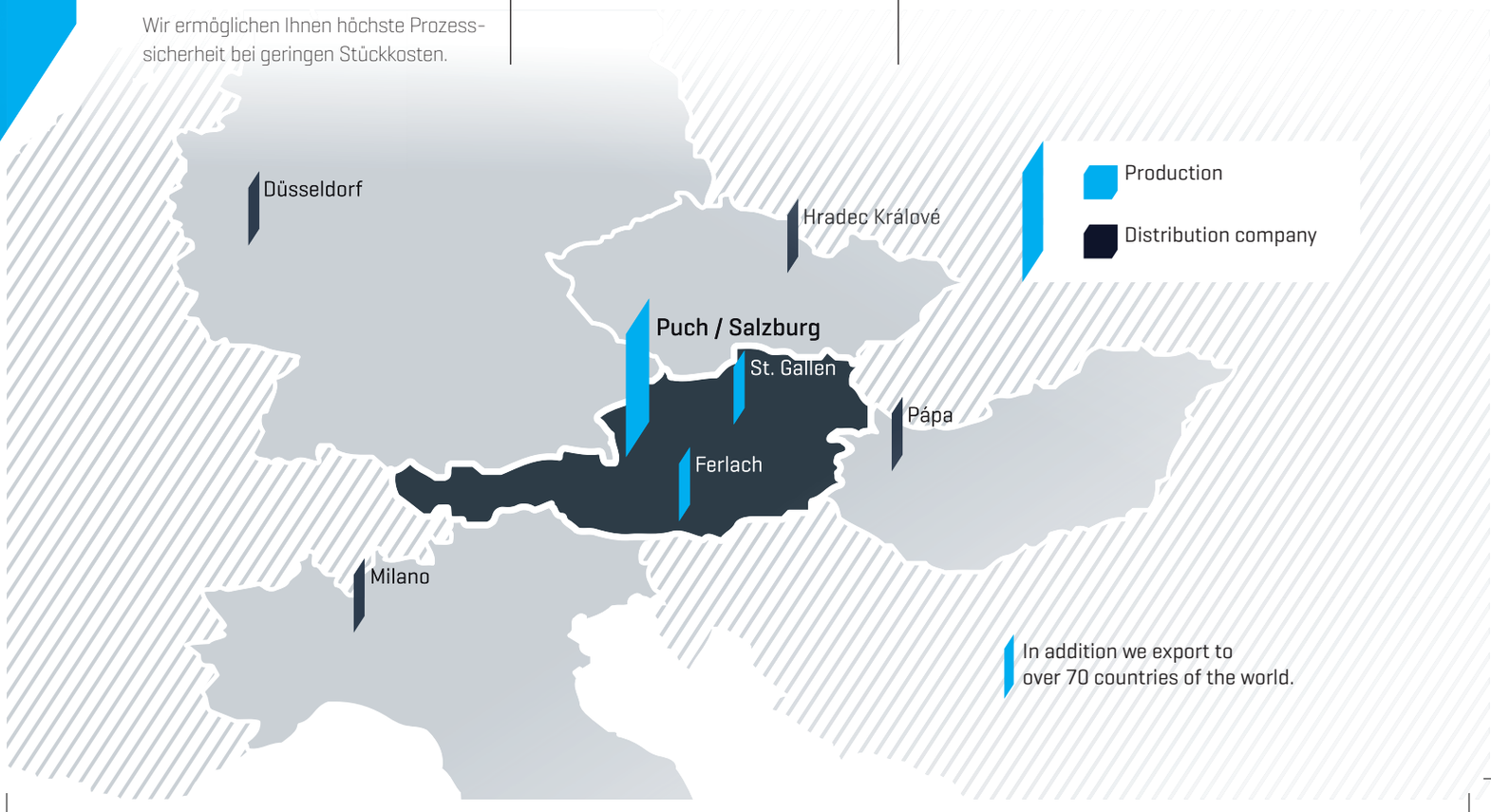
We enable you to have the highest process security with low unit costs.

I **Per permettervi il raggiungimento di risultati ottimali nelle lavorazioni produciamo utensili di foratura e fresatura di alta qualità in tre sedi di produzione in Austria. Per noi, come azienda familiare, ispirare fiducia, rispettare la parola data ed avere collaborazioni strette con i clienti sono di importanza fondamentale.**

Ogni anno produciamo più di 35 milioni di utensili di qualità. Oltre 300 specialisti fanno quotidianamente del loro meglio per produrre per voi utensili di precisione al massimo livello. Infatti ogni singolo pezzo viene creato con lo scopo di continuare a migliorare il vostro rendimento economico. Per questo clienti internazionali dell'industria automobilistica, aeronautica, medicale e tecnologie di misura si fidano dei nostri utensili hightech.

Al centro sono sempre le vostre esigenze. Voi dovete disporre di utensili, che si distinguono per l'elevata efficienza e la lunga durata. Perciò utilizziamo solo i materiali da taglio più pregiati in metallo duro e HSS. Altrettanto elevata è l'esigenza che imponiamo al nostro reparto sviluppo. Poiché solo attraverso la continua innovazione possiamo procurarvi il vantaggio, con il quale vi potete affermarvi continuamente nella competizione internazionale.

Noi vi garantiamo la massima sicurezza di processo a modesti costi per pezzo.



Precision creates perfection.

BEST PERFORMANCE FOR EVERY APPLICATION.

D **Wir stellen qualitativ hochwertige VHM- und HSS-Zerspanungswerkzeuge her. Unsere Kernkompetenzen liegen in der Entwicklung und Produktion von Bohrern, Fräsern, Reibahlen, Senkern, Frässtiften und Sonderwerkzeugen.**

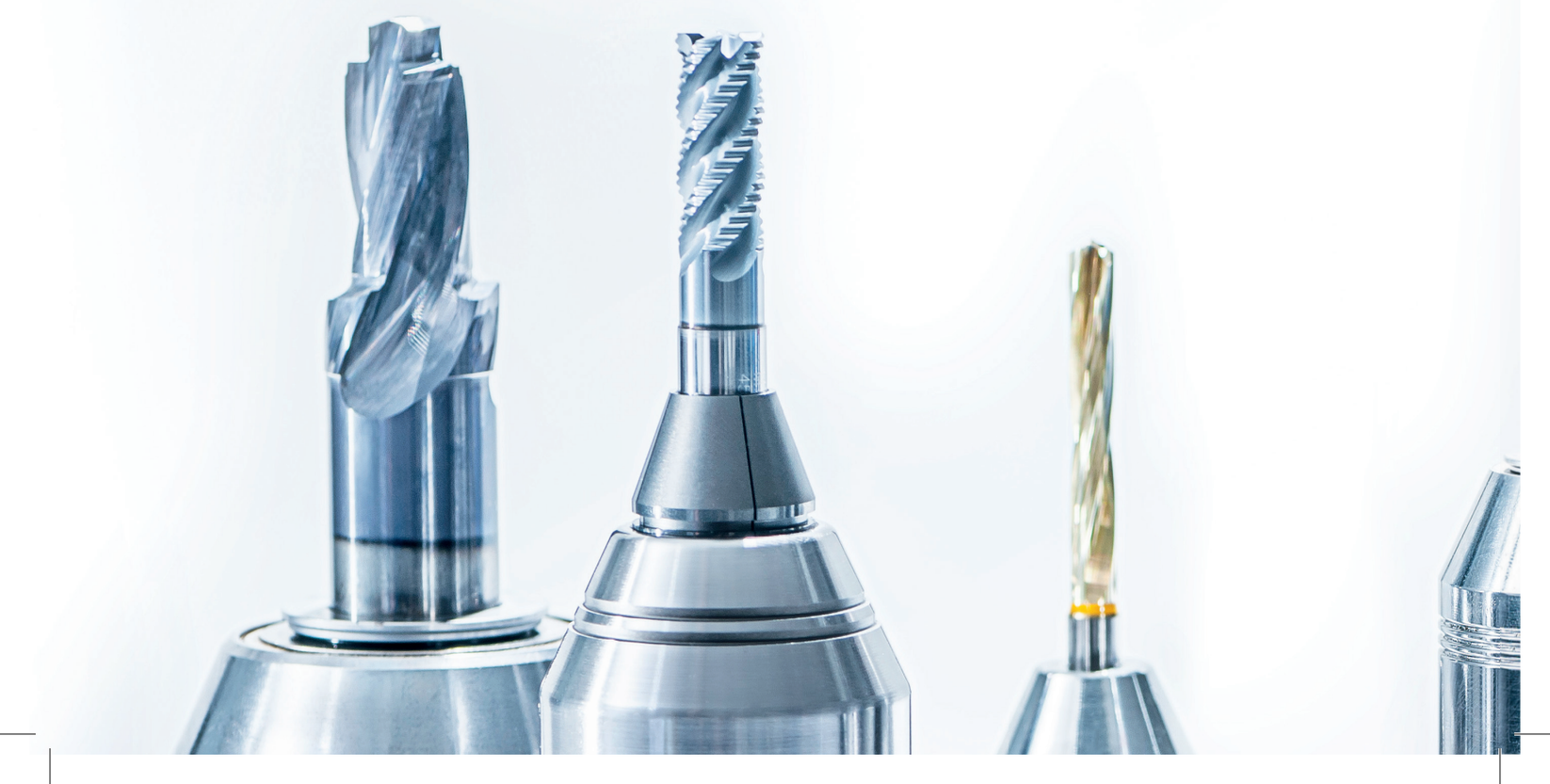
Wir produzieren ausschließlich in Österreich und haben den gesamten Fertigungsprozess in unserer Hand. Nur so ist es uns möglich, den höchsten Qualitätsstandard unserer Produkte sicherzustellen.

E **We manufacture high-quality carbide and HSS cutting tools. Our core competencies lie in the development and production of drills, milling cutters, reamers, countersinks, rotary burrs and special tools.**

We manufacture exclusively in Austria and have control over the whole production process. This is the only way that it is possible to ensure the highest quality standards for our products.

I **Produciamo utensili da taglio in metallo duro integrale (VHM) e acciaio super-rapido (HSS) di alta qualità. Le nostre principali competenze sono nello sviluppo e produzione di punte da trapano, frese, alesatori, svasatori, frese rotative ed utensili speciali.**

Produciamo esclusivamente in Austria e l'intero processo di lavorazione è nelle nostre mani. Solo così ci è possibile garantire il massimo standard di qualità dei nostri prodotti.



D Unser Produktsortiment

Bohrer
VHM- und HSS-Bohrer in unterschiedlichen Längen und Ausführungen

Fräser
VHM- und HSS-Fräser für höchste Produktivität und Wirtschaftlichkeit

Senker & Reibahlen
VHM- und HSS-Senker & Reibahlen in unterschiedlichen Ausführungen

Frässtifte
HM-Frässtifte zur Bearbeitung unterschiedlichster Werkstoffe

Gewindewerkzeuge
VHM- und HSS-Gewindewerkzeuge für höchste Ansprüche

Sonderwerkzeuge
Komplexere Fertigungsverfahren verlangen nach speziellen Werkzeugen. Um Ihnen genau das Werkzeug zu liefern, das Ihnen den entscheidenden Vorteil bietet, entwickeln und produzieren wir Ihr individuelles Sonderwerkzeug. Exakt nach Ihren Anforderungen, schnell und kostengünstig.

E Our product range

Drills
Solid carbide and HSS drills in various lengths and various versions

Milling cutters
Solid carbide and HSS milling cutters for optimum productivity and efficiency

Countersinks and reamers
Solid carbide and HSS countersinks & reamers in various versions

Rotary burrs
Tungsten carbide rotary burrs for machining a great variety of materials

Taps and dies
Solid carbide and HSS taps and dies for the most demanding requirements

Special tools
Complex manufacturing techniques require special tools. To provide you with precisely the right tool that will give you the edge, we develop and produce your individual special tool. Precisely to your requirements, quickly and low-cost.

I Il nostro assortimento di prodotti

Punte
Punte in metallo duro VHM e in acciaio super-rapido HSS in diverse lunghezze e in varie versioni

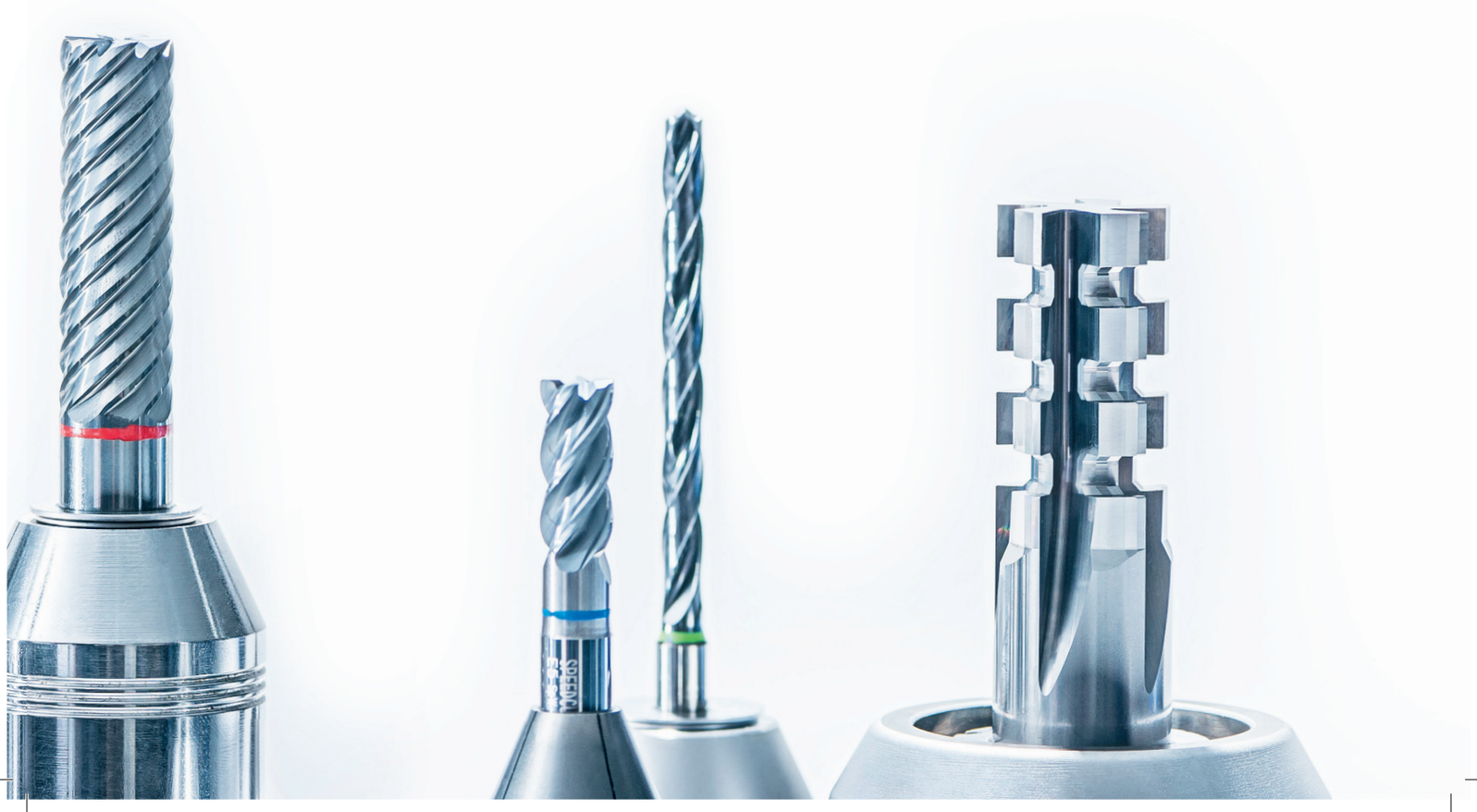
Frese
Frese in metallo duro VHM e acciaio super-rapido HSS per la massima produttività ed economicità

Svasatori & alesatori
Svasatori in metallo duro VHM e acciaio super-rapido HSS & alesatori in varie versioni

Frese rotative
Frese rotative in metallo duro per la lavorazione dei materiali più diversi

Utensili per filettatura
Utensili per filettare in carburo VHM e acciaio super-rapido HSS per le massime esigenze

Utensili speciali
Complessi processi produttivi richiedono utensili speciali. Per fornirvi esattamente l'utensile appropriato che vi offre il vantaggio decisivo, sviluppiamo e produciamo il vostro utensile speciale in modo individuale. Esattamente secondo la vostre richieste, rapidamente e a costi contenuti.



Insights create new perspectives.

YOU HAVE TO UNDERSTAND EXACTLY TO OFFER THE OPTIMUM SOLUTION.

D **Österreichische Qualität bedeutet für uns, dass wir genau wissen und verstehen, welche Innovation den entscheidenden Vorteil für Sie bringt.**

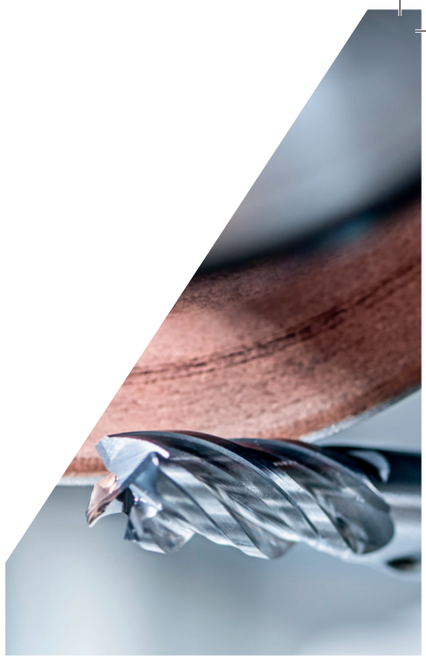
In enger Zusammenarbeit mit unseren Kunden entstehen so Produkte, die maßgeschneidert und individuell auf deren Produktionsprozesse abgestimmt sind. Fortschritt dient der Erfüllung neuer Bedürfnisse. Qualität und Innovation bedeuten daher: Wir richten uns nach Ihnen. Ihre Zufriedenheit und Ihre Sicherheit sind unser Antrieb. Unsere Performance ist Ihr Gewinn.

E **For us Austrian quality means that we know and understand exactly what innovations give you the leading edge.**

In close cooperation with our customers products thus come about that are custom-built and individually adapted to their production processes. Progress serves the purpose of meeting new requirements.
So quality and innovation means: we adapt ourselves to you. Your satisfaction and your security are our driving force. Our performance is your profit.

I **Qualità austriaca per noi significa conoscere esattamente quale innovazione comporta il vantaggio decisivo per voi.**

In stretta collaborazione con i nostri clienti nascono così prodotti, fatti su misura e adattati individualmente ai loro processi di produzione. Il progresso serve a soddisfare nuove esigenze. Qualità e innovazione significano perciò per noi: adeguarci alle vostre esigenze. Il vostro gradimento e la vostra sicurezza sono il nostro stimolo. La nostra performance è il vostro profitto



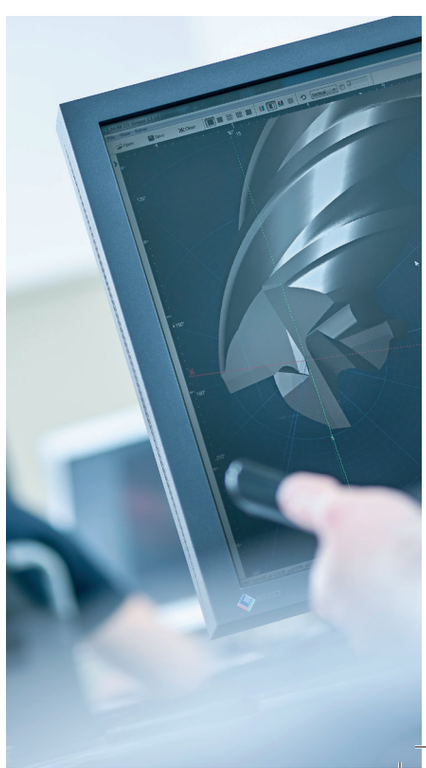
D Dauerhaft höchste Qualität.

Höchste Ansprüche an die Fertigungstechnik gewährleisten gleichbleibende Qualität und absolute Präzision im Produktionsprozess.
Dafür verwenden wir ausschließlich hochwertigste Stahlsorten und Hartmetalle von führenden mitteleuropäischen Herstellern. Bei höchsten Qualitätsstandards und unter Einsatz exakter Qualitätskontrollen durch unsere hochmodernen Messmaschinen und Prüfeinrichtungen wird höchste Prozesssicherheit garantiert, und zwar Stück für Stück. Aber selbst ein Hightech-Werkzeug von MAYKESTAG verliert irgendwann seine optimale Schärfe und Oberflächengüte. Deshalb bieten wir unseren Kunden einen Nachschleif- und Nachbeschichtungsservice an. So machen wir aus einem gebrauchten Werkzeug wieder ein neues, erstklassiges Werkzeug. Sie erhalten wieder 100 % Schnittleistung. Für einen Bruchteil der Kosten einer Neuanschaffung.



E Permanently top quality.

The highest demands on production technology ensure consistent quality and absolute precision in the production process.
For this we exclusively use high-quality types of steel and carbides by leading central European manufacturers. With the highest quality standards and using precise quality checks by our state-of-the-art measuring machines and testing equipment the highest process security is ensured piece by piece. But even a MAYKESTAG high-tech tool will at some point lose its optimum sharpness and surface quality. So we offer our customers a regrinding and recoating service. This way we turn a used tool back into a new first-class tool. You get back 100 % cutting performance. For a fraction of the cost of acquiring a new one.



I Massima qualità costante.

Altissime esigenze nella tecnica di produzione garantiscono qualità costante e precisione assoluta nel processo di produzione.
A tal fine utilizziamo esclusivamente i tipi di acciaio e di metallo duro più pregiati di primari produttori mitteleuropei. Con elevatissimi standard di qualità e con l'impiego di precisi controlli di qualità, con i nostri modernissimi banchi di misura e apparecchiature di prova garantiamo la massima sicurezza di processo, e questo per ogni singolo pezzo. Ma anche un utensile hightech MAYKESTAG perde prima o poi la sua finitura superficiale e affilatura ottimali. Per questo motivo offriamo ai nostri clienti un servizio di riaffilatura e di post-rivestimento. Facciamo così di un utensile usurato nuovamente un utensile nuovo di prima qualità. E avete di nuovo una resa di taglio del 100 %. Per una frazione del costo di acquisto di un utensile nuovo.

Innovation creates progress.

NO REQUIREMENT IS TOO SPECIAL.

D Kein Wunsch ist zu speziell.

Zeit ist Geld – auch bei der Auswahl des richtigen und passenden Werkzeugs für spezielle Anwendungen.
Wir führen ein umfassendes Sortiment und beraten Sie kompetent, um eine optimale Lösung für Ihre Bedürfnisse zu finden. Sollten Sie Sonderwünsche haben, produzieren wir auch Sonderwerkzeuge speziell nach Ihren Anforderungen. Welche Hightech-Lösung auch immer die richtige für Ihr Problem ist – wir entwickeln sie. Schnell, zuverlässig und konkurrenzfähig.

E No requirement is too special.

Time is money – also in the choice of the correct and appropriate tool for special applications.
We keep a comprehensive range and give you competent advice to find an optimum solution for your needs. Should you have special requests, we also produce special tools especially to meet your requirements. Whatever high-tech solution is the right one for your problem – we will develop it. Quick, reliable and competitive.

I Nessuna richiesta è troppo speciale.

Il tempo è denaro – anche nella scelta dell'utensile corretto e adeguato alla vostra applicazione speciale.
Noi gestiamo un vasto assortimento e vi forniamo una consulenza competente, per trovare una soluzione ottimale per le vostre necessità. Se avete richieste speciali, produciamo anche utensili speciali, fatti appositamente per le vostre esigenze. Qualunque sia la corretta soluzione hightech per il vostro problema – noi la sviluppiamo. Velocemente, in modo affidabile e competitivo.



D Genau dann zur Stelle, wenn Sie es brauchen.

Rechtzeitig bedeutet für unsere Kunden, dass sie ihr Werkzeug genau dann bekommen, wenn sie es brauchen, und keine Minute zu spät.
Unsere Lagerlogistik hält, was sie verspricht: MAYKESTAG-Produkte sind ab Lager verfügbar und innerhalb von 24 Stunden bei Ihnen.

E Just at the point when you need it.

For our customers on time means that they get their tool exactly when they need it and not a minute too late.
Our warehouse logistics delivers what it promises: MAYKESTAG products are available from stock and with you within 24 hours.

I Sempre reattivi quando ne avete bisogno.

Tempestivamente significa per i nostri clienti ottenere il loro utensile esattamente al momento in cui serve e non un solo minuto troppo tardi.
La nostra logistica di magazzino mantiene quanto promette: I prodotti MAYKESTAG sono disponibili da magazzino e in vostro possesso entro 24 h.











Speeddrill 4.0 Speeddrill

D VHM-Hochleistungsbohrer 3xD - 30xD

E Solid carbide high performance drills 3xD - 30xD

I Punte MDI ad alto rendimento 3xD - 30xD

D **Übersicht**
VHM-Bohrer
Speeddrill

E **Overview**
Solid carbide drills
Speeddrill

I **Sommario**
Metallo duro integrale
Speeddrill

D Die Schnittwerte für alle Werkzeuge entnehmen Sie bitte unserem separaten Zerspanungshandbuch.

E You will find the cutting conditions for all tools in our separate cutting manual.

I Per i parametri di lavorazione per tutti gli utensili richiedete il nostro manuale tecnico.



Norm / Standard	DIN 6537K			DIN 6537L		WN	
Typ / Type / Tipo	N	N	N	N	N	N	N
Bohrtiefe / Depth of drilling / Profondità foro	3xD	3xD	3xD	5xD	5xD	8xD	12xD
Kühlkanäle / Coolant supply / Fori lubrificazione		ja / yes / si	ja / yes / si	ja / yes / si	ja / yes / si	ja / yes / si	ja / yes / si
Beschichtung / Coating / Rivestimente	ALUNIT-S®	ANTRADUR	ALUNIT-S®	ANTRADUR	ALUNIT-S®	ALUNIT-S®	ALUNIT-S®
Spitzenwinkel / Lip angle / Angolo affilatura	140°	140°	140°	140°	140°	135°	135°
Ø mm	0,90-20	3-12	1-16	3-12	2-20	3-16	3-16
Code / Codice	6727	6867	6717	6877	6737	6747	6757
Seite / Page / Pagina	014	018	020	022	024	026	027
Geeignet für / Suitable for / Adatte per							
Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²	▬	▬	▬	▬	▬	▬	▬
Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²	▬	▬	▬	▬	▬	▬	▬
Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²	▬	▬	▬	▬	▬	▬	▬
Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²	▬	▬	▬	▬	▬	▬	▬
Stähle > 45 HRC / Steels > 45 HRC / Acciai > 45 HRC							
Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²	▭	▭	▭	▭	▭	▭	▭
Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²	▭	▭	▭	▭	▭	▭	▭
Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile	▭	▭	▭	▭	▭	▭	▭
Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio		▭	▭	▭	▭	▭	▭
Kupfer, Messing / Copper, brass / Rame, ottone	▬	▬	▬	▬	▬	▭	▭
Aluminium / Aluminium / Alluminio	▭	▭	▭	▭	▭	▭	▭
Kunststoffe / Plastics / Materie plastiche	▭						

▬ **Ideal** / Ideal / Ideale | ▭ **Geeignet** / Suitable / Adatte

D **Übersicht**
VHM-Bohrer
Speeddrill

E **Overview**
Solid carbide drills
Speeddrill

I **Sommario**
Metallo duro integrale
Speeddrill



Speeddrill				Speeddrill 4.0	Speeddrill	Speeddrill 4.0	Speeddrill		
 Uni	 Uni	 Uni	 Uni	 Inox	 Inox	 Inox	 Inox	 HRC	 Alu
WN				DIN 6537K		DIN 6537L		DIN 6537K	DIN6537L
N	N	N	N	N	N	N	N	H	W
16xD	**20xD**	**25xD**	**30xD**	**3xD**	**3xD**	**5xD**	**5xD**	**3xD**	**5xD**
ja / yes / si	ja / yes / si	ja / yes / si	ja / yes / si	ja / yes / si	ja / yes / si	ja / yes / si	ja / yes / si		ja / yes / si
ALUNIT-S®	ALUNIT-S®	ALUNIT-S®	ALUNIT-S®	NANODUR	ALUNIT-S®	NANODUR	ALUNIT-S®	ALUNIT-S®	ZOX
135°	135°	135°	135°	140°	135°	140°	135°	140°	135°
3-16	2-12	3-12	2-12	3-12	2-16	3-12	3-12,70	3-16	2,80-16
6777	6787	6797	6807	6887	6827	6897	6837	6857	6847
028	029	030	031	032	034	035	037	038	039
▰	▰	▰	▰	▰	▰	▰	▰		
▰	▰	▰	▰	▰	▰	▰	▰		
▰	▰	▰	▰	▱	▱	▱	▱		
▰	▰	▰	▰					▱	
								▰ < 68 HRC	
▱	▱	▱	▱	▰	▰	▰	▰		
▱	▱	▱	▱	▰	▰	▰	▰		
▱	▱	▱	▱	▱	▱	▱	▱	▱	
				▱	▱	▱	▱		
▱	▱	▱	▱						▰
▱	▱	▱	▱						▰

▰ Ideal / Ideal / Ideale | ▱ Geeignet / Suitable / Adatte

D VHM-Spiralbohrer Speeddrill-Universal,

DIN 6537K, kurz 3xD, mit verstärktem Schaft

Einsatzbereich:
VHM-Hochleistungsbohrer für universelle Anwendungen. Hohe Stabilität und universelle Einsetzbarkeit durch gerade Hauptschneide. Spezialanschliff bewirkt optimalen Spanbruch, hohe Zentriergenauigkeit und geringe Schnittkräfte.

E Solid carbide stub drills Speeddrill-Universal,

DIN 6537K, short series 3xD, with reinforced shank

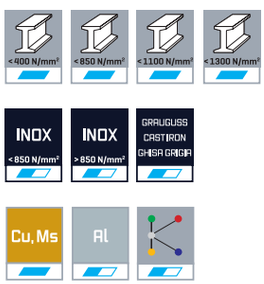
Range of application:
Solid carbide high performance drill for universal applications. High stability as well as universal usability due to straight main cutting edge. Special point shape effects optimum chip breakage, high centering accuracy and less cutting forces.

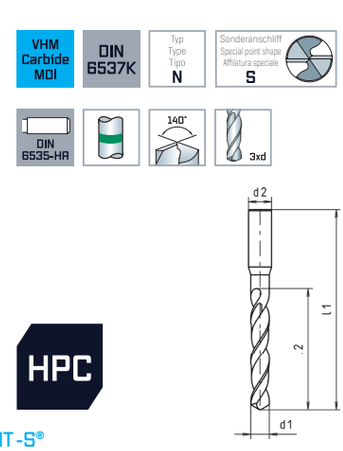
I Punte elicoidali MDI Speeddrill–Universali,

DIN 6537K, serie corta 3xD, codolo rinforzato

Impiego:
Punte MDI ad alto rendimento per applicazioni universali. Alta stabilità e utilizzo universale grazie alla affilatura piatta del tagliente principale. La geometria speciale della punta garantisce un ottima evacuazione del truciolo, una elevate accuratezza di centraggio ed una minore forza di taglio.

Speeddrill





Uni



ALUNIT-S®

d1 h7 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6727 Art.-Nr.
0,90	4,00	45	7	2	0 6727000901 00
1,00	4,00	45	7	2	0 6727001001 00
1,10	4,00	45	7	2	0 6727001101 00
1,20	4,00	45	7	2	0 6727001201 00
1,30	4,00	45	7	2	0 6727001301 00
1,40	4,00	45	7	2	0 6727001401 00
1,50	4,00	55	14	2	0 6727001501 00
1,60	4,00	55	14	2	0 6727001601 00
1,70	4,00	55	14	2	0 6727001701 00
1,80	4,00	55	14	2	0 6727001801 00
1,90	4,00	55	14	2	0 6727001901 00
2,00	4,00	55	20	2	0 6727002001 00
2,02	4,00	55	20	2	0 6727002021 00
2,10	4,00	55	20	2	0 6727002101 00
2,20	4,00	55	20	2	0 6727002201 00
2,30	4,00	55	20	2	0 6727002301 00
2,40	4,00	55	20	2	0 6727002401 00
2,50	4,00	55	20	2	0 6727002501 00
2,52	4,00	55	20	2	0 6727002521 00
2,60	4,00	55	20	2	0 6727002601 00
2,70	4,00	55	20	2	0 6727002701 00
2,80	4,00	55	20	2	0 6727002801 00
2,90	4,00	55	20	2	0 6727002901 00
3,00	6,00	62	20	2	0 6727003001 00
3,02	6,00	62	20	2	0 6727003021 00
3,10	6,00	62	20	2	0 6727003101 00
3,20	6,00	62	20	2	0 6727003201 00
3,25	6,00	62	20	2	0 6727003251 00
3,30	6,00	62	20	2	0 6727003301 00
3,40	6,00	62	20	2	0 6727003401 00
3,50	6,00	62	20	2	0 6727003501 00
3,52	6,00	62	20	2	0 6727003521 00
3,60	6,00	62	20	2	0 6727003601 00
3,70	6,00	62	20	2	0 6727003701 00

ALUNIT-S®

d1 h7 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6727 Art.-Nr.
3,80	6,00	66	24	2	0 6727003801 00
3,90	6,00	66	24	2	0 6727003901 00
4,00	6,00	66	24	2	0 6727004001 00
4,02	6,00	66	24	2	0 6727004021 00
4,10	6,00	66	24	2	0 6727004101 00
4,20	6,00	66	24	2	0 6727004201 00
4,30	6,00	66	24	2	0 6727004301 00
4,40	6,00	66	24	2	0 6727004401 00
4,50	6,00	66	24	2	0 6727004501 00
4,52	6,00	66	24	2	0 6727004521 00
4,60	6,00	66	24	2	0 6727004601 00
4,65	6,00	66	24	2	0 6727004651 00
4,70	6,00	66	24	2	0 6727004701 00
4,80	6,00	66	28	2	0 6727004801 00
4,90	6,00	66	28	2	0 6727004901 00
5,00	6,00	66	28	2	0 6727005001 00
5,02	6,00	66	28	2	0 6727005021 00
5,10	6,00	66	28	2	0 6727005101 00
5,20	6,00	66	28	2	0 6727005201 00
5,30	6,00	66	28	2	0 6727005301 00
5,40	6,00	66	28	2	0 6727005401 00
5,50	6,00	66	28	2	0 6727005501 00
5,52	6,00	66	28	2	0 6727005521 00
5,55	6,00	66	28	2	0 6727005551 00
5,60	6,00	66	28	2	0 6727005601 00
5,65	6,00	66	28	2	0 6727005651 00
5,70	6,00	66	28	2	0 6727005701 00
5,80	6,00	66	28	2	0 6727005801 00
5,90	6,00	66	28	2	0 6727005901 00
6,00	6,00	66	28	2	0 6727006001 00
6,02	6,00	66	28	2	0 6727006021 00
6,10	8,00	79	34	2	0 6727006101 00
6,20	8,00	79	34	2	0 6727006201 00
6,30	8,00	79	34	2	0 6727006301 00



ALUNIT-S®

d1 h7 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6727 Art.-Nr.
6,40	8,00	79	34	2	0 6727006401 00
6,50	8,00	79	34	2	0 6727006501 00
6,52	8,00	79	34	2	0 6727006521 00
6,60	8,00	79	34	2	0 6727006601 00
6,70	8,00	79	34	2	0 6727006701 00
6,80	8,00	79	34	2	0 6727006801 00
6,90	8,00	79	34	2	0 6727006901 00
7,00	8,00	79	34	2	0 6727007001 00
7,02	8,00	79	34	2	0 6727007021 00
7,10	8,00	79	41	2	0 6727007101 00
7,20	8,00	79	41	2	0 6727007201 00
7,30	8,00	79	41	2	0 6727007301 00
7,40	8,00	79	41	2	0 6727007401 00
7,45	8,00	79	41	2	0 6727007451 00
7,50	8,00	79	41	2	0 6727007501 00
7,52	8,00	79	41	2	0 6727007521 00
7,55	8,00	79	41	2	0 6727007551 00
7,60	8,00	79	41	2	0 6727007601 00
7,70	8,00	79	41	2	0 6727007701 00
7,80	8,00	79	41	2	0 6727007801 00
7,90	8,00	79	41	2	0 6727007901 00
8,00	8,00	79	41	2	0 6727008001 00
8,02	8,00	79	41	2	0 6727008021 00
8,10	10,00	89	47	2	0 6727008101 00
8,20	10,00	89	47	2	0 6727008201 00
8,30	10,00	89	47	2	0 6727008301 00
8,40	10,00	89	47	2	0 6727008401 00
8,50	10,00	89	47	2	0 6727008501 00
8,52	10,00	89	47	2	0 6727008521 00
8,60	10,00	89	47	2	0 6727008601 00
8,70	10,00	89	47	2	0 6727008701 00
8,80	10,00	89	47	2	0 6727008801 00
8,90	10,00	89	47	2	0 6727008901 00
9,00	10,00	89	47	2	0 6727009001 00
9,02	10,00	89	47	2	0 6727009021 00
9,10	10,00	89	47	2	0 6727009101 00
9,20	10,00	89	47	2	0 6727009201 00
9,25	10,00	89	47	2	0 6727009251 00
9,30	10,00	89	47	2	0 6727009301 00
9,35	10,00	89	47	2	0 6727009351 00
9,40	10,00	89	47	2	0 6727009401 00
9,50	10,00	89	47	2	0 6727009501 00
9,52	10,00	89	47	2	0 6727009521 00
9,55	10,00	89	47	2	0 6727009551 00
9,60	10,00	89	47	2	0 6727009601 00
9,70	10,00	89	47	2	0 6727009701 00
9,80	10,00	89	47	2	0 6727009801 00
9,90	10,00	89	47	2	0 6727009901 00
10,00	10,00	89	47	2	0 6727010001 00
10,02	10,00	89	47	2	0 6727010021 00
10,10	12,00	102	55	2	0 6727010101 00
10,20	12,00	102	55	2	0 6727010201 00
10,30	12,00	102	55	2	0 6727010301 00
10,40	12,00	102	55	2	0 6727010401 00
10,50	12,00	102	55	2	0 6727010501 00
10,52	12,00	102	55	2	0 6727010521 00
10,60	12,00	102	55	2	0 6727010601 00
10,70	12,00	102	55	2	0 6727010701 00
10,80	12,00	102	55	2	0 6727010801 00
10,90	12,00	102	55	2	0 6727010901 00

ALUNIT-S®

d1 h7 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6727 Art.-Nr.
11,00	12,00	102	55	2	0 6727011001 00
11,02	12,00	102	55	2	0 6727011021 00
11,10	12,00	102	55	2	0 6727011101 00
11,20	12,00	102	55	2	0 6727011201 00
11,30	12,00	102	55	2	0 6727011301 00
11,35	12,00	102	55	2	0 6727011351 00
11,40	12,00	102	55	2	0 6727011401 00
11,50	12,00	102	55	2	0 6727011501 00
11,52	12,00	102	55	2	0 6727011521 00
11,55	12,00	102	55	2	0 6727011551 00
11,60	12,00	102	55	2	0 6727011601 00
11,70	12,00	102	55	2	0 6727011701 00
11,80	12,00	102	55	2	0 6727011801 00
11,90	12,00	102	55	2	0 6727011901 00
12,00	12,00	102	55	2	0 6727012001 00
12,02	12,00	102	55	2	0 6727012021 00
12,10	14,00	107	60	2	0 6727012101 00
12,20	14,00	107	60	2	0 6727012201 00
12,30	14,00	107	60	2	0 6727012301 00
12,40	14,00	107	60	2	0 6727012401 00
12,50	14,00	107	60	2	0 6727012501 00
12,60	14,00	107	60	2	0 6727012601 00
12,70	14,00	107	60	2	0 6727012701 00
12,80	14,00	107	60	2	0 6727012801 00
12,90	14,00	107	60	2	0 6727012901 00
13,00	14,00	107	60	2	0 6727013001 00
13,02	14,00	107	60	2	0 6727013021 00
13,10	14,00	107	60	2	0 6727013101 00
13,20	14,00	107	60	2	0 6727013201 00
13,25	14,00	107	60	2	0 6727013251 00
13,30	14,00	107	60	2	0 6727013301 00
13,40	14,00	107	60	2	0 6727013401 00
13,50	14,00	107	60	2	0 6727013501 00
13,60	14,00	107	60	2	0 6727013601 00
13,70	14,00	107	60	2	0 6727013701 00
13,80	14,00	107	60	2	0 6727013801 00
13,90	14,00	107	60	2	0 6727013901 00
14,00	14,00	107	60	2	0 6727014001 00
14,02	14,00	107	60	2	0 6727014021 00
14,10	16,00	115	65	2	0 6727014101 00
14,20	16,00	115	65	2	0 6727014201 00
14,30	16,00	115	65	2	0 6727014301 00
14,40	16,00	115	65	2	0 6727014401 00
14,50	16,00	115	65	2	0 6727014501 00
14,60	16,00	115	65	2	0 6727014601 00
14,70	16,00	115	65	2	0 6727014701 00
14,80	16,00	115	65	2	0 6727014801 00
14,90	16,00	115	65	2	0 6727014901 00
15,00	16,00	115	65	2	0 6727015001 00
15,02	16,00	115	65	2	0 6727015021 00
15,10	16,00	115	65	2	0 6727015101 00
15,20	16,00	115	65	2	0 6727015201 00
15,30	16,00	115	65	2	0 6727015301 00
15,35	16,00	115	65	2	0 6727015351 00
15,40	16,00	115	65	2	0 6727015401 00
15,50	16,00	115	65	2	0 6727015501 00
15,60	16,00	115	65	2	0 6727015601 00
15,70	16,00	115	65	2	0 6727015701 00
15,80	16,00	115	65	2	0 6727015801 00
15,90	16,00	115	65	2	0 6727015901 00

ALUNIT-S®

d1 $_{h7}$ mm	d2 $_{h6}$ mm	l1 mm	l2 mm	Z	Code 6727 Art.-Nr.
16,00	16,00	115	65	2	0 6727016001 00
16,02	16,00	115	65	2	0 6727016021 00
16,10	18,00	123	73	2	0 6727016101 00
16,20	18,00	123	73	2	0 6727016201 00
16,30	18,00	123	73	2	0 6727016301 00
16,40	18,00	123	73	2	0 6727016401 00
16,50	18,00	123	73	2	0 6727016501 00
16,60	18,00	123	73	2	0 6727016601 00
16,70	18,00	123	73	2	0 6727016701 00
16,80	18,00	123	73	2	0 6727016801 00
16,90	18,00	123	73	2	0 6727016901 00
17,00	18,00	123	73	2	0 6727017001 00
17,10	18,00	123	73	2	0 6727017101 00
17,20	18,00	123	73	2	0 6727017201 00
17,30	18,00	123	73	2	0 6727017301 00
17,35	18,00	123	73	2	0 6727017351 00
17,40	18,00	123	73	2	0 6727017401 00
17,50	18,00	123	73	2	0 6727017501 00
17,60	18,00	123	73	2	0 6727017601 00
17,70	18,00	123	73	2	0 6727017701 00
17,80	18,00	123	73	2	0 6727017801 00
17,90	18,00	123	73	2	0 6727017901 00

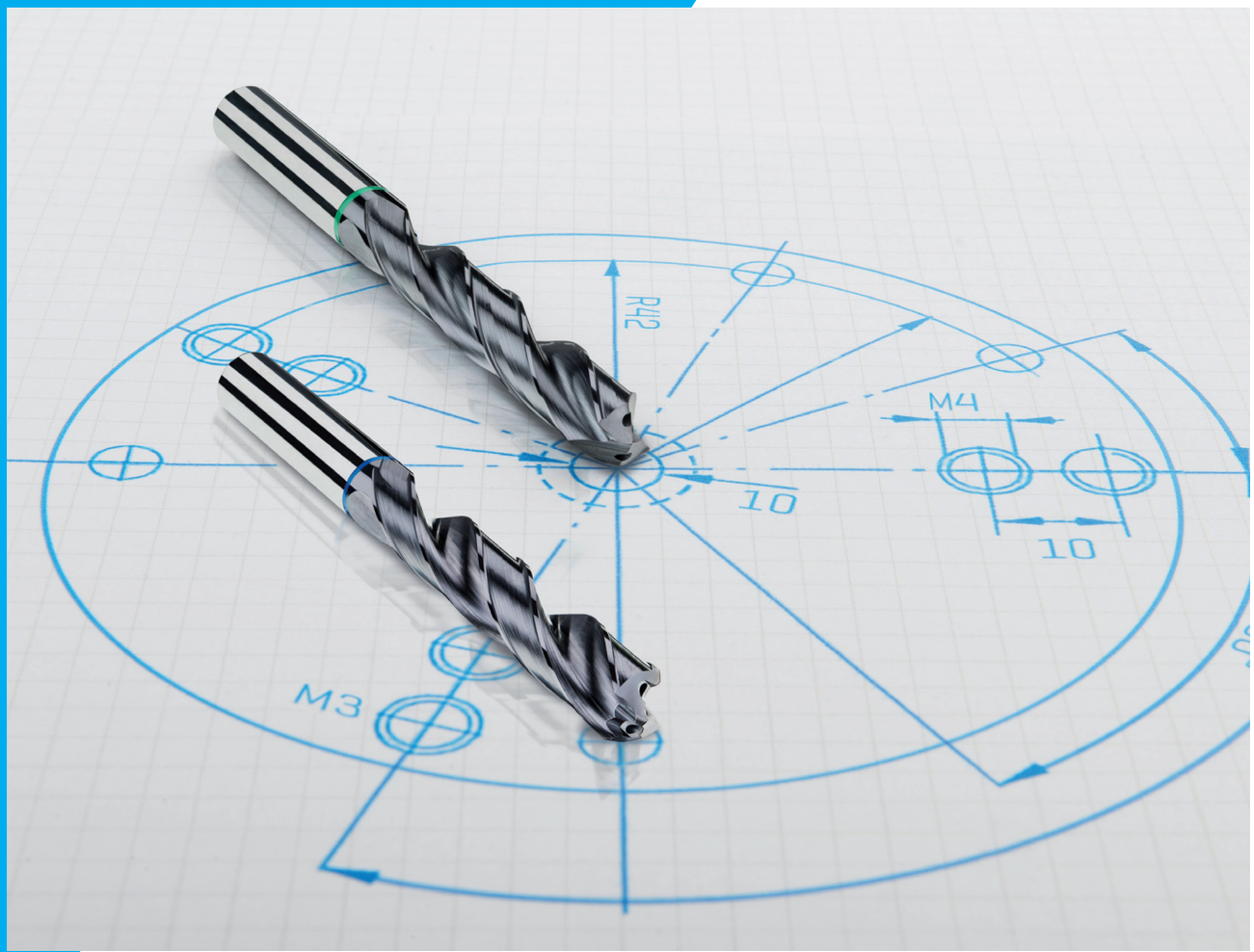
ALUNIT-S®

d1 $_{h7}$ mm	d2 $_{h6}$ mm	l1 mm	l2 mm	Z	Code 6727 Art.-Nr.
18,00	18,00	123	73	2	0 6727018001 00
18,10	20,00	131	79	2	0 6727018101 00
18,20	20,00	131	79	2	0 6727018201 00
18,30	20,00	131	79	2	0 6727018301 00
18,40	20,00	131	79	2	0 6727018401 00
18,50	20,00	131	79	2	0 6727018501 00
18,60	20,00	131	79	2	0 6727018601 00
18,70	20,00	131	79	2	0 6727018701 00
18,80	20,00	131	79	2	0 6727018801 00
18,90	20,00	131	79	2	0 6727018901 00
19,00	20,00	131	79	2	0 6727019001 00
19,10	20,00	131	79	2	0 6727019101 00
19,20	20,00	131	79	2	0 6727019201 00
19,30	20,00	131	79	2	0 6727019301 00
19,35	20,00	131	79	2	0 6727019351 00
19,40	20,00	131	79	2	0 6727019401 00
19,50	20,00	131	79	2	0 6727019501 00
19,60	20,00	131	79	2	0 6727019601 00
19,70	20,00	131	79	2	0 6727019701 00
19,80	20,00	131	79	2	0 6727019801 00
19,90	20,00	131	79	2	0 6727019901 00
20,00	20,00	131	79	2	0 6727020001 00

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar.
Also available with Weldon-shank (DIN 6535-HB) without extra charge.
Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.

Speeddrill 4.0

maykestag
PERFORMANCE
IN PRECISION



Create more, faster.

Thanks to maximum process security and high surface quality, efficient than ever.

Speeddrill 4.0 sets new standards:

- High cutting volume by maximum cutting parameters
- Optimal roundness of the hole by 4 guide chamfers
- Easy chip removal due to special surface treatment
- Enormous wear resistance using the up-to-date high-tech coating

Product video

D HPC-Vollhartmetallbohrer Speeddrill 4.0-Universal,

DIN 6537K, kurz 3xD,
4 Führungsfasen,
mit Innenkühlung

Einsatzbereich:
VHM-Hochleistungsbohrer mit Innenkühlkanälen für universelle Anwendungen. Durch die spezielle Oberflächenbehandlung ergibt sich eine perfekte Spanabfuhr. Eine optimale Rundheit der Bohrung durch 4 Führungsfasen ermöglicht eine exakte Flucht der Bohrung mit bester Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

E HPC solid carbide stub drills Speeddrill 4.0-Universal,

DIN 6537K, short series 3xD,
4 guide chamfers,
with internal coolant supply

Range of application:
Solid carbide high performance drill with internal coolant supply for universal applications. Easy chip removal due to special surface treatment. An optimal roundness of the hole by 4 guide chamfers enables an exact alignment of the bore hole with the best surface quality. The Generation 4.0 sets new standards in cutting performance.

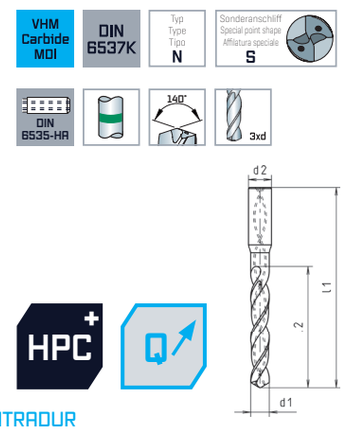
I HPC punte elicoidali MDI Speeddrill 4.0-Universali,

DIN 6537K, serie corta 3xD,
4 superfici di guida svasate,
con fori lubrificazione

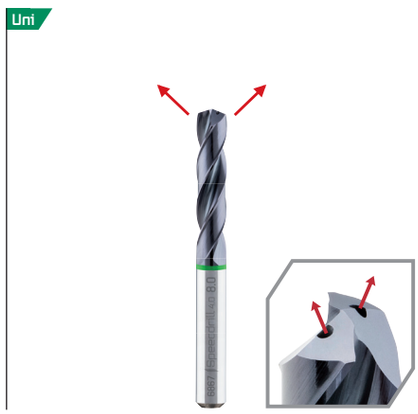
Impiego:
Punte MDI ad alto rendimento con fori di lubrificazione interni per applicazioni universali. Migliore asportazione dei trucioli per speciale trattamento superficiale. Ottimale rotondità della foratura con 4 superfici di guida perfetto per allineamento del foro con alta finitura superficiale. La generazione 4.0 stabilisce nuovi standard in rendimento.

Speeddrill 4.0





ANTRADUR



ANTRADUR

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	z	Code 6867 Art.-Nr.
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3,10		6,00	62	20	2	0 6867003101 00
3,17	1/8	6,00	62	20	2	0 6867003171 00
3,20		6,00	62	20	2	0 6867003201 00
3,25		6,00	62	20	2	0 6867003251 00
3,30		6,00	62	20	2	0 6867003301 00
3,38		6,00	62	20	2	0 6867003381 00
3,40		6,00	62	20	2	0 6867003401 00
3,50		6,00	62	20	2	0 6867003501 00
3,60		6,00	62	20	2	0 6867003601 00
3,65		6,00	62	20	2	0 6867003651 00
3,70		6,00	62	20	2	0 6867003701 00
3,80		6,00	66	24	2	0 6867003801 00
3,90		6,00	66	24	2	0 6867003901 00
4,00		6,00	66	24	2	0 6867004001 00
4,10		6,00	66	24	2	0 6867004101 00
4,20		6,00	66	24	2	0 6867004201 00
4,30		6,00	66	24	2	0 6867004301 00
4,40		6,00	66	24	2	0 6867004401 00
4,50		6,00	66	24	2	0 6867004501 00
4,60		6,00	66	24	2	0 6867004601 00
4,65		6,00	66	24	2	0 6867004651 00
4,70		6,00	66	24	2	0 6867004701 00
4,75		6,00	66	24	2	0 6867004751 00
4,76	3/16	6,00	66	28	2	0 6867004761 00
4,80		6,00	66	28	2	0 6867004801 00
4,90		6,00	66	28	2	0 6867004901 00
5,00		6,00	66	28	2	0 6867005001 00
5,10		6,00	66	28	2	0 6867005101 00
5,20		6,00	66	28	2	0 6867005201 00
5,25		6,00	66	28	2	0 6867005251 00
5,30		6,00	66	28	2	0 6867005301 00

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	z	Code 6867 Art.-Nr.
5,40		6,00	66	28	2	0 6867005401 00
5,50		6,00	66	28	2	0 6867005501 00
5,55		6,00	66	28	2	0 6867005551 00
5,60		6,00	66	28	2	0 6867005601 00
5,70		6,00	66	28	2	0 6867005701 00
5,75		6,00	66	28	2	0 6867005751 00
5,80		6,00	66	28	2	0 6867005801 00
5,90		6,00	66	28	2	0 6867005901 00
6,00		6,00	66	28	2	0 6867006001 00
6,10		8,00	79	34	2	0 6867006101 00
6,20		8,00	79	34	2	0 6867006201 00
6,30		8,00	79	34	2	0 6867006301 00
6,35	1/4	8,00	79	34	2	0 6867006351 00
6,40		8,00	79	34	2	0 6867006401 00
6,50		8,00	79	34	2	0 6867006501 00
6,60		8,00	79	34	2	0 6867006601 00
6,70		8,00	79	34	2	0 6867006701 00
6,80		8,00	79	34	2	0 6867006801 00
6,90		8,00	79	34	2	0 6867006901 00
7,00		8,00	79	34	2	0 6867007001 00
7,10		8,00	79	41	2	0 6867007101 00
7,20		8,00	79	41	2	0 6867007201 00
7,25		8,00	79	41	2	0 6867007251 00
7,30		8,00	79	41	2	0 6867007301 00
7,40		8,00	79	41	2	0 6867007401 00
7,45		8,00	79	41	2	0 6867007451 00
7,50		8,00	79	41	2	0 6867007501 00
7,60		8,00	79	41	2	0 6867007601 00
7,70		8,00	79	41	2	0 6867007701 00
7,75		8,00	79	41	2	0 6867007751 00
7,80		8,00	79	41	2	0 6867007801 00
7,90		8,00	79	41	2	0 6867007901 00



ANTRADUR

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	Z	Code 6867 Art.-Nr.
7,94	**5/16**	8,00	79	41	2	0 6867007941 00
8,00		8,00	79	41	2	0 6867008001 00
8,10		10,00	89	47	2	0 6867008101 00
8,20		10,00	89	47	2	0 6867008201 00
8,30		10,00	89	47	2	0 6867008301 00
8,40		10,00	89	47	2	0 6867008401 00
8,45		10,00	89	47	2	0 6867008451 00
8,50		10,00	89	47	2	0 6867008501 00
8,60		10,00	89	47	2	0 6867008601 00
8,70		10,00	89	47	2	0 6867008701 00
8,80		10,00	89	47	2	0 6867008801 00
8,90		10,00	89	47	2	0 6867008901 00
9,00		10,00	89	47	2	0 6867009001 00
9,10		10,00	89	47	2	0 6867009101 00
9,20		10,00	89	47	2	0 6867009201 00
9,25		10,00	89	47	2	0 6867009251 00
9,30		10,00	89	47	2	0 6867009301 00
9,35		10,00	89	47	2	0 6867009351 00
9,40		10,00	89	47	2	0 6867009401 00
9,45		10,00	89	47	2	0 6867009451 00
9,50		10,00	89	47	2	0 6867009501 00
9,52	**3/8**	10,00	89	47	2	0 6867009521 00
9,60		10,00	89	47	2	0 6867009601 00
9,70		10,00	89	47	2	0 6867009701 00
9,75		10,00	89	47	2	0 6867009751 00
9,80		10,00	89	47	2	0 6867009801 00
9,90		10,00	89	47	2	0 6867009901 00
10,00		10,00	89	47	2	0 6867010001 00

ANTRADUR

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	Z	Code 6867 Art.-Nr.
10,10		12,00	102	55	2	0 6867010101 00
10,20		12,00	102	55	2	0 6867010201 00
10,25		12,00	102	55	2	0 6867010251 00
10,30		12,00	102	55	2	0 6867010301 00
10,40		12,00	102	55	2	0 6867010401 00
10,50		12,00	102	55	2	0 6867010501 00
10,60		12,00	102	55	2	0 6867010601 00
10,70		12,00	102	55	2	0 6867010701 00
10,75		12,00	102	55	2	0 6867010751 00
10,80		12,00	102	55	2	0 6867010801 00
10,90		12,00	102	55	2	0 6867010901 00
11,00		12,00	102	55	2	0 6867011001 00
11,10		12,00	102	55	2	0 6867011101 00
11,11	**7/16**	12,00	102	55	2	0 6867011111 00
11,20		12,00	102	55	2	0 6867011201 00
11,25		12,00	102	55	2	0 6867011251 00
11,30		12,00	102	55	2	0 6867011301 00
11,35		12,00	102	55	2	0 6867011351 00
11,40		12,00	102	55	2	0 6867011401 00
11,45		12,00	102	55	2	0 6867011451 00
11,50		12,00	102	55	2	0 6867011501 00
11,60		12,00	102	55	2	0 6867011601 00
11,70		12,00	102	55	2	0 6867011701 00
11,75		12,00	102	55	2	0 6867011751 00
11,80		12,00	102	55	2	0 6867011801 00
11,90		12,00	102	55	2	0 6867011901 00
12,00		12,00	102	55	2	0 6867012001 00

D VHM-Spiralbohrer Speeddrill-Universal,

DIN 6537K, kurz 3xD, mit Innenkühlung

Einsatzbereich:
VHM-Hochleistungsbohrer mit Innenkühlkanälen für universelle Anwendungen. Hohe Stabilität und universelle Einsetzbarkeit durch gerade Hauptschneide. Spezialanschliff bewirkt optimalen Spanbruch, hohe Zentriergenauigkeit und geringe Schnittkräfte.

E Solid carbide stub drills Speeddrill-Universal,

DIN 6537K, short series 3xD, with internal coolant supply

Range of application:
Solid carbide high performance drill with internal coolant supply for universal applications. High stability as well as universal usability due to straight main cutting edge. Special point shape effects optimum chip breakage, high centering accuracy and less cutting forces.

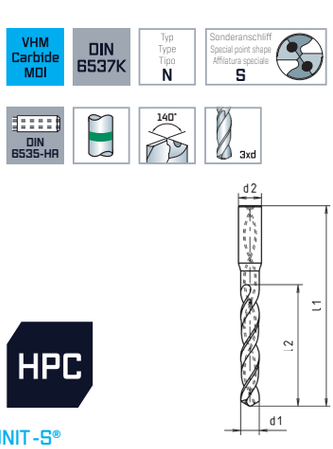
I Punte elicoidali MDI Speeddrill–Universali,

DIN 6537K, serie corta 3xD, con fori lubrificazione

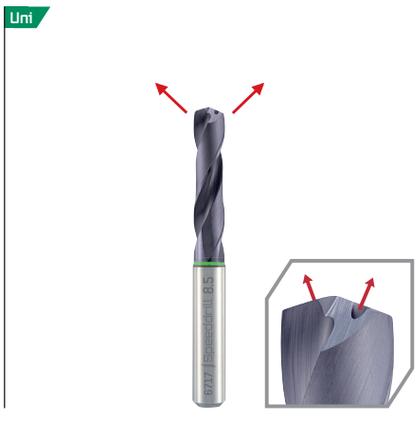
Impiego:
Punte MDI ad alto rendimento con fori di lubrificazione interni per applicazioni universali. Alta stabilità e utilizzo universale grazie alla affilatura piatta del tagliente principale. La geometria speciale della punta garantisce un ottima evacuazione del truciolo, una elevate accuratezza di centraggio ed una minore forza di taglio.

Speeddrill





ALUNIT-S®



ALUNIT-S®

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	z	Code 6717 Art.-Nr.
1,00		4,00	45	7	2	0 6717001001 00
1,10		4,00	45	7	2	0 6717001101 00
1,20		4,00	45	7	2	0 6717001201 00
1,30		4,00	45	7	2	0 6717001301 00
1,40		4,00	45	7	2	0 6717001401 00
1,50		4,00	55	14	2	0 6717001501 00
1,60		4,00	55	14	2	0 6717001601 00
1,70		4,00	55	14	2	0 6717001701 00
1,80		4,00	55	14	2	0 6717001801 00
1,90		4,00	55	14	2	0 6717001901 00
2,00		4,00	55	20	2	0 6717002001 00
2,10		4,00	55	20	2	0 6717002101 00
2,20		4,00	55	20	2	0 6717002201 00
2,30		4,00	55	20	2	0 6717002301 00
2,40		4,00	55	20	2	0 6717002401 00
2,50		4,00	55	20	2	0 6717002501 00
2,60		4,00	55	20	2	0 6717002601 00
2,70		4,00	55	20	2	0 6717002701 00
2,80		4,00	55	20	2	0 6717002801 00
2,90		4,00	55	20	2	0 6717002901 00
3,00		6,00	62	20	2	0 6717003001 00
3,10		6,00	62	20	2	0 6717003101 00
3,17	**1/8**	6,00	62	20	2	0 6717003171 00
3,20		6,00	62	20	2	0 6717003201 00
3,30		6,00	62	20	2	0 6717003301 00
3,40		6,00	62	20	2	0 6717003401 00
3,50		6,00	62	20	2	0 6717003501 00
3,60		6,00	62	20	2	0 6717003601 00
3,70		6,00	62	20	2	0 6717003701 00
3,80		6,00	66	24	2	0 6717003801 00
3,90		6,00	66	24	2	0 6717003901 00
4,00		6,00	66	24	2	0 6717004001 00
4,10		6,00	66	24	2	0 6717004101 00
4,20		6,00	66	24	2	0 6717004201 00

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	z	Code 6717 Art.-Nr.
4,30		6,00	66	24	2	0 6717004301 00
4,40		6,00	66	24	2	0 6717004401 00
4,50		6,00	66	24	2	0 6717004501 00
4,60		6,00	66	24	2	0 6717004601 00
4,70		6,00	66	24	2	0 6717004701 00
4,76	**3/16**	6,00	66	28	2	0 6717004761 00
4,80		6,00	66	28	2	0 6717004801 00
4,90		6,00	66	28	2	0 6717004901 00
5,00		6,00	66	28	2	0 6717005001 00
5,10		6,00	66	28	2	0 6717005101 00
5,20		6,00	66	28	2	0 6717005201 00
5,30		6,00	66	28	2	0 6717005301 00
5,40		6,00	66	28	2	0 6717005401 00
5,50		6,00	66	28	2	0 6717005501 00
5,60		6,00	66	28	2	0 6717005601 00
5,70		6,00	66	28	2	0 6717005701 00
5,80		6,00	66	28	2	0 6717005801 00
5,90		6,00	66	28	2	0 6717005901 00
6,00		6,00	66	28	2	0 6717006001 00
6,10		8,00	79	34	2	0 6717006101 00
6,20		8,00	79	34	2	0 6717006201 00
6,30		8,00	79	34	2	0 6717006301 00
6,35	**1/4**	8,00	79	34	2	0 6717006351 00
6,40		8,00	79	34	2	0 6717006401 00
6,50		8,00	79	34	2	0 6717006501 00
6,60		8,00	79	34	2	0 6717006601 00
6,70		8,00	79	34	2	0 6717006701 00
6,80		8,00	79	34	2	0 6717006801 00
6,90		8,00	79	34	2	0 6717006901 00
7,00		8,00	79	34	2	0 6717007001 00
7,10		8,00	79	41	2	0 6717007101 00
7,20		8,00	79	41	2	0 6717007201 00
7,30		8,00	79	41	2	0 6717007301 00
7,40		8,00	79	41	2	0 6717007401 00



ALUNIT-S®

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	Z	Code 6717 Art.-Nr.
7,50		8,00	79	41	2	0 6717007501 00
7,60		8,00	79	41	2	0 6717007601 00
7,70		8,00	79	41	2	0 6717007701 00
7,80		8,00	79	41	2	0 6717007801 00
7,90		8,00	79	41	2	0 6717007901 00
7,94	**5/16**	8,00	79	41	2	0 6717007941 00
8,00		8,00	79	41	2	0 6717008001 00
8,10		10,00	89	47	2	0 6717008101 00
8,20		10,00	89	47	2	0 6717008201 00
8,30		10,00	89	47	2	0 6717008301 00
8,40		10,00	89	47	2	0 6717008401 00
8,50		10,00	89	47	2	0 6717008501 00
8,60		10,00	89	47	2	0 6717008601 00
8,70		10,00	89	47	2	0 6717008701 00
8,80		10,00	89	47	2	0 6717008801 00
8,90		10,00	89	47	2	0 6717008901 00
9,00		10,00	89	47	2	0 6717009001 00
9,10		10,00	89	47	2	0 6717009101 00
9,20		10,00	89	47	2	0 6717009201 00
9,30		10,00	89	47	2	0 6717009301 00
9,40		10,00	89	47	2	0 6717009401 00
9,50		10,00	89	47	2	0 6717009501 00
9,52	**3/8**	10,00	89	47	2	0 6717009521 00
9,60		10,00	89	47	2	0 6717009601 00
9,70		10,00	89	47	2	0 6717009701 00
9,80		10,00	89	47	2	0 6717009801 00
9,90		10,00	89	47	2	0 6717009901 00

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar.
Also available with Weldon-shank (DIN 6535-HB) without extra charge.
Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.

ALUNIT-S®

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	Z	Code 6717 Art.-Nr.
10,00		10,00	89	47	2	0 6717010001 00
10,20		12,00	102	55	2	0 6717010201 00
10,50		12,00	102	55	2	0 6717010501 00
10,80		12,00	102	55	2	0 6717010801 00
11,00		12,00	102	55	2	0 6717011001 00
11,11	**7/16**	12,00	102	55	2	0 6717011111 00
11,20		12,00	102	55	2	0 6717011201 00
11,50		12,00	102	55	2	0 6717011501 00
11,80		12,00	102	55	2	0 6717011801 00
12,00		12,00	102	55	2	0 6717012001 00
12,20		14,00	107	60	2	0 6717012201 00
12,50		14,00	107	60	2	0 6717012501 00
12,70	**1/2**	14,00	107	60	2	0 6717012701 00
12,80		14,00	107	60	2	0 6717012801 00
13,00		14,00	107	60	2	0 6717013001 00
13,50		14,00	107	60	2	0 6717013501 00
13,80		14,00	107	60	2	0 6717013801 00
14,00		14,00	107	60	2	0 6717014001 00
14,20		16,00	115	65	2	0 6717014201 00
14,50		16,00	115	65	2	0 6717014501 00
14,80		16,00	115	65	2	0 6717014801 00
15,00		16,00	115	65	2	0 6717015001 00
15,20		16,00	115	65	2	0 6717015201 00
15,50		16,00	115	65	2	0 6717015501 00
15,80		16,00	115	65	2	0 6717015801 00
16,00		16,00	115	65	2	0 6717016001 00

D HPC-Vollhartmetallbohrer Speeddrill 4.0-Universal,

DIN 6537L, lang 5xD,
4 Führungsfasen,
mit Innenkühlung

Einsatzbereich:
VHM-Hochleistungsbohrer mit Innenkühlkanälen für universelle Anwendungen. Durch die spezielle Oberflächenbehandlung ergibt sich eine perfekte Spanabfuhr. Eine optimale Rundheit der Bohrung durch 4 Führungsfasen ermöglicht eine exakte Flucht der Bohrung mit bester Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

E HPC solid carbide stub drills Speeddrill 4.0-Universal,

DIN 6537L, long series 5xD,
4 guide chamfers,
with internal coolant supply

Range of application:
Solid carbide high performance drill with internal coolant supply for universal applications. Easy chip removal due to special surface treatment. An optimal roundness of the hole by 4 guide chamfers enables an exact alignment of the bore hole with the best surface quality. The Generation 4.0 sets new standards in cutting performance.

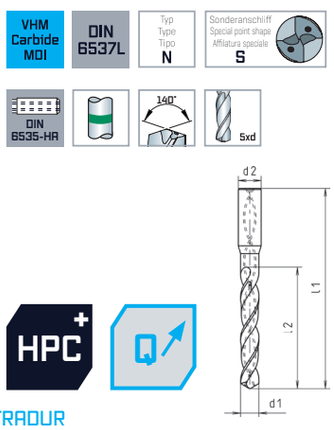
I HPC punte elicoidali MDI Speeddrill 4.0-Universali,

DIN 6537L, serie lunga 5xD,
4 superfici di guida svasate,
con fori lubricazione

Impiego:
Punte MDI ad alto rendimento con fori di lubrificazione interni per applicazioni universali. Migliore asportazione dei trucioli per speciale trattamento superficiale. Ottimale rotondità della foratura con 4 superfici di guida perfetto per allineamento del foro con alta finitura superficiale. La generazione 4.0 stabilisce nuovi standard in rendimento.

Speeddrill 4.0





ANTRADUR



ANTRADUR

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	Z	Code 6877 Art.-Nr.
3,00		6,00	66	28	2	0 6877003001 00
3,10		6,00	66	28	2	0 6877003101 00
3,17	1/8	6,00	66	28	2	0 6877003171 00
3,20		6,00	66	28	2	0 6877003201 00
3,25		6,00	66	28	2	0 6877003251 00
3,30		6,00	66	28	2	0 6877003301 00
3,38		6,00	66	28	2	0 6877003381 00
3,40		6,00	66	28	2	0 6877003401 00
3,50		6,00	66	28	2	0 6877003501 00
3,60		6,00	66	28	2	0 6877003601 00
3,65		6,00	66	28	2	0 6877003651 00
3,70		6,00	66	28	2	0 6877003701 00
3,80		6,00	74	36	2	0 6877003801 00
3,90		6,00	74	36	2	0 6877003901 00
4,00		6,00	74	36	2	0 6877004001 00
4,10		6,00	74	36	2	0 6877004101 00
4,20		6,00	74	36	2	0 6877004201 00
4,30		6,00	74	36	2	0 6877004301 00
4,40		6,00	74	36	2	0 6877004401 00
4,50		6,00	74	36	2	0 6877004501 00
4,60		6,00	74	36	2	0 6877004601 00
4,65		6,00	74	36	2	0 6877004651 00
4,70		6,00	74	36	2	0 6877004701 00
4,75		6,00	74	36	2	0 6877004751 00
4,76	3/16	6,00	82	44	2	0 6877004761 00
4,80		6,00	82	44	2	0 6877004801 00
4,90		6,00	82	44	2	0 6877004901 00
5,00		6,00	82	44	2	0 6877005001 00
5,10		6,00	82	44	2	0 6877005101 00
5,20		6,00	82	44	2	0 6877005201 00
5,25		6,00	82	44	2	0 6877005251 00
5,30		6,00	82	44	2	0 6877005301 00

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	Z	Code 6877 Art.-Nr.
5,40		6,00	82	44	2	0 6877005401 00
5,50		6,00	82	44	2	0 6877005501 00
5,55		6,00	82	44	2	0 6877005551 00
5,60		6,00	82	44	2	0 6877005601 00
5,70		6,00	82	44	2	0 6877005701 00
5,75		6,00	82	44	2	0 6877005751 00
5,80		6,00	82	44	2	0 6877005801 00
5,90		6,00	82	44	2	0 6877005901 00
6,00		6,00	82	44	2	0 6877006001 00
6,10		8,00	91	53	2	0 6877006101 00
6,20		8,00	91	53	2	0 6877006201 00
6,30		8,00	91	53	2	0 6877006301 00
6,35	1/4	8,00	91	53	2	0 6877006351 00
6,40		8,00	91	53	2	0 6877006401 00
6,50		8,00	91	53	2	0 6877006501 00
6,60		8,00	91	53	2	0 6877006601 00
6,70		8,00	91	53	2	0 6877006701 00
6,80		8,00	91	53	2	0 6877006801 00
6,90		8,00	91	53	2	0 6877006901 00
7,00		8,00	91	53	2	0 6877007001 00
7,10		8,00	91	53	2	0 6877007101 00
7,20		8,00	91	53	2	0 6877007201 00
7,25		8,00	91	53	2	0 6877007251 00
7,30		8,00	91	53	2	0 6877007301 00
7,40		8,00	91	53	2	0 6877007401 00
7,45		8,00	91	53	2	0 6877007451 00
7,50		8,00	91	53	2	0 6877007501 00
7,60		8,00	91	53	2	0 6877007601 00
7,70		8,00	91	53	2	0 6877007701 00
7,75		8,00	91	53	2	0 6877007751 00
7,80		8,00	91	53	2	0 6877007801 00
7,90		8,00	91	53	2	0 6877007901 00

ANTRADUR

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	Z	Code 6877 Art.-Nr.
7,94	**5/16**	8,00	91	53	2	0 6877007941 00
8,00		8,00	91	53	2	0 6877008001 00
8,10		10,00	103	61	2	0 6877008101 00
8,20		10,00	103	61	2	0 6877008201 00
8,30		10,00	103	61	2	0 6877008301 00
8,40		10,00	103	61	2	0 6877008401 00
8,45		10,00	103	61	2	0 6877008451 00
8,50		10,00	103	61	2	0 6877008501 00
8,60		10,00	103	61	2	0 6877008601 00
8,70		10,00	103	61	2	0 6877008701 00
8,80		10,00	103	61	2	0 6877008801 00
8,90		10,00	103	61	2	0 6877008901 00
9,00		10,00	103	61	2	0 6877009001 00
9,10		10,00	103	61	2	0 6877009101 00
9,20		10,00	103	61	2	0 6877009201 00
9,25		10,00	103	61	2	0 6877009251 00
9,30		10,00	103	61	2	0 6877009301 00
9,35		10,00	103	61	2	0 6877009351 00
9,40		10,00	103	61	2	0 6877009401 00
9,45		10,00	103	61	2	0 6877009451 00
9,50		10,00	103	61	2	0 6877009501 00
9,52	**3/8**	10,00	103	61	2	0 6877009521 00
9,60		10,00	103	61	2	0 6877009601 00
9,70		10,00	103	61	2	0 6877009701 00
9,75		10,00	103	61	2	0 6877009751 00
9,80		10,00	103	61	2	0 6877009801 00
9,90		10,00	103	61	2	0 6877009901 00
10,00		10,00	103	61	2	0 6877010001 00

ANTRADUR

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	Z	Code 6877 Art.-Nr.
10,10		12,00	118	71	2	0 6877010101 00
10,20		12,00	118	71	2	0 6877010201 00
10,25		12,00	118	71	2	0 6877010251 00
10,30		12,00	118	71	2	0 6877010301 00
10,40		12,00	118	71	2	0 6877010401 00
10,50		12,00	118	71	2	0 6877010501 00
10,60		12,00	118	71	2	0 6877010601 00
10,70		12,00	118	71	2	0 6877010701 00
10,75		12,00	118	71	2	0 6877010751 00
10,80		12,00	118	71	2	0 6877010801 00
10,90		12,00	118	71	2	0 6877010901 00
11,00		12,00	118	71	2	0 6877011001 00
11,10		12,00	118	71	2	0 6877011101 00
11,11	**7/16**	12,00	118	71	2	0 6877011111 00
11,20		12,00	118	71	2	0 6877011201 00
11,25		12,00	118	71	2	0 6877011251 00
11,30		12,00	118	71	2	0 6877011301 00
11,35		12,00	118	71	2	0 6877011351 00
11,40		12,00	118	71	2	0 6877011401 00
11,45		12,00	118	71	2	0 6877011451 00
11,50		12,00	118	71	2	0 6877011501 00
11,60		12,00	118	71	2	0 6877011601 00
11,70		12,00	118	71	2	0 6877011701 00
11,75		12,00	118	71	2	0 6877011751 00
11,80		12,00	118	71	2	0 6877011801 00
11,90		12,00	118	71	2	0 6877011901 00
12,00		12,00	118	71	2	0 6877012001 00



D VHM-Spiralbohrer Speeddrill-Universal,

DIN 6537L, lang 5xD, mit Innenkühlung

Einsatzbereich:
VHM-Hochleistungsbohrer mit Innenkühlkanälen für universelle Anwendungen. Hohe Stabilität und universelle Einsetzbarkeit durch gerade Hauptschneide. Spezialanschliff bewirkt optimalen Spanbruch, hohe Zentriergenauigkeit und geringe Schnittkräfte.

E Solid carbide stub drills Speeddrill-Universal,

DIN 6537L, long series 5xD, with internal coolant supply

Range of application:
Solid carbide high performance drill with internal coolant supply for universal applications. High stability as well as universal usability due to straight main cutting edge. Special point shape effects optimum chip breakage, high centering accuracy and less cutting forces.

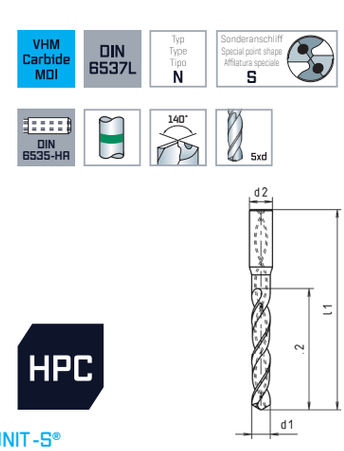
I Punte elicoidali MDI Speeddrill–Universali,

DIN 6537L, serie lunga 5xD, con fori lubricazione

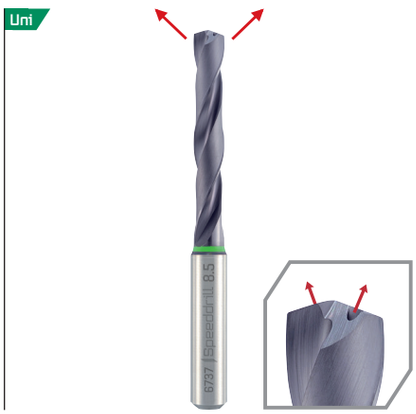
Impiego:
Punte MDI ad alto rendimento con fori di lubrificazione interni per applicazioni universali. Alta stabilità e utilizzo universale grazie alla particolare affilatura dei taglienti principali. La geometria speciale della punta garantisce un ottima rottura del truciolo, una elevate accuratezza di centraggio ed una minore forza di taglio.

Speeddrill





ALUNIT-S®



ALUNIT-S®

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	Z	Code 6737 Art.-Nr.
2,00		4,00	57	21	2	0 6737002001 00
2,50		4,00	57	21	2	0 6737002501 00
3,00		6,00	66	28	2	0 6737003001 00
3,10		6,00	66	28	2	0 6737003101 00
3,17	1/8	6,00	66	28	2	0 6737003171 00
3,20		6,00	66	28	2	0 6737003201 00
3,30		6,00	66	28	2	0 6737003301 00
3,40		6,00	66	28	2	0 6737003401 00
3,50		6,00	66	28	2	0 6737003501 00
3,60		6,00	66	28	2	0 6737003601 00
3,70		6,00	66	28	2	0 6737003701 00
3,80		6,00	74	36	2	0 6737003801 00
3,90		6,00	74	36	2	0 6737003901 00
4,00		6,00	74	36	2	0 6737004001 00
4,10		6,00	74	36	2	0 6737004101 00
4,20		6,00	74	36	2	0 6737004201 00
4,30		6,00	74	36	2	0 6737004301 00
4,40		6,00	74	36	2	0 6737004401 00
4,50		6,00	74	36	2	0 6737004501 00
4,60		6,00	74	36	2	0 6737004601 00
4,65		6,00	74	36	2	0 6737004651 00
4,70		6,00	74	36	2	0 6737004701 00
4,76	3/16	6,00	82	44	2	0 6737004761 00
4,80		6,00	82	44	2	0 6737004801 00
4,90		6,00	82	44	2	0 6737004901 00
5,00		6,00	82	44	2	0 6737005001 00
5,02		6,00	82	44	2	0 6737005021 00
5,10		6,00	82	44	2	0 6737005101 00
5,20		6,00	82	44	2	0 6737005201 00
5,30		6,00	82	44	2	0 6737005301 00
5,40		6,00	82	44	2	0 6737005401 00
5,50		6,00	82	44	2	0 6737005501 00
5,60		6,00	82	44	2	0 6737005601 00
5,70		6,00	82	44	2	0 6737005701 00

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	Z	Code 6737 Art.-Nr.
5,80		6,00	82	44	2	0 6737005801 00
5,90		6,00	82	44	2	0 6737005901 00
6,00		6,00	82	44	2	0 6737006001 00
6,10		8,00	91	53	2	0 6737006101 00
6,20		8,00	91	53	2	0 6737006201 00
6,30		8,00	91	53	2	0 6737006301 00
6,35	1/4	8,00	91	53	2	0 6737006351 00
6,40		8,00	91	53	2	0 6737006401 00
6,50		8,00	91	53	2	0 6737006501 00
6,60		8,00	91	53	2	0 6737006601 00
6,70		8,00	91	53	2	0 6737006701 00
6,80		8,00	91	53	2	0 6737006801 00
6,90		8,00	91	53	2	0 6737006901 00
7,00		8,00	91	53	2	0 6737007001 00
7,10		8,00	91	53	2	0 6737007101 00
7,20		8,00	91	53	2	0 6737007201 00
7,30		8,00	91	53	2	0 6737007301 00
7,40		8,00	91	53	2	0 6737007401 00
7,50		8,00	91	53	2	0 6737007501 00
7,60		8,00	91	53	2	0 6737007601 00
7,70		8,00	91	53	2	0 6737007701 00
7,80		8,00	91	53	2	0 6737007801 00
7,90		8,00	91	53	2	0 6737007901 00
7,94	5/16	8,00	91	53	2	0 6737007941 00
8,00		8,00	91	53	2	0 6737008001 00
8,10		10,00	103	61	2	0 6737008101 00
8,20		10,00	103	61	2	0 6737008201 00
8,30		10,00	103	61	2	0 6737008301 00
8,40		10,00	103	61	2	0 6737008401 00
8,50		10,00	103	61	2	0 6737008501 00
8,60		10,00	103	61	2	0 6737008601 00
8,70		10,00	103	61	2	0 6737008701 00
8,80		10,00	103	61	2	0 6737008801 00
8,90		10,00	103	61	2	0 6737008901 00



ALUNIT-S®

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	Z	Code 6737 Art.-Nr.
9,00		10,00	103	61	2	0 6737009001 00
9,10		10,00	103	61	2	0 6737009101 00
9,20		10,00	103	61	2	0 6737009201 00
9,30		10,00	103	61	2	0 6737009301 00
9,40		10,00	103	61	2	0 6737009401 00
9,52	**3/8**	10,00	103	61	2	0 6737009521 00
9,50		10,00	103	61	2	0 6737009501 00
9,60		10,00	103	61	2	0 6737009601 00
9,70		10,00	103	61	2	0 6737009701 00
9,80		10,00	103	61	2	0 6737009801 00
9,90		10,00	103	61	2	0 6737009901 00
10,00		10,00	103	61	2	0 6737010001 00
10,20		12,00	118	71	2	0 6737010201 00
10,50		12,00	118	71	2	0 6737010501 00
10,80		12,00	118	71	2	0 6737010801 00
11,00		12,00	118	71	2	0 6737011001 00
11,11	**7/16**	12,00	118	71	2	0 6737011111 00
11,20		12,00	118	71	2	0 6737011201 00
11,50		12,00	118	71	2	0 6737011501 00
11,80		12,00	118	71	2	0 6737011801 00
12,00		12,00	118	71	2	0 6737012001 00
12,20		14,00	124	77	2	0 6737012201 00
12,50		14,00	124	77	2	0 6737012501 00

ALUNIT-S®

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	Z	Code 6737 Art.-Nr.
12,70	**1/2**	14,00	124	77	2	0 6737012701 00
12,80		14,00	124	77	2	0 6737012801 00
13,00		14,00	124	77	2	0 6737013001 00
13,50		14,00	124	77	2	0 6737013501 00
13,80		14,00	124	77	2	0 6737013801 00
14,00		14,00	124	77	2	0 6737014001 00
14,20		16,00	133	83	2	0 6737014201 00
14,50		16,00	133	83	2	0 6737014501 00
14,80		16,00	133	83	2	0 6737014801 00
15,00		16,00	133	83	2	0 6737015001 00
15,20		16,00	133	83	2	0 6737015201 00
15,50		16,00	133	83	2	0 6737015501 00
15,80		16,00	133	83	2	0 6737015801 00
16,00		16,00	133	83	2	0 6737016001 00
16,50		18,00	143	93	2	0 6737016501 00
16,80		18,00	143	93	2	0 6737016801 00
17,00		18,00	143	93	2	0 6737017001 00
17,50		18,00	143	93	2	0 6737017501 00
18,00		18,00	143	93	2	0 6737018001 00
18,50		20,00	153	101	2	0 6737018501 00
19,00		20,00	153	101	2	0 6737019001 00
19,50		20,00	153	101	2	0 6737019501 00
20,00		20,00	153	101	2	0 6737020001 00

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar.
Also available with Weldon-shank (DIN 6535-HB) without extra charge.
Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.

D VHM-Spiralbohrer Speeddrill-Universal,
extra lang 8xD,
mit Innenkühlung

Einsatzbereich:
VHM-Hochleistungsbohrer mit Innenkühlkanälen für universelle Anwendungen und große Bohrtiefen bis 8xD. 4 Führungsfasen gewährleisten eine sehr hohe Fluchtungsgenauigkeit und Stabilisierung des Bohrers auch bei sehr großen Bohrtiefen sowie exakte und präzise Bohrungen. Spezialanschliff bewirkt optimalen Spanbruch, hohe Zentriergenauigkeit und geringe Schnittkräfte.

E Solid carbide stub drills Speeddrill-Universal,
extra long series 8xD,
internal coolant supply

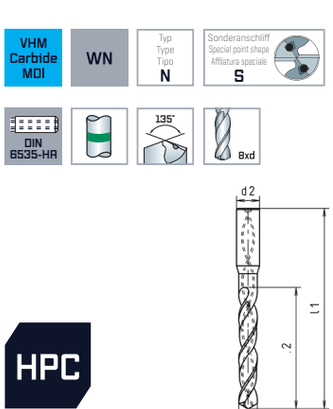
Range of application:
Solid carbide high performance drill with internal coolant supply for universal applications and high drilling depths up to 8xD. 4 guide chamfers guarantee very high alignment accuracy and stabilisation of the drill even during deep hole drilling as well as exact and precise holes. Special point shape effects optimum chip breakage, high centering accuracy and less cutting forces.

I Punte elicoidali MDI Speeddrill–Universali,
serie extra lunga 8xD,
con fori lubricazione

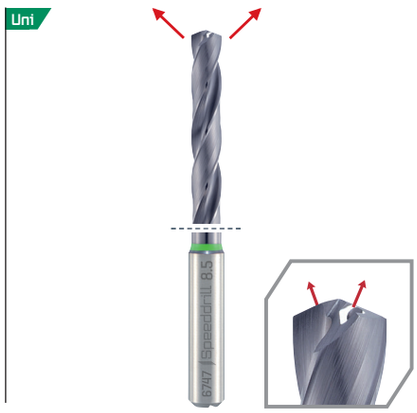
Impiego:
Punte MDI ad alto rendimento con fori di lubrificazione interni per applicazioni universali ed elevate profondità di foratura fino a 8xD. 4 superfici di guida svasate garantiscono elevata accuratezza di allineamento e stabilizzazione della punta anche utilizzando alte velocità di taglio ed avanzamenti. La geometria speciale della punta garantisce un ottima evacuazione del truciolo, una elevate accuratezza di centraggio ed una minore forza di taglio.

Speeddrill





ALUNIT-S®



ALUNIT-S®

d1 h7 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6747 Art.-Nr.
3,00	6,00	72	34	2	0 6747003001 00
3,30	6,00	72	34	2	0 6747003301 00
3,50	6,00	72	34	2	0 6747003501 00
3,80	6,00	81	43	2	0 6747003801 00
4,00	6,00	81	43	2	0 6747004001 00
4,20	6,00	81	43	2	0 6747004201 00
4,50	6,00	81	43	2	0 6747004501 00
4,80	6,00	95	57	2	0 6747004801 00
5,00	6,00	95	57	2	0 6747005001 00
5,20	6,00	95	57	2	0 6747005201 00
5,50	6,00	95	57	2	0 6747005501 00
5,80	6,00	95	57	2	0 6747005801 00
6,00	6,00	95	57	2	0 6747006001 00
6,20	8,00	114	76	2	0 6747006201 00
6,50	8,00	114	76	2	0 6747006501 00
6,80	8,00	114	76	2	0 6747006801 00
7,00	8,00	114	76	2	0 6747007001 00
7,50	8,00	114	76	2	0 6747007501 00
7,80	8,00	114	76	2	0 6747007801 00
8,00	8,00	114	76	2	0 6747008001 00
8,20	10,00	142	95	2	0 6747008201 00
8,50	10,00	142	95	2	0 6747008501 00
8,80	10,00	142	95	2	0 6747008801 00

d1 h7 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6747 Art.-Nr.
9,00	10,00	142	95	2	0 6747009001 00
9,20	10,00	142	95	2	0 6747009201 00
9,50	10,00	142	95	2	0 6747009501 00
9,80	10,00	142	95	2	0 6747009801 00
10,00	10,00	142	95	2	0 6747010001 00
10,20	12,00	162	114	2	0 6747010201 00
10,50	12,00	162	114	2	0 6747010501 00
10,80	12,00	162	114	2	0 6747010801 00
11,00	12,00	162	114	2	0 6747011001 00
11,20	12,00	162	114	2	0 6747011201 00
11,50	12,00	162	114	2	0 6747011501 00
11,80	12,00	162	114	2	0 6747011801 00
12,00	12,00	162	114	2	0 6747012001 00
12,20	14,00	178	131	2	0 6747012201 00
12,50	14,00	178	131	2	0 6747012501 00
12,80	14,00	178	131	2	0 6747012801 00
13,00	14,00	178	131	2	0 6747013001 00
13,50	14,00	178	131	2	0 6747013501 00
13,80	14,00	178	131	2	0 6747013801 00
14,00	14,00	178	131	2	0 6747014001 00
15,00	16,00	203	152	2	0 6747015001 00
16,00	16,00	203	152	2	0 6747016001 00



D VHM-Spiralbohrer Speeddrill-Universal,
extra lang 12xD,
mit Innenkühlung

Einsatzbereich:
VHM-Hochleistungsbohrer mit Innenkühlkanälen für universelle Anwendungen und große Bohrtiefen bis 12xD. 4 Führungsfasen gewährleisten eine sehr hohe Fluchtungsgenauigkeit und Stabilisierung des Bohrers auch bei sehr großen Bohrtiefen sowie exakte und präzise Bohrungen. Spezialanschliff bewirkt optimalen Spanbruch, hohe Zentriergenauigkeit und geringe Schnittkräfte.

E Solid carbide stub drills Speeddrill-Universal,
extra long series 12xD,
internal coolant supply

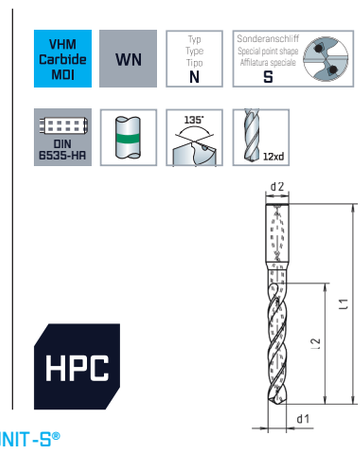
Range of application:
Solid carbide high performance drill with internal coolant supply for universal applications and high drilling depths up to 12xD. 4 guide chamfers guarantee very high alignment accuracy and stabilisation of the drill even during deep hole drilling as well as exact and precise holes. Special point shape effects optimum chip breakage, high centering accuracy and less cutting forces.

I Punte elicoidali MDI Speeddrill–Universali,
serie extra lunga 12xD,
con fori lubricazione

Impiego:
Punte MDI ad alto rendimento con fori di lubrificazione interni per applicazioni universali ed elevate profondità di foratura fino a 12xD. 4 superfici di guida svasate garantiscono elevata accuratezza di allineamento e stabilizzazione della punta anche utilizzando alte velocità di taglio ed avanzamenti. La geometria speciale della punta garantisce un ottima evacuazione del truciolo, una elevate accuratezza di centraggio ed una minore forza di taglio.

Speeddrill





ALUNIT-S®



ALUNIT-S®

d1 h7 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6757 Art.-Nr.
3,00	6,00	92	54	2	0 6757003001 00
3,50	6,00	92	54	2	0 6757003501 00
4,00	6,00	102	64	2	0 6757004001 00
4,50	6,00	102	64	2	0 6757004501 00
5,00	6,00	116	78	2	0 6757005001 00
5,50	6,00	116	78	2	0 6757005501 00
6,00	6,00	116	78	2	0 6757006001 00
6,50	8,00	146	108	2	0 6757006501 00
7,00	8,00	146	108	2	0 6757007001 00
7,50	8,00	146	108	2	0 6757007501 00
8,00	8,00	146	108	2	0 6757008001 00
8,50	10,00	162	120	2	0 6757008501 00

d1 h7 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6757 Art.-Nr.
9,00	10,00	162	120	2	0 6757009001 00
9,50	10,00	162	120	2	0 6757009501 00
10,00	10,00	162	120	2	0 6757010001 00
10,50	12,00	204	156	2	0 6757010501 00
11,00	12,00	204	156	2	0 6757011001 00
11,50	12,00	204	156	2	0 6757011501 00
12,00	12,00	204	156	2	0 6757012001 00
13,00	14,00	230	182	2	0 6757013001 00
14,00	14,00	230	182	2	0 6757014001 00
15,00	16,00	260	208	2	0 6757015001 00
16,00	16,00	260	208	2	0 6757016001 00

D VHM-Spiralbohrer **Speeddrill-Universal,**
extra lang 16xD,
mit Innenkühlung

Einsatzbereich:
VHM-Hochleistungsbohrer mit Innenkühlkanälen für universelle Anwendungen und große Bohrtiefen bis 16xD. 4 Führungsfasen gewährleisten eine sehr hohe Fluchtungsgenauigkeit und Stabilisierung des Bohrers auch bei sehr großen Bohrtiefen sowie exakte und präzise Bohrungen. Spezialanschliff bewirkt optimalen Spanbruch, hohe Zentriergenauigkeit und geringe Schnittkräfte.

E Solid carbide stub drills **Speeddrill-Universal,**
extra long series 16xD,
internal coolant supply

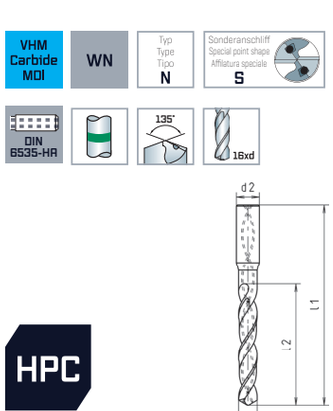
Range of application:
Solid carbide high performance drill with internal coolant supply for universal applications and high drilling depths up to 16xD. 4 guide chamfers guarantee very high alignment accuracy and stabilisation of the drill even during deep hole drilling as well as exact and precise holes. Special point shape effects optimum chip breakage, high centering accuracy and less cutting forces.

I Punte elicoidali MDI **Speeddrill–Universali,**
serie extra lunga 16xD,
con fori lubricazione

Impiego:
Punte MDI ad alto rendimento con fori di lubrificazione interni per applicazioni universali ed elevate profondità di foratura fino a 16xD. 4 superfici di guida svasate garantiscono elevata accuratezza di allineamento e stabilizzazione della punta anche utilizzando alte velocità di taglio ed avanzamenti. La geometria speciale della punta garantisce un ottima evacuazione del truciolo, una elevate accuratezza di centraggio ed una minore forza di taglio.

Speeddrill







ALUNIT-S®

d1 h7 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6777 Art.-Nr.
3,00	6,00	100	60	2	0 6777003001 00
4,00	6,00	115	75	2	0 6777004001 00
5,00	6,00	130	90	2	0 6777005001 00
6,00	6,00	150	108	2	0 6777006001 00
7,00	8,00	165	125	2	0 6777007001 00
8,00	8,00	180	140	2	0 6777008001 00
9,00	10,00	205	160	2	0 6777009001 00

ALUNIT-S®

d1 h7 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6777 Art.-Nr.
10,00	10,00	225	180	2	0 6777010001 00
11,00	12,00	240	190	2	0 6777011001 00
12,00	12,00	265	215	2	0 6777012001 00
13,00	14,00	285	235	2	0 6777013001 00
14,00	14,00	305	255	2	0 6777014001 00
15,00	16,00	325	270	2	0 6777015001 00
16,00	16,00	345	290	2	0 6777016001 00

Tieflochbohranleitung beachten: Siehe Seite 492
Observe deep hole drilling instructions: See page 492
Observare le istruzioni per la foratura prafonda: Pagina 492



D VHM-Spiralbohrer Speeddrill-Universal,
extra lang 20xD,
mit Innenkühlung

Einsatzbereich:
VHM-Hochleistungsbohrer mit Innenkühlkanälen für universelle Anwendungen und große Bohrtiefen bis 20xD. 4 Führungsfasen gewährleisten eine sehr hohe Fluchtungsgenauigkeit und Stabilisierung des Bohrers auch bei sehr großen Bohrtiefen sowie exakte und präzise Bohrungen. Spezialanschliff bewirkt optimalen Spanbruch, hohe Zentriergenauigkeit und geringe Schnittkräfte.

E Solid carbide stub drills Speeddrill-Universal,
extra long series 20xD,
internal coolant supply

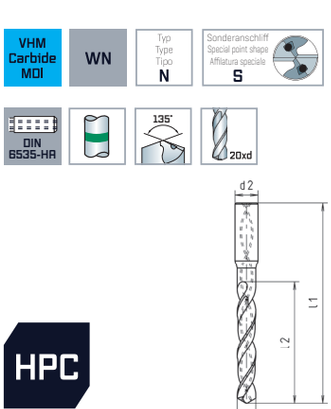
Range of application:
Solid carbide high performance drill with internal coolant supply for universal applications and high drilling depths up to 20xD. 4 guide chamfers guarantee very high alignment accuracy and stabilisation of the drill even during deep hole drilling as well as exact and precise holes. Special point shape effects optimum chip breakage, high centering accuracy and less cutting forces.

I Punte elicoidali MDI Speeddrill–Universali,
serie extra lunga 20xD,
con fori lubricazione

Impiego:
Punte MDI ad alto rendimento con fori di lubrificazione interni per applicazioni universali ed elevate profondità di foratura fino a 20xD. 4 superfici di guida svasate garantiscono elevata accuratezza di allineamento e stabilizzazione della punta anche utilizzando alte velocità di taglio ed avanzamenti. La geometria speciale della punta garantisce un ottima evacuazione del truciolo, una elevate accuratezza di centraggio ed una minore forza di taglio.

Speeddrill







ALUNIT-S®

d1 h7 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6787 Art.-Nr.
2,00	4,00	92	50	2	0 6787002001 00
2,50	4,00	112	70	2	0 6787002501 00
3,00	6,00	120	80	2	0 6787003001 00
4,00	6,00	130	90	2	0 6787004001 00
5,00	6,00	160	120	2	0 6787005001 00
6,00	6,00	185	140	2	0 6787006001 00

ALUNIT-S®

d1 h7 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6787 Art.-Nr.
7,00	8,00	210	160	2	0 6787007001 00
8,00	8,00	230	180	2	0 6787008001 00
9,00	10,00	290	230	2	0 6787009001 00
10,00	10,00	290	230	2	0 6787010001 00
11,00	12,00	315	268	2	0 6787011001 00
12,00	12,00	315	268	2	0 6787012001 00

Tieflochbohranleitung beachten: Siehe Seite 492
Observe deep hole drilling instructions: See page 492
Observare le istruzioni per la foratura prafonda: Pagina 492

D VHM-Spiralbohrer **Speeddrill-Universal,**
extra lang 25xD,
mit Innenkühlung

Einsatzbereich:
VHM-Hochleistungsbohrer mit Innenkühlkanälen für universelle Anwendungen und große Bohrtiefen bis 25xD. 4 Führungsfasen gewährleisten eine sehr hohe Fluchtungsgenauigkeit und Stabilisierung des Bohrers auch bei sehr großen Bohrtiefen sowie exakte und präzise Bohrungen. Spezialanschliff bewirkt optimalen Spanbruch, hohe Zentriergenauigkeit und geringe Schnittkräfte.

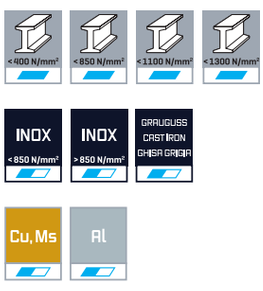
E Solid carbide stub drills **Speeddrill-Universal,**
extra long series 25xD,
internal coolant supply

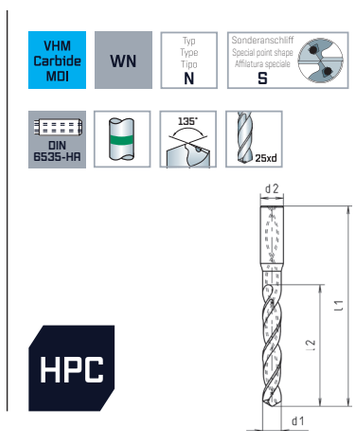
Range of application:
Solid carbide high performance drill with internal coolant supply for universal applications and high drilling depths up to 25xD. 4 guide chamfers guarantee very high alignment accuracy and stabilisation of the drill even during deep hole drilling as well as exact and precise holes. Special point shape effects optimum chip breakage, high centering accuracy and less cutting forces.

I Punte elicoidali MDI **Speeddrill–Universali,**
serie extra lunga 25xD,
con fori lubricazione

Impiego:
Punte MDI ad alto rendimento con fori di lubrificazione interni per applicazioni universali ed elevate profondità di foratura fino a 25xD. 4 superfici di guida svasate garantiscono elevata accuratezza di allineamento e stabilizzazione della punta anche utilizzando alte velocità di taglio ed avanzamenti. La geometria speciale della punta garantisce un ottima evacuazione del truciolo, una elevate accuratezza di centraggio ed una minore forza di taglio.

Speeddrill







ALUNIT-S®

d1 h7 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6797 Art.-Nr.
3,00	6,00	135	98	2	0 6797003001 00
4,00	6,00	160	120	2	0 6797004001 00
5,00	6,00	180	135	2	0 6797005001 00
6,00	6,00	205	168	2	0 6797006001 00

ALUNIT-S®

d1 h7 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6797 Art.-Nr.
8,00	8,00	260	220	2	0 6797008001 00
10,00	10,00	310	268	2	0 6797010001 00
12,00	12,00	375	325	2	0 6797012001 00

Tieflochbohranleitung beachten: Siehe Seite 492
Observe deep hole drilling instructions: See page 492
Observare le istruzioni per la foratura prafonda: Pagina 492



D VHM-Spiralbohrer Speeddrill-Universal,
extra lang 30xD,
mit Innenkühlung

Einsatzbereich:
VHM-Hochleistungsbohrer mit Innenkühlkanälen für universelle Anwendungen und große Bohrtiefen bis 30xD. 4 Führungsfasen gewährleisten eine sehr hohe Fluchtungsgenauigkeit und Stabilisierung des Bohrers auch bei sehr großen Bohrtiefen sowie exakte und präzise Bohrungen. Spezialanschliff bewirkt optimalen Spanbruch, hohe Zentriergenauigkeit und geringe Schnittkräfte.

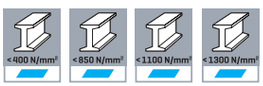
E Solid carbide stub drills Speeddrill-Universal,
extra long series 30xD,
internal coolant supply

Range of application:
Solid carbide high performance drill with internal coolant supply for universal applications and high drilling depths up to 30xD. 4 guide chamfers guarantee very high alignment accuracy and stabilisation of the drill even during deep hole drilling as well as exact and precise holes. Special point shape effects optimum chip breakage, high centering accuracy and less cutting forces.

I Punte elicoidali MDI Speeddrill–Universali,
serie extra lunga 30xD,
con fori lubricazione

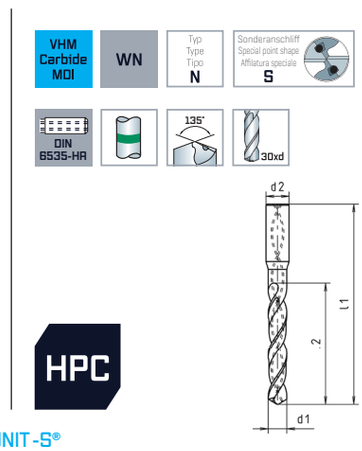
Impiego:
Punte MDI ad alto rendimento con fori di lubrificazione interni per applicazioni universali ed elevate profondità di foratura fino a 30xD. 4 superfici di guida svasate garantiscono elevata accuratezza di allineamento e stabilizzazione della punta anche utilizzando alte velocità di taglio ed avanzamenti. La geometria speciale della punta garantisce un ottima evacuazione del truciolo, una elevate accuratezza di centraggio ed una minore forza di taglio.

Speeddrill









ALUNIT-S®



ALUNIT-S®

d1 h7 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6807 Art.-Nr.
2,00	4,00	115	70	2	0 6807002001 00
2,50	4,00	138	90	2	0 6807002501 00
3,00	6,00	150	105	2	0 6807003001 00
4,00	6,00	185	135	2	0 6807004001 00
5,00	6,00	215	165	2	0 6807005001 00

d1 h7 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6807 Art.-Nr.
6,00	6,00	230	180	2	0 6807006001 00
8,00	8,00	315	265	2	0 6807008001 00
10,00	10,00	380	330	2	0 6807010001 00
12,00	12,00	430	380	2	0 6807012001 00

Tieflochbohranleitung beachten: Siehe Seite 492
Observe deep hole drilling instructions: See page 492
Observare le istruzioni per la foratura prafonda: Pagina 492

D HPC-Vollhartmetallbohrer Speeddrill 4.0-Inox,

DIN 6537K, kurz 3xD,
4 Führungsfasen,
mit Innenkühlung

Einsatzbereich:
VHM-Hochleistungsbohrer mit Innenkühlkanälen speziell für die Bearbeitung von rostfreien Stählen. Durch den speziellen Ausspitzungsanschliff ergibt sich eine perfekte Spanabfuhr. Eine optimale Rundheit der Bohrung durch 4 Führungsfasen ermöglicht eine exakte Flucht der Bohrung mit bester Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

E HPC solid carbide stub drills Speeddrill 4.0-Inox,

DIN 6537K, short series 3xD,
4 guide chamfers,
with internal coolant supply

Range of application:
Solid carbide high performance drill with internal coolant supply especially for cutting stainless steels. Easy chip removal due to special split point. An optimal roundness of the hole by 4 guide chamfers enables an exact alignment of the bore hole with the best surface quality. The Generation 4.0 sets new standards in cutting performance.

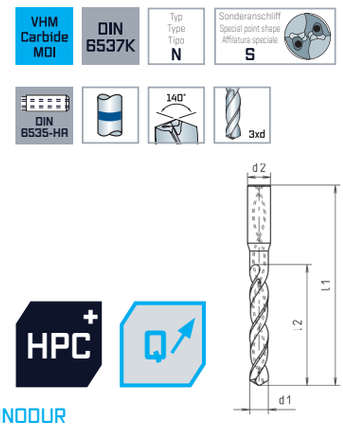
I HPC punte elicoidali MDI Speeddrill 4.0-Inox,

DIN 6537K, serie corta 3xD,
4 superfici di guida svasate,
con fori lubrificazione

Impiego:
Punte MDI ad alto rendimento con fori di lubrificazione interni particolarmente adatte per forare acciai inossidabili.. Migliore asportazione dei trucioli per affilatura assottigliata speciale. Ottimale rotondità della foratura con 4 superfici di guida perfetto per allineamento del foro con alta finitura superficiale. La generazione 4.0 stabilisce nuovi standard in rendimento.

Speeddrill 4.0





NANODUR



NANODUR

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	Z	Code 6887 Art.-Nr.
3,00		6,00	62	20	2	0 6887003001 00
3,10		6,00	62	20	2	0 6887003101 00
3,17	1/8	6,00	62	20	2	0 6887003171 00
3,20		6,00	62	20	2	0 6887003201 00
3,25		6,00	62	20	2	0 6887003251 00
3,30		6,00	62	20	2	0 6887003301 00
3,38		6,00	62	20	2	0 6887003381 00
3,40		6,00	62	20	2	0 6887003401 00
3,50		6,00	62	20	2	0 6887003501 00
3,60		6,00	62	20	2	0 6887003601 00
3,65		6,00	62	20	2	0 6887003651 00
3,70		6,00	62	20	2	0 6887003701 00
3,80		6,00	66	24	2	0 6887003801 00
3,90		6,00	66	24	2	0 6887003901 00
4,00		6,00	66	24	2	0 6887004001 00
4,10		6,00	66	24	2	0 6887004101 00
4,20		6,00	66	24	2	0 6887004201 00
4,30		6,00	66	24	2	0 6887004301 00
4,40		6,00	66	24	2	0 6887004401 00
4,50		6,00	66	24	2	0 6887004501 00
4,60		6,00	66	24	2	0 6887004601 00
4,65		6,00	66	24	2	0 6887004651 00
4,70		6,00	66	24	2	0 6887004701 00
4,75		6,00	66	24	2	0 6887004751 00
4,76	3/16	6,00	66	28	2	0 6887004761 00
4,80		6,00	66	28	2	0 6887004801 00
4,90		6,00	66	28	2	0 6887004901 00
5,00		6,00	66	28	2	0 6887005001 00
5,10		6,00	66	28	2	0 6887005101 00
5,20		6,00	66	28	2	0 6887005201 00
5,25		6,00	66	28	2	0 6887005251 00

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	Z	Code 6887 Art.-Nr.
5,30		6,00	66	28	2	0 6887005301 00
5,40		6,00	66	28	2	0 6887005401 00
5,50		6,00	66	28	2	0 6887005501 00
5,55		6,00	66	28	2	0 6887005551 00
5,60		6,00	66	28	2	0 6887005601 00
5,70		6,00	66	28	2	0 6887005701 00
5,75		6,00	66	28	2	0 6887005751 00
5,80		6,00	66	28	2	0 6887005801 00
5,90		6,00	66	28	2	0 6887005901 00
6,00		6,00	66	28	2	0 6887006001 00
6,10		8,00	79	34	2	0 6887006101 00
6,20		8,00	79	34	2	0 6887006201 00
6,30		8,00	79	34	2	0 6887006301 00
6,35	1/4	8,00	79	34	2	0 6887006351 00
6,40		8,00	79	34	2	0 6887006401 00
6,50		8,00	79	34	2	0 6887006501 00
6,60		8,00	79	34	2	0 6887006601 00
6,70		8,00	79	34	2	0 6887006701 00
6,80		8,00	79	34	2	0 6887006801 00
6,90		8,00	79	34	2	0 6887006901 00
7,00		8,00	79	34	2	0 6887007001 00
7,10		8,00	79	41	2	0 6887007101 00
7,20		8,00	79	41	2	0 6887007201 00
7,25		8,00	79	41	2	0 6887007251 00
7,30		8,00	79	41	2	0 6887007301 00
7,40		8,00	79	41	2	0 6887007401 00
7,45		8,00	79	41	2	0 6887007451 00
7,50		8,00	79	41	2	0 6887007501 00
7,60		8,00	79	41	2	0 6887007601 00
7,70		8,00	79	41	2	0 6887007701 00
7,75		8,00	79	41	2	0 6887007751 00



NANODUR

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	Z	Code 6887 Art.-Nr.
7,80		8,00	79	41	2	0 6887007801 00
7,90		8,00	79	41	2	0 6887007901 00
7,94	**5/16**	8,00	79	41	2	0 6887007941 00
8,00		8,00	79	41	2	0 6887008001 00
8,10		10,00	89	47	2	0 6887008101 00
8,20		10,00	89	47	2	0 6887008201 00
8,30		10,00	89	47	2	0 6887008301 00
8,40		10,00	89	47	2	0 6887008401 00
8,45		10,00	89	47	2	0 6887008451 00
8,50		10,00	89	47	2	0 6887008501 00
8,60		10,00	89	47	2	0 6887008601 00
8,70		10,00	89	47	2	0 6887008701 00
8,80		10,00	89	47	2	0 6887008801 00
8,90		10,00	89	47	2	0 6887008901 00
9,00		10,00	89	47	2	0 6887009001 00
9,10		10,00	89	47	2	0 6887009101 00
9,20		10,00	89	47	2	0 6887009201 00
9,25		10,00	89	47	2	0 6887009251 00
9,30		10,00	89	47	2	0 6887009301 00
9,35		10,00	89	47	2	0 6887009351 00
9,40		10,00	89	47	2	0 6887009401 00
9,45		10,00	89	47	2	0 6887009451 00
9,50		10,00	89	47	2	0 6887009501 00
9,52	**3/8**	10,00	89	47	2	0 6887009521 00
9,60		10,00	89	47	2	0 6887009601 00
9,70		10,00	89	47	2	0 6887009701 00
9,75		10,00	89	47	2	0 6887009751 00
9,80		10,00	89	47	2	0 6887009801 00
9,90		10,00	89	47	2	0 6887009901 00

NANODUR

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	Z	Code 6887 Art.-Nr.
10,00		10,00	89	47	2	0 6887010001 00
10,10		12,00	102	55	2	0 6887010101 00
10,20		12,00	102	55	2	0 6887010201 00
10,25		12,00	102	55	2	0 6887010251 00
10,30		12,00	102	55	2	0 6887010301 00
10,40		12,00	102	55	2	0 6887010401 00
10,50		12,00	102	55	2	0 6887010501 00
10,60		12,00	102	55	2	0 6887010601 00
10,70		12,00	102	55	2	0 6887010701 00
10,75		12,00	102	55	2	0 6887010751 00
10,80		12,00	102	55	2	0 6887010801 00
10,90		12,00	102	55	2	0 6887010901 00
11,00		12,00	102	55	2	0 6887011001 00
11,10		12,00	102	55	2	0 6887011101 00
11,11	**7/16**	12,00	102	55	2	0 6887011111 00
11,20		12,00	102	55	2	0 6887011201 00
11,25		12,00	102	55	2	0 6887011251 00
11,30		12,00	102	55	2	0 6887011301 00
11,35		12,00	102	55	2	0 6887011351 00
11,40		12,00	102	55	2	0 6887011401 00
11,45		12,00	102	55	2	0 6887011451 00
11,50		12,00	102	55	2	0 6887011501 00
11,60		12,00	102	55	2	0 6887011601 00
11,70		12,00	102	55	2	0 6887011701 00
11,75		12,00	102	55	2	0 6887011751 00
11,80		12,00	102	55	2	0 6887011801 00
11,90		12,00	102	55	2	0 6887011901 00
12,00		12,00	102	55	2	0 6887012001 00

D VHM-Spiralbohrer Speeddrill-Inox,
DIN 6537K, kurz 3xD, mit Innenkühlung

Einsatzbereich:
VHM-Hochleistungsbohrer mit Innenkühlkanälen speziell für die Bearbeitung von rostfreien Stählen. Hohe Stabilität durch gerade Hauptschneide. Spezialanschliff bewirkt optimalen Spanbruch, hohe Zentriergenauigkeit und geringe Schnittkräfte. Hohe Warmfestigkeit.

E Solid carbide stub drills Speeddrill-Inox,
DIN 6537K, short series 3xD, with internal coolant supply

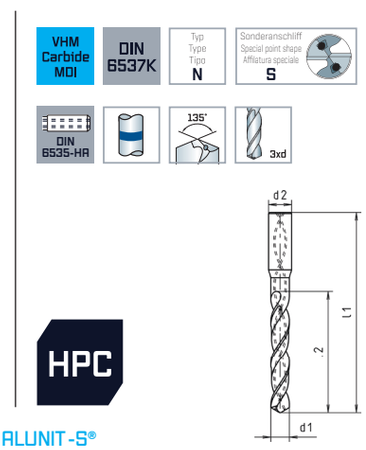
Range of application:
Solid carbide high performance drill with internal coolant supply especially for cutting stainless steels. High stability due to straight main cutting edge. Special point shape effects optimum chip breakage, high centering accuracy and less cutting forces. High-temperature stability.

I Punte elicoidali MDI Speeddrill–Inox,
DIN 6537K, serie corta 3xD, con fori lubrificazione

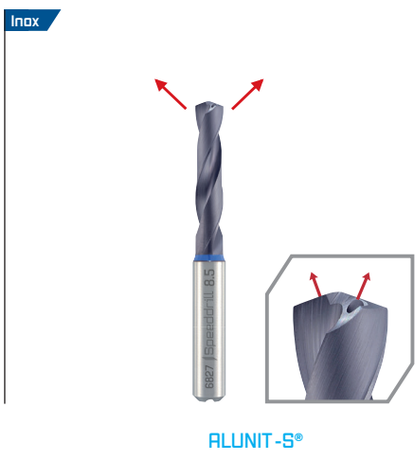
Impiego:
Punte MDI ad alto rendimento con fori di lubrificazione interni particolarmente adatte per forare acciai inossidabili. Alta stabilità grazie alla affilatura piatta del tagliente principale. La geometria speciale della punta garantisce un ottima evacuazione del truciolo, una elevate accuratezza di centraggio ed una minore forza di taglio. Stabilità ad alta temperatura di esercizio.

Speeddrill





ALUNIT-S®



ALUNIT-S®

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	Z	Code 6827 Art.-Nr.
2,00		4,00	55	20	2	0 6827002001 00
2,50		4,00	55	20	2	0 6827002501 00
3,00		6,00	62	20	2	0 6827003001 00
3,17	**1/8**	6,00	62	20	2	0 6827003171 00
3,20		6,00	62	20	2	0 6827003201 00
3,30		6,00	62	20	2	0 6827003301 00
3,40		6,00	62	20	2	0 6827003401 00
3,50		6,00	62	20	2	0 6827003501 00
3,70		6,00	62	20	2	0 6827003701 00
3,80		6,00	66	24	2	0 6827003801 00
3,90		6,00	66	24	2	0 6827003901 00
4,00		6,00	66	24	2	0 6827004001 00
4,10		6,00	66	24	2	0 6827004101 00
4,20		6,00	66	24	2	0 6827004201 00
4,30		6,00	66	24	2	0 6827004301 00
4,50		6,00	66	24	2	0 6827004501 00
4,70		6,00	66	24	2	0 6827004701 00
4,76	**3/16**	6,00	66	28	2	0 6827004761 00
4,80		6,00	66	28	2	0 6827004801 00
5,00		6,00	66	28	2	0 6827005001 00
5,10		6,00	66	28	2	0 6827005101 00
5,20		6,00	66	28	2	0 6827005201 00
5,50		6,00	66	28	2	0 6827005501 00
5,80		6,00	66	28	2	0 6827005801 00
6,00		6,00	66	28	2	0 6827006001 00
6,20		8,00	79	34	2	0 6827006201 00
6,35	**1/4**	8,00	79	34	2	0 6827006351 00
6,50		8,00	79	34	2	0 6827006501 00
6,60		8,00	79	34	2	0 6827006601 00
6,80		8,00	79	34	2	0 6827006801 00
6,90		8,00	79	34	2	0 6827006901 00
7,00		8,00	79	34	2	0 6827007001 00
7,40		8,00	79	41	2	0 6827007401 00
7,50		8,00	79	41	2	0 6827007501 00
7,80		8,00	79	41	2	0 6827007801 00
7,94	**5/16**	8,00	79	41	2	0 6827007941 00

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	Z	Code 6827 Art.-Nr.
8,00		8,00	79	41	2	0 6827008001 00
8,40		10,00	89	47	2	0 6827008401 00
8,50		10,00	89	47	2	0 6827008501 00
8,60		10,00	89	47	2	0 6827008601 00
8,70		10,00	89	47	2	0 6827008701 00
8,80		10,00	89	47	2	0 6827008801 00
9,00		10,00	89	47	2	0 6827009001 00
9,30		10,00	89	47	2	0 6827009301 00
9,40		10,00	89	47	2	0 6827009401 00
9,50		10,00	89	47	2	0 6827009501 00
9,52	**3/8**	10,00	89	47	2	0 6827009521 00
9,80		10,00	89	47	2	0 6827009801 00
9,90		10,00	89	47	2	0 6827009901 00
10,00		10,00	89	47	2	0 6827010001 00
10,20		12,00	102	55	2	0 6827010201 00
10,30		12,00	102	55	2	0 6827010301 00
10,50		12,00	102	55	2	0 6827010501 00
10,80		12,00	102	55	2	0 6827010801 00
11,00		12,00	102	55	2	0 6827011001 00
11,11	**7/16**	12,00	102	55	2	0 6827011111 00
11,50		12,00	102	55	2	0 6827011501 00
11,80		12,00	102	55	2	0 6827011801 00
12,00		12,00	102	55	2	0 6827012001 00
12,20		14,00	107	60	2	0 6827012201 00
12,50		14,00	107	60	2	0 6827012501 00
12,70	**1/2**	14,00	107	60	2	0 6827012701 00
12,80		14,00	107	60	2	0 6827012801 00
13,00		14,00	107	60	2	0 6827013001 00
13,50		14,00	107	60	2	0 6827013501 00
13,80		14,00	107	60	2	0 6827013801 00
14,00		14,00	107	60	2	0 6827014001 00
15,00		16,00	115	65	2	0 6827015001 00
16,00		16,00	115	65	2	0 6827016001 00

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar.
Also available with Weldon-shank (DIN 6535-HB) without extra charge.
Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.

D HPC-Vollhartmetallbohrer Speeddrill 4.0-Inox,

DIN 6537L, lang 5xD
4 Führungsfasen,
mit Innenkühlung

Einsatzbereich:
VHM-Hochleistungsbohrer mit Innenkühlkanälen speziell für die Bearbeitung von rostfreien Stählen. Durch den speziellen Ausspitzungsanschliff ergibt sich eine perfekte Spanabfuhr. Eine optimale Rundheit der Bohrung durch 4 Führungsfasen ermöglicht eine exakte Flucht der Bohrung mit bester Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

E HPC solid carbide stub drills Speeddrill 4.0-Inox,

DIN 6537L, long series 5xD,
4 guide chamfers,
with internal coolant supply

Range of application:
Solid carbide high performance drill with internal coolant supply especially for cutting stainless steels. Easy chip removal due to special split point. An optimal roundness of the hole by 4 guide chamfers enables an exact alignment of the bore hole with the best surface quality. The Generation 4.0 sets new standards in cutting performance.

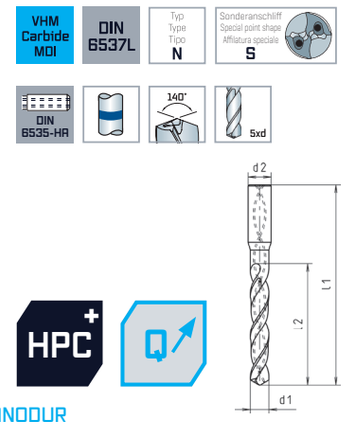
I HPC punte elicoidali MDI Speeddrill 4.0-Inox,

DIN 6537L, serie lunga 5xD,
4 superfici di guida svasate,
con fori lubrificazione

Impiego:
Punte MDI ad alto rendimento con fori di lubrificazione interni particolarmente adatte per forare acciai inossidabili.. Migliore asportazione dei trucioli per affilatura assottigliata speciale. Ottimale rotondità della foratura con 4 superfici di guida perfetto per allineamento del foro con alta finitura superficiale. La generazione 4.0 stabilisce nuovi standard in rendimento.

Speeddrill 4.0





NANODUR



NANODUR

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	Z	Code 6897 Art.-Nr.
3,00		6,00	66	28	2	0 6897003001 00
3,10		6,00	66	28	2	0 6897003101 00
3,17	**1/8**	6,00	66	28	2	0 6897003171 00
3,20		6,00	66	28	2	0 6897003201 00
3,25		6,00	66	28	2	0 6897003251 00
3,30		6,00	66	28	2	0 6897003301 00
3,38		6,00	66	28	2	0 6897003381 00
3,40		6,00	66	28	2	0 6897003401 00
3,50		6,00	66	28	2	0 6897003501 00
3,60		6,00	66	28	2	0 6897003601 00
3,65		6,00	66	28	2	0 6897003651 00
3,70		6,00	66	28	2	0 6897003701 00
3,80		6,00	74	36	2	0 6897003801 00
3,90		6,00	74	36	2	0 6897003901 00
4,00		6,00	74	36	2	0 6897004001 00
4,10		6,00	74	36	2	0 6897004101 00
4,20		6,00	74	36	2	0 6897004201 00
4,30		6,00	74	36	2	0 6897004301 00
4,40		6,00	74	36	2	0 6897004401 00
4,50		6,00	74	36	2	0 6897004501 00
4,60		6,00	74	36	2	0 6897004601 00
4,65		6,00	74	36	2	0 6897004651 00
4,70		6,00	74	36	2	0 6897004701 00
4,75		6,00	74	36	2	0 6897004751 00
4,76	**3/16**	6,00	82	44	2	0 6897004761 00
4,80		6,00	82	44	2	0 6897004801 00
4,90		6,00	82	44	2	0 6897004901 00
5,00		6,00	82	44	2	0 6897005001 00
5,10		6,00	82	44	2	0 6897005101 00
5,20		6,00	82	44	2	0 6897005201 00
5,25		6,00	82	44	2	0 6897005251 00

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	Z	Code 6897 Art.-Nr.
5,30		6,00	82	44	2	0 6897005301 00
5,40		6,00	82	44	2	0 6897005401 00
5,50		6,00	82	44	2	0 6897005501 00
5,55		6,00	82	44	2	0 6897005551 00
5,60		6,00	82	44	2	0 6897005601 00
5,70		6,00	82	44	2	0 6897005701 00
5,75		6,00	82	44	2	0 6897005751 00
5,80		6,00	82	44	2	0 6897005801 00
5,90		6,00	82	44	2	0 6897005901 00
6,00		6,00	82	44	2	0 6897006001 00
6,10		8,00	91	53	2	0 6897006101 00
6,20		8,00	91	53	2	0 6897006201 00
6,30		8,00	91	53	2	0 6897006301 00
6,35	**1/4**	8,00	91	53	2	0 6897006351 00
6,40		8,00	91	53	2	0 6897006401 00
6,50		8,00	91	53	2	0 6897006501 00
6,60		8,00	91	53	2	0 6897006601 00
6,70		8,00	91	53	2	0 6897006701 00
6,80		8,00	91	53	2	0 6897006801 00
6,90		8,00	91	53	2	0 6897006901 00
7,00		8,00	91	53	2	0 6897007001 00
7,10		8,00	91	53	2	0 6897007101 00
7,20		8,00	91	53	2	0 6897007201 00
7,25		8,00	91	53	2	0 6897007251 00
7,30		8,00	91	53	2	0 6897007301 00
7,40		8,00	91	53	2	0 6897007401 00
7,45		8,00	91	53	2	0 6897007451 00
7,50		8,00	91	53	2	0 6897007501 00
7,60		8,00	91	53	2	0 6897007601 00
7,70		8,00	91	53	2	0 6897007701 00
7,75		8,00	91	53	2	0 6897007751 00

NANODUR

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	Z	Code 6897 Art.-Nr.
7,80		8,00	91	53	2	0 6897007801 00
7,90		8,00	91	53	2	0 6897007901 00
7,94	**5/16**	8,00	91	53	2	0 6897007941 00
8,00		8,00	91	53	2	0 6897008001 00
8,10		10,00	103	61	2	0 6897008101 00
8,20		10,00	103	61	2	0 6897008201 00
8,30		10,00	103	61	2	0 6897008301 00
8,40		10,00	103	61	2	0 6897008401 00
8,45		10,00	103	61	2	0 6897008451 00
8,50		10,00	103	61	2	0 6897008501 00
8,60		10,00	103	61	2	0 6897008601 00
8,70		10,00	103	61	2	0 6897008701 00
8,80		10,00	103	61	2	0 6897008801 00
8,90		10,00	103	61	2	0 6897008901 00
9,00		10,00	103	61	2	0 6897009001 00
9,10		10,00	103	61	2	0 6897009101 00
9,20		10,00	103	61	2	0 6897009201 00
9,25		10,00	103	61	2	0 6897009251 00
9,30		10,00	103	61	2	0 6897009301 00
9,35		10,00	103	61	2	0 6897009351 00
9,40		10,00	103	61	2	0 6897009401 00
9,45		10,00	103	61	2	0 6897009451 00
9,50		10,00	103	61	2	0 6897009501 00
9,52	**3/8**	10,00	103	61	2	0 6897009521 00
9,60		10,00	103	61	2	0 6897009601 00
9,70		10,00	103	61	2	0 6897009701 00
9,75		10,00	103	61	2	0 6897009751 00
9,80		10,00	103	61	2	0 6897009801 00
9,90		10,00	103	61	2	0 6897009901 00

NANODUR

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	Z	Code 6897 Art.-Nr.
10,00		10,00	103	61	2	0 6897010001 00
10,10		12,00	118	71	2	0 6897010101 00
10,20		12,00	118	71	2	0 6897010201 00
10,25		12,00	118	71	2	0 6897010251 00
10,30		12,00	118	71	2	0 6897010301 00
10,40		12,00	118	71	2	0 6897010401 00
10,50		12,00	118	71	2	0 6897010501 00
10,60		12,00	118	71	2	0 6897010601 00
10,70		12,00	118	71	2	0 6897010701 00
10,75		12,00	118	71	2	0 6897010751 00
10,80		12,00	118	71	2	0 6897010801 00
10,90		12,00	118	71	2	0 6897010901 00
11,00		12,00	118	71	2	0 6897011001 00
11,10		12,00	118	71	2	0 6897011101 00
11,11	**7/16**	12,00	118	71	2	0 6897011111 00
11,20		12,00	118	71	2	0 6897011201 00
11,25		12,00	118	71	2	0 6897011251 00
11,30		12,00	118	71	2	0 6897011301 00
11,35		12,00	118	71	2	0 6897011351 00
11,40		12,00	118	71	2	0 6897011401 00
11,45		12,00	118	71	2	0 6897011451 00
11,50		12,00	118	71	2	0 6897011501 00
11,60		12,00	118	71	2	0 6897011601 00
11,70		12,00	118	71	2	0 6897011701 00
11,75		12,00	118	71	2	0 6897011751 00
11,80		12,00	118	71	2	0 6897011801 00
11,90		12,00	118	71	2	0 6897011901 00
12,00		12,00	118	71	2	0 6897012001 00

D VHM-Spiralbohrer Speeddrill-Inox,

DIN 6537L, lang 5xD, mit Innenkühlung

Einsatzbereich:
VHM-Hochleistungsbohrer mit Innenkühlkanälen speziell für die Bearbeitung von rostfreien Stählen. Hohe Stabilität durch gerade Hauptschneide. Spezialanschliff bewirkt optimalen Spanbruch, hohe Zentriergenauigkeit und geringe Schnittkräfte. Hohe Warmfestigkeit.

E Solid carbide stub drills Speeddrill-Inox,

DIN 6537L, long series 5xD, with internal coolant supply

Range of application:
Solid carbide high performance drill with internal coolant supply especially for cutting stainless steels. High stability due to straight main cutting edge. Special point shape effects optimum chip breakage, high centering accuracy and less cutting forces. High-temperature stability.

I Punte elicoidali MDI Speeddrill–Inox,

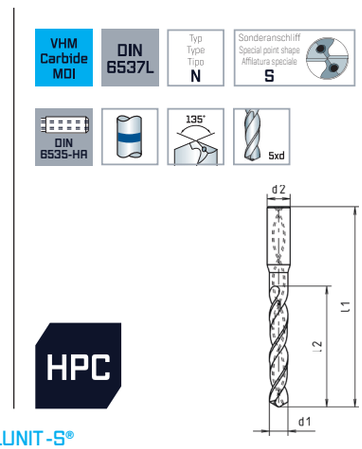
DIN 6537L, serie lunga 5xD, con fori lubrificazione

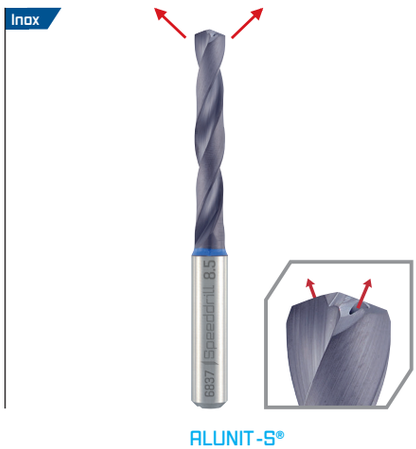
Impiego:
Punte MDI ad alto rendimento con fori di lubrificazione interni particolarmente adatte per forare acciai inossidabili. Alta stabilità grazie alla affilatura piatta del tagliente principale. La geometria speciale della punta garantisce un ottima evacuazione del truciolo, una elevate accuratezza di centraggio ed una minore forza di taglio. Stabilità ad alta temperatura di esercizio.



Speeddrill







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d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	Z	Code 6837 Art.-Nr.
3,00		6,00	66	28	2	0 6837003001 00
3,17	**1/8**	6,00	66	28	2	0 6837003171 00
3,30		6,00	66	28	2	0 6837003301 00
3,40		6,00	66	28	2	0 6837003401 00
3,50		6,00	66	28	2	0 6837003501 00
4,00		6,00	74	36	2	0 6837004001 00
4,20		6,00	74	36	2	0 6837004201 00
4,30		6,00	74	36	2	0 6837004301 00
4,50		6,00	74	36	2	0 6837004501 00
4,76	**3/16**	6,00	82	44	2	0 6837004761 00
5,00		6,00	82	44	2	0 6837005001 00
5,10		6,00	82	44	2	0 6837005101 00
5,50		6,00	82	44	2	0 6837005501 00
6,00		6,00	82	44	2	0 6837006001 00
6,35	**1/4**	8,00	91	53	2	0 6837006351 00
6,50		8,00	91	53	2	0 6837006501 00
6,80		8,00	91	53	2	0 6837006801 00
6,90		8,00	91	53	2	0 6837006901 00

d1 h7 mm	d1 h7 inch	d2 h6 mm	l1 mm	l2 mm	Z	Code 6837 Art.-Nr.
7,00		8,00	91	53	2	0 6837007001 00
7,50		8,00	91	53	2	0 6837007501 00
7,94	**5/16**	8,00	91	53	2	0 6837007941 00
8,00		8,00	91	53	2	0 6837008001 00
8,50		10,00	103	61	2	0 6837008501 00
9,00		10,00	103	61	2	0 6837009001 00
9,50		10,00	103	61	2	0 6837009501 00
9,52	**3/8**	10,00	103	61	2	0 6837009521 00
10,00		10,00	103	61	2	0 6837010001 00
10,20		12,00	118	71	2	0 6837010201 00
10,30		12,00	118	71	2	0 6837010301 00
10,50		12,00	118	71	2	0 6837010501 00
11,00		12,00	118	71	2	0 6837011001 00
11,11	**7/16**	12,00	118	71	2	0 6837011111 00
11,50		12,00	118	71	2	0 6837011501 00
12,00		12,00	118	71	2	0 6837012001 00
12,70	**1/2**	14,00	124	77	2	0 6837012701 00

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar.
Also available with Weldon-shank (DIN 6535-HB) without extra charge.
Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.

D VHM-Spiralbohrer Speeddrill-Ultra Hard Steel 68 HRC, DIN 6537K, kurz, mit verstärktem Schaft

Einsatzbereich:
VHM-Hochleistungsbohrer speziell für die Bearbeitung von hochfesten und gehärteten Stählen bis 68 HRC. Sehr hohe Stabilität und geringerer Verschleiß durch konvexe Schneidengeometrie. Spezialanschliff bewirkt optimalen Spanbruch, hohe Zentriergenauigkeit und geringe Schnittkräfte.

E Solid carbide stub drills Speeddrill-Ultra hard steel 68 HRC, DIN 6537K, short series, with reinforced shank

Range of application:
Solid carbide high performance drill especially for cutting high tensile and hardened steels up to 68 HRC. Extremely high stability and less wear due to convex cutting edge geometry. Special point shape effects optimum chip breakage, high centering accuracy and less cutting forces.

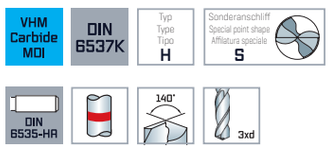
I Punte elicoidali MDI Speeddrill–Ultra hard steel 68 HRC, DIN 6537K, serie corta, codolo rinforzato

Impiego:
Punte MDI ad alto rendimento particolarmente adatte per forare acciai ad alta resistenza e temprati fino a 68 HRC. Stabilità estremamente elevata e minor usura grazie alla geometria di affilatura convessa. La geometria speciale della punta garantisce un ottima evacuazione del truciolo, una elevata accuratezza di centraggio ed una minore forza di taglio.

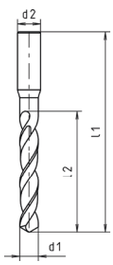
Speeddrill







HPC



HRC



ALUNIT-S®

d1 h7 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6857 Art.-Nr.
3,00	6,00	62	20	2	0 6857003001 00
3,30	6,00	62	20	2	0 6857003301 00
3,50	6,00	62	20	2	0 6857003501 00
3,80	6,00	66	24	2	0 6857003801 00
4,00	6,00	66	24	2	0 6857004001 00
4,20	6,00	66	24	2	0 6857004201 00
4,50	6,00	66	24	2	0 6857004501 00
4,80	6,00	66	28	2	0 6857004801 00
5,00	6,00	66	28	2	0 6857005001 00
5,20	6,00	66	28	2	0 6857005201 00
5,50	6,00	66	28	2	0 6857005501 00
5,80	6,00	66	28	2	0 6857005801 00
6,00	6,00	66	28	2	0 6857006001 00
6,50	8,00	79	34	2	0 6857006501 00
6,80	8,00	79	34	2	0 6857006801 00
7,00	8,00	79	34	2	0 6857007001 00
7,50	8,00	79	41	2	0 6857007501 00
7,80	8,00	79	41	2	0 6857007801 00
8,00	8,00	79	41	2	0 6857008001 00
8,50	10,00	89	47	2	0 6857008501 00

ALUNIT-S®

d1 h7 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6857 Art.-Nr.
8,80	10,00	89	47	2	0 6857008801 00
9,00	10,00	89	47	2	0 6857009001 00
9,50	10,00	89	47	2	0 6857009501 00
9,80	10,00	89	47	2	0 6857009801 00
10,00	10,00	89	47	2	0 6857010001 00
10,20	12,00	102	55	2	0 6857010201 00
10,50	12,00	102	55	2	0 6857010501 00
10,80	12,00	102	55	2	0 6857010801 00
11,00	12,00	102	55	2	0 6857011001 00
11,80	12,00	102	55	2	0 6857011801 00
12,00	12,00	102	55	2	0 6857012001 00
12,50	14,00	107	60	2	0 6857012501 00
12,80	14,00	107	60	2	0 6857012801 00
13,00	14,00	107	60	2	0 6857013001 00
13,80	14,00	107	60	2	0 6857013801 00
14,00	14,00	107	60	2	0 6857014001 00
14,80	16,00	115	65	2	0 6857014801 00
15,00	16,00	115	65	2	0 6857015001 00
15,80	16,00	115	65	2	0 6857015801 00
16,00	16,00	115	65	2	0 6857016001 00

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar.
Also available with Weldon-shank (DIN 6535-HB) without extra charge.
Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.



D VHM-Spiralbohrer Speeddrill-Aluminium,
DIN 6537L, lang 5xD, mit Innenkühlung

Einsatzbereich:
VHM-Hochleistungsbohrer mit Innenkühlkanälen speziell für die Aluminium-Bearbeitung. 6 Führungsfasen gewährleisten eine sehr hohe Fluchtungsgenauigkeit und Stabilisierung des Bohrers auch bei sehr hohen Schnittgeschwindigkeiten und Vorschüben. Spezialbeschichtung verhindert Aufbauschneidenbildung aufgrund äußerst glatter Oberfläche.

E Solid carbide stub drills Speeddrill-Aluminium,
DIN 6537L, long series 5xD, with internal coolant supply

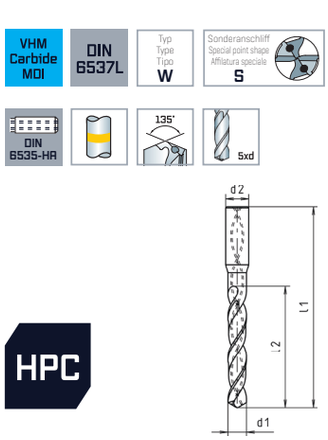
Range of application:
Solid carbide high performance drill with internal coolant supply especially for cutting aluminium. 6 guide chamfers guarantee very high alignment accuracy and stabilisation of the drill even using high cutting speeds and feeds. Special coating prevents built-up edges due to especially smooth surface.

I Punte elicoidali MDI Speeddrill–Alluminio,
DIN 6537L, serie lunga 5xD, con fori lubrificazione

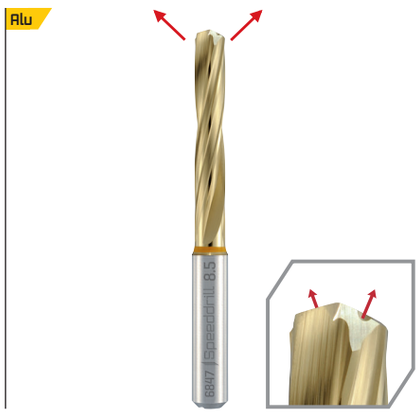
Impiego:
Punte MDI ad alto rendimento con fori di lubrificazione interni particolarmente adatte per forare alluminio. 6 superfici di guida svasate garantiscono elevata accuratezza di allineamento e stabilizzazione della punta anche utilizzando alte velocità di taglio ed avanzamenti. Il rivestimento speciale previene il tagliente di riporto grazie in particolare alla superficie liscia.

Speeddrill

Cu, Ms | Al



ZOX



ZOX

d1 h7 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6847 Art.-Nr.
2,80	4,00	57	21	2	0 6847002801 00
3,00	6,00	66	28	2	0 6847003001 00
3,30	6,00	66	28	2	0 6847003301 00
3,50	6,00	66	28	2	0 6847003501 00
3,70	6,00	66	28	2	0 6847003701 00
4,00	6,00	74	36	2	0 6847004001 00
4,20	6,00	74	36	2	0 6847004201 00
4,50	6,00	74	36	2	0 6847004501 00
5,00	6,00	82	44	2	0 6847005001 00
5,50	6,00	82	44	2	0 6847005501 00
6,00	6,00	82	44	2	0 6847006001 00
6,50	8,00	91	53	2	0 6847006501 00
6,80	8,00	91	53	2	0 6847006801 00
7,00	8,00	91	53	2	0 6847007001 00
7,50	8,00	91	53	2	0 6847007501 00
7,80	8,00	91	53	2	0 6847007801 00
8,00	8,00	91	53	2	0 6847008001 00
8,50	10,00	103	61	2	0 6847008501 00
9,00	10,00	103	61	2	0 6847009001 00

d1 h7 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6847 Art.-Nr.
9,50	10,00	103	61	2	0 6847009501 00
10,00	10,00	103	61	2	0 6847010001 00
10,20	12,00	118	71	2	0 6847010201 00
10,50	12,00	118	71	2	0 6847010501 00
11,00	12,00	118	71	2	0 6847011001 00
11,20	12,00	118	71	2	0 6847011201 00
11,50	12,00	118	71	2	0 6847011501 00
12,00	12,00	118	71	2	0 6847012001 00
12,50	14,00	124	77	2	0 6847012501 00
13,00	14,00	124	77	2	0 6847013001 00
13,10	14,00	124	77	2	0 6847013101 00
13,50	14,00	124	77	2	0 6847013501 00
14,00	14,00	124	77	2	0 6847014001 00
14,50	16,00	133	83	2	0 6847014501 00
15,00	16,00	133	83	2	0 6847015001 00
15,10	16,00	133	83	2	0 6847015101 00
15,50	16,00	133	83	2	0 6847015501 00
16,00	16,00	133	83	2	0 6847016001 00

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar.
Also available with Weldon-shank (DIN 6535-HB) without extra charge.
Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.



VHM-Bohrer

E Solid carbide drills

I Punte elicoidali in metallo duro integrale



D Übersicht
VHM-Bohrer

E Overview
Solid carbide drills

I Sommario
Punte elicoidali in metallo duro integrale

D Die Schnittwerte für alle Werkzeuge entnehmen Sie bitte unserem separaten Zerspanungshandbuch.

E You will find the cutting conditions for all tools in our separate cutting manual.

I Per i parametri di lavorazione per tutti gli utensili richiedete il nostro manuale tecnico.

	Spiralbohrer / Stub drills / Punte elicoidali			
				
Norm / Standard	DIN 6539		DIN 338	
Typ / Type / Tipo	N	N	N	N
Bohrtiefe / Depth of drilling / Profondità foro	3xD	3xD	5xD	5xD
Kühlkanäle / Coolant supply / Fori lubrificazione				
Beschichtung / Coating / Rivestimento		ALUNIT®		ALUNIT®
Spitzenwinkel / Lip angle / Angolo affilatura	118°	118°	118°	118°
Ø mm	0,5–20	0,5–14	1–16	1–16
Code / Codice	6146	6147	6156	6157
Seite / Page / Pagina	044	044	046	046
Geeignet für / Suitable for / Adatte per				
Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²	▰	▬	▰	▬
Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²	▰	▬	▰	▬
Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²		▬		▬
Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²		▰		▰
Stähle > 45 HRC / Steels > 45 HRC / Acciai > 45 HRC				
Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²		▰		▰
Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²		▰		▰
Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile		▰		▰
Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio	▰	▰	▰	▰
Kupfer, Messing / Copper, brass / Rame, ottone	▬	▰	▬	▰
Aluminium / Aluminium / Alluminio	▰	▰	▰	▰
Kunststoffe / Plastics / Materie plastiche	▰	▰	▰	▰

▬ Ideal / Ideal / Ideale | ▰ Geeignet / Suitable / Adatte

D **Übersicht**
VHM-Bohrer

E **Overview**
Solid carbide drills

I **Sommario**
Punte elicoidali in metallo duro integrale

Zentrierbohrer / Centre drills Punte a centrare	NC-Anbohrer / NC-Centre drills / Punte elicoidali NC		Kleinstbohrer / Mini drills Micropunte
			
DIN 333	WN		DIN 1899
RN, Form A			N
		ALUNIT®	
120° / 60°	90°	90°	130°
0,8–5	4–20	4–20	0,3–1,4
6525	6225	6227	6035
049	050	050	051
▬	▬	▬	▬
▬	▬	▬	▬
▬	▬	▬	▬
▱	▱	▱	▱
▱	▱	▱	▱
▱	▱	▱	▱
▱	▱	▱	▱
▱	▱	▱	▱
▱	▱	▱	▱
▱	▱	▱	▱

▬ Ideal / Ideal / Ideale | ▱ Geeignet / Suitable / Adatte

D VHM-Spiralbohrer
kurz, DIN 6539

E Solid carbide stub drills,
short series, DIN 6539

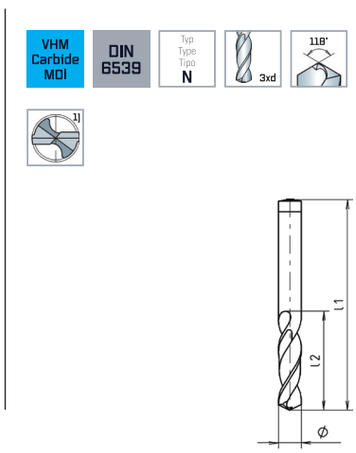
I Punte elicoidali metallo duro integrale
serie corta, DIN 6539

Einsatzbereich:
Besonders geeignet zum Bohren von hochfesten Stählen, Cr-Ni-Stählen, Hartguss, Grauguss, Stahlguss, Mn-Hartstahl, Bronze, Aluminium mit hohem Siliziumanteil und anderen schwer zerspanbaren Werkstoffen (beschichtete Ausführung).

Range of application:
Especially suitable for drilling heat resistant steels, Cr-Ni steels, high carbon steel castings, grey cast iron, cast steels, manganese steels, bronze, aluminium with high percentage silicium and other difficult-to-machine materials (coated design).

Impiego:
Particolarmente adatte per foratura di acciai tenaci, acciai al Ni-Cr, ghisa conchigliata, ghisa grigia, acciaio fuso, acciai al manganese, bronzo, alluminio con elevato tenore di silicio, altri acciai di difficile lavorabilità (modello rivestito).









ALUNIT®

Ø h7 mm	l1 mm	l2 mm	Z	Code 6146 Art.-Nr.	Code 6147 Art.-Nr.
0,50	26	3	2	0 6146000501 00	0 6147000501 00
0,60	26	3,5	2	0 6146000601 00	0 6147000601 00
0,70	26	4,5	2	0 6146000701 00	0 6147000701 00
0,80	26	5	2	0 6146000801 00	0 6147000801 00
0,90	26	5,5	2	0 6146000901 00	0 6147000901 00
1,00	26	6	2	0 6146001001 00	0 6147001001 00
1,10	28	7	2	0 6146001101 00	0 6147001101 00
1,20	30	8	2	0 6146001201 00	0 6147001201 00
1,30	30	8	2	0 6146001301 00	0 6147001301 00
1,40	32	9	2	0 6146001401 00	0 6147001401 00
1,50	32	9	2	0 6146001501 00	0 6147001501 00
1,60	34	10	2	0 6146001601 00	0 6147001601 00
1,70	34	10	2	0 6146001701 00	0 6147001701 00
1,80	36	11	2	0 6146001801 00	0 6147001801 00
1,90	36	11	2	0 6146001901 00	0 6147001901 00
2,00	38	12	2	0 6146002001 00	0 6147002001 00
2,10	38	12	2	0 6146002101 00	0 6147002101 00
2,20	40	13	2	0 6146002201 00	0 6147002201 00
2,30	40	13	2	0 6146002301 00	0 6147002301 00
2,40	43	14	2	0 6146002401 00	0 6147002401 00
2,50	43	14	2	0 6146002501 00	0 6147002501 00
2,60	43	14	2	0 6146002601 00	0 6147002601 00
2,70	46	16	2	0 6146002701 00	0 6147002701 00
2,80	46	16	2	0 6146002801 00	0 6147002801 00
2,90	46	16	2	0 6146002901 00	0 6147002901 00
3,00	46	16	2	0 6146003001 00	0 6147003001 00
3,10	49	18	2	0 6146003101 00	0 6147003101 00
3,20	49	18	2	0 6146003201 00	0 6147003201 00
3,30	49	18	2	0 6146003301 00	0 6147003301 00
3,40	52	20	2	0 6146003401 00	0 6147003401 00
3,50	52	20	2	0 6146003501 00	0 6147003501 00
3,60	52	20	2	0 6146003601 00	0 6147003601 00
3,70	52	20	2	0 6146003701 00	0 6147003701 00
3,80	55	22	2	0 6146003801 00	0 6147003801 00

1) ≤ Ø 2,90 mm 4-Flächenanschliff / 4-faced point shape / affilatura a 4 spoglie
≥ Ø 3,00 mm 6-Flächenanschliff / 6-faced point shape / affilatura a 6 spoglie

ALUNIT®

Ø $_{h7}$ mm	l1 mm	l2 mm	Z	Code 6146 Art.-Nr.	Code 6147 Art.-Nr.
3,90	55	22	2	0 6146003901 00	0 6147003901 00
4,00	55	22	2	0 6146004001 00	0 6147004001 00
4,10	55	22	2	0 6146004101 00	0 6147004101 00
4,20	55	22	2	0 6146004201 00	0 6147004201 00
4,30	58	24	2	0 6146004301 00	0 6147004301 00
4,40	58	24	2	0 6146004401 00	0 6147004401 00
4,50	58	24	2	0 6146004501 00	0 6147004501 00
4,60	58	24	2	0 6146004601 00	0 6147004601 00
4,70	58	24	2	0 6146004701 00	0 6147004701 00
4,80	62	26	2	0 6146004801 00	0 6147004801 00
4,90	62	26	2	0 6146004901 00	0 6147004901 00
5,00	62	26	2	0 6146005001 00	0 6147005001 00
5,10	62	26	2	0 6146005101 00	0 6147005101 00
5,20	62	26	2	0 6146005201 00	0 6147005201 00
5,30	62	26	2	0 6146005301 00	0 6147005301 00
5,40	66	28	2	0 6146005401 00	0 6147005401 00
5,50	66	28	2	0 6146005501 00	0 6147005501 00
5,60	66	28	2	0 6146005601 00	0 6147005601 00
5,70	66	28	2	0 6146005701 00	0 6147005701 00
5,80	66	28	2	0 6146005801 00	0 6147005801 00
5,90	66	28	2	0 6146005901 00	0 6147005901 00
6,00	66	28	2	0 6146006001 00	0 6147006001 00
6,10	70	31	2	0 6146006101 00	0 6147006101 00
6,20	70	31	2	0 6146006201 00	0 6147006201 00
6,30	70	31	2	0 6146006301 00	0 6147006301 00
6,40	70	31	2	0 6146006401 00	0 6147006401 00
6,50	70	31	2	0 6146006501 00	0 6147006501 00
6,60	70	31	2	0 6146006601 00	0 6147006601 00
6,70	70	31	2	0 6146006701 00	0 6147006701 00
6,80	74	34	2	0 6146006801 00	0 6147006801 00
6,90	74	34	2	0 6146006901 00	0 6147006901 00
7,00	74	34	2	0 6146007001 00	0 6147007001 00
7,10	74	34	2	0 6146007101 00	0 6147007101 00
7,20	74	34	2	0 6146007201 00	0 6147007201 00
7,30	74	34	2	0 6146007301 00	0 6147007301 00
7,40	74	34	2	0 6146007401 00	0 6147007401 00
7,50	74	34	2	0 6146007501 00	0 6147007501 00
7,60	79	36	2	0 6146007601 00	0 6147007601 00
7,70	79	36	2	0 6146007701 00	0 6147007701 00
7,80	79	36	2	0 6146007801 00	0 6147007801 00
7,90	79	36	2	0 6146007901 00	0 6147007901 00
8,00	79	36	2	0 6146008001 00	0 6147008001 00
8,10	79	36	2	0 6146008101 00	0 6147008101 00
8,20	79	36	2	0 6146008201 00	0 6147008201 00
8,30	79	36	2	0 6146008301 00	0 6147008301 00
8,40	79	36	2	0 6146008401 00	0 6147008401 00
8,50	79	36	2	0 6146008501 00	0 6147008501 00
8,60	84	40	2	0 6146008601 00	0 6147008601 00
8,70	84	40	2	0 6146008701 00	0 6147008701 00
8,80	84	40	2	0 6146008801 00	0 6147008801 00
8,90	84	40	2	0 6146008901 00	0 6147008901 00
9,00	84	40	2	0 6146009001 00	0 6147009001 00
9,10	84	40	2	0 6146009101 00	0 6147009101 00
9,20	84	40	2	0 6146009201 00	0 6147009201 00
9,30	84	40	2	0 6146009301 00	0 6147009301 00
9,40	84	40	2	0 6146009401 00	0 6147009401 00
9,50	84	40	2	0 6146009501 00	0 6147009501 00
9,60	89	43	2	0 6146009601 00	0 6147009601 00
9,70	89	43	2	0 6146009701 00	0 6147009701 00
9,80	89	43	2	0 6146009801 00	0 6147009801 00



Fortsetzung / Continuation / Continuazione ▶

ALUNIT®

Ø $_{h7}$ mm	l1 mm	l2 mm	Z	Code 6146 Art.-Nr.	Code 6147 Art.-Nr.
9,90	89	43	2	0 6146009901 00	0 6147009901 00
10,00	89	43	2	0 6146010001 00	0 6147010001 00
10,20	89	43	2	0 6146010201 00	0 6147010201 00
10,50	89	43	2	0 6146010501 00	0 6147010501 00
10,80	95	47	2	0 6146010801 00	0 6147010801 00
11,00	95	47	2	0 6146011001 00	0 6147011001 00
11,50	95	47	2	0 6146011501 00	0 6147011501 00
12,00	102	51	2	0 6146012001 00	0 6147012001 00
12,50	102	51	2	0 6146012501 00	0 6147012501 00
13,00	102	51	2	0 6146013001 00	0 6147013001 00
13,50	107	54	2	0 6146013501 00	0 6147013501 00
14,00	107	54	2	0 6146014001 00	0 6147014001 00
14,50	111	56	2	0 6146014501 00	
15,00	111	56	2	0 6146015001 00	
15,50	115	58	2	0 6146015501 00	
16,00	115	58	2	0 6146016001 00	
16,50	119	60	2	0 6146016501 00	
17,00	119	60	2	0 6146017001 00	
17,50	123	62	2	0 6146017501 00	
18,00	123	62	2	0 6146018001 00	
18,50	127	64	2	0 6146018501 00	
19,00	127	64	2	0 6146019001 00	
19,50	131	66	2	0 6146019501 00	
20,00	131	66	2	0 6146020001 00	

D VHM-Spiralbohrer
lang, DIN 338

Einsatzbereich:
Besonders geeignet zum Bohren von hochfesten Stählen, Cr-Ni-Stählen, Hartguss, Grauguss, Stahlguss, Mn-Hartstahl, Bronze, Aluminium mit hohem Siliziumanteil und anderen schwer zerspanbaren Werkstoffen (beschichtete Ausführung).

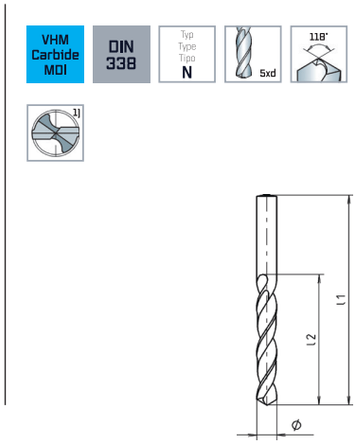
E Solid carbide jobber drills
long series, DIN 338

Range of application:
Especially suitable for drilling heat resistant steels, Cr-Ni steels, high carbon steel castings, grey cast iron, cast steels, manganese steels, bronze, aluminium with high percentage silicium and other difficult-to-machine materials (coated design).

I Punte elicoidali metallo duro integrale
serie lunga, DIN 338

Impiego:
Particolarmente adatte per foratura di acciai tenaci, acciai al Ni-Cr, ghisa conchigliata, ghisa grigia, acciaio fuso, acciai al manganese, bronzo, alluminio con elevato tenore di silicio, altri acciai di difficile lavorabilità (modello rivestito).







ALUNIT®

Ø $_{h7}$ mm	l1 mm	l2 mm	Z	Code 6156 Art.-Nr.	Code 6157 Art.-Nr.
1,00	34	12	2	0 6156001001 00	0 6157001001 00
1,10	36	14	2	0 6156001101 00	0 6157001101 00
1,20	38	16	2	0 6156001201 00	0 6157001201 00
1,30	38	16	2	0 6156001301 00	0 6157001301 00
1,40	40	18	2	0 6156001401 00	0 6157001401 00
1,50	40	18	2	0 6156001501 00	0 6157001501 00
1,60	43	20	2	0 6156001601 00	0 6157001601 00
1,70	43	20	2	0 6156001701 00	0 6157001701 00
1,80	46	22	2	0 6156001801 00	0 6157001801 00
1,90	46	22	2	0 6156001901 00	0 6157001901 00
2,00	49	24	2	0 6156002001 00	0 6157002001 00
2,10	49	24	2	0 6156002101 00	0 6157002101 00
2,20	53	27	2	0 6156002201 00	0 6157002201 00
2,30	53	27	2	0 6156002301 00	0 6157002301 00
2,40	57	30	2	0 6156002401 00	0 6157002401 00
2,50	57	30	2	0 6156002501 00	0 6157002501 00
2,60	57	30	2	0 6156002601 00	0 6157002601 00
2,70	61	33	2	0 6156002701 00	0 6157002701 00
2,80	61	33	2	0 6156002801 00	0 6157002801 00
2,90	61	33	2	0 6156002901 00	0 6157002901 00
3,00	61	33	2	0 6156003001 00	0 6157003001 00
3,10	65	36	2	0 6156003101 00	0 6157003101 00
3,20	65	36	2	0 6156003201 00	0 6157003201 00
3,30	65	36	2	0 6156003301 00	0 6157003301 00
3,40	70	39	2	0 6156003401 00	0 6157003401 00
3,50	70	39	2	0 6156003501 00	0 6157003501 00
3,60	70	39	2	0 6156003601 00	0 6157003601 00
3,70	70	39	2	0 6156003701 00	0 6157003701 00
3,80	75	43	2	0 6156003801 00	0 6157003801 00
3,90	75	43	2	0 6156003901 00	0 6157003901 00
4,00	75	43	2	0 6156004001 00	0 6157004001 00
4,10	75	43	2	0 6156004101 00	0 6157004101 00
4,20	75	43	2	0 6156004201 00	0 6157004201 00
4,30	80	47	2	0 6156004301 00	0 6157004301 00
4,40	80	47	2	0 6156004401 00	0 6157004401 00
4,50	80	47	2	0 6156004501 00	0 6157004501 00
4,60	80	47	2	0 6156004601 00	0 6157004601 00
4,70	80	47	2	0 6156004701 00	0 6157004701 00
4,80	86	52	2	0 6156004801 00	0 6157004801 00
4,90	86	52	2	0 6156004901 00	0 6157004901 00
5,00	86	52	2	0 6156005001 00	0 6157005001 00
5,10	86	52	2	0 6156005101 00	0 6157005101 00
5,20	86	52	2	0 6156005201 00	0 6157005201 00
5,30	86	52	2	0 6156005301 00	0 6157005301 00
5,40	93	57	2	0 6156005401 00	0 6157005401 00
5,50	93	57	2	0 6156005501 00	0 6157005501 00
5,60	93	57	2	0 6156005601 00	0 6157005601 00
5,70	93	57	2	0 6156005701 00	0 6157005701 00
5,80	93	57	2	0 6156005801 00	0 6157005801 00
5,90	93	57	2	0 6156005901 00	0 6157005901 00
6,00	93	57	2	0 6156006001 00	0 6157006001 00
6,10	101	63	2	0 6156006101 00	0 6157006101 00
6,20	101	63	2	0 6156006201 00	0 6157006201 00
6,30	101	63	2	0 6156006301 00	0 6157006301 00
6,40	101	63	2	0 6156006401 00	0 6157006401 00
6,50	101	63	2	0 6156006501 00	0 6157006501 00
6,60	101	63	2	0 6156006601 00	0 6157006601 00
6,70	101	63	2	0 6156006701 00	0 6157006701 00
6,80	109	69	2	0 6156006801 00	0 6157006801 00
6,90	109	69	2	0 6156006901 00	0 6157006901 00

1) ≤ Ø 2,90 mm 4-Flächenanschliff / 4-faced point shape / affilatura a 4 spoglie
≥ Ø 3,00 mm 6-Flächenanschliff / 6-faced point shape / affilatura a 6 spoglie

Fortsetzung / Continuation / Continuazione ▶



ALUNIT®

Ø $_{h7}$ mm	l1 mm	l2 mm	Z	Code 6156 Art.-Nr.	Code 6157 Art.-Nr.
7,00	109	69	2	0 6156007001 00	0 6157007001 00
7,10	109	69	2	0 6156007101 00	0 6157007101 00
7,20	109	69	2	0 6156007201 00	0 6157007201 00
7,30	109	69	2	0 6156007301 00	0 6157007301 00
7,40	109	69	2	0 6156007401 00	0 6157007401 00
7,50	109	69	2	0 6156007501 00	0 6157007501 00
7,60	117	75	2	0 6156007601 00	0 6157007601 00
7,70	117	75	2	0 6156007701 00	0 6157007701 00
7,80	117	75	2	0 6156007801 00	0 6157007801 00
7,90	117	75	2	0 6156007901 00	0 6157007901 00
8,00	117	75	2	0 6156008001 00	0 6157008001 00
8,10	117	75	2	0 6156008101 00	0 6157008101 00
8,20	117	75	2	0 6156008201 00	0 6157008201 00
8,30	117	75	2	0 6156008301 00	0 6157008301 00
8,40	117	75	2	0 6156008401 00	0 6157008401 00
8,50	117	75	2	0 6156008501 00	0 6157008501 00
8,60	125	81	2	0 6156008601 00	0 6157008601 00
8,70	125	81	2	0 6156008701 00	0 6157008701 00
8,80	125	81	2	0 6156008801 00	0 6157008801 00
8,90	125	81	2	0 6156008901 00	0 6157008901 00
9,00	125	81	2	0 6156009001 00	0 6157009001 00
9,10	125	81	2	0 6156009101 00	0 6157009101 00
9,20	125	81	2	0 6156009201 00	0 6157009201 00
9,30	125	81	2	0 6156009301 00	0 6157009301 00
9,40	125	81	2	0 6156009401 00	0 6157009401 00
9,50	125	81	2	0 6156009501 00	0 6157009501 00
9,60	133	87	2	0 6156009601 00	0 6157009601 00
9,70	133	87	2	0 6156009701 00	0 6157009701 00
9,80	133	87	2	0 6156009801 00	0 6157009801 00
9,90	133	87	2	0 6156009901 00	0 6157009901 00
10,00	133	87	2	0 6156010001 00	0 6157010001 00
10,20	133	87	2	0 6156010201 00	0 6157010201 00
10,50	133	87	2	0 6156010501 00	0 6157010501 00
10,80	142	94	2	0 6156010801 00	0 6157010801 00
11,00	142	94	2	0 6156011001 00	0 6157011001 00
11,50	142	94	2	0 6156011501 00	0 6157011501 00
12,00	151	101	2	0 6156012001 00	0 6157012001 00
12,50	151	101	2	0 6156012501 00	0 6157012501 00
13,00	151	101	2	0 6156013001 00	0 6157013001 00
13,50	160	108	2	0 6156013501 00	0 6157013501 00
14,00	160	108	2	0 6156014001 00	0 6157014001 00
14,50	169	114	2	0 6156014501 00	0 6157014501 00
15,00	169	114	2	0 6156015001 00	0 6157015001 00
15,50	178	120	2	0 6156015501 00	0 6157015501 00
16,00	178	120	2	0 6156016001 00	0 6157016001 00

D VHM-Zentrierbohrer
DIN 333

Einsatzbereich:
Zentrierbohrer zum Herstellen von Zentrierbohrungen nach DIN 332 Blatt 1, Form A (ohne Schutzsenkung).

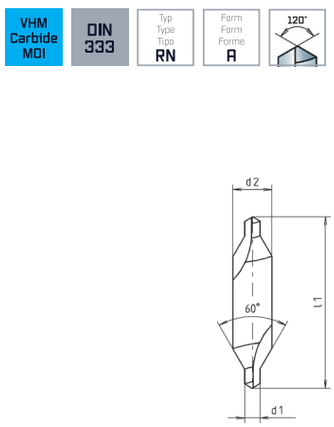
E Solid carbide centre drills
DIN 333

Range of application:
Centre-drills for the production of centre-holes according to DIN 332 sheet 1, form A (without protective chamfer).

I Punte a centrare metallo duro integrale
DIN 333

Impiego:
Esecuzione fori di centraggio secondo DIN 332 part 1, forma A (senza smusso di protezione).







d1 h9 mm	d2 h7 mm	l1 mm	Ø 1)	Code 6525 Art.-Nr.
0,80	3,15	25	4-6	0 6525000801 00
1,00	3,15	31,5	4-8	0 6525001001 00
1,25	3,15	31,5	8-10	0 6525001201 00
1,60	4	35,5	10-15	0 6525001601 00
2,00	5	40	15-20	0 6525002001 00
2,50	6,3	45	20-30	0 6525002501 00
3,15	8	50	30-40	0 6525003101 00
4,00	10	56	40-63	0 6525004001 00
5,00	12,5	63	63-100	0 6525005001 00

1) Ø für Werkstück / workpiece / utensile



D VHM-NC-Anbohrer
90°

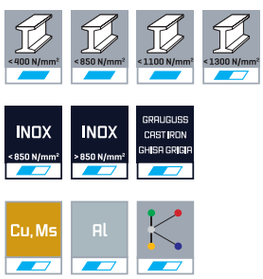
Einsatzbereich:
Spezialbohrer für besonders genaues und schnelles Anbohren auf NC-Maschinen, Lehrenbohrwerken usw. Zum Zentrieren und Anfasen von Gewindebohrungen.

E Solid carbide NC-Centre drills
90°

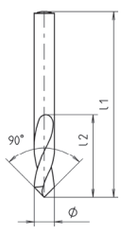
Range of application:
Special drills of highest efficiency for more precise and faster drilling-work on NC-machines, boring tools etc. Designed for centering and chamfering of center-holes.

I Punte elicoidali NC metallo duro integrale
angolo 90°

Impiego:
Punte speciali per l'esecuzione di fori di centraggio particolarmente esatti su macchina NC, forature per calibri, ecc. Per centratura e smusso di fori per maschiatura.











ALUNIT®

Ø h6 mm	l1 mm	l2 mm	Code 6225 Art.-Nr.	Code 6227 Art.-Nr.
4,00	55	12	0 6225004001 00	0 6227004001 00
5,00	62	14	0 6225005001 00	0 6227005001 00
6,00	66	16	0 6225006001 00	0 6227006001 00
8,00	79	21	0 6225008001 00	0 6227008001 00
10,00	89	25	0 6225010001 00	0 6227010001 00
12,00	102	30	0 6225012001 00	0 6227012001 00
16,00	115	37,5	0 6225016001 00	0 6227016001 00
20,00	131	45	0 6225020001 00	0 6227020001 00

D VHM-Kleinstbohrer
mit zylindrischem Schaft, DIN 1899

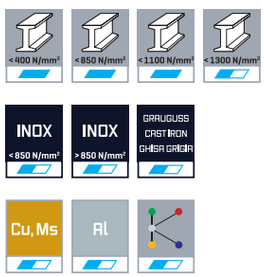
E Solid carbide mini drills
with cylindrical shank, DIN 1899

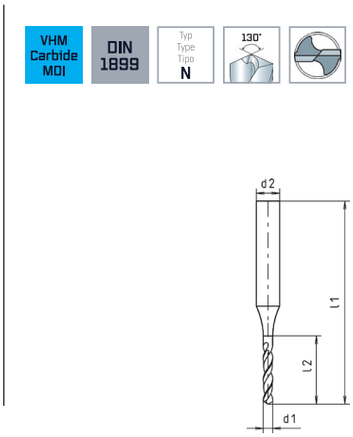
I Micropunte metallo duro integrale
codolo cilindrico, DIN 1899

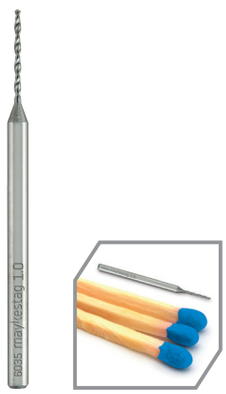
Einsatzbereich:
Besonders geeignet zum Bohren von hochfesten Stählen, Cr-Ni-Stählen, Hartguss, Grauguss, Stahlguss, Mn-Hartstahl, Bronze, Aluminium mit hohem Siliziumanteil und anderen schwer zerspanbaren Werkstoffen.

Range of application:
Especially suitable for drilling heat resistant steels, Cr-Ni steels, high carbon steel castings, grey cast iron, cast steels, manganese steels, bronze, aluminium with high percentage silicium and other difficult-to-machine materials.

Impiego:
Particolarmente adatte per foratura di acciai tenaci, acciai al Ni-Cr, ghisa conchigliata, ghisa grigia, acciaio fuso, acciai al manganese, bronzo, alluminio con elevato tenore di silicio, altri acciai di difficile lavorabilità.







d1 h7 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6035 Art.-Nr.
0,30	1,00	25	2,2	2	0 6035000301 00
0,35	1,00	25	2,8	2	0 6035000351 00
0,40	1,00	25	3,6	2	0 6035000401 00
0,45	1,00	25	3,6	2	0 6035000451 00
0,50	1,00	25	4,0	2	0 6035000501 00
0,55	1,00	25	4,5	2	0 6035000551 00
0,60	1,00	25	4,5	2	0 6035000601 00
0,65	1,00	25	5,0	2	0 6035000651 00
0,70	1,00	25	5,6	2	0 6035000701 00
0,75	1,00	25	5,6	2	0 6035000751 00
0,80	1,50	25	6,3	2	0 6035000801 00
0,85	1,50	25	6,3	2	0 6035000851 00
0,90	1,50	25	7,1	2	0 6035000901 00
0,95	1,50	25	7,1	2	0 6035000951 00
1,00	1,50	25	8,0	2	0 6035001001 00
1,05	1,50	25	8,0	2	0 6035001051 00
1,10	1,50	25	9,0	2	0 6035001101 00
1,15	1,50	25	9,0	2	0 6035001151 00
1,20	1,50	25	10,0	2	0 6035001201 00
1,25	1,50	25	10,0	2	0 6035001251 00
1,30	1,50	25	10,0	2	0 6035001301 00
1,35	1,50	25	11,2	2	0 6035001351 00
1,40	1,50	25	11,2	2	0 6035001401 00

Hinweis: 4-Flächenanschliff / Remark: 4-faced point shape / Att: 4 spoglie



VHM-Senker und VHM-Maschinenreibahlen

E Solid carbide countersinks and solid carbide machine reamers

I Svasatori in metallo duro integrale, alesatori in metallo duro integrale



D VHM-Kegelsenker ungleiche Teilung
DIN 335 C, 90°

Einsatzbereich:
Für alle E- und NE-Metalle, Kunststoffe hart und weich. Universell einsetzbares Entgrat- und Senkwerkzeug für Bohrungen aller Art. Sehr gute Schneideigenschaften durch ungleichgeteilte Schneiden. Verringerung der Vorschubkraft und Ratterbildung an der Senkoberfläche durch reduzierte Axial- und Radialkraft.

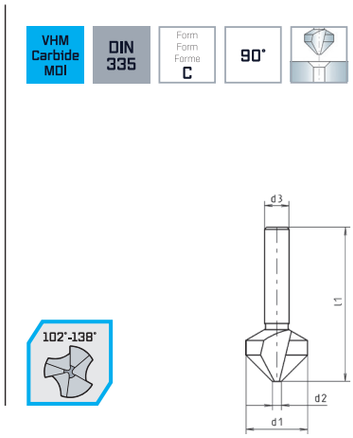
E Solid carbide countersinks different partition
DIN 335 C, 90°

Range of application:
For ferrous and non-ferrous metals, synthetic materials soft and hard. Universal deburring and sink tool for all kind of borings. Excellent cutting features guarantee a smooth surface by unequally divided cutting edges. Reduction of feed force and chatter marks on the countersinking surface due to reduced axial and radial force.

I Svasatori in metallo duro integrale disuguale tagliente
DIN 335 C, 90°

Impiego:
Adatti per tutti i materiali ferrosi, non ferrosi, plastiche dure e dolci, per sbavature e svasature di tutti i tipi di fori. Perfette proprietà di taglio, a causa di disuguale tagliente. Riduzione della forza di alimentazione e vibrazioni sulla superficie di affondamento grazie alla ridotta forza assiale e radiale.









ALUNIT®

d1 z9 mm		d2 mm	d3 h6 mm	l1 mm	Z	Code 6530 Art.-Nr.	Code 6637 Art.-Nr.
5,30		1,00	4,00	40	3	0 6530005301 00	0 6637005301 00
6,30	M3	1,50	5,00	45	3	0 6530006301 00	0 6637006301 00
8,30	M4	2,00	6,00	50	3	0 6530008301 00	0 6637008301 00
10,40	M5	2,50	6,00	50	3	0 6530010401 00	0 6637010401 00
12,40	M6	2,80	8,00	56	3	0 6530012401 00	0 6637012401 00
14,40		2,90	8,00	56	3	0 6530014401 00	0 6637014401 00
16,50	M8	3,20	10,00	60	3	0 6530016501 00	0 6637016501 00
19,50		3,50	10,00	63	3	0 6530019501 00	0 6637019501 00
20,50	M10	3,50	10,00	63	3	0 6530020501 00	0 6637020501 00
25,00	M12	3,80	10,00	67	3	0 6530025001 00	0 6637025001 00
31,00		4,20	12,00	71	3	0 6530031001 00	0 6637031001 00

Ø 5,30 VHM / solid carbide / metallo duro integrale
Ø 6,30–31,00 nur VHM-Kopf / only solid carbide cutting part / testa metallo duro integrale



Standard Kegelsenker
Standard countersink
Svasatori Standard



mit ungleicher Teilung
with different partition
con divisione variabile

D VHM-Kegelsenker
DIN 335 C, 90°

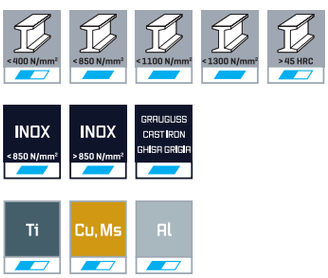
Einsatzbereich:
Zum ratterfreien Senken und Entgraten von Stählen, hochfesten Stählen, Grauguss, VA-Werkstoffen sowie siliziumhaltigen Aluminium-Legierungen.

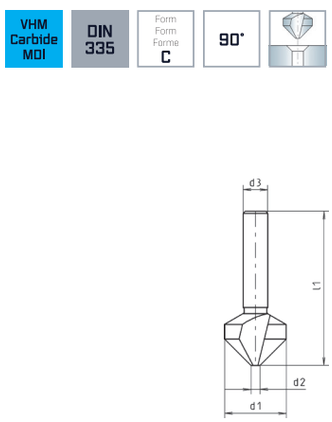
E Solid carbide countersinks
DIN 335 C, 90°

Range of application:
For countersinking and deburring of steels with medium/high tensile strength, cast iron, stainless steels as well as silicium containing aluminium-alloys.

I Svasatori in metallo duro integrale
DIN 335 C, 90°

Impiego:
Svasatura senza vibrazioni e sbavature di acciai tenaci, ghisa grigia, inox, e leghe di alluminio al silicio.









ALUNIT®

d1 z9 mm	d2 mm	d3 h6 mm	l1 mm	Z	Code 6405 Art.-Nr.	Code 6407 Art.-Nr.
5,30	1,00	4,00	40	3	0 6405005301 00	0 6407005301 00
6,30	1,50	5,00	45	3	0 6405006301 00	0 6407006301 00
8,30	2,00	6,00	50	3	0 6405008301 00	0 6407008301 00
10,40	2,50	6,00	50	3	0 6405010401 00	0 6407010401 00
12,40	2,80	8,00	56	3	0 6405012401 00	0 6407012401 00
14,40	2,90	8,00	56	3	0 6405014401 00	0 6407014401 00
16,50	3,20	10,00	60	3	0 6405016501 00	0 6407016501 00
19,50	3,50	10,00	63	3	0 6405019501 00	0 6407019501 00
20,50	3,50	10,00	63	3	0 6405020501 00	0 6407020501 00
25,00	3,80	10,00	67	3	0 6405025001 00	0 6407025001 00
31,00	4,20	12,00	71	3	0 6405031001 00	0 6407031001 00

Ø 5,30 VHM / solid carbide / metallo duro integrale
Ø 6,30–31,00 nur VHM-Kopf / only solid carbide cutting part / testa metallo duro integrale



D EU[1]-VHM-NC-Maschinenreibahlen
Linksspirale, ähnlich DIN 8093

Einsatzbereich:
Spiralgenutete Ausführung, 8° Linksspirale, vorwiegend für Durchgangsbohrungen in alle E- und NE-Metalle geeignet.

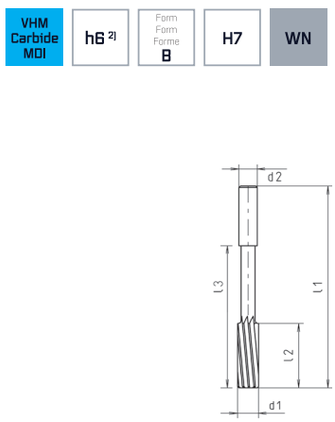
E EU[1]-Solid carbide NC-machine reamers
left hand spiral, similar to DIN 8093

Range of application:
Ferrous and non-ferrous metals. Slow helix type 8° left hand spiral.

I Alesatori a macchina NC EU[1] in metallo duro integrale
elica sinistra, simili DIN 8093

Impiego:
Alesatori con taglienti elicoidali sinistri a 8° per fori passanti in tutti i materiali ferrosi e non ferrosi.







d1 H7 mm	d2 h6 mm	l1 mm	l2 mm	l3 mm	Z		Code 5210 Art.-Nr.
1,40	4,00	50	9	19	3	Ø 1,30 mm	0 5210001401 00
1,50	4,00	50	9	19	3	Ø 1,40 mm	0 5210001501 00
1,60	4,00	50	10	19	3	Ø 1,50 mm	0 5210001601 00
1,80	4,00	50	11	19	4	Ø 1,70 mm	0 5210001801 00
2,00	4,00	50	12	19	4	Ø 1,90 mm	0 5210002001 00
2,20	4,00	50	12	19	4	Ø 2,10 mm	0 5210002201 00
2,50	4,00	60	16	29	4	Ø 2,40 mm	0 5210002501 00
2,80	4,00	65	17	33	6	Ø 2,70 mm	0 5210002801 00
3,00	4,00	65	17	28	6	Ø 2,90 mm	0 5210003001 00
3,20	4,00	68	18	34	6	Ø 3,10 mm	0 5210003201 00
3,50	4,00	74	20	35	6	Ø 3,40 mm	0 5210003501 00
4,00	4,00	77	21	45	6	Ø 3,90 mm	0 5210004001 00
4,50	6,00	82	23	52	6	Ø 4,40 mm	0 5210004501 00
5,00	6,00	93	26	58	6	Ø 4,90 mm	0 5210005001 00
5,50	6,00	93	26	57	6	Ø 5,30 mm	0 5210005501 00
6,00	6,00	93	26	57	6	Ø 5,80 mm	0 5210006001 00
6,50	6,00	101	28	65	6	Ø 6,30 mm	0 5210006501 00
7,00	8,00	109	31	73	6	Ø 6,80 mm	0 5210007001 00
7,50	8,00	109	31	73	6	Ø 7,30 mm	0 5210007501 00
8,00	8,00	117	33	81	6	Ø 7,80 mm	0 5210008001 00
8,50	10,00	117	33	81	6	Ø 8,30 mm	0 5210008501 00
9,00	10,00	125	36	85	6	Ø 8,80 mm	0 5210009001 00
9,50	10,00	125	36	85	6	Ø 9,30 mm	0 5210009501 00
10,00	10,00	133	38	93	6	Ø 9,80 mm	0 5210010001 00
10,50	10,00	133	38	93	6	Ø 10,30 mm	0 5210010501 00
11,00	10,00	142	41	102	6	Ø 10,80 mm	0 5210011001 00
11,50	10,00	142	41	102	6	Ø 11,30 mm	0 5210011501 00
12,00	10,00	151	44	111	6	Ø 11,80 mm	0 5210012001 00
14,00	14,00	160	47	114	8	Ø 13,80 mm	0 5210014001 00
16,00	14,00	170	52	124	8	Ø 15,80 mm	0 5210016001 00
18,00	14,00	182	56	136	8	Ø 17,80 mm	0 5210018001 00
20,00	16,00	195	60	147	8	Ø 19,80 mm	0 5210020001 00

[1] Ausführung in extrem ungleicher Teilung. / Execution in extremely non-uniform pitch. / Esecuzione con divisione molto irregolare.
[2] ganzzahliger Schaftdurchmesser / nominal shank / diam. codolo nominale

Ø 1,40–12,00 VHM / solid carbide / metallo duro integrale
Ø 14,00–20,00 nur VHM-Kopf / only solid carbide cutting part / parte taglienti metallo duro intregrale





Speedcut 4.0 Speedcut eco Speedcut HPC MTC STC STC+ HSC

Turbo Twister Speedtwister

D VHM-Hochleistungsfräser

E Solid carbide high performance end mills

I Frese MDI ad alto rendimento



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	Speedcut		Speedcut 4.0		Speedcut	
	 Uni	 Uni	 Uni	 Uni	 Uni	 Uni
Norm / Standard	DIN 6527K	WN	DIN 6527K			
Typ / Type / Tipo	N	N	N	N	N	N
Länge / Length / Lunghezza	kurz-freigestellt	lang-freigestellt	kurz / short	kurz / short	kurz-freigestellt	kurz-freigestellt
Schneidenanzahl / No. of flutes / Nr. denti	3	3	4	4	4	4
Kopfform / Head type / Tipo di testa						
Drallwinkel / Spiral angle / Anglo elica	34-36°	34-36°	35-38°	35-38°	35-38°	35-38°
Schaftform / Shank type / Forma codolo	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA	DIN 6535-HB	DIN 6535-HA	DIN 6535-HB
Kühlkanäle / Coolant supply / Fori lubrificazione						
Beschichtung / Coating / Rivestimento	ALUNIT-S®	ALUNIT-S®	TWINDUR	TWINDUR	ALUNIT-S®	ALUNIT-S®
Ø mm	2-10	3-10	3-20	3-20	3-20	3-20
Code / Codice	7367	7377	8207	8707	7387	7487
Seite / Page / Pagina	074	075	076	076	077	077
Geeignet für / Suitable for / Adatte per						
Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²	▬	▬	▬	▬	▬	▬
Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²	▬	▬	▬	▬	▬	▬
Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²	▬	▬	▬	▬	▬	▬
Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²	▬	▬	▬	▬	▬	▬
Stähle > 45 HRC / Steels > 45 HRC / Acciai > 45 HRC	▰	▰	▰	▰	▰	▰
Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²	▰	▰	▰	▰	▰	▰
Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²	▰	▰	▰	▰	▰	▰
Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile	▬	▬	▬	▬	▬	▬
Nickel / Nickel / Nickel						
Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio	▰	▰	▰	▰	▰	▰
Kupfer, Messing / Copper, brass / Rame, ottone	▰	▰	▰	▰	▰	▰
Aluminium / Aluminium / Alluminio	▰	▰	▰	▰	▰	▰
Kunststoffe / Plastics / Materie plastiche						

▬ Ideal / Ideal / Ideale | ▰ Geeignet / Suitable / Adatte

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Frese in metallo duro integrale

Speedcut 4.0				Speedcut		Speedcut 4.0	
 Uni	 Uni	 Uni	 Uni	 Uni	 Uni	 Uni	 Uni
DIN 6527L							
N	N	N	N	N	N	N	N
lang / long	lang / long	lang / long	lang / long	lang / long	lang / long	lang-freigestellt	lang-freigestellt
4	4	3-4	4	3-4	4	4	4
							
35-38°	35-38°	35-38°	35-38°	35-38°	35-38°	35-38°	35-38°
DIN 6535-HA	DIN 6535-HB	DIN 6535-HA	DIN 6535-HB	DIN 6535-HA	DIN 6535-HB	DIN 6535-HA	DIN 6535-HB
ja / yes / si	ja / yes / si					ja / yes / si	ja / yes / si
TWINDUR	TWINDUR	TWINDUR	TWINDUR	ALUNIT-S®	ALUNIT-S®	TWINDUR	TWINDUR
6-20	6-20	2-20	3-20	2-20	3-20	6-20	6-20
8507	8517	8217	8717	7217	7717	8527	8537
078	078	079	079	080	080	081	081
▬	▬	▬	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬	▬	▬
▭	▭	▭	▭	▭	▭	▭	▭
▭	▭	▭	▭	▭	▭	▭	▭
▭	▭	▭	▭	▭	▭	▭	▭
▬	▬	▬	▬	▬	▬	▬	▬
▭	▭	▭	▭	▭	▭	▭	▭
▭	▭	▭	▭	▭	▭	▭	▭
▭	▭	▭	▭	▭	▭	▭	▭

▬ Ideal / Ideal / Ideale | ▭ Geeignet / Suitable / Adatte

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	Speedcut 4.0		Speedcut		Speedcut 4.0	
	 Uni	 Uni	 Uni	 Uni	 Uni	 Uni
Norm / Standard	DIN 6527L				WN	
Typ / Type / Tipo	N	N	N	N	N	N
Länge / Length / Lunghezza	lang-freigestellt	lang-freigestellt	lang-freigestellt	lang-freigestellt	XL-freigestellt	XL-freigestellt
Schneidenanzahl / No. of flutes / Nr. denti	4	4	4	4	4	4
Kopfform / Head type / Tipo di testa						
Drallwinkel / Spiral angle / Anglo elica	35-38°	35-38°	35-38°	35-38°	35-38°	35-38°
Schaftform / Shank type / Forma codolo	DIN 6535-HA	DIN 6535-HB	DIN 6535-HA	DIN 6535-HB	DIN 6535-HA	DIN 6535-HB
Kühlkanäle / Coolant supply / Fori lubrificazione						
Beschichtung / Coating / Rivestimento	TWINDUR	TWINDUR	ALUNIT-S®	ALUNIT-S®	TWINDUR	TWINDUR
Ø mm	3-20	3-20	3-25	3-25	5-20	5-20
Code / Codice	8317	8417	7317	7417	8237	8737
Seite / Page / Pagina	082	082	083	083	084	084
Geeignet für / Suitable for / Adatte per						
Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²	▬	▬	▬	▬	▬	▬
Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²	▬	▬	▬	▬	▬	▬
Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²	▬	▬	▬	▬	▬	▬
Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²	▬	▬	▬	▬	▬	▬
Stähle > 45 HRC / Steels > 45 HRC / Acciai > 45 HRC	▭	▭	▭	▭	▭	▭
Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²	▭	▭	▭	▭	▭	▭
Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²	▭	▭	▭	▭	▭	▭
Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile	▬	▬	▬	▬	▬	▬
Nickel / Nickel / Nickel						
Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio	▭	▭	▭	▭	▭	▭
Kupfer, Messing / Copper, brass / Rame, ottone	▭	▭	▭	▭	▭	▭
Aluminium / Aluminium / Alluminio	▭	▭	▭	▭	▭	▭
Kunststoffe / Plastics / Materie plastiche						

▬ Ideal / Ideal / Ideale | ▭ Geeignet / Suitable / Adatte

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Speedcut				Speedcut 4.0	Speedcut			
								
Uni	Uni	Uni	Uni	Uni	Uni	Uni	Uni	Uni
WN		DIN 6527L	WN	DIN 6527L	DIN 6527L	WN	DIN 6527L	WN
N	N	N	N	N	N	N	N	N
XL-freigestellt	XL-freigestellt	lang / long	XL	lang-freigestellt	lang-freigestellt	XXL-freigestellt	lang-freigestellt	XXL-freigestellt
4	4	6-8	6-8	3-4	3-4	3-4	4	4
35-38°	35-38°	45°	45°	35-38°	35-38°	35-38°	35-38°	35-38°
DIN 6535-HA	DIN 6535-HB	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA
ALUNIT-S®	ALUNIT-S®	ALUNIT-S®	ALUNIT-S®	TWINDUR	ALUNIT-S®	ALUNIT-S®	ALUNIT-S®	ALUNIT-S®
5-25	5-25	4-20	4-20	2-20	2-20	2-16	4-20	3-16
7237	7737	7327	7337	8547	6447	6947	7357	7857
085	085	086	087	088	089	090	092	093

Ideal / Ideal / Ideale | Geeignet / Suitable / Adatte

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	Speedcut 4.0					
	 NEW Inox	 NEW Inox	 NEW Inox	 NEW Inox	 Inox	 Inox
Norm / Standard	DIN 6527L		WN	DIN 6527K		
Typ / Type / Tipo	N	N	N	N	N	N
Länge / Length / Lunghezza	lang, freigestellt	lang, freigestellt	XL-freigestellt	kurz / short	kurz-freigestellt	kurz-freigestellt
Schneidenanzahl / No. of flutes / Nr. denti	2	3	3	4	4	4
Kopfform / Head type / Tipo di testa						
Drallwinkel / Spiral angle / Anglo elica	44° VARIO	45-48°	45-47	39-42°	39-42°	39-42°
Schaftform / Shank type / Forma codolo	DIN 6535-HA	DIN 6535-HB	DIN 6535-HB	DIN 6535-HB	DIN 6535-HA	DIN 6535-HB
Kühlkanäle / Coolant supply / Fori lubrificazione						
Beschichtung / Coating / Rivestimento	ULTRADUR	ULTRADUR	ULTRADUR	ULTRADUR	ULTRADUR	ULTRADUR
Ø mm	1-20	1-20	1-20	3-20	3-16	3-16
Code / Codice	8167	8107	8117	8697	8397	8497
Seite / Page / Pagina	094	095	096	097	098	098
Geeignet für / Suitable for / Adatte per						
Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²	▬	▬	▬	▬	▬	▬
Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²	▬	▬	▬	▬	▬	▬
Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²	▬	▬	▬	▬	▬	▬
Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²	▬	▬	▬	▬	▬	▬
Stähle > 45 HRC / Steels > 45 HRC / Acciai > 45 HRC						
Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²	▬	▬	▬	▬	▬	▬
Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²	▭	▬	▬	▬	▬	▬
Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile						
Nickel / Nickel / Nickel						
Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio		▭	▭	▭	▭	▭
Kupfer, Messing / Copper, brass / Rame, ottone						
Aluminium / Aluminium / Alluminio	▭	▭	▭	▭	▭	▭
Kunststoffe / Plastics / Materie plastiche	▭ (1)	▭ (1)	▭ (1)	▭ (1)	▭ (1)	▭ (1)

(1) GFK: glasfaser-verstärkte Kunststoffe | GRP: glass-fibre reinforced plastics | FRP: plastica rinforzata con fibra di vetro

▬ Ideal / Ideal / Ideale | ▭ Geeignet / Suitable / Adatte

maykestag PERFORMANCE IN PRECISION

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Speedcut		Speedcut 4.0				Speedcut	
 Inox	 Inox	 Inox	 Inox	 Inox	 Inox	 Inox	 Inox
DIN 6527K		DIN 6527L					
N	N	N	N	N	N	N	N
kurz-freigestellt	kurz-freigestellt	lang / long	lang / long	lang / long	lang / long	lang / long	lang / long
4	4	4	4	3-4	4	3-4	4
39-42°	39-42°	39-42°	39-42°	39-42°	39-42°	39-42°	39-42°
DIN 6535-HA	DIN 6535-HB	DIN 6535-HA	DIN 6535-HB	DIN 6535-HA	DIN 6535-HB	DIN 6535-HA	DIN 6535-HB
		ja / yes / si	ja / yes / si				
ALUNIT-S®	ALUNIT-S®	ULTRADUR	ULTRADUR	ULTRADUR	ULTRADUR	ALUNIT-S®	ALUNIT-S®
3-16	3-16	6-20	6-20	2-20	3-20	2-20	3-20
7397	7497	8557	8567	8247	8747	7247	7747
099	099	100	100	101	101	102	102
[1]	[1]	[1]	[1]	[1]	[1]	[1]	[1]

[1] GFK: glasfaser-verstärkte Kunststoffe | GRP: glass-fibre reinforced plastics | FRP: plastica rinforzata con fibra di vetro

Ideal / Ideal / Ideale | Geeignet / Suitable / Adatte

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	Speedcut 4.0				Speedcut	
	 Inox	 Inox	 Inox	 Inox	 Inox	 Inox
Norm / Standard	DIN 6527L					
Typ / Type / Tipo	N	N	N	N	N	N
Länge / Length / Lunghezza	lang-freigestellt	lang-freigestellt	lang-freigestellt	lang-freigestellt	lang-freigestellt	lang-freigestellt
Schneidenanzahl / No. of flutes / Nr. denti	4	4	4	4	4	4
Kopfform / Head type / Tipo di testa						
Drallwinkel / Spiral angle / Anglo elica	39-42°	39-42°	39-42°	39-42°	39-42°	39-42°
Schaftform / Shank type / Forma codolo	DIN 6535-HA	DIN 6535-HB	DIN 6535-HA	DIN 6535-HB	DIN 6535-HA	DIN 6535-HB
Kühlkanäle / Coolant supply / Fori lubrificazione	ja / yes / si	ja / yes / si				
Beschichtung / Coating / Rivestimento	ULTRADUR	ULTRADUR	ULTRADUR	ULTRADUR	ALUNIT-S®	ALUNIT-S®
Ø mm	6-20	6-20	3-20	3-20	3-20	3-20
Code / Codice	8587	8597	8347	8447	7347	7447
Seite / Page / Pagina	103	103	104	104	105	105
Geeignet für / Suitable for / Adatte per						
Stähle < 400 N/mm² Steels < 400 N/mm² Acciai < 400 N/mm²	▬	▬	▬	▬	▬	▬
Stähle < 850 N/mm² Steels < 850 N/mm² Acciai < 850 N/mm²	▬	▬	▬	▬	▬	▬
Stähle < 1.100 N/mm² Steels < 1.100 N/mm² Acciai < 1.100 N/mm²	▬	▬	▬	▬	▬	▬
Stähle < 1.300 N/mm² Steels < 1.300 N/mm² Acciai < 1.300 N/mm²	▬	▬	▬	▬	▬	▬
Stähle > 45 HRC Steels > 45 HRC Acciai > 45 HRC						
Rostfreie Stähle < 850 N/mm² Stainless steels < 850 N/mm² Acciai inossidabili < 850 N/mm²	▬	▬	▬	▬	▬	▬
Rostfreie Stähle > 850 N/mm² Stainless steels > 850 N/mm² Acciai inossidabili > 850 N/mm²	▬	▬	▬	▬	▬	▬
Grauguss, Temperguss Cast iron, malleable cast iron Ghisa grigia, ghisa malleabile						
Nickel Nickel Nickel						
Titan- und Titanlegierung Titanium and titanium alloys Titanio e leghe di Titanio	▬	▬	▬	▬	▬	▬
Kupfer, Messing Copper, brass Rame, ottone						
Aluminium Aluminium Alluminio	▬	▬	▬	▬	▬	▬
Kunststoffe Plastics Materie plastiche	▬ (1)	▬ (1)	▬ (1)	▬ (1)	▬ (1)	▬ (1)

(1) GFK: glasfaser-verstärkte Kunststoffe | GRP: glass-fibre reinforced plastics | FRP: plastica rinforzata con fibra di vetro

▬ Ideal / Ideal / Ideale | ▬ Geeignet / Suitable / Adatte

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I Sommario
Frese in metallo duro integrale

Speedcut 4.0			Speedcut		Speedcut 4.0	Speedcut	Speedcut 4.0	
 Inox	 Inox	 NEW Inox	 Inox	 Inox	 Inox	 Inox	 NEW Inox	 NEW Inox
WN					DIN 6527L		DIN 6527K	WN
N	N	N	N	N	N	N	N	N
XL-freigestellt	XL-freigestellt	XL-freigestellt	XL-freigestellt	XL-freigestellt	lang-freigestellt	lang-freigestellt	kurz / short	XXL
4	4	4	4	4	3-4	3-4	4	4
39-42°	39-42°	40° VARIO	39-42°	39-42°	39-42°	39-42°	39-42°	39-42°
DIN 6535-HA	DIN 6535-HB	DIN 6535-HB	DIN 6535-HA	DIN 6535-HB	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA
ULTRADUR	ULTRADUR	ULTRADUR	ALUNIT-S®	ALUNIT-S®	ULTRADUR	ALUNIT-S®	ULTRADUR	ULTRADUR
5-20	5-20	5-20	5-20	5-20	2-20	2-20	2-20	2-20
8267	8767	8777	7267	7767	8647	6547	8177	8187
106	106	107	108	108	109	110	111	112
▬	▬	▬	▬	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬	▬	▬	▬
▬ [1]	▬ [1]	▬ [1]	▬ [1]	▬ [1]	▬ [1]	▬ [1]	▬ [1]	▬ [1]

[1] GFK: glasfaser-verstärkte Kunststoffe | GRP: glass-fibre reinforced plastics | FRP: plastica rinforzata con fibra di vetro

▬ Ideal / Ideal / Ideale | ▬ Geeignet / Suitable / Adatte

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	Speedcut 4.0					
	 Titan	 Titan	 Titan	 Titan	 HRC	 HRC
Norm / Standard	WN				DIN 6527L	WN
Typ / Type / Tipo	T+S	T+S	T+S	T+S	H	H
Länge / Length / Lunghezza	lang-freigestellt	lang-freigestellt	lang / long	lang / long	lang / long	XL-freigestellt
Schneidenanzahl / No. of flutes / Nr. denti	5	5	7	7	4	4
Kopfform / Head type / Tipo di testa	R	R	R	R	45°	45°
Drallwinkel / Spiral angle / Anglo elica	40°	40°	40°	40°	50° VARIO	50° VARIO
Schaftform / Shank type / Forma codolo	DIN 6535-HA	DIN 6535-HB	DIN 6535-HA	DIN 6535-HB	DIN 6535-HA	DIN 6535-HA
Kühlkanäle / Coolant supply / Fori lubrificazione	ja / yes / si	ja / yes / si	ja / yes / si	ja / yes / si		
Beschichtung / Coating / Rivestimento	AERODUR	AERODUR	AERODUR	AERODUR	DUALDUR	DUALDUR
Ø mm	3-20	3-20	3-20	3-20	4-20	4-20
Code / Codice	8127	8137	8147	8157	8787	8797
Seite / Page / Pagina	113	113	114	114	115	116
Geeignet für / Suitable for / Adatte per						
< 400 N/mm² — Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²						
< 850 N/mm² — Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²						
< 1100 N/mm² — Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²					▰	▰
< 1300 N/mm² — Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²					▬	▬
> 45 HRC — Stähle > 45 HRC / Steels > 45 HRC / Acciai > 45 HRC					▬ <65 HRC	▬ <65 HRC
INOX < 850 N/mm² — Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²						
INOX > 850 N/mm² — Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²						
GRAUGUSS CAST IRON GHISA GRIGIA — Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile					▰	▰
Ni — Nickel / Nickel / Nickel	▬	▬	▬	▬		
Ti — Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio	▬	▬	▬	▬		
Cu, Ms — Kupfer, Messing / Copper, brass / Rame, ottone						
Al — Aluminium / Aluminium / Alluminio						
Kunststoffe / Plastics / Materie plastiche						

▬ Ideal / Ideal / Ideale | ▰ Geeignet / Suitable / Adatte

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Speedcut 4.0	Speedcut					
 NEW HRC	 HRC	 HRC	 HRC	 HRC	 Alu	 Alu
WN	DIN 6527L	WN			DIN 6527L	
H	H	H	H	H	W	W
XL	lang / long	XL-freigestellt	XL	lang-freigestellt	lang-freigestellt	lang-freigestellt
4	6-10	6-10	6-8	6-8	2	2
50° VARIO	50°	50°	50°	50°	43-45°	43-45°
DIN 6535-HA	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA	DIN 6535-HB
DUALDUR	ALUNIT-S®	ALUNIT-S®	ALUNIT-S®	ALUNIT-S®		
12-16	4-20	4-20	12-16	4-16	3-20	3-20
8797	7277	7287	7287	6647	7035	7135
116	117	118	118	119	120	120
<65 HRC	<68 HRC	<68 HRC	<68 HRC	<68 HRC		

Ideal / Ideal / Ideale | Geeignet / Suitable / Adatte

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	Speedcut					
	 Alu	 Alu	 Alu	 Alu	 Alu	 Alu
Norm / Standard	6527L		WN			
Typ / Type / Tipo	W	W	W	W	W	W
Länge / Length / Lunghezza	lang-freigestellt	lang-freigestellt	XL-freigestellt	XL-freigestellt	XXL-freigestellt	XXL-freigestellt
Schneidenanzahl / No. of flutes / Nr. denti	3-4	3-4	3	3	3	3
Kopfform / Head type / Tipo di testa						
Drallwinkel / Spiral angle / Anglo elica	34-38°	34-38°	34-38°	34-38°	34-38°	34-38°
Schaftform / Shank type / Forma codolo	DIN 6535-HA	DIN 6535-HB	DIN 6535-HA	DIN 6535-HB	DIN 6535-HA	DIN 6535-HB
Kühlkanäle / Coolant supply / Fori lubrificazione						
Beschichtung / Coating / Rivestimento						
Ø mm	3-25	3-25	3-20	3-20	3-20	3-20
Code / Codice	7250	7950	7220	7920	7290	7990
Seite / Page / Pagina	121	121	122	122	123	123
Geeignet für / Suitable for / Adatte per						
< 400 N/mm² — Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²						
< 850 N/mm² — Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²						
< 1100 N/mm² — Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²						
< 1300 N/mm² — Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²						
> 45 HRC — Stähle > 45 HRC / Steels > 45 HRC / Acciai > 45 HRC						
INOX < 850 N/mm² — Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²						
INOX > 850 N/mm² — Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²						
GRAUGUSS CAST IRON GHISA GRIGIA — Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile						
Ni — Nickel / Nickel / Nickel						
Ti — Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio						
Cu, Ms — Kupfer, Messing / Copper, brass / Rame, ottone	▱	▱	▱	▱	▱	▱
Al — Aluminium / Aluminium / Alluminio	▬	▬	▬	▬	▬	▬
Kunststoffe / Plastics / Materie plastiche	▬	▬	▬	▬	▬	▬

▬ Ideal / Ideal / Ideale | ▱ Geeignet / Suitable / Adatte

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Speedcut								eco Speedcut	
 Alu	 Alu	 Alu	 Alu	 Alu	 Alu	 Alu	 Alu	 Uni	Uni
DIN 6527L	WN								
W	W	W	W	WR	WR	WR	WR	N	N
lang-freigestellt	XL-freigestellt	lang-freigestellt	XXL-freigestellt	lang-freigestellt	lang-freigestellt	XL-freigestellt	XL-freigestellt	kurz-freigestellt	kurz / short
3	3	2	2	3	3	3	3	4	4
									
34-38°	34-38°	43-45°	43-45°	35°	35°	35°	35°	35-38°	35-38°
DIN 6535-HA	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA	DIN 6535-HB	DIN 6535-HA	DIN 6535-HB	DIN 6535-HA	DIN 6535-HB
								ALUNIT-S®	ALUNIT-S®
3-16	3-20	3-20	3-12	6-20	6-20	6-20	6-20	4-12	4-12
7230	7090	7240	7260	7015	7115	7055	7155	7627	7127
124	125	126	127	128	128	129	129	130	130
								▬	▬
								▬	▬
								▬	▬
								▬	▬
								▱	▱
								▱	▱
								▱	▱
								▬	▬
								▱	▱
▱	▱	▱	▱	▱	▱	▱	▱	▱	▱
▬	▬	▬	▬	▬	▬	▬	▬	▱	▱
▬	▬	▬	▬	▬	▬	▬	▬		

▬ Ideal / Ideal / Ideale | ▱ Geeignet / Suitable / Adatte

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	Turbo Twister				Speedtwister	
	 NEW Allround	 NEW Allround	 NEW Allround	 NEW Allround	 Uni	 Uni
Norm / Standard	WN					
Typ / Type / Tipo	N	N	N	N	N	N
Länge / Length / Lunghezza	kurz / short	lang / long	XL	XXL	lang-freigestellt	XL
Schneidenanzahl / No. of flutes / Nr. denti	5	5	5	5	5	5
Kopfform / Head type / Tipo di testa						
Drallwinkel / Spiral angle / Anglo elica	40° VARIO	40° VARIO	40° VARIO	40° VARIO	45° VARIO	45° VARIO
Schaftform / Shank type / Forma codolo	DIN 6535-HB	DIN 6535-HB	DIN 6535-HB	DIN 6535-HB	DIN 6535-HB	DIN 6535-HB
Kühlkanäle / Coolant supply / Fori lubrificazione						
Beschichtung / Coating / Rivestimento	SUPRADUR	SUPRADUR	SUPRADUR	SUPRADUR	TWINDUR	TWINDUR
Ø mm	3-20	3-20	6-20	6-20	3-20	6-16
Code / Codice	8002	8003	8004	8005	6117	6137
Seite / Page / Pagina	131	132	133	134	135	136
Geeignet für / Suitable for / Adatte per						
 Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²	▬	▬	▬	▬	▬	▬
 Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²	▬	▬	▬	▬	▬	▬
 Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²	▬	▬	▬	▬	▬	▬
 Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²	▬	▬	▬	▬	▬	▬
 Stähle > 45 HRC / Steels > 45 HRC / Acciai > 45 HRC					▭	▭
 Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²	▬	▬	▬	▬	▭	▭
 Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²	▬	▬	▬	▬	▭	▭
 Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile	▭	▭	▭	▭		
 Nickel / Nickel / Nickel						
 Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio	▭	▭	▭	▭		
 Kupfer, Messing / Copper, brass / Rame, ottone	▭	▭	▭	▭	▭	▭
 Aluminium / Aluminium / Alluminio	▭	▭	▭	▭		
 Kunststoffe / Plastics / Materie plastiche						

▬ Ideal / Ideal / Ideale | ▭ Geeignet / Suitable / Adatte

maykestag PERFORMANCE IN PRECISION

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Speedtwister				HSC end mills				
 Uni	 Inox	 Inox	 Inox					
WN				WN				
N	N	N	N	H	H	H	H	H
XL	lang-freigestellt	XL	XL	kurz / short	lang / long	kurz / short	lang / long	kurz & lang
8-10	5	5	5	3-4	3-4	2	2	4
45°	45°	45°	45°	R	R			
50°	45° VARIO	45° VARIO	45° VARIO	30°	30°	30°	30°	30°
DIN 6535-HA	DIN 6535-HB	DIN 6535-HB	DIN 6535-HB	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA
			ja / yes / si					
ALUNIT-S®	ULTRADUR	ULTRADUR	ULTRADUR	KUPRADUR	KUPRADUR	KUPRADUR	KUPRADUR	KUPRADUR
6-16	3-20	6-16	6-16	2-16	2-16	3-16	3-12	4-16
6199	6107	6197	6198	7110	7210	7060	7160	7030
137	138	139	140	141	142	143	144	145
■	▱	▱	▱					
■	■	■	■					
■	■	■	■	▱	▱	▱	▱	▱
■	■	■	■	■	■	■	■	■
▱				▱ ≤68 HRC	▱ ≤68 HRC	▱ ≤60 HRC	▱ ≤60 HRC	▱ ≤68 HRC
■	■	■	■					
■	■	■	■					
■				■	■	■	■	■
■	▱	▱	▱					
■								
■	▱	▱	▱					

■ Ideal / Ideal / Ideale | ▱ Geeignet / Suitable / Adatte

D VHM-Schaftfräser Speedcut-Universal,
kurz, freigestellt, Dreischneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser für universellen Einsatz, besonders geeignet zum Nutfräsen und Taschenschruppen. Große Spanräume, aggressiver Schnitt und dynamischer Stirnspanraum zum verbesserten Spanabfluss. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf. Durch geringere Leistungsaufnahme auch sehr gut geeignet für angetriebene Werkzeuge.

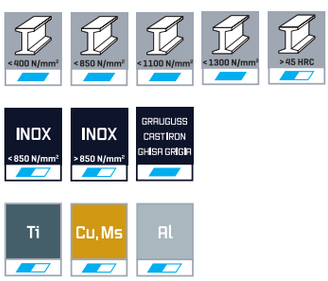
E Solid carbide end mill Speedcut-Universal,
short series, neck, three flutes, different spiral angles

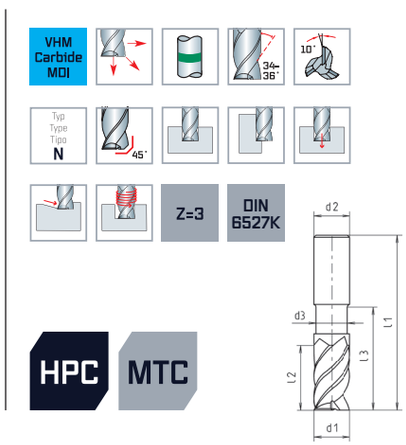
Range of application:
High performance carbide end mill for universal applications, superbly suitable for slot milling and roughing pockets. High chip space, aggressive cut and dynamic front chip space for optimized chip transportation. Different spiral angles effect smooth, vibrationless running. Due to less power consumption also suitable for driven tools on CNC lathes (MTC).

I Frese frontali MDI Speedcut–Universali,
serie corta, libero, 3 taglienti, angolo elica disuguale

Impiego:
Frese in MD ad alto rendimento per applicazioni universali, raccomandate per fresatura di scanalature e sgrossatura tasche. Elevato spazio per truciolo, taglio aggressivo e spazio frontale dinamico per ottimizzare l'evacuazione truciolo. Gli angoli di spirale differenziati garantiscono un funzionamento silenzioso e senza vibrazioni.

Speedcut





Uni



ALUNIT-S®

d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 7367 Art.-Nr.
2	4	1,95	40	3	10	0,06	3	0 7367002001 00
3	6	2,8	50	4	11	0,10	3	0 7367003001 00
4	6	3,8	54	5	12	0,10	3	0 7367004001 00
5	6	4,7	54	6	14	0,10	3	0 7367005001 00
6	6	5,6	54	7	16	0,20	3	0 7367006001 00
8	8	7,5	58	9	20	0,20	3	0 7367008001 00
10	10	9,5	66	11	24	0,20	3	0 7367010001 00

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar. | Also available with Weldon-shank (DIN 6535-HB) without extra charge. | Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.

D VHM-Schaftfräser Speedcut-Universal,

lang, freigestellt, Dreischneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser für universellen Einsatz, besonders geeignet zum Nutfräsen und Taschenschruppen. Große Spanräume, aggressiver Schnitt und dynamischer Stirnspanraum zum verbesserten Spanabfluss. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf. Durch geringere Leistungsaufnahme auch sehr gut geeignet für angetriebene Werkzeuge.

E Solid carbide end mill Speedcut-Universal,

long series, neck, three flutes, different spiral angles

Range of application:
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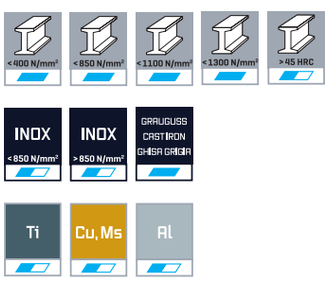
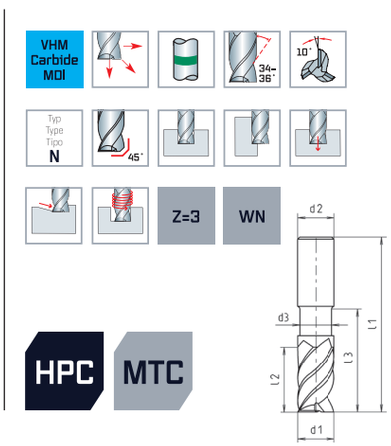
I Frese frontali MDI Speedcut–Universali,

serie lunga, libero, 3 taglienti, angolo elica disuguale

Impiego:
Frese in MD ad alto rendimento per applicazioni universali, raccomandate per fresatura di scanalature e sgrossatura tasche. Elevato spazio per truciolo, taglio aggressivo e spazio frontale dinamico per ottimizzare l'evacuazione truciolo. Gli angoli di spirale differenziati garantiscono un funzionamento silenzioso e senza vibrazioni.

Speedcut





Uni





ALUNIT-S®

d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 7377 Art.-Nr.
3	6	2,9	57	8	14	0,10	3	0 7377003001 00
4	6	3,6	57	8	16	0,10	3	0 7377004001 00
5	6	4,6	57	10	18	0,10	3	0 7377005001 00
6	6	5,5	57	13	21	0,20	3	0 7377006001 00
8	8	7,5	63	19	27	0,20	3	0 7377008001 00
10	10	9,5	72	22	32	0,20	3	0 7377010001 00

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar. | Also available with Weldon-shank (DIN 6535-HB) without extra charge. | Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.

D HPC-Schaftfräser **Speedcut 4.0-Universal,**
kurz, Vierschneider, ungleiche Drallsteigung

E HPC end mill **Speedcut 4.0-Universal,**
short series, four flutes, different spiral angles

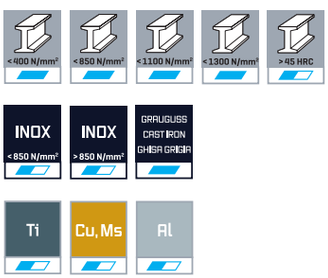
I Frese frontali HPC **Speedcut 4.0-Universali,**
serie corta, 4 taglienti, angolo elica disuguale

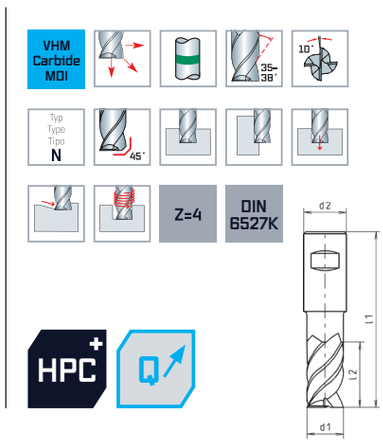
Einsatzbereich:
VHM-Hochleistungsfräser für universellen Einsatz: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

Range of application:
High performance carbide end mill for universal applications. Finishing, rough finishing and roughing with the same tool. Different spiral angles effect smooth, vibrationless running and excellent surface. The Generation 4.0 sets new standards in cutting performance.

Impiego:
Frese frontale MDI ad alto rendimento per applicazioni universali. In un solo utensile finitura, semi-finitura e sgrossatura, l'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie.
La generazione 4.0 stabilisce nuovi standard in rendimento.

Speedcut 4.0





Uni



DIN 6535-HA

TWINDUR

Uni



DIN 6535-HB

TWINDUR

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 8207 Art.-Nr.	Code 8707 Art.-Nr.
3	6	50	5	0,15	4	0 8207003001 00	0 8707003001 00
4	6	54	8	0,15	4	0 8207004001 00	0 8707004001 00
5	6	54	9	0,25	4	0 8207005001 00	0 8707005001 00
6	6	54	10	0,25	4	0 8207006001 00	0 8707006001 00
8	8	57	12	0,25	4	0 8207008001 00	0 8707008001 00
10	10	66	14	0,25	4	0 8207010001 00	0 8707010001 00
12	12	73	16	0,25	4	0 8207012001 00	0 8707012001 00
16	16	82	22	0,35	4	0 8207016001 00	0 8707016001 00
20	20	92	26	0,35	4	0 8207020001 00	0 8707020001 00

D VHM-Schaftfräser Speedcut-Universal,

kurz, freigestellt, Vierschneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser für universellen Einsatz: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Hohe Zerspanungsleistung.

E Solid carbide end mill Speedcut-Universal,

short series, neck, four flutes, different spiral angles

Range of application:
High performance carbide end mill for universal applications. Finishing, rough finishing and roughing with the same tool. Different spiral angles effect smooth, vibrationless running and excellent surface. High cutting performance.

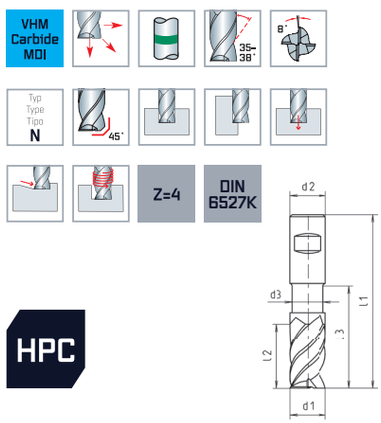
I Frese frontali MDI Speedcut–Universali,

serie corta, libero, 4 taglienti, angolo elica disuguale

Impiego:
Frese frontale MDI ad alto rendimento per applicazioni universali. In un solo utensile finitura, semi-finitura e sgrossatura, l'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. Con un elevato rendimento.

Speedcut





Uni



ALUNIT-S®

Uni



ALUNIT-S®

d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 7387 Art.-Nr.	Code 7487 Art.-Nr.
3	6	2,9	50	5	8	0,15	4	0 7387003001 00	0 7487003001 00
4	6	3,8	54	8	11	0,15	4	0 7387004001 00	0 7487004001 00
5	6	4,7	54	9	13	0,25	4	0 7387005001 00	0 7487005001 00
6	6	5,6	54	10	13	0,25	4	0 7387006001 00	0 7487006001 00
8	8	7,5	57	12	19	0,25	4	0 7387008001 00	0 7487008001 00
10	10	9,5	66	14	22	0,25	4	0 7387010001 00	0 7487010001 00
12	12	11,5	73	16	26	0,25	4	0 7387012001 00	0 7487012001 00
16	16	15,5	82	22	32	0,35	4	0 7387016001 00	0 7487016001 00
20	20	19,5	92	26	38	0,35	4	0 7387020001 00	0 7487020001 00

D HPC-Schaftfräser **Speedcut 4.0-Universal,** lang, Vierschneider, ungleiche Drallsteigung, **mit Innenkühlung**

Einsatzbereich:
VHM-Hochleistungsfräser für universellen Einsatz: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

E HPC end mill **Speedcut 4.0-Universal,** long series, four flutes, different spiral angles, **with internal coolant supply**

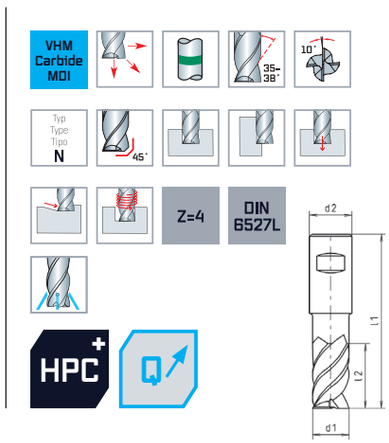
Range of application:
High performance carbide end mill for universal applications. Finishing, rough finishing and roughing with the same tool. Different spiral angles effect smooth, vibrationless running and excellent surface. The Generation 4.0 sets new standards in cutting performance.

I Frese frontali HPC **Speedcut 4.0-Universali,** serie lunga, 4 taglienti, angolo elica disuguale, **con fori lubrificazione**

Impiego:
Frese frontale MDI ad alto rendimento per applicazioni universali. In un solo utensile finitura, semi-finitura e sgrossatura, l'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie.
La generazione 4.0 stabilisce nuovi standard in rendimento.

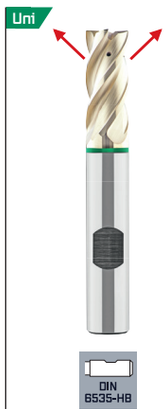
Speedcut 4.0







TWINDUR



TWINDUR

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 8507 Art.-Nr.	Code 8517 Art.-Nr.
6	6	57	13	0,25	4	08507006001 00	08517006001 00
8	8	63	19	0,25	4	08507008001 00	08517008001 00
10	10	72	22	0,25	4	08507010001 00	08517010001 00
12	12	83	26	0,25	4	08507012001 00	08517012001 00
14	14	83	26	0,35	4	08507014001 00	08517014001 00
16	16	92	32	0,35	4	08507016001 00	08517016001 00
20	20	104	38	0,35	4	08507020001 00	08517020001 00

D HPC-Schaftfräser Speedcut 4.0-Universal,
lang, Vierschneider, ungleiche Drallsteigung

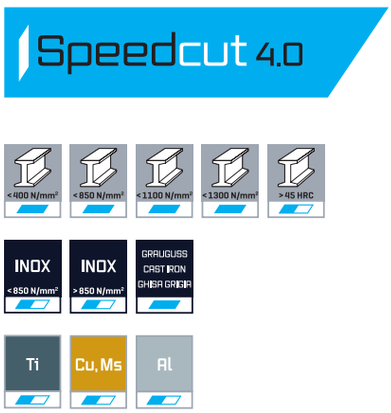
E HPC end mill Speedcut 4.0-Universal,
long series, four flutes, different spiral angles

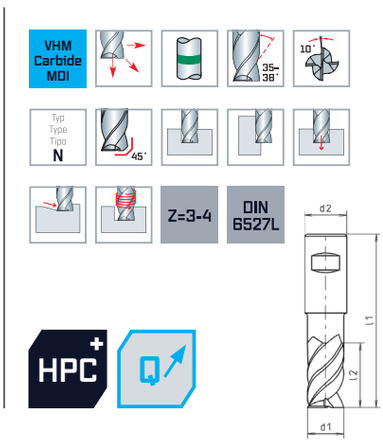
I Frese frontali HPC Speedcut 4.0-Universali,
serie lunga, 4 taglienti, angolo elica disuguale

Einsatzbereich:
VHM-Hochleistungsfräser für universellen Einsatz: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

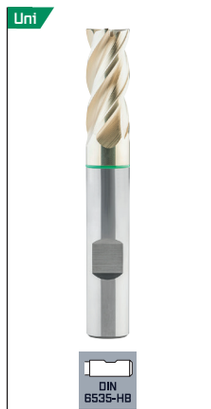
Range of application:
High performance carbide end mill for universal applications. Finishing, rough finishing and roughing with the same tool. Different spiral angles effect smooth, vibrationless running and excellent surface. The Generation 4.0 sets new standards in cutting performance.

Impiego:
Frese frontale MDI ad alto rendimento per applicazioni universali. In un solo utensile finitura, semi-finitura e sgrossatura, l'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie.
La generazione 4.0 stabilisce nuovi standard in rendimento.









d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 8217 Art.-Nr.	Code 8717 Art.-Nr.
2	4	40	5	0,06	3	0 8217002001 00	
3	6	57	8	0,15	4	0 8217003001 00	0 8717003001 00
4	6	57	11	0,15	4	0 8217004001 00	0 8717004001 00
5	6	57	13	0,25	4	0 8217005001 00	0 8717005001 00
6	6	57	13	0,25	4	0 8217006001 00	0 8717006001 00
7	8	63	16	0,25	4	0 8217007001 00	0 8717007001 00
8	8	63	19	0,25	4	0 8217008001 00	0 8717008001 00
9	10	72	19	0,25	4	0 8217009001 00	0 8717009001 00
10	10	72	22	0,25	4	0 8217010001 00	0 8717010001 00
11	12	83	26	0,25	4	0 8217011001 00	0 8717011001 00
12	12	83	26	0,25	4	0 8217012001 00	0 8717012001 00
14	14	83	26	0,35	4	0 8217014001 00	0 8717014001 00
16	16	92	32	0,35	4	0 8217016001 00	0 8717016001 00
20	20	104	38	0,35	4	0 8217020001 00	0 8717020001 00

D VHM-Schaftfräser Speedcut-Universal,
lang, Vierschneider, ungleiche Drallsteigung

E Solid carbide end mill Speedcut-Universal,
long series, four flutes, different spiral angles

I Frese frontali MDI Speedcut–Universali,
serie lunga, 4 taglienti, angolo elica disuguale

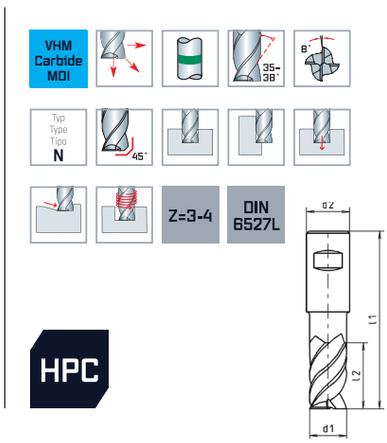
Einsatzbereich:
VHM-Hochleistungsfräser für universellen Einsatz: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Hohe Zerspanungsleistung.

Range of application:
High performance carbide end mill for universal applications. Finishing, rough finishing and roughing with the same tool. Different spiral angles effect smooth, vibrationless running and excellent surface. High cutting performance.

Impiego:
Frese frontale MDI ad alto rendimento per applicazioni universali. In un solo utensile finitura, semi-finitura e sgrossatura, l'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. Con un elevato rendimento.

Speedcut





Uni



DIN 6535-HA

ALUNIT-S®

Uni



DIN 6535-HB

ALUNIT-S®

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 7217 Art.-Nr.	Code 7717 Art.-Nr.
2	4	40	5	0,06	3	0 7217002001 00	
3	6	57	8	0,15	4	0 7217003001 00	0 7717003001 00
4	6	57	11	0,15	4	0 7217004001 00	0 7717004001 00
5	6	57	13	0,25	4	0 7217005001 00	0 7717005001 00
6	6	57	13	0,25	4	0 7217006001 00	0 7717006001 00
8	8	63	19	0,25	4	0 7217008001 00	0 7717008001 00
10	10	72	22	0,25	4	0 7217010001 00	0 7717010001 00
12	12	83	26	0,25	4	0 7217012001 00	0 7717012001 00
16	16	92	32	0,35	4	0 7217016001 00	0 7717016001 00
20	20	104	38	0,35	4	0 7217020001 00	0 7717020001 00

D HPC-Schaftfräser **Speedcut 4.0-Universal,** lang, freigestellt, Vierschneider, ungleiche Drallsteigung, **mit Innenkühlung**

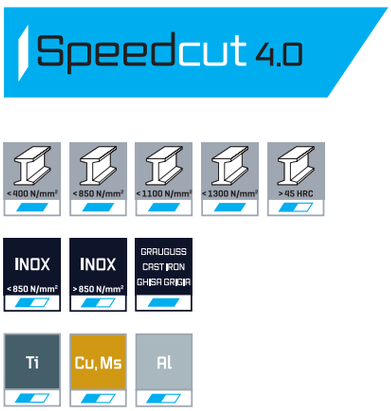
Einsatzbereich:
VHM-Hochleistungsfräser für universellen Einsatz: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

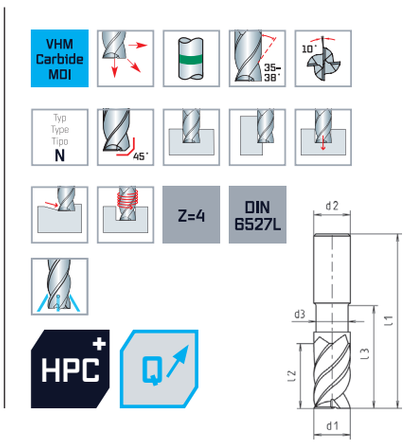
E HPC end mill **Speedcut 4.0-Universal,** long series, neck, four flutes, different spiral angles, **with internal coolant supply**

Range of application:
High performance carbide end mill for universal applications. Finishing, rough finishing and roughing with the same tool. Different spiral angles effect smooth, vibrationless running and excellent surface. The Generation 4.0 sets new standards in cutting performance.

I Frese frontali HPC **Speedcut 4.0-Universali,** serie lunga, libero, 4 taglienti, angolo elica disuguale, **con fori lubrificazione**

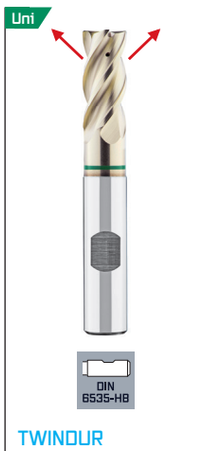
Impiego:
Frese frontale MDI ad alto rendimento per applicazioni universali. In un solo utensile finitura, semi-finitura e sgrossatura, l'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie.
La generazione 4.0 stabilisce nuovi standard in rendimento.







TWINDUR



TWINDUR

d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 8527 Art.-Nr.	Code 8537 Art.-Nr.
6	6	5,50	57	13	21	0,25	4	0 8527006001 00	0 8537006001 00
8	8	7,50	63	19	27	0,25	4	0 8527008001 00	0 8537008001 00
10	10	9,50	72	22	32	0,25	4	0 8527010001 00	0 8537010001 00
12	12	11,50	83	26	38	0,25	4	0 8527012001 00	0 8537012001 00
14	14	13,50	83	26	38	0,35	4	0 8527014001 00	0 8537014001 00
16	16	15,00	92	32	44	0,35	4	0 8527016001 00	0 8537016001 00
20	20	19,00	104	38	54	0,35	4	0 8527020001 00	0 8537020001 00

D HPC-Schaftfräser Speedcut 4.0-Universal,
lang, freigestellt, Vierschneider, ungleiche Drallsteigung

E HPC end mill Speedcut 4.0-Universal,
long series, neck, four flutes, different spiral angles

I Frese frontali HPC Speedcut 4.0-Universali,
serie lunga, libero, 4 taglienti, angolo elica disuguale

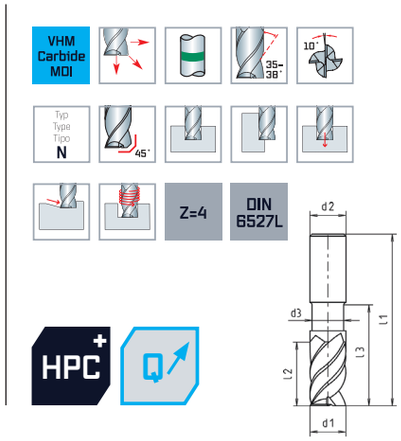
Einsatzbereich:
VHM-Hochleistungsfräser für universellen Einsatz: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

Range of application:
High performance carbide end mill for universal applications. Finishing, rough finishing and roughing with the same tool. Different spiral angles effect smooth, vibrationless running and excellent surface. The Generation 4.0 sets new standards in cutting performance.

Impiego:
Frese frontale MDI ad alto rendimento per applicazioni universali. In un solo utensile finitura, semi-finitura e sgrossatura, l'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie.
La generazione 4.0 stabilisce nuovi standard in rendimento.

Speedcut 4.0





Uni



TWINDUR

Uni



TWINDUR

d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 8317 Art.-Nr.	Code 8417 Art.-Nr.
3	6	2,9	57	8	14	0,15	4	0 8317003001 00	0 8417003001 00
4	6	3,6	57	11	16	0,15	4	0 8317004001 00	0 8417004001 00
5	6	4,6	57	13	18	0,25	4	0 8317005001 00	0 8417005001 00
6	6	5,5	57	13	21	0,25	4	0 8317006001 00	0 8417006001 00
8	8	7,5	63	19	27	0,25	4	0 8317008001 00	0 8417008001 00
10	10	9,5	72	22	32	0,25	4	0 8317010001 00	0 8417010001 00
12	12	11,5	83	26	38	0,25	4	0 8317012001 00	0 8417012001 00
14	14	13,5	83	26	38	0,35	4	0 8317014001 00	0 8417014001 00
16	16	15,0	92	32	44	0,35	4	0 8317016001 00	0 8417016001 00
20	20	19,0	104	38	54	0,35	4	0 8317020001 00	0 8417020001 00

D VHM-Schaftfräser Speedcut-Universal,
lang, freigestellt, Vierschneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser für universellen Einsatz: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Hohe Zerspanungsleistung.

E Solid carbide end mill Speedcut-Universal,
long series, neck, four flutes, different spiral angles

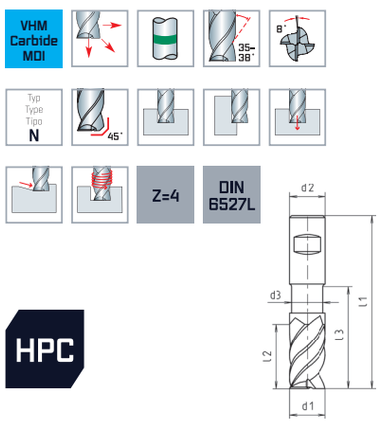
Range of application:
High performance carbide end mill for universal applications. Finishing, rough finishing and roughing with the same tool. Different spiral angles effect smooth, vibrationless running and excellent surface. High cutting performance.

I Frese frontali MDI Speedcut–Universali,
serie lunga, libero, 4 taglienti, angolo elica disuguale

Impiego:
Frese frontale MDI ad alto rendimento per applicazioni universali. In un solo utensile finitura, semi-finitura e sgrossatura, l'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. Con un elevato rendimento.

Speedcut





Uni



ALUNIT-S®

Uni



ALUNIT-S®

d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 7317 Art.-Nr.	Code 7417 Art.-Nr.
3	6	2,9	57	8	14	0,15	4	0 7317003001 00	0 7417003001 00
4	6	3,6	57	11	16	0,15	4	0 7317004001 00	0 7417004001 00
5	6	4,6	57	13	18	0,25	4	0 7317005001 00	0 7417005001 00
6	6	5,5	57	13	21	0,25	4	0 7317006001 00	0 7417006001 00
8	8	7,5	63	19	27	0,25	4	0 7317008001 00	0 7417008001 00
10	10	9,5	72	22	32	0,25	4	0 7317010001 00	0 7417010001 00
12	12	11,5	83	26	38	0,25	4	0 7317012001 00	0 7417012001 00
16	16	15,0	92	32	44	0,35	4	0 7317016001 00	0 7417016001 00
20	20	19,0	104	38	54	0,35	4	0 7317020001 00	0 7417020001 00
25	25	24,0	120	45	66	0,35	4	0 7317025001 00	0 7417025001 00

D HPC-Schaftfräser Speedcut 4.0-Universal,

extra lang XL, freigestellt, Vierschneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser für universellen Einsatz: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

E HPC end mill Speedcut 4.0-Universal,

extra long series XL, neck, four flutes, different spiral angles

Range of application:
High performance carbide end mill for universal applications. Finishing, rough finishing and roughing with the same tool. Different spiral angles effect smooth, vibrationless running and excellent surface. The Generation 4.0 sets new standards in cutting performance.

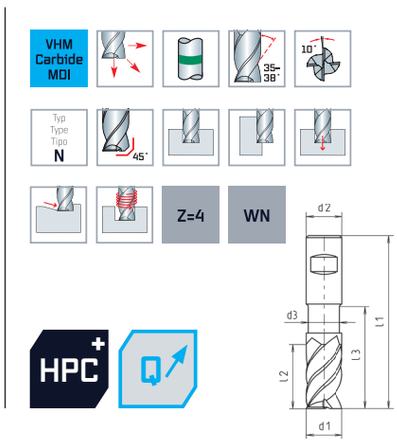
I Frese frontali HPC Speedcut 4.0-Universali,

serie extra lunga XL, libero, 4 taglienti, angolo elica disuguale

Impiego:
Frese frontale MDI ad alto rendimento per applicazioni universali. In un solo utensile finitura, semi-finitura e sgrossatura, l'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie.
La generazione 4.0 stabilisce nuovi standard in rendimento.

Speedcut 4.0





Uni



TWINDUR

Uni



TWINDUR

d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 8237 Art.-Nr.	Code 8737 Art.-Nr.
5	6	4,7	62	13	26	0,25	4	0 8237005001 00	0 8737005001 00
6	6	5,6	62	13	26	0,25	4	0 8237006001 00	0 8737006001 00
8	8	7,5	70	19	34	0,25	4	0 8237008001 00	0 8737008001 00
10	10	9,5	80	22	40	0,25	4	0 8237010001 00	0 8737010001 00
12	12	11,5	95	26	50	0,25	4	0 8237012001 00	0 8737012001 00
16	16	15,5	105	32	57	0,35	4	0 8237016001 00	0 8737016001 00
20	20	19,5	124	38	71	0,35	4	0 8237020001 00	0 8737020001 00

D VHM-Schaftfräser Speedcut-Universal,

extra lang XL, freigestellt, Vierschneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser für universellen Einsatz: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Hohe Zerspanungsleistung.

E Solid carbide end mill Speedcut-Universal,

extra long series XL, neck, four flutes, different spiral angles

Range of application:
High performance carbide end mill for universal applications. Finishing, rough finishing and roughing with the same tool. Different spiral angles effect smooth, vibrationless running and excellent surface. High cutting performance.

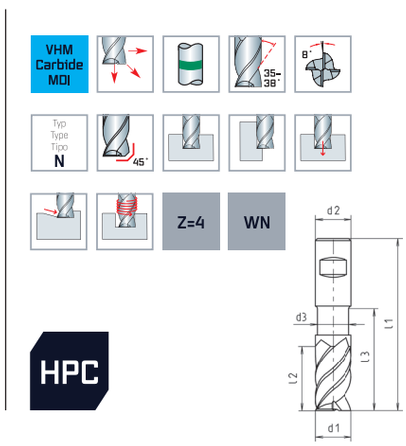
I Frese frontali MDI Speedcut–Universali,

serie extra lunga XL, libero, 4 taglienti, angolo elica disuguale

Impiego:
Frese frontale MDI ad alto rendimento per applicazioni universali. In un solo utensile finitura, semi-finitura e sgrossatura, l'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. Con un elevato rendimento.

Speedcut







ALUNIT-S®

ALUNIT-S®

d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 7237 Art.-Nr.	Code 7737 Art.-Nr.
5	6	4,7	62	13	26	0,25	4	0 7237005001 00	0 7737005001 00
6	6	5,6	62	13	26	0,25	4	0 7237006001 00	0 7737006001 00
8	8	7,5	70	19	34	0,25	4	0 7237008001 00	0 7737008001 00
10	10	9,5	80	22	40	0,25	4	0 7237010001 00	0 7737010001 00
12	12	11,5	95	26	50	0,25	4	0 7237012001 00	0 7737012001 00
14	14	13,5	95	26	50	0,35	4	0 7237014001 00	0 7737014001 00
16	16	15,5	105	32	57	0,35	4	0 7237016001 00	0 7737016001 00
20	20	19,5	124	38	71	0,35	4	0 7237020001 00	0 7737020001 00
25	25	24,5	148	45	91	0,35	4	0 7237025001 00	0 7737025001 00

D VHM-Mehrzahn Schlichtfräser Speedcut-Universal, lang

E Solid carbide multi flute finishing end mill Speedcut-Universal, long series

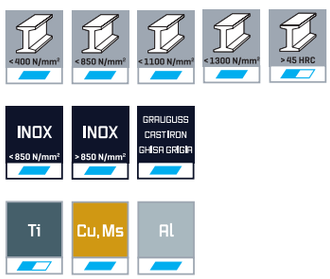
I Fresa in metallo duro multitagliente per finitura Speedcut-Universale, serie lunga

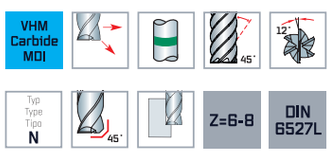
Einsatzbereich:
VHM-Hochleistungsschlichtfräser für universellen Einsatz in Baustähle, Werkzeugstähle, Vergütungsstähle, aber auch rostfreien Stählen und Titanlegierungen bis 50 HRC.
Durch einen sehr starken Fräserkern und modifiziertem Stirnschliff mit kleiner Eckenschutzfase werden sehr hohe Zerspanungsleistungen mit exzellenter Oberflächengüte erzielt.

Range of application:
High performance carbide finishing end mill for universal applications into structural steels, tool steels, treatable steels but also for stainless steels and titanium alloys up to 50 HRC.
Due to a very strong core and an improved face grinding with small cutting edge chamfer, very high cutting performances with excellent surface quality will be achieved.

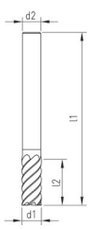
Impiego:
Fresa a finire in Metallo Duro ad alto rendimento per applicazioni universali idonea per acciai strutturali, acciai da utensili, acciai da tempra ma anche per acciai inossidabili e leghe di titanio fino a 50 HRC.
Grazie al nocciolo rinforzato e ad una migliorata superficie rettificata con piccoli smussi di protezione e' possibile raggiungere rendimenti di taglio molto elevati ed eccellenti qualita' di finitura.

Speedcut





HSC



Uni



ALUNIT-S®

d1 e8 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 7327 Art.-Nr.
4	6	57	11	0,05	6	0 7327004001 00
5	6	57	13	0,05	6	0 7327005001 00
6	6	57	15	0,05	6	0 7327006001 00
8	8	63	21	0,05	6	0 7327008001 00
10	10	72	25	0,05	6	0 7327010001 00
12	12	83	30	0,05	6	0 7327012001 00
16	16	92	36	0,10	8	0 7327016001 00
20	20	104	45	0,10	8	0 7327020001 00

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar. | Also available with Weldon-shank (DIN 6535-HB) without extra charge. | Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.

D VHM-Mehrzahn Schlichtfräser Speedcut-Universal, extra lang XL

E Solid carbide multi flute finishing end mill Speedcut-Universal, extra long series XL

I Fresa in metallo duro multitagliente per finitura Speedcut-Universale, extra serie lunga XL

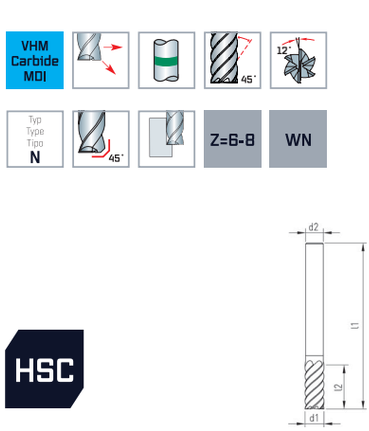
Einsatzbereich:
VHM-Hochleistungsschlichtfräser für universellen Einsatz in Baustähle, Werkzeugstähle, Vergütungsstähle, aber auch rostfreien Stählen und Titanlegierungen bis 50 HRC.
Durch einen sehr starken Fräserkern und modifiziertem Stirnschliff mit kleiner Eckenschutzfase werden sehr hohe Zerspanungsleistungen mit exzellenter Oberflächengüte erzielt.

Range of application:
High performance carbide finishing end mill for universal applications into structural steels, tool steels, treatable steels but also for stainless steels and titanium alloys up to 50 HRC.
Due to a very strong core and an improved face grinding with small cutting edge chamfer, very high cutting performances with excellent surface quality will be achieved.

Impiego:
Fresa a finire in Metallo Duro ad alto rendimento per applicazioni universali idonea per acciai strutturali, acciai da utensili, acciai da tempra ma anche per acciai inossidabili e leghe di titanio fino a 50 HRC.
Grazie al nocciolo rinforzato e ad una migliorata superficie rettificata con piccoli smussi di protezione e' possibile raggiungere rendimenti di taglio molto elevati ed eccellenti qualita' di finitura.

Speedcut





Uni



ALUNIT-S®

d1 e8 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 7337 Art.-Nr.
4	6	57	14	0,05	6	0 7337004001 00
5	6	62	17	0,05	6	0 7337005001 00
6	6	62	20	0,05	6	0 7337006001 00
8	8	70	26	0,05	6	0 7337008001 00
10	10	80	32	0,05	6	0 7337010001 00
12	12	95	38	0,05	6	0 7337012001 00
16	16	105	50	0,10	8	0 7337016001 00
20	20	124	62	0,10	8	0 7337020001 00

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar. | Also available with Weldon-shank (DIN 6535-HB) without extra charge. | Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.



D HPC-Schaftfräser mit Eckenradius Speedcut 4.0-Universal,
lang, freigestellt, Vierschneider, ungleiche Drallsteigung

E HPC corner radius end mill Speedcut 4.0-Universal,
long series, neck, four flutes, different spiral angles

I Frese frontali HPC con spigolo raggiato Speedcut 4.0–Universali,
serie lunga, libero, 4 taglienti, angolo elica disuguale

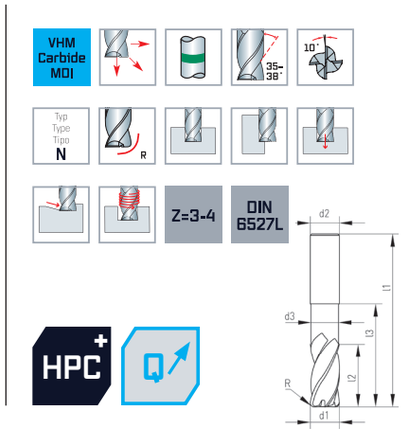
Einsatzbereich:
VHM-Hochleistungsfräser für universellen Einsatz: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

Range of application:
High performance carbide end mill for universal applications. Finishing, rough finishing and roughing with the same tool. Different spiral angles effect smooth, vibrationless running and excellent surface. The Generation 4.0 sets new standards in cutting performance.

Impiego:
Frese frontale MDI ad alto rendimento per applicazioni universali. In un solo utensile finitura, semi-finitura e sgrossatura, l'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie.
La generazione 4.0 stabilisce nuovi standard in rendimento.

Speedcut 4.0





Uni

RS=±0,005 mm



TWINDUR

d1 h10 mm	R	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	Z	Code 8547 Art.-Nr.
2	0,2	4	1,95	40	5	10	3	0 8547002**021** 00
	0,3	4	1,95	40	5	10	3	0 8547002**031** 00
3	0,3	6	2,9	57	8	14	4	0 8547003**031** 00
	0,5	6	2,9	57	8	14	4	0 8547003**051** 00
4	0,5	6	3,6	57	11	16	4	0 8547004**051** 00
	1	6	3,6	57	11	16	4	0 8547004**101** 00
5	0,5	6	4,6	57	13	18	4	0 8547005**051** 00
	1	6	4,6	57	13	18	4	0 8547005**101** 00
	1,5	6	4,6	57	13	18	4	0 8547005**151** 00
6	0,5	6	5,5	57	13	21	4	0 8547006**051** 00
	1	6	5,5	57	13	21	4	0 8547006**101** 00
	1,5	6	5,5	57	13	21	4	0 8547006**151** 00
	2	6	5,5	57	13	21	4	0 8547006**201** 00
8	0,5	8	7,5	63	19	27	4	0 8547008**051** 00
	1	8	7,5	63	19	27	4	0 8547008**101** 00
	1,5	8	7,5	63	19	27	4	0 8547008**151** 00
	2	8	7,5	63	19	27	4	0 8547008**201** 00
10	0,5	10	9,5	72	22	32	4	0 8547010**051** 00
	1	10	9,5	72	22	32	4	0 8547010**101** 00
	1,5	10	9,5	72	22	32	4	0 8547010**151** 00
	2	10	9,5	72	22	32	4	0 8547010**201** 00
12	0,5	12	11,5	83	26	38	4	0 8547012**051** 00
	1	12	11,5	83	26	38	4	0 8547012**101** 00
	1,5	12	11,5	83	26	38	4	0 8547012**151** 00
	2	12	11,5	83	26	38	4	0 8547012**201** 00
	2,5	12	11,5	83	26	38	4	0 8547012**251** 00
	3	12	11,5	83	26	38	4	0 8547012**301** 00
16	1	16	15,0	92	32	44	4	0 8547016**101** 00
	1,5	16	15,0	92	32	44	4	0 8547016**151** 00
	2	16	15,0	92	32	44	4	0 8547016**201** 00
	3	16	15,0	92	32	44	4	0 8547016**301** 00
20	1	20	19,0	104	38	54	4	0 8547020**101** 00
	1,5	20	19,0	104	38	54	4	0 8547020**151** 00
	2	20	19,0	104	38	54	4	0 8547020**201** 00
	2,5	20	19,0	104	38	54	4	0 8547020**251** 00
	4	20	19,0	104	38	54	4	0 8547020**401** 00
	5	20	19,0	104	38	54	4	0 8547020**501** 00

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar. | Also available with Weldon-shank (DIN 6535-HB) without extra charge. | Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.

D VHM-Schaftfräser mit Eckenradius Speedcut-Universal,
lang, freigestellt, Vierschneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser für universellen Einsatz: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Hohe Zerspanungsleistung.

E Solid carbide corner radius end mill Speedcut-Universal,
long series, neck, four flutes, different spiral angles

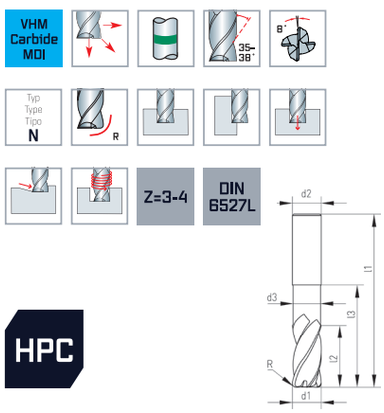
Range of application:
High performance carbide end mill for universal applications. Finishing, rough finishing and roughing with the same tool. Different spiral angles effect smooth, vibrationless running and excellent surface. High cutting performance.

I Frese frontali MDI con spigolo raggiato Speedcut–Universali,
serie lunga, libero, 4 taglienti, angolo elica disuguale

Impiego:
Frese frontale MDI ad alto rendimento per applicazioni universali. In un solo utensile finitura, semi-finitura e sgrossatura, l'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. Con un elevato rendimento.

Speedcut





Uni

RS=±0,005 mm



DIN 6535-HA

ALUNIT-S®

d1 h10 mm	R	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	Z	Code 6447 Art.-Nr.
2	0,2	4	1,95	40	5	10	3	0 6447002**021** 00
	0,3	4	1,95	40	5	10	3	0 6447002**031** 00
3	0,3	6	2,9	57	8	14	4	0 6447003**031** 00
	0,5	6	2,9	57	8	14	4	0 6447003**051** 00
4	0,5	6	3,6	57	11	16	4	0 6447004**051** 00
	1	6	3,6	57	11	16	4	0 6447004**101** 00
5	0,5	6	4,6	57	13	18	4	0 6447005**051** 00
	1	6	4,6	57	13	18	4	0 6447005**101** 00
	1,5	6	4,6	57	13	18	4	0 6447005**151** 00
6	0,5	6	5,5	57	13	21	4	0 6447006**051** 00
	1	6	5,5	57	13	21	4	0 6447006**101** 00
	1,5	6	5,5	57	13	21	4	0 6447006**151** 00
	2	6	5,5	57	13	21	4	0 6447006**201** 00
8	0,5	8	7,5	63	19	27	4	0 6447008**051** 00
	1	8	7,5	63	19	27	4	0 6447008**101** 00
	1,5	8	7,5	63	19	27	4	0 6447008**151** 00
	2	8	7,5	63	19	27	4	0 6447008**201** 00
10	0,5	10	9,5	72	22	32	4	0 6447010**051** 00
	1	10	9,5	72	22	32	4	0 6447010**101** 00
	1,5	10	9,5	72	22	32	4	0 6447010**151** 00
	2	10	9,5	72	22	32	4	0 6447010**201** 00
12	0,5	12	11,5	83	26	38	4	0 6447012**051** 00
	1	12	11,5	83	26	38	4	0 6447012**101** 00
	1,5	12	11,5	83	26	38	4	0 6447012**151** 00
	2	12	11,5	83	26	38	4	0 6447012**201** 00
	2,5	12	11,5	83	26	38	4	0 6447012**251** 00
	3	12	11,5	83	26	38	4	0 6447012**301** 00
16	1	16	15,0	92	32	44	4	0 6447016**101** 00
	1,5	16	15,0	92	32	44	4	0 6447016**151** 00
	2	16	15,0	92	32	44	4	0 6447016**201** 00
	3	16	15,0	92	32	44	4	0 6447016**301** 00
20	1	20	19,0	104	38	54	4	0 6447020**101** 00
	1,5	20	19,0	104	38	54	4	0 6447020**151** 00
	2	20	19,0	104	38	54	4	0 6447020**201** 00
	2,5	20	19,0	104	38	54	4	0 6447020**251** 00
	4	20	19,0	104	38	54	4	0 6447020**401** 00
	5	20	19,0	104	38	54	4	0 6447020**501** 00

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar. | Also available with Weldon-shank (DIN 6535-HB) without extra charge. | Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.

D VHM-Schaftfräser mit Eckenradius Speedcut-Universal,

extra lang XXL, freigestellt, Vierschneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser für universellen Einsatz: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Hohe Zerspanungsleistung.

E Solid carbide corner radius end mill Speedcut-Universal,

extra long series XXL, relieved, four flutes, different spiral angles

Range of application:
High performance carbide end mill for universal applications. Finishing, rough finishing and roughing with the same tool. Different spiral angles effect smooth, vibrationless running and excellent surface. High cutting performance.

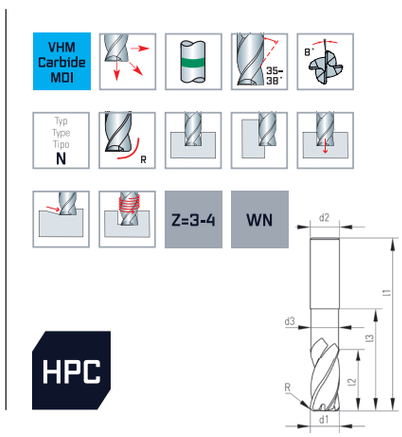
I Frese frontali MDI con spigolo raggiato Speedcut–Universali,

serie extra lunga XXL, libero, 4 taglienti, angolo elica disuguale

Impiego:
Frese frontale MDI ad alto rendimento per applicazioni universali. In un solo utensile finitura, semi-finitura e sgrossatura, l'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. Con un elevato rendimento.

Speedcut





Uni

RS=±0,005 mm



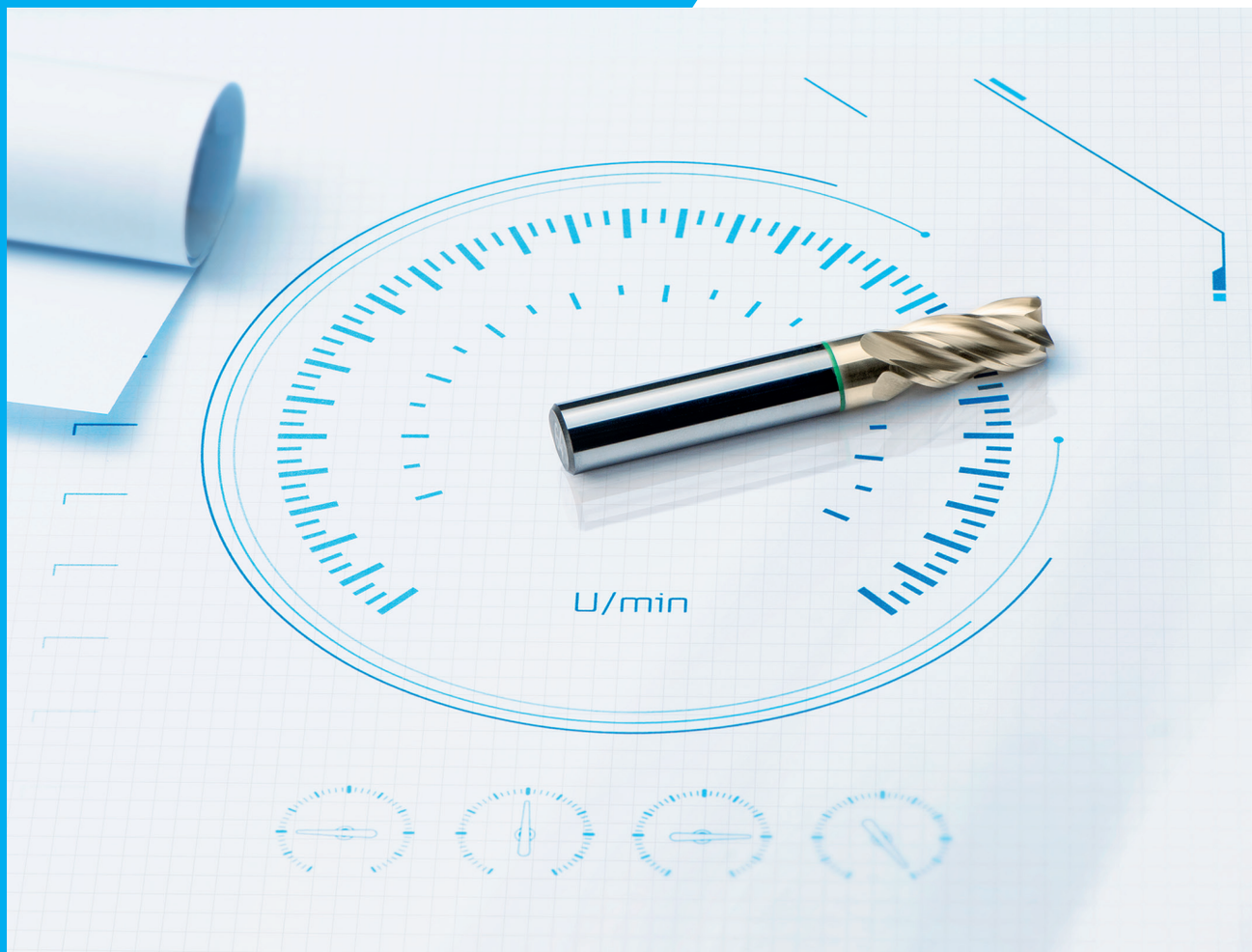


ALUNIT-S®

d1 h10 mm	R	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	Z	Code 6947 Art.-Nr.
2	0,2	4	1,95	50	3	12	3	0 6947002**021** 00
3	0,3	6	2,9	59	5	15	4	0 6947003**031** 00
	0,5	6	2,9	59	5	15	4	0 6947003**051** 00
4	0,5	6	3,9	59	6	20	4	0 6947004**051** 00
	1	6	3,9	59	6	20	4	0 6947004**101** 00
5	0,5	6	4,9	69	8	25	4	0 6947005**051** 00
	1	6	4,9	69	8	25	4	0 6947005**101** 00
6	0,5	6	5,9	79	10	30	4	0 6947006**051** 00
	1	6	5,9	79	10	30	4	0 6947006**101** 00
	1,5	6	5,9	79	10	30	4	0 6947006**151** 00
	2	6	5,9	79	10	30	4	0 6947006**201** 00
8	0,5	8	7,8	79	12	36	4	0 6947008**051** 00
	1	8	7,8	79	12	36	4	0 6947008**101** 00
	1,5	8	7,8	79	12	36	4	0 6947008**151** 00
	2	8	7,8	79	12	36	4	0 6947008**201** 00
10	0,5	10	9,8	99	15	45	4	0 6947010**051** 00
	1	10	9,8	99	15	45	4	0 6947010**101** 00
	1,5	10	9,8	99	15	45	4	0 6947010**151** 00
	2	10	9,8	99	15	45	4	0 6947010**201** 00
12	0,5	12	11,8	99	18	48	4	0 6947012**051** 00
	1	12	11,8	99	18	48	4	0 6947012**101** 00
	1,5	12	11,8	99	18	48	4	0 6947012**151** 00
	2	12	11,8	99	18	48	4	0 6947012**201** 00
	2,5	12	11,8	99	18	48	4	0 6947012**251** 00
	3	12	11,8	99	18	48	4	0 6947012**301** 00
16	1	16	15,8	125	24	64	4	0 6947016**101** 00
	2	16	15,8	125	24	64	4	0 6947016**201** 00
	3	16	15,8	125	24	64	4	0 6947016**301** 00

Speedcut 4.0

maykestag
PERFORMANCE
IN PRECISION



Speed creates profit.

Thanks to optimized tool geometry and new special coating more efficient than ever.

Speedcut 4.0 sets new standards:

- Enormous toughness, hardness and bending strength
- Longer tool life than previously
- Significant reduced part-costs due to extremely high cutting volume
- Higher surface quality, stability and process security

Product video

D VHM-Vollradiusfräser Speedcut-Universal,
lang, freigestellt, Vierschneider, ungleiche Drallsteigung

E Solid carbide ballnose end mill Speedcut-Universal,
long series, neck, four flutes, different spiral angles

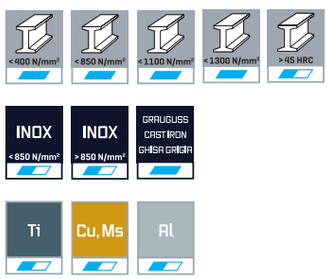
I Frese cilindrica raggiata in metallo duro Speedcut–Universali,
serie lunga, libero, 4 taglienti, angolo dell'elica disuguale

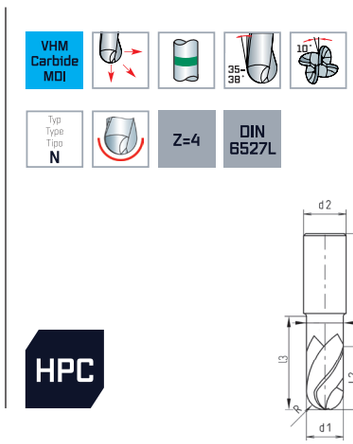
Einsatzbereich:
VHM-Hochleistungsfräser für universellen Einsatz: Fein-Schlichten, Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Hohe Zerspanungsleistung.

Range of application:
High performance carbide end mill for universal applications. Fine-finishing, finishing, rough finishing and roughing with the same tool. Different spiral angles effect smooth, vibrationless running and excellent surface. High cutting performance.

Impiego:
Frese frontale MDI ad alto rendimento per applicazioni universali. In un solo utensile super finitura, finitura, semi-finitura e sgrossatura, l'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. Con un elevato rendimento.

Speedcut





Uni

RS=±0,01 mm



DIN 6535-HA

ALUNIT-S®

d1 f8 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	R mm	Z	Code 7357 Art.-Nr.
4	6	3,8	57	6	13	2	4	0 7357004001 00
5	6	4,7	57	8	21	2,5	4	0 7357005001 00
6	6	5,6	57	10	21	3	4	0 7357006001 00
8	8	7,5	63	12	27	4	4	0 7357008001 00
10	10	9,5	72	15	32	5	4	0 7357010001 00
12	12	11,5	83	18	38	6	4	0 7357012001 00
16	16	15,5	92	24	44	8	4	0 7357016001 00
20	20	19,5	104	30	54	10	4	0 7357020001 00

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar. | Also available with Weldon-shank (DIN 6535-HB) without extra charge. | Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.

D VHM-Vollradiusfräser Speedcut-Universal,

extra lang XXL, freigestellt, Vierschneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser für universellen Einsatz: Fein-Schlichten, Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Hohe Zerspanungsleistung.

E Solid carbide ballnose end mill Speedcut-Universal,

extra long series XXL, neck, four flutes, different spiral angles

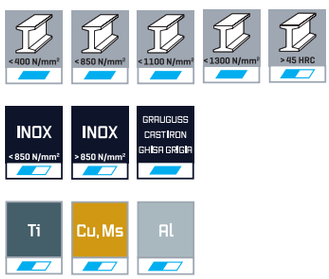
Range of application:
High performance carbide end mill for universal applications. Fine-finishing, finishing, rough finishing and roughing with the same tool. Different spiral angles effect smooth, vibrationless running and excellent surface. High cutting performance.

I Frese cilindrica raggiata in metallo duro Speedcut–Universali,

serie extra lunga XXL, libero, 4 taglienti, angolo dell'elica disuguale

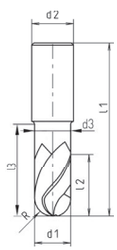
Impiego:
Frese frontale MDI ad alto rendimento per applicazioni universali. In un solo utensile super finitura, finitura, semi-finitura e sgrossatura, l'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. Con un elevato rendimento.

Speedcut





HPC



Uni

RS=±0,01 mm



DIN 6535-HA

ALUNIT-S®

d1 f8 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	R mm	Z	Code 7857 Art.-Nr.
3	6	2,9	59	5	15	1,5	4	0 7857003001 00
4	6	3,9	59	6	20	2	4	0 7857004001 00
5	6	4,9	69	8	25	2,5	4	0 7857005001 00
6	6	5,9	79	10	30	3	4	0 7857006001 00
8	8	7,9	79	12	36	4	4	0 7857008001 00
10	10	9,8	99	15	45	5	4	0 7857010001 00
12	12	11,8	99	18	48	6	4	0 7857012001 00
16	16	15,8	125	24	64	8	4	0 7857016001 00

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar. | Also available with Weldon-shank (DIN 6535-HB) without extra charge. | Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.

D HPC-Schaftfräser Speedcut 4.0-Inox,
lang, freigestellt, Zweischneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von austenitischen rostfreien Stählen: Besonders geeignet zum Nutfräsen und Taschenschruppen. Große Spanräume, aggressiver Schnitt und dynamischer Stirnspanraum zum verbesserten Spanabfluss. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

E HPC end mill Speedcut 4.0-Inox,
long series, neck, two flutes, different spiral angles

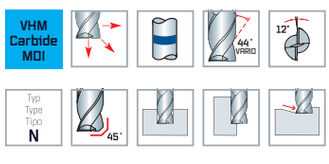
Range of application:
High performance carbide end mill especially suitable for cutting in austenitic stainless steels: Superbly suitable for slot milling and roughing pockets. High chip space, aggressive cut and dynamic front chip space for optimized chip transportation. Different spiral angles effects smooth, vibrationless running and excellent surface. The Generation 4.0 sets new standards in cutting performance.

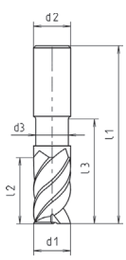
I Frese frontali HPC Speedcut 4.0-Inox,
serie lunga, libero, 2 taglienti, angolo elica disuguale

Impiego:
Frese MDI ad alto rendimento, particolarmente adatte per la lavorazione di acciai austenitici inossidabili: Raccomandate per fresatura di scanalature e sgrossatura tasche. Elevato spazio per truciolo, taglio aggressivo e spazio frontale dinamico per ottimizzare l'evacuazione truciolo. L'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. La generazione 4.0 stabilisce nuovi standard in rendimento.

Speedcut 4.0







Inox



ULTRADUR

d1 e8 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 8167 Art.-Nr.
1	6	0,95	57	3	13	0,05	2	0 8167001001 00
2	6	1,80	57	5	15	0,05	2	0 8167002001 00
3	6	2,80	57	8	15	0,05	2	0 8167003001 00
4	6	3,80	57	11	15	0,06	2	0 8167004001 00
5	6	4,80	57	13	21	0,06	2	0 8167005001 00
6	6	5,80	57	13	21	0,08	2	0 8167006001 00
8	8	7,80	63	19	27	0,10	2	0 8167008001 00
10	10	9,80	72	22	32	0,10	2	0 8167010001 00
12	12	11,80	83	26	38	0,10	2	0 8167012001 00
16	16	15,70	92	32	44	0,20	2	0 8167016001 00
20	20	19,70	104	38	54	0,25	2	0 8167020001 00

[1] GFK: glasfaser-verstärkte Kunststoffe | GRP: glass-fibre reinforced plastics | FRP: plastica rinforzata con fibra di vetro

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar. | Also available with Weldon-shank (DIN 6535-HB) without extra charge. | Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.

D HPC-Schaftfräser Speedcut 4.0-Inox,
lang, freigestellt, Dreischneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von austenitischen rostfreien Stählen: Besonders geeignet zum Nutfräsen und Taschenschruppen. Große Spanräume, aggressiver Schnitt und dynamischer Stirnspanraum zum verbesserten Spanabfluss. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

E HPC end mill Speedcut 4.0-Inox,
long series, neck, three flutes, different spiral angles

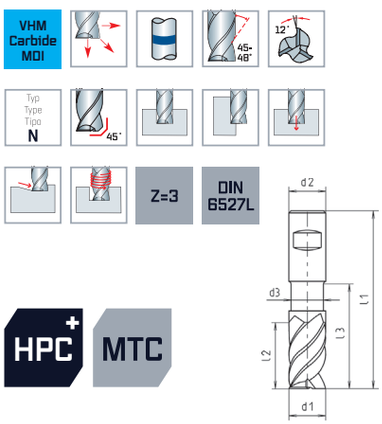
Range of application:
High performance carbide end mill especially suitable for cutting in austenitic stainless steels: Superbly suitable for slot milling and roughing pockets. High chip space, aggressive cut and dynamic front chip space for optimized chip transportation. Different spiral angles effects smooth, vibrationless running and excellent surface. The Generation 4.0 sets new standards in cutting performance.

I Frese frontali HPC Speedcut 4.0-Inox,
serie lunga, libero, 3 taglienti, angolo elica disuguale

Impiego:
Frese MDI ad alto rendimento, particolarmente adatte per la lavorazione di acciai austenitici inossidabili: Raccomandate per fresatura di scanalature e sgrossatura tasche. Elevato spazio per truciolo, taglio aggressivo e spazio frontale dinamico per ottimizzare l'evacuazione truciolo. L'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima fi nitura della superficie. La generazione 4.0 stabilisce nuovi standard in rendimento.

Speedcut 4.0







ULTRADUR

d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 8107 Art.-Nr.
1	6	0,9	57	2,5	5	0,05	3	0 8107001001 00
1,5	6	1,4	57	4	7,5	0,05	3	0 8107001501 00
2	6	1,9	57	5	10	0,05	3	0 8107002001 00
2,5	6	2,4	57	6	12,5	0,05	3	0 8107002501 00
3	6	2,9	57	8	15	0,05	3	0 8107003001 00
3,5	6	3,4	57	11	16	0,05	3	0 8107003501 00
4	6	3,9	57	11	16	0,10	3	0 8107004001 00
4,5	6	4,4	57	13	19	0,10	3	0 8107004501 00
5	6	4,9	57	13	19	0,10	3	0 8107005001 00
5,5	6	5,4	57	13	19	0,10	3	0 8107005501 00
6	6	5,9	57	13	19	0,10	3	0 8107006001 00
7	8	6,8	63	19	25	0,10	3	0 8107007001 00
7,5	8	7,3	63	19	25	0,10	3	0 8107007501 00
8	8	7,8	63	19	25	0,10	3	0 8107008001 00
9	10	8,7	72	22	30	0,10	3	0 8107009001 00
10	10	9,7	72	22	30	0,10	3	0 8107010001 00
12	12	11,7	83	26	36	0,10	3	0 8107012001 00
14	14	13,7	83	26	36	0,15	3	0 8107014001 00
16	16	15,5	92	32	42	0,20	3	0 8107016001 00
20	20	19,5	104	38	52	0,20	3	0 8107020001 00

[1] GFK: glasfaser-verstärkte Kunststoffe | GRP: glass-fibre reinforced plastics | FRP: plastica rinforzata con fibra di vetro

D HPC-Schaftfräser Speedcut 4.0-Inox,

extra lang XL, freigestellt, Dreischneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von austenitischen rostfreien Stählen: Besonders geeignet zum Nutfräsen und Taschenschruppen. Große Spanräume, aggressiver Schnitt und dynamischer Stirnspanraum zum verbesserten Spanabfluss. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

E HPC end mill Speedcut 4.0-Inox,

extra long series XL, neck, three flutes, different spiral angles

Range of application:
High performance carbide end mill especially suitable for cutting in austenitic stainless steels: Superbly suitable for slot milling and roughing pockets. High chip space, aggressive cut and dynamic front chip space for optimized chip transportation. Different spiral angles effects smooth, vibrationless running and excellent surface. The Generation 4.0 sets new standards in cutting performance.

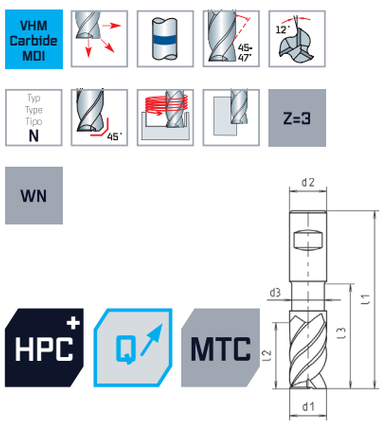
I Frese frontali HPC Speedcut 4.0-Inox,

extra serie lunga XL, libero, 3 taglienti, angolo elica disuguale

Impiego:
Frese MDI ad alto rendimento, particolarmente adatte per la lavorazione di acciai austenitici inossidabili: Raccomandate per fresatura di scanalature e sgrossatura tasche. Elevato spazio per truciolo, taglio aggressivo e spazio frontale dinamico per ottimizzare l'evacuazione truciolo. L'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima fi nitura della superficie. La generazione 4.0 stabilisce nuovi standard in rendimento.

Speedcut 4.0





Inox



ULTRADUR

d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 8117 Art.-Nr.
1	6	0,9	57	3	13	0,05	3	0 8117001001 00
2	6	1,9	57	5	15	0,05	3	0 8117002001 00
3	6	2,9	59	8	20	0,05	3	0 8117003001 00
4	6	3,9	62	16	24	0,10	3	0 8117004001 00
5	6	4,9	62	17	24	0,10	3	0 8117005001 00
6	6	5,9	62	18	24	0,10	3	0 8117006001 00
8	8	7,8	70	24	30	0,10	3	0 8117008001 00
10	10	9,7	80	30	38	0,10	3	0 8117010001 00
12	12	11,7	93	36	46	0,10	3	0 8117012001 00
16	16	15,5	108	48	58	0,20	3	0 8117016001 00
20	20	19,5	124	60	74	0,20	3	0 8117020001 00

(1) GFK: glasfaser-verstärkte Kunststoffe | GRP: glass-fibre reinforced plastics | FRP: plastica rinforzata con fibra di vetro

D HPC-Schaftfräser Speedcut 4.0-Inox,
kurz,
Vierschneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von austenitischen rostfreien Stählen: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

E HPC end mill Speedcut 4.0-Inox,
short series,
four flutes, different spiral angles

Range of application:
High performance carbide end mill especially suitable for cutting in austenitic stainless steels: Finishing, rough finishing and roughing with the same tool. Different spiral angles effects smooth, vibrationless running and excellent surface. The Generation 4.0 sets new standards in cutting performance.

I Frese frontali HPC Speedcut 4.0-Inox,
serie corta,
4 taglienti, angolo elica disuguale

Impiego:
Frese MDI ad alto rendimento, particolarmente adatte per la lavorazione di acciai austenitici inossidabili: Fresatura di finitura, sgrossatura-finitura e sgrossatura con una sola fresa. L'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. La generazione 4.0 stabilisce nuovi standard in rendimento.

Speedcut 4.0

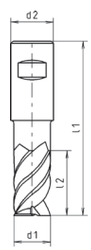
<400 N/mm² | <850 N/mm² | <1100 N/mm² | <1300 N/mm²

INOX <850 N/mm² | INOX >850 N/mm²

Ti | Al | GFK GRP FRP[1]

VHM Carbide MDI | 12° | 39-42° | Typ Type Tipo N | 45° | Z=4 | DIN 6527K

HPC+ | Q | MTC



Inox

NEW



DIN 6535-HB

ULTRADUR

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 8697 Art.-Nr.
3	6	50	5	0,15	4	0 8697003001 00
4	6	54	8	0,15	4	0 8697004001 00
5	6	54	9	0,25	4	0 8697005001 00
6	6	54	10	0,25	4	0 8697006001 00
8	8	58	12	0,25	4	0 8697008001 00
10	10	66	14	0,35	4	0 8697010001 00
12	12	73	16	0,35	4	0 8697012001 00
16	16	82	22	0,35	4	0 8697016001 00
20	20	92	26	0,35	4	0 8697020001 00

[1] GFK: glasfaser-verstärkte Kunststoffe | GRP: glass-fibre reinforced plastics | FRP: plastica rinforzata con fibra di vetro

D HPC-Schaftfräser **Speedcut 4.0-Inox,**
kurz, freigestellt, Vierschneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von austenitischen rostfreien Stählen: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

E HPC end mill **Speedcut 4.0-Inox,**
short series, neck, four flutes, different spiral angles

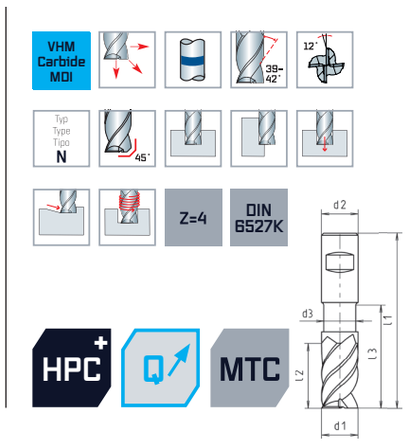
Range of application:
High performance carbide end mill especially suitable for cutting in austenitic stainless steels: Finishing, rough finishing and roughing with the same tool. Different spiral angles effects smooth, vibrationless running and excellent surface. The Generation 4.0 sets new standards in cutting performance.

I Frese frontali HPC **Speedcut 4.0-Inox,**
serie corta, libero, 4 taglienti, angolo elica disuguale

Impiego:
Frese MDI ad alto rendimento, particolarmente adatte per la lavorazione di acciai austenitici inossidabili: Fresatura di finitura, sgrossatura-finitura e sgrossautra con una sola fresa. L'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. La generazione 4.0 stabilisce nuovi standard in rendimento.

Speedcut 4.0





Inox



ULTRADUR

Inox



ULTRADUR

d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 8397 Art.-Nr.	Code 8497 Art.-Nr.
3	6	2,9	50	5	8	0,15	4	0 8397003001 00	0 8497003001 00
4	6	3,8	54	8	11	0,15	4	0 8397004001 00	0 8497004001 00
5	6	4,7	54	9	13	0,25	4	0 8397005001 00	0 8497005001 00
6	6	5,6	54	10	13	0,25	4	0 8397006001 00	0 8497006001 00
8	8	7,5	57	12	19	0,25	4	0 8397008001 00	0 8497008001 00
10	10	9,5	66	14	22	0,25	4	0 8397010001 00	0 8497010001 00
12	12	11,5	73	16	26	0,25	4	0 8397012001 00	0 8497012001 00
16	16	15,5	82	22	32	0,35	4	0 8397016001 00	0 8497016001 00

[1] GFK: glasfaser-verstärkte Kunststoffe | GRP: glass-fibre reinforced plastics | FRP: plastica rinforzata con fibra di vetro

D VHM-Schaftfräser Speedcut-Inox,

kurz, freigestellt, Vierschneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von austenitischen rostfreien Stählen: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Hohe Zerspanungsleistung.

E Solid carbide end mill Speedcut-Inox,

short series, neck, four flutes, different spiral angles

Range of application:
High performance carbide end mill especially suitable for cutting in austenitic stainless steels: Finishing, rough finishing and roughing with the same tool. Different spiral angles effects smooth, vibrationless running and excellent surface. High cutting performance.

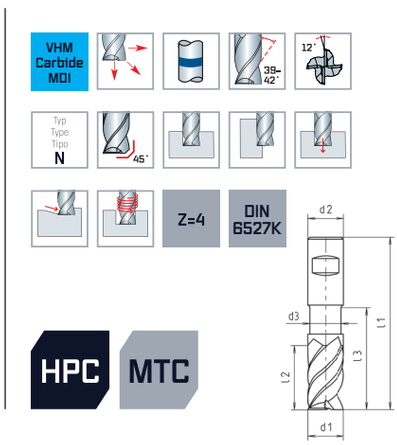
I Frese frontali MDI Speedcut–Inox,

serie corta, libero, 4 taglienti, angolo elica disuguale

Impiego:
Frese MDI ad alto rendimento, particolarmente adatte per la lavorazione di acciai austenitici inossidabili: Fresatura di finitura, sgrossatura-finitura e sgrossautra con una sola fresa. L'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. Con un elevato rendimento.

Speedcut







ALUNIT-S®

ALUNIT-S®

d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 7397 Art.-Nr.	Code 7497 Art.-Nr.
3	6	2,9	50	5	8	0,15	4	0 7397003001 00	0 7497003001 00
4	6	3,8	54	8	11	0,15	4	0 7397004001 00	0 7497004001 00
5	6	4,7	54	9	13	0,25	4	0 7397005001 00	0 7497005001 00
6	6	5,6	54	10	13	0,25	4	0 7397006001 00	0 7497006001 00
8	8	7,5	57	12	19	0,25	4	0 7397008001 00	0 7497008001 00
10	10	9,5	66	14	22	0,25	4	0 7397010001 00	0 7497010001 00
12	12	11,5	73	16	26	0,25	4	0 7397012001 00	0 7497012001 00
16	16	15,5	82	22	32	0,35	4	0 7397016001 00	0 7497016001 00

[1] GFK: glasfaser-verstärkte Kunststoffe | GRP: glass-fibre reinforced plastics | FRP: plastica rinforzata con fibra di vetro

D HPC-Schaftfräser **Speedcut 4.0-Inox,**
lang, Vierschneider,
ungleiche Drallsteigung,
mit Innenkühlung

Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von austenitischen rostfreien Stählen: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

E HPC end mill **Speedcut 4.0-Inox,**
long series, four flutes,
different spiral angles,
with internal coolant supply

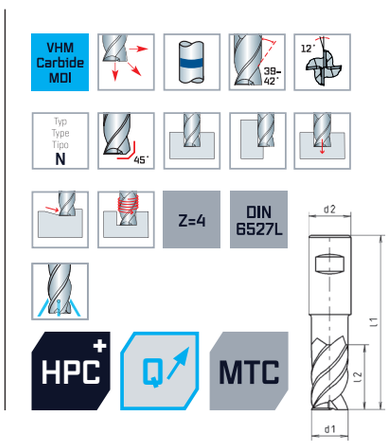
Range of application:
High performance carbide end mill especially suitable for cutting in austenitic stainless steels: Finishing, rough finishing and roughing with the same tool. Different spiral angles effects smooth, vibrationless running and excellent surface. The Generation 4.0 sets new standards in cutting performance.

I Frese frontali HPC **Speedcut 4.0-Inox,**
serie lunga, 4 taglienti,
angolo elica disuguale,
con fori lubrificazione

Impiego:
Frese MDI ad alto rendimento, particolarmente adatte per la lavorazione di acciai austenitici inossidabili: Fresatura di finitura, sgrossatura-finitura e sgrossautra con una sola fresa. L'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. La generazione 4.0 stabilisce nuovi standard in rendimento.

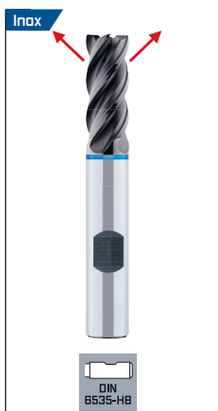
Speedcut 4.0







ULTRADUR



ULTRADUR

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 8557 Art.-Nr.	Code 8567 Art.-Nr.
6	6	57	13	0,25	4	0 8557006001 00	0 8567006001 00
8	8	63	19	0,25	4	0 8557008001 00	0 8567008001 00
10	10	72	22	0,25	4	0 8557010001 00	0 8567010001 00
12	12	83	26	0,25	4	0 8557012001 00	0 8567012001 00
14	14	83	26	0,35	4	0 8557014001 00	0 8567014001 00
16	16	92	32	0,35	4	0 8557016001 00	0 8567016001 00
20	20	104	38	0,35	4	0 8557020001 00	0 8567020001 00

[1] GFK: glasfaser-verstärkte Kunststoffe | GRP: glass-fibre reinforced plastics | FRP: plastica rinforzata con fibra di vetro

D HPC-Schaftfräser Speedcut 4.0-Inox, lang, Vierschneider, ungleiche Drallsteigung

E HPC end mill Speedcut 4.0-Inox, long series, four flutes, different spiral angles

I Frese frontali HPC Speedcut 4.0-Inox, serie lunga, 4 taglienti, angolo elica disuguale

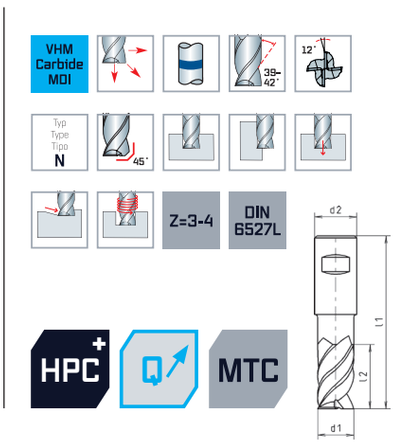
Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von austenitischen rostfreien Stählen: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

Range of application:
High performance carbide end mill especially suitable for cutting in austenitic stainless steels: Finishing, rough finishing and roughing with the same tool. Different spiral angles effects smooth, vibrationless running and excellent surface. The Generation 4.0 sets new standards in cutting performance.

Impiego:
Frese MDI ad alto rendimento, particolarmente adatte per la lavorazione di acciai austenitici inossidabili: Fresatura di finitura, sgrossatura-finitura e sgrossautra con una sola fresa. L'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. La generazione 4.0 stabilisce nuovi standard in rendimento.

Speedcut 4.0







ULTRADUR



ULTRADUR

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 8247 Art.-Nr.	Code 8747 Art.-Nr.
2	4	40	5	0,06	3	8247002001 00	
3	6	57	8	0,15	4	8247003001 00	8747003001 00
4	6	57	11	0,15	4	8247004001 00	8747004001 00
5	6	57	13	0,25	4	8247005001 00	8747005001 00
6	6	57	13	0,25	4	8247006001 00	8747006001 00
7	8	63	16	0,25	4	8247007001 00	8747007001 00
8	8	63	19	0,25	4	8247008001 00	8747008001 00
9	10	72	19	0,25	4	8247009001 00	8747009001 00
10	10	72	22	0,25	4	8247010001 00	8747010001 00
11	12	83	26	0,25	4	8247011001 00	8747011001 00
12	12	83	26	0,25	4	8247012001 00	8747012001 00
16	16	92	32	0,35	4	8247016001 00	8747016001 00
20	20	104	38	0,35	4	8247020001 00	8747020001 00

[1] GFK: glasfaser-verstärkte Kunststoffe | GRP: glass-fibre reinforced plastics | FRP: plastica rinforzata con fibra di vetro

D VHM-Schaftfräser Speedcut-Inox,
lang, Vierschneider, ungleiche Drallsteigung

E Solid carbide end mill Speedcut-Inox,
long series, four flutes, different spiral angles

I Frese frontali MDI Speedcut–Inox,
serie lunga, 4 taglienti, angolo elica disuguale

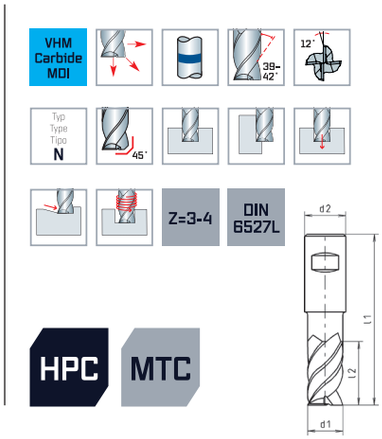
Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von austenitischen rostfreien Stählen: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Hohe Zerspanungsleistung.

Range of application:
High performance carbide end mill especially suitable for cutting in austenitic stainless steels: Finishing, rough finishing and roughing with the same tool. Different spiral angles effects smooth, vibrationless running and excellent surface. High cutting performance.

Impiego:
Frese MDI ad alto rendimento, particolarmente adatte per la lavorazione di acciai austenitici inossidabili: Fresatura di finitura, sgrossatura-finitura e sgrossautra con una sola fresa. L'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. Con un elevato rendimento.

Speedcut





Inox



ALUNIT-S®

Inox



ALUNIT-S®

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 7247 Art.-Nr.	Code 7747 Art.-Nr.
2	4	40	5	0,06	3	0 7247002001 00	
3	6	57	8	0,15	4	0 7247003001 00	0 7747003001 00
4	6	57	11	0,15	4	0 7247004001 00	0 7747004001 00
5	6	57	13	0,25	4	0 7247005001 00	0 7747005001 00
6	6	57	13	0,25	4	0 7247006001 00	0 7747006001 00
8	8	63	19	0,25	4	0 7247008001 00	0 7747008001 00
10	10	72	22	0,25	4	0 7247010001 00	0 7747010001 00
12	12	83	26	0,25	4	0 7247012001 00	0 7747012001 00
16	16	92	32	0,35	4	0 7247016001 00	0 7747016001 00
20	20	104	38	0,35	4	0 7247020001 00	0 7747020001 00

[1] GFK: glasfaser-verstärkte Kunststoffe | GRP: glass-fibre reinforced plastics | FRP: plastica rinforzata con fibra di vetro

D **HPC-Schaftfräser**
Speedcut 4.0-Inox,
lang, freigestellt,
Vierschneider, ungleiche
Drallsteigung,
mit Innenkühlung

E **HPC end mill**
Speedcut 4.0-Inox,
long series, neck,
four flutes, different
spiral angles,
with internal coolant supply

I **Frese frontali HPC**
Speedcut 4.0-Inox,
serie lunga, libero,
4 taglienti, angolo elica
disuguale,
con fori lubrificazione

Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von austenitischen rostfreien Stählen: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

Range of application:
High performance carbide end mill especially suitable for cutting in austenitic stainless steels: Finishing, rough finishing and roughing with the same tool. Different spiral angles effects smooth, vibrationless running and excellent surface. The Generation 4.0 sets new standards in cutting performance.

Impiego:
Frese MDI ad alto rendimento, particolarmente adatte per la lavorazione di acciai austenitici inossidabili: Fresatura di finitura, sgrossatura-finitura e sgrossautra con una sola fresa. L'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. La generazione 4.0 stabilisce nuovi standard in rendimento.

Speedcut 4.0

<400 N/mm² <850 N/mm² <1100 N/mm² <1300 N/mm²

INOX < 850 N/mm² INOX > 850 N/mm²

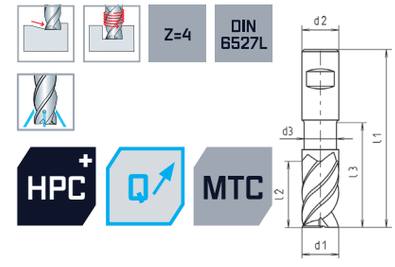
Ti Al GFK GRP FRP*

VHM Carbide MDI

Typ Type Tipo N

Z=4 DIN 6527L

HPC MTC



Inox



DIN 6535-HA

ULTRADUR

Inox



DIN 6535-HB

ULTRADUR

d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 8587 Art.-Nr.	Code 8597 Art.-Nr.
6	6	5,50	57	13	21	0,25	4	0 8587006001 00	08597006001 00
8	8	7,50	63	19	27	0,25	4	0 8587008001 00	08597008001 00
10	10	9,50	72	22	32	0,25	4	0 8587010001 00	08597010001 00
12	12	11,50	83	26	38	0,25	4	0 8587012001 00	08597012001 00
14	14	13,50	83	26	38	0,35	4	0 8587014001 00	08597014001 00
16	16	15,00	92	32	44	0,35	4	0 8587016001 00	08597016001 00
20	20	19,00	104	38	54	0,35	4	0 8587020001 00	08597020001 00

[1] GFK: glasfaser-verstärkte Kunststoffe | GRP: glass-fibre reinforced plastics | FRP: plastica rinforzata con fibra di vetro

D HPC-Schaftfräser Speedcut 4.0-Inox,
lang, freigestellt, Vierschneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von austenitischen rostfreien Stählen: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

E HPC end mill Speedcut 4.0-Inox,
long series, neck, four flutes, different spiral angles

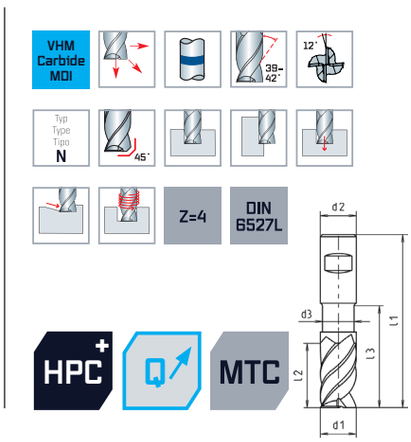
Range of application:
High performance carbide end mill especially suitable for cutting in austenitic stainless steels: Finishing, rough finishing and roughing with the same tool. Different spiral angles effects smooth, vibrationless running and excellent surface. The Generation 4.0 sets new standards in cutting performance.

I Frese frontali HPC Speedcut 4.0-Inox,
serie lunga, libero, 4 taglienti, angolo elica disuguale

Impiego:
Frese MDI ad alto rendimento, particolarmente adatte per la lavorazione di acciai austenitici inossidabili: Fresatura di finitura, sgrossatura-finitura e sgrossautra con una sola fresa. L'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. La generazione 4.0 stabilisce nuovi standard in rendimento.

Speedcut 4.0







ULTRADUR



ULTRADUR

d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 8347 Art.-Nr.	Code 8447 Art.-Nr.
3	6	2,8	57	8	20	0,15	4	8347003001 00	8447003001 00
4	6	3,8	57	11	21	0,15	4	8347004001 00	8447004001 00
5	6	4,7	57	13	22	0,25	4	8347005001 00	8447005001 00
6	6	5,6	57	13	23	0,25	4	8347006001 00	8447006001 00
8	8	7,5	63	19	29	0,25	4	8347008001 00	8447008001 00
10	10	9,5	72	22	34	0,25	4	8347010001 00	8447010001 00
12	12	11,5	83	26	40	0,25	4	8347012001 00	8447012001 00
16	16	15,5	92	32	46	0,35	4	8347016001 00	8447016001 00
20	20	19,5	104	38	56	0,35	4	8347020001 00	8447020001 00

[1] GFK: glasfaser-verstärkte Kunststoffe | GRP: glass-fibre reinforced plastics | FRP: plastica rinforzata con fibra di vetro

D VHM-Schaftfräser Speedcut-Inox,
lang, freigestellt, Vierschneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von austenitischen rostfreien Stählen: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Hohe Zerspanungsleistung.

E Solid carbide end mill Speedcut-Inox,
long series, neck, four flutes, different spiral angles

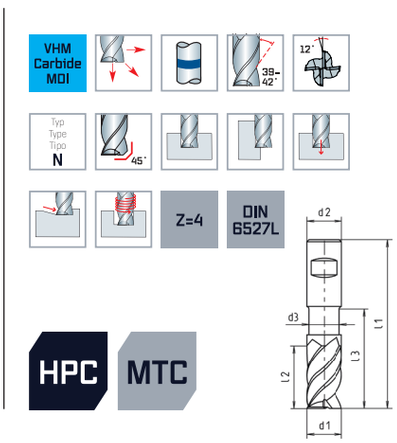
Range of application:
High performance carbide end mill especially suitable for cutting in austenitic stainless steels: Finishing, rough finishing and roughing with the same tool. Different spiral angles effects smooth, vibrationless running and excellent surface. High cutting performance.

I Frese frontali MDI Speedcut–Inox,
serie lunga, libero, 4 taglienti, angolo elica disuguale

Impiego:
Frese MDI ad alto rendimento, particolarmente adatte per la lavorazione di acciai austenitici inossidabili: Fresatura di finitura, sgrossatura-finitura e sgrossautra con una sola fresa. L'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. Con un elevato rendimento.

Speedcut







ALUNIT-S®



ALUNIT-S®

d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 7347 Art.-Nr.	Code 7447 Art.-Nr.
3	6	2,9	57	8	14	0,15	4	0 7347003001 00	0 7447003001 00
4	6	3,6	57	11	16	0,15	4	0 7347004001 00	0 7447004001 00
5	6	4,6	57	13	18	0,25	4	0 7347005001 00	0 7447005001 00
6	6	5,5	57	13	21	0,25	4	0 7347006001 00	0 7447006001 00
8	8	7,5	63	19	27	0,25	4	0 7347008001 00	0 7447008001 00
10	10	9,5	72	22	32	0,25	4	0 7347010001 00	0 7447010001 00
12	12	11,5	83	26	38	0,25	4	0 7347012001 00	0 7447012001 00
16	16	15,0	92	32	44	0,35	4	0 7347016001 00	0 7447016001 00
20	20	19,0	104	38	54	0,35	4	0 7347020001 00	0 7447020001 00

[1] GFK: glasfaser-verstärkte Kunststoffe | GRP: glass-fibre reinforced plastics I FRP: plastica rinforzata con fibra di vetro

D HPC-Schaftfräser Speedcut 4.0-Inox,

extra lang XL, freigestellt, Vierschneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von austenitischen rostfreien Stählen: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

E HPC end mill Speedcut 4.0-Inox,

extra long series XL, neck, four flutes, different spiral angles

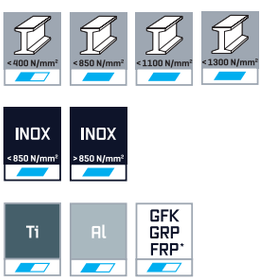
Range of application:
High performance carbide end mill especially suitable for cutting in austenitic stainless steels: Finishing, rough finishing and roughing with the same tool. Different spiral angles effects smooth, vibrationless running and excellent surface. The Generation 4.0 sets new standards in cutting performance.

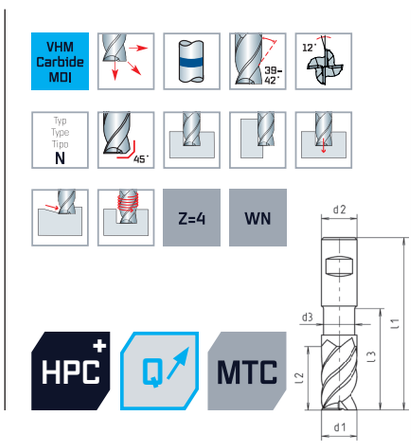
I Frese frontali HPC Speedcut 4.0-Inox,

serie extra lunga XL, libero, 4 taglienti, angolo elica disuguale

Impiego:
Frese MDI ad alto rendimento, particolarmente adatte per la lavorazione di acciai austenitici inossidabili: Fresatura di finitura, sgrossatura-finitura e sgrossautra con una sola fresa. L'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. La generazione 4.0 stabilisce nuovi standard in rendimento.

Speedcut 4.0







ULTRADUR ULTRADUR

d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 8267 Art.-Nr.	Code 8767 Art.-Nr.
5	6	4,7	62	13	26	0,25	4	0 8267005001 00	0 8767005001 00
6	6	5,6	62	13	26	0,25	4	0 8267006001 00	0 8767006001 00
8	8	7,5	70	19	34	0,25	4	0 8267008001 00	0 8767008001 00
10	10	9,5	80	22	40	0,25	4	0 8267010001 00	0 8767010001 00
12	12	11,5	95	26	50	0,25	4	0 8267012001 00	0 8767012001 00
16	16	15,5	105	32	57	0,35	4	0 8267016001 00	0 8767016001 00
20	20	19,5	124	38	71	0,35	4	0 8267020001 00	0 8767020001 00

[1] GFK: glasfaser-verstärkte Kunststoffe | GRP: glass-fibre reinforced plastics I FRP: plastica rinforzata con fibra di vetro

D HPC-Schaftfräser Speedcut 4.0-Inox,
extra lang XL, freigestellt, Vierschneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von austenitischen rostfreien Stählen **mit extra langer Schneide:** Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

E HPC end mill Speedcut 4.0-Inox,
extra long series XL, neck, four flutes, different spiral angles

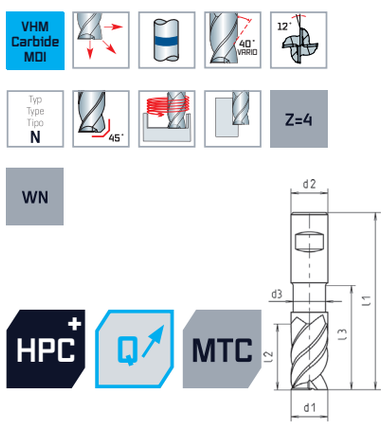
Range of application:
High performance carbide end mill especially suitable for cutting in austenitic stainless steels with **extra long cutting edges:** Finishing, rough finishing and roughing with the same tool. Different spiral angles effects smooth, vibrationless running and excellent surface. The Generation 4.0 sets new standards in cutting performance.

I Frese frontali HPC Speedcut 4.0-Inox,
extra serie lunga XL, libero, 4 taglienti, angolo elica disuguale

Impiego:
Frese MDI ad alto rendimento, particolarmente adatte per la lavorazione di acciai austenitici inossidabili **con tagliente extra lungo:** Fresatura di finitura, sgrossatura-finitura e sgrossautra con una sola fresa. L'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. La generazione 4.0 stabilisce nuovi standard in rendimento.

Speedcut 4.0





Inox



ULTRADUR

d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 8777 Art.-Nr.
5	6	4,8	62	18	25	0,25	4	0 8777005001 00
6	6	5,5	62	18	25	0,25	4	0 8777006001 00
8	8	7,5	68	24	32	0,25	4	0 8777008001 00
10	10	9,5	80	30	40	0,25	4	0 8777010001 00
12	12	11,5	93	36	48	0,25	4	0 8777012001 00
16	16	15,5	108	48	56	0,35	4	0 8777016001 00
20	20	19,5	126	60	70	0,35	4	0 8777020001 00

[1] GFK: glasfaser-verstärkte Kunststoffe | GRP: glass-fibre reinforced plastics | FRP: plastica rinforzata con fibra di vetro

D VHM-Schaftfräser Speedcut-Inox,
extra lang XL, freigestellt, Vierschneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von austenitischen rostfreien Stählen: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Hohe Zerspanungsleistung.

E Solid carbide end mill Speedcut-Inox,
extra long series XL, neck, four flutes, different spiral angles

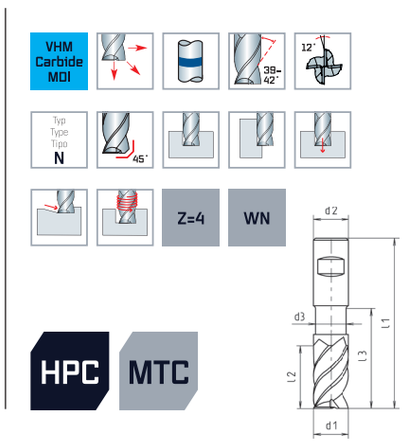
Range of application:
High performance carbide end mill especially suitable for cutting in austenitic stainless steels: Finishing, rough finishing and roughing with the same tool. Different spiral angles effects smooth, vibrationless running and excellent surface. High cutting performance.

I Frese frontali MDI Speedcut–Inox,
serie extra lunga XL, libero, 4 taglienti, angolo elica disuguale

Impiego:
Frese MDI ad alto rendimento, particolarmente adatte per la lavorazione di acciai austenitici inossidabili: Fresatura di finitura, sgrossatura-finitura e sgrossautra con una sola fresa. L'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. Con un elevato rendimento.

Speedcut







ALUNIT-S®

ALUNIT-S®

d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 7267 Art.-Nr.	Code 7767 Art.-Nr.
5	6	4,7	62	13	26	0,25	4	0 7267005001 00	0 7767005001 00
6	6	5,6	62	13	26	0,25	4	0 7267006001 00	0 7767006001 00
8	8	7,5	70	19	34	0,25	4	0 7267008001 00	0 7767008001 00
10	10	9,5	80	22	40	0,25	4	0 7267010001 00	0 7767010001 00
12	12	11,5	95	26	50	0,25	4	0 7267012001 00	0 7767012001 00
16	16	15,5	105	32	57	0,35	4	0 7267016001 00	0 7767016001 00
20	20	19,5	124	38	71	0,35	4	0 7267020001 00	0 7767020001 00

[1] GFK: glasfaser-verstärkte Kunststoffe | GRP: glass-fibre reinforced plastics I FRP: plastica rinforzata con fibra di vetro

D HPC-Schaftfräser mit Eckenradius, Speedcut 4.0-Inox,
lang, freigestellt, Vierschneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von austenitischen rostfreien Stählen: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

E HPC corner radius end mill Speedcut 4.0-Inox,
long series, neck, four flutes, different spiral angles

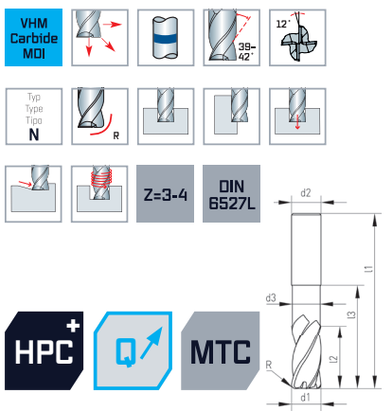
Range of application:
High performance carbide end mill especially suitable for cutting in austenitic stainless steels: Finishing, rough finishing and roughing with the same tool. Different spiral angles effects smooth, vibrationless running and excellent surface. The Generation 4.0 sets new standards in cutting performance.

I Frese frontali HPC con spigolo raggiato Speedcut 4.0–Inox,
serie lunga, libero, 4 taglienti, angolo elica disuguale

Impiego:
Frese MDI ad alto rendimento, particolarmente adatte per la lavorazione di acciai austenitici inossidabili: Fresatura di finitura, sgrossatura-finitura e sgrossautra con una sola fresa. L'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. La generazione 4.0 stabilisce nuovi standard in rendimento.

Speedcut 4.0







ULTRADUR

d1 h10 mm	R	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	Z	Code 8647 Art.-Nr.
2	0,2	4	1,95	40	5	10	3	0 8647002**021**00
3	0,3	6	2,9	57	8	14	4	0 8647003**031**00
	0,5	6	2,9	57	8	14	4	0 8647003**051**00
4	0,5	6	3,6	57	11	16	4	0 8647004**051**00
	1	6	3,6	57	11	16	4	0 8647004**101**00
5	0,5	6	4,6	57	13	18	4	0 8647005**051**00
	1	6	4,6	57	13	18	4	0 8647005**101**00
6	0,5	6	5,5	57	13	21	4	0 8647006**051**00
	1	6	5,5	57	13	21	4	0 8647006**101**00
	1,5	6	5,5	57	13	21	4	0 8647006**151**00
	2	6	5,5	57	13	21	4	0 8647006**201**00
8	0,5	8	7,5	63	19	27	4	0 8647008**051**00
	1	8	7,5	63	19	27	4	0 8647008**101**00
	1,5	8	7,5	63	19	27	4	0 8647008**151**00
	2	8	7,5	63	19	27	4	0 8647008**201**00
10	0,5	10	9,5	72	22	32	4	0 8647010**051**00
	1	10	9,5	72	22	32	4	0 8647010**101**00
	1,5	10	9,5	72	22	32	4	0 8647010**151**00
	2	10	9,5	72	22	32	4	0 8647010**201**00
12	0,5	12	11,5	83	26	38	4	0 8647012**051**00
	1	12	11,5	83	26	38	4	0 8647012**101**00
	1,5	12	11,5	83	26	38	4	0 8647012**151**00
	2	12	11,5	83	26	38	4	0 8647012**201**00
16	1	16	15,0	92	32	44	4	0 8647016**101**00
	2	16	15,0	92	32	44	4	0 8647016**201**00
	3	16	15,0	92	32	44	4	0 8647016**301**00
20	1	20	19,0	104	38	54	4	0 8647020**101**00
	2	20	19,0	104	38	54	4	0 8647020**201**00
	3	20	19,0	104	38	54	4	0 8647020**301**00

(1) GFK: glasfaser-verstärkte Kunststoffe | GRP: glass-fibre reinforced plastics | FRP: plastica rinforzata con fibra di vetro

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar. | Also available with Weldon-shank (DIN 6535-HB) without extra charge. | Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.

D VHM-Schaftfräser mit Eckenradius Speedcut-Inox,
lang, freigestellt, Vierschneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von austenitischen rostfreien Stählen: Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Hohe Zerspanungsleistung.

E Solid carbide corner radius end mill Speedcut-Inox,
long series, neck, four flutes, different spiral angles

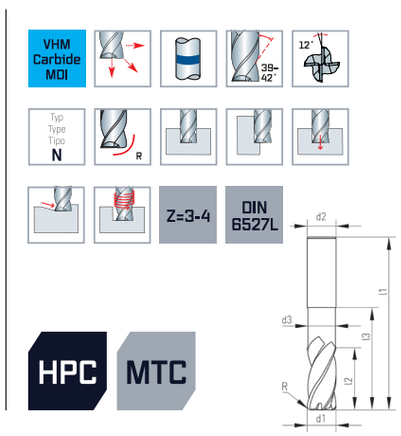
Range of application:
High performance carbide end mill especially suitable for cutting in austenitic stainless steels: Finishing, rough finishing and roughing with the same tool. Different spiral angles effects smooth, vibrationless running and excellent surface. High cutting performance.

I Frese frontali MDI con spigolo raggiato Speedcut–Inox,
serie lunga, libero, 4 taglienti, angolo elica disuguale

Impiego:
Frese MDI ad alto rendimento, particolarmente adatte per la lavorazione di acciai austenitici inossidabili: Fresatura di finitura, sgrossatura-finitura e sgrossautra con una sola fresa. L'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. Con un elevato rendimento.

Speedcut





Inox

RS=±0,01 mm



ALUNIT-S®

d1 h10 mm	R	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	Z	Code 6547 Art.-Nr.
2	0,2	4	1,95	40	5	10	3	0 6547002**021** 00
3	0,3	6	2,9	57	8	14	4	0 6547003**031** 00
	0,5	6	2,9	57	8	14	4	0 6547003**051** 00
4	0,5	6	3,6	57	11	16	4	0 6547004**051** 00
	1	6	3,6	57	11	16	4	0 6547004**101** 00
5	0,5	6	4,6	57	13	18	4	0 6547005**051** 00
	1	6	4,6	57	13	18	4	0 6547005**101** 00
6	0,5	6	5,5	57	13	21	4	0 6547006**051** 00
	1	6	5,5	57	13	21	4	0 6547006**101** 00
	1,5	6	5,5	57	13	21	4	0 6547006**151** 00
	2	6	5,5	57	13	21	4	0 6547006**201** 00
8	0,5	8	7,5	63	19	27	4	0 6547008**051** 00
	1	8	7,5	63	19	27	4	0 6547008**101** 00
	1,5	8	7,5	63	19	27	4	0 6547008**151** 00
	2	8	7,5	63	19	27	4	0 6547008**201** 00
10	0,5	10	9,5	72	22	32	4	0 6547010**051** 00
	1	10	9,5	72	22	32	4	0 6547010**101** 00
	1,5	10	9,5	72	22	32	4	0 6547010**151** 00
	2	10	9,5	72	22	32	4	0 6547010**201** 00
12	0,5	12	11,5	83	26	38	4	0 6547012**051** 00
	1	12	11,5	83	26	38	4	0 6547012**101** 00
	1,5	12	11,5	83	26	38	4	0 6547012**151** 00
	2	12	11,5	83	26	38	4	0 6547012**201** 00
16	1	16	15,0	92	32	44	4	0 6547016**101** 00
	2	16	15,0	92	32	44	4	0 6547016**201** 00
	3	16	15,0	92	32	44	4	0 6547016**301** 00
20	1	20	19,0	104	38	54	4	0 6547020**101** 00
	2	20	19,0	104	38	54	4	0 6547020**201** 00
	3	20	19,0	104	38	54	4	0 6547020**301** 00

[1] GFK: glasfaser-verstärkte Kunststoffe | GRP: glass-fibre reinforced plastics | FRP: plastica rinforzata con fibra di vetro

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar. | Also available with Weldon-shank (DIN 6535-HB) without extra charge. | Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.

D HPC-Vollradiusfräser Speedcut 4.0-Inox,
kurz,
Vierschneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von austenitischen rostfreien Stählen: Fein-Schlichten, Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

E HPC ballnose end mill Speedcut 4.0-Inox,
short series,
four flutes, different spiral angles

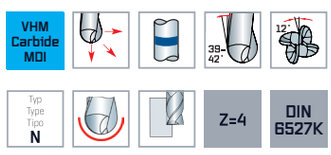
Range of application:
High performance carbide end mill especially suitable for cutting in austenitic stainless steels: Fine-finishing, finishing, rough finishing and roughing with the same tool. Different spiral angles effects smooth, vibrationless running and excellent surface. The Generation 4.0 sets new standards in cutting performance.

I Frese cilindrica raggiata HPC Speedcut 4.0-Inox,
serie corta,
4 taglienti, angolo elica disuguale

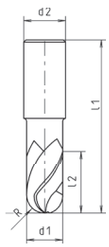
Impiego:
Frese MDI ad alto rendimento, particolarmente adatte per la lavorazione di acciai austenitici inossidabili: Fresatura di super finitura, finitura, sgrossatura-finitura e sgrossautra con una sola fresa.
L'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. La generazione 4.0 stabilisce nuovi standard in rendimento.

Speedcut 4.0





HPC



Inox

RS=±0,005 mm

NEW



DIN 6535-HA

ULTRADUR

d1 f8 mm	R	d2 h6 mm	l1 mm	l2 mm	Z	Code 8177 Art.-Nr.
2	1,0	3	50	4	4	0 8177002001 00
	1,0	6	54	4	4	0 8177002011 00
3	1,5	3	50	5	4	0 8177003001 00
	1,5	6	54	5	4	0 8177003011 00
4	2,0	4	54	8	4	0 8177004001 00
	2,0	6	54	8	4	0 8177004011 00
5	2,5	5	54	9	4	0 8177005001 00
	2,5	6	54	9	4	0 8177005011 00
6	3,0	6	54	10	4	0 8177006001 00
8	4,0	8	58	12	4	0 8177008001 00
10	5,0	10	66	14	4	0 8177010001 00
12	6,0	12	73	16	4	0 8177012001 00
16	8,0	16	82	20	4	0 8177016001 00
20	10,0	20	92	26	4	0 8177020001 00

(1) GFK: glasfaser-verstärkte Kunststoffe | GRP: glass-fibre reinforced plastics | FRP: plastica rinforzata con fibra di vetro

D HPC-Vollradiusfräser Speedcut 4.0-Inox,
extra lang XXL, Vierschneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von austenitischen rostfreien Stählen: Fein-Schlichten, Schlichten, Schrupp-Schlichten und Schruppen mit einem Werkzeug. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

E HPC ballnose end mil Speedcut 4.0-Inox,
extra long series XXL, four flutes, different spiral angles

Range of application:
High performance carbide end mill especially suitable for cutting in austenitic stainless steels: Fine-finishing, finishing, rough finishing and roughing with the same tool. Different spiral angles effects smooth, vibrationless running and excellent surface. The Generation 4.0 sets new standards in cutting performance.

I Frese cilindrica raggiata HPC Speedcut 4.0-Inox,
extra serie lunga XXL, 4 taglienti, angolo elica disuguale

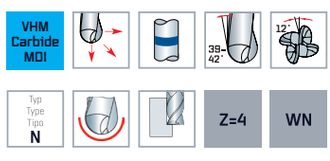
Impiego:
Frese MDI ad alto rendimento, particolarmente adatte per la lavorazione di acciai austenitici inossidabili: Fresatura di super finitura, finitura, sgrossatura-finitura e sgrossautra con una sola fresa. 'angolo dell'elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un'ottima finitura della superficie. La generazione 4.0 stabilisce nuovi standard in rendimento.

Speedcut 4.0

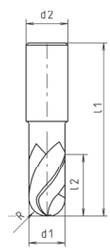








HPC



Inox



ULTRADUR

d1 f8 mm	R	d2 h6 mm	l1 mm	l2 mm	Z	Code 8187 Art.-Nr.
2	1,0	3	60	4	4	0 8187002001 00
	1,0	6	80	4	4	0 8187002011 00
3	1,5	3	60	5	4	0 8187003001 00
	1,5	6	80	5	4	0 8187003011 00
4	2,0	4	80	8	4	0 8187004001 00
	2,0	6	80	8	4	0 8187004011 00
5	2,5	5	80	9	4	0 8187005001 00
	2,5	6	80	9	4	0 8187005011 00
6	3,0	6	100	10	4	0 8187006001 00
8	4,0	8	100	12	4	0 8187008001 00
10	5,0	10	100	14	4	0 8187010001 00
12	6,0	12	100	16	4	0 8187012001 00
16	8,0	16	120	20	4	0 8187016001 00
20	10,0	20	120	26	4	0 8187020001 00

[1] GFK: glasfaser-verstärkte Kunststoffe | GRP: glass-fibre reinforced plastics | FRP: plastica rinforzata con fibra di vetro

D HPC-Schaftfräser mit Eckenradius, Speedcut 4.0-Titanium,

lang, freigestellt, Fünfschneider, ungleiche Drallsteigung, **mit Innenkühlung**

E HPC corner radius end mill Speedcut 4.0-Titanium,

long series, neck, five flutes, different spiral angles, **with internal coolant supply**

I Frese frontali HPC con spigolo raggiato Speedcut 4.0–Titanium,

serie lunga, libero, 5 taglienti, angolo elica disuguale, **con fori lubrificazione**

Einsatzbereich:
VHM Hochleistungsfräser besonders geeignet zur Bearbeitung von Titan, Inconel und Sonderlegierungen. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Sehr hohe Zerspanungsleistung aufgrund des perfekten Zusammenspiels Material, Geometrie und Beschichtung.

Range of application:
High performance carbide end mill especially suitable for cutting titanium, Inconel and special alloys. Different spiral angles effects smooth, vibrationless running and excellent surface. Very high cutting performance due to the perfect interaction of material, geometry and coating.

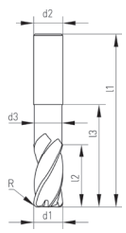
Impiego:
Frese MDI ad alto rendimento, particolarmente adatte per la lavorazione di titanio, Inconel e leghe speciali. L´angolo dell´elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un´ottima finitura della superficie. Prestazioni di taglio molto elevate grazie alla perfetta interazione di materiale, geometria e rivestimento.

Speedcut 4.0

Ni Ti

VHM Carbide MDI | 40° VARIO | 7° | Typ Type Tipo T+S | R | Z=5 | WN

HPC | Q | STC



Titan



AERODUR

Titan



AERODUR

d1 h10 mm	R	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	Z	Code 8127 Art.-Nr.	Code 8137 Art.-Nr.
3	0,25	6	2,9	57	8	10	5	0 8127003**021** 00	0 8137003**021** 00
	0,5	6	2,9	57	8	10	5	0 8127003**051** 00	0 8137003**051** 00
4	0,25	6	3,9	57	11	13	5	0 8127004**021** 00	0 8137004**021** 00
	0,5	6	3,9	57	11	13	5	0 8127004**051** 00	0 8137004**051** 00
5	0,25	6	4,9	57	13	16	5	0 8127005**021** 00	0 8137005**021** 00
	0,5	6	4,9	57	13	16	5	0 8127005**051** 00	0 8137005**051** 00
6	0,25	6	5,9	57	13	19	5	0 8127006**021** 00	0 8137006**021** 00
	0,5	6	5,9	57	13	19	5	0 8127006**051** 00	0 8137006**051** 00
	1	6	5,9	57	13	19	5	0 8127006**101** 00	0 8137006**101** 00
8	0,25	8	7,8	63	19	25	5	0 8127008**021** 00	0 8137008**021** 00
	0,5	8	7,8	63	19	25	5	0 8127008**051** 00	0 8137008**051** 00
	1	8	7,8	63	19	25	5	0 8127008**101** 00	0 8137008**101** 00
	1,25	8	7,8	63	19	25	5	0 8127008**121** 00	0 8137008**121** 00
	2	8	7,8	63	19	25	5	0 8127008**201** 00	0 8137008**201** 00
10	0,5	10	9,8	72	22	31	5	0 8127010**051** 00	0 8137010**051** 00
	1	10	9,8	72	22	31	5	0 8127010**101** 00	0 8137010**101** 00
	2	10	9,8	72	22	31	5	0 8127010**201** 00	0 8137010**201** 00
12	0,5	12	11,5	83	26	38	5	0 8127012**051** 00	0 8137012**051** 00
	1	12	11,5	83	26	38	5	0 8127012**101** 00	0 8137012**101** 00
	1,5	12	11,5	83	26	38	5	0 8127012**151** 00	0 8137012**151** 00
	2,5	12	11,5	83	26	38	5	0 8127012**251** 00	0 8137012**251** 00
	3	12	11,5	83	26	38	5	0 8127012**301** 00	0 8137012**301** 00
	4	12	11,5	83	26	38	5	0 8127012**401** 00	0 8137012**401** 00
16	0,5	16	15,5	100	35	50	5	0 8127016**051** 00	0 8137016**051** 00
	1	16	15,5	100	35	50	5	0 8127016**101** 00	0 8137016**101** 00
	1,5	16	15,5	100	35	50	5	0 8127016**151** 00	0 8137016**151** 00
	2,5	16	15,5	100	35	50	5	0 8127016**251** 00	0 8137016**251** 00
	3	16	15,5	100	35	50	5	0 8127016**301** 00	0 8137016**301** 00
	4	16	15,5	100	35	50	5	0 8127016**401** 00	0 8137016**401** 00
20	1	20	19,5	112	40	62	5	0 8127020**101** 00	0 8137020**101** 00
	2	20	19,5	112	40	62	5	0 8127020**201** 00	0 8137020**201** 00
	3	20	19,5	112	40	62	5	0 8127020**301** 00	0 8137020**301** 00
	4	20	19,5	112	40	62	5	0 8127020**401** 00	0 8137020**401** 00

Spanbrecher 2 Stk. / Chip breaker 2 pcs. / Rompitrucioli 2 pz.
Ø 3,4,5, Gerade Innenkühlung / Ø 3,4,5, Straight internal coolant supply / Ø 3,4,5, Fori lubrificazione diretto

D HPC-Schaftfräser mit Eckenradius, Speedcut 4.0-Titanium,
lang, Siebenschneider, ungleiche Drallsteigung, **mit Innenkühlung**

Einsatzbereich:
VHM Hochleistungsfräser besonders geeignet zur Bearbeitung von Titan, Inconel und Sonderlegierungen. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Sehr hohe Zerspanungsleistung aufgrund des perfekten Zusammenspiels Material, Geometrie und Beschichtung.

E HPC corner radius end mill Speedcut 4.0-Titanium,
long series, seven flutes, different spiral angles, **with internal coolant supply**

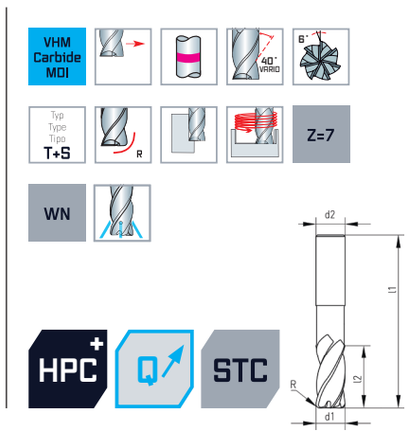
Range of application:
High performance carbide end mill especially suitable for cutting titanium, Inconel and special alloys. Different spiral angles effects smooth, vibrationless running and excellent surface. Very high cutting performance due to the perfect interaction of material, geometry and coating.

I Frese frontali HPC con spigolo raggiato Speedcut 4.0–Titanium,
serie lunga, 7 taglienti, angolo elica disuguale, **con fori lubrificazione**

Impiego:
Frese MDI ad alto rendimento, particolarmente adatte per la lavorazione di titanio, Inconel e leghe speciali. L´angolo dell´elica disuguale permette una lavorazione silenziosa senza vibrazioni, con un´ottima finitura della superficie. Prestazioni di taglio molto elevate grazie alla perfetta interazione di materiale, geometria e rivestimento.

Speedcut 4.0

Ni Ti



Titan



AERODUR

Titan



AERODUR

d1 h10 mm	R	d2 h6 mm	l1 mm	l2 mm	Z	Code 8147 Art.-Nr.	Code 8157 Art.-Nr.
3	0,25	6	57	8	7	0 8147003**02**1 00	0 8157003**02**1 00
	0,5	6	57	8	7	0 8147003**05**1 00	0 8157003**05**1 00
4	0,25	6	57	11	7	0 8147004**02**1 00	0 8157004**02**1 00
	0,5	6	57	11	7	0 8147004**05**1 00	0 8157004**05**1 00
5	0,25	6	57	13	7	0 8147005**02**1 00	0 8157005**02**1 00
	0,5	6	57	13	7	0 8147005**05**1 00	0 8157005**05**1 00
6	0,25	6	57	13	7	0 8147006**02**1 00	0 8157006**02**1 00
	0,5	6	57	13	7	0 8147006**05**1 00	0 8157006**05**1 00
	1	6	57	13	7	0 8147006**10**1 00	0 8157006**10**1 00
8	0,25	8	63	19	7	0 8147008**02**1 00	0 8157008**02**1 00
	0,5	8	63	19	7	0 8147008**05**1 00	0 8157008**05**1 00
	1	8	63	19	7	0 8147008**10**1 00	0 8157008**10**1 00
	1,25	8	63	19	7	0 8147008**12**1 00	0 8157008**12**1 00
	2	8	63	19	7	0 8147008**20**1 00	0 8157008**20**1 00
10	0,5	10	72	22	7	0 8147010**05**1 00	0 8157010**05**1 00
	1	10	72	22	7	0 8147010**10**1 00	0 8157010**10**1 00
	2	10	72	22	7	0 8147010**20**1 00	0 8157010**20**1 00
12	0,5	12	83	26	7	0 8147012**05**1 00	0 8157012**05**1 00
	1	12	83	26	7	0 8147012**10**1 00	0 8157012**10**1 00
	1,5	12	83	26	7	0 8147012**15**1 00	0 8157012**15**1 00
	2,5	12	83	26	7	0 8147012**25**1 00	0 8157012**25**1 00
	3	12	83	26	7	0 8147012**30**1 00	0 8157012**30**1 00
	4	12	83	26	7	0 8147012**40**1 00	0 8157012**40**1 00
16	0,5	16	100	35	7	0 8147016**05**1 00	0 8157016**05**1 00
	1	16	100	35	7	0 8147016**10**1 00	0 8157016**10**1 00
	1,5	16	100	35	7	0 8147016**15**1 00	0 8157016**15**1 00
	2,5	16	100	35	7	0 8147016**25**1 00	0 8157016**25**1 00
	3	16	100	35	7	0 8147016**30**1 00	0 8157016**30**1 00
	4	16	100	35	7	0 8147016**40**1 00	0 8157016**40**1 00
20	1	20	112	40	7	0 8147020**10**1 00	0 8157020**10**1 00
	2	20	112	40	7	0 8147020**20**1 00	0 8157020**20**1 00
	3	20	112	40	7	0 8147020**30**1 00	0 8157020**30**1 00
	4	20	112	40	7	0 8147020**40**1 00	0 8157020**40**1 00

Spanbrecher 2 Stk. / Chip breaker 2 pcs. / Rompitrucioli 2 pz.
Ø 3,4,5, Gerade Innenkühlung / Ø 3,4,5, Straight internal coolant supply / Ø 3,4,5, Fori lubrificazione diretto

D HPC-Schaftfräser Speedcut 4.0-Ultra Hard Steel 50-65 HRC,
lang, Vierschneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser speziell geeignet für die Bearbeitung von gehärteten und hochfesten Stählen. Die hohe Steifigkeit und ungleiche Teilung bewirken auch bei hohen Zustellwerten eine sehr gute Oberflächengüte am Werkstück. **Extrem lange Standzeiten.** Verwendet wird der Fräser zum Schruppen, Schrupp-Schlichten und Schlichten in einem Werkzeug. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

E HPC end mill Speedcut 4.0-Ultra Hard Steel 50-65 HRC,
long series, four flutes, different spiral angles

Range of application:
High performance carbide end mill especially suitable for machining hardened and high tensile steels. The high level of stiffness and different partition effect a very good surface quality on the workpiece even at high infeed values. **Extremely long tool life.** The milling cutter is used for roughing, rough finishing and finishing with the same tool. The Generation 4.0 sets new standards in cutting performance.

I Frese frontali HPC Speedcut 4.0–Ultra Hard Steel 50-65 HRC,
serie lunga, 4 taglienti, angolo elica disuguale

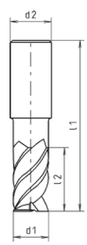
Impiego:
Frese MDI ad alto rendimento per la lavorazione di acciai temprati e di elevate durezza. La notevole rigidità e il tagliente disuguale garantiscono ottima qualità delle superfici sul pezzo lavorato anche a valori di avanzamento elevato. **Durata più lunga.** La fresa è indicata per sgrossatura, sgrossatura-finitura e finitura in un solo utensile. La generazione 4.0 stabilisce nuovi standard di rendimento di taglio.

Speedcut 4.0

<1100 N/mm² | <1300 N/mm² | ≤65 HRC

GRAUGUSS CAST IRON GHISA GRIGIA

VHM Carbide MDI | Typ Type Tipo H | Z=4 | DIN 6527L | HPC | Q | STC



HRC



DURALOUR

d1 e8 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 8787 Art.-Nr.
4	6	57	11	0,05	4	0 8787004001 00
5	6	57	13	0,05	4	0 8787005001 00
6	6	57	13	0,05	4	0 8787006001 00
8	8	63	19	0,05	4	0 8787008001 00
10	10	72	22	0,05	4	0 8787010001 00
12	12	83	26	0,05	4	0 8787012001 00
14	14	83	26	0,10	4	0 8787014001 00
16	16	92	32	0,10	4	0 8787016001 00
20	20	104	38	0,10	4	0 8787020001 00

EXTREM LANGE STANDZEITEN
EXTREMELY LONG TOOL LIFE
DURATA PIÙ LUNGA

DURALOUR

- Mehrlagiger Schichtaufbau optimiert für die Hart-Zerspanung
- Maximale Leistungsfähigkeit durch extrem hohe Temperaturbeständigkeit

- Rivestimento a strati multipli ottimizzato per lavorazioni su materiali duri
- Più elevata efficienza grazie alla elevata resistenza alle alte temperature

- Multi-layer coating optimized for cutting hard materials
- Maximum performance due to extremely high temperature resistance

D HPC-Schaftfräser Speedcut 4.0-Ultra Hard Steel 50-65 HRC,

extra lang XL, freigestellt Vierschneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser speziell geeignet für die Bearbeitung von gehärteten und hochfesten Stählen. Die hohe Steifigkeit und ungleiche Teilung bewirken auch bei hohen Zustellwerten eine sehr gute Oberflächengüte am Werkstück. **Extrem lange Standzeiten.** Verwendet wird der Fräser zum Schruppen, Schrupp-Schlichten und Schlichten in einem Werkzeug. Die Generation 4.0 setzt neue Maßstäbe in der Zerspanungsleistung.

E HPC end mill Speedcut 4.0-Ultra Hard Steel 50-65 HRC,

extra long series XL, neck four flutes, different spiral angles

Range of application:
High performance carbide end mill especially suitable for machining hardened and high tensile steels. The high level of stiffness and different partition effect a very good surface quality on the workpiece even at high infeed values. **Extremely long tool life.** The milling cutter is used for roughing, rough finishing and finishing with the same tool. The Generation 4.0 sets new standards in cutting performance.

I Frese frontali HPC Speedcut 4.0–Ultra Hard Steel 50-65 HRC,

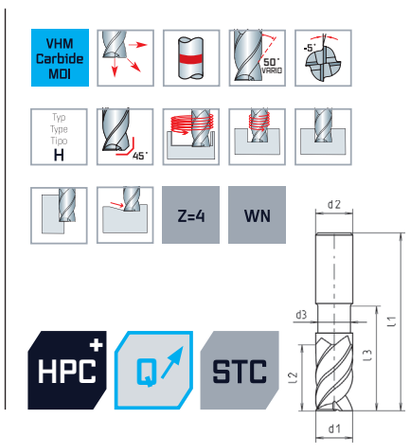
serie extra lunga XL, libero 4 taglienti, angolo elica disuguale

Impiego:
Frese MDI ad alto rendimento per la lavorazione di acciai temprati e di elevate durezza. La notevole rigidità e il tagliente disuguale garantiscono ottima qualità delle superfici sul pezzo lavorato anche a valori di avanzamento elevato. **Durata più lunga.** La fresa è indicata per sgrossatura, sgrossatura-finitura e finitura in un solo utensile. La generazione 4.0 stabilisce nuovi standard di rendimento di taglio.

Speedcut 4.0

<1100 N/mm² | <1300 N/mm² | ≤65 HRC

GRAUGUSS CAST IRON GHISA GRIGIA





DUALOUR

d1 e8 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 8797 Art.-Nr.
4	6	3,8	57	11	20	0,05	4	0 8797004001 00
5	6	4,7	62	13	25	0,05	4	0 8797005001 00
6	6	5,6	62	13	25	0,05	4	0 8797006001 00
8	8	7,5	70	19	32	0,05	4	0 8797008001 00
10	10	9,5	80	22	40	0,05	4	0 8797010001 00
12	12	11,5	95	26	48	0,05	4	0 8797012001 00
14	14	13,5	95	26	48	0,10	4	0 8797014001 00
16	16	15,5	105	32	56	0,10	4	0 8797016001 00
20	20	19,5	124	38	70	0,10	4	0 8797020001 00

EXTREM LANGE STANDZEITEN
EXTREMELY LONG TOOL LIFE
DURATA PIÙ LUNGA



DUALOUR

d1 e8 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 8797 Art.-Nr.
12	12	–	95	38	–	0,05	4	0 8797012101 00
16	16	–	105	50	–	0,10	4	0 8797016101 00

D VHM-Schaftfräser Speedcut-Ultra Hard Steel 68 HRC, lang

E Solid carbide end mill Speedcut-Ultra Hard Steel 68 HRC, long series

I Frese frontali MDI Speedcut–Ultra Hard Steel 68 HRC, serie lunga

Einsatzbereich:
VHM-Hochleistungsschlichtfräser speziell geeignet für die Bearbeitung von gehärteten und hochfesten Stählen. Die hohe Steifigkeit ermöglicht große Vorschübe und lange Standzeiten, der hohe Drallwinkel bewirkt dabei eine sehr gute Oberflächengüte am Werkstück. Verwendet wird der Fräser zum Umfangfräsen (Schlichten). Bei geringen Tiefen ist auch ein Stirnschnitt möglich, wobei der Vorschub um 50% zu verringern ist.

Range of application:
High performance carbide end mill especially suitable for machining hardened and high tensile steels. The high level of stiffness enables good feed rates and long service lives, whilst the spiral angle creates a very good surface quality on the work piece. The cutter is used for circumferential milling (finishing). For shallow depths, a face cut is also possible, in which case the feed rate should be reduced by 50%.

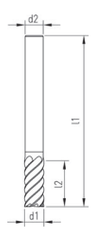
Impiego:
Frese MDI ad alto rendimento per la lavorazione di acciai temprati e di elevata durezza. La notevole rigidità consente grandi avanzamenti e lunga durata, l'elevato angolo dell'elica garantisce ottima qualità delle superfici sul pezzo lavorato. La fresa è indicata per eseguire contornature (fresa a finire). In caso di basse profondità di lavorazione, è anche possibile eseguire tagli frontali, riducendo però l'avanzamento del 50%.

Speedcut

<1100 N/mm² | <1300 N/mm² | <68 HRC

GRAUGUSS CAST IRON GHSR GRIGIA

VHM Carbide MDI | -10° | 50° | Typ Type Tipo H | 45° | Z=6-10 | DIN 6527L | HSC | STC



HRC



DIN 6535-HA

ALUNIT-S®

d1 e8 mm	d2 h5 mm	l1 mm	l2 mm	45°	Z	Code 7277 Art.-Nr.
4	6	57	11	0,05	6	0 7277004001 00
5	6	57	13	0,05	6	0 7277005001 00
6	6	57	13	0,05	6	0 7277006001 00
8	8	63	19	0,05	6	0 7277008001 00
10	10	72	22	0,05	6	0 7277010001 00
12	12	83	26	0,05	6	0 7277012001 00
14	14	83	26	0,10	6	0 7277014001 00
16	16	92	32	0,10	8	0 7277016001 00
20	20	104	38	0,10	10	0 7277020001 00

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar. | Also available with Weldon-shank (DIN 6535-HB) without extra charge. | Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.

D VHM-Schaftfräser Speedcut-Ultra Hard Steel 68 HRC,
extra lang XL, freigestellt

E Solid carbide end mill Speedcut-Ultra Hard Steel 68 HRC,
extra long series XL, neck

I Frese frontali MDI Speedcut–Ultra Hard Steel 68 HRC,
serie extra lunga XL, libero

Einsatzbereich:
VHM-Hochleistungsschlichtfräser speziell geeignet für die Bearbeitung von gehärteten und hochfesten Stählen. Die hohe Steifigkeit ermöglicht große Vorschübe und lange Standzeiten, der hohe Drallwinkel bewirkt dabei eine sehr gute Oberflächengüte am Werkstück. Verwendet wird der Fräser zum Umfangfräsen (Schlichten). Bei geringen Tiefen ist auch ein Stirnschnitt möglich, wobei der Vorschub um 50% zu verringern ist.

Range of application:
High performance carbide end mill especially suitable for machining hardened and high tensile steels. The high level of stiffness enables good feed rates and long service lives, whilst the spiral angle creates a very good surface quality on the work piece. The cutter is used for circumferential milling (finishing). For shallow depths, a face cut is also possible, in which case the feed rate should be reduced by 50%.

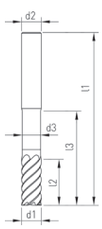
Impiego:
Frese MDI ad alto rendimento per la lavorazione di acciai temprati e di elevata durezza. La notevole rigidità consente grandi avanzamenti e lunga durata, l'elevato angolo dell'elica garantisce ottima qualità delle superfici sul pezzo lavorato. La fresa è indicata per eseguire contornature (fresa a finire). In caso di basse profondità di lavorazione, è anche possibile eseguire tagli frontali, riducendo però l'avanzamento del 50%.

Speedcut

<1100 N/mm² | <1300 N/mm² | <68 HRC

GRAUGUSS CAST IRON GHISA GRIGIA

VHM Carbide MDI | Typ Type Tipo H | 45° | 50° | -10° | Z=6-10 | WN | HSC | STC



HRC



DIN 6535-HA

ALUNIT-S®

d1 e8 mm	d2 h5 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 7287 Art.-Nr.
4	6	3,8	57	11	20	0,05	6	0 7287004001 00
5	6	4,7	62	13	25	0,05	6	0 7287005001 00
6	6	5,6	62	13	25	0,05	6	0 7287006001 00
8	8	7,5	70	19	32	0,05	6	0 7287008001 00
10	10	9,5	80	22	40	0,05	6	0 7287010001 00
12	12	11,5	95	26	48	0,05	6	0 7287012001 00
14	14	13,5	95	26	48	0,10	6	0 7287014001 00
16	16	15,5	105	32	56	0,10	8	0 7287016001 00
20	20	19,5	124	38	70	0,10	10	0 7287020001 00

HRC



DIN 6535-HA

ALUNIT-S®

d1 e8 mm	d2 h5 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 7287 Art.-Nr.
12	12	–	95	38	–	0,05	6	0 7287012**1**01 00
16	16	–	105	50	–	0,10	8	0 7287016**1**01 00

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar. | Also available with Weldon-shank (DIN 6535-HB) without extra charge. | Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.

D VHM-Schaftfräser mit Eckenradius Speedcut-Ultra Hard Steel 68 HRC,
lang, freigestellt

Einsatzbereich:
VHM-Hochleistungsschlichtfräser speziell geeignet für die Bearbeitung von gehärteten und hochfesten Stählen. Die hohe Steifigkeit ermöglicht große Vorschübe und lange Standzeiten, der hohe Drallwinkel bewirkt dabei eine sehr gute Oberflächengüte am Werkstück. Verwendet wird der Fräser zum Umfangfräsen (Schlichten). Bei geringen Tiefen ist auch ein Stirnschnitt möglich, wobei der Vorschub um 50% zu verringern ist.

E Solid carbide corner radius end mill Speedcut-Ultra Hard Steel 68 HRC,
long series, neck

Range of application:
High performance carbide end mill especially suitable for machining hardened and high tensile steels. The high level of stiffness enables good feed rates and long service lives, whilst the spiral angle creates a very good surface quality on the work piece. The cutter is used for circumferential milling (finishing). For shallow depths, a face cut is also possible, in which case the feed rate should be reduced by 50%.

I Frese frontali MDI con spigolo raggiato Speedcut–Ultra Hard Steel 68 HRC,
serie lunga, libero

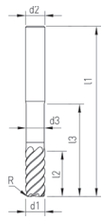
Impiego:
Frese MDI ad alto rendimento per la lavorazione di acciai temprati e di elevata durezza. La notevole rigidità consente grandi avanzamenti e lunga durata, l'elevato angolo dell'elica garantisce ottima qualità delle superfici sul pezzo lavorato. La fresa è indicata per eseguire contornature (fresa a finire). In caso di basse profondità di lavorazione, è anche possibile eseguire tagli frontali, riducendo però l'avanzamento del 50%.

Speedcut

<1100 N/mm² | <1300 N/mm² | <68 HRC

GRAUGUSS CAST IRON GHISA GRIGIA

VHM Carbide MDI | Typ Type Tipo H | Z=6-8 | WN | HSC | STC



HRC



DIN 6535-HA

ALUNIT-S®

d1 e8 mm	R	d2 h5 mm	d3 mm	l1 mm	l2 mm	l3 mm	Z	Code 6647 Art.-Nr.
4	0,2	6	3,9	57	6	10	6	0 6647004**021** 00
	0,5	6	3,9	57	6	10	6	0 6647004**051** 00
5	0,2	6	4,9	57	8	12	6	0 6647005**021** 00
	0,5	6	4,9	57	8	12	6	0 6647005**051** 00
6	0,2	6	5,9	57	10	15	6	0 6647006**021** 00
	0,3	6	5,9	57	10	15	6	0 6647006**031** 00
	0,5	6	5,9	57	10	15	6	0 6647006**051** 00
8	0,3	8	7,8	63	13	21	6	0 6647008**031** 00
	0,5	8	7,8	63	13	21	6	0 6647008**051** 00
10	0,3	10	9,8	72	16	25	6	0 6647010**031** 00
	0,5	10	9,8	72	16	25	6	0 6647010**051** 00
	1,0	10	9,8	72	16	25	6	0 6647010**101** 00
12	0,5	12	11,8	83	19	30	6	0 6647012**051** 00
	1,0	12	11,8	83	19	30	6	0 6647012**101** 00
16	0,5	16	15,8	92	25	38	8	0 6647016**051** 00
	1,0	16	15,8	92	25	38	8	0 6647016**101** 00

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar. | Also available with Weldon-shank (DIN 6535-HB) without extra charge. | Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.

D VHM-Schaftfräser **Speedcut-Aluminium**, lang, freigestellt, Zweischneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von Aluminium-Werkstoffen (sowohl für Guss- als auch Knetlegierungen). Kernanstieg für höchste Stabilität, bester Spanabfluss durch optimiertes Fertigungs-Schleifverfahren, dadurch extrem glatte Oberfläche. Höchstes Zerspanvolumen und beste Oberflächengüte durch einzigartige Schneidengeometrie.

E Solid carbide end mill **Speedcut–Aluminium,** long series, neck, two flutes, different spiral angles

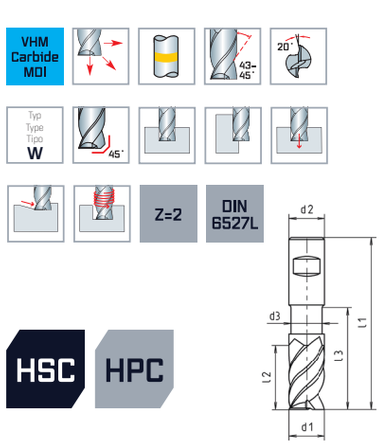
Range of application:
Solid carbide high performance end mill especially suitable for aluminium. Center web for highest stability, excellent chip breakage and chip transportation due to optimized manufacturing-grinding method, that is why extremely smooth surface. Highest cutting volume and superior surface quality due to unique cutting edge geometry.

I Frese frontali MDI **Speedcut–Alluminio,** serie lunga, libero, 2 taglienti, angolo elica disuguale

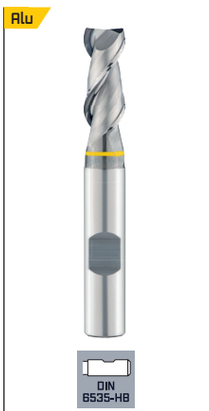
Impiego:
Fresa frontale MDI ad alto rendimento particolarmente adatta per alluminio. Nocciolo crescente per una maggiore stabilità, eccellente rottura ed evacuazione del truciolo grazie al processo di rettifica ottimizzato che rende la superficie dell'utensile estremamente liscia. Volumi asportati elevati ed eccellente qualita' della superficie ottenuta grazie alla unicita' della geometria dei taglienti.

Speedcut









d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 7035 Art.-Nr.	Code 7135 Art.-Nr.
3	6	2,9	57	8	14	0,05	2	0 7035003001 00	0 7135003001 00
4	6	3,6	57	11	16	0,06	2	0 7035004001 00	0 7135004001 00
5	6	4,6	57	13	18	0,06	2	0 7035005001 00	0 7135005001 00
6	6	5,5	57	13	21	0,08	2	0 7035006001 00	0 7135006001 00
8	8	7,5	63	19	27	0,10	2	0 7035008001 00	0 7135008001 00
10	10	9,5	72	22	32	0,15	2	0 7035010001 00	0 7135010001 00
12	12	11,5	83	26	38	0,15	2	0 7035012001 00	0 7135012001 00
16	16	15,0	92	32	44	0,20	2	0 7035016001 00	0 7135016001 00
20	20	19,0	104	38	54	0,25	2	0 7035020001 00	0 7135020001 00

D VHM-Schaftfräser Speedcut-Aluminium,
lang, freigestellt, Dreischneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von Aluminium-Werkstoffen (sowohl für Guss- als auch Knetlegierungen). Kernanstieg für höchste Stabilität, bester Spanabfluss durch optimiertes Fertigungs-Schleifverfahren, dadurch extrem glatte Oberfläche. Höchstes Zerspanvolumen und beste Oberflächengüte durch einzigartige Schneidengeometrie.

E Solid carbide end mill Speedcut–Aluminium,
long series, neck, three flutes, different spiral angles

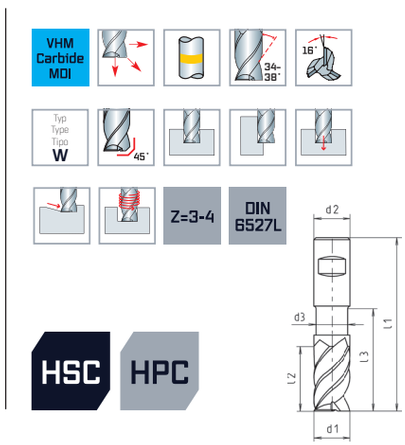
Range of application:
Solid carbide high performance end mill especially suitable for aluminium. Center web for highest stability, excellent chip breakage and chip transportation due to optimized manufacturing-grinding method, that is why extremely smooth surface. Highest cutting volume and superior surface quality due to unique cutting edge geometry.

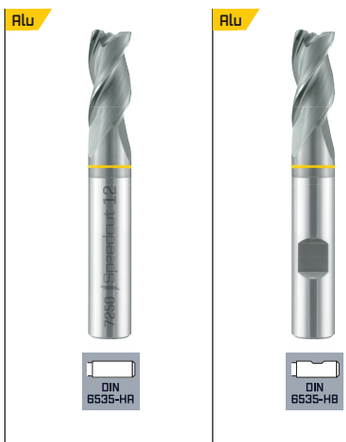
I Frese frontali MDI Speedcut–Alluminio,
serie lunga, libero, 3 taglienti, angolo elica disuguale

Impiego:
Fresa frontale MDI ad alto rendimento particolarmente adatta per alluminio. Nocciolo crescente per una maggiore stabilità, eccellente rottura ed evacuazione del truciolo grazie al processo di rettifica ottimizzato che rende la superficie dell'utensile estremamente liscia. Volumi asportati elevati ed eccellente qualita' della superficie ottenuta grazie alla unicita' della geometria dei taglienti.

Speedcut

Cu, Ms | Al





d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 7250 Art.-Nr.	Code 7950 Art.-Nr.
3	6	2,9	57	8	14	0,05	3	0 7250003001 00	0 7950003001 00
4	6	3,6	57	11	16	0,06	3	0 7250004001 00	0 7950004001 00
5	6	4,6	57	13	18	0,06	3	0 7250005001 00	0 7950005001 00
6	6	5,5	57	13	21	0,08	3	0 7250006001 00	0 7950006001 00
8	8	7,5	63	19	27	0,10	3	0 7250008001 00	0 7950008001 00
10	10	9,5	72	22	32	0,15	3	0 7250010001 00	0 7950010001 00
12	12	11,5	83	26	38	0,15	3	0 7250012001 00	0 7950012001 00
16	16	15,0	92	32	44	0,20	3	0 7250016001 00	0 7950016001 00
20	20	19,0	104	38	54	0,25	3	0 7250020001 00	0 7950020001 00
25	25	24,0	120	45	62	0,30	4	0 7250025001 00	0 7950025001 00

D VHM-Schaftfräser Speedcut-Aluminium,
extra lang XL, freigestellt, Dreischneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von Aluminium-Werkstoffen (sowohl für Guss- als auch Knetlegierungen). Kernanstieg für höchste Stabilität, bester Spanabfluss durch optimiertes Fertigungs-Schleifverfahren, dadurch extrem glatte Oberfläche. Höchstes Zerspanvolumen und beste Oberflächengüte durch einzigartige Schneidengeometrie.

E Solid carbide end mill Speedcut–Aluminium,
extra long series XL, neck, three flutes, different spiral angles

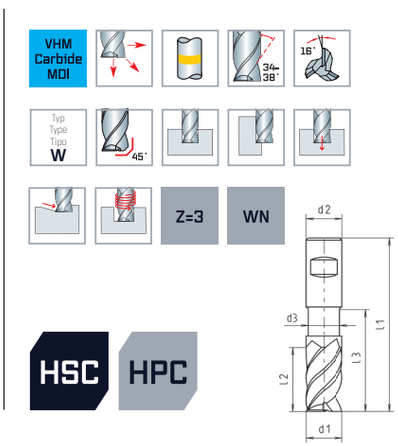
Range of application:
Solid carbide high performance end mill especially suitable for aluminium. Center web for highest stability, excellent chip breakage and chip transportation due to optimized manufacturing-grinding method, that is why extremely smooth surface. Highest cutting volume and superior surface quality due to unique cutting edge geometry.

I Frese frontali MDI Speedcut–Alluminio,
serie extra lunga XL, libero, 3 taglienti, angolo elica disuguale

Impiego:
Fresa frontale MDI ad alto rendimento particolarmente adatta per alluminio. Nocciolo crescente per una maggiore stabilità, eccellente rottura ed evacuazione del truciolo grazie al processo di rettifica ottimizzato che rende la superficie dell'utensile estremamente liscia. Volumi asportati elevati ed eccellente qualita' della superficie ottenuta grazie alla unicita' della geometria dei taglienti.

Speedcut









d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 7220 Art.-Nr.	Code 7920 Art.-Nr.
3	6	2,8	60	8	18	0,05	3	0 7220003001 00	0 7920003001 00
4	6	3,8	60	11	21	0,06	3	0 7220004001 00	0 7920004001 00
5	6	4,7	62	13	26	0,06	3	0 7220005001 00	0 7920005001 00
6	6	5,6	62	13	26	0,08	3	0 7220006001 00	0 7920006001 00
8	8	7,5	70	19	34	0,10	3	0 7220008001 00	0 7920008001 00
10	10	9,5	80	22	40	0,15	3	0 7220010001 00	0 7920010001 00
12	12	11,5	95	26	50	0,15	3	0 7220012001 00	0 7920012001 00
16	16	15,5	105	32	57	0,20	3	0 7220016001 00	0 7920016001 00
20	20	19,5	124	38	71	0,25	3	0 7220020001 00	0 7920020001 00

D VHM-Schaftfräser Speedcut-Aluminium,
extra lang XXL, freigestellt, Dreischneider, ungleiche Drallsteigung

Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von Aluminium-Werkstoffen (sowohl für Guss- als auch Knetlegierungen). Kernanstieg für höchste Stabilität, bester Spanabfluss durch optimiertes Fertigungs-Schleifverfahren, dadurch extrem glatte Oberfläche. Höchstes Zerspanvolumen und beste Oberflächengüte durch einzigartige Schneidengeometrie.

E Solid carbide end mill Speedcut–Aluminium,
extra long series XXL, neck, three flutes, different spiral angles

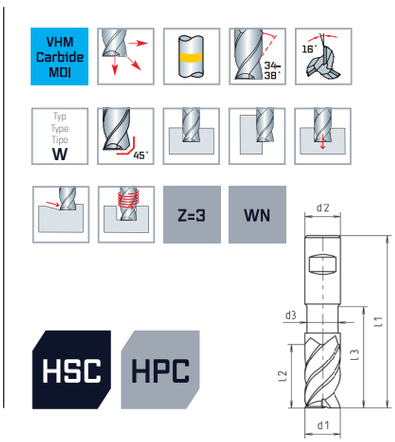
Range of application:
Solid carbide high performance end mill especially suitable for aluminium. Center web for highest stability, excellent chip breakage and chip transportation due to optimized manufacturing-grinding method, that is why extremely smooth surface. Highest cutting volume and superior surface quality due to unique cutting edge geometry.

I Frese frontali MDI Speedcut–Alluminio,
serie extra lunga XXL, libero, 3 taglienti, angolo elica disuguale

Impiego:
Fresa frontale MDI ad alto rendimento particolarmente adatta per alluminio. Nocciolo crescente per una maggiore stabilità, eccellente rottura ed evacuazione del truciolo grazie al processo di rettifica ottimizzato che rende la superficie dell'utensile estremamente liscia. Volumi asportati elevati ed eccellente qualita' della superficie ottenuta grazie alla unicita' della geometria dei taglienti.

Speedcut







d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 7290 Art.-Nr.	Code 7990 Art.-Nr.
3	6	2,8	60	8	20	0,05	3	0 7290003001 00	0 7990003001 00
4	6	3,8	65	11	26	0,06	3	0 7290004001 00	0 7990004001 00
5	6	4,7	76	13	39	0,06	3	0 7290005001 00	0 7990005001 00
6	6	5,6	76	13	39	0,08	3	0 7290006001 00	0 7990006001 00
8	8	7,5	100	19	62	0,10	3	0 7290008001 00	0 7990008001 00
10	10	9,5	100	22	58	0,15	3	0 7290010001 00	0 7990010001 00
12	12	11,5	120	26	73	0,15	3	0 7290012001 00	0 7990012001 00
16	16	15,5	150	32	100	0,20	3	0 7290016001 00	0 7990016001 00
20	20	19,5	150	38	100	0,25	3	0 7290020001 00	0 7990020001 00

D VHM-Schaftfräser mit Eckenradius Speedcut-Aluminium, lang, freigestellt, Dreischneider, ungleiche Drallsteigung

E Solid carbide corner radius end mill Speedcut–Aluminium, long series, neck, three flutes, different spiral angles

I Frese frontali MDI con spigolo raggiato Speedcut–Alluminio, serie lunga, libero, 3 taglienti, angolo elica disuguale

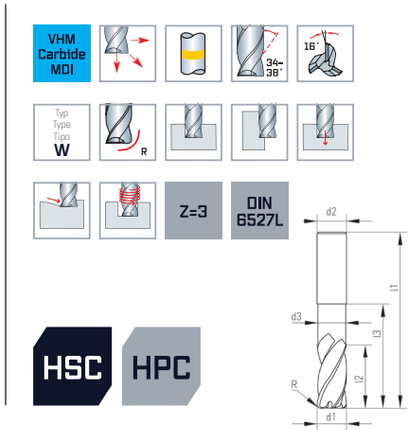
Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von Aluminium-Werkstoffen (sowohl für Guss- als auch Knetlegierungen). Kernanstieg für höchste Stabilität, bester Spanabfluss durch optimiertes Fertigungs-Schleifverfahren, dadurch extrem glatte Oberfläche. Höchstes Zerspanvolumen und beste Oberflächengüte durch einzigartige Schneidengeometrie.

Range of application:
Solid carbide high performance end mill especially suitable for aluminium. Center web for highest stability, excellent chip breakage and chip transportation due to optimized manufacturing-grinding method, that is why extremely smooth surface. Highest cutting volume and superior surface quality due to unique cutting edge geometry.

Impiego:
Fresa frontale MDI ad alto rendimento particolarmente adatta per alluminio. Nocciolo crescente per una maggiore stabilità, eccellente rottura ed evacuazione del truciolo grazie al processo di rettifica ottimizzato che rende la superficie dell'utensile estremamente liscia. Volumi asportati elevati ed eccellente qualita' della superficie ottenuta grazie alla unicita' della geometria dei taglienti.

Speedcut

Cu, Ms | Al



Alu

RS=±0,01 mm



DIN 6535-HA

d1 h10 mm	R	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	Z	Code 7230 Art.-Nr.
3	0,5	6	2,9	57	8	14	3	0 7230003**051** 00
4	0,5	6	3,6	57	11	16	3	0 7230004**051** 00
5	0,5	6	4,6	57	13	18	3	0 7230005**051** 00
	1	6	4,6	57	13	18	3	0 7230005**101** 00
6	0,5	6	5,5	57	13	21	3	0 7230006**051** 00
	1	6	5,5	57	13	21	3	0 7230006**101** 00
8	0,5	8	7,5	63	19	27	3	0 7230008**051** 00
	1	8	7,5	63	19	27	3	0 7230008**101** 00
	2	8	7,5	63	19	27	3	0 7230008**201** 00
10	0,5	10	9,5	72	22	32	3	0 7230010**051** 00
	1	10	9,5	72	22	32	3	0 7230010**101** 00
	2	10	9,5	72	22	32	3	0 7230010**201** 00
12	1	12	11,5	83	26	38	3	0 7230012**101** 00
	2	12	11,5	83	26	38	3	0 7230012**201** 00
	3	12	11,5	83	26	38	3	0 7230012**301** 00
16	1	16	15,0	92	32	44	3	0 7230016**101** 00
	2	16	15,0	92	32	44	3	0 7230016**201** 00

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar. | Also available with Weldon-shank (DIN 6535-HB) without extra charge. | Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.

D VHM-Schaftfräser mit Eckenradius Speedcut-Aluminium,
extra lang XL, freigestellt, Dreischneider, ungleiche Drallsteigung

E Solid carbide corner radius end mill Speedcut-Aluminium,
extra long series XL, neck, three flutes, different spiral angles

I Frese frontali MDI con spigolo raggiato Speedcut-Aluminium,
serie extra lunga XL, libero, 3 taglienti, angolo elica disuguale

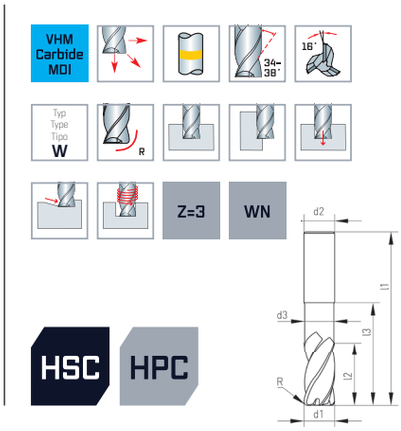
Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von Aluminium-Werkstoffen (sowohl für Guss- als auch Knetlegierungen). Kernanstieg für höchste Stabilität, bester Spanabfluss durch optimiertes Fertigungs-Schleifverfahren, dadurch extrem glatte Oberfläche. Höchstes Zerspanvolumen und beste Oberflächengüte durch einzigartige Schneidengeometrie.

Range of application:
Solid carbide high performance end mill especially suitable for aluminium. Center web for highest stability, excellent chip breakage and chip transportation due to optimized manufacturing-grinding method, that is why extremely smooth surface. Highest cutting volume and superior surface quality due to unique cutting edge geometry.

Impiego:
Fresa frontale MDI ad alto rendimento particolarmente adatta per alluminio. Nocciolo crescente per una maggiore stabilità, eccellente rottura ed evacuazione del truciolo grazie al processo di rettifica ottimizzato che rende la superficie dell'utensile estremamente liscia. Volumi asportati elevati ed eccellente qualita' della superficie ottenuta grazie alla unicita' della geometria dei taglienti.

Speedcut

Cu, Ms | Al



Alu

RS=±0,01 mm



DIN 6535-HA

d1 h10 mm	R	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	Z	Code 7090 Art.-Nr.
3	0,5	6	2,8	60	8	18	3	0 709000**3051**00
4	0,5	6	3,8	60	11	21	3	0 709000**4051**00
5	0,5	6	4,7	62	13	26	3	0 709000**5051**00
	1	6	4,7	62	13	26	3	0 709000**5101**00
6	0,5	6	5,6	62	13	26	3	0 709000**6051**00
	1	6	5,6	62	13	26	3	0 709000**6101**00
8	0,5	8	7,5	70	19	34	3	0 709000**8051**00
	1	8	7,5	70	19	34	3	0 709000**8101**00
	2	8	7,5	70	19	34	3	0 709000**8201**00
10	0,5	10	9,5	80	22	40	3	0 709001**0051**00
	1	10	9,5	80	22	40	3	0 709001**0101**00
	2	10	9,5	80	22	40	3	0 709001**0201**00
12	1	12	11,5	95	26	50	3	0 709001**2101**00
	2	12	11,5	95	26	50	3	0 709001**2201**00
	3	12	11,5	95	26	50	3	0 709001**2301**00
16	1	16	15,5	105	32	57	3	0 709001**6101**00
	2	16	15,5	105	32	57	3	0 709001**6201**00
20	2	20	19,5	124	38	71	3	0 709002**0201**00
	4	20	19,5	124	38	71	3	0 709002**0401**00

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar. | Also available with Weldon-shank (DIN 6535-HB) without extra charge. | Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.

D VHM-Vollradiusfräser Speedcut-Aluminium,
lang, freigestellt, Zweischneider, ungleiche Drallsteigung

E Solid carbide ballnose end mill Speedcut-Aluminium,
long series, neck, two flutes, different spiral angles

I Frese cilindrica raggiata in metallo duro Speedcut-Aluminium,
serie lunga, libero, 2 taglienti, angolo elica disuguale

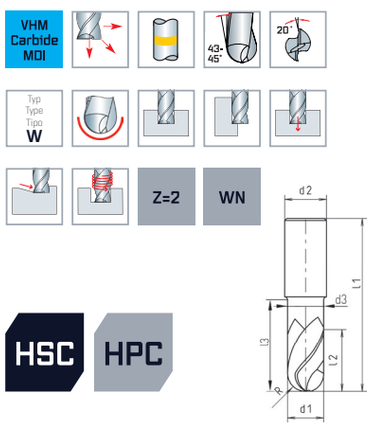
Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von Aluminium-Werkstoffen (sowohl für Guss- als auch Knetlegierungen). Kernanstieg für höchste Stabilität, bester Spanabfluss durch optimiertes Fertigungs-Schleifverfahren, dadurch extrem glatte Oberfläche. Höchstes Zerspanvolumen und beste Oberflächengüte durch einzigartige Schneidengeometrie.

Range of application:
Solid carbide high performance end mill especially suitable for aluminium. Center web for highest stability, excellent chip breakage and chip transportation due to optimized manufacturing-grinding method, that is why extremely smooth surface. Highest cutting volume and superior surface quality due to unique cutting edge geometry.

Impiego:
Fresa frontale MDI ad alto rendimento particolarmente adatta per alluminio. Nocciolo crescente per una maggiore stabilità, eccellente rottura ed evacuazione del truciolo grazie al processo di rettifica ottimizzato che rende la superficie dell'utensile estremamente liscia. Volumi asportati elevati ed eccellente qualita' della superficie ottenuta grazie alla unicita' della geometria dei taglienti.

Speedcut





Alu



d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	R mm	Z	Code 7240 Art.-Nr.
3	6	2,9	57	5	16	1,5	2	0 7240030010 0
4	6	3,9	57	6	18	2,0	2	0 7240040010 0
5	6	4,9	57	8	20	2,5	2	0 7240050010 0
6	6	5,9	57	10	20	3,0	2	0 7240060010 0
8	8	7,8	63	12	25	4,0	2	0 7240080010 0
10	10	9,8	72	15	30	5,0	2	0 7240100010 0
12	12	11,8	83	18	36	6,0	2	0 7240120010 0
16	16	15,8	92	24	42	8,0	2	0 7240160010 0
20	20	19,5	104	30	52	10,0	2	0 7240200010 0

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar. | Also available with Weldon-shank (DIN 6535-HB) without extra charge. | Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.

D VHM-Vollradiusfräser Speedcut-Aluminium,
extra lang XXL, freigestellt, Zweischneider, ungleiche Drallsteigung

E Solid carbide ballnose end mill Speedcut-Aluminium,
extra long series XXL, neck, two flutes, different spiral angles

I Frese cilindrica raggiata in metallo duro Speedcut-Aluminium,
serie extra lunga XXL, libero, 2 taglienti, angolo elica disuguale

Einsatzbereich:
VHM-Hochleistungsfräser besonders geeignet zur Bearbeitung von Aluminium-Werkstoffen (sowohl für Guss- als auch Knetlegierungen). Kernanstieg für höchste Stabilität, bester Spanabfluss durch optimiertes Fertigungs-Schleifverfahren, dadurch extrem glatte Oberfläche. Höchstes Zerspanvolumen und beste Oberflächengüte durch einzigartige Schneidengeometrie.

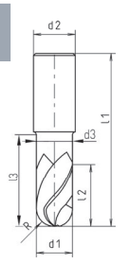
Range of application:
Solid carbide high performance end mill especially suitable for aluminium. Center web for highest stability, excellent chip breakage and chip transportation due to optimized manufacturing-grinding method, that is why extremely smooth surface. Highest cutting volume and superior surface quality due to unique cutting edge geometry.

Impiego:
Fresa frontale MDI ad alto rendimento particolarmente adatta per alluminio. Nocciolo crescente per una maggiore stabilità, eccellente rottura ed evacuazione del truciolo grazie al processo di rettifica ottimizzato che rende la superficie dell'utensile estremamente liscia. Volumi asportati elevati ed eccellente qualita' della superficie ottenuta grazie alla unicita' della geometria dei taglienti.

Speedcut

Cu, Ms | Al

VHM Carbide MDI | Typ Type Tipo W | Z=2 | WN | HSC | HPC



Alu



d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	R mm	Z	Code 7260 Art.-Nr.
3	6	2,9	60	5	20	1,5	2	0 7260003001 00
4	6	3,9	65	6	26	2,0	2	0 7260004001 00
5	6	4,9	76	8	39	2,5	2	0 7260005001 00
6	6	5,9	76	10	39	3,0	2	0 7260006001 00
8	8	7,8	100	12	62	4,0	2	0 7260008001 00
10	10	9,8	100	15	58	5,0	2	0 7260010001 00
12	12	11,8	120	18	73	6,0	2	0 7260012001 00

Optional ohne Aufpreis auch mit Weldon-Schaft (DIN 6535-HB) lieferbar. | Also available with Weldon-shank (DIN 6535-HB) without extra charge. | Anche disponibili con attacco Weldon (DIN 6535-HB) senza prezzo aggiuntivo.

D VHM-Schruppfräser 35° Speedcut-Aluminium, lang, freigestellt, Dreischneider, ungleiche Drallsteigung

E Solid carbide roughing end mill 35° Speedcut-Aluminium, long series, neck, three flutes, different spiral angles

I Frese frontali MDI a sgrossare 35° Speedcut–Alluminio, serie lunga, libero, 3 taglienti, angolo elica disuguale

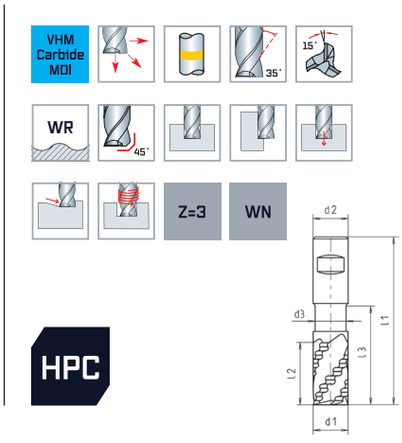
Einsatzbereich:
VHM-Hochleistungs-Schruppfräser, besonders geeignet zur Bearbeitung von Aluminium-Werkstoffen (sowohl für Guss- als auch Knetlegierungen). Extrem glatte Oberfläche verhindert die Bildung von Aufbauschneiden.

Range of application:
Solid carbide high performance roughing cutter especially suitable for aluminium. Extremely smooth surface prevents built-up edges.

Impiego:
Fresa a sgrossare MDI ad alto rendimento particolarmente adatta per alluminio. Superficie extra liscia previene il tagliente di riporto.

Speedcut





Alu



Alu



d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 7015 Art.-Nr.	Code 7115 Art.-Nr.
6	6	5,6	57	10	20	0,35	3	0 7015006001 00	0 7115006001 00
8	8	7,5	63	13	25	0,35	3	0 7015008001 00	0 7115008001 00
10	10	9,5	72	16	30	0,45	3	0 7015010001 00	0 7115010001 00
12	12	11,5	83	19	36	0,45	3	0 7015012001 00	0 7115012001 00
16	16	15,5	92	25	42	0,65	3	0 7015016001 00	0 7115016001 00
20	20	19,5	104	31	52	0,65	3	0 7015020001 00	0 7115020001 00

D **VHM-Schruppfräser 35° Speedcut-Aluminium**, extra lang XL, freigestellt, Dreischneider, ungleiche Drallsteigung

E **Solid carbide roughing end mill 35° Speedcut–Aluminium,** extra long series XL, neck, three flutes, different spiral angles

I **Frese frontali MDI a sgrossare 35° Speedcut–Alluminio,** serie extra lunga XL, libero, 3 taglienti, angolo elica disuguale

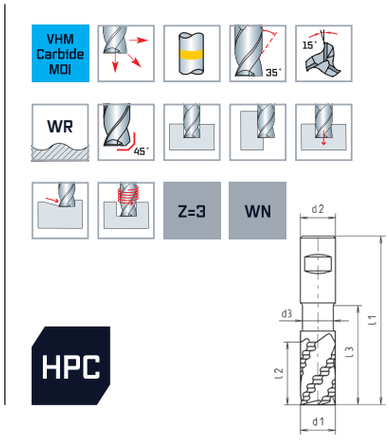
Einsatzbereich:
VHM-Hochleistungs-Schruppfräser, besonders geeignet zur Bearbeitung von Aluminium-Werkstoffen (sowohl für Guss- als auch Knetlegierungen). Extrem glatte Oberfläche verhindert die Bildung von Aufbauschneiden.

Range of application:
Solid carbide high performance roughing cutter especially suitable for aluminium. Extremely smooth surface prevents built-up edges.

Impiego:
Fresa a sgrossare MDI ad alto rendimento particolarmente adatta per alluminio. Superficie extra liscia previene il tagliente di riporto.

Speedcut

Cu, Ms | Al







d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 7055 Art.-Nr.	Code 7155 Art.-Nr.
6	6	5,6	62	13	26	0,35	3	0 7055006001 00	0 7155006001 00
8	8	7,5	70	19	34	0,35	3	0 7055008001 00	0 7155008001 00
10	10	9,5	80	22	40	0,45	3	0 7055010001 00	0 7155010001 00
12	12	11,5	95	26	50	0,45	3	0 7055012001 00	0 7155012001 00
16	16	15,5	105	32	57	0,65	3	0 7055016001 00	0 7155016001 00
20	20	19,5	124	38	71	0,65	3	0 7055020001 00	0 7155020001 00

D VHM-Schaftfräser ecoSpeedcut-Universal,
kurz, Vierschneider, ungleiche Drallsteigung

E Solid carbide end mill ecoSpeedcut-Universal,
short series, four flutes, different spiral angles

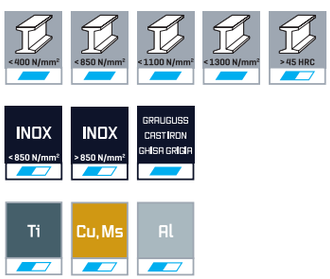
I Fresa in metallo duro ecoSpeedcut-Universali,
serie corta, 4 taglienti, angolo dell'elica variabile

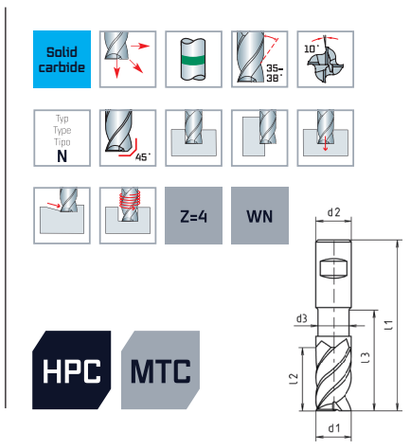
Einsatzbereich:
VHM-Hochleistungsfräser für universellen Einsatz: kurze, stabile Ausführung und weicher Schnitt (10 Grad). Besonders geeignet zur Schruppbearbeitung, Schlichtbearbeitung und Nutbearbeitung in CNC Fräsbearbeitungszentren, in kombinierten Dreh- und Fräszentren sowie auf Drehautomaten. Ungleiche Drallsteigung bewirkt ruhigen, vibrationsarmen Lauf und sehr gute Oberflächengüte. Hohe Zerspanungsleistung.

Range of application:
High performance carbide end mill for universal applications: short, stable design and soft cut (10 degrees). Especially suitable for roughing, finishing and groove machining in CNC milling centers, in combined turning and milling centers and automatic lathes. Different spiral angles effect smooth, vibrationless running and excellent surface. High cutting performance.

Impiego:
MDI Fresa ad alto rendimento per applicazioni universali: versione corta e stabile e taglio dolce (angolo di spoglia 10°). Particolarmente indicate per sgrossatura, finitura e lavorazioni di cave con centri di fresatura CNC, con centri combinati di fresatura e tornitura e torni automatici. Angolo dell'elica variabile che garantisce lavorazioni senza vibrazioni ed eccellenti superfici. Elevato asportazione truciolo.

eco Speedcut





Uni

Neck



DIN 6535-HA

ALUNIT-S®

Uni



DIN 6535-HB

ALUNIT-S®

d1 h10 mm	d2 h6 mm	d3* mm	l1 mm	l2 mm	l3* mm	45°	Z	Code 7627 Art.-Nr.	1)	Code 7127 Art.-Nr.	1)
4	6	3,8	40	6	10	0,20	4	0 7627004001 00	10	0 7127004001 00	10
6	6	5,6	40	8	12	0,20	4	0 7627006001 00	10	0 7127006001 00	10
8	8	7,5	50	12	16	0,25	4	0 7627008001 00	10	0 7127008001 00	10
10	10	9,5	50	13	20	0,25	4	0 7627010001 00	6	0 7127010001 00	6
12	12	11,5	55	15	24	0,25	4	0 7627012001 00	6	0 7127012001 00	6

*Nur für Code 7627. | Only for Code 7627. | Solo per il Codice 7627.

D STC+ Schaftfräser Turbo-Twister-Allround, kurz, Fünfschneider, ungleiche Drallsteigung, 2xD

E STC+ end mill Turbo-Twister-Allround, short series, five flutes, different spiral angles, 2xD

I Fresa frontale STC+ Turbo-Twister-Allround, serie corta, 5 taglienti, angolo elica disuguale, 2xD

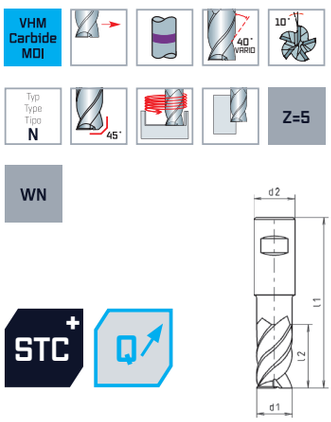
Einsatzbereich:
Hochleistungswerkzeug für statisches und dynamisches trochoidales Fräsen. Zum Schlicht- und Schruppfräsen in nahezu allen Materialien.

Range of application:
High performance tool for static and dynamic trochoidal milling. For finishing and rough milling in almost all materials.

Impiego:
Utensile ad alta prestazione per fresatura statica e dinamica. Per fresatura di finitura e sgrossatura nella quasi totalità dei materiali.

Turbo Twister





Allround



SUPRADUR

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 8002 Art.-Nr.
3	6	50	7	0,05	5	0 8002003001 00
4	6	50	9	0,05	5	0 8002004001 00
5	6	54	11	0,05	5	0 8002005001 00
6	6	54	14	0,05	5	0 8002006001 00
8	8	61	18	0,05	5	0 8002008001 00
10	10	69	22	0,05	5	0 8002010001 00
12	12	80	26	0,05	5	0 8002012001 00
14	14	83	30	0,05	5	0 8002014001 00
16	16	92	34	0,05	5	0 8002016001 00
20	20	104	42	0,05	5	0 8002020001 00

Spanbrecher 2 Stk. / Chip breaker 2 pcs. / Rompitrucioli 2 pz.

D STC+ Schaftfräser Turbo-Twister-Allround,
lang, Fünfschneider, ungleiche Drallsteigung, **3xD**

Einsatzbereich:
Hochleistungswerkzeug für statisches und dynamisches trochoidales Fräsen. Zum Schlicht- und Schruppfräsen in nahezu allen Materialien.

E STC+ end mill Turbo-Twister-Allround,
long series, five flutes, different spiral angles, **3xD**

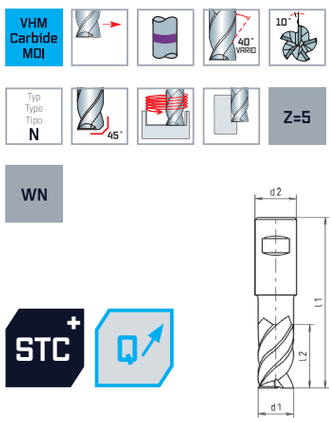
Range of application:
High performance tool for static and dynamic trochoidal milling. For finishing and rough milling in almost all materials.

I Fresa frontale STC+ Turbo-Twister-Allround,
serie lunga, 5 taglienti, angolo elica disuguale, **3xD**

Impiego:
Utensile ad alta prestazione per fresatura statica e dinamica. Per fresatura di finitura e sgrossatura nella quasi totalità dei materiali.

Turbo Twister





Allround



SUPRADUR

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 8003 Art.-Nr.
3	6	54	10	0,05	5	0 8003003001 00
4	6	54	13	0,05	5	0 8003004001 00
5	6	57	16	0,05	5	0 8003005001 00
6	6	62	20	0,05	5	0 8003006001 00
8	8	69	26	0,05	5	0 8003008001 00
10	10	79	32	0,05	5	0 8003010001 00
12	12	92	38	0,05	5	0 8003012001 00
14	14	97	44	0,05	5	0 8003014001 00
16	16	106	50	0,05	5	0 8003016001 00
20	20	124	62	0,05	5	0 8003020001 00

Spanbrecher 2 Stk. / Chip breaker 2 pcs. / Rompitrucioli 2 pz.

D STC+ Schaftfräser Turbo-Twister-Allround, extra lang XL, Fünfschneider, ungleiche Drallsteigung, 4xD

Einsatzbereich:
Hochleistungswerkzeug für statisches und dynamisches trochoidales Fräsen. Zum Schlicht- und Schruppfräsen in nahezu allen Materialien.

E STC+ end mill Turbo-Twister-Allround, extra long series XL, five flutes, different spiral angles, 4xD

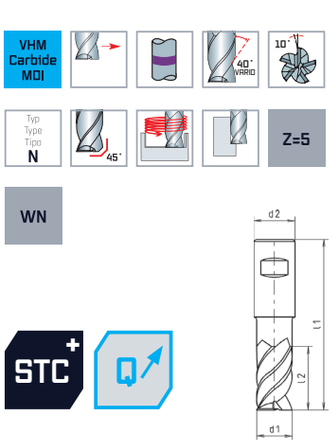
Range of application:
High performance tool for static and dynamic trochoidal milling. For finishing and rough milling in almost all materials.

I Fresa frontale STC+ Turbo-Twister-Allround, serie extra lunga XL, 5 taglienti, angolo elica disuguale, 4xD

Impiego:
Utensile ad alta prestazione per fresatura statica e dinamica. Per fresatura di finitura e sgrossatura nella quasi totalità dei materiali.

Turbo Twister





Allround



SUPRADUR

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 8004 Art.-Nr.
6	6	69	26	0,05	5	0 8004006001 00
8	8	77	34	0,05	5	0 8004008001 00
10	10	89	42	0,05	5	0 8004010001 00
12	12	103	50	0,05	5	0 8004012001 00
14	14	111	58	0,05	5	0 8004014001 00
16	16	124	66	0,05	5	0 8004016001 00
20	20	145	82	0,05	5	0 8004020001 00

Spanbrecher 3 Stk. / Chip breaker 3 pcs. / Rompitrucioli 3 pz.

D STC+ Schaftfräser Turbo-Twister-Allround, extra lang XXL, Fünfschneider, ungleiche Drallsteigung, 5xD

Einsatzbereich:
Hochleistungswerkzeug für statisches und dynamisches trochoidales Fräsen. Zum Schlicht- und Schruppfräsen in nahezu allen Materialien.

E STC+ end mill Turbo-Twister-Allround, extra long series XXL, five flutes, different spiral angles, 5xD

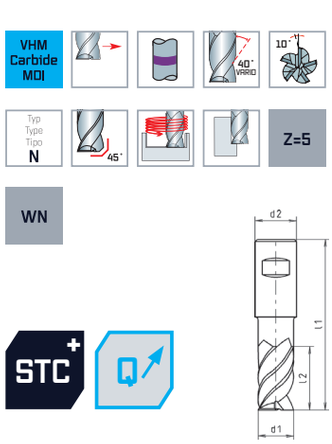
Range of application:
High performance tool for static and dynamic trochoidal milling. For finishing and rough milling in almost all materials.

I Fresa frontale STC+ Turbo-Twister-Allround, serie extra lunga XXL, 5 taglienti, angolo elica disuguale, 5xD

Impiego:
Utensile ad alta prestazione per fresatura statica e dinamica. Per fresatura di finitura e sgrossatura nella quasi totalità dei materiali.

Turbo Twister







SUPRADUR

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 8005 Art.-Nr.
6	6	72	32	0,05	5	8005006001 00
8	8	83	42	0,05	5	8005008001 00
10	10	99	52	0,05	5	8005010001 00
12	12	115	62	0,05	5	8005012001 00
14	14	125	72	0,05	5	8005014001 00
16	16	140	82	0,05	5	8005016001 00
20	20	163	102	0,05	5	8005020001 00

Spanbrecher 3 Stk. / Chip breaker 3 pcs. / Rompitrucioli 3 pz.

D STC-Schaftfräser Speedtwister-Universal,

lang, freigestellt, Fünfschneider, ungleiche Drallsteigung, **3xD**

Einsatzbereich:
Trochoidaler Hochleistungsfräser für universellen Einsatz. Für statische und dynamische Bearbeitungen. Sehr hohe Laufruhe und perfekte Spankontrolle durch modernste Werkzeuggeometrien setzt neue Maßstäbe in der Zerspanungsleistung.

E STC end mill Speedtwister-Universal,

long series, neck, five flutes, different spiral angles, **3xD**

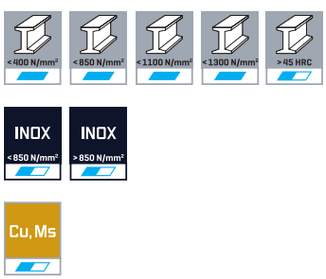
Range of application:
Trochoidal high performance carbide end mill for universal applications. For static and dynamic strategies. Very smooth operation and perfect chip control through modern tool geometry sets new standards in chip removal.

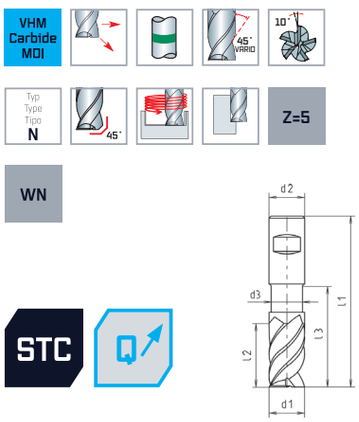
I Fresa frontale STC Speedtwister-Universali,

serie lunga, libero, 5 taglienti, angolo elica disuguale, **3xD**

Impiego:
Fresa trocoidale ad alto rendimento per applicazioni universali. Idonea per fresatura statiche e dinamiche. Elevata silenziosità e un perfetto controllo del truciolo dalla più moderna geometria dell'utensile stabilisce nuove standard nell'trasporto truciolo.

Speedtwister





Uni





TWINDUR

d1 f8 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 6117 Art.-Nr.
3	6	2,8	54	10	14	0,05	5	0 6117003001 00
4	6	3,8	57	13	18	0,05	5	0 6117004001 00
5	6	4,8	59	16	22	0,05	5	0 6117005001 00
6	6	5,8	64	20	28	0,05	5	0 6117006001 00
8	8	7,8	72	26	34	0,05	5	0 6117008001 00
10	10	9,8	79	32	40	0,05	5	0 6117010001 00
12	12	11,8	92	38	46	0,05	5	0 6117012001 00
16	16	15,8	106	50	58	0,05	5	0 6117016001 00
20	20	19,8	125	62	70	0,05	5	0 6117020001 00

Spanbrecher 2 Stk. / Chip breaker 2 pcs. / Rompitrucioli 2 pz.

D STC-Schaftfräser Speedtwister-Universal,
extra lang XL, Fünfschneider, ungleiche Drallsteigung, **5xD**

Einsatzbereich:
Trochoidaler Hochleistungsfräser für universellen Einsatz. Für statische und dynamische Bearbeitungen. Sehr hohe Laufruhe und perfekte Spankontrolle durch modernste Werkzeuggeometrien setzt neue Maßstäbe in der Zerspanungsleistung.

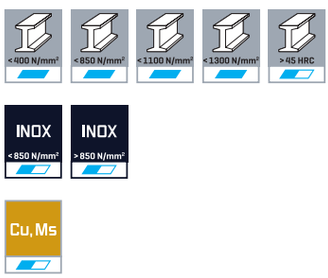
E STC end mill Speedtwister-Universal,
extra long series XL, five flutes, different spiral angles, **5xD**

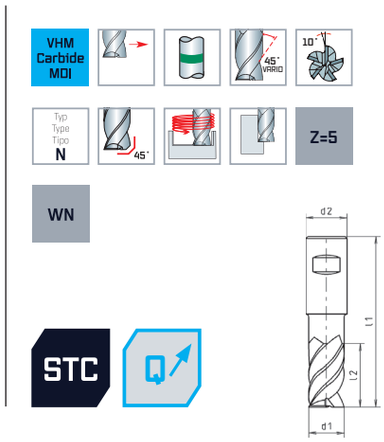
Range of application:
Trochoidal high performance carbide end mill for universal applications. For static and dynamic strategies. Very smooth operation and perfect chip control through modern tool geometry sets new standards in chip removal.

I Fresa frontale STC Speedtwister-Universali,
serie extra lunga XL, 5 taglienti, angolo elica disuguale, **5xD**

Impiego:
Fresa trocoidale ad alto rendimento per applicazioni universali. Idonea per fresatura statiche e dinamiche. Elevata silenziosità e un perfetto controllo del truciolo dalla più moderna geometria dell'utensile stabilisce nuove standard nell'trasporto truciolo.

Speedtwister





Uni





TWINDUR

d1 f8 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 6137 Art.-Nr.
6	6	70	32	0,05	5	0 6137006001 00
8	8	80	42	0,05	5	0 6137008001 00
10	10	99	52	0,05	5	0 6137010001 00
12	12	115	62	0,05	5	0 6137012001 00
16	16	140	82	0,05	5	0 6137016001 00

Spanbrecher 3 Stk. / Chip breaker 3 pcs. / Rompitrucioli 3 pz.

D VHM-Mehrzahn Schlichtfräser Speedtwister-Universal, extra lang 5xD

E Solid carbide multi flute finishing end mill Speedtwister-Universal, extra long series 5xD

I Fresa in metallo duro multitagliente per finitura Speedtwister-Universale, extra serie lunga 5xD

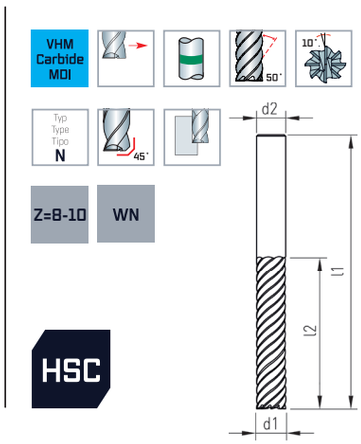
Einsatzbereich:
VHM-Hochleistungsschlichtfräser für universellen Einsatz in Baustähle, Werkzeugstähle, Vergütungsstähle, aber auch rostfreien Stählen und Titanlegierungen bis 50 HRC.
Durch einen sehr starken Fräserkern und modifiziertem Stirnschliff mit kleiner Eckenschutzfase werden sehr hohe Zerspanungsleistungen mit exzellenter Oberflächengüte erzielt.

Range of application:
High performance carbide finishing end mill for universal applications into structural steels, tool steels, treatable steels but also for stainless steels and titanium alloys up to 50 HRC.
Due to a very strong core and an improved face grinding with small cutting edge chamfer, very high cutting performances with excellent surface quality will be achieved.

Impiego:
Fresa a finire in Metallo Duro ad alto rendimento per applicazioni universali idonea per acciai strutturali, acciai da utensili, acciai da tempra ma anche per acciai inossidabili e leghe di titanio fino a 50 HRC.Grazie al nocciolo rinforzato e ad una migliorata superficie rettificata con piccoli smussi di protezione e' possibile raggiungere rendimenti di taglio molto elevati ed eccellenti qualita' di finitura.

Speedtwister





Uni





ALUNIT-S®

d1 e8 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 6199 Art.-Nr.
6	6	70	32	0,05	8	0 6199006001 00
8	8	80	42	0,05	8	0 6199008001 00
10	10	99	52	0,05	8	0 6199010001 00
12	12	115	62	0,05	8	0 6199012001 00
16	16	140	82	0,10	10	0 6199016001 00

D STC-Schaftfräser Speedtwister-Inox,
lang, freigestellt, Fünfschneider, ungleiche Drallsteigung, **3xD**

Einsatzbereich:
Trochoidaler Hochleistungsfräser für austenitische rostfreie Stähle. Für statische und dynamische Bearbeitungen. Sehr hohe Laufruhe und perfekte Spankontrolle durch modernste Werkzeuggeometrien setzt neue Maßstäbe in der Zerspanungsleistung.

E STC end mill Speedtwister-Inox,
long series, neck, five flutes, different spiral angles, **3xD**

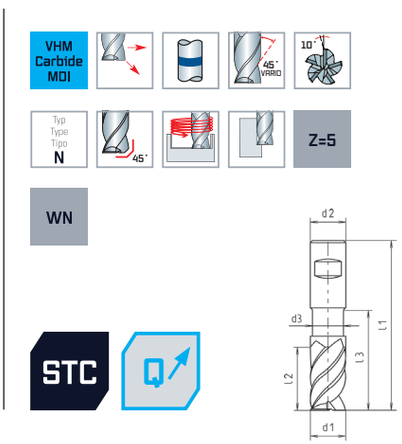
Range of application:
Trochoidal high performance carbide end mill for austenitic stainless steels. For static and dynamic strategies. Very smooth operation and perfect chip control through modern tool geometry sets new standards in chip removal.

I Fresa frontale STC Speedtwister-Inox,
serie lunga, libero, 5 taglienti, angolo elica disuguale, **3xD**

Impiego:
Fresa trocoidale ad alto rendimento per la lavorazione di acciai austenitici inossidabili. Idonea per fresatura statiche e dinamiche. Elevata silenziosità e un perfetto controllo del truciolo dalla più moderna geometria dell'utensile stabilisce nuove standard nell'trasporto truciolo.

Speedtwister





Inox



DIN 6535-HB

ULTRADUR

d1 f8 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 6107 Art.-Nr.
3	6	2,8	54	10	14	0,05	5	0 6107003001 00
4	6	3,8	57	13	18	0,05	5	0 6107004001 00
5	6	4,8	59	16	22	0,05	5	0 6107005001 00
6	6	5,8	64	20	28	0,05	5	0 6107006001 00
8	8	7,8	72	26	34	0,05	5	0 6107008001 00
10	10	9,8	79	32	40	0,05	5	0 6107010001 00
12	12	11,8	92	38	46	0,05	5	0 6107012001 00
16	16	15,8	106	50	58	0,05	5	0 6107016001 00
20	20	19,8	125	62	70	0,05	5	0 6107020001 00

Spanbrecher 2 Stk. / Chip breaker 2 pcs. / Rompitrucioli 2 pz.

D STC-Schaftfräser Speedtwister-Inox,
extra lang XL, Fünfschneider, ungleiche Drallsteigung, **5xD**

Einsatzbereich:
Trochoidaler Hochleistungsfräser für austenitische rostfreie Stähle. Für statische und dynamische Bearbeitungen. Sehr hohe Laufruhe und perfekte Spankontrolle durch modernste Werkzeuggeometrien setzt neue Maßstäbe in der Zerspanungsleistung.

E STC end mill Speedtwister-Inox,
extra long series XL, five flutes, different spiral angles, **5xD**

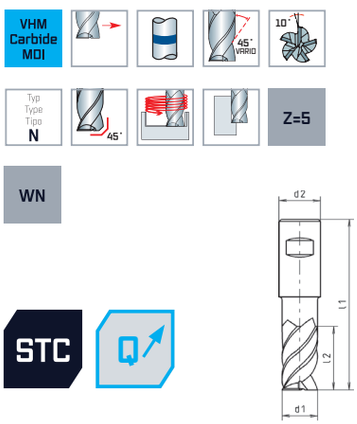
Range of application:
Trochoidal high performance carbide end mill for austenitic stainless steels. For static and dynamic strategies. Very smooth operation and perfect chip control through modern tool geometry sets new standards in chip removal.

I Fresa frontale STC Speedtwister-Inox,
serie extra lunga XL, 5 taglienti, angolo elica disuguale, **5xD**

Impiego:
Fresa trocoidale ad alto rendimento per la lavorazione di acciai austenitici inossidabili. Idonea per fresatura statiche e dinamiche. Elevata silenziosità e un perfetto controllo del truciolo dalla più moderna geometria dell'utensile stabilisce nuove standard nell'trasporto truciolo.

Speedtwister





Inox





ULTRADUR

d1 f8 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 6197 Art.-Nr.
6	6	70	32	0,05	5	0 6197006001 00
8	8	80	42	0,05	5	0 6197008001 00
10	10	99	52	0,05	5	0 6197010001 00
12	12	115	62	0,05	5	0 6197012001 00
16	16	140	82	0,05	5	0 6197016001 00

Spanbrecher 3 Stk. / Chip breaker 3 pcs. / Rompitrucioli 3 pz.



D STC-Schaftfräser Speedtwister-Inox,
extra lang XL, Fünfschneider, ungleiche Drallsteigung, **5xD, mit Innenkühlung**

Einsatzbereich:
Trochoidaler Hochleistungsfräser für austenitische rostfreie Stähle. Für statische und dynamische Bearbeitungen. Sehr hohe Laufruhe und perfekte Spankontrolle durch modernste Werkzeuggeometrien setzt neue Maßstäbe in der Zerspanungsleistung.

E STC end mill Speedtwister-Inox,
extra long series XL, five flutes, different spiral angles, **5xD, with internal coolant supply**

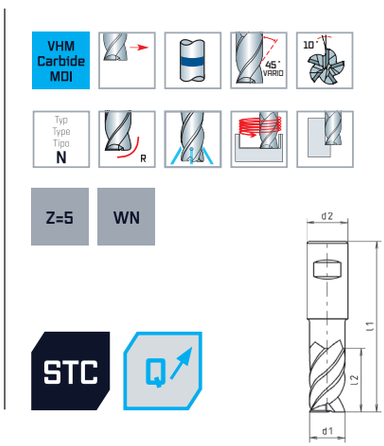
Range of application:
Trochoidal high performance carbide end mill for austenitic stainless steels. For static and dynamic strategies. Very smooth operation and perfect chip control through modern tool geometry sets new standards in chip removal.

I Fresa frontale STC Speedtwister-Inox,
serie extra lunga XL, 5 taglienti, angolo elica disuguale, **5xD, con fori lubrificazione**

Impiego:
Fresa trocoidale ad alto rendimento per la lavorazione di acciai austenitici inossidabili. Idonea per fresatura statiche e dinamiche. Elevata silenziosità e un perfetto controllo del truciolo dalla più moderna geometria dell'utensile stabilisce nuove standard nell'trasporto truciolo.

Speedtwister







ULTRADUR

d1 f8 mm	R	d2 h6 mm	l1 mm	l2 mm	Z	Code 6198 Art.-Nr.
6	0,5	6	70	32	5	06198006001 00
8	0,5	8	80	42	5	06198008001 00
10	0,5	10	99	52	5	06198010001 00
12	0,5	12	115	62	5	06198012001 00
16	0,5	16	140	82	5	06198016001 00

Spanbrecher 3 Stk. / Chip breaker 3 pcs. / Rompitrucioli 3 pz.

D HSC-Torusfräser
kurz, Vierschneider

Einsatzbereich:
HSC Hochleistungswerkzeuge für den Werkzeug- und Formenbau. Für hochlegierte und gehärtete Materialien.

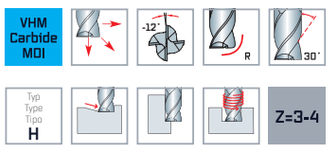
E HSC Torus end mill,
short series, four flutes

Range of application:
HSC high-performance tools for tool and mold making. For high-alloy and hardened materials.

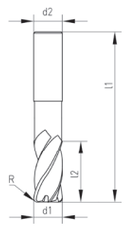
I HSC Fresa toroidale,
serie corta, 4 taglienti

Impiego:
HSC utensili ad alto rendimento per produzione utensili e stampi.





HSC



RS=±0,005 mm



DIN 6535-HA

KUPRADUR

d1 e8 mm	d2 h5 mm	l1 mm	l2 mm	R mm	Z	Code 7110 Art.-Nr.
2	4	40	3	0,2	3	0 7110002021 00
2	4	40	3	0,3	3	0 7110002031 00
3	6	57	4	0,3	4	0 7110003031 00
3	6	57	4	0,5	4	0 7110003051 00
4	6	57	5	0,5	4	0 7110004051 00
4	6	57	5	1	4	0 7110004101 00
5	6	57	6	0,5	4	0 7110005051 00
5	6	57	6	1	4	0 7110005101 00
5	6	57	6	1,5	4	0 7110005151 00
6	6	57	7	0,5	4	0 7110006051 00
6	6	57	7	1	4	0 7110006101 00
6	6	57	7	1,5	4	0 7110006151 00
8	8	63	9	0,5	4	0 7110008051 00
8	8	63	9	1	4	0 7110008101 00
8	8	63	9	1,5	4	0 7110008151 00
8	8	63	9	2	4	0 7110008201 00
10	10	72	11	0,5	4	0 7110010051 00
10	10	72	11	1	4	0 7110010101 00
10	10	72	11	1,5	4	0 7110010151 00
10	10	72	11	2	4	0 7110010201 00
10	10	72	11	2,5	4	0 7110010251 00
12	12	83	12	0,5	4	0 7110012051 00
12	12	83	12	1	4	0 7110012101 00
12	12	83	12	1,5	4	0 7110012151 00
12	12	83	12	2	4	0 7110012201 00
12	12	83	12	3	4	0 7110012301 00
16	16	92	16	1	4	0 7110016101 00
16	16	92	16	2	4	0 7110016201 00
16	16	92	16	4	4	0 7110016401 00

D HSC-Torusfräser
lang, Vierschneider

E HSC Torus end mill,
long series, four flutes

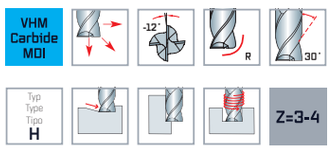
I HSC Fresa toroidale,
serie lunga, 4 taglienti

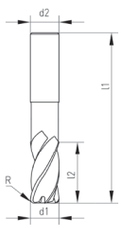
Einsatzbereich:
HSC Hochleistungswerkzeuge für den Werkzeug- und Formenbau. Für hochlegierte und gehärtete Materialien.

Range of application:
HSC high-performance tools for tool and mold making. For high-alloy and hardened materials.

Impiego:
HSC utensili ad alto rendimento per produzione utensili e stampi.







HSC

RS=±0,005 mm



DIN 6535-HA

KUPRADUR

d1 e8 mm	d2 h5 mm	l1 mm	l2 mm	R mm	Z	Code 7210 Art.-Nr.
2	4	59	3	0,2	3	0 7210002021 00
3	6	69	4	0,3	4	0 7210003031 00
3	6	69	4	0,5	4	0 7210003051 00
4	6	69	5	0,5	4	0 7210004051 00
4	6	69	5	1	4	0 7210004101 00
5	6	69	6	0,5	4	0 7210005051 00
5	6	69	6	1	4	0 7210005101 00
6	6	80	7	0,5	4	0 7210006051 00
6	6	80	7	1	4	0 7210006101 00
6	6	80	7	1,5	4	0 7210006151 00
8	8	100	9	0,5	4	0 7210008051 00
8	8	100	9	1	4	0 7210008101 00
8	8	100	9	1,5	4	0 7210008151 00
8	8	100	9	2	4	0 7210008201 00
10	10	100	11	0,5	4	0 7210010051 00
10	10	100	11	1	4	0 7210010101 00
10	10	100	11	1,5	4	0 7210010151 00
10	10	100	11	2	4	0 7210010201 00
10	10	100	11	2,5	4	0 7210010251 00
12	12	120	12	0,5	4	0 7210012051 00
12	12	120	12	1	4	0 7210012101 00
12	12	120	12	1,5	4	0 7210012151 00
12	12	120	12	2	4	0 7210012201 00
12	12	120	12	3	4	0 7210012301 00
16	16	140	16	1	4	0 7210016101 00
16	16	140	16	2	4	0 7210016201 00
16	16	140	16	4	4	0 7210016401 00

D HSC-Vollradiusfräser
kurz, Zweischneider

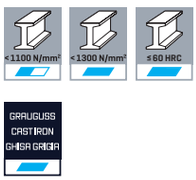
Einsatzbereich:
HSC Hochleistungswerkzeuge für den Werkzeug- und Formenbau. Für hochlegierte und gehärtete Materialien.

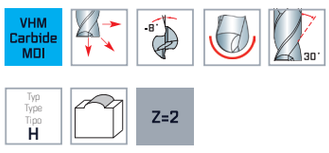
E HSC ballnose end mill,
short series, two flutes

Range of application:
HSC high-performance tools for tool and mold making. For high-alloy and hardened materials.

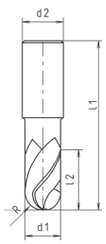
I Frese cilindrica raggiata in metallo duro,
serie corta, 2 taglienti

Impiego:
HSC utensili ad alto rendimento per produzione utensili e stampi.





HSC



RS = ±0,005 mm



DIN 6535-HA

KUPRADUR

d1 e8 mm	d2 h5 mm	l1 mm	l2 mm	R mm	Z	Code 7060 Art.-Nr.
3	6	57	4	1,5	2	0 7060003001 00
4	6	57	5	2	2	0 7060004001 00
5	6	57	6	2,5	2	0 7060005001 00
6	6	57	7	3	2	0 7060006001 00
8	8	63	9	4	2	0 7060008001 00
10	10	72	11	5	2	0 7060010001 00
12	12	83	12	6	2	0 7060012001 00
16	16	92	16	8	2	0 7060016001 00



Speedcut 4.0

D HSC-Vollradiusfräser
lang, Zweischneider

Einsatzbereich:
HSC Hochleistungswerkzeuge für den Werkzeug- und Formenbau. Für hochlegierte und gehärtete Materialien.

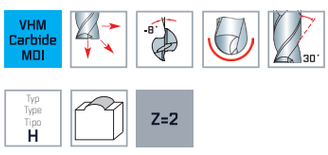
E HSC ballnose end mill,
long series, two flutes

Range of application:
HSC high-performance tools for tool and mold making. For high-alloy and hardened materials.

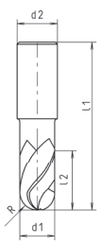
I Frese cilindrica raggiata in metallo duro,
serie lunga, 2 taglienti

Impiego:
HSC utensili ad alto rendimento per produzione utensili e stampi.





HSC



RS=±0,005 mm



DIN 6535-HA

KUPRADUR

d1 e8 mm	d2 h5 mm	l1 mm	l2 mm	R mm	Z	Code 7160 Art.-Nr.
3	6	75	4	1,5	2	0 7160003001 00
4	6	75	5	2	2	0 7160004001 00
5	6	80	6	2,5	2	0 7160005001 00
6	6	80	7	3	2	0 7160006001 00
8	8	90	9	4	2	0 7160008001 00
10	10	100	11	5	2	0 7160010001 00
12	12	120	12	6	2	0 7160012001 00

D HSC-Vollradiusfräser
kurz & lang, Vierschneider

Einsatzbereich:
HSC Hochleistungswerkzeuge für den Werkzeug- und Formenbau. Für hochlegierte und gehärtete Materialien.

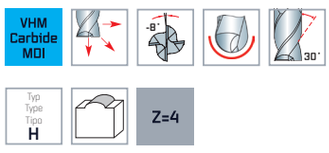
E HSC ballnose end mill,
short & long series,
four flutes

Range of application:
HSC high-performance tools for tool and mold making. For high-alloy and hardened materials.

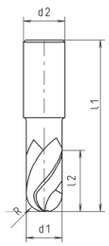
I Frese cilindrica raggiata in metallo duro,
serie corta & lunga, 4 taglienti

Impiego:
HSC utensili ad alto rendimento per produzione utensili e stampi.





HSC



RS=±0,005 mm



DIN 6535-HA

KUPRADUR

d1 e8 mm	d2 h5 mm	l1 mm	l2 mm	R mm	Z	Code 7030 Art.-Nr.
4	6	60	5	2	4	0 7030004001 00
4	6	60	5	2	4	0 7030004051 00
6	6	60	10	3	4	0 7030006001 00
6	6	80	10	3	4	0 7030006051 00
8	8	75	12	4	4	0 7030008001 00
8	8	100	12	4	4	0 7030008101 00
10	10	75	16	5	4	0 7030010001 00
10	10	100	16	5	4	0 7030010101 00
12	12	100	16	6	4	0 7030012001 00
16	16	100	18	8	4	0 7030016001 00



Speedcut 4.0



VHM-Fräser

E Solid carbide milling cutters

I Frese in metallo duro integrale



D Übersicht
VHM-Fräser

E Overview
Solid carbide milling cutters

I Sommario
Frese in metallo duro integrale

D Die Schnittwerte für alle Werkzeuge entnehmen Sie bitte unserem separaten Zerspanungshandbuch.

E You will find the cutting conditions for all tools in our separate cutting manual.

I Per i parametri di lavorazione per tutti gli utensili richiedete il nostro manuale tecnico.

	Schaftfräser / End mills / Frese frontali						
							
Norm / Standard	WN						
Typ / Type / Tipo	N	N	W	N	N	N	N
Länge / Length / Lunghezza	kurz / short	kurz / short	kurz / short	lang / long	lang / long	kurz / short	kurz / short
Schneidenanzahl / No. of flutes / Nr. denti	2	2	2	2	2	3	3
Kopfform / Head type / Tipo di testa	45°	45°	90°	45°	45°	45°	45°
Drallwinkel / Spiral angle / Anglo elica	30°	30°	30°	30°	30°	30°	30°
Schaftform / Shank type / Forma codolo	d1=d2	d1=d2	d1=d2	d1=d2	d1=d2	d1=d2	d1=d2
Beschichtung / Coating / Rivestimento		ALUNIT®			ALUNIT®		ALUNIT®
Ø mm	1-20	1-20	1-20	3-12	3-12	1-20	1-20
Code / Codice	6015	6017	6915	6025	6027	6055	6057
Seite / Page / Pagina	156	156	157	158	158	159	159
Geeignet für / Suitable for / Adatte per							
< 400 N/mm² — Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²	▬	▬		▬	▬	▬	▬
< 850 N/mm² — Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²	▬	▬		▬	▬	▬	▬
< 1100 N/mm² — Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²	▬	▬		▬	▬	▬	▬
< 1300 N/mm² — Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²	▬	▬		▬	▬	▬	▬
> 45 HRC — Stähle > 45 HRC / Steels > 45 HRC / Acciai > 45 HRC							
INOX < 850 N/mm² — Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²	▬	▬		▬	▬	▬	▬
INOX > 850 N/mm² — Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²	▱	▱		▱	▱	▱	▱
GRAUGUSS CAST IRON GHISA GRIGIA — Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile	▬	▬		▬	▬	▬	▬
Ti — Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio							
Cu, Ms — Kupfer, Messing / Copper, brass / Rame, ottone			▬				
Al — Aluminium / Aluminium / Alluminio	▱	▱	▬			▱	▱
Kunststoffe / Plastics / Materie plastiche			▱				

▬ Ideal / Ideal / Ideale | ▱ Geeignet / Suitable / Adatte

maykestag PERFORMANCE IN PRECISION

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I Sommario
Frese in metallo duro integrale

Schaftfräser / End mills / Frese frontali						
						
WN					DIN 6527L	
N	N	N	N	N	N	N
lang / long	lang / long	kurz / short	kurz / short	lang / long	lang / long	lang / long
3	3	4	4	4	3	4
						
30°	30°	30°	30°	30°	30°	30°
d1=d2	d1=d2	d1=d2	d1=d2	d1=d2	DIN 6535-HB	DIN 6535-HB
	ALUNIT®		ALUNIT®	ALUNIT®	ALUNIT®	ALUNIT®
3-20	3-16	1-20	1-20	3-25	2-12	2-20
6065	6067	6075	6077	6087	7657	7677
160	160	161	161	162	163	164
▬	▬	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬	▬
		▭	▭	▭		▭
▬	▬	▬	▭	▭	▬	▭
▭	▭				▭	
▬	▬	▬	▬	▬	▬	▬
▭	▭	▭	▭	▭	▭	▭

▬ Ideal / Ideal / Ideale | ▭ Geeignet / Suitable / Adatte

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	Schaftfräser / End mills / Frese frontali			
				
Norm / Standard	DIN 6527L			
Typ / Type / Tipo	N	HR	HR	HR
Länge / Length / Lunghezza	lang / long	lang / long	lang / long	lang / long
Schneidenanzahl / No. of flutes / Nr. denti	4	3-5	3-4	4-5
Kopfform / Head type / Tipo di testa				
Drallwinkel / Spiral angle / Anglo elica	30°	20°	30°	45°
Schaftform / Shank type / Forma codolo	DIN 6535-HB	DIN 6535-HB	DIN 6535-HB	DIN 6535-HB
Beschichtung / Coating / Rivestimento	ALUNIT®	ALUNIT-S®	ALUNIT®	ALUNIT-S®
Ø mm	3-20	4-20	3-20	6-20
Code / Codice	7617	7047	7027	7087
Seite / Page / Pagina	165	166	167	168
Geeignet für / Suitable for / Adatte per				
Stähle < 400 N/mm² Steels < 400 N/mm² Acciai < 400 N/mm²	▬	▬	▬	▬
Stähle < 850 N/mm² Steels < 850 N/mm² Acciai < 850 N/mm²	▬	▬	▬	▬
Stähle < 1.100 N/mm² Steels < 1.100 N/mm² Acciai < 1.100 N/mm²	▬	▬	▬	▬
Stähle < 1.300 N/mm² Steels < 1.300 N/mm² Acciai < 1.300 N/mm²	▬	▬	▬	▬
Stähle > 45 HRC Steels > 45 HRC Acciai > 45 HRC	▰			
Rostfreie Stähle < 850 N/mm² Stainless steels < 850 N/mm² Acciai inossidabili < 850 N/mm²	▰	▰	▰	▬
Rostfreie Stähle > 850 N/mm² Stainless steels > 850 N/mm² Acciai inossidabili > 850 N/mm²		▬	▰	▬
Grauguss, Temperguss Cast iron, malleable cast iron Ghisa grigia, ghisa malleabile	▬	▬	▬	▬
Titan- und Titanlegierung Titanium and titanium alloys Titanio e leghe di Titanio				▰
Kupfer, Messing Copper, brass Rame, ottone			▰	▰
Aluminium Aluminium Alluminio	▰	▰	▰	▬
Kunststoffe Plastics Materie plastiche				

▬ **Ideal** / Ideal / Ideale | ▰ **Geeignet** / Suitable / Adatte

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Frese in metallo
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Schaftfräser / End mills / Frese frontali				Miniatur-Schaftfräser / Mini end mills / Frese in miniatura	
					
WN					
N	N	N	N	N	N
				kurz / short	lang / long
2	3	3	4	2	3
					
30°	30°	30°	30°	30°	30°
DIN 6535-HA	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA
		ALUNIT®	ALUNIT®		ALUNIT®
1-6	1-6	1-6	1-6	0,4-3	1-3
6615	6315	6317	6517	6245	6477
169	170	170	171	172	173
▬	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬
			▭		
▬	▬	▬	▭	▬	▬
▭	▭	▭		▬	▭
▬	▬	▬	▬	▬	▬
▭	▭	▭	▭	▭	▭

▬ **Ideal** / Ideal / Ideale | ▭ **Geeignet** / Suitable / Adatte

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	Radiusfräser / Ball nose end mills / Frese cilindriche raggiate			
				
Norm / Standard	WN			
Typ / Type / Tipo	N	N	W	N
Länge / Length / Lunghezza	kurz / short	kurz / short	kurz / short	lang / long
Schneidenanzahl / No. of flutes / Nr. denti	2	2	2	2
Kopfform / Head type / Tipo di testa				
Drallwinkel / Spiral angle / Anglo elica	30°	30°	30°	30°
Schaftform / Shank type / Forma codolo	d1=d2	d1=d2	d1=d2	d1=d2
Beschichtung / Coating / Rivestimento		ALUNIT®		
Ø mm	1-20	1-20	1-12	3-12
Code / Codice	7525	7527	6925	7535
Seite / Page / Pagina	174	174	175	176
Geeignet für / Suitable for / Adatte per				
< 400 N/mm² — **Stähle < 400 N/mm²** / Steels < 400 N/mm² / Acciai < 400 N/mm²	▬	▬		▬
< 850 N/mm² — **Stähle < 850 N/mm²** / Steels < 850 N/mm² / Acciai < 850 N/mm²	▬	▬		▬
< 1100 N/mm² — **Stähle < 1.100 N/mm²** / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²	▬	▬		▬
< 1300 N/mm² — **Stähle < 1.300 N/mm²** / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²	▬	▬		▬
> 45 HRC — **Stähle > 45 HRC** / Steels > 45 HRC / Acciai > 45 HRC				
INOX < 850 N/mm² — **Rostfreie Stähle < 850 N/mm²** / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²	▬	▬		▬
INOX > 850 N/mm² — **Rostfreie Stähle > 850 N/mm²** / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²	▭	▭		▭
GRAUGUSS CAST IRON GHISA GRIGIA — **Grauguss, Temperguss** / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile	▬	▬		▬
Ti — **Titan- und Titanlegierung** / Titanium and titanium alloys / Titanio e leghe di Titanio				
Cu, Ms — **Kupfer, Messing** / Copper, brass / Rame, ottone			▬	
Al — **Aluminium** / Aluminium / Alluminio	▭	▭	▬	▭
Kunststoffe / Plastics / Materie plastiche			▭	

▬ **Ideal** / Ideal / Ideale | ▭ **Geeignet** / Suitable / Adatte

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Frese in metallo
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Radiusfräser / Ball nose end mills / Frese cilindriche raggiate					Miniatur-Radiusfräser / Mini ball nose end mills / Frese in miniatura raggiate	
						
WN				DIN 6527L	WN	
N	N	N	N	N	N	N
kurz / short	kurz / short	kurz / short	kurz / short	lang / long	kurz / short	lang / long
3	3	4	4	2	2	4
						
30°	30°	30°	30°	30°	30°	30°
d1=d2	d1=d2	d1=d2	d1=d2	DIN 6535-HB	DIN 6535-HA	DIN 6535-HA
	ALUNIT®		ALUNIT®	ALUNIT®		ALUNIT®
1-12	1-12	1-16	1-16	2-12	0,4-3	1-3
7555	7557	7075	7077	7517	6345	6387
177	177	178	178	179	180	181
▬	▬	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬	▬
		▭	▭	▭	▭	▭
▬	▬	▭	▭	▭	▬	▭
▭	▭			▭	▭	
▬	▬	▬	▬	▬	▬	▬
▭	▭					
▭	▭	▭	▭			▭

▬ **Ideal** / Ideal / Ideale | ▭ **Geeignet** / Suitable / Adatte



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	Miniaturfräser / Mini end mills / Frese in miniatura		Viertelrund Profilfräser / Quarter circle cutters / Frese a profilo raggiato		Multifräser Multi end mills Multi frese MDI	Entgrater / Deburring mills / Frese a smussare	
							
Norm / Standard	WN					DIN 6527	
Typ / Type / Tipo	H	H	N	N	N	N I 60°	N I 60°
Länge / Length / Lunghezza							
Schneidenanzahl / No. of flutes / Nr. denti	2	2	4	4	2	4-6	4-6
Kopfform / Head type / Tipo di testa							
Drallwinkel / Spiral angle / Anglo elica	30°	30°					
Schaftform / Shank type / Forma codolo	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA	DIN 6535-HB	DIN 6535-HB
Beschichtung / Coating / Rivestimento	ALUNIT®	ALUNIT®		ALUNIT®	ALUNIT®		ALUNIT®
Ø mm	0,4-3	0,4-3	1-12	1-12	3-12	4-16	4-16
Code / Codice	6257	6297	6415	6417	6397	7725	7727
Seite / Page / Pagina	182	183	184	184	185	186	186
Geeignet für / Suitable for / Adatte per							
< 400 N/mm² — Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²			▬	▬	▬	▬	▬
< 850 N/mm² — Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²			▬	▬	▬	▬	▬
< 1100 N/mm² — Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²	▬	▬	▬	▬	▬	▬	▬
< 1300 N/mm² — Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²	▬	▬			▬	▬	▬
> 45 HRC — Stähle > 45 HRC / Steels > 45 HRC / Acciai > 45 HRC	▱	▱					
INOX < 850 N/mm² — Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²	▱	▱	▬	▬	▱	▬	▬
INOX > 850 N/mm² — Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²			▱	▱	▱	▱	▱
GRAUGUSS CAST IRON GHISA GRIGIA — Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile			▬	▬	▬	▬	▬
Ti — Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio							
Cu, Ms — Kupfer, Messing / Copper, brass / Rame, ottone					▱		
Al — Aluminium / Aluminium / Alluminio	▱	▱	▬	▬	▱	▬	▬
Kunststoffe / Plastics / Materie plastiche							

▬ Ideal / Ideal / Ideale | ▱ Geeignet / Suitable / Adatte

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Entgrater / Deburring mills / Frese a smussare		Vor- u. Rückwärtsentgrater/ Forward and reverse deburring mills / Frese per sbavatura reversibili	Einzahnfräser / 1-flute end mills / Frese monoelica				Konturenfräser / Contour end mills / Frese a contornare	
								
DIN 6527		WN						
N I 90°	N I 90°	N	W	W	W	W	W	W
4-6	4-6	4	1	1	1	1		2
			30°	30°	30°	30°		
DIN 6535-HB	DIN 6535-HB	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA	DIN 6535-HA	d1=d2	d1=d2
	ALUNIT®	ALUNIT-S®						
4-16	4-16	3-12	2-12	1-6	2-12	2-12	6-14	2-10
7755	7757	6507	6205	6935	6495	6215	7976	7986
187	187	188	189	190	191	192	193	194
—	—	—						
—	—	—						
—	—	—						
—	—	—						
—	—	—						
▱	▱	▱						
—	—	—						
—	—	—	—	—	—	—		
			—	—	—	—	—	—

— Ideal / Ideal / Ideale | ▱ Geeignet / Suitable / Adatte

D VHM-Schaftfräser
kurz, Zweischneider

E Solid carbide end mills
short series, two flutes

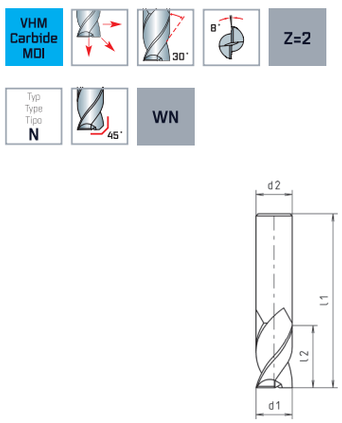
I Frese frontali MDI
serie corta, 2 taglienti

Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit bis ca. 1.300 N/mm². Zum Bohren und anschließenden Längs- sowie Passnutenfräsen.

Range of application:
Recommended for milling in materials with medium and high tensile strength up to 1.300 N/mm². For drilling continued by horizontal milling with exact tolerances.

Impiego:
Adatte per fresatura di materiali di media ed alta resistenza fino a 1.300 N/mm². Foratura dal pieno e successiva fresatura di scanalature.









ALUNIT®

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 6015 Art.-Nr.	Code 6017 Art.-Nr.
1	1	38	5		2	0 6015001001 00	0 6017001001 00
1,5	1,5	38	5		2	0 6015001501 00	0 6017001501 00
2	2	38	8	0,04	2	0 6015002001 00	0 6017002001 00
2,5	2,5	38	8	0,05	2	0 6015002501 00	0 6017002501 00
3	3	38	12	0,05	2	0 6015003001 00	0 6017003001 00
3,5	3,5	40	12	0,05	2	0 6015003501 00	0 6017003501 00
4	4	40	12	0,06	2	0 6015004001 00	0 6017004001 00
4,5	4,5	50	14	0,06	2	0 6015004501 00	0 6017004501 00
5	5	50	14	0,06	2	0 6015005001 00	0 6017005001 00
6	6	50	16	0,08	2	0 6015006001 00	0 6017006001 00
7	7	60	20	0,10	2	0 6015007001 00	0 6017007001 00
8	8	63	20	0,10	2	0 6015008001 00	0 6017008001 00
9	9	67	20	0,12	2	0 6015009001 00	0 6017009001 00
10	10	72	22	0,15	2	0 6015010001 00	0 6017010001 00
12	12	73	22	0,15	2	0 6015012001 00	0 6017012001 00
14	14	75	25	0,20	2	0 6015014001 00	0 6017014001 00
16	16	82	28	0,20	2	0 6015016001 00	0 6017016001 00
18	18	84	28	0,20	2	0 6015018001 00	0 6017018001 00
20	20	104	35	0,25	2	0 6015020001 00	0 6017020001 00

D VHM-Schaftfräser für Aluminium
kurz, Zweischneider

Einsatzbereich:
Empfohlen zum Fräsen in Aluminium und Aluminiumlegierungen, Kunststoffen, Kupferlegierungen und NE-Metallen.

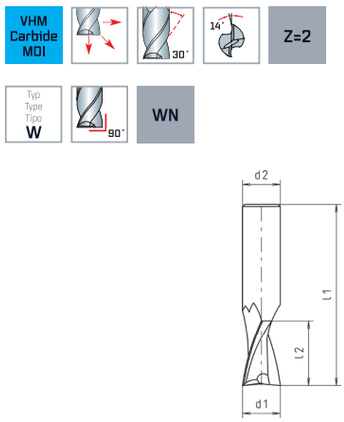


E Solid carbide end mills for aluminium
short series, two flutes

Range of application:
Recommended for milling aluminium and aluminium-alloys, plastics copper-alloys and non-ferrous metals.

I Frese frontali MDI per alluminio
serie corta, 2 taglienti

Impiego:
Adatte per fresatura di alluminio, leghe di alluminio, materie plastiche, leghe di rame e materiali non ferrosi.





d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6915 Art.-Nr.
1	1	38	5	2	0 6915001001 00
1,5	1,5	38	5	2	0 6915001501 00
2	2	38	8	2	0 6915002001 00
2,5	2,5	38	8	2	0 6915002501 00
3	3	38	12	2	0 6915003001 00
4	4	40	12	2	0 6915004001 00
5	5	50	14	2	0 6915005001 00
6	6	50	16	2	0 6915006001 00
8	8	63	20	2	0 6915008001 00
10	10	72	22	2	0 6915010001 00
12	12	73	22	2	0 6915012001 00
14	14	75	25	2	0 6915014001 00
16	16	82	28	2	0 6915016001 00
18	18	84	28	2	0 6915018001 00
20	20	104	35	2	0 6915020001 00



D VHM-Schaftfräser
lang, Zweischneider

Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit bis ca. 1.300 N/mm². Zum Bohren und anschließenden Längs- sowie Passnutenfräsen.

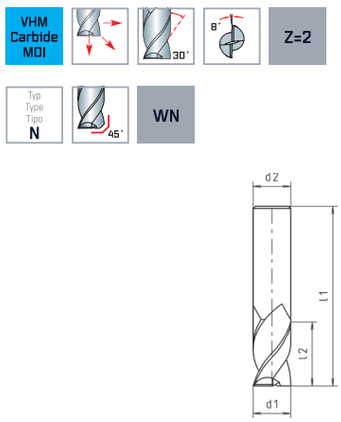
E Solid carbide end mills
long series, two flutes

Range of application:
Recommended for milling in materials with medium and high tensile strength up to 1.300 N/mm². For drilling continued by horizontal milling with exact tolerances.

I Frese frontali MDI
serie lunga, 2 taglienti

Impiego:
Adatte per fresatura di materiali di media ed alta resistenza fino a 1.300 N/mm². Foratura dal pieno e successiva fresatura di scanalature.









ALUNIT®

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 6025 Art.-Nr.	Code 6027 Art.-Nr.
3	3	60	25	0,05	2	0 6025003001 00	0 6027003001 00
4	4	60	25	0,06	2	0 6025004001 00	0 6027004001 00
5	5	70	30	0,06	2	0 6025005001 00	0 6027005001 00
6	6	70	30	0,08	2	0 6025006001 00	0 6027006001 00
8	8	80	35	0,10	2	0 6025008001 00	0 6027008001 00
10	10	100	45	0,15	2	0 6025010001 00	0 6027010001 00
12	12	**100**	45	0,15	2	0 6025012001 00	0 6027012001 00
12	12	**150**	75	0,15	2	0 6025012101 00	0 6027012101 00

D VHM-Schaftfräser
kurz, Dreischneider

Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit bis ca. 1.300 N/mm². Zum Bohren und anschließenden Längs- sowie Passnutenfräsen.

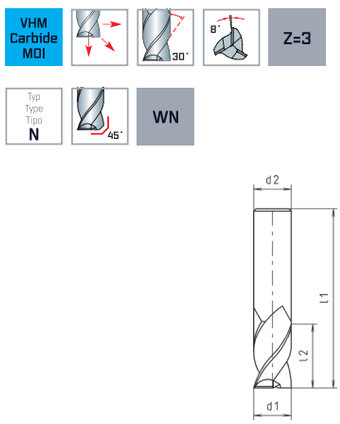
E Solid carbide end mills
short series, three flutes

Range of application:
Recommended for milling in materials with medium and high tensile strength up to 1.300 N/mm². For drilling continued by horizontal milling with exact tolerances.

I Frese frontali MDI
serie corta, 3 taglienti

Impiego:
Adatte per fresatura di materiali di media ed alta resistenza fino a 1.300 N/mm². Foratura dal pieno e successiva fresatura di scanalature.







d1 = d2



d1 = d2

ALUNIT®

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 6055 Art.-Nr.	Code 6057 Art.-Nr.
1	1	38	5		3	0 6055001001 00	0 6057001001 00
1,5	1,5	38	5		3	0 6055001501 00	0 6057001501 00
2	2	38	8	0,04	3	0 6055002001 00	0 6057002001 00
2,5	2,5	38	8	0,05	3	0 6055002501 00	0 6057002501 00
3	3	38	12	0,05	3	0 6055003001 00	0 6057003001 00
3,5	3,5	40	12	0,05	3	0 6055003501 00	0 6057003501 00
4	4	40	12	0,06	3	0 6055004001 00	0 6057004001 00
4,5	4,5	50	14	0,06	3	0 6055004501 00	0 6057004501 00
5	5	50	14	0,06	3	0 6055005001 00	0 6057005001 00
6	6	50	16	0,08	3	0 6055006001 00	0 6057006001 00
7	7	60	20	0,10	3	0 6055007001 00	0 6057007001 00
8	8	63	20	0,10	3	0 6055008001 00	0 6057008001 00
9	9	67	20	0,12	3	0 6055009001 00	0 6057009001 00
10	10	72	22	0,15	3	0 6055010001 00	0 6057010001 00
12	12	73	22	0,15	3	0 6055012001 00	0 6057012001 00
14	14	75	25	0,20	3	0 6055014001 00	0 6057014001 00
16	16	82	28	0,20	3	0 6055016001 00	0 6057016001 00
18	18	84	28	0,20	3	0 6055018001 00	0 6057018001 00
20	20	104	35	0,25	3	0 6055020001 00	0 6057020001 00



D VHM-Schaftfräser
lang, Dreischneider

Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit bis ca. 1.300 N/mm². Zum Bohren und anschließenden Längs- sowie Passnutenfräsen.

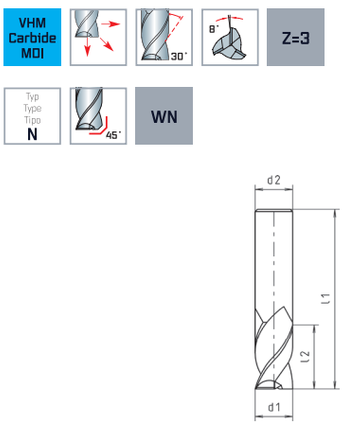
E Solid carbide end mills
long series, three flutes

Range of application:
Recommended for milling in materials with medium and high tensile strength up to 1.300 N/mm². For drilling continued by horizontal milling with exact tolerances.

I Frese frontali MDI
serie lunga, 3 taglienti

Impiego:
Adatte per fresatura di materiali di media ed alta resistenza fino a 1.300 N/mm². Foratura dal pieno e successiva fresatura di scanalature.









ALUNIT®

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 6065 Art.-Nr.	Code 6067 Art.-Nr.
3	3	60	25	0,05	3	0 6065003001 00	0 6067003001 00
4	4	60	25	0,06	3	0 6065004001 00	0 6067004001 00
5	5	70	30	0,06	3	0 6065005001 00	0 6067005001 00
6	6	70	30	0,08	3	0 6065006001 00	0 6067006001 00
8	8	80	35	0,10	3	0 6065008001 00	0 6067008001 00
10	10	100	45	0,15	3	0 6065010001 00	0 6067010001 00
12	12	**100**	45	0,15	3	0 6065012001 00	0 6067012001 00
12	12	**150**	75	0,15	3	0 6065012101 00	
16	16	100	45	0,20	3	0 6065016001 00	0 6067016001 00
20	20	**125**	55	0,25	3	0 6065020001 00	
20	20	**150**	75	0,25	3	0 6065020101 00	

D VHM-Schaftfräser
kurz, Vierschneider

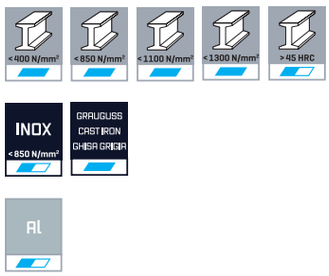
Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Fräsen von Nuten mit größerer Bohrtiefe, exakten Passungen, ebenso zum Stirn- und Umfangfräsen geeignet. Hoher Zerspanungsleistung und große Laufruhe ergeben exzellente Oberflächengüte.

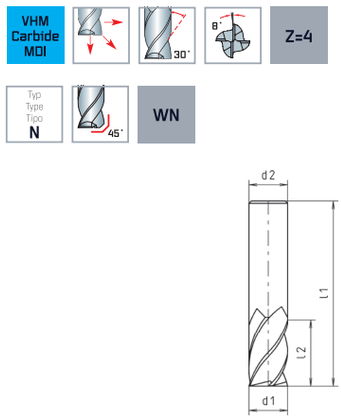
E Solid carbide end mills
short series, four flutes

Range of application:
Recommended for milling in materials with medium and high tensile strength. Milling of slots with large depth, accurate fits as well as face and surface milling. High cutting performance in chipping and a smooth run result an excellent surface.

I Frese frontali MDI
serie corta, 4 taglienti

Impiego:
Adatte per fresatura di materiali di media ed alta resistenza. Fresatura di scanalature profonde, con accoppiamenti precisi, anche per fresatura frontale e tangenziale. Elevato rendimento, silenziosità di passata, eccellente finitura della superficie.









ALUNIT®

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 6075 Art.-Nr.	Code 6077 Art.-Nr.
1	1	38	5		4	0 6075001001 00	0 6077001001 00
1,5	1,5	38	5		4	0 6075001501 00	0 6077001501 00
2	2	38	8	0,04	4	0 6075002001 00	0 6077002001 00
2,5	2,5	38	8	0,05	4	0 6075002501 00	0 6077002501 00
3	3	38	12	0,05	4	0 6075003001 00	0 6077003001 00
3,5	3,5	40	12	0,05	4	0 6075003501 00	0 6077003501 00
4	4	40	12	0,06	4	0 6075004001 00	0 6077004001 00
4,5	4,5	50	14	0,06	4	0 6075004501 00	0 6077004501 00
5	5	50	14	0,06	4	0 6075005001 00	0 6077005001 00
6	6	50	16	0,08	4	0 6075006001 00	0 6077006001 00
7	7	60	20	0,10	4	0 6075007001 00	0 6077007001 00
8	8	63	20	0,10	4	0 6075008001 00	0 6077008001 00
9	9	67	20	0,12	4	0 6075009001 00	0 6077009001 00
10	10	72	22	0,15	4	0 6075010001 00	0 6077010001 00
12	12	73	22	0,15	4	0 6075012001 00	0 6077012001 00
14	14	75	25	0,20	4	0 6075014001 00	0 6077014001 00
16	16	82	28	0,20	4	0 6075016001 00	0 6077016001 00
18	18	84	28	0,20	4	0 6075018001 00	0 6077018001 00
20	20	104	35	0,25	4	0 6075020001 00	0 6077020001 00



D VHM-Schaftfräser
lang, Vierschneider

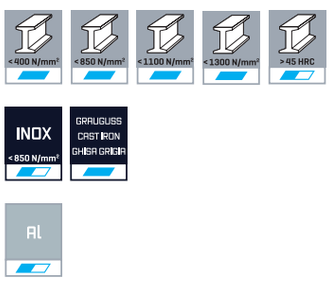
E Solid carbide end mills
long series, four flutes

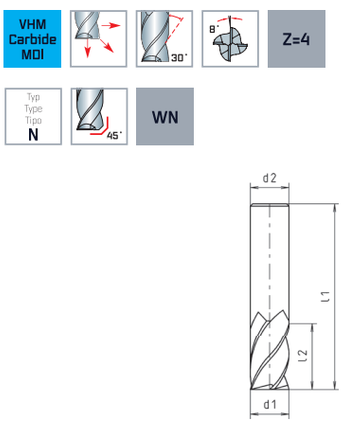
I Frese frontali MDI
serie lunga, 4 taglienti

Einsatzbereich:
Zum Schlichten mit hoher Zerspanungsleistung bei gleichzeitig exzellenter Oberfläche von Stählen mit mittlerer bis hoher Festigkeit (z.B. Bau-, Einsatz-, Vergütungsstähle); NE-Metalle, rost- und säurebeständige Stähle. Bevorzugt Gleichlauffräsen.

Range of application:
Finishing with high cutting performance and excellent surface on steels with medium to high tensile strength (for example structural, case-hardening, heat-treatable steels); non-ferrous metals, stainless and acid resistant steels. Climb milling preferred.

Impiego:
Adatte per finitura ad alto rendimento realizzo di ottima superficie, in acciai di media fino ad elevata resistenza (es. acciai bonificati), materiali non ferrosi, acciai inox e resistenti agli acidi. Consigliata fresatura concorde.







ALUNIT®

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 6087 Art.-Nr.
3	3	60	25	0,05	4	0 6087003001 00
4	4	60	25	0,06	4	0 6087004001 00
5	5	70	30	0,06	4	0 6087005001 00
6	6	70	30	0,08	4	0 6087006001 00
8	8	80	35	0,10	4	0 6087008001 00
10	10	100	45	0,15	4	0 6087010001 00
12	12	**100**	45	0,15	4	0 6087012001 00
12	12	**150**	75	0,15	4	0 6087012101 00
14	14	**100**	45	0,20	4	0 6087014001 00
14	14	**150**	75	0,20	4	0 6087014101 00
16	16	**100**	45	0,20	4	0 6087016001 00
16	16	**150**	75	0,20	4	0 6087016101 00
18	18	**100**	45	0,20	4	0 6087018001 00
18	18	**150**	75	0,20	4	0 6087018101 00
20	20	**125**	55	0,25	4	0 6087020001 00
20	20	**150**	75	0,25	4	0 6087020101 00
25	25	**125**	55	0,30	4	0 6087025001 00
25	25	**150**	75	0,30	4	0 6087025101 00

D VHM-Schaftfräser

lang, Dreischneider, DIN 6527L, mit verstärktem Schaft

Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Fräsen von Nuten mit größerer Bohrtiefe, genauen Passungen, ebenso zum Stirn- und Umfangfräsen geeignet. Hohe Zerspanungsleistung und große Laufruhe ergeben exzellente Oberflächengüte.

E Solid carbide end mills

long series, three flutes, DIN 6527L, with reinforced shank

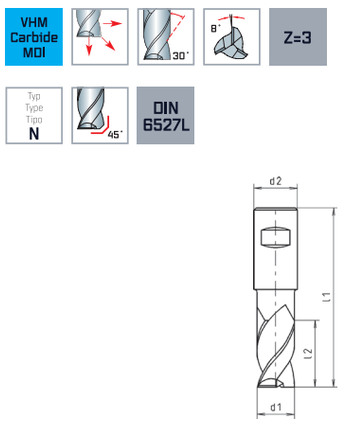
Range of application:
Recommended for milling in materials with medium/high tensile strength. Milling of slots with large depth, accurate fits as well as face and surface milling. High cutting performance in chipping and a smooth run result in an excellent surface.

I Frese frontali MDI

serie lunga, 3 taglienti, DIN 6527L, codolo rinforzato

Impiego:
Adatte per fresatura di materiali di media ed alta resistenza. Fresatura di scanalature profonde, con accoppiamenti precisi, anche per fresatura frontale e tangenziale. Elevato rendimento, silenziosità di passata, eccellente finitura della superficie.









ALUNIT®

d1 h10 mm	d1 h6 mm	l1 mm	l2 mm	45°	Z	Code 7657 Art.-Nr.
2	6	50	6	0,04	3	0 7657002001 00
2,5	6	50	6	0,05	3	0 7657002501 00
3	6	57	7	0,05	3	0 7657003001 00
3,5	6	57	7	0,05	3	0 7657003501 00
4	6	57	8	0,06	3	0 7657004001 00
4,5	6	57	8	0,06	3	0 7657004501 00
5	6	57	10	0,06	3	0 7657005001 00
5,5	6	57	10	0,08	3	0 7657005501 00
6	6	57	10	0,08	3	0 7657006001 00
7	8	63	13	0,10	3	0 7657007001 00
8	8	63	16	0,10	3	0 7657008001 00
9	10	72	16	0,12	3	0 7657009001 00
10	10	72	19	0,15	3	0 7657010001 00
11	12	83	22	0,15	3	0 7657011001 00
12	12	83	22	0,15	3	0 7657012001 00



D VHM-Schaftfräser

lang, Vierschneider, DIN 6527L, mit verstärktem Schaft

Einsatzbereich:
Zum Schlichten mit hoher Zerspanungsleistung bei gleichzeitig exzellenter Oberfläche von Stählen mit mittlerer bis hoher Festigkeit (z.B. Bau-, Einsatz-, Vergütungsstähle); NE-Metalle, rost- und säurebeständige Stähle. Bevorzugt Gleichlauffräsen.

E Solid carbide end mills

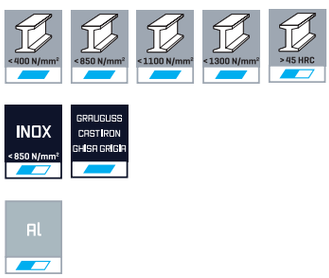
long series, four flutes, DIN 6527L, with reinforced shank

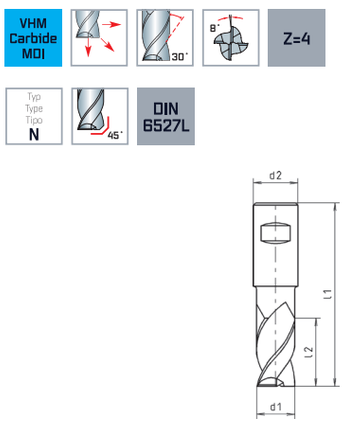
Range of application:
Finishing with high cutting performance and excellent surface on steels with medium to high tensile strength (for example structural, case-hardening, heat-treatable steels); non-ferrous metals, stainless and acid resistant steels. Climb milling preferred.

I Frese frontali MDI

serie lunga, 4 taglienti, DIN 6527L, codolo rinforzato

Impiego:
Adatte per finitura ad alto rendimento realizzo di ottima superficie, in acciai di media fino ad elevata resistenza (es. acciai bonificati), materiali non ferrosi, acciai inox e resistenti agli acidi. Consigliata fresatura concorde.







ALUNIT®

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 7677 Art.-Nr.
2	6	50	7	0,04	4	0 7677002001 00
2,5	6	50	7	0,05	4	0 7677002501 00
3	6	57	8	0,05	4	0 7677003001 00
3,5	6	57	10	0,05	4	0 7677003501 00
4	6	57	11	0,06	4	0 7677004001 00
4,5	6	57	11	0,06	4	0 7677004501 00
5	6	57	13	0,06	4	0 7677005001 00
5,5	6	57	13	0,08	4	0 7677005501 00
6	6	57	13	0,08	4	0 7677006001 00
6,5	8	63	16	0,08	4	0 7677006501 00
7	8	63	16	0,10	4	0 7677007001 00
7,5	8	63	16	0,10	4	0 7677007501 00
8	8	63	19	0,10	4	0 7677008001 00
8,5	10	72	19	0,12	4	0 7677008501 00
9	10	72	19	0,12	4	0 7677009001 00
10	10	72	22	0,15	4	0 7677010001 00
11	12	83	26	0,15	4	0 7677011001 00
12	12	83	26	0,15	4	0 7677012001 00
13	14	83	26	0,18	4	0 7677013001 00
15	16	92	32	0,20	4	0 7677015001 00
16	16	92	32	0,20	4	0 7677016001 00
20	20	104	38	0,25	4	0 7677020001 00

D VHM-Schaftfräser

lang, scharfkantig, Vierschneider, DIN 6527L, mit verstärktem Schaft

Einsatzbereich:
Zum Schlichten mit hoher Zerspanungsleistung bei gleichzeitig exzellenter Oberfläche von Stählen mit mittlerer bis hoher Festigkeit (z.B. Bau-, Einsatz-, Vergütungsstähle); NE-Metalle, rost- und säurebeständige Stähle. Bevorzugt Gleichlauffräsen.

E Solid carbide end mills

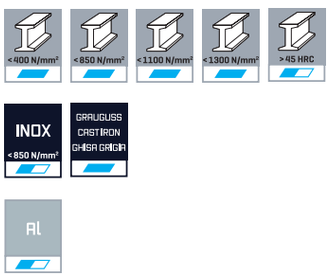
long series, sharp cutting edges, four flutes, DIN 6527L, with reinforced shank

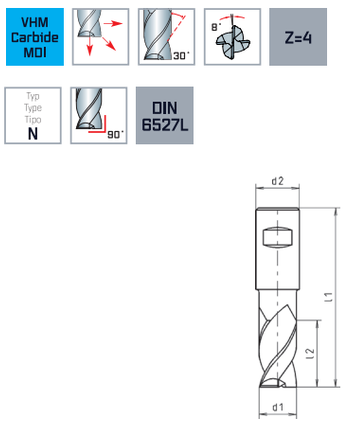
Range of application:
Finishing with high cutting performance and excellent surface on steels with medium to high tensile strength (for example structural, case-hardening, heat-treatable steels); non-ferrous metals, stainless and acid resistant steels. Climb milling preferred.

I Frese frontali MDI

serie lunga, spigoli tagliente affilati, 4 taglienti, DIN 6527L, codolo rinforzato

Impiego:
Adatte per finitura ad alto rendimento realizzo di ottima superficie, in acciai di media fino ad elevata resistenza (es. acciai bonificati), materiali non ferrosi, acciai inox e resistenti agli acidi. Consigliata fresatura concorde.







ALUNIT®

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 7617 Art.-Nr.
3	6	57	8	4	0 7617003001 00
4	6	57	11	4	0 7617004001 00
5	6	57	13	4	0 7617005001 00
6	6	57	13	4	0 7617006001 00
8	8	63	19	4	0 7617008001 00
10	10	72	22	4	0 7617010001 00
12	12	83	26	4	0 7617012001 00
16	16	92	32	4	0 7617016001 00
20	20	104	38	4	0 7617020001 00

D VHM-Schruppfräser 20°
lang, DIN 6527L

Einsatzbereich:
VHM-Hochleistungs-Schruppfräser, besonders geeignet für alle Stahlwerkstoffe bis 1.400 N/mm², höherfeste rostfreie Stähle, Grauguss sowie kurzspanende Aluminiumwerkstoffe und Aluminiumguss. Hohe Zerspanungsleistung.

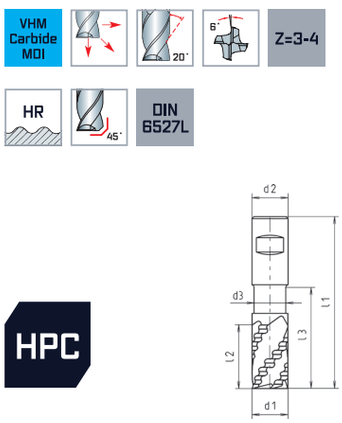
E Solid carbide roughung end mills 20°
long series, DIN 6527L

Range of application:
Solid carbide high performance roughing cutter, especially suitable for all kind of steels up to 1.400 N/mm², higher tensile stainless steels, grey cast iron as well as short chipping aluminium and aluminium cast. High cutting performance.

I Frese frontali MDI a sgrossare 20°
serie lunga, DIN 6527L

Impiego:
Fresa a sgrossare MDI ad alto rendimento particolarmente adatta per tutti i tipi di acciaio fino a 1.400 N/mm², acciai inossidabili ad alta resistenza e ghisa ed inoltre per alluminio a truciolo corto ed alluminio pressofuso. Alto rendimento di taglio.







ALUNIT-S®

d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 7047 Art.-Nr.
4	6	3,8	57	11	18	0,10	3	0 7047004001 00
5	6	4,7	57	13	20	0,20	3	0 7047005001 00
6	6	5,6	57	13	20	0,20	3	0 7047006001 00
8	8	7,5	63	19	25	0,20	3	0 7047008001 00
10	10	9,5	72	22	30	0,20	4	0 7047010001 00
12	12	11,5	83	26	36	0,35	4	0 7047012001 00
14	14	13,5	83	26	36	0,35	4	0 7047014001 00
16	16	15,5	92	32	42	0,35	4	0 7047016001 00
20	20	19,5	104	38	52	0,35	4	0 7047020001 00

ab Ø 6 mm: HR Schruppprofil / as of Ø 6 mm: HR roughing profile / da Ø 6 mm: Profilo di sgrossatura HR
Ø 4 und 5 mm: Spanbrecher / Ø 4 and 5 mm: Chip breaker / Ø 4 e 5 mm: Rompitruciolo

D VHM-Schruppfräser 30°
lang, DIN 6527L

E Solid carbide roughing end mills 30°
long series, DIN 6527L

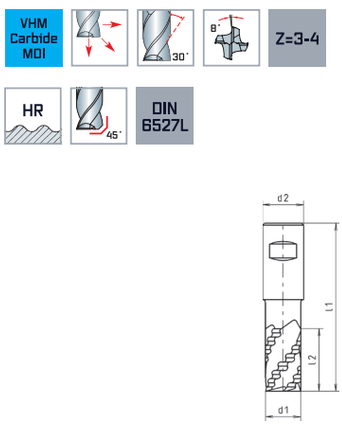
I Frese frontali MDI a sgrossare 30°
serie lunga, DIN 6527L

Einsatzbereich:
Universeller Anwendungsbereich bei Werkstoffen mit mittlerer bis hoher Festigkeit (ca. 900–1.400 N/mm²), z.B. Einsatz-, Vergütungsstähle, Werkzeugstahl legiert, vergütet, NE-Metalle, hochwarmfeste Werkstoffe sowie Gusseisen und Gusslegierungen.

Range of application:
Universal range of applications on materials of medium strength up to high tensile strength (~ 900–1.400 N/mm²), for example case-hardening, heat-treatable steels, alloyed tool steels; hardened and tempered non-ferrous metals, high temperature materials as well as cast iron and alloyed cast iron.

Impiego:
Impiego universale con materiali a media ed alta resistenza (~ 900–1.400 N/mm²), ad esempio acciai da cementazione, acciai bonificati, acciai legati da utensili; metalli non ferrosi temprati, materiali ad alta temperatura ed inoltre ghisa e leghe di ghisa.







ALUNIT®

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	45°	Z	Code 7027 Art.-Nr.
3	6	57	8	0,10	3	0 7027003001 00
4	6	57	11	0,10	3	0 7027004001 00
5	6	57	13	0,20	3	0 7027005001 00
6	6	57	13	0,20	3	0 7027006001 00
8	8	63	19	0,20	3	0 7027008001 00
10	10	72	22	0,35	4	0 7027010001 00
12	12	83	26	0,35	4	0 7027012001 00
16	16	92	32	0,35	4	0 7027016001 00
20	20	104	38	0,35	4	0 7027020001 00

ab Ø 6 mm: HR Schruppprofil / as of Ø 6 mm: HR roughing profile / da Ø 6 mm: Profilo di sgrossatura HR
Ø 3,4 und 5 mm: Spanbrecher / Ø 3,4 and 5 mm: Chip breaker / Ø 3,4 e 5 mm: Rompitruciolo



D VHM-Schruppfräser 45°
lang, DIN 6527L

Einsatzbereich:
VHM-Hochleistungs-Schruppfräser, besonders geeignet für Stahlwerkstoffe von 500 bis 1.400 N/mm², rostfreie Stähle, Grauguss und Titan. Hohe Zerspanungsleistung bei geringen Antriebsleistungen = MTC.

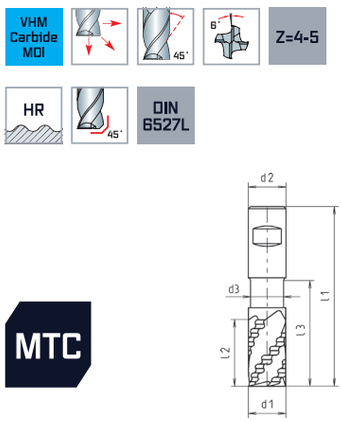
E Solid carbide roughing end mills 45°
long series, DIN 6527L

Range of application:
Solid carbide high performance roughing cutter, especially suitable for steels from 500 to 1.400 N/mm², stainless steels, grey cast iron and titanium. High cutting performance at less drive power = MTC.

I Frese frontali MDI a sgrossare 45°
serie lunga, DIN 6527L

Impiego:
Fresa a sgrossare MDI ad alto rendimento particolarmente adatta per acciai da 500 a 1.400 N/mm², acciai inossidabili, ghisa e titanio. Alto rendimento di taglio con minor potenza assorbita = MTC.







ALUNIT-S®

d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	45°	Z	Code 7087 Art.-Nr.
6	6	5,6	57	13	20	0,20	4	0 7087006001 00
8	8	7,5	63	19	25	0,20	4	0 7087008001 00
10	10	9,5	72	22	30	0,20	4	0 7087010001 00
12	12	11,5	83	26	36	0,35	4	0 7087012001 00
16	16	15,5	92	32	42	0,35	5	0 7087016001 00
20	20	19,5	104	38	52	0,35	5	0 7087020001 00

D VHM-Schaftfräser
mit verstärktem Schaft, Zweischneider

E Solid carbide end mills
with reinforced straight shank, two flutes

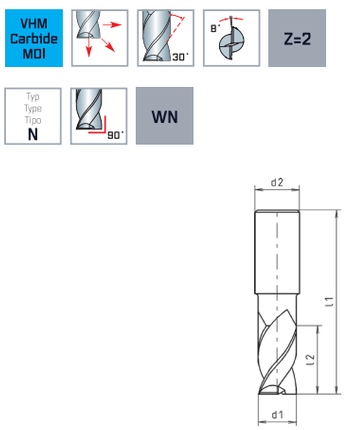
I Frese frontali MDI
codolo rinforzato, serie corta, 2 taglienti

Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittleren und hohen Festigkeiten. Bohren auf volle Tiefe und Längsfräsen mit genauen Passungen.

Range of application:
Recommended for milling in materials with medium and high tensile strength. Vertical cutting to full depth and horizontal cutting with exact tolerances.

Impiego:
Adatte per fresatura di materiali di media ed alta resistenza. Foratura dal pieno e fresatura di scanalature con accoppiamenti precisi.







d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6615 Art.-Nr.
1	6	40	4	2	0 6615001001 00
1,5	6	40	4	2	0 6615001501 00
2	6	40	6	2	0 6615002001 00
2,5	6	40	6	2	0 6615002501 00
3	6	40	7	2	0 6615003001 00
3,5	6	40	7	2	0 6615003501 00
4	6	40	8	2	0 6615004001 00
4,5	6	40	8	2	0 6615004501 00
5	6	40	10	2	0 6615005001 00
5,5	6	40	10	2	0 6615005501 00
6	6	40	10	2	0 6615006001 00



D VHM-Schaftfräser
mit verstärktem Schaft, Dreischneider

Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Fräsen von Nuten mit größerer Bohrtiefe, genauen Passungen, ebenso zum Stirn- und Umfangfräsen geeignet. Hohe Zerspanungsleistung und große Laufruhe ergeben exzellente Oberflächengüte.

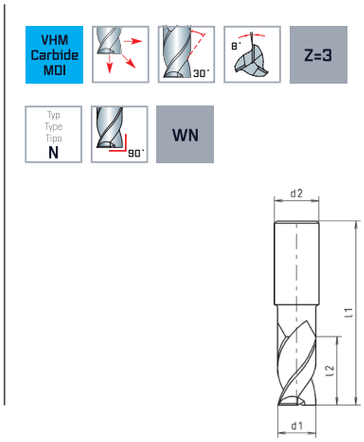
E Solid carbide end mills
with reinforced straight shank, three flutes

Range of application:
Recommended for milling in materials with medium/high tensile strength. Milling of slots with large depth, accurate fits as well as face and surface milling. High cutting performance in chipping and a smooth run result in an excellent surface.

I Frese frontali MDI
codolo rinforzato, serie corta, 3 taglienti

Impiego:
Adatte per fresatura di materiali di media ed alta resistenza. Fresatura di scanalature profonde, con accoppiamenti precisi, anche per fresatura frontale e tangenziale. Elevato rendimento, silenziosità di passata, eccellente finitura della superficie.







DIN 6535-HA



DIN 6535-HA

ALUNIT®

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6315 Art.-Nr.	Code 6317 Art.-Nr.
1	6	40	4	3	0 6315001001 00	0 6317001001 00
1,5	6	40	4	3	0 6315001501 00	0 6317001501 00
2	6	40	6	3	0 6315002001 00	0 6317002001 00
2,5	6	40	6	3	0 6315002501 00	0 6317002501 00
3	6	40	7	3	0 6315003001 00	0 6317003001 00
3,5	6	40	7	3	0 6315003501 00	0 6317003501 00
4	6	40	8	3	0 6315004001 00	0 6317004001 00
4,5	6	40	8	3	0 6315004501 00	0 6317004501 00
5	6	40	10	3	0 6315005001 00	0 6317005001 00
5,5	6	40	10	3	0 6315005501 00	0 6317005501 00
6	6	40	10	3	0 6315006001 00	0 6317006001 00

D VHM-Schaftfräser
mit verstärktem Schaft, Vierschneider

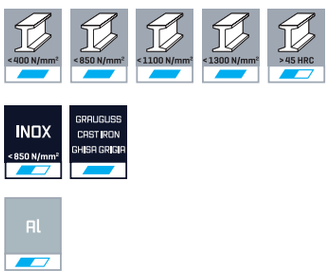
E Solid carbide end mills
with reinforced straight shank, four flutes

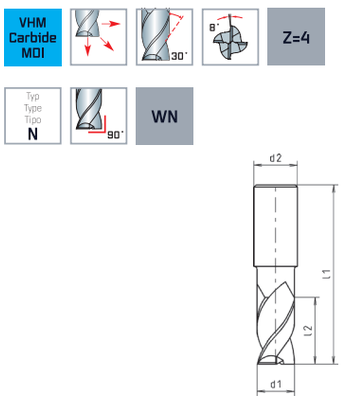
I Frese frontali MDI,
codolo rinforzato, serie corta, 4 taglienti

Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Fräsen von Nuten mit größerer Bohrtiefe, exakten Passungen, ebenso zum Stirn- und Umfangfräsen geeignet. Hoher Zerspanungsleistung und große Laufruhe ergeben exzellente Oberflächengüte.

Range of application:
Recommended for milling in materials with medium and high tensile strength. Milling of slots with large depth, accurate fits as well as face and surface milling. High cutting performance in chipping and a smooth run result an excellent surface.

Impiego:
Adatte per fresatura di materiali di media ed alta resistenza. Fresatura di scanalature profonde, con accoppiamenti precisi, anche per fresatura frontale e tangenziale. Elevato rendimento, silenziosità di passata, eccellente finitura della superficie.









ALUNIT®

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6517 Art.-Nr.
1	6	40	4	4	0 6517001001 00
1,5	6	40	4	4	0 6517001501 00
2	6	40	6	4	0 6517002001 00
2,5	6	40	6	4	0 6517002501 00
3	6	40	7	4	0 6517003001 00
3,5	6	40	7	4	0 6517003501 00
4	6	40	8	4	0 6517004001 00
4,5	6	40	8	4	0 6517004501 00
5	6	40	10	4	0 6517005001 00
5,5	6	40	10	4	0 6517005501 00
6	6	40	10	4	0 6517006001 00



D VHM-Miniaturfräser
mit verstärktem Schaft, kurz, Zweischneider

E Solid carbide mini end mills
with reinforced straight shank, short series, two flutes

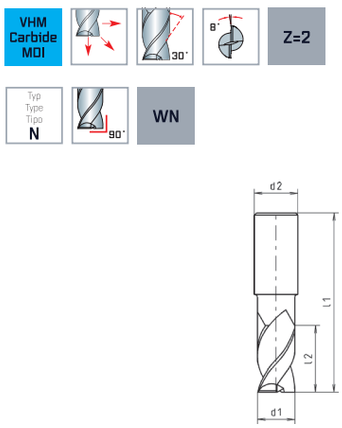
I Frese in miniatura MDI
codolo rinforzato, serie corta, 2 taglienti

Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit bis ca. 1.300 N/mm². Zum Bohren und anschließenden Längsfräsen, besonders zum Kopierfräsen geeignet.

Range of application:
Recommended for milling in materials with medium and high tensile strength up to 1.300 N/mm². For drilling continued by horizontal milling, especially suited for copy milling.

Impiego:
Adatte per fresatura di materiali di media ed alta resistenza fino a 1.300 N/mm². Foratura dal pieno e successiva fresatura di scanalature, particolarmente indicate per fresatura a copiare.







d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6245 Art.-Nr.
0,4	3	38	1,5	2	0 6245000401 00
0,5	3	38	1,5	2	0 6245000501 00
0,6	3	38	2	2	0 6245000601 00
0,7	3	38	3	2	0 6245000701 00
0,8	3	38	3	2	0 6245000801 00
0,9	3	38	3	2	0 6245000901 00
1	3	38	3	2	0 6245001001 00
1,5	3	38	5	2	0 6245001501 00
2	3	38	6	2	0 6245002001 00
2,5	3	38	7	2	0 6245002501 00
3	3	38	8	2	0 6245003001 00

D VHM-Miniaturfräser
mit verstärktem Schaft, lang, Dreischneider

Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit bis ca. 1.300 N/mm². Zum Bohren und anschließenden Längsfräsen, besonders zum Kopierfräsen geeignet.

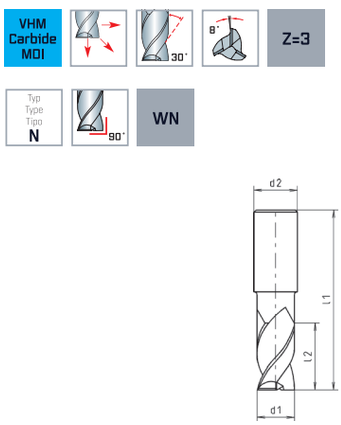
E Solid carbide mini end mills
with reinforced straight shank, long series, three flutes

Range of application:
Recommended for milling in materials with medium and high tensile strength up to 1.300 N/mm². For drilling continued by horizontal milling, especially suited for copy milling.

I Frese in miniatura MDI
codolo rinforzato, serie lunga, 3 taglienti

Impiego:
Adatte per fresatura di materiali di media ed alta resistenza fino a 1.300 N/mm². Foratura dal pieno e successiva fresatura di scanalature, particolarmente indicate per fresatura a copiare.







ALUNIT®

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6477 Art.-Nr.
1	3	38	4	3	0 6477001001 00
1,5	3	38	6	3	0 6477001501 00
2	3	38	9	3	0 6477002001 00
2,5	3	38	12	3	0 6477002501 00
3	3	38	12	3	0 6477003001 00



D VHM-Radiusfräser
kurz, Zweischneider

E Solid carbide ball nose end mills
short series, two flutes

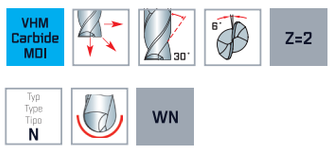
I Frese cilindriche raggiate MDI
serie corta, 2 taglienti

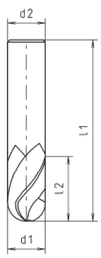
Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Besonders zum Kopierfräsen geeignet.

Range of application:
Recommended for milling materials with medium/high tensile strength. Especially suited for copy milling.

Impiego:
Adatte per fresatura di materiali di media ed alta resistenza, particolarmente indicate per fresatura a copiare.











ALUNIT®

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 7525 Art.-Nr.	Code 7527 Art.-Nr.
1	1	38	5	2	0 7525001001 00	0 7527001001 00
1,5	1,5	38	5	2	0 7525001501 00	0 7527001501 00
2	2	38	8	2	0 7525002001 00	0 7527002001 00
2,5	2,5	38	8	2	0 7525002501 00	0 7527002501 00
3	3	38	12	2	0 7525003001 00	0 7527003001 00
3,5	3,5	40	12	2	0 7525003501 00	0 7527003501 00
4	4	40	12	2	0 7525004001 00	0 7527004001 00
4,5	4,5	50	14	2	0 7525004501 00	0 7527004501 00
5	5	50	14	2	0 7525005001 00	0 7527005001 00
6	6	50	16	2	0 7525006001 00	0 7527006001 00
8	8	63	20	2	0 7525008001 00	0 7527008001 00
10	10	72	22	2	0 7525010001 00	0 7527010001 00
12	12	73	22	2	0 7525012001 00	0 7527012001 00
16	16	82	28	2	0 7525016001 00	0 7527016001 00
20	20	104	35	2	0 7525020001 00	0 7527020001 00

D VHM-Radiusfräser für Aluminium
kurz, Zweischneider

Einsatzbereich:
Empfohlen zum Kopierfräsen in Aluminium und Aluminiumlegierungen, Kunststoffen, Kupferlegierungen und NE-Metallen.

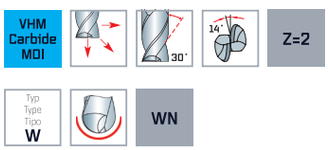
E Solid carbide ball nose end mills for aluminium
short series, two flutes

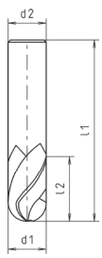
Range of application:
Recommended for copy milling aluminium and aluminium-alloys, plastics copper-alloys and non-ferrous metals.

I Frese raggiate MDI per alluminio
serie corta,2 taglienti

Impiego:
Adatte per fresatura di alluminio, leghe di alluminio, materie plastiche, leghe di rame e materiali non ferrosi.









d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6925 Art.-Nr.
1	1	38	5	2	0 6925001001 00
2	2	38	8	2	0 6925002001 00
3	3	38	12	2	0 6925003001 00
4	4	40	12	2	0 6925004001 00
5	5	50	14	2	0 6925005001 00
6	6	50	16	2	0 6925006001 00
8	8	63	20	2	0 6925008001 00
10	10	72	22	2	0 6925010001 00
12	12	73	22	2	0 6925012001 00



D VHM-Radiusfräser
lang, Zweischneider

Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Besonders zum Kopierfräsen geeignet.

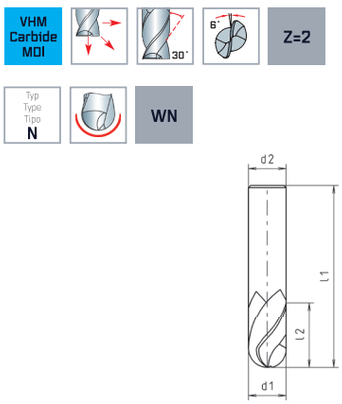
E Solid carbide ball nose end mills
long series, two flutes

Range of application:
Recommended for milling materials with medium/high tensile strength. Especially suited for copy milling.

I Frese cilindriche raggiate MDI
serie lunga, 2 taglienti

Impiego:
Adatte per fresatura di materiali di media ed alta resistenza, particolarmente indicate per fresatura a copiare.







d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 7535 Art.-Nr.
3	3	60	25	2	0 7535003001 00
4	4	60	25	2	0 7535004001 00
5	5	70	30	2	0 7535005001 00
6	6	70	30	2	0 7535006001 00
8	8	80	35	2	0 7535008001 00
10	10	100	45	2	0 7535010001 00
12	12	100	45	2	0 7535012001 00

D VHM-Radiusfräser
kurz, Dreischneider

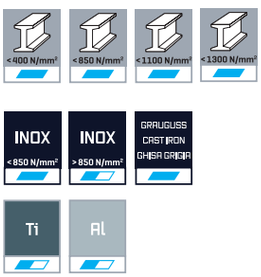
E Solid carbide ball nose end mills
short series, three flutes

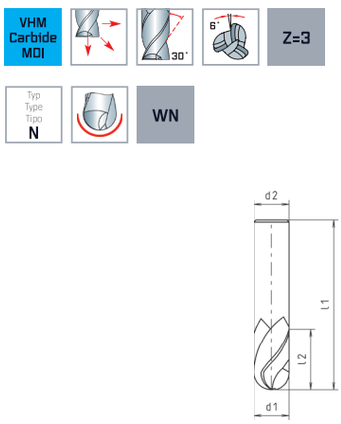
I Frese cilindriche raggiate MDI
serie corta, 3 taglienti

Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Besonders zum Kopierfräsen geeignet.

Range of application:
Recommended for milling materials with medium/high tensile strength. Especially suited for copy milling.

Impiego:
Adatte per fresatura di materiali di media ed alta resistenza, particolarmente indicate per fresatura a copiare.









ALUNIT®

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 7555 Art.-Nr.	Code 7557 Art.-Nr.
1	1	38	5	3	0 7555001001 00	0 7557001001 00
1,5	1,5	38	5	3	0 7555001501 00	0 7557001501 00
2	2	38	8	3	0 7555002001 00	0 7557002001 00
2,5	2,5	38	8	3	0 7555002501 00	0 7557002501 00
3	3	38	12	3	0 7555003001 00	0 7557003001 00
3,5	3,5	40	12	3	0 7555003501 00	0 7557003501 00
4	4	40	12	3	0 7555004001 00	0 7557004001 00
5	5	50	14	3	0 7555005001 00	0 7557005001 00
6	6	50	16	3	0 7555006001 00	0 7557006001 00
8	8	63	20	3	0 7555008001 00	0 7557008001 00
10	10	72	22	3	0 7555010001 00	0 7557010001 00
12	12	73	22	3	0 7555012001 00	0 7557012001 00



D VHM-Radiusfräser
kurz, Vierschneider

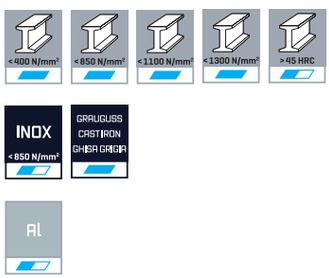
E Solid carbide ball nose end mills
short series, four flutes

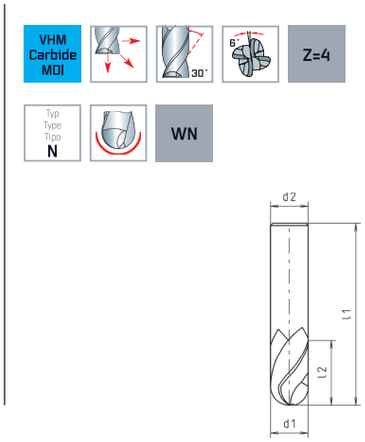
I Frese cilindriche raggiate MDI
serie corta, 4 taglienti

Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Besonders zum Kopierfräsen geeignet.

Range of application:
Recommended for milling materials with medium/high tensile strength. Especially suited for copy milling.

Impiego:
Adatte per fresatura di materiali di media ed alta resistenza, particolarmente indicate per fresatura a copiare.









ALUNIT®

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 7075 Art.-Nr.	Code 7077 Art.-Nr.
1	1	38	5	4	0 7075001001 00	0 7077001001 00
1,5	1,5	38	5	4	0 7075001501 00	0 7077001501 00
2	2	38	8	4	0 7075002001 00	0 7077002001 00
2,5	2,5	38	8	4	0 7075002501 00	0 7077002501 00
3	3	38	12	4	0 7075003001 00	0 7077003001 00
3,5	3,5	40	12	4	0 7075003501 00	0 7077003501 00
4	4	40	12	4	0 7075004001 00	0 7077004001 00
4,5	4,5	50	14	4	0 7075004501 00	0 7077004501 00
5	5	50	14	4	0 7075005001 00	0 7077005001 00
6	6	50	16	4	0 7075006001 00	0 7077006001 00
8	8	63	20	4	0 7075008001 00	0 7077008001 00
10	10	72	22	4	0 7075010001 00	0 7077010001 00
12	12	73	22	4	0 7075012001 00	0 7077012001 00
16	16	82	28	4	0 7075016001 00	0 7077016001 00

D VHM-Radiusfräser
mit verstärktem Schaft, lang Zweischneider, DIN 6527L

E Solid carbide ball nose end mills
with reinforced shank, long series, two flutes, DIN 6527L

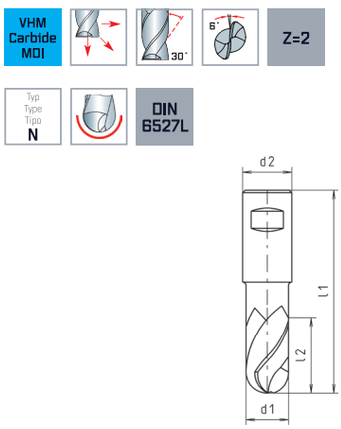
I Frese cilindriche raggiate MDI
codolo rinforzato, serie lunga, 2 taglienti, DIN 6527L

Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Besonders zum Kopierfräsen geeignet.

Range of application:
Recommended for milling materials with medium/high tensile strength. Especially suited for copy milling.

Impiego:
Adatte per fresatura di materiali di media ed alta resistenza, particolarmente indicate per fresatura a copiare.









ALUNIT®

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 7517 Art.-Nr.
2	6	50	6	2	0 7517002001 00
3	6	57	7	2	0 7517003001 00
4	6	57	8	2	0 7517004001 00
5	6	57	10	2	0 7517005001 00
6	6	57	10	2	0 7517006001 00
7	8	63	13	2	0 7517007001 00
8	8	63	16	2	0 7517008001 00
9	10	72	16	2	0 7517009001 00
10	10	72	19	2	0 7517010001 00
12	12	83	22	2	0 7517012001 00



D VHM-Miniatur-Radiusfräser
mit verstärktem Schaft, kurz, Zweischneider

E Solid carbide mini ball nose end mills
with reinforced shank, short series, two flutes

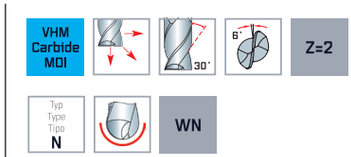
I Frese in miniatura raggiate MDI
codolo rinforzato, serie corta, 2 taglienti

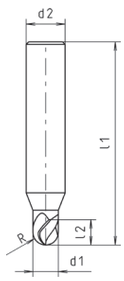
Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Besonders zum Kopierfräsen geeignet.

Range of application:
Recommended for milling materials with medium/high tensile strength. Especially suited for copy milling.

Impiego:
Adatte per fresatura di materiali di media ed alta resistenza, particolarmente indicate per fresatura a copiare.









d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	R mm	Z	Code 6345 Art.-Nr.
0,4	3	38	1,5	0,2	2	0 6345000401 00
0,5	3	38	1,5	0,25	2	0 6345000501 00
0,6	3	38	2	0,3	2	0 6345000601 00
0,7	3	38	3	0,35	2	0 6345000701 00
0,8	3	38	3	0,4	2	0 6345000801 00
0,9	3	38	3	0,45	2	0 6345000901 00
1	3	38	3	0,5	2	0 6345001001 00
1,5	3	38	5	0,75	2	0 6345001501 00
2	3	38	6	1	2	0 6345002001 00
2,5	3	38	7	1,25	2	0 6345002501 00
3	3	38	8	1,5	2	0 6345003001 00

D VHM-Miniatur Radiusfräser
mit verstärktem Schaft, lang, Vierschneider

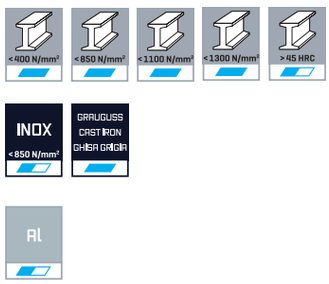
E Solid carbide mini ball nose end mills
with reinforced shank, long series, four flutes

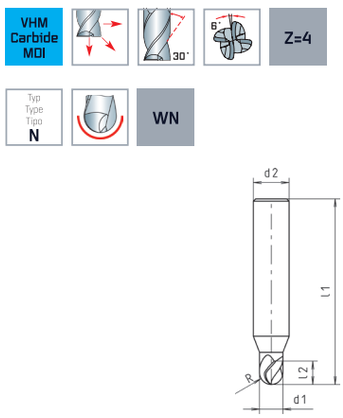
I Frese in miniatura raggiate MDI
codolo rinforzato, serie lunga, 4 taglienti

Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit. Besonders zum Kopierfräsen geeignet.

Range of application:
Recommended for milling materials with medium/high tensile strength. Especially suited for copy milling.

Impiego:
Adatte per fresatura di materiali di media ed alta resistenza, particolarmente indicate per fresatura a copiare.







ALUNIT®

d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	R mm	Z	Code 6387 Art.-Nr.
1	3	38	4	0,5	4	0 6387001001 00
1,5	3	38	6	0,75	4	0 6387001501 00
2	3	38	9	1	4	0 6387002001 00
2,5	3	38	12	1,25	4	0 6387002501 00
3	3	38	12	1,5	4	0 6387003001 00

D VHM-Miniaturfräser
Zweischneider

E Solid carbide mini end mills
two flutes

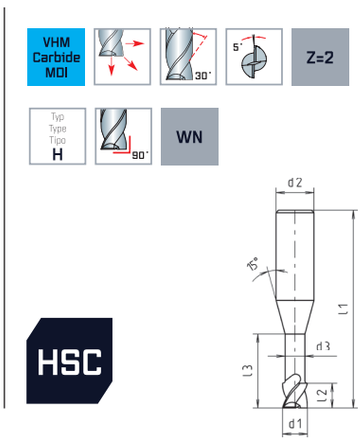
I Frese in miniatura MDI
2 taglienti

Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittleren und hohen Festigkeiten sowie zur HSC-Bearbeitung.

Range of application:
Recommended for milling materials with medium and high tensile strength, HSC-milling.

Impiego:
Adatte per fresatura di materiali di media ed alta resistenza, anche per alta velocità HSC.







ALUNIT®

d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	Z	Code 6257 Art.-Nr.
0,4	3	0,35	50	0,6	5	2	0 6257000401 00
0,5	3	0,45	50	0,7	6	2	0 6257000501 00
0,6	3	0,55	50	0,9	6	2	0 6257000601 00
0,7	3	0,65	50	0,8	7	2	0 6257000701 00
0,8	3	0,75	50	1,2	8	2	0 6257000801 00
0,9	3	0,85	50	1,3	9	2	0 6257000901 00
1	3	0,95	50	1,5	12	2	0 6257001001 00
1,2	3	1,15	50	1,8	12	2	0 6257001201 00
1,4	3	1,35	50	2,1	16	2	0 6257001401 00
1,5	3	1,45	50	2,3	20	2	0 6257001501 00
1,6	3	1,55	50	2,4	20	2	0 6257001601 00
1,8	3	1,75	50	2,7	20	2	0 6257001801 00
2	3	1,95	50	3	20	2	0 6257002001 00
2,5	3	2,45	50	3,7	20	2	0 6257002501 00
3	3	2,95	50	4	20	2	0 6257003001 00

D VHM-Miniatur-Radius-Fräser
Zweischneider

Einsatzbereich:
Für die Bearbeitung von Werkstoffen mit mittlerer bis hoher Festigkeit. Besonders zum HSC-Kopierfräsen geeignet.

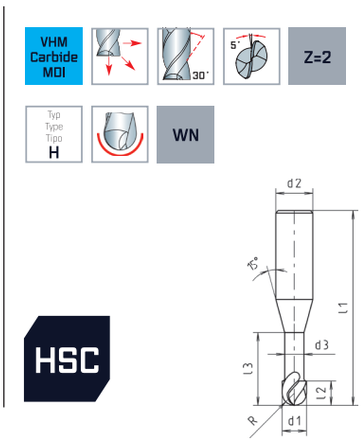
E Solid carbide mini ball nose end mills
two flutes

Range of application:
For milling materials with medium/high tensile strength. Especially suited for HSC-copy milling.

I Frese in miniatura con punta semisferica MDI
2 taglienti

Impiego:
Adatte per fresatura di materiali di media ed alta resistenza, serie alta velocità HSC particolarmente indicate per fresatura a copiare..









ALUNIT®

d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	R mm	Z	Code 6297 Art.-Nr.
0,4	3	0,35	50	0,6	5	0,2	2	0 6297000401 00
0,5	3	0,45	50	0,7	6	0,25	2	0 6297000501 00
0,6	3	0,55	50	0,9	6	0,3	2	0 6297000601 00
0,7	3	0,65	50	0,8	7	0,35	2	0 6297000701 00
0,8	3	0,75	50	1,2	8	0,4	2	0 6297000801 00
0,9	3	0,85	50	1,3	9	0,45	2	0 6297000901 00
1	3	0,95	50	1,5	12	0,5	2	0 6297001001 00
1,2	3	1,15	50	1,8	12	0,6	2	0 6297001201 00
1,4	3	1,35	50	2,1	16	0,6	2	0 6297001401 00
1,5	3	1,45	50	2,3	20	0,75	2	0 6297001501 00
1,6	3	1,55	50	2,4	20	0,8	2	0 6297001601 00
1,8	3	1,75	50	2,7	20	0,8	2	0 6297001801 00
2	3	1,95	50	3	20	1	2	0 6297002001 00
2,5	3	2,45	50	3,7	20	1,25	2	0 6297002501 00
3	3	2,95	50	4	20	1,5	2	0 6297003001 00

R = ± 0,01 mm



D VHM-Viertelrund-Profil-Fräser

Einsatzbereich:
Empfohlen zum Fräsen von Bau-, Einsatz- und Vergütungsstählen mit normaler Festigkeit bis 1.100 N/mm² sowie für kurzspanende NE-Metalle.

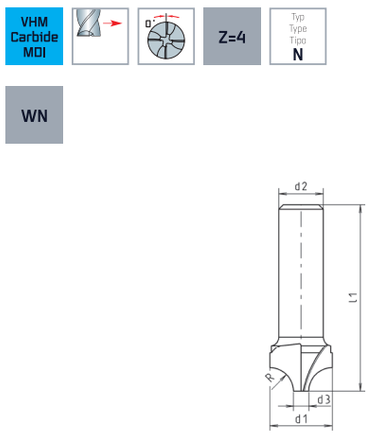
E Solid carbide quarter circle cutters

Range of application:
Recommended for milling in construction steels, tempered steels and cementation steels with standard tensile strength up to 1.100 N/mm² and short-chipping of non-ferrous metals.

I Frese a profilo raggiato MDI

Impiego:
Adatte per lavorazioni di acciai da costruzione, acciai da cementazione, acciai bonificati con R fino a 1.100 N/mm², e di materiali non ferrosi a truciolo corto.









ALUNIT®

R mm	d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	Z	Code 6415 Art.-Nr.	Code 6417 Art.-Nr.
1	**8**	8	6	64	4	0 6415001001 00	0 6417001001 00
1,5	**8**	8	5	64	4	0 6415001501 00	0 6417001501 00
2	**8**	8	4	64	4	0 6415002001 00	0 6417002001 00
2,5	**10**	10	5	67	4	0 6415002501 00	0 6417002501 00
3	**10**	10	4	67	4	0 6415003001 00	0 6417003001 00
3,5	**12**	12	5	74	4	0 6415003501 00	0 6417003501 00
4	**12**	12	4	74	4	0 6415004001 00	0 6417004001 00
5	**16**	16	6	83	4	0 6415005001 00	0 6417005001 00
6	**16**	16	4	83	4	0 6415006001 00	0 6417006001 00
8	**26,5**	20	10,5	85	4	0 6415008001 00	0 6417008001 00
10	**32**	20	12	85	4	0 6415010001 00	0 6417010001 00
12	**38**	20	14	90	4	0 6415012001 00	0 6417012001 00

≤ R 6 = VHM / Solid carbide / MDI
> R 8 = nur VHM-Kopf / only solid carbide cutting part / parte taglienti metallo duro intregrale

D VHM-Multifräser, 90°

E Solid carbide multi end mills 90°

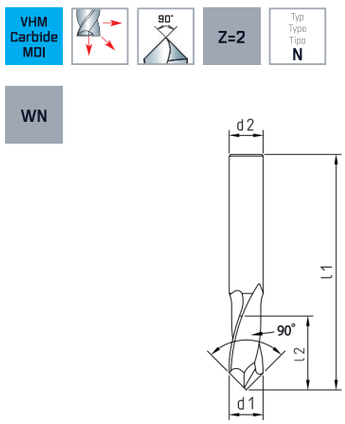
I Multi frese MDI, 90°

Einsatzbereich:
Universeller Anwendungsbereich, besonders geeignet zum Fräsen, Anfasen, Entgraten, Anbohren und Bohren.

Range of application:
Universal range of application, especially suited for milling, chamfering, deburring, pre-drilling and drilling.

Impiego:
Adatte per impieghi universali, particolarmente raccomandate per fresatura, lavorazioni, smussatura, perforazione e foratura.







ALUNIT®

d1 h9 mm	d2 h6 mm	l1 mm	l2 mm	α	Z	Code 6397 Art.-Nr.
3	6	50	6	90°	2	0 6397003001 00
4	6	54	8	90°	2	0 6397004001 00
5	6	57	10	90°	2	0 6397005001 00
6	6	57	12	90°	2	0 6397006001 00
8	8	63	16	90°	2	0 6397008001 00
10	10	72	18	90°	2	0 6397010001 00
12	12	83	20	90°	2	0 6397012001 00



D VHM-Entgrater, 60°

Einsatzbereich:
Universeller Anwendungsbereich, besonders geeignet zum Anfasen und Entgraten sowie Konturarbeiten.

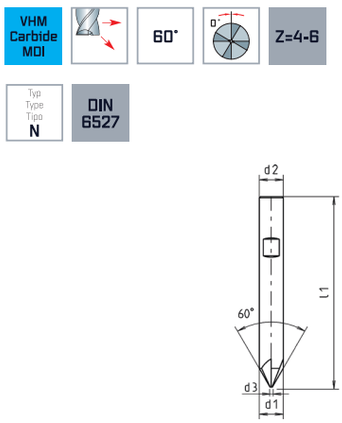
E Solid carbide deburring mills, 60°

Range of application:
Universal range of application, especially suited for chamfering and deburring as well as contouring.

I Frese a smussare MDI, 60°

Impiego:
Adatte per impieghi universali, particolarmente raccomandate per lavorazioni di smussatura, sbavatura ed anche di contornatura.









ALUNIT®

d1 h10 mm	d2 h6 mm	d3 mm	Toleranz	l1 mm	Z	Code 7725 Art.-Nr.	Code 7727 Art.-Nr.
4	4	0,4	+0.0 / -0.1	54	4	0 7725004001 00	0 7727004001 00
6	6	0,4	+0.0 / -0.1	57	4	0 7725006001 00	0 7727006001 00
8	8	0,4	+0.0 / -0.1	63	4	0 7725008001 00	0 7727008001 00
10	10	0,4	+0.0 / -0.1	72	4	0 7725010001 00	0 7727010001 00
12	12	0,4	+0.0 / -0.1	83	4	0 7725012001 00	0 7727012001 00
16	16	0,6	+/- 0.1	92	6	0 7725016001 00	0 7727016001 00

Ø 4 kein Weldon-Schaft / Ø 4 no weldon shaft / Ø 4 no gambo Weldon

D VHM-Entgrater, 90°

Einsatzbereich:
Universeller Anwendungsbereich, besonders geeignet zum Anfasen und Entgraten sowie Konturarbeiten.

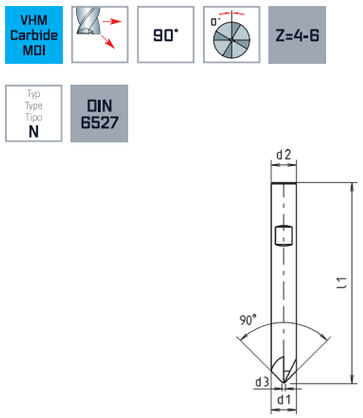
E Solid carbide deburring mills, 90°

Range of application:
Universal range of application, especially suited for chamfering and deburring as well as contouring.

I Frese a smussare MDI, 90°

Impiego:
Adatte per impieghi universali, particolarmente raccomandate per lavorazioni di smussatura, sbavatura ed anche di contornatura.







DIN 6535-HB



DIN 6535-HB

ALUNIT®

d1 h10 mm	d2 h6 mm	d3 mm	Toleranz	l1 mm	Z	Code 7755 Art.-Nr.	Code 7757 Art.-Nr.
4	4	0,2	+0.0 / -0.1	54	4	0 7755004001 00	0 7757004001 00
6	6	0,4	+0.0 / -0.1	57	4	0 7755006001 00	0 7757006001 00
8	8	0,4	+0.0 / -0.1	63	4	0 7755008001 00	0 7757008001 00
10	10	0,4	+0.0 / -0.1	72	4	0 7755010001 00	0 7757010001 00
12	12	0,4	+0.0 / -0.1	83	4	0 7755012001 00	0 7757012001 00
16	16	0,6	+/- 0.1	92	6	0 7755016001 00	0 7757016001 00

Ø 4 kein Weldon-Schaft / Ø 4 no weldon shaft / Ø 4 no gambo Weldon



D VHM Vor- und Rückwärtsentgrater, 2 x 90 °

Einsatzbereich:
Universeller Anwendungsbereich, besonders geeignet zum Anfasen, Vor- und Rückwärtsentgraten sowie Konturarbeiten.

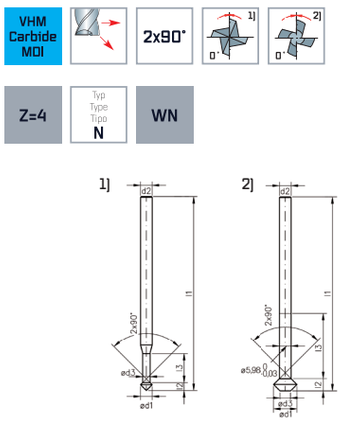
E Solid carbide forward and reverse deburring mills, 2 x 90°

Range of application:
Universal range of application, especially suited for chamfering, forward and reverse deburring as well as contouring.

I Frese in metallo duro per sbavatura reversibili, 2 x 90°

Impiego:
Adatte per impieghi universali, particolarmente raccomandate per lavorazioni di smussatura, sbavatura reversibili ed anche di contornatura.







ALUNIT-S®

d1 h10 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	l3 mm	Z	Code 6507 Art.-Nr.
3	4	2,2	75	1,9	10	4	0 6507003001 00
4	4	2,9	75	2,5	15	4	0 6507004001 00
5	5	3,9	75	3,0	15	4	0 6507005001 00
6	6	3,9	100	4,0	15	4	0 6507006001 00
8	6	4,8	100	2,7	35	4	0 6507008001 00
10	6	4,7	100	4,7	33	4	0 6507010001 00
12	6	5,4	100	6,4	31	4	0 6507012001 00

1] d1: Ø 3 - 6 mm
2] d1: Ø 8 - 12 mm

D VHM-Einzahnfräser für Aluminium

Einsatzbereich:
Rechtsschneidend mit Rechtsdrall.
Geeignet für die Bearbeitung von Aluminium und Aluminiumlegierungen.

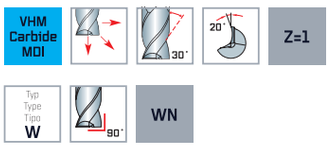
E Solid carbide 1-flute end mills for aluminium

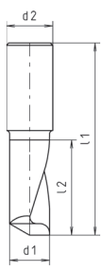
Range of application:
Right-hand cutting with right-hand spiral.
Especially suited for cutting aluminium and aluminium-alloys.

I Frese monoelica MDI per alluminio

Impiego:
Taglio destro con elica destra. Adatte per fresatura di alluminio e leghe di alluminio.







HSC



d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6205 Art.-Nr.
2	2	38	10	1	0 6205002001 00
2,5	2,5	38	12	1	0 6205002501 00
3	3	38	12	1	0 6205003001 00
4	4	40	15	1	0 6205004001 00
5	5	50	16	1	0 6205005001 00
6	6	**50**	18	1	0 6205006101 00
6	6	**57**	25	1	0 6205006201 00
8	8	**63**	22	1	0 6205008201 00
8	8	**80**	40	1	0 6205008401 00
10	10	72	30	1	0 6205010001 00
12	12	73	30	1	0 6205012001 00



D VHM-Einzahn-Miniatur-Fräser für Aluminium

Einsatzbereich:
Rechtsschneidend mit Rechtsdrall.
Geeignet für die Bearbeitung von Aluminium und Aluminiumlegierungen.

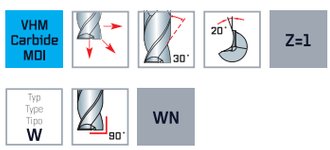
E Solid carbide 1-flute mini end mills for aluminium

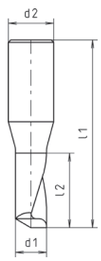
Range of application:
Right-hand cutting with right-hand spiral.
Especially suited for cutting aluminium and aluminium-alloys.

I Frese in miniatura monoelica MDI per alluminio

Impiego:
Taglio destro con elica destra. Adatte per fresatura di alluminio e leghe di alluminio.







HSC



d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6935 Art.-Nr.
1	6	40	5	1	0 6935001001 00
1,5	6	40	7	1	0 6935001501 00
2	6	40	7	1	0 6935002001 00
2,5	6	40	8	1	0 6935002501 00
3	6	40	8	1	0 6935003001 00
3,5	6	40	10	1	0 6935003501 00
4	6	40	10	1	0 6935004001 00
4,5	6	50	12	1	0 6935004501 00
5	6	50	12	1	0 6935005001 00
5,5	6	50	14	1	0 6935005501 00
6	6	50	14	1	0 6935006001 00

D VHM-Einzahnfräser für Kunststoffe,
Rechtsschneidend mit Rechtsdrall

Einsatzbereich:
Geeignet für die Bearbeitung von sämtlichen Kunststoffen, glasfaserverstärkte Polyester und Grafit.

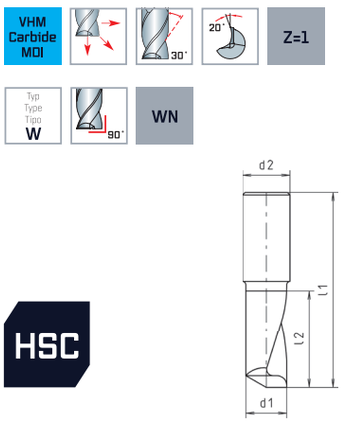
E Solid carbide 1-flute end mills for plastics,
righthand cutting with righthand spiral

Range of application:
Especially suited for cutting all plastics, glass-fibre reinforced polyester as well as graphite.

I Frese monoelica MDI per materie plastiche,
taglio destro elica destra

Impiego:
Adatte per fresatura di tutte le materie plastiche, poliesteri vetrosi, grafite.







d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6495 Art.-Nr.
2	2	38	10	1	0 6495002001 00
2,5	2,5	38	12	1	0 6495002501 00
3	3	38	12	1	0 6495003001 00
4	4	40	15	1	0 6495004001 00
5	5	50	16	1	0 6495005001 00
6	6	**50**	18	1	0 6495006001 00
6	6	**57**	25	1	0 6495006101 00
8	8	**63**	22	1	0 6495008001 00
8	8	**80**	40	1	0 6495008101 00
10	10	72	30	1	0 6495010001 00
12	12	73	30	1	0 6495012001 00



D VHM-Einzahnfräser für Kunststoffe,
Rechtsschneidend mit Linksdrall

Einsatzbereich:
Geeignet für die Bearbeitung von sämtlichen Kunststoffen, glasfaserverstärkte Polyester und Grafit.

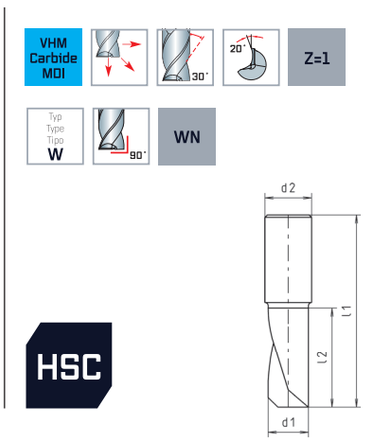
E Solid carbide 1-flute end mills for plastics,
righthand cutting with lefthand spiral

Range of application:
Especially suited for cutting all plastics, glass-fibre reinforced polyester as well as graphite.

I Frese monoelica MDI per materie plastiche,
taglio destro elica destra

Impiego:
Adatte per fresatura di tutte le materie plastiche, poliesteri vetrosi, grafite.







d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 6215 Art.-Nr.
2	2	38	10	1	0 6215002001 00
2,5	2,5	38	12	1	0 6215002501 00
3	3	38	12	1	0 6215003001 00
4	4	40	15	1	0 6215004001 00
5	5	50	16	1	0 6215005001 00
6	6	**50**	18	1	0 6215006001 00
6	6	**57**	25	1	0 6215006101 00
8	8	**63**	22	1	0 6215008001 00
8	8	**80**	40	1	0 6215008101 00
10	10	72	30	1	0 6215010001 00
12	12	73	30	1	0 6215012001 00

D VHM-Konturenfräser für Kunststoffe,
mit Sitrnverzahnung

Einsatzbereich:
Geeignet zum Besäumen und Umrissfräsen von faserverstärkten Kunststoffen „GFK" und „CFK".

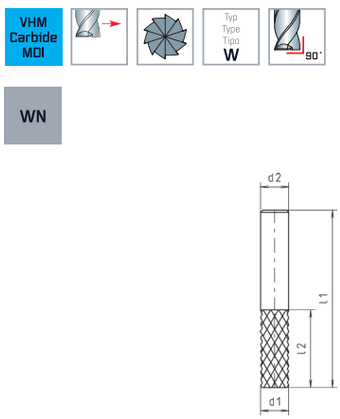
E Solid carbide contour end mills for plastics,
with front cut

Range of application:
Especially suitable for cutting glass-fibre and carbon-fibre-reinforced plastics „GFP" and „CFP".

I Frese a contornare MDI per materie plastiche,
taglienti frontali

Impiego:
Adatte per fresatura di contornatura fibre di vetro, plastica, gomma dura.







d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	Code 7976 Art.-Nr.
6	6	**50**	18	0 7976006001 00
6	6	**57**	25	0 7976006101 00
8	8	**63**	25	0 7976008001 00
8	8	**80**	40	0 7976008101 00
10	10	72	30	0 7976010001 00
12	12	73	30	0 7976012001 00
14	14	75	30	0 7976014001 00



D VHM-Konturenfräser für Kunststoffe,
Zweischneider

Einsatzbereich:
Geeignet zum Besäumen und Umrissfräsen von faserverstärkten Kunststoffen „GFK" und „CFK".

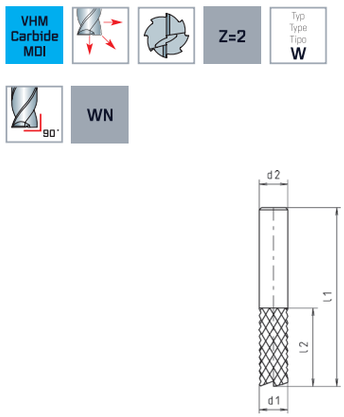
E Solid carbide contour end mills for plastics,
two flutes

Range of application:
Especially suitable for cutting glass-fibre and carbon-fibre-reinforced plastics „GFP" and „CFP".

I Frese a contornare MDI per materie plastiche,
2 taglienti

Impiego:
Adatte per fresatura di contornatura fibre di vetro, plastica, gomma dura.







d1 h10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 7986 Art.-Nr.
2	2	38	10	2	0 7986002001 00
3	3	38	12	2	0 7986003001 00
4	4	40	15	2	0 7986004001 00
5	5	50	16	2	0 7986005001 00
6	6	**50**	18	2	0 7986006001 00
6	6	**57**	25	2	0 7986006101 00
8	8	**63**	25	2	0 7986008001 00
8	8	**80**	40	2	0 7986008101 00
10	10	72	30	2	0 7986010001 00





Hartmetall-Frässtifte

E Tungsten carbide rotary burrs

I Frese rotative in metallo duro



D Übersicht
Hartmetall-Frässtifte

E Overview
Tungsten carbide rotary burrs

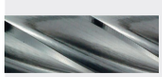
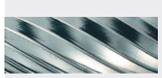
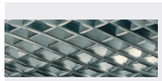
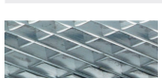
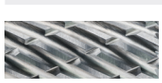
I Sommario
Frese rotative in metallo duro



INOX
Herausragende Fräsleistung bei Edelstahl/Niro
Outstanding milling performance in stainless steel
Eccellente rendimento di fresatura in acciaio acciaio inossidabile

SPECIAL STEEL
Aggressive Geometrie – hoher Materialabtrag
Aggressive geometry – high chip removal
Geometria aggressiva - elevata asportazione di materiale



Typ / Type / Tipo	ZYA	ZYA-S	WRC	SPG	WKN
Typ / Type / Tipo ISO	A	A-S	C	G	N
Stirnverzahnung / Front cut / Taglio in testa		ja / yes / si			
Ø mm	2-20	2-20	3-20	3-16	3-12
Code / Codice	777	778	779	780	781
Seite / Page / Pagina	200	201	202	203	204
Zahnung / Cutting profile / Dentatura					
 0 INOX	—		—	—	
 1A Aluminium Aluminium Aluminio	—	—	—	—	
 1 DIN C			—		
 2	—	—	—	—	
 3 DIN MY	—	—	—	—	—
 4 Diamant Diamond Diamanta	—	—	—	—	
 6 DIN MX	—	—	—	—	—
 TiN 6 DIN MX	—	—	—	—	
 9 SPECIAL STEEL		—	—	—	

D Die Schnittwerte für alle Werkzeuge entnehmen Sie bitte unserem separaten Zerspanungshandbuch.

E You will find the cutting conditions for all tools in our separate cutting manual.

I Per i parametri di lavorazione per tutti gli utensili richiedete il nostro manuale tecnico.

— Zahnung verfügbar / Cut available / Dentatura disponibilità

D **Übersicht**
Hartmetall-Frässtifte

E **Overview**
Tungsten carbide rotary burrs

I **Sommario**
Frese rotative in metallo duro

							
SKM	KSK	KSJ	TRE	KUD	RBF	KEL	B
M	K	J	E	D	F	L	H
3-16	3-20	3-16	3-16	2,5-20	3-20	3-16	6-16
783	784	785	786	787	788	789	790
205	206	207	208	209	210	211	212
					—	—	
				—	—	—	
					—	—	
—				—	—	—	
—	—	—	—	—	—	—	—
—			—	—	—	—	—
—	—	—	—	—	—	—	—
—				—	—		
					—	—	

— Zahnung verfügbar / Cut available / Dentatura disponibilità

D **Hartmetall-Frässtifte,** Zylinder, ohne Stirnverzahnung

E **Tungsten carbide rotary burrs,** cylindrical, without front cut

I **Frese rotative in metallo duro,** cilindriche, senza taglio in testa

Unterschiedliche Zahnungen / Different cuts / Dentature diverse



INOX



Aluminium
Aluminium
Aluminio



DIN C





DIN MY



Diamant
Diamond
Diamante



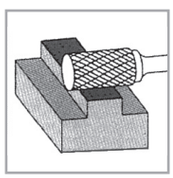
DIN MX



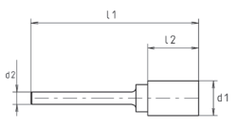
DIN MX

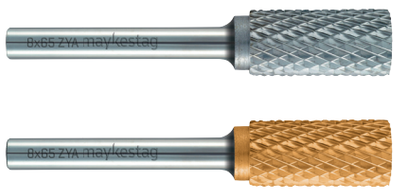


SPECIAL STEEL



DIN ZYA ISO A





d1 mm	d2 mm	l1 mm	l2 mm	0 Code 7770 Art.-Nr.	1A Code 7778 Art.-Nr.	1 Code 7771 Art.-Nr.	2 Code 7772 Art.-Nr.	3 Code 7773 Art.-Nr.
2	3	38	10					0 7773031021 00
3	3	**38**	14					0 7773031031 00
3	3	**50**	14					
3	3	**65**	14					0 7773033031 00
4	**3**	40	10					0 7773031041 00
4	**6**	50	14					
6	**3**	43	13					0 7773031061 00
6	**6**	50	16	0 7770061061 00	0 7778061061 00			0 7773061061 00
8	6	65	20	0 7770061081 00				0 7773061081 00
10	6	**58**	13					
10	6	**65**	20	0 7770061101 00	0 7778061101 00			0 7773061101 00
12	**6**	70	25	0 7770061121 00	0 7778061121 00			0 7773061121 00
12	**8**	70	25					
16	6	70	25					0 7773061161 00
20	6	70	25					0 7773061201 00

d1 mm	d2 mm	l1 mm	l2 mm	4 Code 7774 Art.-Nr.	6 Code 7776 Art.-Nr.	6 Code 7777 Art.-Nr.	9 Code 7779 Art.-Nr.
2	3	38	10		0 7776031021 00		
3	3	**38**	14	0 7774031031 00	0 7776031031 00	0 7777031031 00	
3	3	**50**	14		0 7776032031 00		
3	3	**65**	14		0 7776033031 00		
4	**3**	40	10		0 7776031041 00		
4	**6**	50	14	0 7774061041 00	0 7776061041 00		
6	**3**	43	13	0 7774031061 00	0 7776031061 00		
6	**6**	50	16	0 7774061061 00	0 7776961061 00	0 7777061061 00	
8	6	65	20	0 7774061081 00	0 7776061081 00	0 7777061081 00	
10	6	**58**	13		0 7776063101 00		
10	6	**65**	20	0 7774061101 00	0 7776961101 00	0 7777061101 00	
12	**6**	70	25	0 7774061121 00	0 7776961121 00	0 7777061121 00	
12	**8**	70	25		0 7776081121 00		
16	6	70	25	0 7774061161 00	0 7776061161 00		
20	6	70	25				

Nähere Informationen zu den einzelnen Zahnungen siehe Seite 213.

Detailed information about the different cuts see on page 213.

Informazioni più dettagliate circa le diverse dentature vedi pagina 213.

D **Hartmetall-Frässtifte,** Zylinder, mit Stirnverzahnung

E **Tungsten carbide rotary burrs,** cylindrical, with front cut

I **Frese rotative in metallo duro,** cilindriche, taglio in testa

Unterschiedliche Zahnungen / Different cuts / Dentature diverse



INOX



Aluminium
Aluminium
Alluminio



DIN C





DIN MY



Diamant
Diamond
Diamante



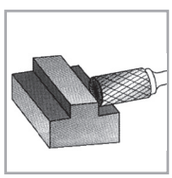
DIN MX



DIN MX



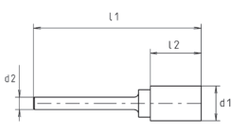
SPECIAL STEEL

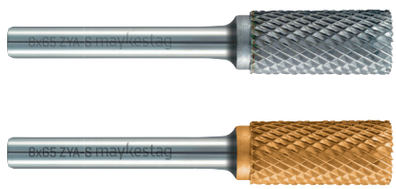


DIN ZYA-S

ISO A-S







d1 mm	d2 mm	l1 mm	l2 mm	0 Code 7780 Art.-Nr.	1A Code 7788 Art.-Nr.	1 Code 7781 Art.-Nr.	2 Code 7782 Art.-Nr.	3 Code 7783 Art.-Nr.
2	3	**38**	10					0 7783031021 00
2	3	**50**	10					
3	3	**38**	14					0 7783031031 00
3	3	**50**	14					0 7783032031 00
3	3	**75**	14					0 7783034031 00
4	6	50	14					0 7783061041 00
6	**3**	43	13					0 7783031061 00
6	**6**	50	16				0 7782061061 00	0 7783061061 00
8	6	65	20				0 7782061081 00	0 7783061081 00
10	6	**58**	13					
10	6	**65**	20		0 7788061101 00		0 7782061101 00	0 7783061101 00
12	6	70	25		0 7788961121 00		0 7782061121 00	0 7783061121 00
16	6	70	25					0 7783061161 00
20	8	70	25					

d1 mm	d2 mm	l1 mm	l2 mm	4 Code 7784 Art.-Nr.	6 Code 7786 Art.-Nr.	6 Code 7787 Art.-Nr.	9 Code 7789 Art.-Nr.
2	3	**38**	10				
2	3	**50**	10	0 7784032021 00			
3	3	**38**	14	0 7784031031 00	0 7786031031 00	0 7787031031 00	
3	3	**50**	14	0 7784032031 00	0 7786032031 00		
3	3	**75**	14	0 7784034031 00			
4	6	50	14	0 7784061041 00	0 7786061041 00		
6	**3**	43	13	0 7784031061 00	0 7786031061 00		
6	**6**	50	16	0 7784061061 00	0 7786961061 00	0 7787061061 00	0 7789061061 00
8	6	65	20	0 7784061081 00	0 7786061081 00	0 7787061081 00	0 7789061081 00
10	6	**58**	13		0 7786062101 00		
10	6	**65**	20	0 7784061101 00	0 7786961101 00	0 7787061101 00	0 7789061101 00
12	6	70	25		0 7786961121 00	0 7787061121 00	0 7789061121 00
16	6	70	25	0 7784061161 00	0 7786061161 00		
20	8	70	25	0 7784081201 00			

Nähere Informationen zu den einzelnen Zahnungen siehe Seite 213.

Detailed information about the different cuts see on page 213.

Informazioni più dettagliate circa le diverse dentature vedi pagina 213.



D Hartmetall-Frässtifte, Walzenrund

E Tungsten carbide rotary burrs, ball nose

I Frese rotative in metallo duro, cilindriche sferica

Unterschiedliche Zahnungen / Different cuts / Dentature diverse



INOX



Aluminium
Aluminium
Aluminio



DIN C





DIN MY



Diamant
Diamond
Diamante



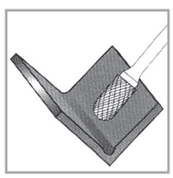
DIN MX



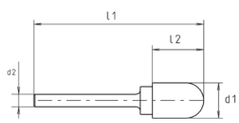
DIN MX

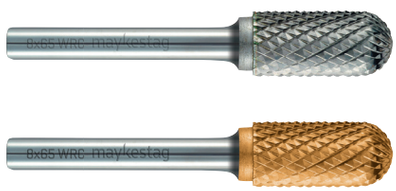


SPECIAL STEEL



DIN	ISO
WRC	C





d1 mm	d2 mm	l1 mm	l2 mm	0 Code 7790 Art.-Nr.	1A Code 7798 Art.-Nr.	1 Code 7791 Art.-Nr.	2 Code 7792 Art.-Nr.	3 Code 7793 Art.-Nr.
3	3	**38**	14					0 7793031031 00
3	3	**50**	14					0 7793032031 00
4	**3**	40	10					0 7793031041 00
4	**6**	50	14					0 7793061041 00
5	3	42	12					
6	**3**	**43**	14					0 7793031061 00
6	**6**	**50**	16	0 7790061061 00		0 7791061061 00	0 7792061061 00	0 7793061061 00
6	**6**	**150**	16					0 7793062061 00
8	6	65	20	0 7790061081 00	0 7798061081 00		0 7792061081 00	0 7793061081 00
10	6	**65**	20	0 7790061101 00	0 7798061101 00		0 7792061101 00	0 7793061101 00
10	6	**70**	25					
10	6	**150**	20					
12	**6**	**70**	25	0 7790061121 00	0 7798061121 00		0 7792061121 00	0 7793061121 00
12	**6**	**150**	25					
12	**8**	**70**	25					
16	6	70	25					0 7793061161 00
20	6	70	25					

d1 mm	d2 mm	l1 mm	l2 mm	4 Code 7794 Art.-Nr.	6 Code 7796 Art.-Nr.	6 Code 7797 Art.-Nr.	9 Code 7799 Art.-Nr.
3	3	**38**	14	0 7794031031 00	0 7796031031 00	0 7797031031 00	
3	3	**50**	14		0 7796032031 00		
4	**3**	40	10	0 7794031041 00	0 7796031041 00		
4	**6**	50	14		0 7796061041 00		
5	3	42	12	0 7794031051 00			
6	**3**	**43**	14	0 7794031061 00	0 7796031061 00		
6	**6**	**50**	16	0 7794061061 00	0 7796961061 00	0 7797061061 00	0 7799061061 00
6	**6**	**150**	16	0 7794062061 00	0 7796062061 00		
8	6	65	20	0 7794061081 00	0 7796061081 00	0 7797061081 00	0 7799061081 00
10	6	**65**	20	0 7794061101 00	0 7796961101 00	0 7797061101 00	0 7799061101 00
10	6	**70**	25		0 7796063101 00		
10	6	**150**	20	0 7794062101 00			
12	**6**	**70**	25	0 7794061121 00	0 7796961121 00	0 7797061121 00	0 7799061121 00
12	**6**	**150**	25	0 7794062121 00			
12	**8**	**70**	25		0 7796081121 00		
16	6	70	25	0 7794061161 00	0 7796061161 00		
20	6	70	25	0 7794061201 00			

Nähere Informationen zu den einzelnen Zahnungen siehe Seite 213.

Detailed information about the different cuts see on page 213.

Informazioni più dettagliate circa le diverse dentature vedi pagina 213.

D **Hartmetall-Frässtifte,** Spitzbogen

E **Tungsten carbide rotary burrs,** arc pointed nose

I **Frese rotative in metallo duro,** a lancia

Unterschiedliche Zahnungen / Different cuts / Dentature diverse



INOX



Aluminium
Aluminium
Aluminio



DIN C





DIN MY



Diamant
Diamond
Diamante



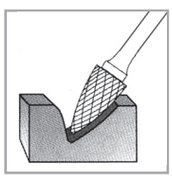
DIN MX



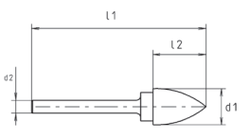
DIN MX

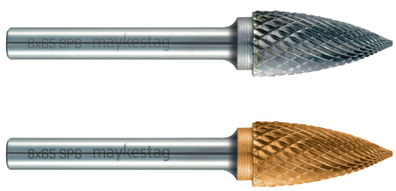


SPECIAL STEEL



DIN SPG **ISO** G





d1 mm	d2 mm	l1 mm	l2 mm	0 Code 7800 Art.-Nr.	1A Code 7808 Art.-Nr.	1 Code 7801 Art.-Nr.	2 Code 7802 Art.-Nr.	3 Code 7803 Art.-Nr.
3	3	38	12					0 7803031031 00
4	**3**	40	10					0 7803031041 00
4	**6**	50	14					
6	**3**	43	13					0 7803031061 00
6	**6**	50	16	0 7800061061 00				0 7803061061 00
8	6	65	20	0 7800061081 00				0 7803061081 00
10	6	65	20	0 7800061101 00	0 7808061101 00			0 7803061101 00
12	**6**	70	25	0 7800061121 00	0 7808061121 00			0 7803061121 00
12	**8**	70	25					
16	**6**	75	30					0 7803061161 00
16	**8**	75	30					

d1 mm	d2 mm	l1 mm	l2 mm	4 Code 7804 Art.-Nr.	6 Code 7806 Art.-Nr.	6 Code 7807 Art.-Nr.	9 Code 7809 Art.-Nr.
3	3	38	12	0 7804031031 00	0 7806031031 00	0 7807031031 00	
4	**3**	40	10				
4	**6**	50	14		0 7806061041 00		
6	**3**	43	13	0 7804031061 00			
6	**6**	50	16	0 7804061061 00	0 7806961061 00	0 7807061061 00	0 7809061061 00
8	6	65	20	0 7804061081 00	0 7806061081 00		0 7809061081 00
10	6	65	20	0 7804061101 00	0 7806961101 00	0 7807061101 00	0 7809061101 00
12	**6**	70	25	0 7804061121 00	0 7806961121 00	0 7807061121 00	0 7809061121 00
12	**8**	70	25		0 7806081121 00		
16	**6**	75	30	0 7804061161 00	0 7806061161 00		
16	**8**	75	30		0 7806081161 00		

Nähere Informationen zu den einzelnen Zahnungen siehe Seite 213.

Detailed information about the different cuts see on page 213.

Informazioni più dettagliate circa le diverse dentature vedi pagina 213.



D **Hartmetall-Frässtifte,** Winkel, ohne Stirnverzahnung

E **Tungsten carbide rotary burrs,** inverted cone, without front cut

I **Frese rotative in metallo duro,** tronco conica, senza taglio in testa

Unterschiedliche Zahnungen / Different cuts / Dentature diverse



INOX



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DIN C





DIN MY



Diamant
Diamond
Diamante



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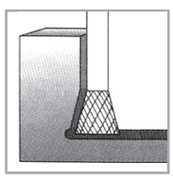
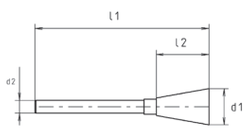
DIN MX



SPECIAL STEEL



DIN	ISO
WKN	N





d1 mm	d2 mm	l1 mm	l2 mm	0 Code 7810 Art.-Nr.	1A Code 7818 Art.-Nr.	1 Code 7811 Art.-Nr.	2 Code 7812 Art.-Nr.	3 Code 7813 Art.-Nr.
3	3	38	3					0 7813031031 00
6	3	36	6					0 7813031061 00
8	6	53	8					0 7813061081 00
10	6	55	10					
12	6	57	12					0 7813061121 00

d1 mm	d2 mm	l1 mm	l2 mm	4 Code 7814 Art.-Nr.	6 Code 7816 Art.-Nr.	6 Code 7817 Art.-Nr.	9 Code 7819 Art.-Nr.
3	3	38	3		0 7816031031 00		
6	3	36	6		0 7816031061 00		
8	6	53	8		0 7816061081 00		
10	6	55	10		0 7816061101 00		
12	6	57	12		0 7816061121 00		

Nähere Informationen zu den einzelnen Zahnungen siehe Seite 213.
Detailed information about the different cuts see on page 213.
Informazioni più dettagliate circa le diverse dentature vedi pagina 213.

D **Hartmetall-Frässtifte,** Spitzkegel

E **Tungsten carbide rotary burrs,** conical pointed nose

I **Frese rotative in metallo duro,** conica

Unterschiedliche Zahnungen / Different cuts / Dentature diverse



INOX





DIN MX



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Aluminium
Aluminio



DIN MY



DIN MX



DIN C



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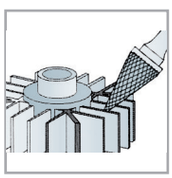
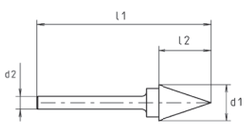
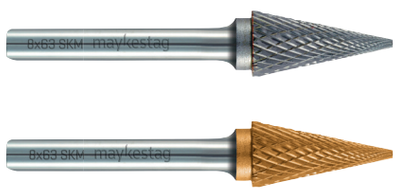
SPECIAL STEEL



DIN SKM

ISO M





d1 mm	d2 mm	l1 mm	l2 mm	0 Code 7830 Art.-Nr.	1A Code 7838 Art.-Nr.	1 Code 7831 Art.-Nr.	2 Code 7832 Art.-Nr.	3 Code 7833 Art.-Nr.
3	3	**38**	12					0 7833031031 00
3	3	**50**	12					0 7833032031 00
4	3	40	10					0 7833031041 00
6	**3**	43	13					0 7833031061 00
6	**6**	50	16					0 7833061061 00
8	6	63	18					0 7833061081 00
10	6	66	20				0 7832061101 00	0 7833061101 00
12	6	70	25					0 7833061121 00
16	6	70	25					0 7833061161 00

d1 mm	d2 mm	l1 mm	l2 mm	4 Code 7834 Art.-Nr.	6 Code 7836 Art.-Nr.	6 Code 7837 Art.-Nr.	9 Code 7839 Art.-Nr.
3	3	**38**	12	0 7834031031 00	0 7836031031 00	0 7837031031 00	
3	3	**50**	12				
4	3	40	10				
6	**3**	43	13	0 7834031061 00	0 7836031061 00		
6	**6**	50	16	0 7834061061 00	0 7836961061 00	0 7837061061 00	
8	6	63	18	0 7834061081 00	0 7836061081 00	0 7837061081 00	
10	6	66	20	0 7834061101 00	0 7836961101 00	0 7837061101 00	
12	6	70	25	0 7834061121 00	0 7836961121 00	0 7837061121 00	
16	6	70	25	0 7834061161 00	0 7836061161 00		

Nähere Informationen zu den einzelnen Zahnungen siehe Seite 213.

Detailed information about the different cuts see on page 213.

Informazioni più dettagliate circa le diverse dentature vedi pagina 213.



D Hartmetall-Frässtifte, Konus 90°

E Tungsten carbide rotary burrs, cone 90°

I Frese rotative in metallo duro, conica 90°

Unterschiedliche Zahnungen / Different cuts / Dentature diverse



INOX



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DIN C





DIN MY



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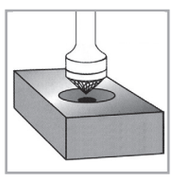
DIN MX



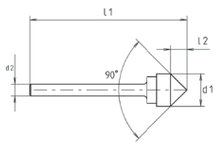
DIN MX



SPECIAL STEEL



DIN KSK | ISO K





d1 mm	d2 mm	l1 mm	l2 mm	0 Code 7840 Art.-Nr.	1A Code 7848 Art.-Nr.	1 Code 7841 Art.-Nr.	2 Code 7842 Art.-Nr.	3 Code 7843 Art.-Nr.
3	3	38	2					0 7843031031 00
4	6	50	3					0 7843061041 00
5	3	34	4					0 7843031051 00
6	6	50	5					0 7843061061 00
8	6	53	8					0 7843061081 00
10	6	55	10					0 7843061101 00
12	6	57	12					0 7843061121 00
16	6	61	16					0 7843061161 00
20	6	65	20					0 7843061201 00

d1 mm	d2 mm	l1 mm	l2 mm	4 Code 7844 Art.-Nr.	6 Code 7846 Art.-Nr.	6 Code 7847 Art.-Nr.	9 Code 7849 Art.-Nr.
3	3	38	2				
4	6	50	3				
5	3	34	4				
6	6	50	5				
8	6	53	8				
10	6	55	10		0 7846061101 00		
12	6	57	12		0 7846061121 00		
16	6	61	16				
20	6	65	20				

Nähere Informationen zu den einzelnen Zahnungen siehe Seite 213.
Detailed information about the different cuts see on page 213.
Informazioni più dettagliate circa le diverse dentature vedi pagina 213.

D **Hartmetall-Frässtifte,** Konus 60°

E **Tungsten carbide rotary burrs,** cone 60°

I **Frese rotative in metallo duro,** conica 60°

Unterschiedliche Zahnungen / Different cuts / Dentature diverse



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DIN C





DIN MY



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Diamond
Diamante



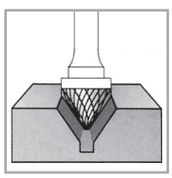
DIN MX



DIN MX



SPECIAL STEEL



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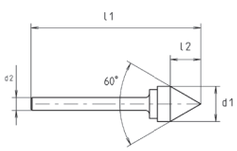



d1 mm	d2 mm	l1 mm	l2 mm	0 Code 7850 Art.-Nr.	1A Code 7858 Art.-Nr.	1 Code 7851 Art.-Nr.	2 Code 7852 Art.-Nr.	3 Code 7853 Art.-Nr.
3	3	38	3					0 7853031031 00
4	6	50	4					0 7853061041 00
6	6	50	6					0 7853061061 00
10	6	55	10					0 7853061101 00
12	6	57	12					0 7853061121 00
16	6	61	16					0 7853061161 00

d1 mm	d2 mm	l1 mm	l2 mm	4 Code 7854 Art.-Nr.	6 Code 7856 Art.-Nr.	6 Code 7857 Art.-Nr.	9 Code 7859 Art.-Nr.
3	3	38	3				
4	6	50	4				
6	6	50	6		0 7856061061 00		
10	6	55	10				
12	6	57	12		0 7856061121 00		
16	6	61	16		0 7856061161 00		

Nähere Informationen zu den einzelnen Zahnungen siehe Seite 213.

Detailed information about the different cuts see on page 213.

Informazioni più dettagliate circa le diverse dentature vedi pagina 213.



D **Hartmetall-Frässtifte,** Tropfen

E **Tungsten carbide rotary burrs,** oval

I **Frese rotative in metallo duro,** ovale

Unterschiedliche Zahnungen / Different cuts / Dentature diverse



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Diamond
Diamante



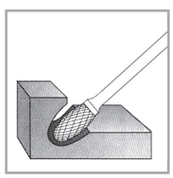
DIN MX



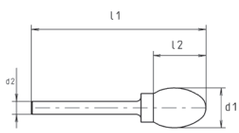
DIN MX



SPECIAL STEEL



DIN TRE ISO E





d1 mm	d2 mm	l1 mm	l2 mm	0 Code 7860 Art.-Nr.	1A Code 7868 Art.-Nr.	1 Code 7861 Art.-Nr.	2 Code 7862 Art.-Nr.	3 Code 7863 Art.-Nr.
3	3	38	6					0 7863031031 00
4	**3**	36	6					0 7863031041 00
4	**6**	50	6					
6	**3**	40	10					0 7863031061 00
6	**6**	50	10					0 7863061061 00
8	6	58	13					0 7863061081 00
10	6	61	16					0 7863061101 00
12	6	65	20					0 7863061121 00
16	6	70	25					0 7863061161 00

d1 mm	d2 mm	l1 mm	l2 mm	4 Code 7864 Art.-Nr.	6 Code 7866 Art.-Nr.	6 Code 7867 Art.-Nr.	9 Code 7869 Art.-Nr.
3	3	38	6	0 7864031031 00	0 7866031031 00		
4	**3**	36	6		0 7866031041 00		
4	**6**	50	6		0 7866061041 00		
6	**3**	40	10	0 7864031061 00	0 7866031061 00		
6	**6**	50	10	0 7864061061 00	0 7866061061 00		
8	6	58	13	0 7864061081 00	0 7866061081 00		
10	6	61	16	0 7864061101 00	0 7866061101 00		
12	6	65	20	0 7864061121 00	0 7866061121 00		
16	6	70	25	0 7864061161 00	0 7866061161 00		

Nähere Informationen zu den einzelnen Zahnungen siehe Seite 213.
Detailed information about the different cuts see on page 213.
Informazioni più dettagliate circa le diverse dentature vedi pagina 213.

D **Hartmetall-Frässtifte,** Kugel

E **Tungsten carbide rotary burrs,** spherical

I **Frese rotative in metallo duro,** sferica

Unterschiedliche Zahnungen / Different cuts / Dentature diverse



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DIN C





DIN MY



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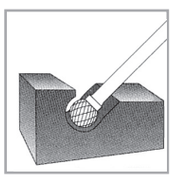
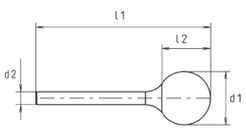
DIN MX



SPECIAL STEEL



DIN	ISO
KUD	D





d1 mm	d2 mm	l1 mm	l2 mm	0 Code 7870 Art.-Nr.	1A Code 7878 Art.-Nr.	1 Code 7871 Art.-Nr.	2 Code 7872 Art.-Nr.	3 Code 7873 Art.-Nr.
2,5	3	38	2					0 7873031251 00
3	3	38	2,5					0 7873031031 00
4	**3**	33	3					0 7873031041 00
4	**6**	50	3					0 7873061041 00
5	3	34	4					0 7873031051 00
6	**3**	35	5					0 7873031061 00
6	**6**	50	5					0 7873061061 00
8	6	52	7					0 7873061081 00
10	6	**54**	9		0 7878061101 00			0 7873061101 00
10	6	**150**	9					
12	6	**55**	10		0 7878061121 00			0 7873061121 00
12	6	**150**	10					
16	**6**	59	14					0 7873061161 00
16	**8**	59	14					0 7873081161 00
20	6	63	18					0 7873061201 00

d1 mm	d2 mm	l1 mm	l2 mm	4 Code 7874 Art.-Nr.	6 Code 7876 Art.-Nr.	6 Code 7877 Art.-Nr.	9 Code 7879 Art.-Nr.
2,5	3	38	2			0 7877031251 00	
3	3	38	2,5	0 7874031031 00	0 7876031031 00	0 7877031031 00	
4	**3**	33	3	0 7874031041 00			
4	**6**	50	3	0 7874061041 00	0 7876061041 00		
5	3	34	4				
6	**3**	35	5	0 7874031061 00	0 7876031061 00		
6	**6**	50	5	0 7874061061 00	0 7876061061 00	0 7877061061 00	
8	6	52	7	0 7874061081 00	0 7876061081 00	0 7877061081 00	
10	6	**54**	9	0 7874061101 00	0 7876961101 00	0 7877061101 00	
10	6	**150**	9		0 7876062101 00		
12	6	**55**	10	0 7874061121 00	0 7876961121 00		
12	6	**150**	10		0 7876062121 00		
16	**6**	59	14	0 7874061161 00	0 7876061161 00		
16	**8**	59	14				
20	6	63	18	0 7874061201 00	0 7876061201 00		

Nähere Informationen zu den einzelnen Zahnungen siehe Seite 213.

Detailed information about the different cuts see on page 213.

Informazioni più dettagliate circa le diverse dentature vedi pagina 213.



D **Hartmetall-Frässtifte,** Rundbogen

E **Tungsten carbide rotary burrs,** arc round nose

I **Frese rotative in metallo duro,** a lancia raggiata

Unterschiedliche Zahnungen / Different cuts / Dentature diverse



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DIN C





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Diamond
Diamante



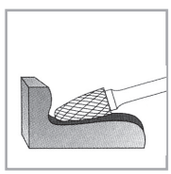
DIN MX



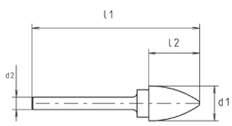
DIN MX

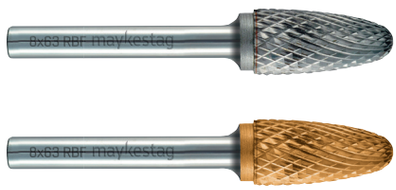


SPECIAL STEEL



DIN	ISO
RBF	F





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3	3	38	12					0 7883031031 00
4	3	40	10					0 7883031041 00
6	**3**	43	13					0 7883031061 00
6	**6**	**50**	18	0 7880061061 00			0 7882061061 00	0 7883061061 00
6	**6**	**150**	13					
8	6	63	18	0 7880061081 00			0 7882061081 00	0 7883061081 00
10	6	**65**	20	0 7880061101 00	0 7888061101 00	0 7881061101 00	0 7882061101 00	0 7883061101 00
10	6	**150**	20					
12	**6**	**70**	25	0 7880061121 00	0 7888061121 00		0 7882061121 00	0 7883061121 00
12	**6**	**150**	25					
12	**8**	70	25					
16	6	75	30		0 7888061161 00			0 7883061161 00
20	6	75	30					

d1 mm	d2 mm	l1 mm	l2 mm	4 Code 7884 Art.-Nr.	6 Code 7886 Art.-Nr.	6 Code 7887 Art.-Nr.	9 Code 7889 Art.-Nr.
3	3	38	12	0 7884031031 00	0 7886031031 00		
4	3	40	10				
6	**3**	43	13	0 7884031061 00	0 7886031061 00		
6	**6**	**50**	18	0 7884061061 00	0 7886961061 00		0 7889061061 00
6	**6**	**150**	13	0 7884062061 00			
8	6	63	18	0 7884061081 00	0 7886061081 00	0 7887061081 00	0 7889061081 00
10	6	**65**	20	0 7884061101 00	0 7886961101 00	0 7887061101 00	0 7889061101 00
10	6	**150**	20	0 7884062101 00			
12	**6**	**70**	25	0 7884061121 00	0 7886961121 00	0 7887061121 00	0 7889061121 00
12	**6**	**150**	25	0 7884062121 00			
12	**8**	70	25		0 7886081121 00		
16	6	75	30	0 7884061161 00	0 7886061161 00		
20	6	75	30		0 7886061201 00		

Nähere Informationen zu den einzelnen Zahnungen siehe Seite 213.
Detailed information about the different cuts see on page 213.
Informazioni più dettagliate circa le diverse dentature vedi pagina 213.

D Hartmetall-Frässtifte, Rundkegel

E Tungsten carbide rotary burrs, conical round nose

I Frese rotative in metallo duro, conica raggiata

Unterschiedliche Zahnungen / Different cuts / Dentature diverse



INOX





DIN MX



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DIN MY



DIN MX



DIN C



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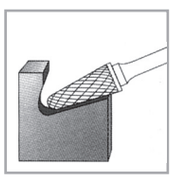
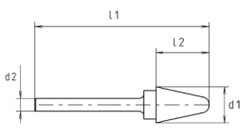
Diamond
Diamante



SPECIAL STEEL



DIN KEL | ISO L





d1 mm	d2 mm	l1 mm	l2 mm	0 Code 7890 Art.-Nr.	1A Code 7898 Art.-Nr.	1 Code 7891 Art.-Nr.	2 Code 7892 Art.-Nr.	3 Code 7893 Art.-Nr.
3	3	38	14					0 7893031031 00
4	**3**	44	14					0 7893031041 00
4	**6**	50	16					
6	**3**	48	18					0 7893031061 00
6	**6**	50	20					0 7893061061 00
8	6	65	20	0 7890061081 00				0 7893061081 00
10	6	65	20	0 7890061101 00	0 7898061101 00			0 7893061101 00
12	6	**70**	25	0 7890061121 00	0 7898061121 00			0 7893061121 00
12	6	**75**	30					
16	6	75	30		0 7898061161 00			0 7893061161 00

d1 mm	d2 mm	l1 mm	l2 mm	4 Code 7894 Art.-Nr.	6 Code 7896 Art.-Nr.	6 Code 7897 Art.-Nr.	9 Code 7899 Art.-Nr.
3	3	38	14	0 7894031031 00	0 7896031031 00		
4	**3**	44	14		0 7896031041 00		
4	**6**	50	16		0 7896061041 00		
6	**3**	48	18	0 7894031061 00			
6	**6**	50	20	0 7894061061 00	0 7896061061 00		
8	6	65	20	0 7894061081 00	0 7896061081 00		
10	6	65	20	0 7894061101 00	0 7896061101 00		0 7899061101 00
12	6	**70**	25	0 7894061121 00	0 7896061121 00		0 7899061121 00
12	6	**75**	30		0 7896063121 00		
16	6	75	30	0 7894061161 00	0 7896061161 00		

Nähere Informationen zu den einzelnen Zahnungen siehe Seite 213.

Detailed information about the different cuts see on page 213.

Informazioni più dettagliate circa le diverse dentature vedi pagina 213.



D Hartmetall-Frässtifte, Flamme

E Tungsten carbide rotary burrs, flame

I Frese rotative in metallo duro, fiamma

Unterschiedliche Zahnungen / Different cuts / Dentature diverse



INOX



Aluminium
Aluminium
Aluminio



DIN C





DIN MY



Diamant
Diamond
Diamante



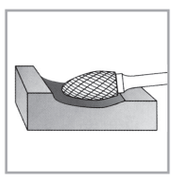
DIN MX



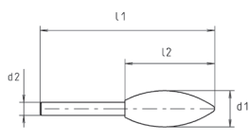
DIN MX



SPECIAL STEEL



DIN	ISO
B	H





d1 mm	d2 mm	l1 mm	l2 mm	0 Code 7900 Art.-Nr.	1A Code 7908 Art.-Nr.	1 Code 7901 Art.-Nr.	2 Code 7902 Art.-Nr.	3 Code 7903 Art.-Nr.
6	6	57	20					
8	6	65	20					0 7903061081 00
10	6	70	25					0 7903061101 00
12	6	75	30					0 7903061121 00
16	6	77	32					

d1 mm	d2 mm	l1 mm	l2 mm	4 Code 7904 Art.-Nr.	6 Code 7906 Art.-Nr.	6 Code 7907 Art.-Nr.	9 Code 7909 Art.-Nr.
6	6	57	20		0 7906061061 00		
8	6	65	20	0 7904061081 00	0 7906061081 00		
10	6	70	25	0 7904061101 00	0 7906061101 00		
12	6	75	30	0 7904061121 00	0 7906061121 00		
16	6	77	32	0 7904061161 00	0 7906061161 00		

Nähere Informationen zu den einzelnen Zahnungen siehe Seite 213.
Detailed information about the different cuts see on page 213.
Informazioni più dettagliate circa le diverse dentature vedi pagina 213.

D Beschreibung der Verzahnungen

E Description of cuts

I Descrizione delle dentature



Zahnung 0 (INOX):
Herausragende Fräsleistung bei Edelstahl sowie ferritischen, austenitischen und martenitischen Materialien.

Cut 0 (INOX):
Outstanding milling performance in stainless steel as well as ferritic, austenitic and martenitic materials.

Taglio 0 (INOX):
Eccellenti rendimento di fresatura con acciaio inossidabile e materiali ferritici, austenitici e martensitici.



Zahnung 1A (Aluminium)
Für Aluminium und Aluminiumlegierungen sowie Kunststoffe.

Cut 1A (aluminium):
Suitable for aluminium and aluminium alloys as well as plastics.

Dentatura 1A (alluminio):
Per sgrossatura alluminio, leghe di alluminio, plastica.



Zahnung 1 (DIN C)
Zum Entgraten nicht gehärteter Stähle, Leichtmetalle, Legierungen und Hartgummi.

Cut 1 (DIN C):
Suitable for deburring non-hardened steels, soft steels, alloys and hard plastics.

Dentatura 1 (DIN C):
Sgrossatura di acciai non temprati, metalli leggeri, leghe, gomma dura.



Zahnung 2
Für Stähle hoher Festigkeit, Inox, Stahlguss, Schweißnähte und Messing.

Cut 2:
Suitable for steels with high tensile strength, inox, cast steels, welding seams and brass

Dentatura 2:
Adatte per acciai ad alta resistenza, acciai inox, acciaio fuso, cordoni di saldatura, ottone.



Zahnung 3 (DIN MY)
Für allgemeine Arbeiten wie Entgraten, Fasen, Kantenbrechen mit sauberer Oberfläche. Für Stähle mit hoher Festigkeit, Schweißnähte.

Cut 3 (DIN MY):
For general purposes such as deburring, chamfering and smoothing edges with clean surface. Suitable for steels with high tensile strength and welding seams.

Dentatura 3 (DIN MY):
Per lavorazioni universali di sgrossatura, smussatura, spianatura degli spigoli, con ottima finitura della superficie. Adatte per acciai ad alta resistenza, cordoni di saldature.



Zahnung 4 (Diamant):
Hohe Oberflächengüte für gehärtete Stähle, Schweißnähte hoher Festigkeit.

Cut 4 (diamond):
Suitable for hardened steels with excellent surface quality and welding seams with high tensile strength.

Dentatura 4 (diamante):
Ottima finitura delle superficie su acciai temprati, e saldature alta resistenza.



Zahnung 6 (DIN MX):
Mit dieser Universalverzahnung werden auch bei härtesten Werkstoffen und Schweißnähten glatte Oberflächen erzielt, ideal für den Werkzeug- und Formenbau.

Cut 6 (DIN MX):
With this universal cutting profile even hardest materials and welding seams can be machined with best finishing quality. Ideal for the tool and mould industry

Dentatura 6 (DIN MX):
Questa dentatura universale permette di ottenere delle superfici ottimali anche su acciai e saldature ad alta resistenza; ideale per acciai da utensili e acciai da stampi.



Zahnung 9 (SPECIAL STEEL):
Speziell entwickelte Geometrie für Stahl- und Gusseisenanwendungen. Hervorragende Zerspanungsleistung und hoher Materialabtrag.

Cut 9 (SPECIAL STEEL):
Special designed geometry for steel and cast iron applications. Excellent cutting performance and high chip removal.

Taglio 9 (ACCIAIO SPECIALE):
Speciale geometria adatta in particolare per le applicazioni con acciaio e ghisa. Eccellenti prestazioni di taglio ed elevata asportazione del truciolo





HSS-Bohrer

E HSS drills

I HSS punte elicoidali



D Übersicht
Zentrierbohrer,
NC-Anbohrer

E Overview
Centre drills,
NC-centre drills

I Sommario
Punte da centro,
Punte NC

D Die Schnittwerte für alle Werkzeuge entnehmen Sie bitte unserem separaten Zerspanungshandbuch.

E You will find the cutting conditions for all tools in our separate cutting manual.

I Per i parametri di lavorazione per tutti gli utensili richiedete il nostro manuale tecnico.



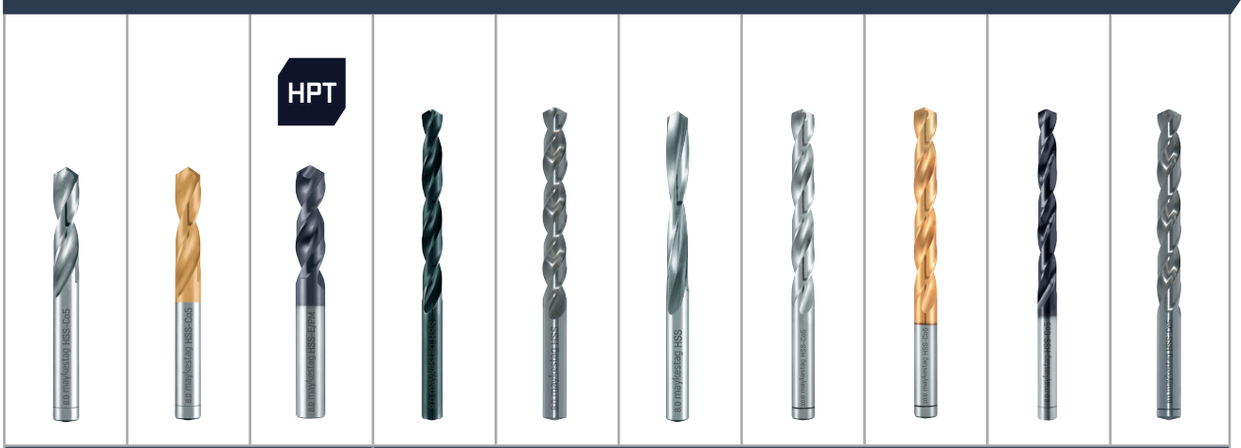
Norm / Standard	DIN 333		WN			
Typ / Type / Tipo	RN, Form A	RN, Form R	RN	RN	RN	RN
Bohrtiefe / Depth of drilling / Profondità foro						
Schneidstoff / Cutting material / Acciaio punta	HSS	HSS	HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5
Beschichtung / Coating / Rivestimento				ALUNIT®		ALUNIT®
Spitzenwinkel / Lip angle / Angolo affilatura	118° / 60°	120°	90°	90°	120°	120°
Sonderanschliff / Special point shape / Affilatura speciale						
Ø mm	1-10	1-6,3	5-20	5-20	5-20	5-20
Code / Codice	021	031	554	564	555	565
Seite / Page / Pagina	222	222	223	223	224	224
Geeignet für / Suitable for / Adatte per						
Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²	▬	▬	▱	▱	▱	▱
Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²	▬	▬	▬	▬	▬	▬
Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²	▱	▱	▬	▬	▬	▬
Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²			▬	▬	▬	▬
Stähle > 45 HRC / Steels > 45 HRC / Acciai > 45 HRC						
INOX Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²			▱	▱	▱	▱
INOX Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²			▱	▱	▱	▱
GRAUGUSS CAST IRON GHISA GRIGIA Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile	▬	▬	▱	▱	▱	▱
Ti Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio						
Cu, Ms Kupfer, Messing / Copper, brass / Rame, ottone	▱	▱	▱	▱	▱	▱
Al Aluminium / Aluminium / Alluminio	▱	▱	▱	▱	▱	▱
Kunststoffe / Plastics / Materie plastiche	▱	▱	▱	▱	▱	▱

▬ Ideal / Ideal / Ideale | ▱ Geeignet / Suitable / Adatte

D **Übersicht**
HSS-Spiralbohrer

E **Overview**
HSS twist drills

I **Sommario**
Punte elicoidali HSS



	DIN 1897			DIN 338						
PZ	PZ	Forte	RN	RW	RH	RN	RN	RN	R-AS
3xD	**3xD**	**3xD**	**5xD**	**5xD**	**5xD**	**5xD**	**5xD**	**5xD**	**5xD**
HSS-Co5	HSS-Co5	HSS-E/PM	HSS	HSS	HSS	HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5
	TiN	ALUNIT®					TiN	ALUNIT®	
130°	130°	130°	118°	130°	118°	130°	130°	130°	130°
C	C	B	AC			C	C	C	C
1-13	1-13	2,8-12	0,2-20	1-13	1-13	1-20	1-16	1-13	2-13
901	907	900	601	651	661	603	607	630	663
224	224	227	228	230	232	233	233	236	237
▬	▬	▬	▬	▬		▬	▬	▬	
▬	▬	▬	▬	▱		▬	▬	▬	▱
▬	▬	▬	▱			▬	▬	▬	▱
▬	▬	▬				▱	▱	▬	
▬	▬	▱				▬	▬	▱	▱
▱	▱	▱				▱	▱	▱	▬
▱	▱	▱	▬			▱	▱	▱	
▱	▱							▬	▬
▱	▱		▱		▬	▱	▱	▱	
▱	▱		▱	▬		▱	▱	▱	
▱	▱		▱	▬	▱	▱	▱	▱	

▬ **Ideal** / Ideal / Ideale | ▱ **Geeignet** / Suitable / Adatte

D Übersicht
HSS-Spiralbohrer

E Overview
HSS twist drills

I Sommario
Punte elicoidali HSS

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Norm / Standard	DIN 338		WN	DIN 340	
Typ / Type / Tipo	Forte	Forte	H	RN	RN
Bohrtiefe / Depth of drilling / Profondità foro	8xD	8xD	3xD	10xD	10xD
Schneidstoff / Cutting material / Acciaio punta	HSS-Co5	HSS-Co5	HSS-Co5	HSS	HSS-Co5
Beschichtung / Coating / Rivestimento		ALLINIT®			
Spitzenwinkel / Lip angle / Angolo affilatura	130°	130°	135°	118°	118°
Sonderanschliff / Special point shape / Affilatura speciale	AC	AC	C	AC	AC
Ø mm	1-13	1-13	2-13	0,5-16	1-12
Code / Codice	611	627	638	501	503
Seite / Page / Pagina	238	238	240	241	242
Geeignet für / Suitable for / Adatte per					
< 400 N/mm² — Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²	▰	▰		▰	▰
< 850 N/mm² — Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²	▬	▬	▰	▬	▬
< 1.100 N/mm² — Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²	▬	▬	▬	▰	▬
< 1.300 N/mm² — Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²	▬	▬	▬		▬
> 45 HRC — Stähle > 45 HRC / Steels > 45 HRC / Acciai > 45 HRC			▰		
INOX < 850 N/mm² — Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²	▰	▰	▬		▰
INOX > 850 N/mm² — Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²	▰	▰	▬		▰
GRAUGUSS CAST IRON GHISA GRIGIA — Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile	▰	▰		▬	▰
Ti — Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio			▰		
Cu, Ms — Kupfer, Messing / Copper, brass / Rame, ottone	▰	▰		▰	▰
Al — Aluminium / Aluminium / Alluminio	▰	▰		▰	▰
Kunststoffe / Plastics / Materie plastiche	▰	▰		▰	▰

▬ Ideal / Ideal / Ideale | ▰ Geeignet / Suitable / Adatte

D **Übersicht**
HSS-Spiralbohrer

E **Overview**
HSS twist drills

I **Sommario**
Punte elicoidali HSS











DIN 340	DIN 1869						WN	DIN 345
Forte	R1, RN	R2, RN	R3, RN	R1, Forte	R2, Forte	R3, Forte	Forte	RN
10xD	**>10xD**	**>10xD**	**>10xD**	**>10xD**	**>10xD**	**>10xD**	**10xD**	**5xD**
HSS-Co5	HSS	HSS	HSS	HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5	HSS
							ALUNIT-S ®	
130°	118°	118°	118°	130°	130°	130°	118°	118°
AC	AC	AC	AC	AC	AC	AC	C	A / AC
1-14	2-13	3-13	3,5-13	3-13	3-13	3,5-13	3-10	5-70
511	101	111	121	201	211	221	141, 151	202
243	244	245	246	247	248	248	249, 250	251
▬	▬	▬	▬	▭	▭	▭	▭	▬
▬	▬	▬	▬	▬	▬	▬	▬	▬
▬	▭	▭	▭	▬	▬	▬	▬	▭
▭							▬	
▭				▭	▭	▭	▭	
▭				▭	▭	▭	▭	
▭	▬	▬	▬	▭	▭	▭		▬
▭	▭	▭	▭	▭	▭	▭	▭	▭
▭	▭	▭	▭	▭	▭	▭		▭
▭	▭	▭	▭	▭	▭	▭		▭

▬ **Ideal** / Ideal / Ideale | ▭ **Geeignet** / Suitable / Adatte



D Übersicht
HSS-Spiralbohrer

E Overview
HSS twist drills

I Sommario
Punte elicoidali HSS

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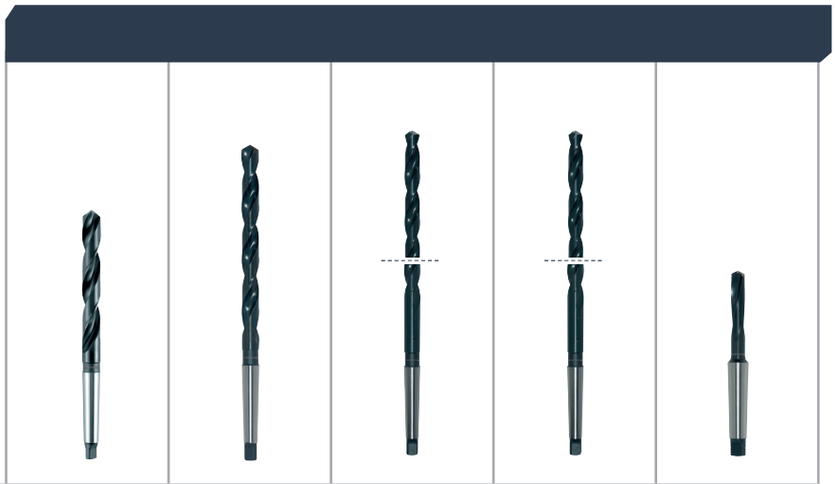


Norm / Standard	DIN 345	DIN 341	DIN 1870		WN
Typ / Type / Tipo	RN	RN	R1, RN	R2, RN	H
Bohrtiefe / Depth of drilling / Profondità foro	5xD	10xD	>10xD	>10xD	3xD
Schneidstoff / Cutting material / Acciaio punta	HSS-Co5	HSS	HSS	HSS	HSS-Co8
Beschichtung / Coating / Rivestimento					
Spitzenwinkel / Lip angle / Angolo affilatura	135°	118°	118°	118°	130°
Sonderanschliff / Special point shape / Affilatura speciale	C	A / AC	A / AC	A / AC	C
Ø mm	8-40	10-50	8-30	9-30	8-40
Code / Codice	203	222	262	282	832
Seite / Page / Pagina	253	254	255	256	257
Geeignet für / Suitable for / Adatte per					
Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²	▬	▬	▬	▬	
Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²	▬	▬	▬	▬	
Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²	▬	▭	▭	▭	▭
Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²	▬				▬
Stähle > 45 HRC / Steels > 45 HRC / Acciai > 45 HRC					▭
Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²	▭				▭
Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²	▭				
Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile	▭	▬	▬	▬	
Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio					▬
Kupfer, Messing / Copper, brass / Rame, ottone	▭	▭	▭	▭	
Aluminium / Aluminium / Alluminio	▭	▭	▭	▭	
Kunststoffe / Plastics / Materie plastiche	▭	▭	▭	▭	

▬ Ideal / Ideal / Ideale | ▭ Geeignet / Suitable / Adatte

D **Übersicht**
Mehrfasen-Stufenbohrer

E **Overview**
Subland drills

I **Sommario**
Punte a gradino per sedi viti

				
DIN 8374		DIN 8376	DIN 8378	DIN 8377
RN-M	RN-F	RN-M	RN-M	RN-M
HSS	HSS	HSS	HSS	HSS
118° / 90°	118° / 90°	118° / 180°	118° / 90°	118° / 180°
A	A	A	A	A
M5-M8	M3-M10	M3-M10	M3-M12	M10-M16
841	841	851	861	852
258	258	259	259	260
▬	▬	▬	▬	▬
▬	▬	▬	▬	▬
▰	▰	▰	▰	▰
▬	▬	▬	▬	▬
▰	▰	▰	▰	▰
▰	▰	▰	▰	▰
▰	▰	▰	▰	▰

▬ **Ideal** / Ideal / Ideale | ▰ **Geeignet** / Suitable / Adatte



D Zentrierbohrer
DIN 333 Form A

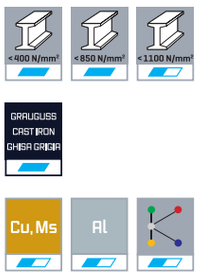
Einsatzbereich:
Zentrierbohrer zum Herstellen von Zentrierbohrungen nach DIN 332 Blatt 1, Form A (ohne Schutzsenkung).

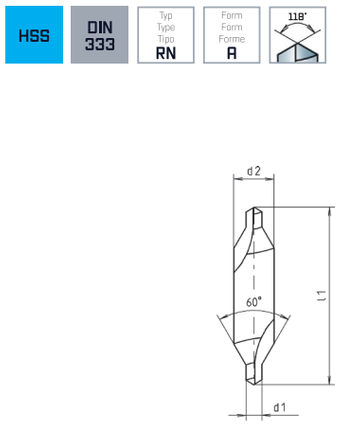
E Centre drills
DIN 333 Form A

Range of application:
Centre-drills for the production of centre-holes according to DIN 332 sheet 1, form A (without protective chamfer).

I Punte a centrare
DIN 333 A

Impiego:
Esecuzione fori di centraggio secondo DIN 332 foglio 1 forma A (senza smusso di protezione).







d1 k12 mm	d2 h7 mm	l1 mm	für / for/ per (1) Ø mm	Code 021 Art.-Nr.	
1,00	3,15	31,50	6-8	00 021001001 00	10
1,25	3,15	31,50	8-10	00 021001251 00	10
1,60	4,00	35,50	10-15	00 021001601 00	10
2,00	5,00	40,00	15-20	00 021002001 00	10
2,50	6,30	45,00	20-30	00 021002501 00	10
3,15	8,00	50,00	30-40	00 021003151 00	10
4,00	10,00	56,00	40-63	00 021004001 00	10
5,00	12,50	63,00	63-100	00 021005001 00	10
6,30	16,00	71,00	100-150	00 021006301 00	1
8,00	20,00	80,00	150-250	00 021008001 00	1
10,00	25,00	100,00	>250	00 021010001 00	1

(1) Werkstück / Workpiece / Utensile

D Zentrierbohrer
DIN 333 Form R

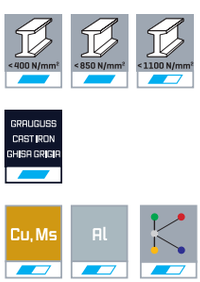
Einsatzbereich:
Zentrierbohrer zum Herstellen von Zentrierbohrungen nach DIN 332 Blatt 1, Form R (mit Radius). Durch Radiuskurve kein scharfer Übergang, deshalb verringerte Bruchgefahr. Auch bei versetzter Körnerspitze ist eine gute Anlage gegeben.

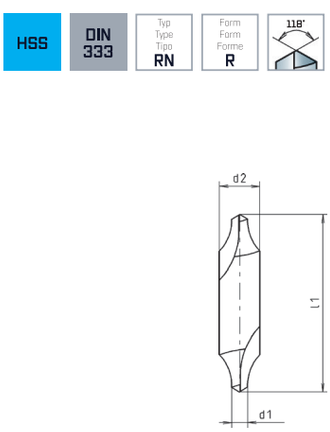
E Centre drills
DIN 333 Form R

Range of application:
Centre-drills for the production of centre-holes according to DIN 332 sheet 1, form R (with radius form). No sharp transition because of the radius curve, therefore reduced danger of breakage. There is also a good in-feed for a displaced machine-tool center.

I Punte a centrare
DIN 333 R

Impiego:
Esecuzione fori di centraggio secondo DIN 332 foglio 1, forma R (con raggio). Grazie alla curva radiale si evitano raccordi affilati con conseguente riduzione del rischio di rottura. Anche in caso di punta sfalsata, viene comunque garantito un buon sistema.







d1 k12 mm	d2 h7 mm	l1 mm	für / for/ per [1] Ø mm	Code 031 Art.-Nr.	
1,00	3,15	31,50	6-8	00 031001001 00	10
1,25	3,15	31,50	8-10	00 031001251 00	10
1,60	4,00	35,50	10-15	00 031001601 00	10
2,00	5,00	40,00	15-20	00 031002001 00	10
2,50	6,30	45,00	20-30	00 031002501 00	10
3,15	8,00	50,00	30-40	00 031003151 00	10
4,00	10,00	56,00	40-63	00 031004001 00	10
5,00	12,50	63,00	63-100	00 031005001 00	10
6,30	16,00	71,00	100-150	00 031006301 00	1

[1] Werkstück / Workpiece / Utensile

D NC-Anbohrer, 90°

Einsatzbereich:
5% kobaltlegierter NC-Anbohrer für genaues und schnelles Anbohren, Zentrieren und Anfasen, auch für Gewindebohrungen.

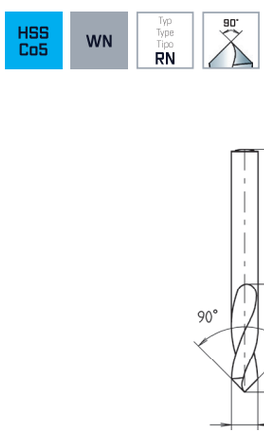
E NC-centre drills, 90°

Range of application:
5% cobalt-alloyed NC-drills for precise and fast drilling-work, for centering and chamfering of center-holes.

I Punte a centrare NC, 90°

Impiego:
Punte NC 5% Co, esecuzione di prefori nelle lavorazioni di alta precisione e di fori per maschiatura.









ALUNIT®

Ø h8 mm	l1 mm	l2 mm	Code 554 Art.-Nr.		Code 564 Art.-Nr.	
5,00	62	26,50	00 554005001 00	10	00 564005001 00	1
6,00	66	30,00	00 554006001 00	10	00 564006001 00	1
8,00	79	33,00	00 554008001 00	10	00 564008001 00	1
10,00	89	35,00	00 554010001 00	10	00 564010001 00	1
12,00	102	40,00	00 554012001 00	1	00 564012001 00	1
16,00	115	40,00	00 554016001 00	1	00 564016001 00	1
20,00	131	55,00	00 554020001 00	1	00 564020001 00	1



D NC-Anbohrer, 120°

Einsatzbereich:
5% kobaltlegierter NC-Anbohrer für genaues und schnelles Anbohren, Zentrieren und Anfasen, auch für Gewindebohrungen.

E NC-centre drills, 120°

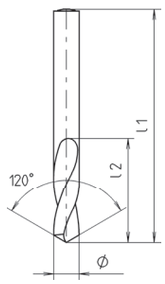
Range of application:
5% cobalt-alloyed NC-drills for precise and fast drilling-work, for centering and chamfering of center-holes.

I Punte a centrare NC, 120°

Impiego:
Punte NC 5% Co, esecuzione di prefori nelle lavorazioni di alta precisione e di fori per maschiatura.











ALUNIT®

Ø h8 mm	l1 mm	l2 mm	Code 555 Art.-Nr.		Code 565 Art.-Nr.	
5,00	62	26,50	00 555005001 00	10	00 565005001 00	1
6,00	66	30,00	00 555006001 00	10	00 565006001 00	1
8,00	79	33,00	00 555008001 00	10	00 565008001 00	1
10,00	89	35,00	00 555010001 00	10	00 565010001 00	1
12,00	102	40,00	00 555012001 00	1	00 565012001 00	1
16,00	115	40,00	00 555016001 00	1	00 565016001 00	1
20,00	131	55,00	00 555020001 00	1	00 565020001 00	1

D Spiralbohrer
extra kurz, DIN 1897 PZ

Einsatzbereich:
5% kobaltlegierter Spiralbohrer mit verstärktem Kerndurchmesser. Besonders geeignet für zähe und harte Werkstoffe wie rost- und säurebeständige Chrom-Nickelstähle. Durch die kurze Bauweise sehr gut für Handbohrmaschinen geeignet.

E Stub drills
extra short series, DIN 1897 PZ

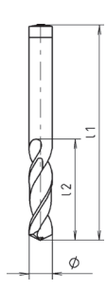
Range of application:
5% cobalt-alloyed high-efficiency drills with re-inforced web. Specially suitable for drilling stainless steel, acid-resisting steel, spring-steel. Best for hand held operations.

I Punte elicoidali
serie extra corta, DIN 1897 PZ

Impiego:
Punte HSS 5% Co con nucleo rinforzato, adatte per foratura di materiali plastici, acciai inox, acciai resistenti agli acidi, acciai al Nickel Cromo. Punte particolarmente stabili adatte per torni a revolver ed automatici.











TiN

Ø $_{h8}$ mm	l1 mm	l2 mm	Code 901 Art.-Nr.		Code 907 Art.-Nr.	
1,00	26	6	00 901001001 00	10	00 907001001 00	1
1,10	28	7	00 901001101 00	10	00 907001101 00	1
1,20	30	8	00 901001201 00	10	00 907001201 00	1
1,30	30	8	00 901001301 00	10	00 907001301 00	1
1,40	32	9	00 901001401 00	10	00 907001401 00	1
1,50	32	9	00 901001501 00	10	00 907001501 00	1
1,60	34	10	00 901001601 00	10	00 907001601 00	1
1,70	34	10	00 901001701 00	10	00 907001701 00	1
1,80	36	11	00 901001801 00	10	00 907001801 00	1
1,90	36	11	00 901001901 00	10	00 907001901 00	1
2,00	38	12	00 901002001 00	10	00 907002001 00	1
2,10	38	12	00 901002101 00	10	00 907002101 00	1
2,20	40	13	00 901002201 00	10	00 907002201 00	1
2,30	40	13	00 901002301 00	10	00 907002301 00	1
2,40	43	14	00 901002401 00	10	00 907002401 00	1
2,50	43	14	00 901002501 00	10	00 907002501 00	1
2,60	43	14	00 901002601 00	10	00 907002601 00	1
2,70	46	16	00 901002701 00	10	00 907002701 00	1
2,80	46	16	00 901002801 00	10	00 907002801 00	1
2,90	46	16	00 901002901 00	10	00 907002901 00	1
3,00	46	16	00 901003001 00	10	00 907003001 00	1
3,10	49	18	00 901003101 00	10	00 907003101 00	1
3,20	49	18	00 901003201 00	10	00 907003201 00	1
3,30	49	18	00 901003301 00	10	00 907003301 00	1
3,40	52	20	00 901003401 00	10	00 907003401 00	1
3,50	52	20	00 901003501 00	10	00 907003501 00	1
3,60	52	20	00 901003601 00	10	00 907003601 00	1
3,70	52	20	00 901003701 00	10	00 907003701 00	1
3,80	55	22	00 901003801 00	10	00 907003801 00	1
3,90	55	22	00 901003901 00	10	00 907003901 00	1
4,00	55	22	00 901004001 00	10	00 907004001 00	1
4,10	55	22	00 901004101 00	10	00 907004101 00	1
4,20	55	22	00 901004201 00	10	00 907004201 00	1
4,30	58	24	00 901004301 00	10	00 907004301 00	1
4,40	58	24	00 901004401 00	10	00 907004401 00	1
4,50	58	24	00 901004501 00	10	00 907004501 00	1
4,60	58	24	00 901004601 00	10	00 907004601 00	1
4,70	58	24	00 901004701 00	10	00 907004701 00	1
4,80	62	26	00 901004801 00	10	00 907004801 00	1
4,90	62	26	00 901004901 00	10	00 907004901 00	1
5,00	62	26	00 901005001 00	10	00 907005001 00	1
5,10	62	26	00 901005101 00	10	00 907005101 00	1
5,20	62	26	00 901005201 00	10	00 907005201 00	1
5,30	62	26	00 901005301 00	10	00 907005301 00	1
5,40	66	28	00 901005401 00	10	00 907005401 00	1
5,50	66	28	00 901005501 00	10	00 907005501 00	1
5,60	66	28	00 901005601 00	10	00 907005601 00	1
5,70	66	28	00 901005701 00	10	00 907005701 00	1
5,80	66	28	00 901005801 00	10	00 907005801 00	1
5,90	66	28	00 901005901 00	10	00 907005901 00	1
6,00	66	28	00 901006001 00	10	00 907006001 00	1
6,10	70	31	00 901006101 00	10	00 907006101 00	1
6,20	70	31	00 901006201 00	10	00 907006201 00	1
6,30	70	31	00 901006301 00	10	00 907006301 00	1
6,40	70	31	00 901006401 00	10	00 907006401 00	1
6,50	70	31	00 901006501 00	10	00 907006501 00	1
6,60	70	31	00 901006601 00	10	00 907006601 00	1
6,70	70	31	00 901006701 00	10	00 907006701 00	1
6,80	74	34	00 901006801 00	10	00 907006801 00	1
6,90	74	34	00 901006901 00	10	00 907006901 00	1

[1] ≥ Ø 2,0 mm

Fortsetzung / Continuation / Continuazione ▶



TiN

Ø h8 mm	l1 mm	l2 mm	Code 901 Art.-Nr.		Code 907 Art.-Nr.	
7,00	74	34	00 901007001 00	10	00 907007001 00	1
7,10	74	34	00 901007101 00	10	00 907007101 00	1
7,20	74	34	00 901007201 00	10	00 907007201 00	1
7,30	74	34	00 901007301 00	10	00 907007301 00	1
7,40	74	34	00 901007401 00	10	00 907007401 00	1
7,50	74	34	00 901007501 00	10	00 907007501 00	1
7,60	79	37	00 901007601 00	10	00 907007601 00	1
7,70	79	37	00 901007701 00	10	00 907007701 00	1
7,80	79	37	00 901007801 00	10	00 907007801 00	1
7,90	79	37	00 901007901 00	10	00 907007901 00	1
8,00	79	37	00 901008001 00	10	00 907008001 00	1
8,10	79	37	00 901008101 00	10	00 907008101 00	1
8,20	79	37	00 901008201 00	10	00 907008201 00	1
8,30	79	37	00 901008301 00	10	00 907008301 00	1
8,40	79	37	00 901008401 00	10	00 907008401 00	1
8,50	79	37	00 901008501 00	10	00 907008501 00	1
8,60	84	40	00 901008601 00	10	00 907008601 00	1
8,70	84	40	00 901008701 00	10	00 907008701 00	1
8,80	84	40	00 901008801 00	10	00 907008801 00	1
8,90	84	40	00 901008901 00	10	00 907008901 00	1
9,00	84	40	00 901009001 00	10	00 907009001 00	1
9,10	84	40	00 901009101 00	10	00 907009101 00	1
9,20	84	40	00 901009201 00	10	00 907009201 00	1
9,30	84	40	00 901009301 00	10	00 907009301 00	1
9,40	84	40	00 901009401 00	10	00 907009401 00	1
9,50	84	40	00 901009501 00	10	00 907009501 00	1
9,60	89	43	00 901009601 00	10	00 907009601 00	1
9,70	89	43	00 901009701 00	10	00 907009701 00	1
9,80	89	43	00 901009801 00	10	00 907009801 00	1
9,90	89	43	00 901009901 00	10	00 907009901 00	1
10,00	89	43	00 901010001 00	10	00 907010001 00	1
10,20	89	43	00 901010201 00	1	00 907010201 00	1
10,50	89	43	00 901010501 00	1	00 907010501 00	1
11,00	95	47	00 901011001 00	1	00 907011001 00	1
11,50	95	47	00 901011501 00	1	00 907011501 00	1
12,00	102	51	00 901012001 00	1	00 907012001 00	1
12,50	102	51	00 901012501 00	1	00 907012501 00	1
13,00	102	51	00 901013001 00	1	00 907013001 00	1

D HPT- Spiralbohrer
extra kurz, DIN 1897

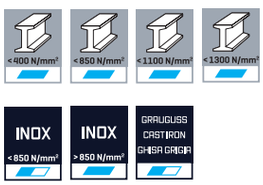
Hochleistungs-Spiralbohrer mit Forte-Sonderprofil für optimierte Spanbildung. Besonders geeignet für den Einsatz auf Bearbeitungszentren und Drehautomaten. Breiter Anwendungsbereich in allen, vorzugsweise langspanenden, Werkstoffen bis ca. 1.300 N/mm², auch für rostfreie-austenitische Stähle. Geeignet für die Trockenbearbeitung in Stahlwerkstoffen.

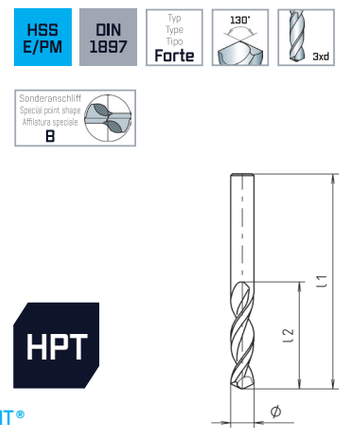
E HPT- stub drills
extra short series, DIN 1897

Range of application:
High-performance-twist drills with FORTE-special profile for optimized chipping. Especially suitable for machining-centres and automatic lathes. Wide range of application for all materials up to approx. 1.300 N/mm², predominately long chipping materials as well as for stainless-austenitic steels. Suitable for dry cutting steels.

I HPT- punte elicoidali
serie extra corta, DIN 1897

Impiego:
Punte ad alto rendimento con profilo FORTE per ottimale asportazione del truciolo. Adatte per centri di lavorazione e torni automatici. Vasto campo d'impiego per tutti i metalli a truciolo lungo fino a ca. 1.300 N/mm² e acciai inox e austenitici. Adatte per lavorazioni a secco di materiali ferrosi.







ALUNIT®

ALUNIT®

Ø h8 mm	l1 mm	l2 mm	Code 900 Art.-Nr.	
2,80	49*	18*	00 900002801 00	1
2,90	49*	18*	00 900002901 00	1
3,00	49*	18*	00 900003001 00	1
3,10	52*	20*	00 900003101 00	1
3,20	52*	20*	00 900003201 00	1
3,30	52*	20*	00 900003301 00	1
3,40	55*	22*	00 900003401 00	1
3,50	55*	22*	00 900003501 00	1
3,60	55*	22*	00 900003601 00	1
3,70	55*	22*	00 900003701 00	1
3,80	55	22	00 900003801 00	1
3,90	55	22	00 900003901 00	1
4,00	55	22	00 900004001 00	1
4,10	55	22	00 900004101 00	1
4,20	55	22	00 900004201 00	1
4,30	58	24	00 900004301 00	1
4,40	58	24	00 900004401 00	1
4,50	58	24	00 900004501 00	1
4,60	58	24	00 900004601 00	1
4,65	58	24	00 900004651 00	1
4,70	58	24	00 900004701 00	1
4,80	62	26	00 900004801 00	1
4,90	62	26	00 900004901 00	1
5,00	62	26	00 900005001 00	1
5,10	62	26	00 900005101 00	1
5,20	62	26	00 900005201 00	1
5,30	62	26	00 900005301 00	1
5,40	66	28	00 900005401 00	1
5,50	66	28	00 900005501 00	1
5,55	66	28	00 900005551 00	1
5,60	66	28	00 900005601 00	1
5,70	66	28	00 900005701 00	1
5,80	66	28	00 900005801 00	1
5,90	66	28	00 900005901 00	1
6,00	66	28	00 900006001 00	1
6,10	70	31	00 900006101 00	1

Ø h8 mm	l1 mm	l2 mm	Code 900 Art.-Nr.	
6,20	70	31	00 900006201 00	1
6,30	70	31	00 900006301 00	1
6,40	70	31	00 900006401 00	1
6,50	70	31	00 900006501 00	1
6,60	70	31	00 900006601 00	1
6,70	70	31	00 900006701 00	1
6,80	74	34	00 900006801 00	1
6,90	74	34	00 900006901 00	1
7,00	74	34	00 900007001 00	1
7,10	74	34	00 900007101 00	1
7,20	74	34	00 900007201 00	1
7,30	74	34	00 900007301 00	1
7,40	74	34	00 900007401 00	1
7,50	74	34	00 900007501 00	1
7,60	79	37	00 900007601 00	1
7,70	79	37	00 900007701 00	1
7,80	79	37	00 900007801 00	1
7,90	79	37	00 900007901 00	1
8,00	79	37	00 900008001 00	1
8,10	79	37	00 900008101 00	1
8,20	79	37	00 900008201 00	1
8,30	79	37	00 900008301 00	1
8,40	79	37	00 900008401 00	1
8,50	79	37	00 900008501 00	1
8,60	84	40	00 900008601 00	1
8,70	84	40	00 900008701 00	1
8,80	84	40	00 900008801 00	1
8,90	84	40	00 900008901 00	1
9,00	84	40	00 900009001 00	1
9,10	84	40	00 900009101 00	1
9,20	84	40	00 900009201 00	1
9,30	84	40	00 900009301 00	1
9,40	84	40	00 900009401 00	1
9,50	84	40	00 900009501 00	1
9,60	89	43	00 900009601 00	1
9,70	89	43	00 900009701 00	1

* Entspricht nicht der DIN / Not corresponding to DIN / Non secondo DIN

Fortsetzung / Continuation / Continuazione ▶



ALUNIT®

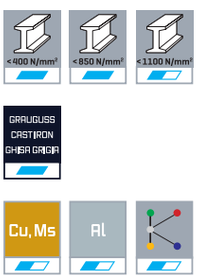
Ø h8 mm	l1 mm	l2 mm	Code 900 Art.-Nr.	
9,80	89	43	00 900009801 00	1
9,90	89	43	00 900009901 00	1
10,00	89	43	00 900010001 00	1
10,20	89	43	00 900010201 00	1

ALUNIT®

Ø h8 mm	l1 mm	l2 mm	Code 900 Art.-Nr.	
10,50	89	43	00 900010501 00	1
11,00	95	47	00 900011001 00	1
11,50	95	47	00 900011501 00	1
12,00	102	51	00 900012001 00	1

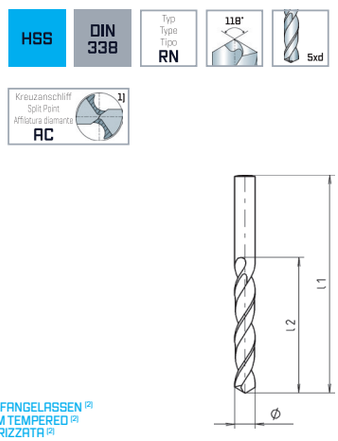
D Spiralbohrer
kurz, DIN 338 RN

Einsatzbereich:
Spiralbohrer präzisionsgeschliffen, zum Bohren von legierten und unlegierten Stählen, Grauguss, Temperguss, Kupferlegierungen, Neusilber, Graphit, Sintereisen.



E Jobber drills
short series, DIN 338 RN

Range of application:
Premium quality twist drills for drilling steel and steel castings, alloy and plain carbon, grey iron castings, copper-alloys, nickel-silver, graphite and similar materials.



DAMPFANGELASSEN [2]
STEAM TEMPERED [2]
VAPORIZZATA [2]

I Punte elicoidali
serie corta, DIN 338 RN

Impiego:
Foratura di acciai legati, non legati, ghisa, ghisa grigia, ghisa malleabile, leghe rame, alpaca, grafite, acciai sinterizzati.



DAMPFANGELASSEN [2]
STEAM TEMPERED [2]
VAPORIZZATA [2]

Ø h8 mm	l1 mm	l2 mm	Code 601 Art.-Nr.	
0,20	19	2,5	00 601000201 00	10
0,30	19	3	00 601000301 00	10
0,35	19	4	00 601000351 00	10
0,40	20	5	00 601000401 00	10
0,50	22	6	00 601000501 00	10
0,55	24	7	00 601000551 00	10
0,60	24	7	00 601000601 00	10
0,65	26	8	00 601000651 00	10
0,70	28	9	00 601000701 00	10
0,75	28	9	00 601000751 00	10
0,80	30	10	00 601000801 00	10
0,85	30	10	00 601000851 00	10
0,90	32	11	00 601000901 00	10
0,95	32	11	00 601000951 00	10
1,00	34	12	00 601001001 00	10
1,05	34	12	00 601001051 00	10
1,10	36	14	00 601001101 00	10
1,15	36	14	00 601001151 00	10
1,20	38	16	00 601001201 00	10
1,25	38	16	00 601001251 00	10
1,30	38	16	00 601001301 00	10
1,35	40	18	00 601001351 00	10
1,40	40	18	00 601001401 00	10
1,45	40	18	00 601001451 00	10

Ø h8 mm	l1 mm	l2 mm	Code 601 Art.-Nr.	
1,50	40	18	00 601001501 00	10
1,55	43	20	00 601001551 00	10
1,60	43	20	00 601001601 00	10
1,65	43	20	00 601001651 00	10
1,70	43	20	00 601001701 00	10
1,75	46	22	00 601001751 00	10
1,80	46	22	00 601001801 00	10
1,85	46	22	00 601001851 00	10
1,90	46	22	00 601001901 00	10
1,95	49	24	00 601001951 00	10
2,00	49	24	00 601002001 00	10
2,05	49	24	00 601002051 00	10
2,10	49	24	00 601002101 00	10
2,15	53	27	00 601002151 00	10
2,20	53	27	00 601002201 00	10
2,25	53	27	00 601002251 00	10
2,30	53	27	00 601002301 00	10
2,35	53	27	00 601002351 00	10
2,40	57	30	00 601002401 00	10
2,45	57	30	00 601002451 00	10
2,50	57	30	00 601002501 00	10
2,55	57	30	00 601002551 00	10
2,60	57	30	00 601002601 00	10
2,65	57	30	00 601002651 00	10

[1] ≥ Ø 4,0 mm / [2] ≥ Ø 1,0 mm

DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm	Code 601 Art.-Nr.	
2,70	61	33	00 601002701 00	10
2,75	61	33	00 601002751 00	10
2,80	61	33	00 601002801 00	10
2,85	61	33	00 601002851 00	10
2,90	61	33	00 601002901 00	10
2,95	61	33	00 601002951 00	10
3,00	61	33	00 601003001 00	10
3,10	65	36	00 601003101 00	10
3,20	65	36	00 601003201 00	10
3,25	65	36	00 601003251 00	10
3,30	65	36	00 601003301 00	10
3,40	70	39	00 601003401 00	10
3,50	70	39	00 601003501 00	10
3,60	70	39	00 601003601 00	10
3,70	70	39	00 601003701 00	10
3,75	70	39	00 601003751 00	10
3,80	75	43	00 601003801 00	10
3,90	75	43	00 601003901 00	10
4,00	75	43	00 601004001 00	10
4,10	75	43	00 601004101 00	10
4,20	75	43	00 601004201 00	10
4,25	75	43	00 601004251 00	10
4,30	80	47	00 601004301 00	10
4,40	80	47	00 601004401 00	10
4,50	80	47	00 601004501 00	10
4,60	80	47	00 601004601 00	10
4,70	80	47	00 601004701 00	10
4,75	80	47	00 601004751 00	10
4,80	86	52	00 601004801 00	10
4,90	86	52	00 601004901 00	10
5,00	86	52	00 601005001 00	10
5,10	86	52	00 601005101 00	10
5,20	86	52	00 601005201 00	10
5,25	86	52	00 601005251 00	10
5,30	86	52	00 601005301 00	10
5,40	93	57	00 601005401 00	10
5,50	93	57	00 601005501 00	10
5,60	93	57	00 601005601 00	10
5,70	93	57	00 601005701 00	10
5,75	93	57	00 601005751 00	10
5,80	93	57	00 601005801 00	10
5,90	93	57	00 601005901 00	10
6,00	93	57	00 601006001 00	10
6,10	101	63	00 601006101 00	10
6,20	101	63	00 601006201 00	10
6,25	101	63	00 601006251 00	10
6,30	101	63	00 601006301 00	10
6,40	101	63	00 601006401 00	10
6,50	101	63	00 601006501 00	10
6,60	101	63	00 601006601 00	10
6,70	101	63	00 601006701 00	10
6,75	109	69	00 601006751 00	10
6,80	109	69	00 601006801 00	10
6,90	109	69	00 601006901 00	10
7,00	109	69	00 601007001 00	10
7,10	109	69	00 601007101 00	10
7,20	109	69	00 601007201 00	10
7,25	109	69	00 601007251 00	10
7,30	109	69	00 601007301 00	10
7,40	109	69	00 601007401 00	10

DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm	Code 601 Art.-Nr.	
7,50	109	69	00 601007501 00	10
7,60	117	75	00 601007601 00	10
7,70	117	75	00 601007701 00	10
7,75	117	75	00 601007751 00	10
7,80	117	75	00 601007801 00	10
7,90	117	75	00 601007901 00	10
8,00	117	75	00 601008001 00	10
8,10	117	75	00 601008101 00	10
8,20	117	75	00 601008201 00	10
8,25	117	75	00 601008251 00	10
8,30	117	75	00 601008301 00	10
8,40	117	75	00 601008401 00	10
8,50	117	75	00 601008501 00	10
8,60	125	81	00 601008601 00	10
8,70	125	81	00 601008701 00	10
8,75	125	81	00 601008751 00	10
8,80	125	81	00 601008801 00	10
8,90	125	81	00 601008901 00	10
9,00	125	81	00 601009001 00	10
9,10	125	81	00 601009101 00	10
9,20	125	81	00 601009201 00	10
9,25	125	81	00 601009251 00	10
9,30	125	81	00 601009301 00	10
9,40	125	81	00 601009401 00	10
9,50	125	81	00 601009501 00	10
9,60	133	87	00 601009601 00	10
9,70	133	87	00 601009701 00	10
9,75	133	87	00 601009751 00	10
9,80	133	87	00 601009801 00	10
9,90	133	87	00 601009901 00	10
10,00	133	87	00 601010001 00	10
10,10	133	87	00 601010101 00	5
10,20	133	87	00 601010201 00	5
10,25	133	87	00 601010251 00	5
10,30	133	87	00 601010301 00	5
10,40	133	87	00 601010401 00	5
10,50	133	87	00 601010501 00	5
10,60	133	87	00 601010601 00	5
10,70	142	94	00 601010701 00	5
10,75	142	94	00 601010751 00	5
10,80	142	94	00 601010801 00	5
10,90	142	94	00 601010901 00	5
11,00	142	94	00 601011001 00	5
11,10	142	94	00 601011101 00	5
11,20	142	94	00 601011201 00	5
11,25	142	94	00 601011251 00	5
11,30	142	94	00 601011301 00	5
11,40	142	94	00 601011401 00	5
11,50	142	94	00 601011501 00	5
11,60	142	94	00 601011601 00	5
11,70	142	94	00 601011701 00	5
11,75	142	94	00 601011751 00	5
11,80	142	94	00 601011801 00	5
11,90	151	101	00 601011901 00	5
12,00	151	101	00 601012001 00	5
12,10	151	101	00 601012101 00	5
12,20	151	101	00 601012201 00	5
12,25	151	101	00 601012251 00	5
12,30	151	101	00 601012301 00	5
12,40	151	101	00 601012401 00	5



Fortsetzung / Continuation / Continuazione ▶

DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm	Code 601 Art.-Nr.	
12,50	151	101	00 601012501 00	5
12,60	151	101	00 601012601 00	5
12,70	151	101	00 601012701 00	5
12,75	151	101	00 601012751 00	5
12,80	151	101	00 601012801 00	5
12,90	151	101	00 601012901 00	5
13,00	151	101	00 601013001 00	5
13,25	160	108	00 601013251 00	1
13,50	160	108	00 601013501 00	1
13,75	160	108	00 601013751 00	1
14,00	160	108	00 601014001 00	1
14,25	169	114	00 601014251 00	1
14,50	169	114	00 601014501 00	1
14,75	169	114	00 601014751 00	1

DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm	Code 601 Art.-Nr.	
15,00	169	114	00 601015001 00	1
15,25	178	120	00 601015251 00	1
15,50	178	120	00 601015501 00	1
15,75	178	120	00 601015751 00	1
16,00	178	120	00 601016001 00	1
16,50	184	125	00 601016501 00	1
17,00	184	125	00 601017001 00	1
17,50	191	130	00 601017501 00	1
18,00	191	130	00 601018001 00	1
18,50	198	135	00 601018501 00	1
19,00	198	135	00 601019001 00	1
19,50	205	140	00 601019501 00	1
20,00	205	140	00 601020001 00	1

D Spiralbohrer
kurz, DIN 338 RW

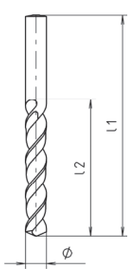
Einsatzbereich:
Kurzdrallbohrer für weiche und zähe, langspanende Werkstoffe wie Aluminium, Aluminiumlegierungen, Magnesiumlegierungen, weiche Thermoplaste, Hartholz usw.



E Jobber drills
short series, DIN 338 RW

Range of application:
Fast spiral drills for soft and tough materials giving long chips e. g. aluminium, aluminium alloys, magnesium alloys, soft thermoplastics, hard wood etc.





I Punte elicoidali
serie corta, DIN 338 RW

Impiego:
Foratura di materiali plastici e dolci a truciolo lungo, quali alluminio, leghe di alluminio, leghe di magnesio, materiali termoplastici dolci, legno duro.



Ø h8 mm	l1 mm	l2 mm	Code 651 Art.-Nr.	
1,00	34	12	00 651001001 00	10
1,10	36	14	00 651001101 00	10
1,20	38	16	00 651001201 00	10
1,30	38	16	00 651001301 00	10
1,40	40	18	00 651001401 00	10
1,50	40	18	00 651001501 00	10
1,60	43	20	00 651001601 00	10
1,70	43	20	00 651001701 00	10
1,80	46	22	00 651001801 00	10
1,90	49	24	00 651001901 00	10
2,00	49	24	00 651002001 00	10
2,10	49	24	00 651002101 00	10
2,20	53	27	00 651002201 00	10
2,30	53	27	00 651002301 00	10
2,40	57	30	00 651002401 00	10
2,50	57	30	00 651002501 00	10

Ø h8 mm	l1 mm	l2 mm	Code 651 Art.-Nr.	
2,60	57	30	00 651002601 00	10
2,70	61	33	00 651002701 00	10
2,80	61	33	00 651002801 00	10
2,90	61	33	00 651002901 00	10
3,00	61	33	00 651003001 00	10
3,10	65	36	00 651003101 00	10
3,20	65	36	00 651003201 00	10
3,30	65	36	00 651003301 00	10
3,40	70	39	00 651003401 00	10
3,50	70	39	00 651003501 00	10
3,60	70	39	00 651003601 00	10
3,70	70	39	00 651003701 00	10
3,80	75	43	00 651003801 00	10
3,90	75	43	00 651003901 00	10
4,00	75	43	00 651004001 00	10
4,10	75	43	00 651004101 00	10

Ø h8 mm	l1 mm	l2 mm	Code 651 Art.-Nr.	
4,20	75	43	00 651004201 00	10
4,30	80	47	00 651004301 00	10
4,40	80	47	00 651004401 00	10
4,50	80	47	00 651004501 00	10
4,60	80	47	00 651004601 00	10
4,70	80	47	00 651004701 00	10
4,80	86	52	00 651004801 00	10
4,90	86	52	00 651004901 00	10
5,00	86	52	00 651005001 00	10
5,10	86	52	00 651005101 00	10
5,20	86	52	00 651005201 00	10
5,30	86	52	00 651005301 00	10
5,40	93	57	00 651005401 00	10
5,50	93	57	00 651005501 00	10
5,60	93	57	00 651005601 00	10
5,70	93	57	00 651005701 00	10
5,80	93	57	00 651005801 00	10
5,90	93	57	00 651005901 00	10
6,00	93	57	00 651006001 00	10
6,10	101	63	00 651006101 00	10
6,20	101	63	00 651006201 00	10
6,30	101	63	00 651006301 00	10
6,40	101	63	00 651006401 00	10
6,50	101	63	00 651006501 00	10
6,60	101	63	00 651006601 00	10
6,70	101	63	00 651006701 00	10
6,80	109	69	00 651006801 00	10
6,90	109	69	00 651006901 00	10
7,00	109	69	00 651007001 00	10
7,10	109	69	00 651007101 00	10
7,20	109	69	00 651007201 00	10
7,30	109	69	00 651007301 00	10
7,40	109	69	00 651007401 00	10

Ø h8 mm	l1 mm	l2 mm	Code 651 Art.-Nr.	
7,50	109	69	00 651007501 00	10
7,60	117	75	00 651007601 00	10
7,70	117	75	00 651007701 00	10
7,80	117	75	00 651007801 00	10
7,90	117	75	00 651007901 00	10
8,00	117	75	00 651008001 00	10
8,10	117	75	00 651008101 00	10
8,20	117	75	00 651008201 00	10
8,30	117	75	00 651008301 00	10
8,40	117	75	00 651008401 00	10
8,50	117	75	00 651008501 00	10
8,60	125	81	00 651008601 00	10
8,70	125	81	00 651008701 00	10
8,80	125	81	00 651008801 00	10
8,90	125	81	00 651008901 00	10
9,00	125	81	00 651009001 00	10
9,10	125	81	00 651009101 00	10
9,20	125	81	00 651009201 00	10
9,30	125	81	00 651009301 00	10
9,40	125	81	00 651009401 00	10
9,50	125	81	00 651009501 00	10
9,60	133	87	00 651009601 00	10
9,70	133	87	00 651009701 00	10
9,80	133	87	00 651009801 00	10
9,90	133	87	00 651009901 00	10
10,00	133	87	00 651010001 00	10
10,20	133	87	00 651010201 00	5
10,50	133	87	00 651010501 00	5
11,00	142	94	00 651011001 00	5
11,50	142	94	00 651011501 00	5
12,00	151	101	00 651012001 00	5
12,50	151	101	00 651012501 00	5
13,00	151	101	00 651013001 00	5



D Spiralbohrer
kurz, DIN 338 RH

Einsatzbereich:
Langdrallbohrer für harte und zähharte, kurzspanende Werkstoffe wie Messing, Leichtmetall-Kolbenlegierung, harte Duroplaste, Schichtpressstoffe, Schiefer, Glimmer usw.

E Jobber drills
short series, DIN 338 RH

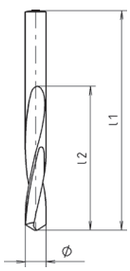
Range of application:
Slow spiral drill for drilling harder and tough-hard, short-chip materials such as brass, light metal piston alloys, hard durable plastics, laminated synthetic materials etc.

I Punte elicoidali
serie corta, DIN 338 RH

Impiego:
Foratura di materiali tenaci, plastici duri a truciolo corto quali ottone, leghe leggere per pistoni, materie plastiche termoindurenti, materiali sintetici laminati, scisti, mica









Ø h8 mm	l1 mm	l2 mm	Code 661 Art.-Nr.		
1,00	34	12	00 661001001 00		10
1,10	36	14	00 661001101 00		10
1,20	38	16	00 661001201 00		10
1,30	38	16	00 661001301 00		10
1,40	40	18	00 661001401 00		10
1,50	40	18	00 661001501 00		10
1,60	43	20	00 661001601 00		10
1,70	43	20	00 661001701 00		10
1,80	46	22	00 661001801 00		10
1,90	49	24	00 661001901 00		10
2,00	49	24	00 661002001 00		10
2,10	49	24	00 661002101 00		10
2,20	53	27	00 661002201 00		10
2,30	53	27	00 661002301 00		10
2,40	57	30	00 661002401 00		10
2,50	57	30	00 661002501 00		10
2,60	57	30	00 661002601 00		10
2,70	61	33	00 661002701 00		10
2,80	61	33	00 661002801 00		10
2,90	61	33	00 661002901 00		10
3,00	61	33	00 661003001 00		10
3,10	65	36	00 661003101 00		10
3,20	65	36	00 661003201 00		10
3,30	65	36	00 661003301 00		10
3,40	70	39	00 661003401 00		10
3,50	70	39	00 661003501 00		10
3,60	70	39	00 661003601 00		10
3,70	70	39	00 661003701 00		10
3,80	75	43	00 661003801 00		10
3,90	75	43	00 661003901 00		10
4,00	75	43	00 661004001 00		10
4,10	75	43	00 661004101 00		10
4,20	75	43	00 661004201 00		10
4,30	80	47	00 661004301 00		10
4,40	80	47	00 661004401 00		10
4,50	80	47	00 661004501 00		10
4,60	80	47	00 661004601 00		10
4,70	80	47	00 661004701 00		10

Ø h8 mm	l1 mm	l2 mm	Code 661 Art.-Nr.		
4,80	86	52	00 661004801 00		10
4,90	86	52	00 661004901 00		10
5,00	86	52	00 661005001 00		10
5,10	86	52	00 661005101 00		10
5,20	86	52	00 661005201 00		10
5,30	86	52	00 661005301 00		10
5,40	93	57	00 661005401 00		10
5,50	93	57	00 661005501 00		10
5,60	93	57	00 661005601 00		10
5,70	93	57	00 661005701 00		10
5,80	93	57	00 661005801 00		10
5,90	93	57	00 661005901 00		10
6,00	93	57	00 661006001 00		10
6,10	101	63	00 661006101 00		10
6,20	101	63	00 661006201 00		10
6,30	101	63	00 661006301 00		10
6,40	101	63	00 661006401 00		10
6,50	101	63	00 661006501 00		10
6,60	101	63	00 661006601 00		10
6,70	101	63	00 661006701 00		10
6,80	109	69	00 661006801 00		10
6,90	109	69	00 661006901 00		10
7,00	109	69	00 661007001 00		10
7,10	109	69	00 661007101 00		10
7,20	109	69	00 661007201 00		10
7,30	109	69	00 661007301 00		10
7,40	109	69	00 661007401 00		10
7,50	109	69	00 661007501 00		10
7,60	117	75	00 661007601 00		10
7,70	117	75	00 661007701 00		10
7,80	117	75	00 661007801 00		10
7,90	117	75	00 661007901 00		10
8,00	117	75	00 661008001 00		10
8,10	117	75	00 661008101 00		10
8,20	117	75	00 661008201 00		10
8,30	117	75	00 661008301 00		10
8,40	117	75	00 661008401 00		10
8,50	117	75	00 661008501 00		10

Ø h8 mm	l1 mm	l2 mm	Code 661 Art.-Nr.	
8,60	125	81	00 661008601 00	10
8,70	125	81	00 661008701 00	10
8,80	125	81	00 661008801 00	10
8,90	125	81	00 661008901 00	10
9,00	125	81	00 661009001 00	10
9,10	125	81	00 661009101 00	10
9,20	125	81	00 661009201 00	10
9,30	125	81	00 661009301 00	10
9,40	125	81	00 661009401 00	10
9,50	125	81	00 661009501 00	10
9,60	133	87	00 661009601 00	10

Ø h8 mm	l1 mm	l2 mm	Code 661 Art.-Nr.	
9,70	133	87	00 661009701 00	10
9,80	133	87	00 661009801 00	10
9,90	133	87	00 661009901 00	10
10,00	133	87	00 661010001 00	10
10,20	133	87	00 661010201 00	5
10,50	133	87	00 661010501 00	5
11,00	142	94	00 661011001 00	5
11,50	142	94	00 661011501 00	5
12,00	151	101	00 661012001 00	5
12,50	151	101	00 661012501 00	5
13,00	151	101	00 661013001 00	5

D Spiralbohrer
kurz, DIN 338 RN

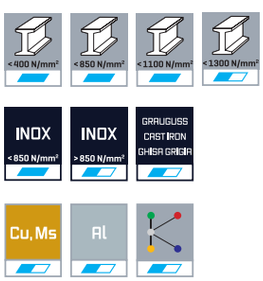
Einsatzbereich:
5% kobaltlegierter Spiralbohrer mit sehr hoher thermischer Belastbarkeit zum Bohren von Werkstoffen mit höherem Legierungsgehalt und Festigkeit über 800 N/mm².

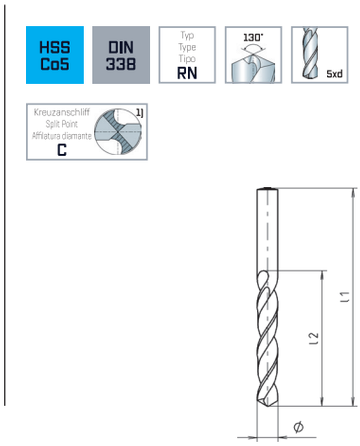
E Jobber drills
short series, DIN 338 RN

Range of application:
5% cobalt-alloyed jobber drills with high heat resistance for drilling steels with tensile strength over 800 N/mm², specially suitable for high alloyed steels, bearing-steels, hot/cold-rolled steels.

I Punte elicoidali
serie corta, DIN 338 RN

Impiego:
Punte al 5% Co ad elevata resistenza al calore adatte per la foratura di acciai altamente legati e con R > 800 N/mm².









TiN

Ø h8 mm	Ø h8 inch	l1 mm	l2 mm	Code 603 Art.-Nr.		Code 607 Art.-Nr.	
1,00		34	12	00 603001001 00	10	00 607001001 00	1
1,10		36	14	00 603001101 00	10	00 607001101 00	1
1,19	**3/64**	38	16	00 603001191 00	10	00 607001191 00	1
1,20		38	16	00 603001201 00	10	00 607001201 00	1
1,30		38	16	00 603001301 00	10	00 607001301 00	1
1,40		40	18	00 603001401 00	10	00 607001401 00	1
1,50		40	18	00 603001501 00	10	00 607001501 00	1
1,59	**1/16**	43	20	00 603001591 00	10	00 607001591 00	1
1,60		43	20	00 603001601 00	10	00 607001601 00	1
1,70		43	20	00 603001701 00	10	00 607001701 00	1
1,80		46	22	00 603001801 00	10	00 607001801 00	1
1,90		46	22	00 603001901 00	10	00 607001901 00	1
1,98	**5/64**	49	24	00 603001981 00	10	00 607001981 00	1
2,00		49	24	00 603002001 00	10	00 607002001 00	1
2,10		49	24	00 603002101 00	10	00 607002101 00	1
2,20		53	27	00 603002201 00	10	00 607002201 00	1
2,30		53	27	00 603002301 00	10	00 607002301 00	1
2,38	**3/32**	57	30	00 603002381 00	10	00 607002381 00	1

[1] ≥ Ø 2,0 mm

Fortsetzung / Continuation / Continuazione ▶



TiN

Ø h8 mm	Ø h8 inch	l1 mm	l2 mm	Code 603 Art.-Nr.		Code 607 Art.-Nr.	
2,40		57	30	00 603002401 00	10	00 607002401 00	1
2,50		57	30	00 603002501 00	10	00 607002501 00	1
2,60		57	30	00 603002601 00	10	00 607002601 00	1
2,70		61	33	00 603002701 00	10	00 607002701 00	1
2,78	7/64	61	33	00 603002781 00	10	00 607002781 00	1
2,80		61	33	00 603002801 00	10	00 607002801 00	1
2,90		61	33	00 603002901 00	10	00 607002901 00	1
3,00		61	33	00 603003001 00	10	00 607003001 00	1
3,10		65	36	00 603003101 00	10	00 607003101 00	1
3,17	1/8	65	36	00 603003171 00	10	00 607003171 00	1
3,20		65	36	00 603003201 00	10	00 607003201 00	1
3,30		65	36	00 603003301 00	10	00 607003301 00	1
3,40		70	39	00 603003401 00	10	00 607003401 00	1
3,50		70	39	00 603003501 00	10	00 607003501 00	1
3,57	9/64	70	39	00 603003571 00	10	00 607003571 00	1
3,60		70	39	00 603003601 00	10	00 607003601 00	1
3,70		70	39	00 603003701 00	10	00 607003701 00	1
3,80		75	43	00 603003801 00	10	00 607003801 00	1
3,90		75	43	00 603003901 00	10	00 607003901 00	1
3,97	5/32	75	43	00 603003971 00	10	00 607003971 00	1
4,00		75	43	00 603004001 00	10	00 607004001 00	1
4,10		75	43	00 603004101 00	10	00 607004101 00	1
4,20		75	43	00 603004201 00	10	00 607004201 00	1
4,30		80	47	00 603004301 00	10	00 607004301 00	1
4,37	11/64	80	47	00 603004371 00	10	00 607004371 00	1
4,40		80	47	00 603004401 00	10	00 607004401 00	1
4,50		80	47	00 603004501 00	10	00 607004501 00	1
4,60		80	47	00 603004601 00	10	00 607004601 00	1
4,70		80	47	00 603004701 00	10	00 607004701 00	1
4,76	3/16	86	52	00 603004761 00	10	00 607004761 00	1
4,80		86	52	00 603004801 00	10	00 607004801 00	1
4,90		86	52	00 603004901 00	10	00 607004901 00	1
5,00		86	52	00 603005001 00	10	00 607005001 00	1
5,10		86	52	00 603005101 00	10	00 607005101 00	1
5,16	13/64	86	52	00 603005161 00	10	00 607005161 00	1
5,20		86	52	00 603005201 00	10	00 607005201 00	1
5,30		86	52	00 603005301 00	10	00 607005301 00	1
5,40		93	57	00 603005401 00	10	00 607005401 00	1
5,50		93	57	00 603005501 00	10	00 607005501 00	1
5,56	7/32	93	57	00 603005561 00	10	00 607005561 00	1
5,60		93	57	00 603005601 00	10	00 607005601 00	1
5,70		93	57	00 603005701 00	10	00 607005701 00	1
5,80		93	57	00 603005801 00	10	00 607005801 00	1
5,90		93	57	00 603005901 00	10	00 607005901 00	1
5,95	15/64	93	57	00 603005951 00	10	00 607005951 00	1
6,00		93	57	00 603006001 00	10	00 607006001 00	1
6,10		101	63	00 603006101 00	10	00 607006101 00	1
6,20		101	63	00 603006201 00	10	00 607006201 00	1
6,30		101	63	00 603006301 00	10	00 607006301 00	1
6,35	1/4	101	63	00 603006351 00	10	00 607006351 00	1
6,40		101	63	00 603006401 00	10	00 607006401 00	1
6,50		101	63	00 603006501 00	10	00 607006501 00	1
6,60		101	63	00 603006601 00	10	00 607006601 00	1
6,70		101	63	00 603006701 00	10	00 607006701 00	1
6,75	17/64	109	69	00 603006751 00	10	00 607006751 00	1
6,80		109	69	00 603006801 00	10	00 607006801 00	1
6,90		109	69	00 603006901 00	10	00 607006901 00	1
7,00		109	69	00 603007001 00	10	00 607007001 00	1
7,10		109	69	00 603007101 00	10	00 607007101 00	1
7,14	9/32	109	69	00 603007141 00	10	00 607007141 00	1

TiN

Ø h8 mm	Ø h8 inch	l1 mm	l2 mm	Code 603 Art.-Nr.		Code 607 Art.-Nr.	
7,20		109	69	00 603007201 00	10	00 607007201 00	1
7,30		109	69	00 603007301 00	10	00 607007301 00	1
7,40		109	69	00 603007401 00	10	00 607007401 00	1
7,50		109	69	00 603007501 00	10	00 607007501 00	1
7,54	19/64	117	75	00 603007541 00	10	00 607007541 00	1
7,60		117	75	00 603007601 00	10	00 607007601 00	1
7,70		117	75	00 603007701 00	10	00 607007701 00	1
7,80		117	75	00 603007801 00	10	00 607007801 00	1
7,90		117	75	00 603007901 00	10	00 607007901 00	1
7,94	5/16	117	75	00 603007941 00	10	00 607007941 00	1
8,00		117	75	00 603008001 00	10	00 607008001 00	1
8,10		117	75	00 603008101 00	10	00 607008101 00	1
8,20		117	75	00 603008201 00	10	00 607008201 00	1
8,30		117	75	00 603008301 00	10	00 607008301 00	1
8,33	21/64	117	75	00 603008331 00	10	00 607008331 00	1
8,40		117	75	00 603008401 00	10	00 607008401 00	1
8,50		117	75	00 603008501 00	10	00 607008501 00	1
8,60		125	81	00 603008601 00	10	00 607008601 00	1
8,70		125	81	00 603008701 00	10	00 607008701 00	1
8,73	11/32	125	81	00 603008731 00	10	00 607008731 00	1
8,80		125	81	00 603008801 00	10	00 607008801 00	1
8,90		125	81	00 603008901 00	10	00 607008901 00	1
9,00		125	81	00 603009001 00	10	00 607009001 00	1
9,10		125	81	00 603009101 00	10	00 607009101 00	1
9,13	23/64	125	81	00 603009131 00	10	00 607009131 00	1
9,20		125	81	00 603009201 00	10	00 607009201 00	1
9,30		125	81	00 603009301 00	10	00 607009301 00	1
9,40		125	81	00 603009401 00	10	00 607009401 00	1
9,50		125	81	00 603009501 00	10	00 607009501 00	1
9,52	3/8	133	87	00 603009521 00	10	00 607009521 00	1
9,60		133	87	00 603009601 00	10	00 607009601 00	1
9,70		133	87	00 603009701 00	10	00 607009701 00	1
9,80		133	87	00 603009801 00	10	00 607009801 00	1
9,90		133	87	00 603009901 00	10	00 607009901 00	1
9,92	25/64	133	87	00 603009921 00	10	00 607009921 00	1
10,00		133	87	00 603010001 00	10	00 607010001 00	1
10,10		133	87	00 603010101 00	5		
10,20		133	87	00 603010201 00	5	00 607010201 00	1
10,32	13/32	133	87	00 603010321 00	5	00 607010321 00	1
10,50		133	87	00 603010501 00	5	00 607010501 00	1
11,00		142	94	00 603011001 00	5	00 607011001 00	1
11,11	7/16	142	94	00 603011111 00	5	00 607011111 00	1
11,50		142	94	00 603011501 00	5	00 607011501 00	1
11,51	29/64	142	94	00 603011511 00	5	00 607011511 00	1
11,80		142	94	00 603011801 00	5		
11,91	15/32	151	101	00 603011911 00	5	00 607011911 00	1
12,00		151	101	00 603012001 00	5	00 607012001 00	1
12,30	31/64	151	101	00 603012301 00	5	00 607012301 00	1
12,50		151	101	00 603012501 00	5	00 607012501 00	1
12,70	1/2	151	101	00 603012701 00	5	00 607012701 00	1
13,00		151	101	00 603013001 00	5	00 607013001 00	1
13,50		160	108	00 603013501 00	1	00 607013501 00	1
14,00		160	108	00 603014001 00	1	00 607014001 00	1
14,50		169	114	00 603014501 00	1	00 607014501 00	1
15,00		169	114	00 603015001 00	1	00 607015001 00	1
16,00		178	120	00 603016001 00	1	00 607016001 00	1
16,50		184	125	00 603016501 00	1		
17,00		184	125	00 603017001 00	1		
18,00		191	130	00 603018001 00	1		
20,00		205	140	00 603020001 00	1		



D Spiralbohrer
kurz, DIN 338 RN

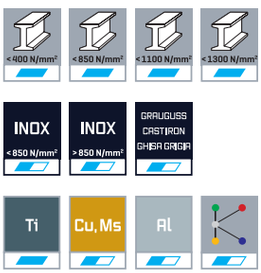
Einsatzbereich:
Universeller 5% kobaltlegierter Hochleistungs-Spiralbohrer zur Bearbeitung schwer zerspanbarer, hochfester Werkstoffe wie z.B.: Stähle bis ca. 1.300 N/mm², rostfreie Stähle sowie Titanlegierungen.

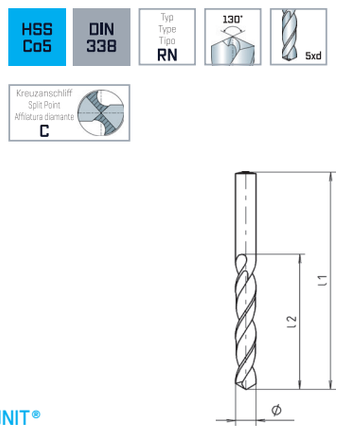
E Jobber drills
short series, DIN 338 RN

Range of application:
Universal 5% cobalt-alloyed high-performance twist drills for drilling hard machinable, high-strength materials such as steels up to approx. 1.300 N/mm², stainless steels and titanium alloys.

I Punte elicoidali
serie corta, DIN 338 RN

Impiego:
Punte al 5% Co, adatte per foratura di acciai di difficile lavorabilità, acciai tenaci fino a 1.300 N/mm², acciai inox, leghe di Titanio.







ALUNIT®

Ø h8 mm	l1 mm	l2 mm	Code 630 Art.-Nr.	
1,00	34	12	00 630001001 00	1
1,50	40	18	00 630001501 00	1
1,60	43	20	00 630001601 00	1
2,00	49	24	00 630002001 00	1
2,50	57	30	00 630002501 00	1
3,00	61	33	00 630003001 00	1
3,20	65	36	00 630003201 00	1
3,30	65	36	00 630003301 00	1
3,50	70	39	00 630003501 00	1
4,00	75	43	00 630004001 00	1
4,20	75	43	00 630004201 00	1
4,30	80	47	00 630004301 00	1
4,50	80	47	00 630004501 00	1
4,80	86	52	00 630004801 00	1
5,00	86	52	00 630005001 00	1
5,50	93	57	00 630005501 00	1
6,00	93	57	00 630006001 00	1

ALUNIT®

Ø h8 mm	l1 mm	l2 mm	Code 630 Art.-Nr.	
6,50	101	63	00 630006501 00	1
6,80	109	69	00 630006801 00	1
7,00	109	69	00 630007001 00	1
7,50	109	69	00 630007501 00	1
7,80	117	75	00 630007801 00	1
8,00	117	75	00 630008001 00	1
8,50	117	75	00 630008501 00	1
9,00	125	81	00 630009001 00	1
9,50	125	81	00 630009501 00	1
10,00	133	87	00 630010001 00	1
10,20	133	87	00 630010201 00	1
10,50	133	87	00 630010501 00	1
11,00	142	94	00 630011001 00	1
11,50	142	94	00 630011501 00	1
12,00	151	101	00 630012001 00	1
12,50	151	101	00 630012501 00	1
13,00	151	101	00 630013001 00	1

D Spiralbohrer
kurz, DIN 338 R-AS

Einsatzbereich:
5% kobaltlegierter Spezialbohrer in sehr stabiler Bauweise für sehr schwer zerspanbare Werkstoffe wie rost- und säurebeständige austenitische Stähle sowie hitzebeständige Stähle.

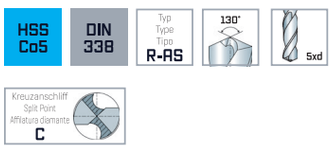
E Jobber drills
short series, DIN 338 R-AS

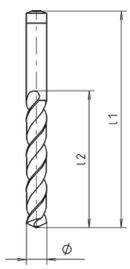
Range of application:
5% cobalt-alloyed drills in a solid sturdy construction, specially suitable for corrosion and acid resistant austenitic steels as well as heat resistant steels.

I Punte elicoidali
serie corta, DIN 338 R-AS

Impiego:
Punte al 5% Co, particolarmente stabili, adatte per la foratura di acciai di difficile lavorabilità, quali acciai inox, acciai austenitici, acciai resistenti al calore.









Ø h8 mm	l1 mm	l2 mm	Code 663 Art.-Nr.	
2,00	49	24	00 663002001 00	10
2,10	49	24	00 663002101 00	10
2,20	53	27	00 663002201 00	10
2,30	53	27	00 663002301 00	10
2,40	57	30	00 663002401 00	10
2,50	57	30	00 663002501 00	10
2,60	57	30	00 663002601 00	10
2,70	61	33	00 663002701 00	10
2,80	61	33	00 663002801 00	10
2,90	61	33	00 663002901 00	10
3,00	61	33	00 663003001 00	10
3,10	65	36	00 663003101 00	10
3,20	65	36	00 663003201 00	10
3,30	65	36	00 663003301 00	10
3,40	70	39	00 663003401 00	10
3,50	70	39	00 663003501 00	10
3,60	70	39	00 663003601 00	10
3,70	70	39	00 663003701 00	10
3,80	75	43	00 663003801 00	10
3,90	75	43	00 663003901 00	10
4,00	75	43	00 663004001 00	10
4,10	75	43	00 663004101 00	10
4,20	75	43	00 663004201 00	10
4,30	80	47	00 663004301 00	10
4,40	80	47	00 663004401 00	10
4,50	80	47	00 663004501 00	10
4,60	80	47	00 663004601 00	10
4,70	80	47	00 663004701 00	10
4,80	86	52	00 663004801 00	10
4,90	86	52	00 663004901 00	10
5,00	86	52	00 663005001 00	10
5,10	86	52	00 663005101 00	10
5,20	86	52	00 663005201 00	10
5,30	86	52	00 663005301 00	10
5,40	93	57	00 663005401 00	10
5,50	93	57	00 663005501 00	10

Ø h8 mm	l1 mm	l2 mm	Code 663 Art.-Nr.	
5,60	93	57	00 663005601 00	10
5,70	93	57	00 663005701 00	10
5,80	93	57	00 663005801 00	10
5,90	93	57	00 663005901 00	10
6,00	93	57	00 663006001 00	10
6,10	101	63	00 663006101 00	10
6,20	101	63	00 663006201 00	10
6,30	101	63	00 663006301 00	10
6,40	101	63	00 663006401 00	10
6,50	101	63	00 663006501 00	10
6,60	101	63	00 663006601 00	10
6,70	101	63	00 663006701 00	10
6,80	109	69	00 663006801 00	10
6,90	109	69	00 663006901 00	10
7,00	109	69	00 663007001 00	10
7,10	109	69	00 663007101 00	10
7,20	109	69	00 663007201 00	10
7,30	109	69	00 663007301 00	10
7,40	109	69	00 663007401 00	10
7,50	109	69	00 663007501 00	10
7,60	117	75	00 663007601 00	10
7,70	117	75	00 663007701 00	10
7,80	117	75	00 663007801 00	10
7,90	117	75	00 663007901 00	10
8,00	117	75	00 663008001 00	10
8,10	117	75	00 663008101 00	10
8,20	117	75	00 663008201 00	10
8,30	117	75	00 663008301 00	10
8,40	117	75	00 663008401 00	10
8,50	117	75	00 663008501 00	10
8,60	125	81	00 663008601 00	10
8,70	125	81	00 663008701 00	10
8,80	125	81	00 663008801 00	10
8,90	125	81	00 663008901 00	10
9,00	125	81	00 663009001 00	10
9,10	125	81	00 663009101 00	10



Fortsetzung / Continuation / Continuazione ▶

Ø h8 mm	l1 mm	l2 mm	Code 663 Art.-Nr.	
9,20	125	81	00 663009201 00	10
9,30	125	81	00 663009301 00	10
9,40	125	81	00 663009401 00	10
9,50	125	81	00 663009501 00	10
9,60	133	87	00 663009601 00	10
9,70	133	87	00 663009701 00	10
9,80	133	87	00 663009801 00	10
9,90	133	87	00 663009901 00	10
10,00	133	87	00 663010001 00	10
10,20	133	87	00 663010201 00	5

Ø h8 mm	l1 mm	l2 mm	Code 663 Art.-Nr.	
10,50	133	87	00 663010501 00	5
11,00	142	94	00 663011001 00	5
11,50	142	94	00 663011501 00	5
12,00	151	101	00 663012001 00	5
12,50	151	101	00 663012501 00	5
13,00	151	101	00 663013001 00	5

D Spiralbohrer
kurz, DIN 338 Forte

Einsatzbereich:
5% kobaltlegierter Spiralbohrer mit sehr hoher thermischer Belastbarkeit. Durch spezielle Nutausbildung bei schlechter Spanabfuhr bzw. für größere Bohrtiefen geeignet. Für Werkstoffe mit einer Festigkeit bis 1100 N/mm².

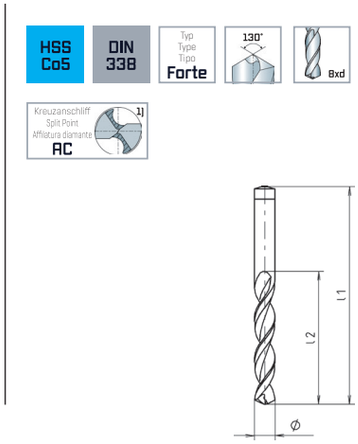
E Jobber drills
short series, DIN 338 Forte

Range of application:
5% cobalt-alloyed jobber drills with an extremely sturdy construction (re-inforced web) for drilling under difficult conditions e. g. poor chipremoval and deep holes, for use in steel and cast-iron with tensile strength up to 1100 N/mm².

I Punte elicoidali
serie corta, DIN 338 Forte

Impiego:
Punte al 5% Co ad elevata resistenza al calore, adatte – grazie alla speciale fascette nitrurate – per lavorazioni con difficile scarico dei trucioli, fori profondi, di materiali con R fino a 1100 N/mm².







FASENNITRIERT [2]
NITRIDED LANDS [2]
FASCETTE NITRURATE [2]



ALUNIT®

Ø h8 mm	l1 mm	l2 mm	Code 611 Art.-Nr.		Code 627 Art.-Nr.	
1,00	34	12	00 611001001 00	10	00 627001001 00	1
1,10	36	14	00 611001101 00	10		
1,20	38	16	00 611001201 00	10	00 627001201 00	1
1,30	38	16	00 611001301 00	10		
1,40	40	18	00 611001401 00	10		
1,50	40	18	00 611001501 00	10	00 627001501 00	1
1,60	43	20	00 611001601 00	10		
1,70	43	20	00 611001701 00	10	00 627001701 00	1
1,80	46	22	00 611001801 00	10	00 627001801 00	1
1,90	49	24	00 611001901 00	10		
2,00	49	24	00 611002001 00	10	00 627002001 00	1
2,10	49	24	00 611002101 00	10		
2,20	53	27	00 611002201 00	10		
2,30	53	27	00 611002301 00	10		
2,40	57	30	00 611002401 00	10		
2,50	57	30	00 611002501 00	10	00 627002501 00	1
2,60	57	30	00 611002601 00	10		
2,70	61	33	00 611002701 00	10		
2,80	61	33	00 611002801 00	10	00 627002801 00	1
2,90	61	33	00 611002901 00	10		

[1] ≥ Ø 2,0 mm / [2] ≥ Ø 3,0 mm

			FASENNITRIERT NITRIDED LANDS FASCETTE NITRURATE		ALUNIT®	
Ø h8 mm	l1 mm	l2 mm	Code 611 Art.-Nr.		Code 627 Art.-Nr.	
3,00	61	33	00 611003001 00	10	00 627003001 00	1
3,10	65	36	00 611003101 00	10	00 627003101 00	1
3,20	65	36	00 611003201 00	10	00 627003201 00	1
3,30	65	36	00 611003301 00	10	00 627003301 00	1
3,40	70	39	00 611003401 00	10	00 627003401 00	1
3,50	70	39	00 611003501 00	10	00 627003501 00	1
3,60	70	39	00 611003601 00	10		
3,70	70	39	00 611003701 00	10		
3,80	75	43	00 611003801 00	10	00 627003801 00	1
3,90	75	43	00 611003901 00	10		
4,00	75	43	00 611004001 00	10	00 627004001 00	1
4,10	75	43	00 611004101 00	10		
4,20	75	43	00 611004201 00	10	00 627004201 00	1
4,30	80	47	00 611004301 00	10		
4,40	80	47	00 611004401 00	10		
4,50	80	47	00 611004501 00	10	00 627004501 00	1
4,60	80	47	00 611004601 00	10		
4,70	80	47	00 611004701 00	10		
4,80	86	52	00 611004801 00	10	00 627004801 00	1
4,90	86	52	00 611004901 00	10		
5,00	86	52	00 611005001 00	10	00 627005001 00	1
5,10	86	52	00 611005101 00	10		
5,20	86	52	00 611005201 00	10	00 627005201 00	1
5,30	86	52	00 611005301 00	10		
5,40	93	57	00 611005401 00	10		
5,50	93	57	00 611005501 00	10	00 627005501 00	1
5,60	93	57	00 611005601 00	10		
5,70	93	57	00 611005701 00	10		
5,80	93	57	00 611005801 00	10	00 627005801 00	1
5,90	93	57	00 611005901 00	10		
6,00	93	57	00 611006001 00	10	00 627006001 00	1
6,10	101	63	00 611006101 00	10		
6,20	101	63	00 611006201 00	10		
6,30	101	63	00 611006301 00	10	00 627006301 00	1
6,40	101	63	00 611006401 00	10		
6,50	101	63	00 611006501 00	10	00 627006501 00	1
6,60	101	63	00 611006601 00	10		
6,70	101	63	00 611006701 00	10		
6,80	109	69	00 611006801 00	10	00 627006801 00	1
6,90	109	69	00 611006901 00	10		
7,00	109	69	00 611007001 00	10	00 627007001 00	1
7,10	109	69	00 611007101 00	10		
7,20	109	69	00 611007201 00	10		
7,30	109	69	00 611007301 00	10		
7,40	109	69	00 611007401 00	10		
7,50	109	69	00 611007501 00	10	00 627007501 00	1
7,60	117	75	00 611007601 00	10		
7,70	117	75	00 611007701 00	10		
7,80	117	75	00 611007801 00	10		
7,90	117	75	00 611007901 00	10		
8,00	117	75	00 611008001 00	10	00 627008001 00	1
8,10	117	75	00 611008101 00	10		
8,20	117	75	00 611008201 00	10		
8,30	117	75	00 611008301 00	10		
8,40	117	75	00 611008401 00	10		
8,50	117	75	00 611008501 00	10	00 627008501 00	1
8,60	125	81	00 611008601 00	10		
8,70	125	81	00 611008701 00	10	00 627008701 00	1
8,80	125	81	00 611008801 00	10		
8,90	125	81	00 611008901 00	10		



Fortsetzung / Continuation / Continuazione ▶

Ø h8 mm	l1 mm	l2 mm	FASENNITRIERT NITRIDED LANDS FASCETTE NITRURATE Code 611 Art.-Nr.		ALUNIT® Code 627 Art.-Nr.	
9,00	125	81	00 611009001 00	10	00 627009001 00	1
9,10	125	81	00 611009101 00	10		
9,20	125	81	00 611009201 00	10		
9,30	125	81	00 611009301 00	10		
9,40	125	81	00 611009401 00	10		
9,50	125	81	00 611009501 00	10	00 627009501 00	1
9,60	133	87	00 611009601 00	10		
9,70	133	87	00 611009701 00	10		
9,80	133	87	00 611009801 00	10		
9,90	133	87	00 611009901 00	10		
10,00	133	87	00 611010001 00	10	00 627010001 00	1
10,20	133	87	00 611010201 00	5	00 627010201 00	1
10,50	133	87	00 611010501 00	5	00 627010501 00	1
11,00	142	94	00 611011001 00	5	00 627011001 00	1
11,50	142	94	00 611011501 00	5	00 627011501 00	1
12,00	151	101	00 611012001 00	5	00 627012001 00	1
12,50	151	101	00 611012501 00	5	00 627012501 00	1
13,00	151	101	00 611013001 00	5	00 627013001 00	1

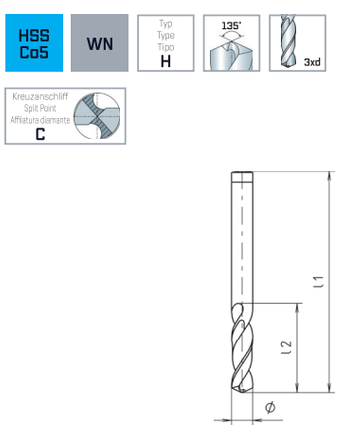
D Spiralbohrer für zähe und harte Bleche

Einsatzbereich:
Besonders geeignet für zähe und harte Werkstoffe wie rost- und säurebeständige Chrom-Nickelstähle, sowie sämtliche verschleißbeanspruchte Bauteile, überwiegend im Baugewerbe, wie z.B. HARDOX® 400, HARDOX® 500 sowie XAR 320 und XAR 400 und ähnliche Werkstoffe.



E Jobber drills for tough and hard sheet metals

Range of application:
Specially suitable for drilling stainless steel, acid-resisting steel, spring-steel as well as extremely hard materials such as manganese steel, high-tensile fine grained machinery steel (HARDOX® 400/500) and similar materials.



I Punta elicoidale per lamiere resistente e dure

Impiego:
Particolarmente adatte per materiali plastici, duri quali acciai Nickel-Cromo resistenti alla corrosione ed agli acidi, anche per materiali sottoposti ad elevata usura nell'industria edile ad es. HARDOX® 400, HARDOX® 500 come XAR 320 e XAR 400 e materiali similari.



Ø h8 mm	l1 mm	l2 mm	Code 638 Art.-Nr.	
2,00	49	12	00 638002001 00	10
2,50	57	14	00 638002501 00	10
3,00	61	16	00 638003001 00	10
3,20	65	18	00 638003201 00	10
3,30	65	18	00 638003301 00	10
3,50	70	20	00 638003501 00	10
4,00	75	22	00 638004001 00	10
4,20	75	22	00 638004201 00	10
4,50	80	24	00 638004501 00	10
5,00	86	26	00 638005001 00	10
5,50	93	28	00 638005501 00	10

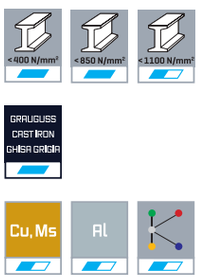
Ø h8 mm	l1 mm	l2 mm	Code 638 Art.-Nr.	
6,00	93	28	00 638006001 00	10
6,50	101	31	00 638006501 00	10
6,80	101	34	00 638006801 00	10
7,00	109	34	00 638007001 00	10
7,50	109	34	00 638007501 00	5
8,00	117	37	00 638008001 00	5
8,50	117	37	00 638008501 00	5
9,00	125	40	00 638009001 00	5
9,50	125	40	00 638009501 00	5
10,00	133	43	00 638010001 00	5
10,20	133	43	00 638010201 00	5

Ø h8 mm	l1 mm	l2 mm	Code 638 Art.-Nr.	
10,50	133	43	00 638010501 00	5
11,00	142	47	00 638011001 00	5
11,50	142	47	00 638011501 00	5

Ø h8 mm	l1 mm	l2 mm	Code 638 Art.-Nr.	
12,00	151	51	00 638012001 00	5
12,50	151	51	00 638012501 00	5
13,00	151	51	00 638013001 00	5

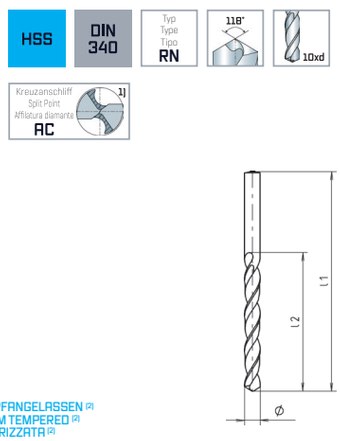
D Spiralbohrer
lang, DIN 340 RN

Einsatzbereich:
Spiralbohrer präzisionsgeschliffen, zum Bohren von legierten und unlegierten Stählen, Grauguss, Temperguss, Kupferlegierungen, Neusilber, Graphit, Sintereisen.



E Jobber drills
long series, DIN 340 RN

Range of application:
Premium quality twist drills for drilling steel and steel castings, alloy and plain carbon, grey iron castings, copper-alloys, nickel-silver, graphite and similar materials.



DAMPFANGELASSEN [2]
STEAM TEMPERED [2]
VAPORIZZATA [2]

I Punte elicoidali
serie lunga, DIN 340 RN

Impiego:
Foratura di acciai legati, non legati, ghisa, ghisa grigia, ghisa malleabile, leghe rame, alpaca, grafite, acciai sinterizzati.



DAMPFANGELASSEN [2]
STEAM TEMPERED [2]
VAPORIZZATA [2]

Ø h8 mm	l1 mm	l2 mm	Code 501 Art.-Nr.	
0,50*	32	12	00 501000501 00	10
0,60*	35	15	00 501000601 00	10
0,70*	42	21	00 501000701 00	10
0,80	46	25	00 501000801 00	10
1,00	56	33	00 501001001 00	10
1,10	60	37	00 501001101 00	10
1,20	65	41	00 501001201 00	10
1,30	65	41	00 501001301 00	10
1,40	70	45	00 501001401 00	10
1,50	70	45	00 501001501 00	10
1,60	76	50	00 501001601 00	10
1,70	76	50	00 501001701 00	10
1,80	80	53	00 501001801 00	10
1,90	80	53	00 501001901 00	10
2,00	85	56	00 501002001 00	10
2,10	85	56	00 501002101 00	10
2,20	90	59	00 501002201 00	10
2,30	90	59	00 501002301 00	10
2,40	95	62	00 501002401 00	10
2,50	95	62	00 501002501 00	10
2,60	95	62	00 501002601 00	10
2,70	100	66	00 501002701 00	10
2,80	100	66	00 501002801 00	10
2,90	100	66	00 501002901 00	10
3,00	100	66	00 501003001 00	10
3,10	106	69	00 501003101 00	10
3,20	106	69	00 501003201 00	10
3,30	106	69	00 501003301 00	10
3,40	112	73	00 501003401 00	10
3,50	112	73	00 501003501 00	10

Ø h8 mm	l1 mm	l2 mm	Code 501 Art.-Nr.	
3,60	112	73	00 501003601 00	10
3,70	112	73	00 501003701 00	10
3,80	119	78	00 501003801 00	10
3,90	119	78	00 501003901 00	10
4,00	119	78	00 501004001 00	10
4,10	119	78	00 501004101 00	10
4,20	119	78	00 501004201 00	10
4,30	126	82	00 501004301 00	10
4,40	126	82	00 501004401 00	10
4,50	126	82	00 501004501 00	10
4,60	126	82	00 501004601 00	10
4,70	126	82	00 501004701 00	10
4,80	132	87	00 501004801 00	10
4,90	132	87	00 501004901 00	10
5,00	132	87	00 501005001 00	10
5,10	132	87	00 501005101 00	10
5,20	132	87	00 501005201 00	10
5,30	132	87	00 501005301 00	10
5,40	139	91	00 501005401 00	10
5,50	139	91	00 501005501 00	10
5,60	139	91	00 501005601 00	10
5,70	139	91	00 501005701 00	10
5,80	139	91	00 501005801 00	10
5,90	139	91	00 501005901 00	10
6,00	139	91	00 501006001 00	10
6,10	148	97	00 501006101 00	10
6,20	148	97	00 501006201 00	10
6,30	148	97	00 501006301 00	10
6,40	148	97	00 501006401 00	10
6,50	148	97	00 501006501 00	10

[1] ≥ Ø 4,0 mm / [2] ≥ Ø 2,4 mm
* = WN

Fortsetzung / Continuation / Continuazione ▶



DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

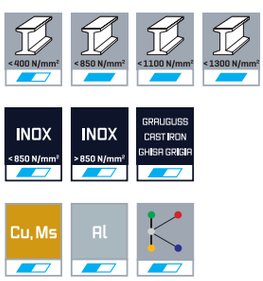
Ø h8 mm	l1 mm	l2 mm	Code 501 Art.-Nr.	
6,60	148	97	00 501006601 00	10
6,70	148	97	00 501006701 00	10
6,80	156	102	00 501006801 00	10
6,90	156	102	00 501006901 00	10
7,00	156	102	00 501007001 00	10
7,10	156	102	00 501007101 00	10
7,20	156	102	00 501007201 00	10
7,30	156	102	00 501007301 00	10
7,40	156	102	00 501007401 00	10
7,50	156	102	00 501007501 00	10
7,60	165	109	00 501007601 00	10
7,70	165	109	00 501007701 00	10
7,80	165	109	00 501007801 00	10
7,90	165	109	00 501007901 00	10
8,00	165	109	00 501008001 00	10
8,20	165	109	00 501008201 00	10
8,50	165	109	00 501008501 00	10
8,80	175	115	00 501008801 00	10

DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm	Code 501 Art.-Nr.	
9,00	175	115	00 501009001 00	10
9,50	175	115	00 501009501 00	10
9,80	184	121	00 501009801 00	10
10,00	184	121	00 501010001 00	10
10,20	184	121	00 501010201 00	1
10,50	184	121	00 501010501 00	1
11,00	195	128	00 501011001 00	1
11,50	195	128	00 501011501 00	1
12,00	205	134	00 501012001 00	1
12,50	205	134	00 501012501 00	1
13,00	205	134	00 501013001 00	1
13,50	214	140	00 501013501 00	1
14,00	214	140	00 501014001 00	1
14,50	220	144	00 501014501 00	1
15,00	220	144	00 501015001 00	1
15,50	227	149	00 501015501 00	1
16,00	227	149	00 501016001 00	1

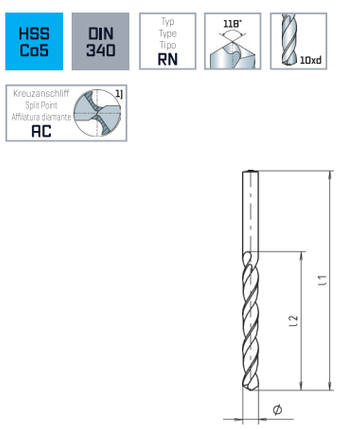
D Spiralbohrer
lang, DIN 340 RN

Einsatzbereich:
5% kobaltlegierter Spiralbohrer mit sehr hoher thermischer Belastbarkeit zum Bohren von Werkstoffen mit höherem Legierungsgehalt und Festigkeit über 800 N/mm².



E Jobber drills
long series, DIN 340 RN

Range of application:
5% cobalt-alloyed jobber drills with high heat resistance for drilling steels with tensile strength over 800 N/mm², specially suitable for high alloyed steels, bearing-steels, hot/cold-rolled steels.



I Punte elicoidali
serie lunga, DIN 340 RN

Impiego:
Punte al 5% Co ad elevata resistenza al calore adatte per la foratura di acciai altamente legati e con R > 800 N/mm².



DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm	Code 503 Art.-Nr.	
1,00	56	33	00 503001001 00	10
1,10	60	37	00 503001101 00	10
1,20	65	41	00 503001201 00	10
1,30	65	41	00 503001301 00	10
1,40	70	45	00 503001401 00	10
1,50	70	45	00 503001501 00	10
1,60	76	50	00 503001601 00	10
1,70	76	50	00 503001701 00	10
1,80	80	53	00 503001801 00	10
1,90	80	53	00 503001901 00	10

DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm	Code 503 Art.-Nr.	
2,00	85	56	00 503002001 00	10
2,10	85	56	00 503002101 00	10
2,20	90	59	00 503002201 00	10
2,30	90	59	00 503002301 00	10
2,40	95	62	00 503002401 00	10
2,50	95	62	00 503002501 00	10
2,60	95	62	00 503002601 00	10
2,70	100	66	00 503002701 00	10
2,80	100	66	00 503002801 00	10
2,90	100	66	00 503002901 00	10

[1] ≥ Ø 2,5 mm

Ø h8 mm	l1 mm	l2 mm	Code 503 Art.-Nr.	
3,00	100	66	00 503003001 00	10
3,10	106	69	00 503003101 00	10
3,20	106	69	00 503003201 00	10
3,30	106	69	00 503003301 00	10
3,40	112	73	00 503003401 00	10
3,50	112	73	00 503003501 00	10
3,60	112	73	00 503003601 00	10
3,70	112	73	00 503003701 00	10
3,80	119	78	00 503003801 00	10
3,90	119	78	00 503003901 00	10
4,00	119	78	00 503004001 00	10
4,10	119	78	00 503004101 00	10
4,20	119	78	00 503004201 00	10
4,50	126	82	00 503004501 00	10
4,80	132	87	00 503004801 00	10
5,00	132	87	00 503005001 00	10
5,20	132	87	00 503005201 00	10
5,50	139	91	00 503005501 00	10
5,80	139	91	00 503005801 00	10

Ø h8 mm	l1 mm	l2 mm	Code 503 Art.-Nr.	
6,00	139	91	00 503006001 00	10
6,20	148	97	00 503006201 00	10
6,50	148	97	00 503006501 00	10
6,80	156	102	00 503006801 00	10
7,00	156	102	00 503007001 00	10
7,50	156	102	00 503007501 00	10
7,80	165	109	00 503007801 00	10
8,00	165	109	00 503008001 00	10
8,20	165	109	00 503008201 00	10
8,50	165	109	00 503008501 00	10
9,00	175	115	00 503009001 00	10
9,50	175	115	00 503009501 00	10
9,80	184	121	00 503009801 00	10
10,00	184	121	00 503010001 00	10
10,20	184	121	00 503010201 00	1
10,50	184	121	00 503010501 00	1
11,00	195	128	00 503011001 00	1
11,50	195	128	00 503011501 00	1
12,00	205	134	00 503012001 00	1

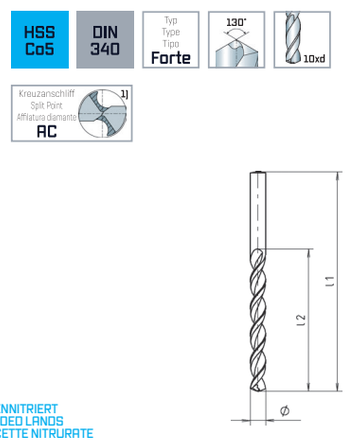
D Spiralbohrer
lang, DIN 340 Forte

Einsatzbereich:
5% kobaltlegierter Spiralbohrer mit verstärktem Kern und spezieller Nutausbildung bei schlechter Spanabfuhr bzw. für größere Bohrtiefen geeignet, für Stähle bis zu 1100 N/mm².



E Jobber drills
long series, DIN 340 Forte

Range of application:
5% cobalt-alloyed high efficiency drills with reinforced web with special designed flute profile for better chip removal and deeper holes, suitable for steels up to 1100 N/mm².



FASENNITRIERT
NITRIDED LANDS
FASCETTE NITRURATE

I Punte elicoidali
serie lunga, DIN 340 Forte

Impiego:
Punte 5% Co con nucleo rinforzato ed una particolare forma delle scanalature, adatte per lavorazioni con difficile scarico dei trucioli, fori profondi, materiali con R fino a 1100 N/mm².



FASENNITRIERT
NITRIDED LANDS
FASCETTE NITRURATE

Ø h8 mm	l1 mm	l2 mm	Code 511 Art.-Nr.	
1,00	56	33	00 511001001 00	10
1,10	60	37	00 511001101 00	10
1,20	65	41	00 511001201 00	10
1,30	65	41	00 511001301 00	10
1,40	70	45	00 511001401 00	10
1,50	70	45	00 511001501 00	10
1,60	76	50	00 511001601 00	10
1,70	76	50	00 511001701 00	10
1,80	80	53	00 511001801 00	10
1,90	80	53	00 511001901 00	10
2,00	85	56	00 511002001 00	10
2,10	85	56	00 511002101 00	10

Ø h8 mm	l1 mm	l2 mm	Code 511 Art.-Nr.	
2,20	90	59	00 511002201 00	10
2,30	90	59	00 511002301 00	10
2,40	95	62	00 511002401 00	10
2,50	95	62	00 511002501 00	10
2,60	95	62	00 511002601 00	10
2,70	100	66	00 511002701 00	10
2,80	100	66	00 511002801 00	10
2,90	100	66	00 511002901 00	10
3,00	100	66	00 511003001 00	10
3,10	106	69	00 511003101 00	10
3,20	106	69	00 511003201 00	10
3,30	106	69	00 511003301 00	10

[1] ≥ Ø 2,5 mm

Fortsetzung / Continuation / Continuazione ▶



FASENNITRIERT
NITRIDED LANDS
FASCETTE NITRURATE

Ø h8 mm	l1 mm	l2 mm	Code 511 Art.-Nr.	
3,40	112	73	00 511003401 00	10
3,50	112	73	00 511003501 00	10
3,60	112	73	00 511003601 00	10
3,70	112	73	00 511003701 00	10
3,80	119	78	00 511003801 00	10
3,90	119	78	00 511003901 00	10
4,00	119	78	00 511004001 00	10
4,20	119	78	00 511004201 00	10
4,50	126	82	00 511004501 00	10
4,80	132	87	00 511004801 00	10
5,00	132	87	00 511005001 00	10
5,20	132	87	00 511005201 00	10
5,50	139	91	00 511005501 00	10
5,80	139	91	00 511005801 00	10
6,00	139	91	00 511006001 00	10
6,20	148	97	00 511006201 00	10
6,50	148	97	00 511006501 00	10
6,80	156	102	00 511006801 00	10
7,00	156	102	00 511007001 00	10

FASENNITRIERT
NITRIDED LANDS
FASCETTE NITRURATE

Ø h8 mm	l1 mm	l2 mm	Code 511 Art.-Nr.	
7,20	156	102	00 511007201 00	10
7,50	156	102	00 511007501 00	10
7,80	165	109	00 511007801 00	10
8,00	165	109	00 511008001 00	10
8,20	165	109	00 511008201 00	10
8,50	165	109	00 511008501 00	10
9,00	175	115	00 511009001 00	10
9,50	175	115	00 511009501 00	10
9,80	184	121	00 511009801 00	10
10,00	184	121	00 511010001 00	10
10,20	184	121	00 511010201 00	1
10,50	184	121	00 511010501 00	1
11,00	195	128	00 511011001 00	1
11,50	195	128	00 511011501 00	1
12,00	205	134	00 511012001 00	1
12,50	205	134	00 511012501 00	1
13,00	205	134	00 511013001 00	1
14,00	214	140	00 511014001 00	1

D Spiralbohrer
überlang, DIN 1869 R1 RN

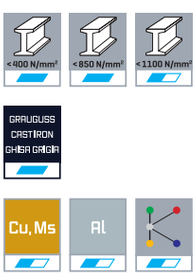
Einsatzbereich:
Hochleistungsbohrer zum Bohren von sehr tiefen Löchern, wobei Schnittgeschwindigkeit, Vorschub, Kühlung sowie häufige Spanentleerung zu beachten sind.

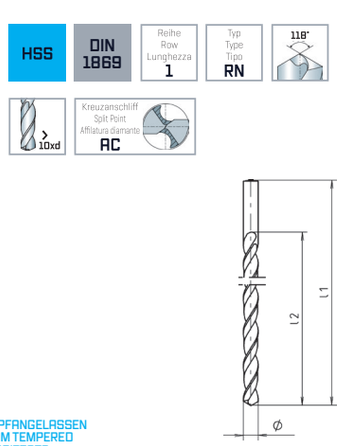
E Jobber drills
extra long series,
DIN 1869 R1 RN

Range of application:
High efficiency drills for extremely deep holes where working conditions such as cutting speed, feed, coolant and frequent chip removal have to be observed.

I Punte elicoidali
serie extra lunga,
DIN 1869 L1 RN

Impiego:
Punte ad elevata produttività adatte per lavorazioni di fori molto profondi, per le quali tuttavia è necessario prevedere una corretta impostazione della velocità, dell'avanzamento, adeguato refrigerante ed una frequente evacuazione dei trucioli.







DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm	Code 101 Art.-Nr.	
2,00	125	85	00 101002001 00	1
2,50	140	95	00 101002501 00	1
3,00	150	100	00 101003001 00	1
3,50	165	115	00 101003501 00	1
4,00	175	120	00 101004001 00	1
4,20	175	120	00 101004201 00	1
4,50	185	125	00 101004501 00	1
4,80	195	135	00 101004801 00	1
4,90	195	135	00 101004901 00	1
5,00	195	135	00 101005001 00	1

DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm	Code 101 Art.-Nr.	
5,50	205	140	00 101005501 00	1
5,80	205	140	00 101005801 00	1
6,00	205	140	00 101006001 00	1
6,20	215	150	00 101006201 00	1
6,50	215	150	00 101006501 00	1
6,80	225	155	00 101006801 00	1
7,00	225	155	00 101007001 00	1
7,50	225	155	00 101007501 00	1
8,00	240	165	00 101008001 00	1
8,50	240	165	00 101008501 00	1

DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm	Code 101 Art.-Nr.	
9,00	250	175	00 101009001 00	1
9,50	250	175	00 101009501 00	1
10,00	265	185	00 101010001 00	1
10,50	265	185	00 101010501 00	1
11,00	280	195	00 101011001 00	1

DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm	Code 101 Art.-Nr.	
11,50	280	195	00 101011501 00	1
12,00	295	205	00 101012001 00	1
12,50	295	205	00 101012501 00	1
13,00	295	205	00 101013001 00	1

D Spiralbohrer
überlang, DIN 1869 R2 RN

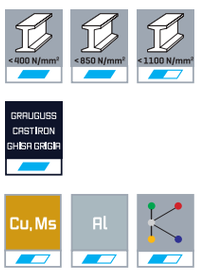
Einsatzbereich:
Hochleistungsbohrer zum Bohren von sehr tiefen Löchern, wobei Schnittgeschwindigkeit, Vorschub, Kühlung sowie häufige Spanentleerung zu beachten sind.

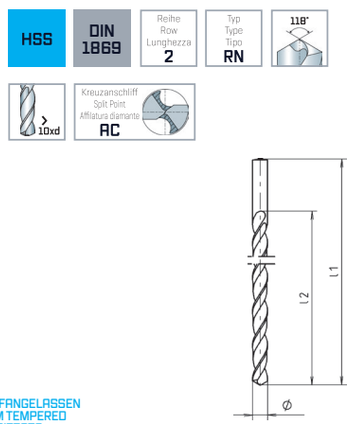
E Jobber drills
extra long series, DIN 1869 R2 RN

Range of application:
High efficiency drills for extremely deep holes where working conditions such as cutting speed, feed, coolant and frequent chip removal have to be observed.

I Punte elicoidali
serie extra lunga, DIN 1869 L2 RN

Impiego:
Punte ad elevata produttività adatte per lavorazioni di fori molto profondi, per le quali tuttavia è necessario prevedere una corretta impostazione della velocità, dell'avanzamento, adeguato refrigerante ed una frequente evacuazione dei trucioli.







DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm	Code 111 Art.-Nr.	
3,00	190	130	00 111003001 00	1
3,50	210	145	00 111003501 00	1
4,00	220	150	00 111004001 00	1
4,20	220	150	00 111004201 00	1
4,50	235	160	00 111004501 00	1
5,00	245	170	00 111005001 00	1
5,50	260	180	00 111005501 00	1
6,00	260	180	00 111006001 00	1
6,50	275	190	00 111006501 00	1
7,00	290	200	00 111007001 00	1
7,50	290	200	00 111007501 00	1
8,00	305	210	00 111008001 00	1

DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm	Code 111 Art.-Nr.	
8,50	305	210	00 111008501 00	1
9,00	320	220	00 111009001 00	1
9,50	320	220	00 111009501 00	1
10,00	340	235	00 111010001 00	1
10,20	340	235	00 111010201 00	1
10,50	340	235	00 111010501 00	1
11,00	365	250	00 111011001 00	1
11,50	365	250	00 111011501 00	1
12,00	375	260	00 111012001 00	1
12,50	375	260	00 111012501 00	1
13,00	375	260	00 111013001 00	1



D Spiralbohrer
überlang, DIN 1869 R3 RN

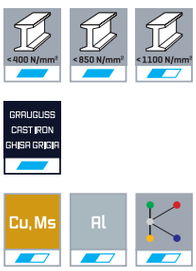
Einsatzbereich:
Hochleistungsbohrer zum Bohren von sehr tiefen Löchern, wobei Schnittgeschwindigkeit, Vorschub, Kühlung sowie häufige Spanentleerung zu beachten sind.

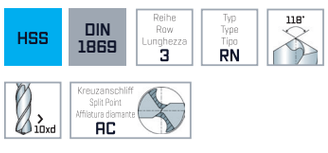
E Jobber drills
extra long series, DIN 1869 R3 RN

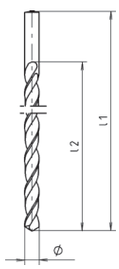
Range of application:
High efficiency drills for extremely deep holes where working conditions such as cutting speed, feed, coolant and frequent chip removal have to be observed.

I Punte elicoidali
serie extra lunga, DIN 1869 L3 RN

Impiego:
Punte ad elevata produttività adatte per lavorazioni di fori molto profondi, per le quali tuttavia è necessario prevedere una corretta impostazione della velocità, dell'avanzamento, adeguato refrigerante ed una frequente evacuazione dei trucioli.







DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA



DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm	Code 121 Art.-Nr.	
3,50	265	180	00 121003501 00	1
4,00	280	190	00 121004001 00	1
4,20	280	190	00 121004201 00	1
4,50	295	200	00 121004501 00	1
5,00	315	210	00 121005001 00	1
5,50	330	225	00 121005501 00	1
6,00	330	225	00 121006001 00	1
6,20	350	235	00 121006201 00	1
6,50	350	235	00 121006501 00	1
7,00	370	250	00 121007001 00	1
7,50	370	250	00 121007501 00	1

Ø h8 mm	l1 mm	l2 mm	Code 121 Art.-Nr.	
8,00	390	265	00 121008001 00	1
8,50	390	265	00 121008501 00	1
9,00	410	280	00 121009001 00	1
9,50	410	280	00 121009501 00	1
10,00	430	295	00 121010001 00	1
10,50	430	295	00 121010501 00	1
11,00	455	310	00 121011001 00	1
11,50	455	310	00 121011501 00	1
12,00	480	330	00 121012001 00	1
12,50	480	330	00 121012501 00	1
13,00	480	330	00 121013001 00	1

D Spiralbohrer
überlang, DIN 1869 R1 Forte

Einsatzbereich:
5% kobaltlegierter Spiralbohrer mit verstärktem Kern und spezieller Nutausbildung bei schlechter Spanabfuhr bzw. für größere Bohrtiefen geeignet, für Stähle bis zu 1100 N/mm².

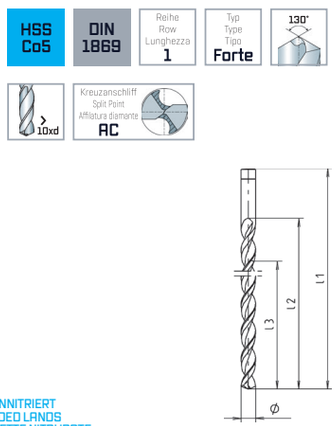
E Jobber drills
extra long series, DIN 1869 R1 Forte

Range of application:
5% cobalt-alloyed high efficiency drills with reinforced web with special designed flute profile for better chip removal and deeper holes, suitable for steels up to 1100 N/mm².

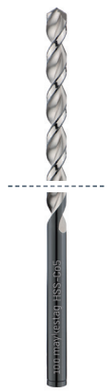
I Punte elicoidali
serie extra lunga, DIN 1869 L1 Forte

Impiego:
Punte 5% Co con nucleo rinforzato ed una particolare forma delle scanalature, adatte per lavorazioni con difficile scarico dei trucioli, fori profondi, materiali con R fino a 1100 N/mm².





FASENNITRIERT
NITRIDED LANDS
FASCETTE NITRURATE



FASENNITRIERT
NITRIDED LANDS
FASCETTE NITRURATE

Ø h8 mm	l1 mm	l2 mm	l3 mm	Code 201 Art.-Nr.	
3,00	150	100		00 201003001 00	1
3,50	165	115		00 201003501 00	1
4,00	175	120		00 201004001 00	1
4,50	185	125		00 201004501 00	1
5,00	195	135	90	00 201005001 00	1
5,50	205	140	93	00 201005501 00	1
6,00	205	140	93	00 201006001 00	1
6,50	215	150	100	00 201006501 00	1
7,00	225	155	103	00 201007001 00	1
7,50	225	155	103	00 201007501 00	1
8,00	240	165	110	00 201008001 00	1
8,50	240	165	110	00 201008501 00	1
9,00	250	175	117	00 201009001 00	1
9,50	250	175	117	00 201009501 00	1
10,00	265	185	123	00 201010001 00	1
11,00	280	195	130	00 201011001 00	1
12,00	295	205	137	00 201012001 00	1
13,00	295	205	137	00 201013001 00	1

Ausführung Doppelfase ≥ 5,00 mm / Double bevel design ≥ 5,00 mm / Esecuzione bifase ≥ 5,00 mm



D Spiralbohrer
überlang, DIN 1869 R2 Forte

Einsatzbereich:
5% kobaltlegierter Spiralbohrer mit verstärktem Kern und spezieller Nutausbildung bei schlechter Spanabfuhr bzw. für größere Bohrtiefen geeignet, für Stähle bis zu 1100 N/mm².

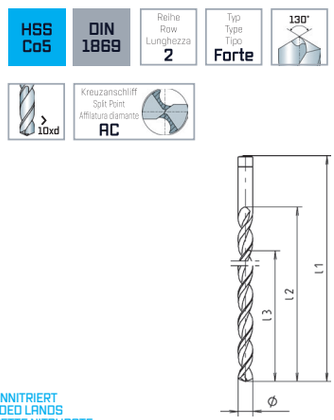
E Jobber drills
extra long series,
DIN 1869 R2 Forte

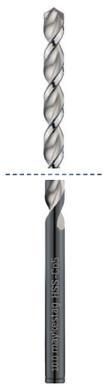
Range of application:
5% cobalt-alloyed high efficiency drills with reinforced web with special designed flute profile for better chip removal and deeper holes, suitable for steels up to 1100 N/mm².

I Punte elicoidali
serie extra lunga,
DIN 1869 L2 Forte

Impiego:
Punte 5% Co con nucleo rinforzato ed una particolare forma delle scanalature, adatte per lavorazioni con difficile scarico dei trucioli, fori profondi, materiali con R fino a 1100 N/mm².







FASENNITRIERT
NITRIDED LANDS
FASCETTE NITRURATE

Ø h8 mm	l1 mm	l2 mm	l3 mm	Code 211 Art.-Nr.	
3,00	190	130		00 211003001 00	1
3,50	210	145		00 211003501 00	1
4,00	220	150		00 211004001 00	1
4,50	235	160		00 211004501 00	1
5,00	245	170	113	00 211005001 00	1
5,50	260	180	120	00 211005501 00	1
6,00	260	180	120	00 211006001 00	1
6,50	275	190	127	00 211006501 00	1
7,00	290	200	133	00 211007001 00	1

FASENNITRIERT
NITRIDED LANDS
FASCETTE NITRURATE

Ø h8 mm	l1 mm	l2 mm	l3 mm	Code 211 Art.-Nr.	
7,50	290	200	133	00 211007501 00	1
8,00	305	210	140	00 211008001 00	1
8,50	305	210	140	00 211008501 00	1
9,00	320	220	147	00 211009001 00	1
9,50	320	220	147	00 211009501 00	1
10,00	340	235	157	00 211010001 00	1
11,00	365	250	167	00 211011001 00	1
12,00	375	260	173	00 211012001 00	1
13,00	375	260	173	00 211013001 00	1

Ausführung Doppelfase ≥ 5,00 mm / Double bevel design ≥ 5,00 mm / Esecuzione bifase ≥ 5,00 mm

D Spiralbohrer
überlang, DIN 1869 R3 Forte

Einsatzbereich:
5% kobaltlegierter Spiralbohrer mit verstärktem Kern und spezieller Nutausbildung bei schlechter Spanabfuhr bzw. für größere Bohrtiefen geeignet, für Stähle bis zu 1100 N/mm².

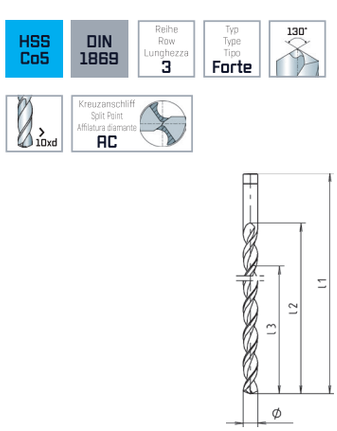
E Jobber drills
extra long series,
DIN 1869 R3 Forte

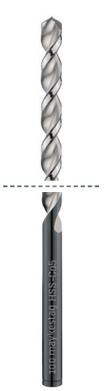
Range of application:
5% cobalt-alloyed high efficiency drills with reinforced web with special designed flute profile for better chip removal and deeper holes, suitable for steels up to 1100 N/mm².

I Punte elicoidali
serie extra lunga,
DIN 1869 L3 Forte

Impiego:
Punte 5% Co con nucleo rinforzato ed una particolare forma delle scanalature, adatte per lavorazioni con difficile scarico dei trucioli, fori profondi, materiali con R fino a 1100 N/mm².







FASENNITRIERT
NITRIDED LANDS
FASCETTE NITRURATE

Ø h8 mm	l1 mm	l2 mm	l3 mm	Code 221 Art.-Nr.	
3,50	265	180		00 221003501 00	1
4,00	280	190		00 221004001 00	1
5,00	315	210	140	00 221005001 00	1
6,00	330	225	150	00 221006001 00	1
7,00	370	250	167	00 221007001 00	1
8,00	390	265	177	00 221008001 00	1

FASENNITRIERT
NITRIDED LANDS
FASCETTE NITRURATE

Ø h8 mm	l1 mm	l2 mm	l3 mm	Code 221 Art.-Nr.	
9,00	410	280	187	00 221009001 00	1
10,00	430	295	197	00 221010001 00	1
11,00	455	310	207	00 221011001 00	1
12,00	480	330	220	00 221012001 00	1
13,00	480	330	220	00 221013001 00	1

Ausführung Doppelfase ≥ 5,00 mm / Double bevel design ≥ 5,00 mm / Esecuzione bifase ≥ 5,00 mm

D Tiefloch-Stangenbohrer, überlang, R1

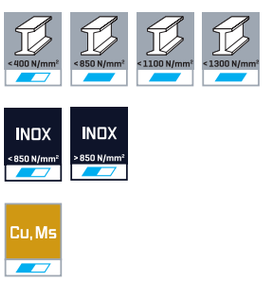
Einsatzbereich:
5% kobaltlegierter Spiralbohrer mit bedeutend verstärktem Kern und speziellem Nutprofil. Gesamtlänge nach DIN 1869, Spirallänge nach DIN 340. Spezielle Gleitstoff-Beschichtung, geringer Verschleiß und geringe Neigung zu Materialaufschweißung. Besonders geeignet für hochfeste, vergütete Stähle und Toolox.

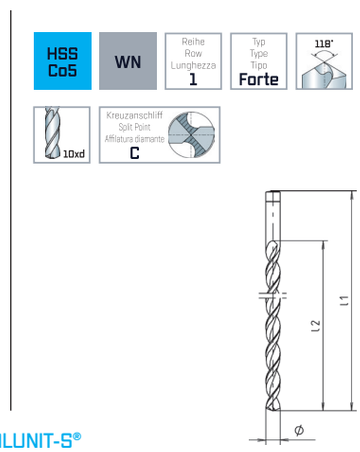
E Deep hole drill, overlength, R1

Range of application:
5% cobalt alloyed twist drill with increased center web and special flute profile. Overall length according to DIN 1869, working length according to DIN 340. Special sliding coating and less wear. Especially suitable for high tensile, heat treatable steels and Toolox.

I Punta per forature profonde, lunghezza maggiorata, L1

Impiego:
Punta elicoidale con contenuto di Cobalto al 5% con nocciolo rastremato e profilo dell'elica speciale. Lunghezza totale in accordo alla DIN 1869, lunghezza tagliente in accordo alla DIN 340. Rivestimento speciale per un maggior scorrimento e minor attrito. Particolarmente adatta per acciai ad alta resistenza e bonificati e Toolox.







ALUNIT-S®

Ø h8 mm	l1 mm	l2 mm	Code 141 Art.-Nr.	
3,00	150	66	00 141003001 00	1
4,00	175	78	00 141004001 00	1
5,00	195	87	00 141005001 00	1

ALUNIT-S®

Ø h8 mm	l1 mm	l2 mm	Code 141 Art.-Nr.	
6,00	205	91	00 141006001 00	1
8,00	240	109	00 141008001 00	1
10,00	265	121	00 141010001 00	1



D Tiefloch-Stangenbohrer, überlang, R3

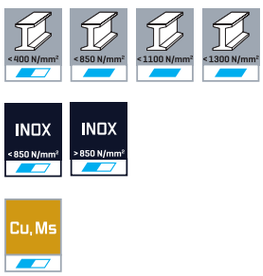
Einsatzbereich:
5% kobaltlegierter Spiralbohrer mit bedeutend verstärktem Kern und speziellem Nutprofil. Gesamtlänge nach DIN 1869, Spirallänge nach DIN 340. Spezielle Gleitstoff-Beschichtung, geringer Verschleiß und geringe Neigung zu Materialaufschweißung. Besonders geeignet für hochfeste, vergütete Stähle und Toolox.

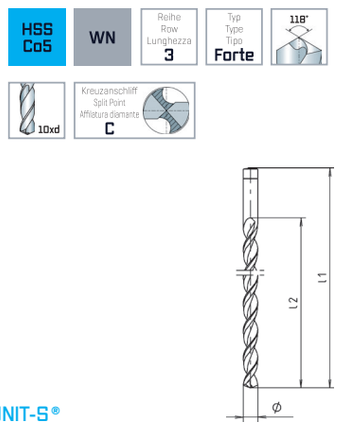
E Deep hole drill, overlength, R3

Range of application:
5% cobalt alloyed twist drill with increased center web and special flute profile. Overall length according to DIN 1869, working length according to DIN 340. Special sliding coating and less wear. Especially suitable for high tensile, heat treatable steels and Toolox.

I Punta per forature profonde, lunghezza maggiorata, L3

Impiego:
Punta elicoidale con contenuto di Cobalto al 5% con nocciolo rastremato e profilo dell'elica speciale. Lunghezza totale in accordo alla DIN 1869, lunghezza tagliente in accordo alla DIN 340. Rivestimento speciale per un maggior scorrimento e minor attrito. Particolarmente adatta per acciai ad alta resistenza e bonificati e Toolox.





ALUNIT-S®

Ø h8 mm	l1 mm	l2 mm	Code 151 Art.-Nr.	
4,00	280	78	00 151004001 00	1
5,00	315	87	00 151005001 00	1
6,00	330	91	00 151006001 00	1

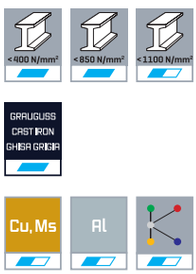


ALUNIT-S®

Ø h8 mm	l1 mm	l2 mm	Code 151 Art.-Nr.	
8,00	390	109	00 151008001 00	1
10,00	430	121	00 151010001 00	1

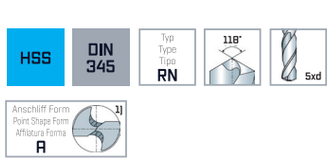
D Spiralbohrer mit Morsekegel,
kurz, DIN 345 RN

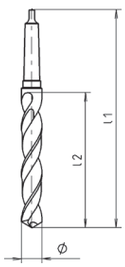
Einsatzbereich:
Hochleistungsbohrer zum Bohren von legierten und unlegierten Stählen und Stahlguss, Grauguss, Temperguss, Kupferlegierungen, Neusilber, Graphit, Sintereisen.



E Morse taper shank drills,
short series, DIN 345 RN

Range of application:
Premium quality twist drills for drilling steel and steel castings, alloy and plain carbon, grey iron castings, copper-alloys, nickel-silver, graphite and similar materials.





DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

I Punte elicoidali
serie corta, cono morse,
DIN 345 RN

Impiego:
Foratura di acciai legati, non legati, ghisa, ghisa grigia, ghisa malleabile, leghe rame, alpaca, grafite, acciai sinterizzati.



DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm		Code 202 Art.-Nr.	
5,00	133	52	1	00 202005001 00	1
5,50	138	57	1	00 202005501 00	1
6,00	138	57	1	00 202006001 00	1
6,50	144	63	1	00 202006501 00	1
7,00	150	69	1	00 202007001 00	1
7,50	150	69	1	00 202007501 00	1
8,00	156	75	1	00 202008001 00	1
8,50	156	75	1	00 202008501 00	1
9,00	162	81	1	00 202009001 00	1
9,50	162	81	1	00 202009501 00	1
9,80	168	87	1	00 202009801 00	1
10,00	168	87	1	00 202010001 00	1
10,20	168	87	1	00 202010201 00	1
10,25	168	87	1	00 202010251 00	1
10,50	168	87	1	00 202010501 00	1
10,75	175	94	1	00 202010751 00	1
11,00	175	94	1	00 202011001 00	1
11,25	175	94	1	00 202011251 00	1
11,50	175	94	1	00 202011501 00	1
11,75	175	94	1	00 202011751 00	1
12,00	182	101	1	00 202012001 00	1
12,25	182	101	1	00 202012251 00	1
12,50	182	101	1	00 202012501 00	1
12,75	182	101	1	00 202012751 00	1
13,00	182	101	1	00 202013001 00	1
13,25	189	108	1	00 202013251 00	1
13,50	189	108	1	00 202013501 00	1
13,75	189	108	1	00 202013751 00	1
14,00	189	108	1	00 202014001 00	1
14,25	212	114	2	00 202014251 00	1
14,50	212	114	2	00 202014501 00	1
14,75	212	114	2	00 202014751 00	1
15,00	212	114	2	00 202015001 00	1
15,25	218	120	2	00 202015251 00	1
15,50	218	120	2	00 202015501 00	1
15,75	218	120	2	00 202015751 00	1
16,00	218	120	2	00 202016001 00	1
16,25	223	125	2	00 202016251 00	1
16,50	223	125	2	00 202016501 00	1
16,75	223	125	2	00 202016751 00	1
17,00	223	125	2	00 202017001 00	1
17,25	228	130	2	00 202017251 00	1
17,50	228	130	2	00 202017501 00	1
17,75	228	130	2	00 202017751 00	1
18,00	228	130	2	00 202018001 00	1
18,25	233	135	2	00 202018251 00	1
18,50	233	135	2	00 202018501 00	1
18,75	233	135	2	00 202018751 00	1
19,00	233	135	2	00 202019001 00	1
19,25	238	140	2	00 202019251 00	1
19,50	238	140	2	00 202019501 00	1
19,75	238	140	2	00 202019751 00	1
20,00	238	140	2	00 202020001 00	1
20,25	243	145	2	00 202020251 00	1
20,50	243	145	2	00 202020501 00	1
20,75	243	145	2	00 202020751 00	1
21,00	243	145	2	00 202021001 00	1
21,25	248	150	2	00 202021251 00	1
21,50	248	150	2	00 202021501 00	1
21,75	248	150	2	00 202021751 00	1
22,00	248	150	2	00 202022001 00	1
22,25	248	150	2	00 202022251 00	1
22,50	253	155	2	00 202022501 00	1
22,75	253	155	2	00 202022751 00	1
23,00	253	155	2	00 202023001 00	1
23,50	276	155	3	00 202023501 00	1
23,75	281	160	3	00 202023751 00	1
24,00	281	160	3	00 202024001 00	1
24,50	281	160	3	00 202024501 00	1
24,75	281	160	3	00 202024751 00	1
25,00	281	160	3	00 202025001 00	1
25,25	286	165	3	00 202025251 00	1
25,50	286	165	3	00 202025501 00	1
25,75	286	165	3	00 202025751 00	1
26,00	286	165	3	00 202026001 00	1
26,50	286	165	3	00 202026501 00	1

[1] Anschliff Form A / Point shape form A / Affilatura forma A > Ø 16,0 mm - Ø 40,0 mm
Anschliff Form AC / Point shape form AC / Affilatura forma AC ≤ Ø 16,0 mm



DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm		Code 202 Art.-Nr.	
27,00	291	170	3	00 202027001 00	1
27,50	291	170	3	00 202027501 00	1
27,75	291	170	3	00 202027751 00	1
28,00	291	170	3	00 202028001 00	1
28,25	296	175	3	00 202028251 00	1
28,50	296	175	3	00 202028501 00	1
28,75	296	175	3	00 202028751 00	1
29,00	296	175	3	00 202029001 00	1
29,50	296	175	3	00 202029501 00	1
29,75	296	175	3	00 202029751 00	1
30,00	296	175	3	00 202030001 00	1
30,25	301	180	3	00 202030251 00	1
30,50	301	180	3	00 202030501 00	1
31,00	301	180	3	00 202031001 00	1
31,50	301	180	3	00 202031501 00	1
31,75	301	180	3	00 202031751 00	1
32,00	334	185	4	00 202032001 00	1
32,50	334	185	4	00 202032501 00	1
33,00	334	185	4	00 202033001 00	1
33,50	334	185	4	00 202033501 00	1
34,00	339	190	4	00 202034001 00	1
34,50	339	190	4	00 202034501 00	1
35,00	339	190	4	00 202035001 00	1
35,50	339	190	4	00 202035501 00	1
36,00	344	195	4	00 202036001 00	1
36,50	344	195	4	00 202036501 00	1
37,00	344	195	4	00 202037001 00	1
37,50	344	195	4	00 202037501 00	1
38,00	349	200	4	00 202038001 00	1

DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm		Code 202 Art.-Nr.	
38,50	349	200	4	00 202038501 00	1
39,00	349	200	4	00 202039001 00	1
39,50	349	200	4	00 202039501 00	1
40,00	349	200	4	00 202040001 00	1
40,50	354	205	4	00 202040501 00	1
41,00	354	205	4	00 202041001 00	1
41,50	354	205	4	00 202041501 00	1
42,00	354	205	4	00 202042001 00	1
42,50	354	205	4	00 202042501 00	1
43,00	359	210	4	00 202043001 00	1
44,00	359	210	4	00 202044001 00	1
45,00	359	210	4	00 202045001 00	1
46,00	364	215	4	00 202046001 00	1
47,00	364	215	4	00 202047001 00	1
48,00	369	220	4	00 202048001 00	1
49,00	369	220	4	00 202049001 00	1
50,00	369	220	4	00 202050001 00	1
51,00	412	225	5	00 202051001 00	1
52,00	412	225	5	00 202052001 00	1
53,00	412	225	5	00 202053001 00	1
54,00	417	230	5	00 202054001 00	1
55,00	417	230	5	00 202055001 00	1
56,00	417	230	5	00 202056001 00	1
57,00	422	235	5	00 202057001 00	1
58,00	422	235	5	00 202058001 00	1
59,00	422	235	5	00 202059001 00	1
60,00	422	235	5	00 202060001 00	1
65,00	432	245	5	00 202065001 00	1
70,00	437	250	5	00 202070001 00	1

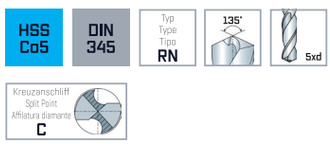
D Spiralbohrer mit Morsekegel,
kurz, DIN 345 RN

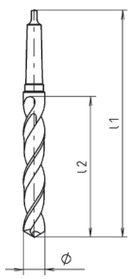
Einsatzbereich:
5% kobaltlegierter Spiralbohrer mit sehr hoher thermischer Belastbarkeit zum Bohren von Werkstoffen mit höherem Legierungsgehalt und Festigkeit über 800 N/mm².



E Morse taper shank drills,
short series, DIN 345 RN

Range of application:
5% cobalt-alloyed drills with high heat resistance for drilling steels with tensile strength over 800 N/mm².





DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

I Punte elicoidali
serie corta, cono morse, DIN 345 RN

Impiego:
Punte al 5% Co ad elevata resistenza al calore, adatte per foratura di materiali altamente legati con R > 800 N/mm².



DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm		Code 203 Art.-Nr.	
8,00	156	75	1	00 203008001 00	1
9,00	162	81	1	00 203009001 00	1
10,00	168	87	1	00 203010001 00	1
10,20	168	87	1	00 203010201 00	1
10,50	168	87	1	00 203010501 00	1
10,80	175	94	1	00 203010801 00	1
11,00	175	94	1	00 203011001 00	1
11,50	175	94	1	00 203011501 00	1
11,80	175	94	1	00 203011801 00	1
12,00	182	101	1	00 203012001 00	1
12,20	182	101	1	00 203012201 00	1
12,50	182	101	1	00 203012501 00	1
13,00	182	101	1	00 203013001 00	1
13,50	189	108	1	00 203013501 00	1
13,80	189	108	1	00 203013801 00	1
14,00	189	108	1	00 203014001 00	1
14,25	212	114	2	00 203014251 00	1
14,50	212	114	2	00 203014501 00	1
15,00	212	114	2	00 203015001 00	1
15,25	218	120	2	00 203015251 00	1
15,50	218	120	2	00 203015501 00	1
15,75	218	120	2	00 203015751 00	1
16,00	218	120	2	00 203016001 00	1
16,25	223	125	2	00 203016251 00	1
16,50	223	125	2	00 203016501 00	1
17,00	223	125	2	00 203017001 00	1
17,50	228	130	2	00 203017501 00	1
17,75	228	130	2	00 203017751 00	1
18,00	228	130	2	00 203018001 00	1
18,50	233	135	2	00 203018501 00	1
18,75	233	135	2	00 203018751 00	1
19,00	233	135	2	00 203019001 00	1
19,50	238	140	2	00 203019501 00	1
19,75	238	140	2	00 203019751 00	1
20,00	238	140	2	00 203020001 00	1
20,50	243	145	2	00 203020501 00	1
20,75	243	145	2	00 203020751 00	1
21,00	243	145	2	00 203021001 00	1

Ø h8 mm	l1 mm	l2 mm		Code 203 Art.-Nr.	
21,50	248	150	2	00 203021501 00	1
22,00	248	150	2	00 203022001 00	1
22,50	253	155	2	00 203022501 00	1
23,00	253	155	2	00 203023001 00	1
23,50	276	155	3	00 203023501 00	1
24,00	281	160	3	00 203024001 00	1
24,50	281	160	3	00 203024501 00	1
25,00	281	160	3	00 203025001 00	1
25,50	286	165	3	00 203025501 00	1
26,00	286	165	3	00 203026001 00	1
26,50	286	165	3	00 203026501 00	1
27,00	291	170	3	00 203027001 00	1
27,50	291	170	3	00 203027501 00	1
28,00	291	170	3	00 203028001 00	1
28,50	296	175	3	00 203028501 00	1
29,00	296	175	3	00 203029001 00	1
29,50	296	175	3	00 203029501 00	1
30,00	296	175	3	00 203030001 00	1
30,50	301	180	3	00 203030501 00	1
31,00	301	180	3	00 203031001 00	1
31,50	301	180	3	00 203031501 00	1
32,00	334	185	4	00 203032001 00	1
32,50	334	185	4	00 203032501 00	1
33,00	334	185	4	00 203033001 00	1
33,50	334	185	4	00 203033501 00	1
34,00	339	190	4	00 203034001 00	1
34,50	339	190	4	00 203034501 00	1
35,00	339	190	4	00 203035001 00	1
35,50	339	190	4	00 203035501 00	1
36,00	344	195	4	00 203036001 00	1
36,50	344	195	4	00 203036501 00	1
37,00	344	195	4	00 203037001 00	1
37,50	344	195	4	00 203037501 00	1
38,00	349	200	4	00 203038001 00	1
38,50	349	200	4	00 203038501 00	1
39,00	349	200	4	00 203039001 00	1
39,50	349	200	4	00 203039501 00	1
40,00	349	200	4	00 203040001 00	1



D Spiralbohrer
lang, mit Morsekegel, DIN 341 RN

Einsatzbereich:
Hochleistungsbohrer zum Bohren von legierten und unlegierten Stählen und Stahlguss, Grauguss, Temperguss, Kupferlegierungen, Neusilber, Graphit, Sintereisen.

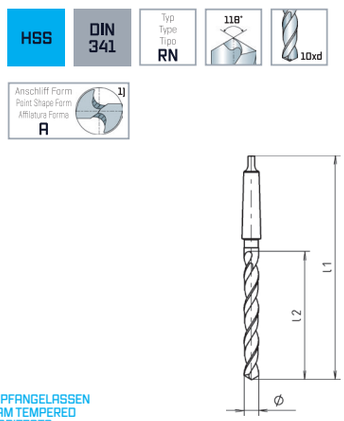
E Morse taper shank drills,
long series, DIN 341 RN

Range of application:
High efficiency drills for drilling steel and steel castings, alloy and plain carbon, grey iron castings, copper-alloys, nickel-silver, graphite and similar materials.

I Punte elicoidali
serie lunga, cono morse, DIN 341 RN

Impiego:
Foratura di acciai legati, non legati, ghisa, ghisa grigia, ghisa malleabile, leghe rame, alpaca, grafite, acciai sinterizzati.







DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm		Code 222 Art.-Nr.	
10,00	197	116	1	00 222010001 00	1
10,50	197	116	1	00 222010501 00	1
11,00	206	125	1	00 222011001 00	1
11,50	206	125	1	00 222011501 00	1
12,00	215	134	1	00 222012001 00	1
12,50	215	134	1	00 222012501 00	1
13,00	215	134	1	00 222013001 00	1
13,50	223	142	1	00 222013501 00	1
14,00	223	142	1	00 222014001 00	1
14,25	245	147	2	00 222014251 00	1
14,50	245	147	2	00 222014501 00	1
15,00	245	147	2	00 222015001 00	1
15,50	251	153	2	00 222015501 00	1
16,00	251	153	2	00 222016001 00	1
16,50	257	159	2	00 222016501 00	1
17,00	257	159	2	00 222017001 00	1
17,50	263	165	2	00 222017501 00	1
18,00	263	165	2	00 222018001 00	1
18,50	269	171	2	00 222018501 00	1
19,00	269	171	2	00 222019001 00	1
19,50	275	177	2	00 222019501 00	1
20,00	275	177	2	00 222020001 00	1
20,50	282	184	2	00 222020501 00	1

DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm		Code 222 Art.-Nr.	
21,00	282	184	2	00 222021001 00	1
21,50	289	191	2	00 222021501 00	1
22,00	289	191	2	00 222022001 00	1
22,50	296	198	2	00 222022501 00	1
23,00	296	198	2	00 222023001 00	1
24,00	327	206	3	00 222024001 00	1
25,00	327	206	3	00 222025001 00	1
26,00	335	214	3	00 222026001 00	1
27,00	343	222	3	00 222027001 00	1
28,00	343	222	3	00 222028001 00	1
29,00	351	230	3	00 222029001 00	1
30,00	351	230	3	00 222030001 00	1
31,00	360	239	3	00 222031001 00	1
32,00	397	248	4	00 222032001 00	1
33,00	397	248	4	00 222033001 00	1
35,00	406	257	4	00 222035001 00	1
38,00	426	277	4	00 222038001 00	1
39,00	426	277	4	00 222039001 00	1
40,00	426	277	4	00 222040001 00	1
42,00	436	287	4	00 222042001 00	1
45,00	447	298	4	00 222045001 00	1
48,00	470	321	4	00 222048001 00	1
50,00	470	321	4	00 222050001 00	1

[1] Anschliff Form A / Point shape form A / Affilatura forma A > Ø 16,0 mm - Ø 40,0 mm; Anschliff Form AC / Point shape form AC / Affilatura forma AC ≤ Ø 16,0 mm

D Spiralbohrer
überlang, mit Morsekegel,
DIN 1870 R1 RN

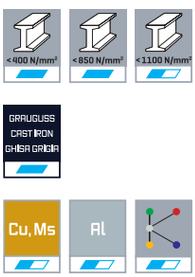
Einsatzbereich:
Hochleistungsbohrer zum Bohren von sehr tiefen Löchern, wobei Schnittgeschwindigkeit, Vorschub und Kühlung sowie häufige Spanentleerung zu beachten sind.

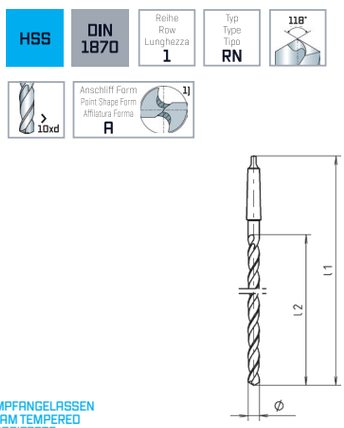
E Morse taper shank drills,
extra long series,
DIN 1870 R1 RN

Range of application:
High efficiency drills for extremely deep holes where working conditions such as cutting speed, feed, coolant and frequent chip removal have to be observed.

I Punte elicoidali
serie extra lunga, cono morse
DIN 1870 L1 RN

Impiego:
Punte ad elevata produttività adatte per lavorazioni di fori molto profondi, per le quali tuttavia è necessario prevedere una corretta impostazione della velocità, dell'avanzamento, adeguato refrigerante ed una frequente evacuazione dei trucioli.







DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm		Code 262 Art.-Nr.	
8,00	265	165	1	00 262008001 00	1
9,00	275	175	1	00 262009001 00	1
10,00	285	185	1	00 262010001 00	1
11,00	300	195	1	00 262011001 00	1
12,00	310	205	1	00 262012001 00	1
13,00	310	205	1	00 262013001 00	1
14,00	325	220	1	00 262014001 00	1
14,50	340	220	2	00 262014501 00	1
15,00	340	220	2	00 262015001 00	1
15,50	355	230	2	00 262015501 00	1
16,00	355	230	2	00 262016001 00	1
16,50	355	230	2	00 262016501 00	1
17,00	355	230	2	00 262017001 00	1
17,50	370	245	2	00 262017501 00	1
18,00	370	245	2	00 262018001 00	1

DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm		Code 262 Art.-Nr.	
18,50	370	245	2	00 262018501 00	1
19,00	370	245	2	00 262019001 00	1
19,50	385	260	2	00 262019501 00	1
20,00	385	260	2	00 262020001 00	1
21,00	385	260	2	00 262021001 00	1
22,00	405	270	2	00 262022001 00	1
23,00	405	270	2	00 262023001 00	1
24,00	440	290	3	00 262024001 00	1
25,00	440	290	3	00 262025001 00	1
26,00	440	290	3	00 262026001 00	1
27,00	460	305	3	00 262027001 00	1
28,00	460	305	3	00 262028001 00	1
29,00	460	305	3	00 262029001 00	1
30,00	460	305	3	00 262030001 00	1

[1] Anschliff Form A / Point shape form A / Affilatura forma A > Ø 16,0 mm
Anschliff Form AC / Point shape form AC / Affilatura forma AC ≤ Ø 16,0 mm



D Spiralbohrer mit Morsekegel
überlang, DIN 1870 R2 RN

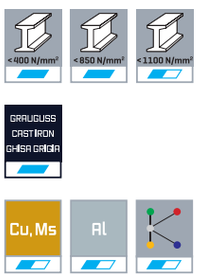
Einsatzbereich:
Hochleistungsbohrer zum Bohren von sehr tiefen Löchern, wobei Schnittgeschwindigkeit, Vorschub und Kühlung sowie häufige Spanentleerung zu beachten sind.

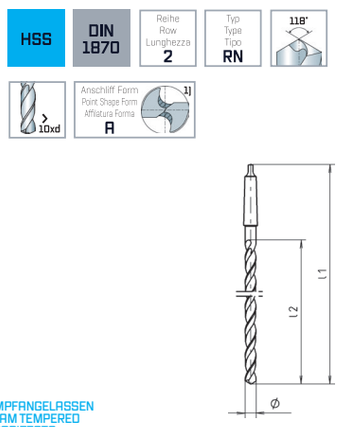
E Morse taper shank drills,
extra long series,
DIN 1870 R2 RN

Range of application:
High efficiency drills for extremely deep holes where working conditions such as cutting speed, feed, coolant and frequent chip removal have to be observed.

I Punte elicoidali
serie extra lunga, cono morse
DIN 1870 L2 RN

Impiego:
Punte ad elevata produttività adatte per lavorazioni di fori molto profondi, per le quali tuttavia è necessario prevedere una corretta impostazione della velocità, dell'avanzamento, adeguato refrigerante ed una frequente evacuazione dei trucioli.







DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm		Code 282 Art.-Nr.	
9,00	345	220	1	00 282009001 00	1
10,00	360	235	1	00 282010001 00	1
10,50	360	235	1	00 282010501 00	1
11,00	375	250	1	00 282011001 00	1
11,50	375	250	1	00 282011501 00	1
12,00	395	260	1	00 282012001 00	1
12,50	395	260	1	00 282012501 00	1
13,00	395	260	1	00 282013001 00	1
13,50	410	275	1	00 282013501 00	1
14,00	410	275	1	00 282014001 00	1
14,50	425	275	2	00 282014501 00	1
15,00	425	275	2	00 282015001 00	1
15,50	445	295	2	00 282015501 00	1
16,00	445	295	2	00 282016001 00	1

DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm		Code 282 Art.-Nr.	
16,50	445	295	2	00 282016501 00	1
17,00	445	295	2	00 282017001 00	1
17,50	465	310	2	00 282017501 00	1
18,00	465	310	2	00 282018001 00	1
19,00	465	310	2	00 282019001 00	1
20,00	490	325	2	00 282020001 00	1
21,00	490	325	2	00 282021001 00	1
22,00	515	345	2	00 282022001 00	1
23,00	515	345	2	00 282023001 00	1
24,00	555	365	3	00 282024001 00	1
25,00	555	365	3	00 282025001 00	1
26,00	555	365	3	00 282026001 00	1
28,00	580	385	3	00 282028001 00	1
30,00	580	385	3	00 282030001 00	1

[1] Anschliff Form A / Point shape form A / Affilatura forma A > Ø 16,0 mm
Anschliff Form AC / Point shape form AC / Affilatura forma AC ≤ Ø 16,0 mm

D Spiralbohrer mit Morsekegel
kurz

Einsatzbereich:
8% kobaltlegierter Spiralbohrer mit verstärktem Kerndurchmesser. Besonders geeignet für zähe und harte Werkstoffe, wie Manganstahl, hochfeste Feinkornstähle (HARDOX® 400/500) sowie Baustähle über 1100 N/mm².

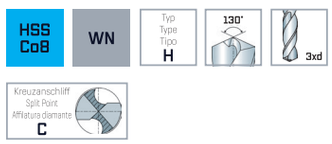
E Morse taper shank drills
short series

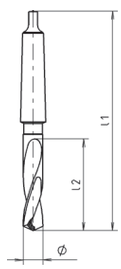
Range of application:
8% cobalt-alloyed drills with re-inforced web. Specially suitable for drilling extremely hard materials such as manganese steel, high-tensile fine grained machinery steel (HARDOX® 400/500) and alloyed steel over 1100 N/mm².

I Punte elicoidali
serie corta, cono morse

Impiego:
Punte 8% Co con nucleo rinforzato adatte per lavorazioni di materiali plastici, duri, quali acciai al manganese, acciai a grana fine (HARDOX® 400/500) ed acciai da costruzione con R > 1100 N/mm².









DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm		Code 832 Art.-Nr.	
8,00	124	43	1	00 832008001 00	1
8,50	124	43	1	00 832008501 00	1
9,00	127	46	1	00 832009001 00	1
10,00	131	50	1	00 832010001 00	1
10,50	131	50	1	00 832010501 00	1
11,00	136	55	1	00 832011001 00	1
12,00	157	59	2	00 832012001 00	1
12,50	157	59	2	00 832012501 00	1
13,00	157	59	2	00 832013001 00	1
14,00	161	63	2	00 832014001 00	1
14,50	164	66	2	00 832014501 00	1
15,00	164	66	2	00 832015001 00	1
16,00	168	70	2	00 832016001 00	1
16,50	171	73	2	00 832016501 00	1
17,00	171	73	2	00 832017001 00	1
17,50	175	77	2	00 832017501 00	1
18,00	175	77	2	00 832018001 00	1
18,50	201	80	3	00 832018501 00	1
19,00	201	80	3	00 832019001 00	1
19,50	204	83	3	00 832019501 00	1
20,00	204	83	3	00 832020001 00	1

DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

Ø h8 mm	l1 mm	l2 mm		Code 832 Art.-Nr.	
21,00	208	87	3	00 832021001 00	1
22,00	211	90	3	00 832022001 00	1
23,00	215	94	3	00 832023001 00	1
24,00	219	98	3	00 832024001 00	1
25,00	219	98	3	00 832025001 00	1
26,00	224	103	3	00 832026001 00	1
27,00	256	107	4	00 832027001 00	1
28,00	256	107	4	00 832028001 00	1
29,00	261	112	4	00 832029001 00	1
30,00	261	112	4	00 832030001 00	1
31,00	266	117	4	00 832031001 00	1
32,00	271	122	4	00 832032001 00	1
33,00	271	122	4	00 832033001 00	1
34,00	277	128	4	00 832034001 00	1
35,00	277	128	4	00 832035001 00	1
36,00	282	132	4	00 832036001 00	1
37,00	282	132	4	00 832037001 00	1
38,00	288	139	4	00 832038001 00	1
39,00	288	139	4	00 832039001 00	1
40,00	288	139	4	00 832040001 00	1



D Mehrfasen-Stufenbohrer
DIN 8374 RN-mittel, 90°

Einsatzbereich:
Mehrfasen-Stufenbohrer mit Zylinderschaft zur Herstellung von Durchgangslöchern – Ausführung mittel – nach ISO 273, wobei gleichzeitig Schraubenkopfsenkungen (90°) der Form A und B – Ausführung mittel – nach DIN 74 Teil 1 erzeugt werden. Die Schnittgeschwindigkeit richtet sich nach dem großen Durchmesser, der Vorschub nach dem kleinen.

E Subland drills
DIN 8374 RN-medial, 90°

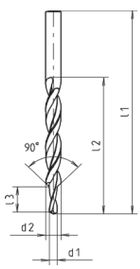
Range of application:
Subland twist drills with straight shank for drilling clearance holes – accuracy class "medium" – according to ISO 273, with the simultaneous screw-head counterboring (90°) of the shapes A and B (accuracy class "medium") according to DIN 74, Part 1. The cutting speed is governed by the larger diameter but the feed must suit the smaller.ved.

I Punte a gradino per sedi viti
DIN 8374 RN media, 90°

Impiego:
Punte a gradino ad eliche indipendenti codolo cilindrico esecuzione di fori passanti finitura "media" – secondo ISO 273 – e contemporanea esecuzione della svasatura (90°) nella forma A e B finitura media secondo DIN 74 parte 1a. La velocità di taglio in funzione del diametro maggiore, l'avanzamento in funzione del diametro minore.

< 400 N/mm² | < 850 N/mm² | < 1100 N/mm² | GRAUGUSS CAST IRON GHISA GRIGIA | Cu, Ms | Al

HSS | DIN 8374 | Typ Type Tipo RN | 118° | 90° d2 d1 | Anschliff Form Point Shape Form Affilatura Forma A





DAMPFANGELASSEN STEAM TEMPERED VAPORIZZATA

	d1 h8 mm	d2 h8 mm	l1 mm	l2 mm	l3 mm	∢	Code 841 Art.-Nr.		
M 5	5,50	11,00	142	94	13	90°	00 841011001	00	1
M 6	6,60	13,00	151	101	15	90°	00 841013001	00	1

	d1 h8 mm	d2 h8 mm	l1 mm	l2 mm	l3 mm	∢	Code 841 Art.-Nr.		
M 8	9,00	17,20	191	130	19	90°	00 841017201	00	1

D Mehrfasen-Stufenbohrer
DIN 8374 RN-fein, 90°

Einsatzbereich:
Mehrfasen-Stufenbohrer mit Zylinderschaft zur Herstellung von Durchgangslöchern – Ausführung fein – nach ISO 273, wobei gleichzeitig Schraubenkopfsenkungen (90°) der Form A, Ausführung fein (f) erzeugt werden. Die Schnittgeschwindigkeit richtet sich nach dem großen Durchmesser, der Vorschub nach dem kleinen.

E Subland drills
DIN 8374 RN-fine, 90°

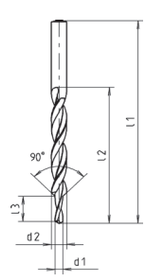
Range of application:
Subland twist drills with straight shank for drilling clearance holes – accuracy class "fine" – according to ISO 273, with the simultaneous countersinking for the screw head (90°) to shape A accuracy class "fine" (f). The cutting speed is governed by the larger diameter but the feed must suit the smaller.

I Punte a gradino per sedi viti
DIN 8374 RN fine, 90°

Impiego:
Punte a gradino ad eliche indipendenti codolo cilindrico esecuzione di fori passanti finitura "fine" – secondo ISO 273 – e contemporanea esecuzione della svasatura (90°) nella forma A finitura fine (f). La velocità di taglio in funzione del diametro maggiore, l'avanzamento in funzione del diametro minore.

< 400 N/mm² | < 850 N/mm² | < 1100 N/mm² | GRAUGUSS CAST IRON GHISA GRIGIA | Cu, Ms | Al

HSS | DIN 8374 | Typ Type Tipo RN | 118° | 90° d2 d1 | Anschliff Form Point Shape Form Affilatura Forma A





DAMPFANGELASSEN STEAM TEMPERED VAPORIZZATA

	d1 h8 mm	d2 h8 mm	l1 mm	l2 mm	l3 mm	∢	Code 841 Art.-Nr.		
M 3	3,20	6,00	93	57	9	90°	00 841006001	00	1
M 4	4,30	8,00	117	75	11	90°	00 841008001	00	1
M 5	5,30	10,00	133	87	13	90°	00 841010001	00	1

	d1 h8 mm	d2 h8 mm	l1 mm	l2 mm	l3 mm	∢		Code 841 Art.-Nr.		
M 6	6,40	11,50	142	94	15	90°	1	00 841011501	00	1
M 8	8,40	15,00	169	114	19	90°	1	00 841015001	00	1
M10	10,50	19,00	198	135	23	90°	1	00 841019001	00	1

D Mehrfasen-Stufenbohrer
DIN 8376 RN-mittel, 180°

Einsatzbereich:
Mehrfasen-Stufenbohrer mit Zylinderschaft zur Herstellung von Durchgangslöchern – Ausführung mittel – nach ISO 273, wobei gleichzeitig Schraubenkopfsenkungen (180°) der Form H, J, H3, J3 und K3 – Ausführung mittel – nach DIN 74 Teil 2 erzeugt werden. Die Schnittgeschwindigkeit richtet sich nach dem großen Durchmesser, der Vorschub nach dem kleinen.

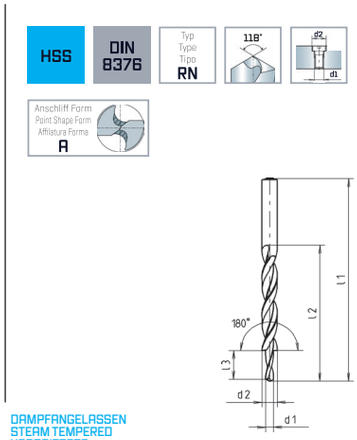
E Subland drills
DIN 8376 RN-medial, 180°

Range of application:
Subland twist drills with straight shank for drilling clearance holes – accuracy class "medium" – according to ISO 273, with the simultaneous screw-head counterboring (180°) of the shapes H, J, H3, J3 and K3 (accuracy class "medium") according to DIN 74, Part 2. The cutting speed is governed by the larger diameter but the feed must suit the smaller.

I Punte a gradino per sedi viti
DIN 8376 RN media, 180°

Impiego:
Punte a gradino ad eliche indipendenti codolo cilindrico esecuzione di fori passanti finitura "media" – secondo ISO 273 – e contemporanea esecuzione della svasatura (180°) nella forma H, J, H3, J3, K3 finitura media secondo DIN 74 parte 2a. La velocità di taglio in funzione del diametro maggiore, l'avanzamento in funzione del diametro minore.







DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

	d1 h8 mm	d2 h8 mm	l1 mm	l2 mm	l3 mm	∢	Code 851 Art.-Nr.	
M 3	3,40	6,00	93	57	9	180°	00 851006001 00	1
M 4	4,50	8,00	117	75	11	180°	00 851008001 00	1
M 5	5,50	10,00	133	87	13	180°	00 851010001 00	1

	d1 h8 mm	d2 h8 mm	l1 mm	l2 mm	l3 mm	∢	Code 851 Art.-Nr.	
M 6	6,60	11,00	142	94	15	180°	00 851011001 00	1
M 8	9,00	15,00	169	114	19	180°	00 851015001 00	1
M10	11,00	18,00	191	130	23	180°	00 851018001 00	1

D Mehrfasen-Stufenbohrer
DIN 8378 RN-mittel, 90°

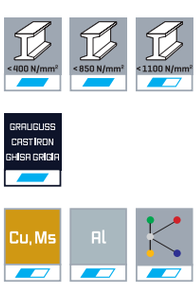
Einsatzbereich:
Mehrfasen-Stufenbohrer mit Zylinderschaft zur Herstellung von Kernlochbohrungen nach DIN 336 Teil 1, wobei gleichzeitig Freisenkungen (90°) entsprechend den Durchgangslöchern – Ausführung mittel – nach ISO 273 erzeugt werden. Die Schnittgeschwindigkeit richtet sich nach dem großen Durchmesser, der Vorschub nach dem kleinen.

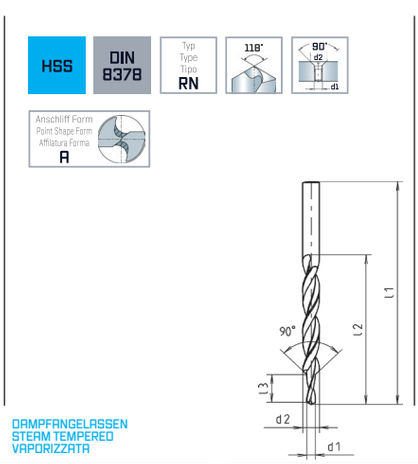
E Subland drills
DIN 8378 RN-medial, 90°

Range of application:
Subland twist drills with straight shank for drilling the tapping hole according to DIN 336, Part 1, with the simultaneous counterboring (90°) of the corresponding clearance hole – accuracy class "medium" – according to ISO 273. The cutting speed is governed by the larger diameter but the feed must suit the smaller.

I Punte a gradino per sedi viti
DIN 8378 RN media, 90°

Impiego:
Punte a gradino ad eliche indipendenti codolo cilindrico esecuzione di prefori per filettatura secondo DIN 336 parte 1a e contemporanea esecuzione della svasatura (90°), corrispondente ai fori passanti esecuzione "media" secondo ISO 273. La velocità di taglio in funzione del diametro maggiore, l'avanzamento in funzione del diametro minore.







DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

	d1 h8 mm	d2 h8 mm	l1 mm	l2 mm	l3 mm	∢	Code 861 Art.-Nr.	
M 3	2,50	3,40	70	39	8,80	90°	00 861003401 00	1
M 4	3,30	4,50	80	47	11,40	90°	00 861004501 00	1
M 5	4,20	5,50	93	57	13,60	90°	00 861005501 00	1
M 6	5,00	6,60	101	63	16,50	90°	00 861006601 00	1

	d1 h8 mm	d2 h8 mm	l1 mm	l2 mm	l3 mm	∢	Code 861 Art.-Nr.	
M 8	6,80	9,00	125	81	21,00	90°	00 861009001 00	1
M10	8,50	11,00	142	94	25,50	90°	00 861011001 00	1
M12	10,20	13,50	160	108	30,00	90°	00 861013501 00	1



D Mehrfasen-Stufenbohrer mit Morsekegel, DIN 8377 RN-mittel, 180°

Einsatzbereich:
Mehrfasen-Stufenbohrer mit Morsekegelschaft zur Herstellung von Durchgangslöchern – Ausführung mittel – nach ISO 273, wobei gleichzeitig Schraubenkopfsenkungen (180°) der Form H, J, K, H3, J3 und K3 – Ausführung mittel – nach DIN 74 Teil 2 erzeugt werden. Die Schnittgeschwindigkeit richtet sich nach dem großen Durchmesser, der Vorschub nach dem kleinen.

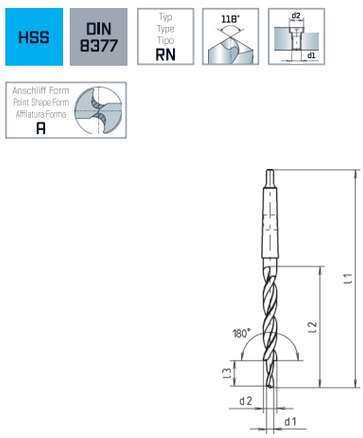
E Subland Drills with morse taper shank, DIN 8377 RN-medial, 180°

Range of application:
Subland twist drills with Morse Taper Shank for drilling clearance holes – accuracy class "medium" – according to ISO 273, with the simultaneous screw-head counterboring (180°) of the shapes H, J, K, H3, J3 and K3 (accuracy class "medium") according to DIN 74, Part 2. The cutting speed is governed by the larger diameter but the feed must suit the smaller.

I Punte a gradino per sedi viti, cono morse, DIN 8377 RN media, 180°

Impiego:
Punte a gradino ad eliche indipendenti C.M. esecuzione di fori passanti finitura "media" – secondo ISO 273 – e contemporanea esecuzione della svasatura (180°) nella forma H, J, K, H3, J3, K3 finitura media secondo DIN 74 parte 2a. La velocità di taglio in funzione del diametro maggiore, l'avanzamento in funzione del diametro minore.







DAMPFANGELASSEN
STEAM TEMPERED
VAPORIZZATA

	d1 h8 mm	d2 h8 mm	l1 mm	l2 mm	l3 mm			Code 852 Art.-Nr.	
M 10	11,00	18,00	228	130	23	180°	2	00 852018001 00	1
M 12	13,50	20,00	238	140	27	180°	2	00 852020001 00	1
M 14	15,50	24,00	281	160	31	180°	3	00 852024001 00	1
M 16	17,50	26,00	286	165	35	180°	3	00 852026001 00	1

D HSS-Spiralbohrer-Sätze
DIN 338 RN

Einsatzbereich:
Spiralbohrer präzisionsgeschliffen, zum Bohren von legierten und unlegierten Stählen, Grauguss, Temperguss, Kupferlegierungen, Neusilber, Graphit, Sintereisen.

E HSS drill assortments
DIN 338 RN

Range of application:
Premium quality twist drills for drilling steel and steel castings, alloy and plain carbon, grey iron castings, copper-alloys, nickel-silver, graphite and similar materials.

I Assortimenti punte elicoidali
DIN 338 RN

Impiego:
Foratura di acciai legati, non legati, ghisa, ghisa grigia, ghisa malleabile, leghe rame, alpaca, grafite, acciai sinterizzati.





HSS KM 19, 19-tlg. / 19 pcs. / 19 pz.

Inhalt / Contents / Contenuto:
Code 601 Ø 1,0-10,0 x 0,5 mm
Art.-Nr. 00 001013111 00



HSS KM 25, 25-tlg. / 25 pcs. / 25 pz.

Inhalt / Contents / Contenuto:
Code 601 Ø 1,0-13,0 x 0,5 mm
Art.-Nr. 00 001013211 00



HSS KM 50, 50-tlg. / 50 pcs. / 50 pz.

Inhalt / Contents / Contenuto:
Code 601 Ø 1,0-5,9 x 0,1 mm
Art.-Nr. 00 001003511 00



HSS KM 41, 41-tlg. / 41 pcs. / 41 pz.

Inhalt / Contents / Contenuto:
Code 601 Ø 6,0-10,0 x 0,1 mm
Art.-Nr. 00 001003611 00



D HSS-Co5-Spiralbohrer-Sätze, DIN 338 Forte

Einsatzbereich:
5% kobaltlegierter Spiralbohrer mit sehr hoher thermischer Belastbarkeit. Durch spezielle Nutausbildung bei schlechter Spanabfuhr bzw. für größere Bohrtiefen geeignet. Für Werkstoffe mit einer Festigkeit bis 1100 N/mm².

E HSS-Co5 drill assortments, DIN 338 Forte

Range of application:
5% cobalt-alloyed jobber drills with an extremely sturdy construction (re-inforced web) for drilling under difficult conditions e. g. poor chipremoval and deep holes, for use in steel and cast-iron with tensile strength up to 1100 N/mm².

I Assortimenti punte elicoidali HSS-Co5, DIN 338 Forte

Impiego:
Punte al 5% Co ad elevata resistenza al calore, adatte – grazie alla speciale fascetta nitrurata – per lavorazioni con difficile scarico dei trucioli, di fori profondi di materiali con R fino a 1100 N/mm².





HSS Cobalt Forte KM 19, 19-tlg. / 19 pcs. / 19 pz.

Inhalt / Contents / Contenuto:
Code 611 Ø 1,0-10,0 x 0,5 mm
Art.-Nr. 00 001006191 00



HSS Cobalt Forte KM 25, 25-tlg. / 25 pcs. / 25 pz.

Inhalt / Contents / Contenuto:
Code 611 Ø 1,0-13,0 x 0,5 mm
Art.-Nr. 00 001006251 00

D HSS-Co5-Spiralbohrer-Sätze, DIN 338 RN

Einsatzbereich:
5% kobaltlegierter Spiralbohrer mit sehr hoher thermischer Belastbarkeit zum Bohren von Werkstoffen mit höherem Legierungsgehalt und Festigkeit über 800 N/mm².

E HSS-Co5 drill assortments, DIN 338 RN

Range of application:
5% cobalt-alloyed jobber drills with high heat resistance for drilling steels with tensile strength over 800 N/mm², specially suitable for high alloyed steels, bearing-steels, hot/cold-rolled steels.

I Assortimenti punte elicoidali HSS-Co5, DIN 338 RN

Impiego:
Punte al 5% Co ad elevata resistenza al calore adatte per la foratura di acciai altamente legati e con R > 800 N/mm².





HSS Cobalt KM 19, 19-tlg. / 19 pcs. / 19 pz.

Inhalt / Contents / Contenuto:
Code 603 Ø 1,0-10,0 x 0,5 mm
Art.-Nr. 00 001002191 00



HSS Cobalt KM 25, 25-tlg. / 25 pcs. / 25 pz.

Inhalt / Contents / Contenuto:
Code 603 Ø 1,0-13,0 x 0,5 mm
Art.-Nr. 00 001002251 00

D HSS-Co5-Spiralbohrer-Sätze, DIN 1897 PZ

Einsatzbereich:
5% kobaltlegierter Spiralbohrer mit verstärktem Kerndurchmesser. Besonders geeignet für zähe und harte Werkstoffe wie rost- und säurebeständige Chrom-Nickelstähle. Durch die kurze Bauweise sehr gut für Handbohrmaschinen geeignet.

E HSS-Co5 drill assortments DIN 1897 PZ

Range of application:
5% cobalt-alloyed high-efficiency drills with re-inforced web. Specially suitable for drilling stainless steel, acid-resisting steel, spring-steel. Best for hand held operations.

I Assortimenti punte elicoidali HSS-Co5, DIN 1897 PZ

Impiego:
Punte HSS 5% Co con nucleo rinforzato, adatte per foratura di materiali tenaci, duri, come acciai inox, acciai resistenti agli acidi, acciai al Nickel Cromo. Punte particolarmente stabili adatte per torni a revolver ed automatici.





HSS Cobalt KM PZ 10, 10-tlg. / 10 pcs. / 10 pz.

Inhalt / Contents / Contenuto:
Code 901 Ø 3,0 | 3,2 | 3,5 | 4,0 | 4,2 | 4,5 | 5,0 | 6,0 | 8,0 | 10,0 mm
Art.-Nr. 00 001009101 00





Speedtap 4.0 Speedtap

D Hochleistungsgewindewerkzeuge

E High performance threading tools

I Maschi per alto rendimento



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Allround

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Beschichtung / Coating / Rivestimente

TiN:
Titan-Nitrid
Titanium nitride
Nitruro di titanio

TWINDUR:
Spezial-Titan-Nitrid
Special titanium nitride
Nitruro di titanio speciale

VAPO:
Vaporisiert
Vaporized
Vaporizzato

TiCN:
Titan-Carbonitrid
Titanium carbonitride
Carbonitruro di titanio

HARDDUR:
Hartstoffbeschichtung
Hard surface coating
Rivestimento superficiale indurito

	Speedtap 4.0	Speedtap	Speedtap 4.0	Speedtap	
	 Allround	 Allround	 Allround	 Allround	 Allround
Gewindeart / Type of thread / Tipo di maschio	M	M	M	M	M
Lochart / Hole type / Tipo di fore					
Toleranz / Tolerance / Tolleranza	6HX	6HX	6HX	6HX	ISO2 6H
Anschnitt / Chamfer / Imbocco	B	B	B	B	B
Norm / Standard	DIN 371 / DIN 376	DIN 371 / DIN 376	DIN 371 / DIN 376	DIN 371 / DIN 376	DIN 371 / DIN 376
Drallwinkel / Spiral angle / Anglo elica					
Schneidstoff / Cutting material / Acciaie	HSSE-PM	HSSE-PM55	HSSE-PM	HSSE-PM55	HSSE-PM55
Beschichtung / Coating / Rivestimente	HARDDUR	HARDDUR	HARDDUR	HARDDUR	TiCN
Ø mm	M 6 - M 20	M 6 - M 20	M 2 - M 30	M 2 - M 30	M 3 - M 20
Code / Codice	4618	4625/4635	4608	4605/4615	4686/4696
Seite / Page / Pagina	281	282	283	284	285
Geeignet für / Suitable for / Adatte per					
Stähle < 400 N/mm² Steels < 400 N/mm² Acciai < 400 N/mm²	●●●○	●●●●	●●●○	●●●●	●●●○
Stähle < 850 N/mm² Steels < 850 N/mm² Acciai < 850 N/mm²	●●●○	●●●●	●●●○	●●●●	●●●○
Stähle < 1.100 N/mm² Steels < 1.100 N/mm² Acciai < 1.100 N/mm²	●●●○	●●●●	●●●○	●●●●	●●●○
Stähle < 1.300 N/mm² Steels < 1.300 N/mm² Acciai < 1.300 N/mm²	●●●○	●●●○	●●●○	●●●○	●●●○
Stähle > 42 – 63 HRC Steels > 42 – 63 HRC Acciai > 42 – 63 HRC	○○○○	○○○○	○○○○	○○○○	○○○○
Rostfreie Stähle < 850 N/mm² Stainless steels < 850 N/mm² Acciai inossidabili < 850 N/mm²	●●●●	●●●○	●●●●	●●●○	●●●●
Rostfreie Stähle > 850 N/mm² Stainless steels > 850 N/mm² Acciai inossidabili > 850 N/mm²	●●●●	●●●○	●●●●	●●●○	●●●●
Grauguss, Temperguss Cast iron, malleable cast iron Ghisa grigia, ghisa malleabile	●●●○	●●○○	●●●○	●●○○	●○○○
Nickel Nickel Nickel	●●○○	●○○○	●●○○	●○○○	●●○○
Titan- und Titanlegierung Titanium and titanium alloys Titanio e leghe di Titanio	●●○○	●○○○	●●○○	●○○○	●●○○
Kupfer, Messing Copper, brass Rame, ottone	●●○○	●○○○	●●○○	●○○○	●○○○
Aluminium Aluminium Alluminio	●●○○	●○○○	●●○○	●○○○	●●○○
Kunststoffe Plastics Materie plastiche	●●○○	●○○○	●●○○	●○○○	●●○○

●●●● Ausgezeichnet / Excellent / Excelente
●●●○ Sehr gut / Especially suitable / Muy bueno
●●○○ Gut / Well suited / Bueno
●○○○ Ausreichend / Suitable / Adecuado

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Speedtap 4.0	Speedtap	Speedtap 4.0	Speedtap	Speedtap 4.0	Speedtap	Speedtap 4.0
						
Allround	Allround	Allround	Allround	Allround	Allround	Allround
M	M	M	M	M	M	M
6GX	6GX	6HX	6HX	6HX	6HX	6HX
B	B	C	C	C	C	E
DIN 371 / DIN 376	DIN 371 / DIN 376	DIN 371 / DIN 376	DIN 371 / DIN 376	DIN 371 / DIN 376	DIN 371 / DIN 376	DIN 371 / DIN 376
		50°	50°	50°	50°	50°
HSSE-PM	HSSE-PM55	HSSE-PM	HSSE-PM55	HSSE-PM	HSSE-PM55	HSSE-PM
HARODUR	HARODUR	HARODUR	HARODUR	HARODUR	HARODUR	HARODUR
M 3 - M 20	M 3 - M 20	M 6 - M 20	M 6 - M 20	M 2 - M 30	M 2 - M 30	M 3 - M 20
4628	4629/4639	4648	4685/4695	4638	4665/4675	4668
286	287	288	289	290	291	292
■■■□	■■■■	■■■□	■■■■	■■■□	■■■■	■■■□
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■■□□	■□□□	■■□□	■□□□	■■□□	■□□□	■■□□
■■□□	■□□□	■■□□	■□□□	■■□□	■□□□	■■□□
■■□□	■□□□	■■□□	■□□□	■■□□	■□□□	■■□□

■■■■ Ausgezeichnet / Excellent / Excelente
■■■□ Sehr gut / Especially suitable / Muy bueno
■■□□ Gut / Well suited / Bueno
■□□□ Ausreichend / Suitable / Adecuado

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Beschichtung / Coating / Rivestimente

TiN:
Titan-Nitrid
Titanium nitride
Nitruro di titanio

TWINDUR:
Spezial-Titan-Nitrid
Special titanium nitride
Nitruro di titanio speciale

VAPO:
Vaporisiert
Vaporized
Vaporizzato

TiCN:
Titan-Carbonitrid
Titanium carbonitride
Carbonitruro di titanio

HARODUR:
Hartstoffbeschichtung
Hard surface coating
Rivestimento superficiale indurito

	Speedtap	Speedtap	Speedtap	Speedtap 4.0	Speedtap
	 Allround	 Allround	 Allround	 Allround	 Allround
Gewindeart / Type of thread / Tipo di maschio	M	M	M	M	M
Lochart / Hole type / Tipo di fore					
Toleranz / Tolerance / Tolleranza	6HX	ISO2 6H	ISO2 6H	6GX	6GX
Anschnitt / Chamfer / Imbocco	E	C	C	C	C
Norm / Standard	DIN 371 / DIN 376	DIN 371 / DIN 376	DIN 371 / DIN 376	DIN 371 / DIN 376	DIN 371 / DIN 376
Drallwinkel / Spiral angle / Anglo elica	50°	50°	50°	50°	50°
Schneidstoff / Cutting material / Acciaie	HSSE-PM55	HSSE-PM55	HSSE-PM55	HSSE-PM	HSSE-PM55
Beschichtung / Coating / Rivestimente	HARODUR	TiCN	TiCN	HARODUR	HARODUR
Ø mm	M 3 - M 20	M 6 - M 30	M 3 - M 30	M 3 - M 20	M 3 - M 20
Code / Codice	4606/4616	4627/4637	4649/4659	4658	4626/4636
Seite / Page / Pagina	293	294	294	295	296
Geeignet für / Suitable for / Adatte per					
Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²	▰▰▰▰	▰▰▰▱	▰▰▰▱	▰▰▰▱	▰▰▰▰
Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²	▰▰▰▰	▰▰▰▱	▰▰▰▱	▰▰▰▱	▰▰▰▰
Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²	▰▰▰▰	▰▰▰▱	▰▰▰▱	▰▰▰▱	▰▰▰▰
Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²	▰▰▰▱	▰▰▰▱	▰▰▰▱	▰▰▰▱	▰▰▰▱
Stähle > 42 – 63 HRC / Steels > 42 – 63 HRC / Acciai > 42 – 63 HRC	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²	▰▰▰▱	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▱
Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²	▰▰▰▱	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▱
Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile	▰▰▱▱	▰▱▱▱	▰▱▱▱	▰▰▰▱	▰▰▱▱
Nickel / Nickel / Nickel	▰▱▱▱	▰▰▱▱	▰▰▱▱	▰▰▱▱	▰▱▱▱
Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio	▰▱▱▱	▰▰▱▱	▰▰▱▱	▰▰▱▱	▰▱▱▱
Kupfer, Messing / Copper, brass / Rame, ottone	▰▱▱▱	▰▱▱▱	▰▱▱▱	▰▰▱▱	▰▱▱▱
Aluminium / Aluminium / Alluminio	▰▱▱▱	▰▰▱▱	▰▰▱▱	▰▰▱▱	▰▱▱▱
Kunststoffe / Plastics / Materie plastiche	▰▱▱▱	▰▰▱▱	▰▰▱▱	▰▰▱▱	▰▱▱▱

▰▰▰▰ Ausgezeichnet / Excellent / Excelente
▰▰▰▱ Sehr gut / Especially suitable / Muy bueno
▰▰▱▱ Gut / Well suited / Bueno
▰▱▱▱ Ausreichend / Suitable / Adecuado

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Speedtap

 Uni	 Uni	 Uni	 Uni	 Uni	 Uni	 Uni
M	M	M	M	M	M	M
ISO2 6H	ISO2 6H	ISO2 6H	ISO2 6H	ISO2 6H	ISO2 6H	ISO2 6H
B	B	B	B	C	C	C
DIN 371	DIN 371	DIN 376	DIN 376	DIN 371	DIN 371	DIN 371
				45°	40°	40°
HSSE-V3	HSSE-V3	HSSE-V3	HSSE-V3	HSSE-PM55	HSSE-V3	HSSE-V3
	TiN		TiN	TWINDUR		VAPO
M 1,4 - M 12	M 3 - M 10	M 2 - M 52	M 3 - M 36	M 3 - M 10	M 2 - M 12	M 3 - M 10
4621	4641	4631	4651	4666	4661	4601
297	298	299	300	301	302	303
■■■□	■■■■	■■■□	■■■■	■■■■	■■■□	■■■■
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■■■■ Ausgezeichnet / Excellent / Excelente
■■■□ Sehr gut / Especially suitable / Muy bueno
■■□□ Gut / Well suited / Bueno
■□□□ Ausreichend / Suitable / Adecuado

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TiN:
Titan-Nitrid
Titanium nitride
Nitruro di titanio

TWINDUR:
Spezial-Titan-Nitrid
Special titanium nitride
Nitruro di titanio speciale

VAPO:
Vaporisiert
Vaporized
Vaporizzato

TiCN:
Titan-Carbonitrid
Titanium carbonitride
Carbonitruro di titanio

HARDDUR:
Hartstoffbeschichtung
Hard surface coating
Rivestimento superficiale indurito

Speedtap











	Uni	Uni	Uni	Uni	Inox
Gewindeart / Type of thread / Tipo di maschio	M	M	M	M	M
Lochart / Hole type / Tipo di fore					
Toleranz / Tolerance / Tolleranza	ISO2 6H	ISO2 6H	ISO2 6H	ISO2 6H	ISO2 6H
Anschnitt / Chamfer / Imbocco	C	C	C	C	B
Norm / Standard	DIN 376	DIN 376	DIN 371	DIN 376	DIN 371
Drallwinkel / Spiral angle / Anglo elica	40°	40°	45°	45°	
Schneidstoff / Cutting material / Acciaie	HSSE-V3	HSSE-V3	HSSE-V3	HSSE-V3	HSSE-V3
Beschichtung / Coating / Rivestimente		VAPO	TiN	TiN	VAPO
Ø mm	M 3 - M 36	M 3 - M 36	M 3 - M 10	M 3 - M 24	M 2 - M 12
Code / Codice	4671	4611	4681	4691	4602
Seite / Page / Pagina	304	305	306	306	307
Geeignet für / Suitable for / Adatte per					
Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²	▰▰▰▱	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▱
Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²	▰▰▱▱	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▱
Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▰▰▱▱
Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Stähle > 42 – 63 HRC / Steels > 42 – 63 HRC / Acciai > 42 – 63 HRC	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▰▰▰▱
Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▰▰▱▱
Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▰▱▱▱
Nickel / Nickel / Nickel	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Kupfer, Messing / Copper, brass / Rame, ottone	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Aluminium / Aluminium / Alluminio	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Kunststoffe / Plastics / Materie plastiche	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱

▰▰▰▰ Ausgezeichnet / Excellent / Excelente
▰▰▰▱ Sehr gut / Especially suitable / Muy bueno
▰▰▱▱ Gut / Well suited / Bueno
▰▱▱▱ Ausreichend / Suitable / Adecuado

D Übersicht
Maschinengewindebohrer
Inox

E Overview
Machine taps
Inox

I Sommario
Maschi a macchina
Inox

Speedtap

 Inox	 Inox	 Inox	 Inox	 Inox	 Inox	 Inox
M	M	M	M	M	M	M
ISO2 6H	ISO2 6H	ISO2 6H	ISO2 6H	ISO2 6H	ISO3 6G	ISO2 6H
B	B	B	B	B	B	C
DIN 371	DIN 371	DIN 376	DIN 376	DIN 376	DIN 371 / DIN 376	DIN 371
						40°
HSSE-V3	HSSE-V3	HSSE-V3	HSSE-V3	HSSE-V3	HSSE-V3	HSSE-V3
TiN	TiCN	VAPO	TiN	TiCN	VAPO	VAPO
M 3 - M 10	M 3 - M 10	M 3 - M 36	M 4 - M 30	M 12 - M 36	M 2 - M 20	M 2 - M 12
4622	4642	4612	4632	4652	4662/4672	4647
308	309	310	311	312	313	314
■■■□	■■■□	■■■□	■■■□	■■■□	■■■□	■■■□
■■■□	■■■□	■■■□	■■■□	■■■□	■■■□	■■■□
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■■■■ Ausgezeichnet / Excellent / Excelente
■■■□ Sehr gut / Especially suitable / Muy bueno
■■□□ Gut / Well suited / Bueno
■□□□ Ausreichend / Suitable / Adecuado

D Übersicht
Maschinengewindebohrer
Inox

E Overview
Machine taps
Inox

I Sommario
Maschi a macchina
Inox

Beschichtung / Coating / Rivestimente

TiN:
Titan-Nitrid
Titanium nitride
Nitruro di titanio

TWINDUR:
Spezial-Titan-Nitrid
Special titanium nitride
Nitruro di titanio speciale

VAPO:
Vaporisiert
Vaporized
Vaporizzato

TiCN:
Titan-Carbonitrid
Titanium carbonitride
Carbonitruro di titanio

HARDDUR:
Hartstoffbeschichtung
Hard surface coating
Rivestimento superficiale indurito

Speedtap



Inox



Inox



Inox



Inox



Inox

Gewindeart / Type of thread / Tipo di maschio	M	M	M	M	M
Lochart / Hole type / Tipo di fore					
Toleranz / Tolerance / Tolleranza	ISO2 6H	ISO2 6H	ISO2 6H	ISO2 6H	ISO2 6H
Anschnitt / Chamfer / Imbocco	C	C	C	C	C
Norm / Standard	DIN 371	DIN 371	DIN 376	DIN 376	DIN 376
Drallwinkel / Spiral angle / Anglo elica	40°	40°	40°	40°	40°
Schneidstoff / Cutting material / Acciaie	HSSE-V3	HSSE-V3	HSSE-V3	HSSE-V3	HSSE-V3
Beschichtung / Coating / Rivestimente	TiN	TiCN	VAPO	TiN	TiCN
Ø mm	M 3 - M 10	M 3 - M 10	M 3 - M 36	M 3 - M 20	M 12 - M 36
Code / Codice	4604	4624	4657	4614	4634
Seite / Page / Pagina	315	316	317	317	318
Geeignet für / Suitable for / Adatte per					
Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²	▰▰▰▱	▰▰▰▱	▰▰▰▱	▰▰▰▱	▰▰▰▱
Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²	▰▰▰▱	▰▰▰▱	▰▰▰▱	▰▰▰▱	▰▰▰▱
Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²	▰▰▰▱	▰▰▰▱	▰▰▰▱	▰▰▰▱	▰▰▰▱
Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²	▰▰▱▱	▰▰▱▱	▰▰▱▱	▰▰▱▱	▰▰▱▱
Stähle > 42 – 63 HRC / Steels > 42 – 63 HRC / Acciai > 42 – 63 HRC	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▰
Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²	▰▰▰▱	▰▰▰▰	▰▰▰▱	▰▰▰▱	▰▰▰▰
Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Nickel / Nickel / Nickel	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Kupfer, Messing / Copper, brass / Rame, ottone	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Aluminium / Aluminium / Alluminio	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Kunststoffe / Plastics / Materie plastiche	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱

▰▰▰▰ Ausgezeichnet / Excellent / Excelente
▰▰▰▱ Sehr gut / Especially suitable / Muy bueno
▰▰▱▱ Gut / Well suited / Bueno
▰▱▱▱ Ausreichend / Suitable / Adecuado

D Übersicht
Maschinengewindebohrer
Inox / Titan / Nickel / HRC

E Overview
Machine taps
Inox / Titan / Nickel / HRC

I Sommario
Maschi a macchina
Inox / Titan / Nickel / HRC

Speedtap		Speedtap 4.0				
 Inox	 Inox	 Titan	 Titan	 Nickel	 Nickel	 HRC
M	M	M	M	M	M	M
ISO2 6H	ISO3 6G	ISO2 6H	ISO2 6H	ISO2 6H	ISO2 6H	6HX
C	C	B	C	B	C	D
DIN 371 / DIN 376	DIN 371 / DIN 376	DIN 371	DIN 371	DIN 371	DIN 371	WN
45°	40°		15°		10°	
HSSE-V3	HSSE-V3	HSSE-PM55	HSSE-PM55	HSSE-PM55	HSSE-PM55	HSSE-PM105
VAPO	VAPO	VAPO	VAPO			TiCN
M 4 - M 20	M 2 - M 30	M 3 - M 10	M 3 - M 10	M 3 - M 10	M 3 - M 10	M 3 - M 24
4646/4656	4687/4697	4667	4677	4704	4705	4607
319	320	321	322	323	324	325
■■■□	■■■□	□□□□	□□□□	□□□□	□□□□	□□□□
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□□□□	□□□□	□□□□	□□□□	□□□□	□□□□	■■■■ 42-53 HRC
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■■■■ Ausgezeichnet / Excellent / Excelente
■■■□ Sehr gut / Especially suitable / Muy bueno
■■□□ Gut / Well suited / Bueno
■□□□ Ausreichend / Suitable / Adecuado

D Übersicht
Maschinengewindebohrer
HRC / Cast Iron

E Overview
Machine taps
HRC / Cast Iron

I Sommario
Maschi a macchina
HRC / Cast Iron

Beschichtung / Coating / Rivestimente

TiN:
Titan-Nitrid
Titanium nitride
Nitruro di titanio

TWINDUR:
Spezial-Titan-Nitrid
Special titanium nitride
Nitruro di titanio speciale

VAPO:
Vaporisiert
Vaporized
Vaporizzato

TiCN:
Titan-Carbonitrid
Titanium carbonitride
Carbonitruro di titanio

HARDDUR:
Hartstoffbeschichtung
Hard surface coating
Rivestimento superficiale indurito

	Speedtap 4.0			Speedtap	
	 HRC	 HRC	 HRC	 Cast Iron	 Cast Iron
Gewindeart / Type of thread / Tipo di maschio	M	M	M	M	M
Lochart / Hole type / Tipo di fore					
Toleranz / Tolerance / Tolleranza	6HX	6HX	6HX	ISO2 6H	ISO2 6H
Anschnitt / Chamfer / Imbocco	C	D	C	B	C
Norm / Standard	WN	WN	WN	DIN 371	DIN 371
Drallwinkel / Spiral angle / Anglo elica					15°
Schneidstoff / Cutting material / Acciaie	HSSE-PM105	VHM	VHM	HSSE-PM55	HSSE-PM55
Beschichtung / Coating / Rivestimente	TiCN	TiCN	TiCN	TiCN	TiCN
Ø mm	M 3 - M 24	M 3 - M 20	M 3 - M 20	M 2,5 - M 10	M 2,5 - M 10
Code / Codice	4617	4645	4655	4682	4698
Seite / Page / Pagina	325	326	326	327	328
Geeignet für / Suitable for / Adatte per					
Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▰
Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▰
Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▰
Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▱▱	▰▰▱▱
Stähle > 42 – 63 HRC / Steels > 42 – 63 HRC / Acciai > 42 – 63 HRC	▰▰▰▰ 42-53 HRC	▰▰▰▰ 50-63 HRC	▰▰▰▰ 50-63 HRC	▰▱▱▱ 42-53 HRC	▰▱▱▱ 42-53 HRC
Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▰
Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▰
Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▱	▰▰▰▱
Nickel / Nickel / Nickel	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▰
Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▰
Kupfer, Messing / Copper, brass / Rame, ottone	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▰
Aluminium / Aluminium / Alluminio	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▰
Kunststoffe / Plastics / Materie plastiche	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▰	▰▰▰▰

▰▰▰▰ Ausgezeichnet / Excellent / Excelente
▰▰▰▱ Sehr gut / Especially suitable / Muy bueno
▰▰▱▱ Gut / Well suited / Bueno
▰▱▱▱ Ausreichend / Suitable / Adecuado

D **Übersicht**
Maschinengewindebohrer
Cast Iron / Alu / Allround

E **Overview**
Machine taps
Cast Iron / Alu / Allround

I **Sommario**
Maschi a macchina
Cast Iron / Alu / Allround

Speedtap				Speedtap 4.0	Speedtap	Speedtap 4.0
 Cast Iron	 Cast Iron	 Alu	 Alu	 Allround	 Allround	 Allround
M	M	M	M	MF	MF	MF
6HX	6HX	ISO2 6H	ISO2 6H	6HX	6HX	6HX
C	C	B	C	B	B	C
DIN 371	DIN 376	DIN 371 / DIN 376	DIN 371	DIN 374	DIN 374	DIN 374
			40°			50°
HSSE-V3	HSSE-V3	HSSE-V3	HSSE-V3	HSSE-PM	HSSE-PM55	HSSE-PM
TiCN	TiCN			HARODUR	HARODUR	HARODUR
M 4 - M 10	M 5 - M 16	M 3 - M 20	M 2 - M 10	MF 8 - MF 20	MF 8 - MF 20	MF 8 - MF 20
4684	4694	4664/4674	4676	4609	4753	4619
329	329	330	331	332	333	334
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▰▰▰▰ Ausgezeichnet / Excellent / Excelente
▰▰▰▱ Sehr gut / Especially suitable / Muy bueno
▰▰▱▱ Gut / Well suited / Bueno
▰▱▱▱ Ausreichend / Suitable / Adecuado

D Übersicht
Maschinengewindebohrer
Allround / Uni / Inox

E Overview
Machine taps
Allround / Uni / Inox

I Sommario
Maschi a macchina
Allround / Uni / Inox

Beschichtung / Coating / Rivestimente

TiN:
Titan-Nitrid
Titanium nitride
Nitruro di titanio

TWINDUR:
Spezial-Titan-Nitrid
Special titanium nitride
Nitruro di titanio speciale

VAPO:
Vaporisiert
Vaporized
Vaporizzato

TiCN:
Titan-Carbonitrid
Titanium carbonitride
Carbonitruro di titanio

HARODUR:
Hartstoffbeschichtung
Hard surface coating
Rivestimento superficiale indurito

Speedtap



Allround



Uni



Uni



Inox



Inox

Gewindeart / Type of thread / Tipo di maschio	MF	MF	MF	MF	MF
Lochart / Hole type / Tipo di fore					
Toleranz / Tolerance / Tolleranza	6HX	ISO2 6H	ISO2 6H	ISO2 6H	ISO2 6H
Anschnitt / Chamfer / Imbocco	C	B	C	B	C
Norm / Standard	DIN 374	DIN 374	DIN 374	DIN 374	DIN 374
Drallwinkel / Spiral angle / Anglo elica	50°		40°		40°
Schneidstoff / Cutting material / Acciaie	HSSE-PM55	HSSE-V3	HSSE-V3	HSSE-V3	HSSE-V3
Beschichtung / Coating / Rivestimente	HARODUR			VAPO	VAPO
Ø mm	MF 8 - MF 20	MF 3 - MF 52	MF 3 - MF 30	MF 3 - MF 24	MF 3 - MF 30
Code / Codice	4763	4703	4713	4723	4733
Seite / Page / Pagina	335	336	338	339	340
Geeignet für / Suitable for / Adatte per					
Stähle < 400 N/mm² Steels < 400 N/mm² Acciai < 400 N/mm²	▰▰▰▰	▰▰▰▱	▰▰▰▱	▰▰▰▱	▰▰▰▱
Stähle < 850 N/mm² Steels < 850 N/mm² Acciai < 850 N/mm²	▰▰▰▰	▰▰▱▱	▰▰▱▱	▰▰▰▱	▰▰▰▱
Stähle < 1.100 N/mm² Steels < 1.100 N/mm² Acciai < 1.100 N/mm²	▰▰▰▰	▱▱▱▱	▱▱▱▱	▰▰▰▱	▰▰▰▱
Stähle < 1.300 N/mm² Steels < 1.300 N/mm² Acciai < 1.300 N/mm²	▰▰▰▱	▱▱▱▱	▱▱▱▱	▰▰▱▱	▰▰▱▱
Stähle > 42 – 63 HRC Steels > 42 – 63 HRC Acciai > 42 – 63 HRC	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Rostfreie Stähle < 850 N/mm² Stainless steels < 850 N/mm² Acciai inossidabili < 850 N/mm²	▰▰▰▱	▱▱▱▱	▱▱▱▱	▰▰▰▰	▰▰▰▰
Rostfreie Stähle > 850 N/mm² Stainless steels > 850 N/mm² Acciai inossidabili > 850 N/mm²	▰▰▰▱	▱▱▱▱	▱▱▱▱	▰▰▰▱	▰▰▰▱
Grauguss, Temperguss Cast iron, malleable cast iron Ghisa grigia, ghisa malleabile	▰▰▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Nickel Nickel Nickel	▰▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Titan- und Titanlegierung Titanium and titanium alloys Titanio e leghe di Titanio	▰▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Kupfer, Messing Copper, brass Rame, ottone	▰▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Aluminium Aluminium Alluminio	▰▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Kunststoffe Plastics Materie plastiche	▰▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱

▰▰▰▰ Ausgezeichnet / Excellent / Excelente
▰▰▰▱ Sehr gut / Especially suitable / Muy bueno
▰▰▱▱ Gut / Well suited / Bueno
▰▱▱▱ Ausreichend / Suitable / Adecuado

D Übersicht
Maschinengewindebohrer
HRC / Cast Iron / Allround

E Overview
Machine taps
HRC / Cast Iron / Allround

I Sommario
Maschi a macchina
HRC / Cast Iron / Allround

Speedtap 4.0			Speedtap	Speedtap 4.0	Speedtap	Speedtap 4.0
 HRC	 HRC	 HRC	 Cast Iron	 Allround	 Allround	 Allround
MF	MF	MF	MF	G	G	G
6HX	6HX	6HX	6HX			
C	D	C	C	B	B	C
WN	WN	WN	DIN 374	DIN 5156	DIN 5156	DIN 5156
						50°
HSSE-PM105	VHM	VHM	HSSE-V3	HSSE-PM	HSSE-PM55	HSSE-PM
TiCN	TiCN	TiCN	TiCN	HARDDUR	HARDDUR	HARDDUR
MF 8 - MF 16	MF 8 - MF 20	MF 8 - MF 20	MF 8 - MF 16	G 1/8 - G 1	G 1/8 - G 1	G 1/8 - G 1
4617	4645	4655	4743	4772	4742	4782
341	342	342	343	344	345	346
▰▰▰▰ 42-53 HRC	▰▰▰▰ 50-63 HRC	▰▰▰▰ 50-63 HRC	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱

▰▰▰▰ Ausgezeichnet / Excellent / Excelente
▰▰▰▱ Sehr gut / Especially suitable / Muy bueno
▰▰▱▱ Gut / Well suited / Bueno
▰▱▱▱ Ausreichend / Suitable / Adecuado

D Übersicht
Maschinengewindebohrer
Allround / Uni / Inox

E Overview
Machine taps
Allround / Uni / Inox

I Sommario
Maschi a macchina
Allround / Uni / Inox

Beschichtung / Coating / Rivestimente

TiN: Titan-Nitrid / Titanium nitride / Nitruro di titanio

TWINDUR: Spezial-Titan-Nitrid / Special titanium nitride / Nitruro di titanio speciale

VAPO: Vaporisiert / Vaporized / Vaporizzato

TiCN: Titan-Carbonitrid / Titanium carbonitride / Carbonitruro di titanio

HARODUR: Hartstoffbeschichtung / Hard surface coating / Rivestimento superficiale indurito

Speedtap



Allround



Uni



Uni



Inox



Inox

Gewindeart / Type of thread / Tipo di maschio	G	G	G	G	G
Lochart / Hole type / Tipo di fore					
Toleranz / Tolerance / Tolleranza					
Anschnitt / Chamfer / Imbocco	C	B	C	B	C
Norm / Standard	DIN 5156	DIN 5156	DIN 5156	DIN 5156	DIN 5156
Drallwinkel / Spiral angle / Anglo elica	50°		40°		40°
Schneidstoff / Cutting material / Acciaie	HSSE-PM55	HSSE-V3	HSSE-V3	HSSE-V3	HSSE-V3
Beschichtung / Coating / Rivestimente	HARODUR			VAPO	VAPO
Ø mm	G 1/8 - G 1	G 1/8 - G 1 1/2	G 1/8 - G 1 1/2	G 1/8 - G 1	G 1/8 - G 1 1/2
Code / Codice	4752	4702	4712	4722	4732
Seite / Page / Pagina	347	348	348	350	351
Geeignet für / Suitable for / Adatte per					
Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²	▰▰▰▰	▰▰▰▱	▰▰▰▱	▰▰▰▱	▰▰▰▱
Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²	▰▰▰▰	▰▰▱▱	▰▰▱▱	▰▰▰▱	▰▰▰▱
Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²	▰▰▰▰	▱▱▱▱	▱▱▱▱	▰▰▰▱	▰▰▰▱
Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²	▰▰▰▱	▱▱▱▱	▱▱▱▱	▰▰▱▱	▰▰▱▱
Stähle > 42 – 63 HRC / Steels > 42 – 63 HRC / Acciai > 42 – 63 HRC	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²	▰▰▰▱	▱▱▱▱	▱▱▱▱	▰▰▰▰	▰▰▰▰
Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²	▰▰▰▱	▱▱▱▱	▱▱▱▱	▰▰▰▱	▰▰▰▱
Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile	▰▰▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Nickel / Nickel / Nickel	▰▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio	▰▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Kupfer, Messing / Copper, brass / Rame, ottone	▰▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Aluminium / Aluminium / Alluminio	▰▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
Kunststoffe / Plastics / Materie plastiche	▰▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱

▰▰▰▰ Ausgezeichnet / Excellent / Excelente
▰▰▰▱ Sehr gut / Especially suitable / Muy bueno
▰▰▱▱ Gut / Well suited / Bueno
▰▱▱▱ Ausreichend / Suitable / Adecuado

D **Übersicht**
Gewindewerkzeuge
HRC / Uni / Inox

E **Overview**
Taps and dies
HRC / Uni / Inox

I **Sommario**
Maschi e filiere
HRC / Uni / Inox

Speedtap 4.0			Gewindeformer / Rolling taps / Maschi a rullare			
 HRC	 HRC	 HRC	 Uni	 Uni	 Inox	 Inox
G	G	G	M	M	M	M
6HX	6HX	6HX	6HX	6HX	6HX	6HX
C	D	C	C	C	C	C
WN	WN	WN	DIN 2174	DIN 2174	DIN 2174	DIN 2174
HSSE-PM105	VHM	VHM	HSSE-Co8	HSSE-Co8	HSSE	HSSE
TiCN	TiCN	TiCN	TiCN	TiCN	TiN	TiN
G 1/8 - G 3/8	G 1/8 - G 1/4	G 1/8 - G 1/4	M 6 - M 45	M 1 - M 30	M 6 - M 16	M 2 - M 16
4617	4645	4655	4689/4699	4669/4679	4678/4688	4644/4654
352	353	353	354	354	355	355
▰▰▰▰ 42-53 HRC	▰▰▰▰ 50-63 HRC	▰▰▰▰ 50-63 HRC	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
▱▱▱▱	▱▱▱▱	▱▱▱▱	▰▱▱▱	▰▱▱▱	▰▰▰▰	▰▰▰▰
▱▱▱▱	▱▱▱▱	▱▱▱▱	▰▱▱▱	▰▱▱▱	▰▰▰▱	▰▰▰▱
▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱
▱▱▱▱	▱▱▱▱	▱▱▱▱	▰▰▱▱	▰▰▱▱	▰▰▱▱	▰▰▱▱
▱▱▱▱	▱▱▱▱	▱▱▱▱	▰▰▰▰	▰▰▰▰	▰▰▰▱	▰▰▰▱
▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱	▱▱▱▱

▰▰▰▰ Ausgezeichnet / Excellent / Excelente
▰▰▰▱ Sehr gut / Especially suitable / Muy bueno
▰▰▱▱ Gut / Well suited / Bueno
▰▱▱▱ Ausreichend / Suitable / Adecuado

D Übersicht
Maschinengewindeformer
Uni / Inox

E Overview
Rolling taps
Uni / Inox

I Sommario
Maschi a rullare
Uni / Inox

Beschichtung / Coating / Rivestimente

TiN:
Titan-Nitrid
Titanium nitride
Nitruro di titanio

TWINDUR:
Spezial-Titan-Nitrid
Special titanium nitride
Nitruro di titanio speciale

VAPO:
Vaporisiert
Vaporized
Vaporizzato

TiCN:
Titan-Carbonitrid
Titanium carbonitride
Carbonitruro di titanio

HARDDUR:
Hartstoffbeschichtung
Hard surface coating
Rivestimento superficiale indurito

Gewindeformer / Rolling taps / Maschi a rullare



Uni



Inox



Uni

Gewindeart / Type of thread / Tipo di maschio	MF	MF	G
Lochart / Hole type / Tipo di fore			
Toleranz / Tolerance / Tolleranza	6HX	6HX	
Anschnitt / Chamfer / Imbocco	C	C	C
Norm / Standard	DIN 2174	DIN 2174	DIN 2189
Drallwinkel / Spiral angle / Anglo elica			
Schneidstoff / Cutting material / Acciaie	HSSE-Co8	HSSE	HSSE-Co8
Beschichtung / Coating / Rivestimente	TiCN	TiN	TiCN
Ø mm	MF 8 - MF 24	MF 3 - MF 16	G 1/8 - G 1/2
Code / Codice	4773	4783	4692
Seite / Page / Pagina	356	357	358
Geeignet für / Suitable for / Adatte per			
Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²	▰▰▰▰	▰▰▰▱	▰▰▰▰
Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²	▰▰▰▰	▰▰▰▱	▰▰▰▰
Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²	▰▰▰▰	▰▰▰▱	▰▰▰▰
Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²	▰▰▰▰	▰▱▱▱	▰▰▰▰
Stähle > 42 – 63 HRC / Steels > 42 – 63 HRC / Acciai > 42 – 63 HRC	▱▱▱▱	▱▱▱▱	▱▱▱▱
Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²	▰▱▱▱	▰▰▰▰	▰▱▱▱
Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²	▰▱▱▱	▰▰▰▱	▰▱▱▱
Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile	▱▱▱▱	▱▱▱▱	▱▱▱▱
Nickel / Nickel / Nickel	▱▱▱▱	▱▱▱▱	▱▱▱▱
Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio	▱▱▱▱	▱▱▱▱	▱▱▱▱
Kupfer, Messing / Copper, brass / Rame, ottone	▰▰▱▱	▰▰▱▱	▰▰▱▱
Aluminium / Aluminium / Alluminio	▰▰▰▰	▰▰▰▱	▰▰▰▰
Kunststoffe / Plastics / Materie plastiche	▱▱▱▱	▱▱▱▱	▱▱▱▱

▰▰▰▰ Ausgezeichnet / Excellent / Excelente
▰▰▰▱ Sehr gut / Especially suitable / Muy bueno
▰▰▱▱ Gut / Well suited / Bueno
▰▱▱▱ Ausreichend / Suitable / Adecuado

D Maschinengewindebohrer Speedtap 4.0–Allround,
gerade genutet, für metrisches ISO-Gewinde DIN 13

E Machine taps Speedtap 4.0–Allround,
straight fluted, for metric ISO-threads DIN 13

I Maschi a macchina Speedtap 4.0–Allround,
scanalature diritte, per filettatura metrica ISO, DIN 13

Einsatzbereich:
HSSE-PM Gewindebohrer für Durchgangsgewinde. Besonders geeignet für rostfreie Cr-Ni-Stähle, unlegierten und legierten Stahl ≤1300 N/mm². Die Generation 4.0 setzt neue Maßstäbe beim Gewinden.

Range of application:
Tap made of powder steel for through hole threads. Especially suitable for stainless Cr-Ni steels, non-alloyed and alloyed steels ≤1300 N/mm². The generation 4.0 sets new standards in threading.

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori passanti. Particolarmente adatti per acciai inossidabili Cr-Ni, acciai legati e non legati ≤1300 N/mm². La nuova generazione 4.0 stabilisce nuovi standard per realizzare maschiature.

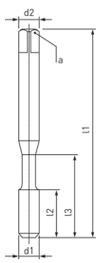
Speedtap 4.0

<400 N/mm² | <850 N/mm² | <1100 N/mm² | <1300 N/mm²

INOX <850 N/mm² | INOX >850 N/mm² | GRAUGUSS CAST IRON GHISA GRIGIA

Ni | Ti | Cu, Ms | Al

M | HSS E/PM | 6HX | 60° P | ≤3d1 | DIN 371 376 1) | B 3,5-5P | Z=3-4



Allround



HARDDUR

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4618 Art.-Nr.
M 6	1	80	19	30	6	4,9	3	Ø 5	0 4618006001 00
M 8	1,25	90	22	35	8	6,2	3	Ø 6,8	0 4618008001 00
M 10	1,5	100	24	39	10	8	3	Ø 8,5	0 4618010001 00
M 12	1,75	110	28	–	9	7	3	Ø 10,2	0 4618012001 00
M 16	2	110	32	–	12	9	3	Ø 14	0 4618016001 00
M 20	2,5	140	34	–	16	12	4	Ø 17,5	0 4618020001 00

[1] DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer Speedtap–Allround,
gerade genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE-PM Gewindebohrer für Durchgangsgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1300 N/mm².

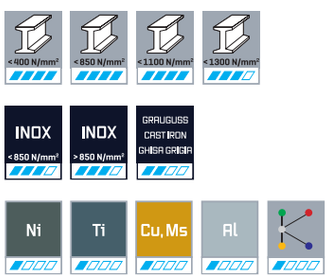
E Machine taps Speedtap–Allround,
straight fluted, for metric ISO-threads DIN 13

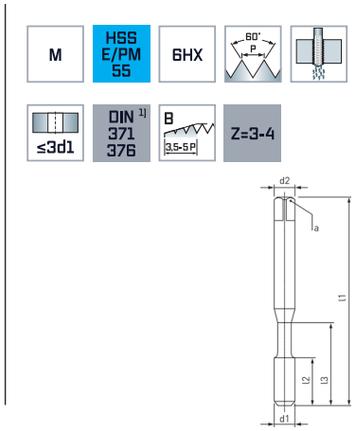
Range of application:
Tap made of powder steel for through hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1300 N/mm².

I Maschi a macchina Speedtap–Allround,
scanalature diritte, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori passanti. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1300 N/mm².

Speedtap





Allround



HARODUR

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4625/4635 Art.-Nr.
M 6	1	80	19	30	6	4,9	3	Ø 5	0 4625006001 00
M 8	1,25	90	22	35	8	6,2	3	Ø 6,8	0 4625008001 00
M 10	1,5	100	24	39	10	8	3	Ø 8,5	0 4625010001 00
M 12	1,75	110	28	–	9	7	3	Ø 10,2	0 4635012001 00
M 16	2	110	32	–	12	9	3	Ø 14	0 4635016001 00
M 20	2,5	140	34	–	16	12	4	Ø 17,5	0 4635020001 00

(1) DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer Speedtap 4.0–Allround,
gerade genutet, für metrisches ISO-Gewinde DIN 13

E Machine taps Speedtap 4.0–Allround,
straight fluted, for metric ISO-threads DIN 13

I Maschi a macchina Speedtap 4.0–Allround,
scanalature diritte, per filettatura metrica ISO, DIN 13

Einsatzbereich:
HSSE-PM Gewindebohrer für Durchgangsgewinde. Besonders geeignet für rostfreie Cr-Ni-Stähle, unlegierten und legierten Stahl ≤1300 N/mm². Die Generation 4.0 setzt neue Maßstäbe beim Gewinden.

Range of application:
Tap made of powder steel for through hole threads. Especially suitable for stainless Cr-Ni steels, non-alloyed and alloyed steels ≤1300 N/mm². The generation 4.0 sets new standards in threading.

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori passanti. Particolarmente adatti per acciai inossidabili Cr-Ni, acciai legati e non legati ≤1300 N/mm². La nuova generazione 4.0 stabilisce nuovi standard per realizzare maschiature.

Speedtap 4.0

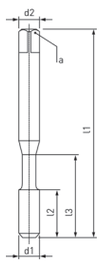
<400 N/mm² | <850 N/mm² | <1100 N/mm² | <1300 N/mm²

INOX <850 N/mm² | INOX >850 N/mm² | GRAUGUSS CASTIRON GHISA GHIGH

Ni | Ti | Cu, Ms | Al

M | HSS E/PM | 6HX | 60° P

≤3d1 | DIN 1) 371 376 | B 3,5-5P | Z=3-4



Allround



HARDOUR

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4608 Art.-Nr.
M 2	0,4	45	8	–	2,8	2,1	3	Ø 1,6	0 4608002001 00
M 2,5	0,45	50	9	–	2,8	2,1	3	Ø 2,05	0 4608002501 00
M 3	0,5	56	11	18	3,5	2,7	3	Ø 2,5	0 4608003001 00
M 4	0,7	63	13	21	4,5	3,4	3	Ø 3,3	0 4608004001 00
M 5	0,8	70	16	25	6	4,9	3	Ø 4,2	0 4608005001 00
M 6	1	80	19	30	6	4,9	3	Ø 5	0 4608006001 00
M 8	1,25	90	22	35	8	6,2	3	Ø 6,8	0 4608008001 00
M 10	1,5	100	24	39	10	8	3	Ø 8,5	0 4608010001 00
M 12	1,75	110	28	–	9	7	3	Ø 10,2	0 4608012001 00
M 14	2	110	30	–	11	9	3	Ø 12	0 4608014001 00
M 16	2	110	32	–	12	9	3	Ø 14	0 4608016001 00
M 20	2,5	140	34	–	16	12	3	Ø 17,5	0 4608020001 00
M 24	3	160	38	–	18	14,5	3	Ø 21	0 4608024001 00
M 27	3	160	38	–	20	16	4	Ø 24	0 4608027001 00
M 30	3,5	180	45	–	22	18	4	Ø 26,5	0 4608030001 00

(1) DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer Speedtap–Allround,
gerade genutet, für metrisches ISO-Gewinde DIN 13

E Machine taps Speedtap–Allround,
straight fluted, for metric ISO-threads DIN 13

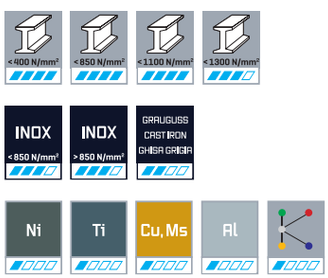
I Maschi a macchina Speedtap–Allround,
scanalature diritte, per filettatura metrica ISO, DIN 13

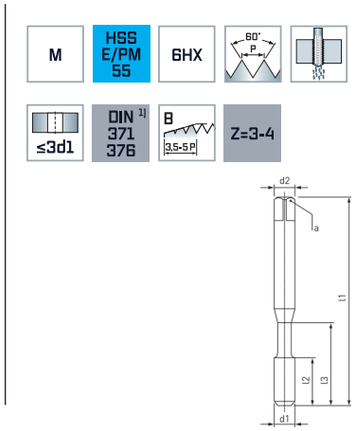
Einsatzbereich:
HSSE-PM Gewindebohrer für Durchgangsgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1300 N/mm².

Range of application:
Tap made of powder steel for through hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1300 N/mm².

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori passanti. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1300 N/mm².

Speedtap





Allround



HARODUR

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4605/4615 Art.-Nr.
M 2	0,4	45	8	–	2,8	2,1	3	Ø 1,6	0 4605002001 00
M 2,5	0,45	50	9	–	2,8	2,1	3	Ø 2,05	0 4605002501 00
M 3	0,5	56	11	18	3,5	2,7	3	Ø 2,5	0 4605003001 00
M 4	0,7	63	13	21	4,5	3,4	3	Ø 3,3	0 4605004001 00
M 5	0,8	70	16	25	6	4,9	3	Ø 4,2	0 4605005001 00
M 6	1	80	19	30	6	4,9	3	Ø 5	0 4605006001 00
M 8	1,25	90	22	35	8	6,2	3	Ø 6,8	0 4605008001 00
M 10	1,5	100	24	39	10	8	3	Ø 8,5	0 4605010001 00
M 12	1,75	110	28	–	9	7	3	Ø 10,2	0 4615012001 00
M 14	2	110	30	–	11	9	3	Ø 12	0 4615014001 00
M 16	2	110	32	–	12	9	3	Ø 14	0 4615016001 00
M 20	2,5	140	34	–	16	12	3	Ø 17,5	0 4615020001 00
M 24	3	160	38	–	18	14,5	3	Ø 21	0 4615024001 00
M 27	3	160	38	–	20	16	4	Ø 24	0 4615027001 00
M 30	3,5	180	45	–	22	18	4	Ø 26,5	0 4615030001 00

[1] DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer Speedtap–Allround,
gerade genutet, für metrisches ISO-Gewinde DIN 13

E Machine taps Speedtap–Allround,
straight fluted, for metric ISO-threads DIN 13

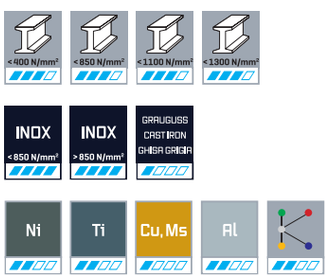
I Maschi a macchina Speedtap–Allround,
scanalature diritte, per filettatura metrica ISO, DIN 13

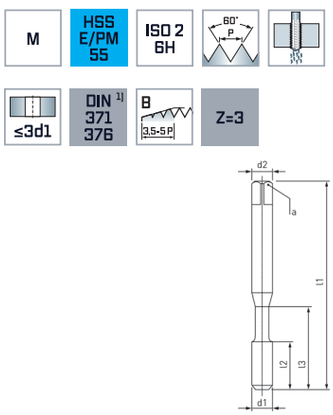
Einsatzbereich:
HSSE-PM Gewindebohrer für Durchgangsgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1300 N/mm².

Range of application:
Tap made of powder steel for through hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1300 N/mm².

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori passanti. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1300 N/mm².

Speedtap





Allround



TiCN

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4686/4696 Art.-Nr.
M 3	0,5	56	11	18	3,5	2,7	3	Ø 2,5	0 4686003001 00
M 4	0,7	63	13	21	4,5	3,4	3	Ø 3,3	0 4686004001 00
M 5	0,8	70	16	25	6	4,9	3	Ø 4,2	0 4686005001 00
M 6	1	80	19	30	6	4,9	3	Ø 5	0 4686006001 00
M 8	1,25	90	22	35	8	6,2	3	Ø 6,8	0 4686008001 00
M 10	1,5	100	24	39	10	8	3	Ø 8,5	0 4686010001 00
M 12	1,75	110	28	–	9	7	3	Ø 10,2	0 4696012001 00
M 16	2	110	32	–	12	9	3	Ø 14	0 4696016001 00
M 20	2,5	140	34	–	16	12	3	Ø 17,5	0 4696020001 00

(1) DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer Speedtap 4.0–Allround,
gerade genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE-PM Gewindebohrer für Durchgangsgewinde. Besonders geeignet für rostfreie Cr-Ni-Stähle, unlegierten und legierten Stahl ≤1300 N/mm². Die Generation 4.0 setzt neue Maßstäbe beim Gewinden.

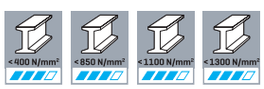
E Machine taps Speedtap 4.0–Allround,
straight fluted, for metric ISO-threads DIN 13

Range of application:
Tap made of powder steel for through hole threads. Especially suitable for stainless Cr-Ni steels, non-alloyed and alloyed steels ≤1300 N/mm². The generation 4.0 sets new standards in threading.

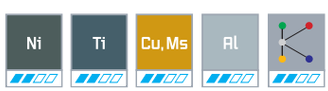
I Maschi a macchina Speedtap 4.0–Allround,
scanalature diritte, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori passanti. Particolarmente adatti per acciai inossidabili Cr-Ni, acciai legati e non legati ≤1300 N/mm². La nuova generazione 4.0 stabilisce nuovi standard per realizzare maschiature.

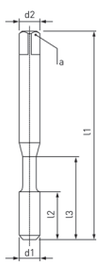
Speedtap 4.0











Allround



HARDOUR

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4628 Art.-Nr.
M 3	0,5	56	11	18	3,5	2,7	3	Ø 2,5	0 4628003001 00
M 4	0,7	63	13	21	4,5	3,4	3	Ø 3,3	0 4628004001 00
M 5	0,8	70	16	25	6	4,9	3	Ø 4,2	0 4628005001 00
M 6	1	80	19	30	6	4,9	3	Ø 5	0 4628006001 00
M 8	1,25	90	22	35	8	6,2	3	Ø 6,8	0 4628008001 00
M 10	1,5	100	24	39	10	8	3	Ø 8,5	0 4628010001 00
M 12	1,75	110	28	–	9	7	3	Ø 10,2	0 4628012001 00
M 16	2	110	32	–	12	9	3	Ø 14	0 4628016001 00
M 20	2,5	140	34	–	16	12	3	Ø 17,5	0 4628020001 00

(1) DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer **Speedtap–Allround,**
gerade genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE-PM Gewindebohrer für Durchgangsgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1300 N/mm².

E Machine taps **Speedtap–Allround,**
straight fluted, for metric ISO-threads DIN 13

Range of application:
Tap made of powder steel for through hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1300 N/mm².

I Maschi a macchina **Speedtap–Allround,**
scanalature diritte, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori passanti. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1300 N/mm².

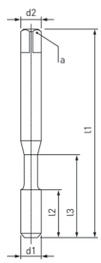
Speedtap

<400 N/mm² | <850 N/mm² | <1100 N/mm² | <1300 N/mm²

INOX <850 N/mm² | INOX >850 N/mm² | GRAUGUSS CAST IRON GHISA GRIGIA

Ni | Ti | Cu, Ms | Al

M | HSS E/PM 55 | 6GX | 60° P | ≤3d1 | DIN 371 376 [1] | B 3,5-5P | Z=3



Allround



HARDOUR

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4629/4639 Art.-Nr.
M 3	0,5	56	11	18	3,5	2,7	3	Ø 2,5	0 4629003001 00
M 4	0,7	63	13	21	4,5	3,4	3	Ø 3,3	0 4629004001 00
M 5	0,8	70	16	25	6	4,9	3	Ø 4,2	0 4629005001 00
M 6	1	80	19	30	6	4,9	3	Ø 5	0 4629006001 00
M 8	1,25	90	22	35	8	6,2	3	Ø 6,8	0 4629008001 00
M 10	1,5	100	24	39	10	8	3	Ø 8,5	0 4629010001 00
M 12	1,75	110	28	–	9	7	3	Ø 10,2	0 4639012001 00
M 16	2	110	32	–	12	9	3	Ø 14	0 4639016001 00
M 20	2,5	140	34	–	16	12	3	Ø 17,5	0 4639020001 00

[1] DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer Speedtap 4.0–Allround,
spiral-genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE-PM Gewindebohrer für Grundgewinde. Besonders geeignet für rostfreie Cr-Ni-Stähle, unlegierten und legierten Stahl ≤1300 N/mm². Die Generation 4.0 setzt neue Maßstäbe beim Gewinden.

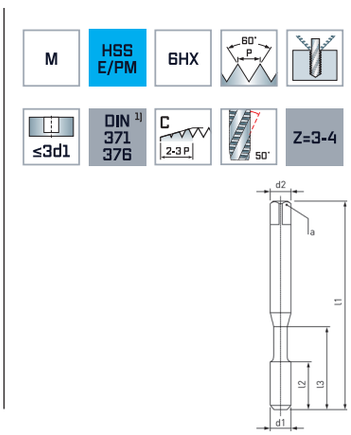
E Machine taps Speedtap 4.0–Allround,
spiral fluted, for metric ISO-threads DIN 13

Range of application:
Tap made of powder steel for blind hole threads. Especially suitable for stainless Cr-Ni steels, non-alloyed and alloyed steels ≤1300 N/mm². The generation 4.0 sets new standards in threading.

I Maschi a macchina Speedtap 4.0–Allround,
scanalature elicoidali, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori ciechi. Particolarmente adatti per acciai inossidabili Cr-Ni, acciai legati e non legati ≤1300 N/mm². La nuova generazione 4.0 stabilisce nuovi standard per realizzare maschiature.







d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4648 Art.-Nr.
M 6	1	80	10	30	6	4,9	3	Ø 5	0 4648006001 00
M 8	1,25	90	13	35	8	6,2	3	Ø 6,8	0 4648008001 00
M 10	1,5	100	15	39	10	8	3	Ø 8,5	0 4648010001 00
M 12	1,75	110	18	–	9	7	4	Ø 10,2	0 4648012001 00
M 16	2	110	20	–	12	9	4	Ø 14	0 4648016001 00
M 20	2,5	140	25	–	16	12	4	Ø 17,5	0 4648020001 00

[1] DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer Speedtap–Allround,
spiral-genutet, für metrisches ISO-Gewinde DIN 13

E Machine taps Speedtap–Allround,
spiral fluted, for metric ISO-threads DIN 13

I Maschi a macchina Speedtap–Allround,
scanalature elicoidali, per filettatura metrica ISO, DIN 13

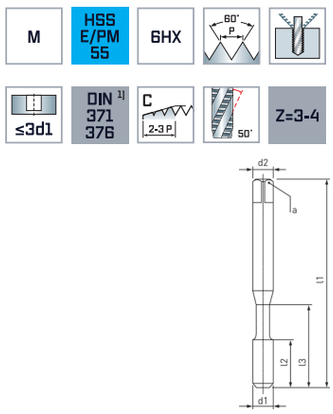
Einsatzbereich:
HSSE-PM Gewindebohrer für Grundgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1300 N/mm².

Range of application:
Tap made of powder steel for blind hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1300 N/mm².

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori ciechi. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1300 N/mm².

Speedtap





Allround



HARDOUR

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4685/4695 Art.-Nr.
M 6	1	80	10	30	6	4,9	3	Ø 5	0 4685006001 00
M 8	1,25	90	13	35	8	6,2	3	Ø 6,8	0 4685008001 00
M 10	1,5	100	15	39	10	8	3	Ø 8,5	0 4685010001 00
M 12	1,75	110	18	–	9	7	4	Ø 10,2	0 4695012001 00
M 16	2	110	20	–	12	9	4	Ø 14	0 4695016001 00
M 20	2,5	140	25	–	16	12	4	Ø 17,5	0 4695020001 00

(1) DIN 371 ≤ M 10
DIN 376 ≥ M 12



D Maschinengewindebohrer Speedtap 4.0–Allround,
spiral-genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE-PM Gewindebohrer für Grundgewinde. Besonders geeignet für rostfreie Cr-Ni-Stähle, unlegierten und legierten Stahl ≤1300 N/mm². Die Generation 4.0 setzt neue Maßstäbe beim Gewinden.

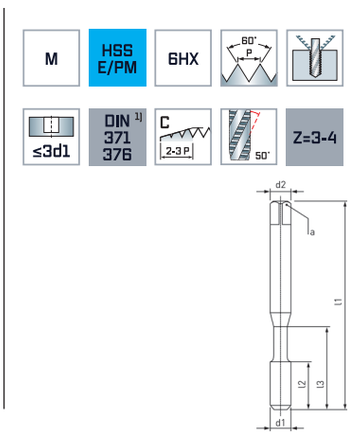
E Machine taps Speedtap 4.0–Allround,
spiral fluted, for metric ISO-threads DIN 13

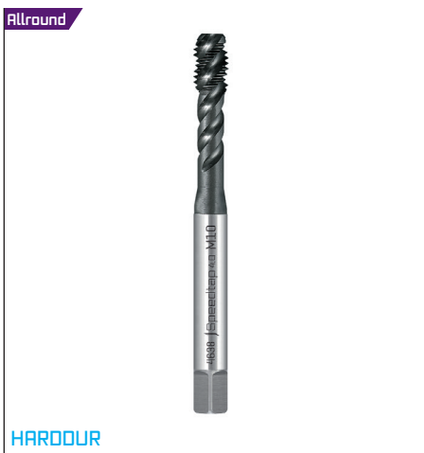
Range of application:
Tap made of powder steel for blind hole threads. Especially suitable for stainless Cr-Ni steels, non-alloyed and alloyed steels ≤1300 N/mm². The generation 4.0 sets new standards in threading.

I Maschi a macchina Speedtap 4.0–Allround,
scanalature elicoidali, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori ciechi. Particolarmente adatti per acciai inossidabili Cr-Ni, acciai legati e non legati ≤1300 N/mm². La nuova generazione 4.0 stabilisce nuovi standard per realizzare maschiature.







d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4638 Art.-Nr.
M 2	0,4	45	8	–	2,8	2,1	3	Ø 1,6	0 4638002001 00
M 2,5	0,45	50	9	–	2,8	2,1	3	Ø 2,05	0 4638002501 00
M 3	0,5	56	5	18	3,5	2,7	3	Ø 2,5	0 4638003001 00
M 4	0,7	63	7	21	4,5	3,4	3	Ø 3,3	0 4638004001 00
M 5	0,8	70	8	25	6	4,9	3	Ø 4,2	0 4638005001 00
M 6	1	80	10	30	6	4,9	3	Ø 5	0 4638006001 00
M 8	1,25	90	13	35	8	6,2	3	Ø 6,8	0 4638008001 00
M 10	1,5	100	15	39	10	8	3	Ø 8,5	0 4638010001 00
M 12	1,75	110	18	–	9	7	4	Ø 10,2	0 4638012001 00
M 14	2	110	20	–	11	9	4	Ø 12	0 4638014001 00
M 16	2	110	20	–	12	9	4	Ø 14	0 4638016001 00
M 20	2,5	140	25	–	16	12	4	Ø 17,5	0 4638020001 00
M 24	3	160	30	–	18	14,5	4	Ø 21	0 4638024001 00
M 27	3	160	30	–	20	16	4	Ø 24	0 4638027001 00
M 30	3,5	180	35	–	22	18	4	Ø 26,5	0 4638030001 00

[1] DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer **Speedtap–Allround,**
spiral-genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE-PM Gewindebohrer für Grundgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1300 N/mm².

E Machine taps **Speedtap–Allround,**
spiral fluted, for metric ISO-threads DIN 13

Range of application:
Tap made of powder steel for blind hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1300 N/mm².

I Maschi a macchina **Speedtap–Allround,**
scanalature elicoidali, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori ciechi. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1300 N/mm².

Speedtap

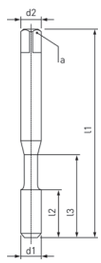
<400 N/mm² | <850 N/mm² | <1100 N/mm² | <1300 N/mm²

INOX <850 N/mm² | INOX >850 N/mm² | GRAUGUSS CAST IRON GHISA GRIGIA

Ni | Ti | Cu, Ms | Al

M | HSS E/PM 55 | 6HX | 60° P

≤3d1 | DIN 371 376 [1] | C 2-3 P | 50° | Z=3-4



Allround



HARDOUR

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4665/4675 Art.-Nr.
M 2	0,4	45	8	–	2,8	2,1	3	Ø 1,6	0 4665002001 00
M 2,5	0,45	50	9	–	2,8	2,1	3	Ø 2,05	0 4665002501 00
M 3	0,5	56	5	18	3,5	2,7	3	Ø 2,5	0 4665003001 00
M 4	0,7	63	7	21	4,5	3,4	3	Ø 3,3	0 4665004001 00
M 5	0,8	70	8	25	6	4,9	3	Ø 4,2	0 4665005001 00
M 6	1	80	10	30	6	4,9	3	Ø 5	0 4665006001 00
M 8	1,25	90	13	35	8	6,2	3	Ø 6,8	0 4665008001 00
M 10	1,5	100	15	39	10	8	3	Ø 8,5	0 4665010001 00
M 12	1,75	110	18	–	9	7	4	Ø 10,2	0 4675012001 00
M 14	2	110	20	–	11	9	4	Ø 12	0 4675014001 00
M 16	2	110	20	–	12	9	4	Ø 14	0 4675016001 00
M 20	2,5	140	25	–	16	12	4	Ø 17,5	0 4675020001 00
M 24	3	160	30	–	18	14,5	4	Ø 21	0 4675024001 00
M 27	3	160	30	–	20	16	4	Ø 24	0 4675027001 00
M 30	3,5	180	35	–	22	18	4	Ø 26,5	0 4675030001 00

[1] DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer Speedtap 4.0–Allround,
spiral-genutet, für metrisches ISO-Gewinde DIN 13

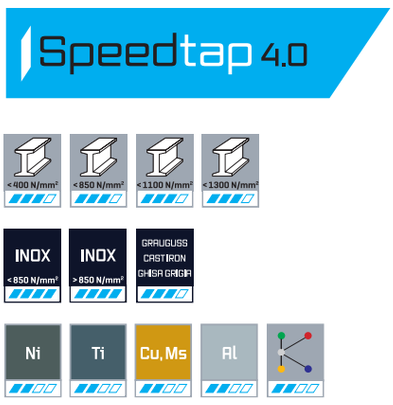
Einsatzbereich:
HSSE-PM Gewindebohrer für Grundgewinde. Besonders geeignet für rostfreie Cr-Ni-Stähle, unlegierten und legierten Stahl ≤1300 N/mm². Die Generation 4.0 setzt neue Maßstäbe beim Gewinden.

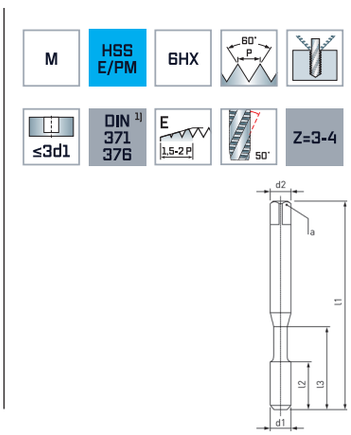
E Machine taps Speedtap 4.0–Allround,
spiral fluted, for metric ISO-threads DIN 13

Range of application:
Tap made of powder steel for blind hole threads. Especially suitable for stainless Cr-Ni steels, non-alloyed and alloyed steels ≤1300 N/mm². The generation 4.0 sets new standards in threading.

I Maschi a macchina Speedtap 4.0–Allround,
scanalature elicoidali, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori ciechi. Particolarmente adatti per acciai inossidabili Cr-Ni, acciai legati e non legati ≤1300 N/mm². La nuova generazione 4.0 stabilisce nuovi standard per realizzare maschiature.





Allround



HARODUR

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4668 Art.-Nr.
M 3	0,5	56	5	18	3,5	2,7	3	Ø 2,5	0 4668003001 00
M 4	0,7	63	7	21	4,5	3,4	3	Ø 3,3	0 4668004001 00
M 5	0,8	70	8	25	6	4,9	3	Ø 4,2	0 4668005001 00
M 6	1	80	10	30	6	4,9	3	Ø 5	0 4668006001 00
M 8	1,25	90	13	35	8	6,2	3	Ø 6,8	0 4668008001 00
M 10	1,5	100	15	39	10	8	3	Ø 8,5	0 4668010001 00
M 12	1,75	110	18	–	9	7	4	Ø 10,2	0 4668012001 00
M 16	2	110	20	–	12	9	4	Ø 14	0 4668016001 00
M 20	2,5	140	25	–	16	12	4	Ø 17,5	0 4668020001 00

(1) DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer **Speedtap–Allround,**
spiral-genutet, für metrisches ISO-Gewinde DIN 13

E Machine taps **Speedtap–Allround,**
spiral fluted, for metric ISO-threads DIN 13

I Maschi a macchina **Speedtap–Allround,**
scanalature elicoidali, per filettatura metrica ISO, DIN 13

Einsatzbereich:
HSSE-PM Gewindebohrer für Grundgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1300 N/mm².

Range of application:
Tap made of powder steel for blind hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1300 N/mm².

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori ciechi. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1300 N/mm².

Speedtap

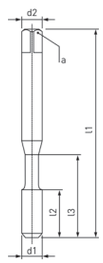
<400 N/mm² | <850 N/mm² | <1100 N/mm² | <1300 N/mm²

INOX <850 N/mm² | INOX >850 N/mm² | GRAUGUSS CAST IRON GHISA GRIGIA

Ni | Ti | Cu, Ms | Al

M | HSS E/PM 55 | 6HX | 60° P

≤3d1 | DIN 371 376 [1] | E 1,5-2 P | 50° | Z=3-4



Allround



HARDOUR

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4606/4616 Art.-Nr.
M 3	0,5	56	5	18	3,5	2,7	3	Ø 2,5	0 4606003001 00
M 4	0,7	63	7	21	4,5	3,4	3	Ø 3,3	0 4606004001 00
M 5	0,8	70	8	25	6	4,9	3	Ø 4,2	0 4606005001 00
M 6	1	80	10	30	6	4,9	3	Ø 5	0 4606006001 00
M 8	1,25	90	13	35	8	6,2	3	Ø 6,8	0 4606008001 00
M 10	1,5	100	15	39	10	8	3	Ø 8,5	0 4606010001 00
M 12	1,75	110	18	–	9	7	4	Ø 10,2	0 4616012001 00
M 16	2	110	20	–	12	9	4	Ø 14	0 4616016001 00
M 20	2,5	140	25	–	16	12	4	Ø 17,5	0 4616020001 00

[1] DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer Speedtap–Allround,
spiral-genutet, für metrisches ISO-Gewinde DIN 13

E Machine taps Speedtap–Allround,
spiral fluted, for metric ISO-threads DIN 13

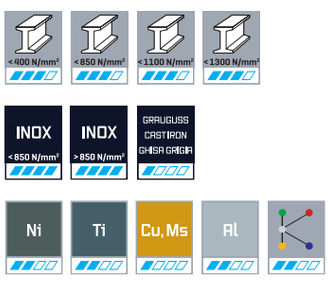
I Maschi a macchina Speedtap–Allround,
scanalature elicoidali, per filettatura metrica ISO, DIN 13

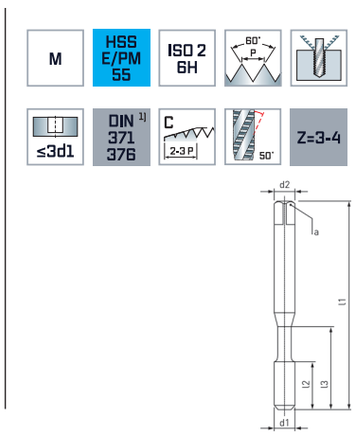
Einsatzbereich:
HSSE-PM Gewindebohrer für Grundgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1300 N/mm².

Range of application:
Tap made of powder steel for blind hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1300 N/mm².

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori ciechi. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1300 N/mm².

Speedtap







TiCN



TiCN

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4627/4637 Art.-Nr.	Code 4649/4659 Art.-Nr.
M 3	0,5	56	5	18	3,5	2,7	3	Ø 2,5		0 4649003001 00
M 4	0,7	63	7	21	4,5	3,4	3	Ø 3,3		0 4649004001 00
M 5	0,8	70	8	25	6	4,9	3	Ø 4,2		0 4649005001 00
M 6	1	80	10	30	6	4,9	3	Ø 5	0 4627006001 00	0 4649006001 00
M 8	1,25	90	13	35	8	6,2	3	Ø 6,8	0 4627008001 00	0 4649008001 00
M 10	1,5	100	15	39	10	8	3	Ø 8,5	0 4627010001 00	0 4649010001 00
M 12	1,75	110	18	–	9	7	4	Ø 10,2	0 4637012001 00	0 4659012001 00
M 14	2	110	20	–	11	9	4	Ø 12	0 4637014001 00	0 4659014001 00
M 16	2	110	20	–	12	9	4	Ø 14	0 4637016001 00	0 4659016001 00
M 18	2,5	125	25	–	14	11	4	Ø 15,5	0 4637018001 00	0 4659018001 00
M 20	2,5	140	25	–	16	12	4	Ø 17,5	0 4637020001 00	0 4659020001 00
M 22	2,5	140	25	–	18	14,5	4	Ø 19,5	0 4637022001 00	0 4659022001 00
M 24	3	160	30	–	18	14,5	4	Ø 21	0 4637024001 00	0 4659024001 00
M 27	3	160	30	–	20	16	4	Ø 24	0 4637027001 00	0 4659027001 00
M 30	3,5	180	35	–	22	18	4	Ø 26,5	0 4637030001 00	0 4659030001 00

[1] DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer Speedtap 4.0–Allround,
spiral-genutet, für metrisches ISO-Gewinde DIN 13

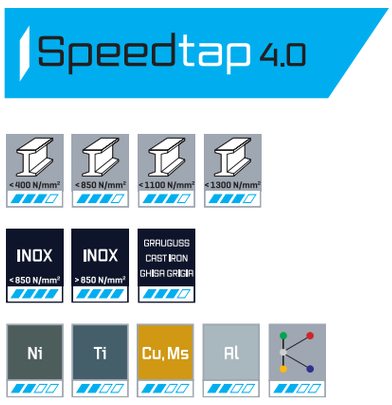
E Machine taps Speedtap 4.0–Allround,
spiral fluted, for metric ISO-threads DIN 13

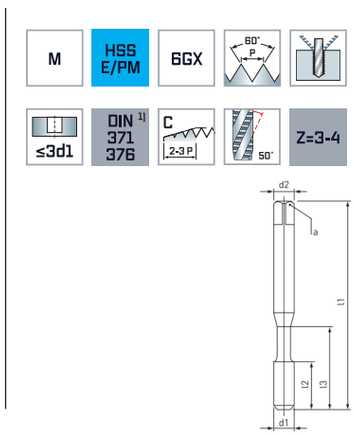
I Maschi a macchina Speedtap 4.0–Allround,
scanalature elicoidali, per filettatura metrica ISO, DIN 13

Einsatzbereich:
HSSE-PM Gewindebohrer für Grundgewinde. Besonders geeignet für rostfreie Cr-Ni-Stähle, unlegierten und legierten Stahl ≤1300 N/mm². Die Generation 4.0 setzt neue Maßstäbe beim Gewinden.

Range of application:
Tap made of powder steel for blind hole threads. Especially suitable for stainless Cr-Ni steels, non-alloyed and alloyed steels ≤1300 N/mm². The generation 4.0 sets new standards in threading.

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori ciechi. Particolarmente adatti per acciai inossidabili Cr-Ni, acciai legati e non legati ≤1300 N/mm². La nuova generazione 4.0 stabilisce nuovi standard per realizzare maschiature.







d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4658 Art.-Nr.
M 3	0,5	56	5	18	3,5	2,7	3	Ø 2,5	0 4658003001 00
M 4	0,7	63	7	21	4,5	3,4	3	Ø 3,3	0 4658004001 00
M 5	0,8	70	8	25	6	4,9	3	Ø 4,2	0 4658005001 00
M 6	1	80	10	30	6	4,9	3	Ø 5	0 4658006001 00
M 8	1,25	90	13	35	8	6,2	3	Ø 6,8	0 4658008001 00
M 10	1,5	100	15	39	10	8	3	Ø 8,5	0 4658010001 00
M 12	1,75	110	18	–	9	7	4	Ø 10,2	0 4658012001 00
M 16	2	110	20	–	12	9	4	Ø 14	0 4658016001 00
M 20	2,5	140	25	–	16	12	4	Ø 17,5	0 4658020001 00

(1) DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer Speedtap–Allround,
spiral-genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE-PM Gewindebohrer für Grundgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1300 N/mm².

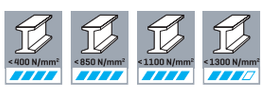
E Machine taps Speedtap–Allround,
spiral fluted, for metric ISO-threads DIN 13

Range of application:
Tap made of powder steel for blind hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1300 N/mm².

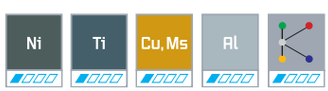
I Maschi a macchina Speedtap–Allround,
scanalature elicoidali, per filettatura metrica ISO, DIN 13

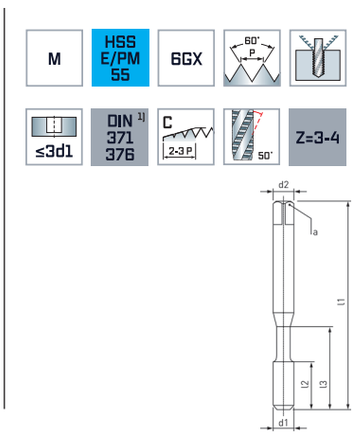
Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori ciechi. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1300 N/mm².

Speedtap









Allround



HARDDUR

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4626/4636 Art.-Nr.
M 3	0,5	56	5	18	3,5	2,7	3	Ø 2,5	0 4626003001 00
M 4	0,7	63	7	21	4,5	3,4	3	Ø 3,3	0 4626004001 00
M 5	0,8	70	8	25	6	4,9	3	Ø 4,2	0 4626005001 00
M 6	1	80	10	30	6	4,9	3	Ø 5	0 4626006001 00
M 8	1,25	90	13	35	8	6,2	3	Ø 6,8	0 4626008001 00
M 10	1,5	100	15	39	10	8	3	Ø 8,5	0 4626010001 00
M 12	1,75	110	18	–	9	7	4	Ø 10,2	0 4636012001 00
M 16	2	110	20	–	12	9	4	Ø 14	0 4636016001 00
M 20	2,5	140	25	–	16	12	4	Ø 17,5	0 4636020001 00

[1] DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer **Speedtap–Universal,**
gerade genutet, für metrisches ISO-Gewinde DIN 13

E Machine taps **Speedtap–Universal,**
straight fluted, for metric ISO-threads DIN 13

I Maschi a macchina **Speedtap–Universal,**
scanalature diritte, per filettatura metrica ISO, DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Durchgangsgewinde. Besonders geeignet für unlegierten und legierten Stahl ≤850 N/mm².

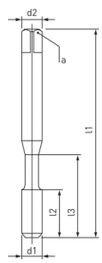
Range of application:
HSS Cobalt tap for through hole threads. Especially suitable for non-alloyed and alloyed steels ≤850 N/mm².

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori passanti. Particolarmente adatti per acciai legati e non legati ≤850 N/mm².

Speedtap

<400 N/mm² <850 N/mm²

M | HSS E/V3 | ISO 2 6H | 60° P | ≤3d1 | DIN 371 | B 3,5-5P | Z=2-3



Uni



d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4621 Art.-Nr.
M 1,4*	0,3	40	7	–	2,5	2,1	2	Ø 1,1	0 4621001401 00
M 1,6	0,35	40	8	–	2,5	2,1	2	Ø 1,25	0 4621001601 00
M 1,7	0,35	40	8	–	2,5	2,1	2	Ø 1,3	0 4621001701 00
M 1,8	0,35	40	8	–	2,5	2,1	2	Ø 1,45	0 4621001801 00
M 2	0,4	45	8	–	2,8	2,1	2	Ø 1,6	0 4621002001 00
M 2,3	0,4	45	9	–	2,8	2,1	2	Ø 1,9	0 4621002301 00
M 2,5	0,45	50	9	–	2,8	2,1	2	Ø 2,05	0 4621002501 00
M 2,6	0,45	50	9	–	2,8	2,1	2	Ø 2,1	0 4621002601 00
M 3	0,5	56	11	18	3,5	2,7	3	Ø 2,5	0 4621003001 00
M 4	0,7	63	13	21	4,5	3,4	3	Ø 3,3	0 4621004001 00
M 5	0,8	70	16	25	6	4,9	3	Ø 4,2	0 4621005001 00
M 6	1	80	19	30	6	4,9	3	Ø 5	0 4621006001 00
M 8	1,25	90	22	35	8	6,2	3	Ø 6,8	0 4621008001 00
M 10	1,5	100	24	39	10	8	3	Ø 8,5	0 4621010001 00
M 12	1,75	110	28	45	12	9	3	Ø 10,2	0 4621012001 00

(*) M 1,4 = ISO 1 5H

D Maschinengewindebohrer Speedtap–Universal,
gerade genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Durchgangsgewinde. Besonders geeignet für unlegierten und legierten Stahl ≤850 N/mm².

E Machine taps Speedtap–Universal,
straight fluted, for metric ISO-threads DIN 13

Range of application:
HSS Cobalt tap for through hole threads. Especially suitable for non-alloyed and alloyed steels ≤850 N/mm².

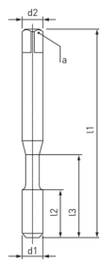
I Maschi a macchina Speedtap–Universal,
scanalature diritte, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori passanti. Particolarmente adatti per acciai legati e non legati ≤850 N/mm².

Speedtap

<400 N/mm² <850 N/mm²

M | HSS E/V3 | ISO 2 6H | 60° P | ≤3d1 | DIN 371 | B 3,5-5P | Z=3



Uni



TiN

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4641 Art.-Nr.
M 3	0,5	56	11	18	3,5	2,7	3	Ø 2,5	0 4641003001 00
M 4	0,7	63	13	21	4,5	3,4	3	Ø 3,3	0 4641004001 00
M 5	0,8	70	16	25	6	4,9	3	Ø 4,2	0 4641005001 00
M 6	1	80	19	30	6	4,9	3	Ø 5	0 4641006001 00
M 8	1,25	90	22	35	8	6,2	3	Ø 6,8	0 4641008001 00
M 10	1,5	100	24	39	10	8	3	Ø 8,5	0 4641010001 00

D Maschinengewindebohrer Speedtap–Universal,
gerade genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Durchgangsgewinde. Besonders geeignet für unlegierten und legierten Stahl ≤850 N/mm².

E Machine taps Speedtap–Universal,
straight fluted, for metric ISO-threads DIN 13

Range of application:
HSS Cobalt tap for through hole threads. Especially suitable for non-alloyed and alloyed steels ≤850 N/mm².

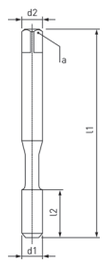
I Maschi a macchina Speedtap–Universal,
scanalature diritte, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori passanti. Particolarmente adatti per acciai legati e non legati ≤850 N/mm².

Speedtap

<400 N/mm² <850 N/mm²

M | HSS E/V3 | ISO 2 6H | 60° P | ≤3d1 | DIN 376 | B 3,5-5P | Z=2-4



Uni



d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4631 Art.-Nr.
M 2	0,4	45	8	1,4	–	2	Ø 1,6	0 4631002001 00
M 2,5	0,45	50	9	1,8	–	2	Ø 2,05	0 4631002501 00
M 3	0,5	56	11	2,2	–	3	Ø 2,5	0 4631003001 00
M 4	0,7	63	13	2,8	2,1	3	Ø 3,3	0 4631004001 00
M 5	0,8	70	16	3,5	2,7	3	Ø 4,2	0 4631005001 00
M 6	1	80	19	4,5	3,4	3	Ø 5	0 4631006001 00
M 8	1,25	90	22	6	4,9	3	Ø 6,8	0 4631008001 00
M 10	1,5	100	24	7	5,5	3	Ø 8,5	0 4631010001 00
M 12	1,75	110	28	9	7	3	Ø 10,2	0 4631012001 00
M 14	2	110	30	11	9	3	Ø 12	0 4631014001 00
M 16	2	110	32	12	9	3	Ø 14	0 4631016001 00
M 18	2,5	125	34	14	11	3	Ø 15,5	0 4631018001 00
M 20	2,5	140	34	16	12	3	Ø 17,5	0 4631020001 00
M 22	2,5	140	34	18	14,5	3	Ø 19,5	0 4631022001 00
M 24	3	160	38	18	14,5	3	Ø 21	0 4631024001 00
M 27	3	160	38	20	16	4	Ø 24	0 4631027001 00
M 30	3,5	180	45	22	18	4	Ø 26,5	0 4631030001 00
M 33	3,5	180	50	25	20	4	Ø 29,5	0 4631033001 00
M 36	4	200	56	28	22	4	Ø 32	0 4631036001 00
M 39	4	200	60	32	24	4	Ø 35	0 4631039001 00
M 42	4,5	200	60	32	24	4	Ø 37,5	0 4631042001 00
M 45	4,5	220	65	36	29	4	Ø 40,5	0 4631045001 00
M 48	5	250	70	36	29	4	Ø 43	0 4631048001 00
M 52	5	250	70	40	32	4	Ø 47	0 4631052001 00

D Maschinengewindebohrer Speedtap–Universal,
gerade genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Durchgangsgewinde. Besonders geeignet für unlegierten und legierten Stahl ≤850 N/mm².

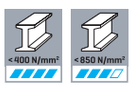
E Machine taps Speedtap–Universal,
straight fluted, for metric ISO-threads DIN 13

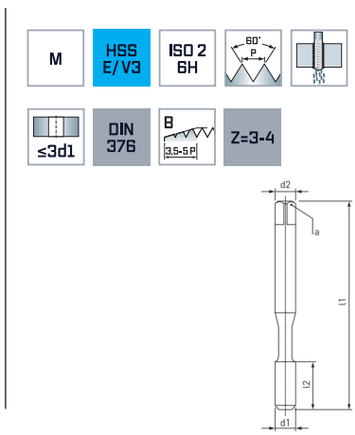
Range of application:
HSS Cobalt tap for through hole threads. Especially suitable for non-alloyed and alloyed steels ≤850 N/mm².

I Maschi a macchina Speedtap–Universal,
scanalature diritte, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori passanti. Particolarmente adatti per acciai legati e non legati ≤850 N/mm².

Speedtap





Uni



TiN

d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4651 Art.-Nr.
M 3	0,5	56	11	2,2	–	3	Ø 2,5	0 4651003001 00
M 4	0,7	63	13	2,8	2,1	3	Ø 3,3	0 4651004001 00
M 5	0,8	70	16	3,5	2,7	3	Ø 4,2	0 4651005001 00
M 6	1	80	19	4,5	3,4	3	Ø 5	0 4651006001 00
M 8	1,25	90	22	6	4,9	3	Ø 6,8	0 4651008001 00
M 10	1,5	100	24	7	5,5	3	Ø 8,5	0 4651010001 00
M 12	1,75	110	28	9	7	3	Ø 10,2	0 4651012001 00
M 14	2	110	30	11	9	3	Ø 12	0 4651014001 00
M 16	2	110	32	12	9	3	Ø 14	0 4651016001 00
M 18	2,5	125	34	14	11	3	Ø 15,5	0 4651018001 00
M 20	2,5	140	34	16	12	3	Ø 17,5	0 4651020001 00
M 22	2,5	140	34	18	14,5	3	Ø 19,5	0 4651022001 00
M 24	3	160	38	18	14,5	3	Ø 21	0 4651024001 00
M 27	3	160	38	20	16	4	Ø 24	0 4651027001 00
M 30	3,5	180	45	22	18	4	Ø 26,5	0 4651030001 00
M 33	3,5	180	50	25	20	4	Ø 29,5	0 4651033001 00
M 36	4	200	56	28	22	4	Ø 32	0 4651036001 00

D Maschinengewindebohrer **Speedtap–Universal,**
spiral-genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE-PM Gewindebohrer für Grundgewinde. Besonders geeignet für unlegierte, legierte Stähle ≤1300 N/mm².

E Machine taps **Speedtap–Universal,**
spiral fluted, for metric ISO-threads DIN 13

Range of application:
Tap made of powder steel for blind hole threads. Especially suitable for non-alloyed and alloyed steels ≤1300 N/mm².

I Maschi a macchina **Speedtap–Universal,**
scanalature elicoidali, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori ciechi. Particolarmente adatti per acciai legati e non legati ≤1300 N/mm².

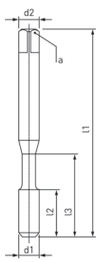
Speedtap

<400 N/mm² | <850 N/mm² | <1100 N/mm² | <1300 N/mm²

INOX <850 N/mm² | INOX >850 N/mm² | GRAUGUSS CAST IRON GHISA GRIGIA

Ni | Ti | Cu, Ms

M | HSS E/PM 55 | ISO 2 6H | 60° P | ≤3d1 | DIN 371 | C 2-3 P | 45° | Z=3



Uni



TWINDUR

d1 mm	P mm	l1 mm	l2 mm	l3 mm	$d2_{h9}$ mm	a_{h12} mm	Z		Code 4666 Art.-Nr.
M 3	0,5	56	5	18	3,5	2,7	3	Ø 2,5	4666003001 00
M 4	0,7	63	7	21	4,5	3,4	3	Ø 3,3	4666004001 00
M 5	0,8	70	8	25	6	4,9	3	Ø 4,2	4666005001 00
M 6	1	80	10	30	6	4,9	3	Ø 5	4666006001 00
M 8	1,25	90	13	35	8	6,2	3	Ø 6,8	4666008001 00
M 10	1,5	100	15	39	10	8	3	Ø 8,5	4666010001 00

D Maschinengewindebohrer Speedtap–Universal,
spiral-genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Grundgewinde. Besonders geeignet für unlegierten und legierten Stahl ≤850 N/mm².

E Machine taps Speedtap–Universal,
spiral fluted, for metric ISO-threads DIN 13

Range of application:
HSS Cobalt tap for blind hole threads. Especially suitable for non-alloyed and alloyed steels ≤850 N/mm².

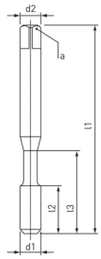
I Maschi a macchina Speedtap–Universal,
scanalature elicoidali, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio super rapido HSSE per fori ciechi. Particolarmente adatti per acciai legati e non legati ≤850 N/mm².

Speedtap

<400 N/mm² <850 N/mm²

M | HSS E/V3 | ISO 2 6H | ≤2,5d1 | DIN 371 | C 2-3P | Z=2-3



Uni



d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4661 Art.-Nr.
M 2	0,4	45	8	–	2,8	2,1	2	Ø 1,6	0 4661002001 00
M 2,3	0,4	45	9	–	2,8	2,1	2	Ø 1,9	0 4661002301 00
M 2,5	0,45	50	9	–	2,8	2,1	2	Ø 2,05	0 4661002501 00
M 2,6	0,45	50	9	–	2,8	2,1	2	Ø 2,1	0 4661002601 00
M 3	0,5	56	5	18	3,5	2,7	3	Ø 2,5	0 4661003001 00
M 3,5	0,6	56	6	20	4	3	3	Ø 2,9	0 4661003501 00
M 4	0,7	63	7	21	4,5	3,4	3	Ø 3,3	0 4661004001 00
M 5	0,8	70	8	25	6	4,9	3	Ø 4,2	0 4661005001 00
M 6	1	80	10	30	6	4,9	3	Ø 5	0 4661006001 00
M 8	1,25	90	13	35	8	6,2	3	Ø 6,8	0 4661008001 00
M 10	1,5	100	15	39	10	8	3	Ø 8,5	0 4661010001 00
M 12	1,75	110	18	45	12	9	3	Ø 10,2	0 4661012001 00

D Maschinengewindebohrer **Speedtap–Universal,**
spiral-genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Grundgewinde. Besonders geeignet für unlegierten und legierten Stahl ≤850 N/mm².

E Machine taps **Speedtap–Universal,**
spiral fluted, for metric ISO-threads DIN 13

Range of application:
HSS Cobalt tap for blind hole threads. Especially suitable for non-alloyed and alloyed steels ≤850 N/mm².

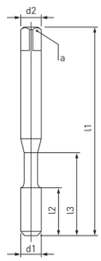
I Maschi a macchina **Speedtap–Universal,**
scanalature elicoidali, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio super rapido HSSE per fori ciechi. Particolarmente adatti per acciai legati e non legati ≤850 N/mm².

Speedtap

<400 N/mm² <850 N/mm²

M | HSS E/V3 | ISO 2 6H | 60° P | ≤2,5d1 | DIN 371 | C 2-3 P | 40° | Z=3



Uni



VAPO

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4601 Art.-Nr.
M 3	0,5	56	5	18	3,5	2,7	3	Ø 2,5	0 4601003001 00
M 4	0,7	63	7	21	4,5	3,4	3	Ø 3,3	0 4601004001 00
M 5	0,8	70	8	25	6	4,9	3	Ø 4,2	0 4601005001 00
M 6	1	80	10	30	6	4,9	3	Ø 5	0 4601006001 00
M 8	1,25	90	13	35	8	6,2	3	Ø 6,8	0 4601008001 00
M 10	1,5	100	15	39	10	8	3	Ø 8,5	0 4601010001 00

D Maschinengewindebohrer Speedtap–Universal,
spiral-genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Grundgewinde. Besonders geeignet für unlegierten und legierten Stahl ≤850 N/mm².

E Machine taps Speedtap–Universal,
spiral fluted, for metric ISO-threads DIN 13

Range of application:
HSS Cobalt tap for blind hole threads. Especially suitable for non-alloyed and alloyed steels ≤850 N/mm².

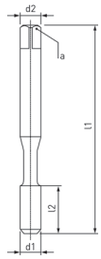
I Maschi a macchina Speedtap–Universal,
scanalature elicoidali, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori ciechi. Particolarmente adatti per acciai legati e non legati ≤850 N/mm².

Speedtap

<400 N/mm² <850 N/mm²

M | HSS E/V3 | ISO 2 6H | 60° P | ≤2,5d1 | DIN 376 | C 2-3 P | 40° | Z=3-4



Uni



d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4671 Art.-Nr.
M 3	0,5	56	5	2,2	0	3	Ø 2,5	0 4671003001 00
M 4	0,7	63	7	2,8	2,1	3	Ø 3,3	0 4671004001 00
M 5	0,8	70	8	3,5	2,7	3	Ø 4,2	0 4671005001 00
M 6	1	80	10	4,5	3,4	3	Ø 5	0 4671006001 00
M 8	1,25	90	13	6	4,9	3	Ø 6,8	0 4671008001 00
M 10	1,5	100	15	7	5,5	3	Ø 8,5	0 4671010001 00
M 12	1,75	110	18	9	7	3	Ø 10,2	0 4671012001 00
M 14	2	110	20	11	9	3	Ø 12	0 4671014001 00
M 16	2	110	20	12	9	3	Ø 14	0 4671016001 00
M 18	2,5	125	25	14	11	4	Ø 15,5	0 4671018001 00
M 20	2,5	140	25	16	12	4	Ø 17,5	0 4671020001 00
M 22	2,5	140	25	18	14,5	4	Ø 19,5	0 4671022001 00
M 24	3	160	30	18	14,5	4	Ø 21	0 4671024001 00
M 27	3	160	30	20	16	4	Ø 24	0 4671027001 00
M 30	3,5	180	35	22	18	4	Ø 26,5	0 4671030001 00
M 33	3,5	180	35	25	20	4	Ø 29,5	0 4671033001 00
M 36	4	200	40	28	22	4	Ø 32	0 4671036001 00

D Maschinengewindebohrer Speedtap–Universal,
spiral-genutet, für metrisches ISO-Gewinde DIN 13

E Machine taps Speedtap–Universal,
spiral fluted, for metric ISO-threads DIN 13

I Maschi a macchina Speedtap–Universal,
scanalature elicoidali, per filettatura metrica ISO, DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Grundgewinde. Besonders geeignet für unlegierten und legierten Stahl ≤850 N/mm².

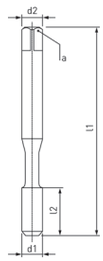
Range of application:
HSS Cobalt tap for blind hole threads. Especially suitable for non-alloyed and alloyed steels ≤850 N/mm².

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori ciechi. Particolarmente adatti per acciai legati e non legati ≤850 N/mm².

Speedtap

<400 N/mm² <850 N/mm²

M | HSS E/V3 | ISO 2 6H | 60° P | ≤2,5d1 | DIN 376 | C 2-3 P | 40° | Z=3-4



Uni



VAPO

d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4611 Art.-Nr.
M 3	0,5	56	5	2,2	0	3	Ø 2,5	0 4611003001 00
M 4	0,7	63	7	2,8	2,1	3	Ø 3,3	0 4611004001 00
M 5	0,8	70	8	3,5	2,7	3	Ø 4,2	0 4611005001 00
M 6	1	80	10	4,5	3,4	3	Ø 5	0 4611006001 00
M 8	1,25	90	13	6	4,9	3	Ø 6,8	0 4611008001 00
M 10	1,5	100	15	7	5,5	3	Ø 8,5	0 4611010001 00
M 12	1,75	110	18	9	7	3	Ø 10,2	0 4611012001 00
M 14	2	110	20	11	9	3	Ø 12	0 4611014001 00
M 16	2	110	20	12	9	3	Ø 14	0 4611016001 00
M 18	2,5	125	25	14	11	4	Ø 15,5	0 4611018001 00
M 20	2,5	140	25	16	12	4	Ø 17,5	0 4611020001 00
M 22	2,5	140	25	18	14,5	4	Ø 19,5	0 4611022001 00
M 24	3	160	30	18	14,5	4	Ø 21	0 4611024001 00
M 27	3	160	30	20	16	4	Ø 24	0 4611027001 00
M 30	3,5	180	35	22	18	4	Ø 26,5	0 4611030001 00
M 33	3,5	180	35	25	20	4	Ø 29,5	0 4611033001 00
M 36	4	200	40	28	22	4	Ø 32	0 4611036001 00

D Maschinengewindebohrer Speedtap–Universal,
spiral-genutet, für metrisches ISO-Gewinde DIN 13

E Machine taps Speedtap–Universal,
spiral fluted, for metric ISO-threads DIN 13

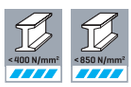
I Maschi a macchina Speedtap–Universal,
scanalature elicoidali, per filettatura metrica ISO, DIN 13

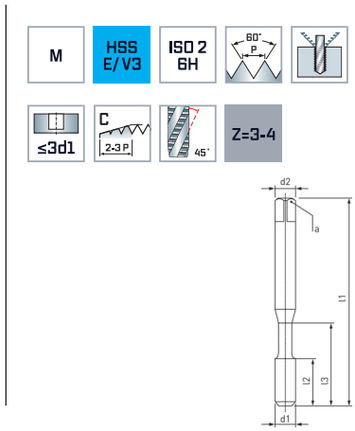
Einsatzbereich:
HSSE Gewindebohrer für Grundgewinde. Besonders geeignet für unlegierten und legierten Stahl ≤850 N/mm².

Range of application:
HSS Cobalt tap for blind hole threads. Especially suitable for non-alloyed and alloyed steels ≤850 N/mm².

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori ciechi. Particolarmente adatti per acciai legati e non legati ≤850 N/mm.

Speedtap







TiN



TiN

d1 mm	P mm	l1 mm	l2 mm	l3 mm	$d2_{h9}$ mm	a_{h12} mm	Z		Code 4681 Art.-Nr.	Code 4691 Art.-Nr.
M 3	0,5	56	5	18	3,5	2,7	3	Ø 2,5	0 4681003001 00	
M 3	0,5	56	5	–	2,2	–	3	Ø 2,5		0 4691003001 00
M 4	0,7	63	7	21	4,5	3,4	3	Ø 3,3	0 4681004001 00	
M 4	0,7	63	7	–	2,8	2,1	3	Ø 3,3		0 4691004001 00
M 5	0,8	70	8	25	6	4,9	3	Ø 4,2	0 4681005001 00	
M 5	0,8	70	8	–	3,5	2,7	3	Ø 4,2		0 4691005001 00
M 6	1	80	10	30	6	4,9	3	Ø 5	0 4681006001 00	
M 6	1	80	10	–	4,5	3,4	3	Ø 5		0 4691006001 00
M 8	1,25	90	13	35	8	6,2	3	Ø 6,8	0 4681008001 00	
M 8	1,25	90	13	–	6	4,9	3	Ø 6,8		0 4691008001 00
M 10	1,5	100	15	39	10	8	3	Ø 8,5	0 4681010001 00	
M 10	1,5	100	15	–	7	5,5	3	Ø 8,5		0 4691010001 00
M 12	1,75	110	18	–	9	7	3	Ø 10,2		0 4691012001 00
M 14	2	110	20	–	11	9	3	Ø 12		0 4691014001 00
M 16	2	110	20	–	12	9	3	Ø 14		0 4691016001 00
M 18	2,5	125	25	–	14	11	4	Ø 15,5		0 4691018001 00
M 20	2,5	140	25	–	16	12	4	Ø 17,5		0 4691020001 00
M 22	2,5	140	25	–	18	14,5	4	Ø 19,5		0 4691022001 00
M 24	3	160	30	–	18	14,5	4	Ø 21		0 4691024001 00

D Maschinengewindebohrer Speedtap-Inox,
gerade genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Durchgangsgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1200 N/mm².

E Machine taps Speedtap-Inox,
straight fluted, for metric ISO-threads DIN 13

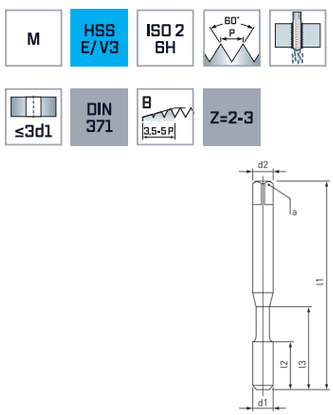
Range of application:
HSS Cobalt tap for through hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1200 N/mm².

I Maschi a macchina Speedtap-Inox,
scanalature diritte, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori passanti. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1200 N/mm².

Speedtap





Inox



VAPO

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4602 Art.-Nr.
M 2	0,4	45	8	–	2,8	2,1	2	Ø 1,6	0 4602002001 00
M 2,5	0,45	50	9	–	2,8	2,1	2	Ø 2,05	0 4602002501 00
M 3	0,5	56	11	18	3,5	2,7	3	Ø 2,5	0 4602003001 00
M 3,5	0,6	56	12	20	4	3	3	Ø 2,9	0 4602003501 00
M 4	0,7	63	13	21	4,5	3,4	3	Ø 3,3	0 4602004001 00
M 5	0,8	70	16	25	6	4,9	3	Ø 4,2	0 4602005001 00
M 6	1	80	19	30	6	4,9	3	Ø 5	0 4602006001 00
M 8	1,25	90	22	35	8	6,2	3	Ø 6,8	0 4602008001 00
M 10	1,5	100	24	39	10	8	3	Ø 8,5	0 4602010001 00
M 12	1,75	110	28	45	12	9	3	Ø 10,2	0 4602012001 00

D Maschinengewindebohrer Speedtap-Inox,
gerade genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Durchgangsgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1200 N/mm².

E Machine taps Speedtap-Inox,
straight fluted, for metric ISO-threads DIN 13

Range of application:
HSS Cobalt tap for through hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1200 N/mm².

I Maschi a macchina Speedtap-Inox,
scanalature diritte, per filettatura metrica ISO, DIN 13

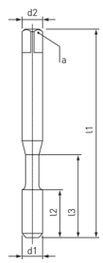
Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori passanti. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1200 N/mm².

Speedtap

<400 N/mm² <850 N/mm² <1100 N/mm²

INOX <850 N/mm² INOX >850 N/mm²

M | HSS E/V3 | ISO 2 6H | 60° P | ≤3d1 | DIN 371 | B 3,5-5P | Z=3



Inox



TiN

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4622 Art.-Nr.
M 3	0,5	56	11	18	3,5	2,7	3	Ø 2,5	0 4622003001 00
M 4	0,7	63	13	21	4,5	3,4	3	Ø 3,3	0 4622004001 00
M 5	0,8	70	16	25	6	4,9	3	Ø 4,2	0 4622005001 00
M 6	1	80	19	30	6	4,9	3	Ø 5	0 4622006001 00
M 8	1,25	90	22	35	8	6,2	3	Ø 6,8	0 4622008001 00
M 10	1,5	100	24	39	10	8	3	Ø 8,5	0 4622010001 00

D Maschinengewindebohrer Speedtap-Inox,
gerade genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Durchgangsgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1200 N/mm².

E Machine taps Speedtap-Inox,
straight fluted, for metric ISO-threads DIN 13

Range of application:
HSS Cobalt tap for through hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1200 N/mm².

I Maschi a macchina Speedtap-Inox,
scanalature diritte, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori passanti. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1200 N/mm².

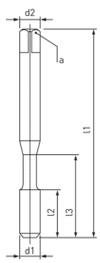
Speedtap

<400 N/mm² | <850 N/mm² | <1100 N/mm²

INOX <850 N/mm² | INOX >850 N/mm²

Ni | Ti | Al

M | HSS E/V3 | ISO 2 6H | 60° P | ≤3d1 | DIN 371 | B 3,5-5P | Z=3



Inox



TiCN

d1 mm	P mm	l1 mm	l2 mm	l3 mm	$d2_{h9}$ mm	a_{h12} mm	Z		Code 4642 Art.-Nr.
M 3	0,5	56	11	18	3,5	2,7	3	Ø 2,5	0 4642003001 00
M 4	0,7	63	13	21	4,5	3,4	3	Ø 3,3	0 4642004001 00
M 5	0,8	70	16	25	6	4,9	3	Ø 4,2	0 4642005001 00
M 6	1	80	19	30	6	4,9	3	Ø 5	0 4642006001 00
M 8	1,25	90	22	35	8	6,2	3	Ø 6,8	0 4642008001 00
M 10	1,5	100	24	39	10	8	3	Ø 8,5	0 4642010001 00

D Maschinengewindebohrer Speedtap-Inox,
gerade genutet, für metrisches ISO-Gewinde DIN 13

E Machine taps Speedtap-Inox,
straight fluted, for metric ISO-threads DIN 13

I Maschi a macchina Speedtap-Inox,
scanalature diritte, per filettatura metrica ISO, DIN 13

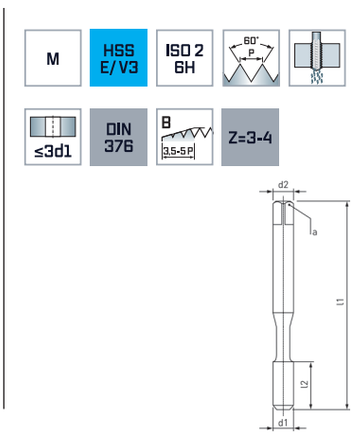
Einsatzbereich:
HSSE Gewindebohrer für Durchgangsgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1200 N/mm².

Range of application:
HSS Cobalt tap for through hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1200 N/mm².

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori passanti. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1200 N/mm².

Speedtap





Inox



VAPO

d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4612 Art.-Nr.
M 3	0,5	56	11	2,2	0	3	Ø 2,5	0 4612003001 00
M 4	0,7	63	13	2,8	2,1	3	Ø 3,3	0 4612004001 00
M 5	0,8	70	16	3,5	2,7	3	Ø 4,2	0 4612005001 00
M 6	1	80	19	4,5	3,4	3	Ø 5	0 4612006001 00
M 8	1,25	90	22	6	4,9	3	Ø 6,8	0 4612008001 00
M 10	1,5	100	24	7	5,5	3	Ø 8,5	0 4612010001 00
M 12	1,75	110	28	9	7	3	Ø 10,2	0 4612012001 00
M 14	2	110	30	11	9	3	Ø 12	0 4612014001 00
M 16	2	110	32	12	9	3	Ø 14	0 4612016001 00
M 18	2,5	125	34	14	11	3	Ø 15,5	0 4612018001 00
M 20	2,5	140	34	16	12	3	Ø 17,5	0 4612020001 00
M 22	2,5	140	34	18	14,5	3	Ø 19,5	0 4612022001 00
M 24	3	160	38	18	14,5	3	Ø 21	0 4612024001 00
M 27	3	160	38	20	16	4	Ø 24	0 4612027001 00
M 30	3,5	180	45	22	18	4	Ø 26,5	0 4612030001 00
M 33	3,5	180	50	25	20	4	Ø 29,5	0 4612033001 00
M 36	4	200	56	28	22	4	Ø 32	0 4612036001 00

D Maschinengewindebohrer Speedtap-Inox,
gerade genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Durchgangsgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1200 N/mm².

E Machine taps Speedtap-Inox,
straight fluted, for metric ISO-threads DIN 13

Range of application:
HSS Cobalt tap for through hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1200 N/mm².

I Maschi a macchina Speedtap-Inox,
scanalature diritte, per filettatura metrica ISO, DIN 13

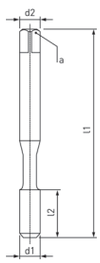
Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori passanti. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1200 N/mm².

Speedtap

<400 N/mm² | <850 N/mm² | <1100 N/mm²

INOX <850 N/mm² | INOX >850 N/mm²

M | HSS E/V3 | ISO 2 6H | 60° P | ≤3d1 | DIN 376 | B 3,5-5P | Z=3-4



Inox



TiN

d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4632 Art.-Nr.
M 4	0,7	63	13	2,8	2,1	3	Ø 3,3	0 4632004001 00
M 5	0,8	70	16	3,5	2,7	3	Ø 4,2	0 4632005001 00
M 6	1	80	19	4,5	3,4	3	Ø 5	0 4632006001 00
M 8	1,25	90	22	6	4,9	3	Ø 6,8	0 4632008001 00
M 10	1,5	100	24	7	5,5	3	Ø 8,5	0 4632010001 00
M 12	1,75	110	28	9	7	3	Ø 10,2	0 4632012001 00
M 14	2	110	30	11	9	3	Ø 12	0 4632014001 00
M 16	2	110	32	12	9	3	Ø 14	0 4632016001 00
M 20	2,5	140	34	16	12	3	Ø 17,5	0 4632020001 00
M 22	2,5	140	34	18	14,5	3	Ø 19,5	0 4632022001 00
M 24	3	160	38	18	14,5	3	Ø 21	0 4632024001 00
M 30	3,5	180	45	22	18	4	Ø 26,5	0 4632030001 00

D Maschinengewindebohrer Speedtap-Inox,
gerade genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Durchgangsgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1200 N/mm².

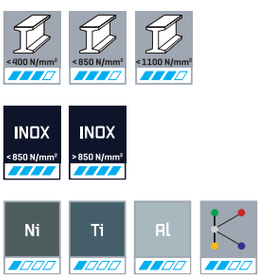
E Machine taps Speedtap-Inox,
straight fluted, for metric ISO-threads DIN 13

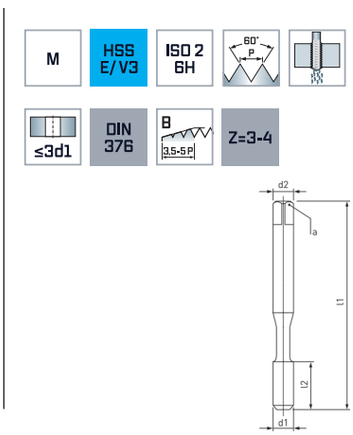
Range of application:
HSS Cobalt tap for through hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1200 N/mm².

I Maschi a macchina Speedtap-Inox,
scanalature diritte, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori passanti. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1200 N/mm².

Speedtap





Inox



TiCN

d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4652 Art.-Nr.
M 12	1,75	110	28	9	7	3	Ø 10,2	0 4652012001 00
M 16	2	110	32	12	9	3	Ø 14	0 4652016001 00
M 20	2,5	140	34	16	12	3	Ø 17,5	0 4652020001 00
M 22	2,5	140	34	18	14,5	3	Ø 19,5	0 4652022001 00
M 24	3	160	38	18	14,5	3	Ø 21	0 4652024001 00
M 27	3	160	38	20	16	4	Ø 24	0 4652027001 00
M 30	3,5	180	45	22	18	4	Ø 26,5	0 4652030001 00
M 33	3,5	180	50	25	20	4	Ø 29,5	0 4652033001 00
M 36	4	200	56	28	22	4	Ø 32	0 4652036001 00

D Maschinengewindebohrer Speedtap-Inox,
gerade genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Durchgangsgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1200 N/mm².

E Machine taps Speedtap-Inox,
straight fluted, for metric ISO-threads DIN 13

Range of application:
HSS Cobalt tap for through hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1200 N/mm².

I Maschi a macchina Speedtap-Inox,
scanalature diritte, per filettatura metrica ISO, DIN 13

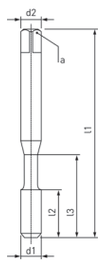
Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori passanti. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1200 N/mm².

Speedtap

<400 N/mm² | <850 N/mm² | <1100 N/mm² | <1300 N/mm²

INOX <850 N/mm² | INOX >850 N/mm²

M | HSS E/V3 | ISO 3 6G | 60° P | ≤3d1 | DIN 1) 371 376 | B 3,5-5P | Z=2-3



Inox



VAPO

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4662/4672 Art.-Nr.
M 2	0,4	45	8	–	2,8	2,1	2	Ø 1,6	0 4662002001 00
M 2,5	0,45	50	9	–	2,8	2,1	2	Ø 2,05	0 4662002501 00
M 3	0,5	56	11	18	3,5	2,7	3	Ø 2,5	0 4662003001 00
M 3,5	0,6	56	12	20	4	3	3	Ø 2,9	0 4662003501 00
M 4	0,7	63	13	21	4,5	3,4	3	Ø 3,3	0 4662004001 00
M 5	0,8	70	16	25	6	4,9	3	Ø 4,2	0 4662005001 00
M 6	1	80	19	30	6	4,9	3	Ø 5	0 4662006001 00
M 8	1,25	90	22	35	8	6,2	3	Ø 6,8	0 4662008001 00
M 10	1,5	100	24	39	10	8	3	Ø 8,5	0 4662010001 00
M 12	1,75	110	28	–	9	7	3	Ø 10,2	0 4672012001 00
M 14	2	110	30	–	11	9	3	Ø 12	0 4672014001 00
M 16	2	110	32	–	12	9	3	Ø 14	0 4672016001 00
M 18	2,5	125	34	–	14	11	3	Ø 15,5	0 4672018001 00
M 20	2,5	140	34	–	16	12	3	Ø 17,5	0 4672020001 00

(1) DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer Speedtap–Inox,
spiral-genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Grundgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1200 N/mm².

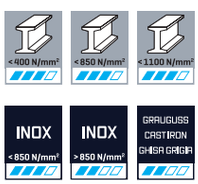
E Machine taps Speedtap–Inox,
spiral fluted, for metric ISO-threads DIN 13

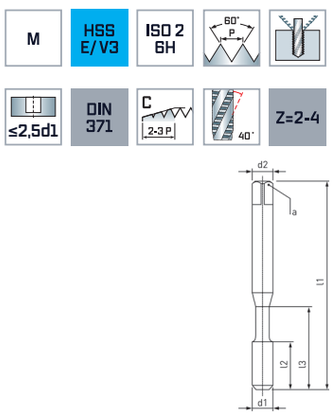
Range of application:
HSS Cobalt tap for blind hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1200 N/mm².

I Maschi a macchina Speedtap–Inox,
scanalature elicoidali, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori ciechi. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1200 N/mm².

Speedtap





Inox



VAPO

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4647 Art.-Nr.
M 2	0,4	45	8	–	2,8	2,1	2	Ø 1,6	0 4647002001 00
M 2,5	0,45	50	9	–	2,8	2,1	2	Ø 2,05	0 4647002501 00
M 3	0,5	56	5	18	3,5	2,7	3	Ø 2,5	0 4647003001 00
M 3,5	0,6	56	6	20	4	3	3	Ø 2,9	0 4647003501 00
M 4	0,7	63	7	21	4,5	3,4	3	Ø 3,3	0 4647004001 00
M 5	0,8	70	8	25	6	4,9	3	Ø 4,2	0 4647005001 00
M 6	1	80	10	30	6	4,9	3	Ø 5	0 4647006001 00
M 8	1,25	90	13	35	8	6,2	3	Ø 6,8	0 4647008001 00
M 10	1,5	100	15	39	10	8	3	Ø 8,5	0 4647010001 00
M 12	1,75	110	18	45	12	9	4	Ø 10,2	0 4647012001 00

D Maschinengewindebohrer Speedtap–Inox,
spiral-genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Grundgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1200 N/mm².

E Machine taps Speedtap–Inox,
spiral fluted, for metric ISO-threads DIN 13

Range of application:
HSS Cobalt tap for blind hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1200 N/mm².

I Maschi a macchina Speedtap–Inox,
scanalature elicoidali, per filettatura metrica ISO, DIN 13

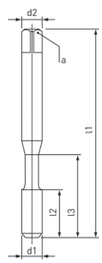
Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori ciechi. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1200 N/mm².

Speedtap

<400 N/mm² | <850 N/mm² | <1100 N/mm² | <1300 N/mm²

INOX <850 N/mm² | INOX >850 N/mm²

M | HSS E/V3 | ISO 2 6H | 60° P | ≤2,5d1 | DIN 371 | C 2-3 P | 40° | Z=3



Inox



TiN

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4604 Art.-Nr.
M 3	0,5	56	5	18	3,5	2,7	3	Ø 2,5	0 4604003001 00
M 4	0,7	63	7	21	4,5	3,4	3	Ø 3,3	0 4604004001 00
M 5	0,8	70	8	25	6	4,9	3	Ø 4,2	0 4604005001 00
M 6	1	80	10	30	6	4,9	3	Ø 5	0 4604006001 00
M 8	1,25	90	13	35	8	6,2	3	Ø 6,8	0 4604008001 00
M 10	1,5	100	15	39	10	8	3	Ø 8,5	0 4604010001 00

D Maschinengewindebohrer Speedtap–Inox,
spiral-genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Grundgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1200 N/mm².

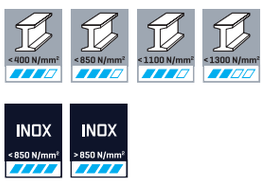
E Machine taps Speedtap–Inox,
spiral fluted, for metric ISO-threads DIN 13

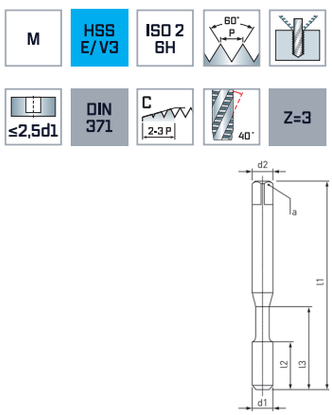
Range of application:
HSS Cobalt tap for blind hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1200 N/mm².

I Maschi a macchina Speedtap–Inox,
scanalature elicoidali, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori ciechi. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1200 N/mm².

Speedtap





Inox



TiCN

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4624 Art.-Nr.
M 3	0,5	56	5	18	3,5	2,7	3	Ø 2,5	0 4624003001 00
M 4	0,7	63	7	21	4,5	3,4	3	Ø 3,3	0 4624004001 00
M 5	0,8	70	8	25	6	4,9	3	Ø 4,2	0 4624005001 00
M 6	1	80	10	30	6	4,9	3	Ø 5	0 4624006001 00
M 8	1,25	90	13	35	8	6,2	3	Ø 6,8	0 4624008001 00
M 10	1,5	100	15	39	10	8	3	Ø 8,5	0 4624010001 00

D Maschinengewindebohrer Speedtap–Inox,
spiral-genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Grundgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1200 N/mm².

E Machine taps Speedtap–Inox,
spiral fluted, for metric ISO-threads DIN 13

Range of application:
HSS Cobalt tap for blind hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1200 N/mm².

I Maschi a macchina Speedtap–Inox,
scanalature elicoidali, per filettatura metrica ISO, DIN 13

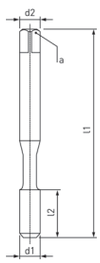
Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori ciechi. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1200 N/mm².

Speedtap

<400 N/mm² | <850 N/mm² | <1100 N/mm² | <1300 N/mm²

INOX <850 N/mm² | INOX >850 N/mm²

M | HSS E/V3 | ISO 2 6H | 60° P | ≤2,5d1 | DIN 376 | C 2-3 P | 40° | Z=3-5



Inox



VAPO

Inox



TiN

d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4657 Art.-Nr.	Code 4614 Art.-Nr.
M 3	0,5	56	5	2,2	–	3	Ø 2,5	4657003001 00	4614003001 00
M 4	0,7	63	7	2,8	2,1	3	Ø 3,3	4657004001 00	4614004001 00
M 5	0,8	70	8	3,5	2,7	3	Ø 4,2	4657005001 00	4614005001 00
M 6	1	80	10	4,5	3,4	3	Ø 5	4657006001 00	4614006001 00
M 8	1,25	90	13	6	4,9	3	Ø 6,8	4657008001 00	4614008001 00
M 10	1,5	100	15	7	5,5	3	Ø 8,5	4657010001 00	4614010001 00
M 12	1,75	110	18	9	7	4	Ø 10,2	4657012001 00	4614012001 00
M 14	2	110	20	11	9	4	Ø 12	4657014001 00	
M 16	2	110	20	12	9	4	Ø 14	4657016001 00	4614016001 00
M 18	2,5	125	25	14	11	4	Ø 15,5	4657018001 00	
M 20	2,5	140	25	16	12	4	Ø 17,5	4657020001 00	4614020001 00
M 22	2,5	140	25	18	14,5	4	Ø 19,5	4657022001 00	
M 24	3	160	30	18	14,5	4	Ø 21	4657024001 00	
M 27	3	160	30	20	16	4	Ø 24	4657027001 00	
M 30	3,5	180	35	22	18	5	Ø 26,5	4657030001 00	
M 33	3,5	180	35	25	20	5	Ø 29,5	4657033001 00	
M 36	4	200	40	28	22	5	Ø 32	4657036001 00	

D Maschinengewindebohrer Speedtap-Inox,
spiral-genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Grundgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1200 N/mm².

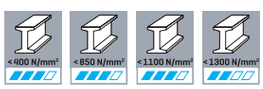
E Machine taps Speedtap-Inox,
spiral fluted, for metric ISO-threads DIN 13

Range of application:
HSS Cobalt tap for blind hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1200 N/mm².

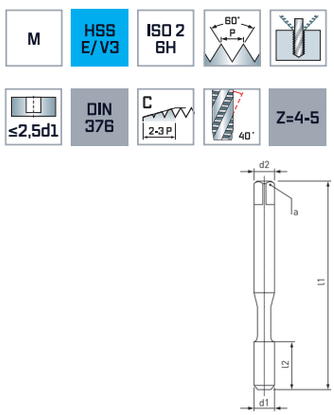
I Maschi a macchina Speedtap-Inox,
scanalature elicoidali, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori ciechi. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1200 N/mm².

Speedtap







Inox



TiCN

d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4634 Art.-Nr.
M 12	1,75	110	18	9	7	4	Ø 10,2	0 4634012001 00
M 16	2	110	20	12	9	4	Ø 14	0 4634016001 00
M 20	2,5	140	25	16	12	4	Ø 17,5	0 4634020001 00
M 22	2,5	140	25	18	14,5	4	Ø 19,5	0 4634022001 00
M 24	3	160	30	18	14,5	4	Ø 21	0 4634024001 00
M 27	3	160	30	20	16	4	Ø 24	0 4634027001 00
M 30	3,5	180	35	22	18	5	Ø 26,5	0 4634030001 00
M 33	3,5	180	35	25	20	5	Ø 29,5	0 4634033001 00
M 36	4	200	40	28	22	5	Ø 32	0 4634036001 00

D Maschinengewindebohrer **Speedtap–Inox,**

spiral-genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Grundgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1200 N/mm².

E Machine taps **Speedtap–Inox,**

spiral fluted, for metric ISO-threads DIN 13

Range of application:
HSS Cobalt tap for blind hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1200 N/mm².

I Maschi a macchina **Speedtap–Inox,**

scanalature elicoidali, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori ciechi. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1200 N/mm².

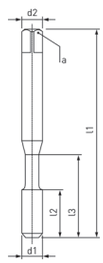
Speedtap

<400 N/mm² | <850 N/mm² | <1100 N/mm² | <1300 N/mm²

INOX <850 N/mm² | INOX >850 N/mm²

M | HSS E/V3 | ISO 2 6H | 60° P

≤3d1 | DIN 371 376 [1] | C 2-3 P | 45° | Z=3-4



Inox



VAPO

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4646/4656 Art.-Nr.
M 4	0,7	63	7	21	4,5	3,4	3	Ø 3,3	0 4646004001 00
M 5	0,8	70	8	25	6	4,9	3	Ø 4,2	0 4646005001 00
M 6	1	80	10	30	6	4,9	3	Ø 5	0 4646006001 00
M 8	1,25	90	13	35	8	6,2	3	Ø 6,8	0 4646008001 00
M 10	1,5	100	15	39	10	8	3	Ø 8,5	0 4646010001 00
M 12	1,75	110	18	–	9	7	4	Ø 10,2	0 4656012001 00
M 16	2	110	20	–	12	9	4	Ø 14	0 4656016001 00
M 20	2,5	140	25	–	16	12	4	Ø 17,5	0 4656020001 00

[1] DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer Speedtap–Inox,
spiral-genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Grundgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1200 N/mm².

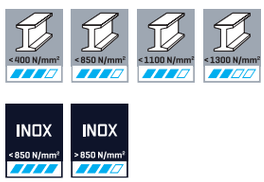
E Machine taps Speedtap–Inox,
spiral fluted, for metric ISO-threads DIN 13

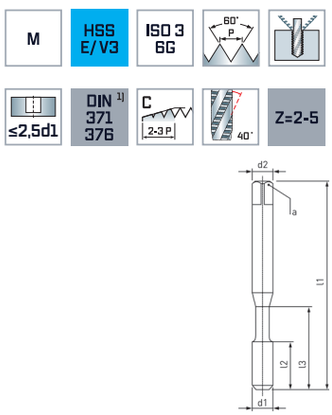
Range of application:
HSS Cobalt tap for blind hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1200 N/mm².

I Maschi a macchina Speedtap–Inox,
scanalature elicoidali, per filettatura metrica ISO, DIN 13

Impiego:
Maschi al Cobalto HSS per fori ciechi. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1200 N/mm².

Speedtap





Inox



VAPO

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4687/4697 Art.-Nr.
M 2	0,4	45	8	–	2,8	2,1	2	Ø 1,6	0 4687002001 00
M 2,5	0,45	50	9	–	2,8	2,1	2	Ø 2,05	0 4687002501 00
M 3	0,5	56	5	18	3,5	2,7	3	Ø 2,5	0 4687003001 00
M 4	0,7	63	7	21	4,5	3,4	3	Ø 3,3	0 4687004001 00
M 5	0,8	70	8	25	6	4,9	3	Ø 4,2	0 4687005001 00
M 6	1	80	10	30	6	4,9	3	Ø 5	0 4687006001 00
M 8	1,25	90	13	35	8	6,2	3	Ø 6,8	0 4687008001 00
M 10	1,5	100	15	39	10	8	3	Ø 8,5	0 4687010001 00
M 12	1,75	110	18	–	9	7	4	Ø 10,2	0 4697012001 00
M 14	2	110	20	–	11	9	4	Ø 12	0 4697014001 00
M 16	2	110	20	–	12	9	4	Ø 14	0 4697016001 00
M 18	2,5	125	25	–	14	11	4	Ø 15,5	0 4697018001 00
M 20	2,5	140	25	–	16	12	4	Ø 17,5	0 4697020001 00
M 24	3	160	30	–	18	14,5	4	Ø 21	0 4697024001 00
M 27	3	160	30	–	20	16	4	Ø 24	0 4697027001 00
M 30	3,5	180	35	–	22	18	5	Ø 26,5	0 4697030001 00

(1) DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer Speedtap 4.0–Titanium,
gerade genutet, für metrisches ISO-Gewinde DIN 13

E Machine taps Speedtap 4.0–Titanium,
straight fluted, for metric ISO-threads DIN 13

I Maschi a macchina Speedtap 4.0–Titanium,
scanalature diritte, per filettatura metrica ISO, DIN 13

Einsatzbereich:
HSSE-PM Gewindebohrer für Durchgangsgewinde. Besonders geeignet für Titan und Titanlegierungen ≤1500 N/mm². Die Generation 4.0 setzt neue Maßstäbe beim Gewinden.

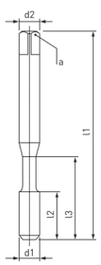
Range of application:
Tap made of powder steel for through hole threads. Especially suitable for titanium and titanium alloys ≤1500 N/mm². The generation 4.0 sets new standards in threading.

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori passanti. Particolarmente adatti per titanio e leghe di titanio ≤1500 N/mm². La nuova generazione 4.0 stabilisce nuovi standard per realizzare maschiature.

Speedtap 4.0

Ni Ti

M | HSS E/PM 55 | ISO 2 6H | 60° P | ≤3d1 | DIN 371 | B 3.5-5P | Z=3



Titan



VAPO

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4667 Art.-Nr.
M 3	0,5	56	11	18	3,5	2,7	3	Ø 2,5	4667003001 00
M 4	0,7	63	13	21	4,5	3,4	3	Ø 3,3	4667004001 00
M 5	0,8	70	16	25	6	4,9	3	Ø 4,2	4667005001 00
M 6	1	80	19	30	6	4,9	3	Ø 5	4667006001 00
M 8	1,25	90	22	35	8	6,2	3	Ø 6,8	4667008001 00
M 10	1,5	100	24	39	10	8	3	Ø 8,5	4667010001 00

D Maschinengewindebohrer Speedtap 4.0–Titanium,
spiral-genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE-PM Gewindebohrer für Grundgewinde. Besonders geeignet für Titan und Titanlegierungen ≤1500 N/mm². Die Generation 4.0 setzt neue Maßstäbe beim Gewinden.

E Machine taps Speedtap 4.0–Titanium,
spiral fluted, for metric ISO-threads DIN 13

Range of application:
Tap made of powder steel for blind hole threads. Especially suitable for titanium and titanium alloys ≤1500 N/mm². The generation 4.0 sets new standards in threading.

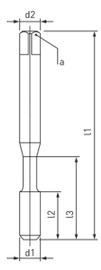
I Maschi a macchina Speedtap 4.0–Titanium,
scanalature elicoidali, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori ciechi. Particolarmente adatti per titanio e leghe di titanio ≤1500 N/mm². La nuova generazione 4.0 stabilisce nuovi standard per realizzare maschiature.

Speedtap 4.0

Ni Ti

M | HSS E/PM 55 | ISO 2 6H | 60° P | ≤1,5d1 | 15° | DIN 371 | C 2-3 P | Z=3



Titan



VAPO

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4677 Art.-Nr.
M 3	0,5	56	5	18	3,5	2,7	3	Ø 2,5	0 4677003001 00
M 4	0,7	63	7	21	4,5	3,4	3	Ø 3,3	0 4677004001 00
M 5	0,8	70	8	25	6	4,9	3	Ø 4,2	0 4677005001 00
M 6	1	80	10	30	6	4,9	3	Ø 5	0 4677006001 00
M 8	1,25	90	13	35	8	6,2	3	Ø 6,8	0 4677008001 00
M 10	1,5	100	15	39	10	8	3	Ø 8,5	0 4677010001 00

D Maschinengewindebohrer Speedtap 4.0–Nickel,
gerade genutet, für metrisches ISO-Gewinde DIN 13

E Machine taps Speedtap 4.0–Nickel,
straight fluted, for metric ISO-threads DIN 13

I Maschi a macchina Speedtap 4.0–Nickel,
scanalature diritte, per filettatura metrica ISO, DIN 13

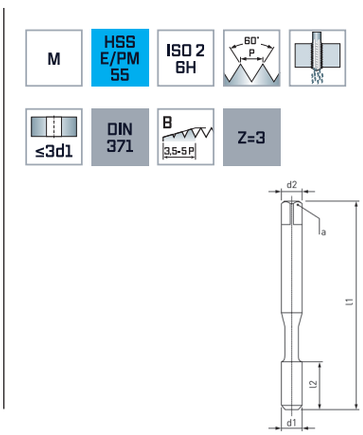
Einsatzbereich:
HSSE-PM Gewindebohrer für Durchgangsgewinde. Besonders geeignet für Nickel und Nickellegierungen ≤1500 N/mm². Die Generation 4.0 setzt neue Maßstäbe beim Gewinden.

Range of application:
Tap made of powder steel for through hole threads. Especially suitable for nickel and nickel alloys ≤1500 N/mm². The generation 4.0 sets new standards in threading.

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori passanti. Particolarmente adatti per nichel e leghe di nichel ≤1500 N/mm². La nuova generazione 4.0 stabilisce nuovi standard per realizzare maschiature.

Speedtap 4.0

Ni



Nickel



d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4704 Art.-Nr.
M 3	0,5	56	12	3,5	2,7	3	Ø 2,5	0 4704003001 00
M 4	0,7	63	16	4,5	3,4	3	Ø 3,3	0 4704004001 00
M 5	0,8	70	19	6	4,9	3	Ø 4,2	0 4704005001 00
M 6	1	80	23	6	4,9	3	Ø 5	0 4704006001 00
M 8	1,25	90	30	8	6,2	3	Ø 6,8	0 4704008001 00
M 10	1,5	100	38	10	8	3	Ø 8,5	0 4704010001 00

D Maschinengewindebohrer Speedtap 4.0–Nickel,
spiral-genutet, für metrisches ISO-Gewinde DIN 13

E Machine taps Speedtap 4.0–Nickel,
spiral fluted, for metric ISO-threads DIN 13

I Maschi a macchina Speedtap 4.0–Nickel,
scanalature elicoidali, per filettatura metrica ISO, DIN 13

Einsatzbereich:
HSSE-PM Gewindebohrer für Grundgewinde. Besonders geeignet für Nickel und Nickellegierungen ≤1500 N/mm². Die Generation 4.0 setzt neue Maßstäbe beim Gewinden.

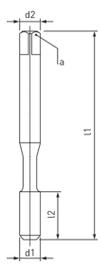
Range of application:
Tap made of powder steel for blind hole threads. Especially suitable for nickel and nickel alloys ≤1500 N/mm². The generation 4.0 sets new standards in threading.

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori ciechi. Particolarmente adatti per nichel e leghe di nichel ≤1500 N/mm². La nuova generazione 4.0 stabilisce nuovi standard per realizzare maschiature.

Speedtap 4.0

Ni

M | HSS E/PM 55 | ISO 2 6H | 60° P | ≤1,5d1 | 10° | DIN 371 | C 2-3 P | Z=3



Nickel



d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4705 Art.-Nr.
M 3	0,5	56	11	3,5	2,7	3	Ø 2,5	0 4705003001 00
M 4	0,7	63	14	4,5	3,4	3	Ø 3,3	0 4705004001 00
M 5	0,8	70	17	6	4,9	3	Ø 4,2	0 4705005001 00
M 6	1	80	21	6	4,9	3	Ø 5	0 4705006001 00
M 8	1,25	90	28	8	6,2	3	Ø 6,8	0 4705008001 00
M 10	1,5	100	35	10	8	3	Ø 8,5	0 4705010001 00

D Maschinengewindebohrer Speedtap 4.0–Ultra Hard Steel 53 HRC,

gerade genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE-PM Gewindebohrer für Durchgangs- und Grundgewinde. Besonders geeignet für zähe und schwer zerspanbare Werkstoffe ≤53HRC. Die Generation 4.0 setzt neue Maßstäbe beim Gewinden.

E Machine taps Speedtap 4.0–Ultra Hard steel 53 HRC,

straight fluted, for metric ISO-threads DIN 13

Range of application:
Tap made of powder steel for through hole threads and blind hole threads. Especially suitable for tough and difficult to machine materials ≤53HRC. The generation 4.0 sets new standards in threading.

I Maschi a macchina Speedtap 4.0–Ultra Hard steel 53 HRC,

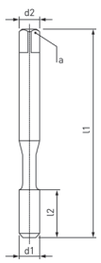
scanalature diritte, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori passanti e fori ciechi. Particolarmente adatti per materiali duri e tenaci difficili da lavorare ≤53HRC. La nuova generazione 4.0 stabilisce nuovi standard per realizzare maschiature.

Speedtap 4.0

42-53 HRC

M | HSS E/PM 10S | 6HX | 60° P | ≤1,5d1 | WN | Z=4-5



HRC



TiCN

HRC



TiCN

d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4607 Art.-Nr.	Code 4617 Art.-Nr.
M 3	0,5	46	11	3,5	2,7	4	Ø 2,55	0 4607003001 00	0 4617003001 00
M 4	0,7	52	13	4,5	3,4	4	Ø 3,4	0 4607004001 00	0 4617004001 00
M 5	0,8	60	16	6	4,9	4	Ø 4,3	0 4607005001 00	0 4617005001 00
M 6	1	62	19	6	4,9	4	Ø 5,1	0 4607006001 00	0 4617006001 00
M 8	1,25	70	22	6	4,9	5	Ø 6,9	0 4607008001 00	0 4617008001 00
M 10	1,5	75	24	7	5,5	5	Ø 8,6	0 4607010001 00	0 4617010001 00
M 12	1,75	82	29	9	7	5	Ø 10,4	0 4607012001 00	0 4617012001 00
M 14	2	88	30	11	9	5	Ø 12,1		0 4617014001 00
M 16	2	95	32	12	9	5	Ø 14,1	0 4607016001 00	0 4617016001 00
M 20	2,5	105	37	16	12	5	Ø 17,7	0 4607020001 00	0 4617020001 00
M 24	3	160	38	18	14,5	5	Ø 21,2	0 4607024001 00	0 4617024001 00

Schneidöl / Cutting oil / Olio da taglio

Menge / Quantity / Quantità ml	Code 4601 Art.-Nr.
50	0 4601000011 00
125	0 4601000021 00
500	0 4601000031 00

D Maschinengewindebohrer Speedtap 4.0–Ultra Hard Steel 63 HRC,
gerade genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
VHM Gewindebohrer für Durchgangs- und Grundgewinde. Besonders geeignet für zähe und schwer zerspanbare Werkstoffe sowie Hartbearbeitung ≤63HRC. Die Generation 4.0 setzt neue Maßstäbe beim Gewinden.

E Machine taps Speedtap 4.0–Ultra Hard steel 63 HRC,
straight fluted, for metric ISO-threads DIN 13

Range of application:
Solid carbide tap for through hole threads and blind hole threads. Especially suitable for tough and difficult to machine materials as well as hard machining ≤63HRC. The generation 4.0 sets new standards in threading.

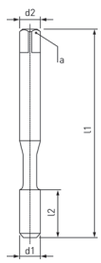
I Maschi a macchina Speedtap 4.0–Ultra Hard steel 63 HRC,
scanalature diritte, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in metallo duro per fori passanti e fori ciechi. Particolarmente adatti per materiali duri e tenaci difficili da lavorare oltre che per materiali temprati ≤63HRC. La nuova generazione 4.0 stabilisce nuovi standard per realizzare maschiature.

Speedtap 4.0









TiCN



TiCN

d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4645 Art.-Nr.	Code 4655 Art.-Nr.
M 3	0,5	46	11	3,5	2,7	4	Ø 2,55	0 4645003001 00	0 4655003001 00
M 3,5	0,6	46	13	4	3	4	Ø 3	0 4645003501 00	0 4655003501 00
M 4	0,7	52	13	4,5	3,4	4	Ø 3,4	0 4645004001 00	0 4655004001 00
M 5	0,8	60	16	6	4,9	4	Ø 4,3	0 4645005001 00	0 4655005001 00
M 6	1	62	19	6	4,9	5	Ø 5,1	0 4645006001 00	0 4655006001 00
M 8	1,25	70	22	6	4,9	5	Ø 6,9	0 4645008001 00	0 4655008001 00
M 10	1,5	75	24	7	5,5	5	Ø 8,6	0 4645010001 00	0 4655010001 00
M 12	1,75	82	29	9	7	5	Ø 10,4	0 4645012001 00	0 4655012001 00
M 14	2	88	30	11	9	6	Ø 12,1	0 4645014001 00	0 4655014001 00
M 16	2	95	32	12	9	6	Ø 14,1	0 4645016001 00	0 4655016001 00
M 20	2,5	105	37	16	12	6	Ø 17,7	0 4645020001 00	0 4655020001 00

Schneidöl / Cutting oil / Olio da taglio

Menge / Quantity / Quantità ml	Code 4601 Art.-Nr.
50	0 4601000011 00
125	0 4601000021 00
500	0 4601000031 00

D Maschinengewindebohrer **Speedtap–Grauguss,**
gerade genutet, für metrisches ISO-Gewinde DIN 13

E Machine taps **Speedtap–Cast iron,**
straight fluted, for metric ISO-threads DIN 13

I Maschi a macchina **Speedtap–Ghisa grigia,**
scanalature diritte, per filettatura metrica ISO, DIN 13

Einsatzbereich:
HSSE-PM Gewindebohrer für Durchgangsgewinde. Besonders geeignet für alle Gußeisen (Grauguß, Kugelgraphitguß, Temperguß, Vermikularguß, ADI, Hartguß).

Range of application:
Tap made of powder steel for through hole threads and blind hole threads. Especially suitable for all cast iron (grey cast iron, spheroidal graphite, malleable cast iron, vermicular, ADI, chilled iron).

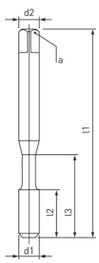
Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori passanti. Particolarmente adatti per tutti i tipi di ghisa (ghisa grigia, ghisa sferoidale, ghisa temprata, ghisa vermiculare, ADI, ghisa temperata).

Speedtap

<1300 N/mm² | 42–53 HRC

GRAUGUSS CAST IRON GHISA GRIGIA

M | HSS E/PM 55 | ISO 2 6H | 60° P | ≤3d1 | DIN 371 | B 3,5-5P | Z=2-3



Cast Iron



TiCN

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4682 Art.-Nr.
M 2,5	0,45	50	9	–	2,8	2,1	2	Ø 2,05	0 4682002501 00
M 3	0,5	56	11	18	3,5	2,7	3	Ø 2,5	0 4682003001 00
M 3,5	0,6	56	12	20	4	3	3	Ø 2,9	0 4682003501 00
M 4	0,7	63	13	21	4,5	3,4	3	Ø 3,3	0 4682004001 00
M 5	0,8	70	16	25	6	4,9	3	Ø 4,2	0 4682005001 00
M 6	1	80	19	30	6	4,9	3	Ø 5	0 4682006001 00
M 8	1,25	90	22	35	8	6,2	3	Ø 6,8	0 4682008001 00
M 10	1,5	100	24	39	10	8	3	Ø 8,5	0 4682010001 00

D Maschinengewindebohrer Speedtap–Grauguss,
spiral-genutet, für metrisches ISO-Gewinde DIN 13

E Machine taps Speedtap–Cast iron,
spiral fluted, for metric ISO-threads DIN 13

I Maschi a macchina Speedtap–Ghisa grigia,
scanalature elicoidali, per filettatura metrica ISO, DIN 13

Einsatzbereich:
HSSE-PM Gewindebohrer für Grundgewinde. Besonders geeignet für alle Gußeisen (Grauguß, Kugelgraphitguß, Temperguß, Vermikularguß, ADI, Hartguß).

Range of application:
Tap made of powder steel for blind hole threads. Especially suitable for all cast iron (grey cast iron, spheroidal graphite, malleable cast iron, vermicular, ADI, chilled iron).

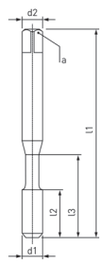
Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori ciechi. Particolarmente adatti per tutti i tipi di ghisa (ghisa grigia, ghisa sferoidale, ghisa temprata, ghisa vermiculare, ADI, ghisa temperata).

Speedtap

<1300 N/mm² | 42-53 HRC

GRAUGUSS CAST IRON GHISA GRIGIA

M | HSS E/PM 55 | ISO 2 6H | 60° P | ≤1,5d1 | DIN 371 | C 2-3 P | 15° | Z=2-3



Cast Iron



TiCN

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4698 Art.-Nr.
M 2,5	0,45	50	9	–	2,8	2,1	2	Ø 2,05	0 4698002501 00
M 3	0,5	56	5	18	3,5	2,7	3	Ø 2,5	0 4698003001 00
M 3,5	0,6	56	6	20	4	3	3	Ø 2,9	0 4698003501 00
M 4	0,7	63	7	21	4,5	3,4	3	Ø 3,3	0 4698004001 00
M 5	0,8	70	8	25	6	4,9	3	Ø 4,2	0 4698005001 00
M 6	1	80	10	30	6	4,9	3	Ø 5	0 4698006001 00
M 8	1,25	90	13	35	8	6,2	3	Ø 6,8	0 4698008001 00
M 10	1,5	100	15	39	10	8	3	Ø 8,5	0 4698010001 00

D Maschinengewindebohrer Speedtap–Grauguss,
gerade genutet, für metrisches ISO-Gewinde DIN 13

E Machine taps Speedtap–Cast iron,
straight fluted, for metric ISO-threads DIN 13

I Maschi a macchina Speedtap–Ghisa grigia,
scanalature diritte, per filettatura metrica ISO, DIN 13

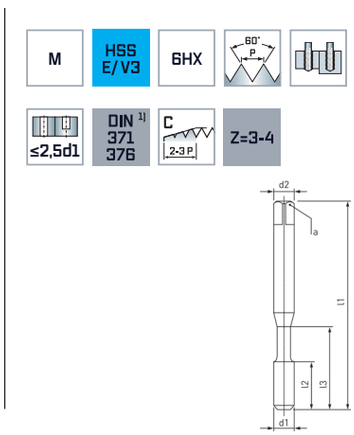
Einsatzbereich:
HSSE Gewindebohrer für Durchgangs- und Grundgewinde. Besonders geeignet für alle Gußeisen (Grauguß, Kugelgraphitguß, Temperguß, Vermikularguß, ADI, Hartguß).

Range of application:
HSS Cobalt tap for through hole threads and blind hole threads. Especially suitable for all cast iron (grey cast iron, spheroidal graphite, malleable cast iron, vermicular, ADI, chilled iron).

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori passanti e fori ciechi. Particolarmente adatti per tutti i tipi di ghisa (ghisa grigia, ghisa sferoidale, ghisa temprata, ghisa vermiculare, ADI, ghisa temperata).

Speedtap

GRAUGUSS CAST IRON GHISA GRIGIA





TiCN



TiCN

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4684 Art.-Nr.	Code 4694 Art.-Nr.
M 4	0,7	63	13	21	4,5	3,4	3	Ø 3,3	0 4684004001 00	
M 5	0,8	70	16	–	3,5	2,7	3	Ø 4,2		0 4694005001 00
M 5	0,8	70	16	25	6	4,9	3	Ø 4,2	0 4684005001 00	
M 6	1	80	19	–	4,5	3,4	3	Ø 5		0 4694006001 00
M 6	1	80	19	30	6	4,9	3	Ø 5	0 4684006001 00	
M 8	1,25	90	22	–	6	4,9	4	Ø 6,8		0 4694008001 00
M 8	1,25	90	22	35	8	6,2	4	Ø 6,8	0 4684008001 00	
M 10	1,5	100	24	–	7	5,5	4	Ø 8,5		0 4694010001 00
M 10	1,5	100	24	39	10	8	4	Ø 8,5	0 4684010001 00	
M 12	1,75	110	28	–	9	7	4	Ø 10,2		0 4694012001 00
M 16	2	110	32	–	12	9	4	Ø 14		0 4694016001 00

(1) DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer Speedtap-Aluminium,
gerade genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Durchgangsgewinde. Besonders geeignet für Aluminium Si ≤ 0,5%, Kupfer, Thermoplaste.

E Machine taps Speedtap-Aluminium,
straight fluted, for metric ISO-threads DIN 13

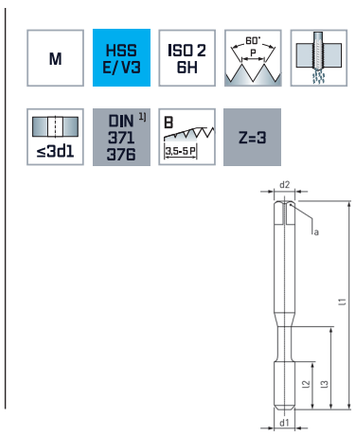
Range of application:
HSS Cobalt tap for through hole threads. Especially suitable for aluminium Si ≤ 0,5%, copper, thermoplastics.

I Maschi a macchina Speedtap-Aluminium,
scanalature diritte, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori passanti. Particolarmente adatti per alluminio Si ≤ 0,5%, rame, materiali termoplastici.

Speedtap





Alu



d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4664/4674 Art.-Nr.
M 3	0,5	56	11	18	3,5	2,7	3	Ø 2,5	0 4664003001 00
M 4	0,7	63	13	21	4,5	3,4	3	Ø 3,3	0 4664004001 00
M 5	0,8	70	16	25	6	4,9	3	Ø 4,2	0 4664005001 00
M 6	1	80	19	30	6	4,9	3	Ø 5	0 4664006001 00
M 8	1,25	90	22	35	8	6,2	3	Ø 6,8	0 4664008001 00
M 10	1,5	100	24	39	10	8	3	Ø 8,5	0 4664010001 00
M 12	1,75	110	28	–	9	7	3	Ø 10,2	0 4674012001 00
M 16	2	110	32	–	12	9	3	Ø 14	0 4674016001 00
M 20	2,5	140	34	–	16	12	3	Ø 17,5	0 4674020001 00

[1] DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer **Speedtap–Aluminium,**

spiral-genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Grundgewinde.
Besonders geeignet für Aluminium
Si ≤ 0,5%, Kupfer, Thermoplaste.

E Machine taps **Speedtap–Aluminium,**

spiral fluted, for metric ISO-threads DIN 13

Range of application:
HSS Cobalt tap for blind hole threads. Especially suitable for aluminium Si ≤ 0,5%, copper, thermoplastics.

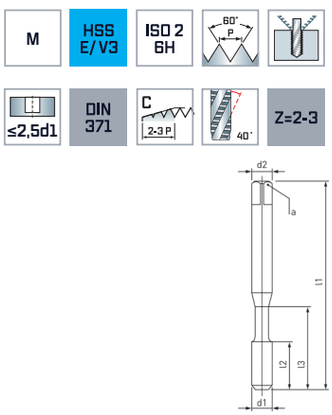
I Maschi a macchina **Speedtap–Aluminium,**

scanalature elicoidali, per filettatura metrica ISO, DIN 13

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori ciechi. Particolarmente adatti per alluminio Si ≤ 0,5%, rame, materiali termoplastici.

Speedtap





Alu



d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4676 Art.-Nr.
M 2	0,4	45	8	–	2,8	2,1	2	Ø 1,6	0 4676002001 00
M 2,5	0,45	50	9	–	2,8	2,1	2	Ø 2,05	0 4676002501 00
M 3	0,5	56	5	18	3,5	2,7	3	Ø 2,5	0 4676003001 00
M 3,5	0,6	56	6	20	4	3	3	Ø 2,9	0 4676003501 00
M 4	0,7	63	7	21	4,5	3,4	3	Ø 3,3	0 4676004001 00
M 5	0,8	70	8	25	6	4,9	3	Ø 4,2	0 4676005001 00
M 6	1	80	10	30	6	4,9	3	Ø 5	0 4676006001 00
M 8	1,25	90	13	35	8	6,2	3	Ø 6,8	0 4676008001 00
M 10	1,5	100	15	39	10	8	3	Ø 8,5	0 4676010001 00

D Maschinengewindebohrer Speedtap 4.0–Allround,
gerade genutet, für metrisches ISO-Feingewinde DIN 13

Einsatzbereich:
HSSE-PM Gewindebohrer für Durchgangsgewinde. Besonders geeignet für rostfreie Cr-Ni-Stähle, unlegierten und legierten Stahl ≤1300 N/mm². Die Generation 4.0 setzt neue Maßstäbe beim Gewinden.

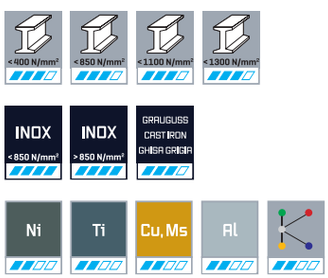
E Machine taps Speedtap 4.0–Allround,
straight fluted, for metric ISO-fine threads DIN 13

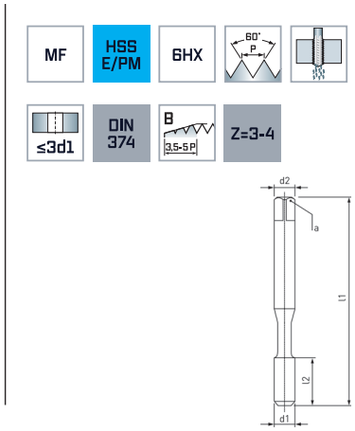
Range of application:
Tap made of powder steel for through hole threads. Especially suitable for stainless Cr-Ni steels, non-alloyed and alloyed steels ≤1300 N/mm². The generation 4.0 sets new standards in threading.

I Maschi a macchina Speedtap 4.0–Allround,
scanalature diritte, per filettatura metrica ISO fine, DIN 13

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori passanti. Particolarmente adatti per acciai inossidabili Cr-Ni, acciai legati e non legati ≤1300 N/mm². La nuova generazione 4.0 stabilisce nuovi standard per realizzare maschiature.

Speedtap 4.0





Allround



HARODUR

d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4609 Art.-Nr.
MF 8	1	90	22	6	4,9	3	Ø 7	0 4609022001 00
MF 10	1	90	20	7	5,5	3	Ø 9	0 4609024001 00
MF 10	1,25	100	24	7	5,5	3	Ø 8,80	0 4609037001 00
MF 12	1	100	22	9	7	3	Ø 11	0 4609026001 00
MF 12	1,25	100	22	9	7	3	Ø 10,80	0 4609038001 00
MF 12	1,5	100	22	9	7	3	Ø 10,5	0 4609040001 00
MF 14	1,5	100	22	11	9	4	Ø 12,5	0 4609041001 00
MF 16	1,5	100	22	12	9	4	Ø 14,5	0 4609043001 00
MF 18	1,5	110	25	14	11	4	Ø 16,5	0 4609044001 00
MF 20	1,5	125	25	16	12	4	Ø 18,5	0 4609045001 00

D Maschinengewindebohrer Speedtap–Allround,
gerade genutet, für metrisches ISO-Feingewinde DIN 13

Einsatzbereich:
HSSE-PM Gewindebohrer für Durchgangsgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1300 N/mm².

E Machine taps Speedtap–Allround,
straight fluted, for metric ISO-fine threads DIN 13

Range of application:
Tap made of powder steel for through hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1300 N/mm².

I Maschi a macchina Speedtap–Allround,
scanalature diritte, per filettatura metrica ISO fine, DIN 13

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori passanti. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1300 N/mm².

Speedtap

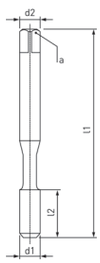
<400 N/mm² | <850 N/mm² | <1100 N/mm² | <1300 N/mm²

INOX <850 N/mm² | INOX >850 N/mm² | GRAUGUSS CAST IRON GHISA GRIGIA

Ni | Ti | Cu, Ms | Al

MF | HSS E/PM 55 | 6HX | 60° P

≤3d1 | DIN 374 | B 3,5-5P | Z=3-4



Allround



HARDDUR

d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4753 Art.-Nr.
MF 8	1	90	22	6	4,9	3	Ø 7	0 4753022001 00
MF 10	1	90	20	7	5,5	3	Ø 9	0 4753024001 00
MF 10	1,25	100	24	7	5,5	3	Ø 8,8	0 4753037001 00
MF 12	1	100	22	9	7	3	Ø 11	0 4753026001 00
MF 12	1,25	100	22	9	7	3	Ø 10,8	0 4753038001 00
MF 12	1,5	100	22	9	7	3	Ø 10,5	0 4753040001 00
MF 14	1,5	100	22	11	9	4	Ø 12,5	0 4753041001 00
MF 16	1,5	100	22	12	9	4	Ø 14,5	0 4753043001 00
MF 18	1,5	110	25	14	11	4	Ø 16,5	0 4753044001 00
MF 20	1,5	125	25	16	12	4	Ø 18,5	0 4753045001 00

D Maschinengewindebohrer Speedtap 4.0–Allround,
spiral-genutet, für metrisches ISO-Feingewinde DIN 13

Einsatzbereich:
HSSE-PM Gewindebohrer für Grundgewinde. Besonders geeignet für rostfreie Cr-Ni-Stähle, unlegierten und legierten Stahl ≤1300 N/mm². Die Generation 4.0 setzt neue Maßstäbe beim Gewinden.

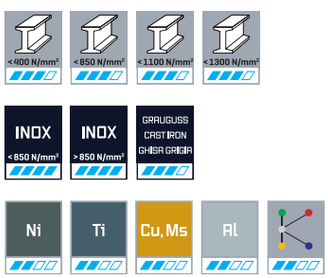
E Machine taps Speedtap 4.0–Allround,
spiral fluted, for metric ISO-fine threads DIN 13

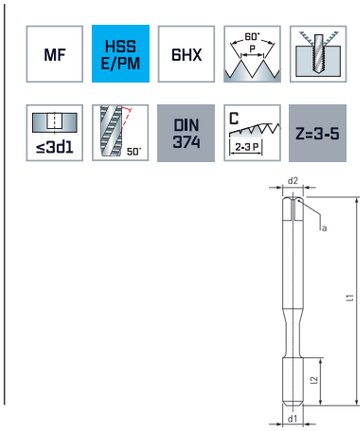
Range of application:
Tap made of powder steel for blind hole threads. Especially suitable for stainless Cr-Ni steels, non-alloyed and alloyed steels ≤1300 N/mm². The generation 4.0 sets new standards in threading.

I Maschi a macchina Speedtap 4.0–Allround,
scanalature elicoidali, per filettatura metrica ISO fine, DIN 13

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori ciechi. Particolarmente adatti per acciai inossidabili Cr-Ni, acciai legati e non legati ≤1300 N/mm². La nuova generazione 4.0 stabilisce nuovi standard per realizzare maschiature.

Speedtap 4.0





Allround



HARODUR

d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4619 Art.-Nr.
MF 8	1	90	10	6	4,9	3	Ø 7	0 4619022001 00
MF 10	1	90	12	7	5,5	4	Ø 9	0 4619024001 00
MF 10	1,25	100	12	7	5,5	4	Ø 8,80	0 4619037001 00
MF 12	1	100	14	9	7	4	Ø 11	0 4619026001 00
MF 12	1,25	100	14	9	7	4	Ø 10,80	0 4619038001 00
MF 12	1,5	100	14	9	7	4	Ø 10,5	0 4619040001 00
MF 14	1,5	100	16	11	9	4	Ø 12,5	0 4619041001 00
MF 16	1,5	100	16	12	9	5	Ø 14,5	0 4619043001 00
MF 18	1,5	110	20	14	11	5	Ø 16,5	0 4619044001 00
MF 20	1,5	125	20	16	12	5	Ø 18,5	0 4619045001 00

D Maschinengewindebohrer Speedtap–Allround,
spiral-genutet, für metrisches ISO-Feingewinde DIN 13

E Machine taps Speedtap–Allround,
spiral fluted, for metric ISO-fine threads DIN 13

I Maschi a macchina Speedtap–Allround,
scanalature elicoidali, per filettatura metrica ISO fine, DIN 13

Einsatzbereich:
HSSE-PM Gewindebohrer für Grundgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1300 N/mm².

Range of application:
Tap made of powder steel for blind hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1300 N/mm².

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori ciechi. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1300 N/mm².

Speedtap

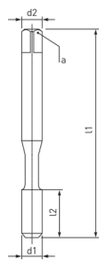
<400 N/mm² | <850 N/mm² | <1100 N/mm² | <1300 N/mm²

INOX <850 N/mm² | INOX >850 N/mm² | GRAUGUSS CAST IRON GHISA GRIGIA

Ni | Ti | Cu, Ms | Al

MF | HSS E/PM 55 | 6HX | 60° P

≤3d1 | DIN 374 | C 2-3 P | 50° | Z=3-5



Allround



HARDOUR

d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4763 Art.-Nr.
MF 8	1	90	10	6	4,9	3	Ø 7	0 4763022001 00
MF 10	1	90	12	7	5,5	4	Ø 9	0 4763024001 00
MF 10	1,25	100	12	7	5,5	4	Ø 8,8	0 4763037001 00
MF 12	1	100	14	9	7	4	Ø 11	0 4763026001 00
MF 12	1,25	100	14	9	7	4	Ø 10,8	0 4763038001 00
MF 12	1,5	100	14	9	7	4	Ø 10,5	0 4763040001 00
MF 14	1,5	100	16	11	9	4	Ø 12,5	0 4763041001 00
MF 16	1,5	100	16	12	9	5	Ø 14,5	0 4763043001 00
MF 18	1,5	110	20	14	11	5	Ø 16,5	0 4763044001 00
MF 20	1,5	125	20	16	12	5	Ø 18,5	0 4763045001 00

D Maschinengewindebohrer Speedtap–Universal,
gerade genutet, für metrisches ISO-Feingewinde DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Durchgangsgewinde. Besonders geeignet für unlegierte, und legierte Stähle ≤850 N/mm² sowie Cu- und Al Legierungen Si ≤10%.

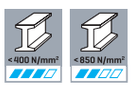
E Machine taps Speedtap–Universal,
straight fluted, for metric ISO-fine threads DIN 13

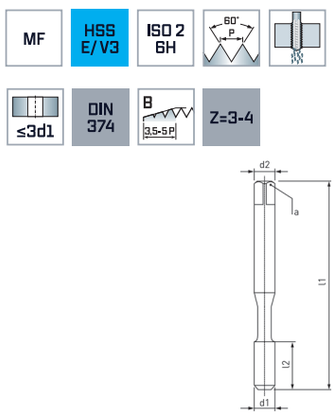
Impiego:
HSS Cobalt tap for through hole threads. Especially suitable for non-alloyed and alloyed steels ≤850 N/mm² and for copper and aluminium alloys Si ≤10%.

I Maschi a macchina Speedtap–Universal,
scanalature diritte, per filettatura metrica ISO fine, DIN 13

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori passanti. Particolarmente adatti per acciai legati e non legati ≤850 N/mm² e per leghe di rame e alluminio Si ≤10%.

Speedtap





Uni



d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4703 Art.-Nr.
MF 3	0,35	56	8	2,2	–	3	Ø 2,65	0 4703006001 00
MF 4	0,5	63	10	2,8	2,1	3	Ø 3,5	0 4703009001 00
MF 5	0,5	70	12	3,5	2,7	3	Ø 4,5	0 4703011001 00
MF 6	0,5	80	14	4,5	3,4	3	Ø 5,5	0 4703013001 00
MF 6	0,75	80	14	4,5	3,4	3	Ø 5,25	0 4703015001 00
MF 7	0,75	80	14	5,5	4,3	3	Ø 6,25	0 4703016001 00
MF 8	0,5	80	18	6	4,9	3	Ø 7,5	0 4703014001 00
MF 8	0,75	80	18	6	4,9	3	Ø 7,25	0 4703017001 00
MF 8	1	90	22	6	4,9	3	Ø 7	0 4703022001 00
MF 9	1	90	22	7	5,5	3	Ø 8	0 4703023001 00
MF 10	0,75	90	20	7	5,5	3	Ø 9,25	0 4703019001 00
MF 10	1	90	20	7	5,5	3	Ø 9	0 4703024001 00
MF 10	1,25	100	24	7	5,5	3	Ø 8,75	0 4703037001 00
MF 11	1	90	20	8	6,2	3	Ø 10	0 4703025001 00
MF 12	1	100	22	9	7	3	Ø 11	0 4703026001 00
MF 12	1,25	100	22	9	7	3	Ø 10,75	0 4703038001 00
MF 12	1,5	100	22	9	7	3	Ø 10,5	0 4703040001 00
MF 14	1	100	22	11	9	3	Ø 13	0 4703027001 00
MF 14	1,25	100	22	11	9	3	Ø 12,75	0 4703039001 00
MF 14	1,5	100	22	11	9	3	Ø 12,5	0 4703041001 00
MF 15	1	100	22	12	9	3	Ø 14	0 4703028001 00
MF 15	1,5	100	22	12	9	3	Ø 13,5	0 4703042001 00
MF 16	1	100	22	12	9	3	Ø 15	0 4703029001 00
MF 16	1,5	100	22	12	9	3	Ø 14,5	0 4703043001 00
MF 18	1	110	25	14	11	3	Ø 17	0 4703030001 00
MF 18	1,5	110	25	14	11	3	Ø 16,5	0 4703044001 00
MF 18	2	125	34	14	11	3	Ø 16	0 4703065001 00
MF 20	1	125	25	16	12	3	Ø 19	0 4703031001 00
MF 20	1,5	125	25	16	12	3	Ø 18,5	0 4703045001 00
MF 20	2	140	34	16	12	3	Ø 18	0 4703066001 00
MF 22	1	125	25	18	14,5	3	Ø 21	0 4703032001 00
MF 22	1,5	125	25	18	14,5	3	Ø 20,5	0 4703046001 00

d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4703 Art.-Nr.
MF 22	2	140	34	18	14,5	3	Ø 20	0 4703067001 00
MF 24	1	140	28	18	14,5	3	Ø 23	0 4703033001 00
MF 24	1,5	140	28	18	14,5	3	Ø 22,5	0 4703047001 00
MF 24	2	140	28	18	14,5	3	Ø 22	0 4703068001 00
MF 25	1,5	140	28	18	14,5	3	Ø 23,5	0 4703048001 00
MF 26	1,5	140	28	18	14,5	4	Ø 24,5	0 4703049001 00
MF 27	1,5	140	28	20	16	4	Ø 25,5	0 4703050001 00
MF 27	2	140	28	20	16	4	Ø 25	0 4703069001 00
MF 28	1,5	140	28	20	16	4	Ø 26,5	0 4703051001 00
MF 30	1	150	28	22	18	4	Ø 29	0 4703034001 00
MF 30	1,5	150	28	22	18	4	Ø 28,5	0 4703052001 00
MF 30	2	150	28	22	18	4	Ø 28	0 4703070001 00
MF 32	1,5	150	28	22	18	4	Ø 30,5	0 4703053001 00
MF 33	1,5	160	30	25	20	4	Ø 31,5	0 4703052501 00
MF 34	1,5	170	30	28	22	4	Ø 32,5	0 4703054001 00
MF 35	1,5	170	30	28	22	4	Ø 33,5	0 4703056001 00
MF 36	1,5	170	30	28	22	4	Ø 34,5	0 4703057001 00
MF 38	1,5	170	30	28	22	4	Ø 36,5	0 4703058001 00
MF 40	1,5	170	30	32	24	4	Ø 38,5	0 4703059001 00
MF 42	1,5	170	30	32	24	4	Ø 40,5	0 4703060001 00
MF 45	1,5	180	32	36	29	4	Ø 43,5	0 4703061001 00
MF 48	1,5	190	32	36	29	4	Ø 46,5	0 4703062001 00
MF 50	1,5	190	32	36	29	4	Ø 48,5	0 4703063001 00
MF 52	1,5	190	32	40	32	4	Ø 50,5	0 4703064001 00



D Maschinengewindebohrer Speedtap–Universal,
spiral-genutet, für metrisches ISO-Feingewinde DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Grundgewinde. Besonders geeignet für unlegierte, und legierte Stähle ≤850 N/mm² sowie Cu- und Al Legierungen Si ≤10%.

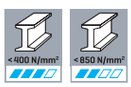
E Machine taps Speedtap–Universal,
spiral fluted, for metric ISO-fine threads DIN 13

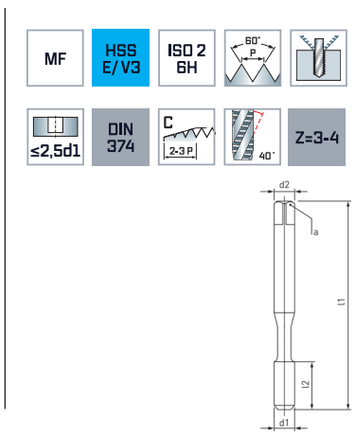
Impiego:
HSS Cobalt tap for blind hole threads. Especially suitable for non-alloyed and alloyed steels ≤850 N/mm² and for copper and aluminium alloys Si ≤10%.

I Maschi a macchina Speedtap–Universal,
scanalature elicoidali, per filettatura metrica ISO fine, DIN 13

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori ciechi. Particolarmente adatti per acciai legati e non legati ≤850 N/mm² e per leghe di rame e alluminio Si ≤10%.

Speedtap





Uni



d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4713 Art.-Nr.
MF 3	0,35	56	4	2,2	–	3	Ø 2,65	0 4713006001 00
MF 4	0,5	63	6	2,8	2,1	3	Ø 3,5	0 4713009001 00
MF 5	0,5	70	7	3,5	2,7	3	Ø 4,5	0 4713011001 00
MF 6	0,5	80	8	4,5	3,4	3	Ø 5,5	0 4713013001 00
MF 6	0,75	80	8	4,5	3,4	3	Ø 5,25	0 4713015001 00
MF 8	0,75	80	10	6	4,9	3	Ø 7,25	0 4713017001 00
MF 8	1	90	10	6	4,9	3	Ø 7	0 4713022001 00
MF 10	1	90	12	7	5,5	3	Ø 9	0 4713024001 00
MF 10	1,25	100	12	7	5,5	3	Ø 8,8	0 4713037001 00
MF 12	1	100	14	9	7	3	Ø 11	0 4713026001 00
MF 12	1,25	100	14	9	7	3	Ø 10,8	0 4713038001 00
MF 12	1,5	100	14	9	7	3	Ø 10,5	0 4713040001 00
MF 14	1	100	16	11	9	3	Ø 13	0 4713027001 00
MF 14	1,25	100	16	11	9	3	Ø 12,8	0 4713039001 00
MF 14	1,5	100	16	11	9	3	Ø 12,5	0 4713041001 00
MF 16	1	100	16	12	9	3	Ø 15	0 4713029001 00
MF 16	1,5	100	16	12	9	3	Ø 14,5	0 4713043001 00
MF 18	1	110	20	14	11	4	Ø 17	0 4713030001 00
MF 18	1,5	110	20	14	11	4	Ø 16,5	0 4713044001 00
MF 20	1	125	20	16	12	4	Ø 19	0 4713031001 00
MF 20	1,5	125	20	16	12	4	Ø 18,5	0 4713045001 00
MF 22	1,5	125	20	18	14,5	4	Ø 20,5	0 4713046001 00
MF 24	1,5	140	24	18	14,5	4	Ø 22,5	0 4713047001 00
MF 24	2	140	24	18	14,5	4	Ø 22	0 4713068001 00
MF 25	1,5	140	24	18	14,5	4	Ø 23,5	0 4713048001 00
MF 26	1,5	140	24	18	14,5	4	Ø 24,5	0 4713049001 00
MF 27	1,5	140	24	20	16	4	Ø 25,5	0 4713050001 00
MF 27	2	140	24	20	16	4	Ø 25	0 4713069001 00
MF 28	1,5	140	24	20	16	4	Ø 26,5	0 4713051001 00
MF 30	1,5	150	28	22	18	4	Ø 28,5	0 4713052001 00
MF 30	2	150	28	22	18	4	Ø 28	0 4713070001 00

D Maschinengewindebohrer Speedtap-Inox,
gerade genutet, für metrisches ISO-Feingewinde DIN 13

E Machine taps Speedtap-Inox,
straight fluted, for metric ISO-fine threads DIN 13

I Maschi a macchina Speedtap-Inox,
scanalature diritte, per filettatura metrica ISO fine, DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Durchgangsgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1200 N/mm².

Range of application:
HSS Cobalt tap for through hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1200 N/mm².

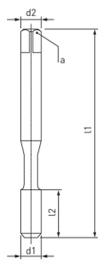
Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori passanti. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1200 N/mm².

Speedtap

<400 N/mm² | <850 N/mm² | <1100 N/mm² | <1300 N/mm²

INOX <850 N/mm² | INOX >850 N/mm²

MF | HSS E/V3 | ISO 2 6H | 60° P | ≤3d1 | DIN 374 | B 3,5-5,5 P | Z=3



Inox



VAPO

d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4723 Art.-Nr.
MF 3	0,35	56	8	2,2	–	3	Ø 2,65	0 4723006001 00
MF 4	0,5	63	10	2,8	2,1	3	Ø 3,5	0 4723009001 00
MF 5	0,5	70	12	3,5	2,7	3	Ø 4,5	0 4723011001 00
MF 6	0,5	80	14	4,5	3,4	3	Ø 5,5	0 4723013001 00
MF 6	0,75	80	14	4,5	3,4	3	Ø 5,25	0 4723015001 00
MF 8	0,75	80	18	6	4,9	3	Ø 7,25	0 4723017001 00
MF 8	1	90	22	6	4,9	3	Ø 7	0 4723022001 00
MF 10	1	90	20	7	5,5	3	Ø 9	0 4723024001 00
MF 12	1	100	22	9	7	3	Ø 11	0 4723026001 00
MF 12	1,5	100	22	9	7	3	Ø 10,5	0 4723040001 00
MF 14	1,5	100	22	11	9	3	Ø 12,5	0 4723041001 00
MF 16	1,5	100	22	12	9	3	Ø 14,5	0 4723043001 00
MF 18	1,5	110	25	14	11	3	Ø 16,5	0 4723044001 00
MF 20	1,5	125	25	16	12	3	Ø 18,5	0 4723045001 00
MF 22	1,5	125	25	18	14,5	3	Ø 20,5	0 4723046001 00
MF 24	1,5	140	28	18	14,5	3	Ø 22,5	0 4723047001 00

D Maschinengewindebohrer Speedtap–Inox,
spiral-genutet, für metrisches ISO-Feingewinde DIN 13

E Machine taps Speedtap–Inox,
spiral fluted, for metric ISO-fine threads DIN 13

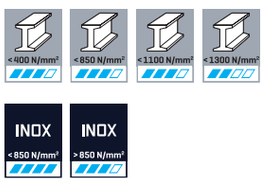
I Maschi a macchina Speedtap–Inox,
scanalature elicoidali, per filettatura metrica ISO fine, DIN 13

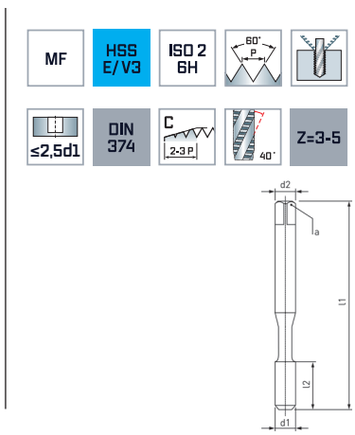
Einsatzbereich:
HSSE Gewindebohrer für Grundgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1200 N/mm².

Range of application:
HSS Cobalt tap for blind hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1200 N/mm².

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori ciechi. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1200 N/mm².

Speedtap





Inox



VAPO

d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4733 Art.-Nr.
MF 3	0,35	56	4	2,2	–	3	Ø 2,65	0 4733006001 00
MF 4	0,5	63	6	2,8	2,1	3	Ø 3,5	0 4733009001 00
MF 5	0,5	70	7	3,5	2,7	3	Ø 4,5	0 4733011001 00
MF 6	0,5	80	8	4,5	3,4	3	Ø 5,5	0 4733013001 00
MF 6	0,75	80	8	4,5	3,4	3	Ø 5,25	0 4733015001 00
MF 8	0,75	80	10	6	4,9	3	Ø 7,25	0 4733017001 00
MF 8	1	90	10	6	4,9	3	Ø 7	0 4733022001 00
MF 10	1	90	12	7	5,5	4	Ø 9	0 4733024001 00
MF 12	1	100	14	9	7	4	Ø 11	0 4733026001 00
MF 12	1,5	100	14	9	7	4	Ø 10,5	0 4733040001 00
MF 14	1,5	100	16	11	9	4	Ø 12,5	0 4733041001 00
MF 16	1,5	100	16	12	9	5	Ø 14,5	0 4733043001 00
MF 18	1,5	110	20	14	11	5	Ø 16,5	0 4733044001 00
MF 20	1,5	125	20	16	12	5	Ø 18,5	0 4733045001 00
MF 22	1,5	125	20	18	14,5	5	Ø 20,5	0 4733046001 00
MF 24	1,5	140	24	18	14,5	5	Ø 22,5	0 4733047001 00
MF 27	1,5	140	24	20	16	5	Ø 25,5	0 4733050001 00
MF 30	1,5	150	28	22	18	5	Ø 28,5	0 4733052001 00

D Maschinengewindebohrer Speedtap 4.0–Ultra Hard Steel 53 HRC,
gerade genutet, für metrisches ISO-Feingewinde DIN 13

Einsatzbereich:
HSSE-PM Gewindebohrer für Durchgangs- und Grundgewinde. Besonders geeignet für zähe und schwer zerspanbare Werkstoffe ≤53HRC. Die Generation 4.0 setzt neue Maßstäbe beim Gewinden.

E Machine taps Speedtap 4.0–Ultra Hard steel 53 HRC,
straight fluted, for metric ISO-fine threads DIN 13

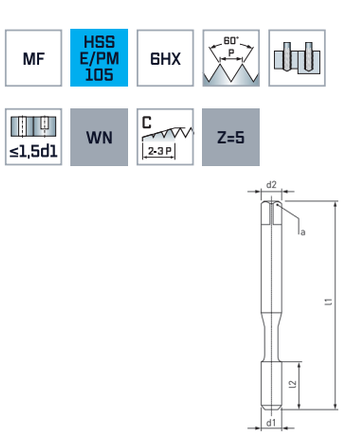
Range of application:
Tap made of powder steel for through hole threads and blind hole threads. Especially suitable for tough and difficult to machine materials ≤53HRC. The generation 4.0 sets new standards in threading.

I Maschi a macchina Speedtap 4.0–Ultra Hard steel 53 HRC,
scanalature diritte, per filettatura metrica ISO fine, DIN 13

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori passanti e fori ciechi. Particolarmente adatti per materiali duri e tenaci difficili da lavorare ≤53HRC. La nuova generazione 4.0 stabilisce nuovi.

Speedtap 4.0

42-53 HRC



HRC



TiCN

d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4617 Art.-Nr.
MF 8	0,75	70	22	6	4,9	5	Ø 7,4	0 4617080751 00
MF 8	1	70	22	6	4,9	5	Ø 7,4	0 4617081001 00
MF 10	1	75	24	7	5,5	5	Ø 9,1	0 4617101001 00
MF 12	1,5	82	29	9	7	5	Ø 10,6	0 4617121501 00
MF 14	1,5	88	30	11	9	5	Ø 12,6	0 4617141501 00
MF 16	1,5	95	32	12	9	5	Ø 14,6	0 4617161501 00

Schneidöl / Cutting oil / Olio da taglio

Menge / Quantity / Quantità ml	Code 4601 Art.-Nr.
50	0 4601000011 00
125	0 4601000021 00
500	0 4601000031 00

D Maschinengewindebohrer Speedtap 4.0–Ultra Hard Steel 63 HRC,
gerade genutet, für metrisches ISO-Feingewinde DIN 13

Einsatzbereich:
VHM Gewindebohrer für Durchgangs- und Grundgewinde. Besonders geeignet für zähe und schwer zerspanbare Werkstoffe sowie Hartbearbeitung ≤63HRC. Die Generation 4.0 setzt neue Maßstäbe beim Gewinden.

E Machine taps Speedtap 4.0–Ultra Hard steel 63 HRC,
straight fluted, for metric ISO-fine threads DIN 13

Range of application:
Solid carbide tap for through hole threads and blind hole threads. Especially suitable for tough and difficult to machine materials as well as hard machining ≤63HRC. The generation 4.0 sets new standards in threading.

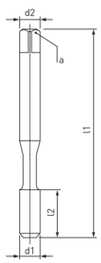
I Maschi a macchina Speedtap 4.0–Ultra Hard steel 63 HRC,
scanalature diritte, per filettatura metrica ISO fine, DIN 13

Impiego:
Maschi in metallo duro per fori passanti e fori ciechi. Particolarmente adatti per materiali duri e tenaci difficili da lavorare oltre che per materiali temprati ≤63HRC. La nuova generazione 4.0 stabilisce nuovi standard per realizzare maschiature.

Speedtap 4.0

50-63 HRC

MF | VHM Carbide MDI | 6HX | 60° P | ≤1,5d1 | WN | Z=5-6



HRC



TiCN

HRC



TiCN

d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4645 Art.-Nr.	Code 4655 Art.-Nr.
MF 8	1	70	22	6	4,9	5	Ø 7,1	0 4645081001 00	0 4655081001 00
MF 10	1	75	24	7	5,5	5	Ø 9,1	0 4645101001 00	0 4655101001 00
MF 12	1	82	29	9	7	5	Ø 11,1	0 4645121001 00	0 4655121001 00
MF 12	1,5	82	29	9	7	5	Ø 10,6	0 4645121501 00	0 4655121501 00
MF 14	1,5	88	30	11	9	6	Ø 12,6	0 4645141501 00	0 4655141501 00
MF 16	1,5	95	32	12	9	6	Ø 14,6	0 4645161501 00	0 4655161501 00
MF 20	1,5	105	37	16	12	6	Ø 18,6	0 4645201501 00	0 4655201501 00

Schneidöl / Cutting oil / Olio da taglio

Menge / Quantity / Quantità ml	Code 4601 Art.-Nr.
50	0 4601000011 00
125	0 4601000021 00
500	0 4601000031 00

D Maschinengewindebohrer **Speedtap–Grauguss,**
gerade genutet, für metrisches ISO-Feingewinde DIN 13

E Machine taps **Speedtap–Cast iron,**
straight fluted, for metric ISO-fine threads DIN 13

I Maschi a macchina **Speedtap–Ghisa grigia,**
scanalature diritte, per filettatura metrica ISO fine, DIN 13

Einsatzbereich:
HSSE Gewindebohrer für Durchgangsgewinde. Besonders geeignet für alle Gußeisen (Grauguß, Kugelgraphitguß, Temperguß, Vermikularguß, ADI, Hartguß).

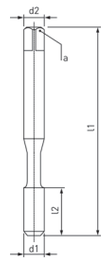
Range of application:
HSS Cobalt tap for through hole threads. Especially suitable for all cast iron (grey cast iron, spheroidal graphite, malleable cast iron, vermicular, ADI, chilled iron).

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori passanti. Particolarmente adatti per tutti i tipi di ghisa (ghisa grigia, ghisa sferoidale, ghisa temprata, ghisa vermiculare, ADI, ghisa temperata).

Speedtap

GRAUGUSS CAST IRON GHISA GRIGIA

MF | HSS E/V3 | 6HX | 60° P | ≤2,5d1 | DIN 374 | C 2-3 P | Z=4



Cast Iron



TiCN

d1 mm	P mm	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4743 Art.-Nr.
MF 8	1	90	22	6	4,9	4	Ø 7	0 4743022001 00
MF 10	1	90	20	7	5,5	4	Ø 9	0 4743024001 00
MF 12	1,5	100	22	9	7	4	Ø 10,5	0 4743040001 00
MF 16	1,5	100	22	12	9	4	Ø 14,5	0 4743043001 00



D Maschinengewindebohrer Speedtap 4.0–Allround,
gerade genutet, für Whitworth-Rohrgewinde DIN ISO 228

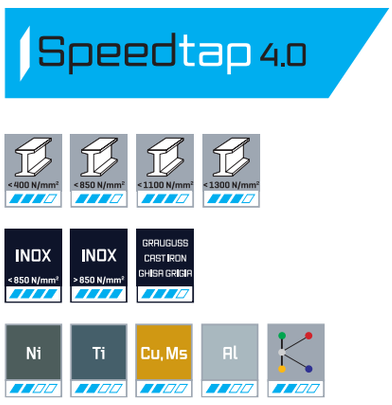
E Machine taps Speedtap 4.0–Allround,
straight fluted, for whitworth pipe threads DIN ISO 228

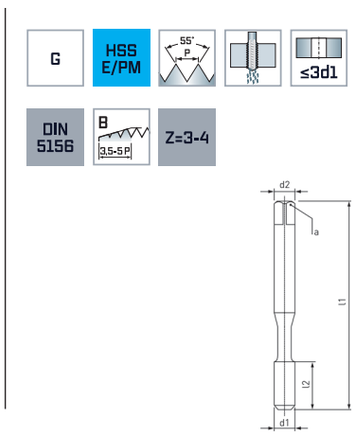
I Maschi a macchina Speedtap 4.0–Allround,
scanalature diritte, per filettatura whitworth per tubi, DIN ISO 228

Einsatzbereich:
HSSE-PM Gewindebohrer für Durchgangsgewinde. Besonders geeignet für rostfreie Cr-Ni-Stähle, unlegierten und legierten Stahl ≤1300 N/mm². Die Generation 4.0 setzt neue Maßstäbe beim Gewinden.

Range of application:
Tap made of powder steel for through hole threads. Especially suitable for stainless Cr-Ni steels, non-alloyed and alloyed steels ≤1300 N/mm². The generation 4.0 sets new standards in threading.

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori passanti. Particolarmente adatti per acciai inossidabili Cr-Ni, acciai legati e non legati ≤1300 N/mm². La nuova generazione 4.0 stabilisce nuovi standard per realizzare maschiature.





Allround



HARODUR

d1 inch	P Gg / 1"	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4772 Art.-Nr.
G 1/8"	28	90	20	7	5,5	3	Ø 8,8	0 4772016001 00
G 1/4"	19	100	21	11	9	3	Ø 11,8	0 4772020001 00
G 3/8"	19	100	22	12	9	3	Ø 15,25	0 4772024001 00
G 1/2"	14	125	24	16	12	3	Ø 19	0 4772028001 00
G 5/8"	14	125	25	18	14,5	4	Ø 21	0 4772032001 00
G 3/4"	14	140	26	20	16	4	Ø 24,5	0 4772034001 00
G 1"	11	160	30	25	20	4	Ø 30,75	0 4772038001 00

D Maschinengewindebohrer Speedtap–Allround,
gerade genutet, für Whitworth-Rohrgewinde DIN ISO 228

E Machine taps Speedtap–Allround,
straight fluted, for whitworth pipe threads DIN ISO 228

I Maschi a macchina Speedtap–Allround,
scanalature diritte, per filettatura whitworth per tubi, DIN ISO 228

Einsatzbereich:
HSSE-PM Gewindebohrer für Durchgangsgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1300 N/mm².

Range of application:
Tap made of powder steel for through hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1300 N/mm².

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori passanti. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1300 N/mm².

Speedtap

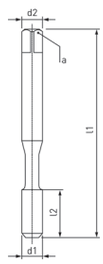
<400 N/mm² | <850 N/mm² | <1100 N/mm² | <1300 N/mm²

INOX <850 N/mm² | INOX >850 N/mm² | GRAUGUSS CAST IRON GHISA GRIGIA

Ni | Ti | Cu, Ms | Al

G | HSS E/PM 55 | 55° P | ≤3d1

DIN 5156 | B 3,5-5P | Z=3-4



Allround



HARDOUR

d1 inch	P Gg / 1"	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4742 Art.-Nr.
G 1/8"	28	90	20	7	5,5	3	Ø 8,8	0 4742016001 00
G 1/4"	19	100	22	11	9	3	Ø 11,8	0 4742020001 00
G 3/8"	19	100	22	12	9	3	Ø 15,25	0 4742024001 00
G 1/2"	14	125	25	16	12	3	Ø 19	0 4742028001 00
G 5/8"	14	125	25	18	14,5	4	Ø 21	0 4742032001 00
G 3/4"	14	140	26	20	16	4	Ø 24,5	0 4742034001 00
G 1"	11	160	30	25	20	4	Ø 30,75	0 4742038001 00

D Maschinengewindebohrer Speedtap 4.0–Allround,
spiral-genutet, für Whitworth-Rohrgewinde DIN ISO 228

E Machine taps Speedtap 4.0–Allround,
spiral fluted, for whitworth pipe threads DIN ISO 228

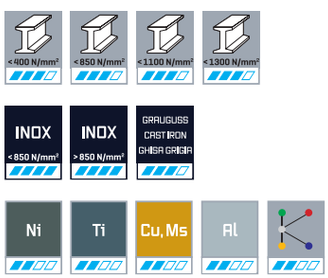
I Maschi a macchina Speedtap 4.0–Allround,
scanalature elicoidali, per filettatura whitworth per tubi, DIN ISO 228

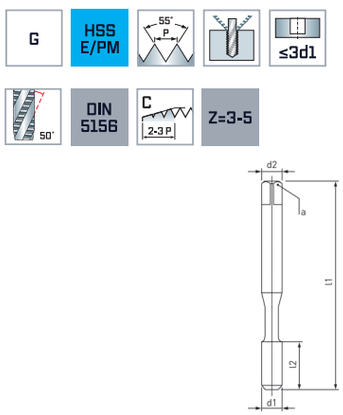
Einsatzbereich:
HSSE-PM Gewindebohrer für Grundgewinde. Besonders geeignet für rostfreie Cr-Ni-Stähle, unlegierten und legierten Stahl ≤1300 N/mm². Die Generation 4.0 setzt neue Maßstäbe beim Gewinden.

Range of application:
Tap made of powder steel for blind hole threads. Especially suitable for stainless Cr-Ni steels, non-alloyed and alloyed steels ≤1300 N/mm². The generation 4.0 sets new standards in threading.

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori ciechi. Particolarmente adatti per acciai inossidabili Cr-Ni, acciai legati e non legati ≤1300 N/mm². La nuova generazione 4.0 stabilisce nuovi standard per realizzare maschiature.

Speedtap 4.0





Allround



HARDDUR

d1 inch	P Gg / 1"	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4782 Art.-Nr.
G 1/8"	28	90	12	7	5,5	3	Ø 8,8	0 4782016001 00
G 1/4"	19	100	15	11	9	4	Ø 11,8	0 4782020001 00
G 3/8"	19	100	15	12	9	4	Ø 15,25	0 4782024001 00
G 1/2"	14	125	18	16	12	4	Ø 19	0 4782028001 00
G 5/8"	14	125	18	18	14,5	4	Ø 21	0 4782032001 00
G 3/4"	14	140	20	20	16	5	Ø 24,5	0 4782034001 00
G 1"	11	160	22	25	20	5	Ø 30,75	0 4782038001 00

D Maschinengewindebohrer Speedtap–Allround,
spiral-genutet, für Whitworth-Rohrgewinde DIN ISO 228

E Machine taps Speedtap–Allround,
spiral fluted, for whitworth pipe threads DIN ISO 228

I Maschi a macchina Speedtap–Allround,
scanalature elicoidali, per filettatura whitworth per tubi, DIN ISO 228

Einsatzbereich:
HSSE-PM Gewindebohrer für Grundgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1300 N/mm².

Range of application:
Tap made of powder steel for blind hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1300 N/mm².

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori ciechi. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1300 N/mm².

Speedtap

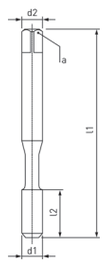
<400 N/mm² | <850 N/mm² | <1100 N/mm² | <1300 N/mm²

INOX <850 N/mm² | INOX >850 N/mm² | GRAUGUSS CAST IRON GHISA GRIGIA

Ni | Ti | Cu, Ms | Al

G | HSS E/PM 55 | 55° P | ≤3d1

DIN 5156 | C 2-3 P | 50° | Z=3-5



Allround



HARODUR

d1 inch	P Gg / 1"	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4752 Art.-Nr.
G 1/8"	28	90	12	7	5,5	3	Ø 8,8	0 4752016001 00
G 1/4"	19	100	15	11	9	4	Ø 11,8	0 4752020001 00
G 3/8"	19	100	15	12	9	4	Ø 15,25	0 4752024001 00
G 1/2"	14	125	18	16	12	4	Ø 19	0 4752028001 00
G 5/8"	14	125	18	18	14,5	4	Ø 21	0 4752032001 00
G 3/4"	14	140	20	20	16	5	Ø 24,5	0 4752034001 00
G 1"	11	160	22	25	20	5	Ø 30,75	0 4752038001 00

D Maschinengewindebohrer Speedtap–Universal,
gerade genutet, für Whitworth-Rohrgewinde DIN ISO 228

E Machine taps Speedtap–Universal,
straight fluted, for whitworth pipe threads DIN ISO 228

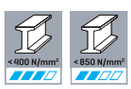
I Maschi a macchina Speedtap–Universal,
scanalature diritte, per filettatura whitworth per tubi, DIN ISO 228

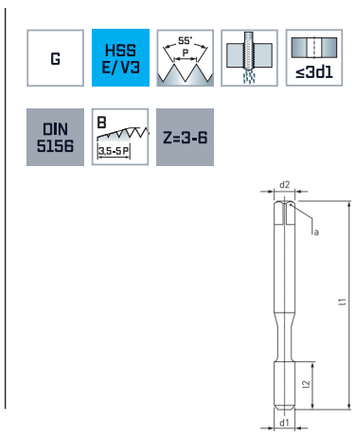
Einsatzbereich:
HSSE Gewindebohrer für Durchgangsgewinde. Besonders geeignet für unlegierte, und legierte Stähle ≤850 N/mm² sowie Cu- und Al Legierungen Si ≤10%.

Impiego:
HSS Cobalt tap for through hole threads. Especially suitable for non-alloyed and alloyed steels ≤850 N/mm² and for copper and aluminium alloys Si ≤10%.

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori passanti. Particolarmente adatti per acciai legati e non legati ≤850 N/mm2 e per leghe di rame e alluminio Si ≤10%.

Speedtap





Uni



d1 inch	P Gg / 1"	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4702 Art.-Nr.
G 1/8"	28	90	20	7	5,5	3	Ø 8,8	0 4702016001 00
G 1/4"	19	100	22	11	9	3	Ø 11,8	0 4702020001 00
G 3/8"	19	100	22	12	9	3	Ø 15,25	0 4702024001 00
G 1/2"	14	125	25	16	12	3	Ø 19	0 4702028001 00
G 5/8"	14	125	25	18	14,5	4	Ø 21	0 4702032001 00
G 3/4"	14	140	28	20	16	4	Ø 24,5	0 4702034001 00
G 7/8"	14	150	28	22	18	4	Ø 28,25	0 4702036001 00
G 1"	11	160	30	25	20	4	Ø 30,75	0 4702038001 00
G 1 1/8"	11	170	30	28	22	4	Ø 35,3	0 4702040001 00
G 1 1/4"	11	170	30	32	24	4	Ø 39,25	0 4702042001 00
G 1 3/8"	11	180	32	36	29	6	Ø 41,9	0 4702044001 00
G 1 1/2"	11	190	32	36	29	6	Ø 45,25	0 4702046001 00

D Maschinengewindebohrer Speedtap–Universal,
spiral-genutet, für Whitworth-Rohrgewinde DIN ISO 228

E Machine taps Speedtap–Universal,
spiral fluted, for whitworth pipe threads DIN ISO 228

I Maschi a macchina Speedtap–Universal,
scanalature elicoidali, per filettatura whitworth per tubi, DIN ISO 228

Einsatzbereich:
HSSE Gewindebohrer für Grundgewinde. Besonders geeignet für unlegierte, und legierte Stähle ≤850 N/mm² sowie Cu- und Al Legierungen Si ≤10%.

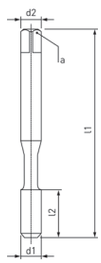
Impiego:
HSS Cobalt tap for blind hole threads. Especially suitable for non-alloyed and alloyed steels ≤850 N/mm² and for copper and aluminium alloys Si ≤10%.

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori ciechi. Particolarmente adatti per acciai legati e non legati ≤850 N/mm² e per leghe di rame e alluminio Si ≤10%.

Speedtap

<400 N/mm² <850 N/mm²

G | HSS E/V3 | 55° P | ≤2,5d1 | DIN 5156 | C 2-3 P | 40° | Z=3-6



Uni



d1 inch	P Gg / 1"	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4712 Art.-Nr.
G 1/8"	28	90	16	7	5,5	3	Ø 8,8	0 4712016001 00
G 1/4"	19	100	20	11	9	3	Ø 11,8	0 4712020001 00
G 3/8"	19	100	22	12	9	3	Ø 15,25	0 4712024001 00
G 1/2"	14	125	25	16	12	4	Ø 19	0 4712028001 00
G 5/8"	14	125	25	18	14,5	4	Ø 21	0 4712032001 00
G 3/4"	14	140	28	20	16	4	Ø 24,5	0 4712034001 00
G 7/8"	14	150	28	22	18	4	Ø 28,25	0 4712036001 00
G 1"	11	160	30	25	20	4	Ø 30,75	0 4712038001 00
G 1 1/8"	11	170	30	28	22	4	Ø 35,3	0 4712040001 00
G 1 1/4"	11	170	30	32	24	6	Ø 39,25	0 4712042001 00
G 1 3/8"	11	180	32	36	29	6	Ø 41,9	0 4712044001 00
G 1 1/2"	11	190	32	36	29	6	Ø 45,25	0 4712046001 00

D Maschinengewindebohrer Speedtap–Inox,
gerade genutet, für Whitworth-Rohrgewinde DIN ISO 228

E Machine taps Speedtap–Inox,
straight fluted, for whitworth pipe threads DIN ISO 228

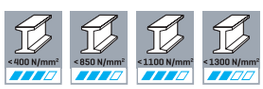
I Maschi a macchina Speedtap–Inox,
scanalature diritte, per filettatura whitworth per tubi, DIN ISO 228

Einsatzbereich:
HSSE Gewindebohrer für Durchgangsgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1200 N/mm².

Range of application:
HSS Cobalt tap for through hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1200 N/mm².

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori passanti. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1200 N/mm².

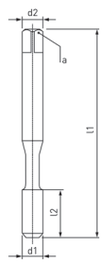
Speedtap











Inox



VAPO

d1 inch	P Gg / 1"	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4722 Art.-Nr.
G 1/8"	28	90	20	7	5,5	3	Ø 8,8	0 4722016001 00
G 1/4"	19	100	22	11	9	3	Ø 11,8	0 4722020001 00
G 3/8"	19	100	22	12	9	3	Ø 15,25	0 4722024001 00
G 1/2"	14	125	25	16	12	3	Ø 19	0 4722028001 00
G 5/8"	14	125	25	18	14,5	4	Ø 21	0 4722032001 00
G 3/4"	14	140	28	20	16	4	Ø 24,5	0 4722034001 00
G 7/8"	14	150	28	22	18	4	Ø 28,25	0 4722036001 00
G 1"	11	160	30	25	20	4	Ø 30,75	0 4722038001 00

D Maschinengewindebohrer Speedtap–Inox,
spiral-genutet, für Whitworth-Rohrgewinde DIN ISO 228

E Machine taps Speedtap–Inox,
spiral fluted, for whitworth pipe threads DIN ISO 228

I Maschi a macchina Speedtap–Inox,
scanalature elicoidali, per filettatura whitworth per tubi, DIN ISO 228

Einsatzbereich:
HSSE Gewindebohrer für Grundgewinde. Besonders geeignet für unlegierte, legierte sowie rostfreie Cr-Ni-Stähle ≤1200 N/mm².

Range of application:
HSS Cobalt tap for blind hole threads. Especially suitable for non-alloyed and alloyed steels and for stainless Cr-Ni-steels ≤1200 N/mm².

Impiego:
Maschi in acciaio super rapido al Cobalto HSSE per fori ciechi. Particolarmente adatti per acciai legati e non legati e per acciai inossidabili Cr-Ni ≤1200 N/mm².

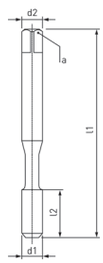
Speedtap

<400 N/mm² | <850 N/mm² | <1100 N/mm² | <1300 N/mm²

INOX <850 N/mm² | INOX >850 N/mm²

G | HSS E/V3 | 55° P | ≤2,5d1

DIN 5156 | C 2-3 P | 40° | Z=4-6



Inox



VAPO

d1 inch	P Gg / 1"	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4732 Art.-Nr.
G 1/8"	28	90	11	7	5,5	4	Ø 8,8	0 4732016001 00
G 1/4"	19	100	16	11	9	4	Ø 11,8	0 4732020001 00
G 3/8"	19	100	16	12	9	5	Ø 15,25	0 4732024001 00
G 1/2"	14	125	22	16	12	5	Ø 19	0 4732028001 00
G 5/8"	14	125	22	18	14,5	5	Ø 21	0 4732032001 00
G 3/4"	14	140	22	20	16	5	Ø 24,5	0 4732034001 00
G 7/8"	14	150	22	22	18	5	Ø 28,25	0 4732036001 00
G 1"	11	160	28	25	20	5	Ø 30,75	0 4732038001 00
G 1 1/8"	11	170	30	28	22	5	Ø 35,3	0 4732040001 00
G 1 1/4"	11	170	30	32	24	6	Ø 39,25	0 4732042001 00
G 1 3/8"	11	180	32	36	29	6	Ø 41,9	0 4732044001 00
G 1 1/2"	11	190	32	36	29	6	Ø 45,25	0 4732046001 00

D Maschinengewindebohrer Speedtap 4.0–Ultra Hard Steel 53 HRC,

gerade genutet, für Whitworth-Rohrgewinde DIN ISO 228

Einsatzbereich:
HSSE-PM Gewindebohrer für Durchgangs- und Grundgewinde. Besonders geeignet für zähe und schwer zerspanbare Werkstoffe ≤53HRC. Die Generation 4.0 setzt neue Maßstäbe beim Gewinden.

E Machine taps Speedtap 4.0–Ultra Hard steel 53 HRC,

straight fluted, for whitworth pipe threads DIN ISO 228

Range of application:
Tap made of powder steel for through hole threads and blind hole threads. Especially suitable for tough and difficult to machine materials ≤53HRC. The generation 4.0 sets new standards in threading.

I Maschi a macchina Speedtap 4.0–Ultra Hard steel 53 HRC,

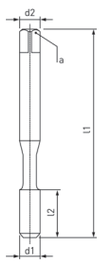
scanalature diritte, per filettatura whitworth per tubi, DIN ISO 228

Impiego:
Maschi in acciaio sinterizzato HSSE-PM per fori passanti e fori ciechi. Particolarmente adatti per materiali duri e tenaci difficili da lavorare ≤53HRC. La nuova generazione 4.0 stabilisce nuovi standard per realizzare maschiature.

Speedtap 4.0

42-53 HRC

G	HSS E/PM 10S	6HX	55° P	
≤1,5d1	WN	C 2-3 P	Z=5	



HRC



TiCN

d1 inch	P Gg / 1"	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4617 Art.-Nr.
G 1/8"	28	63	18	7	5,5	5	Ø 8,8	0 4617317001 00
G 1/4"	19	70	20	11	9	5	Ø 11,9	0 4617635001 00
G 3/8"	19	70	22	12	9	5	Ø 15,4	0 4617952001 00

Schneidöl / Cutting oil / Olio da taglio

Menge / Quantity / Quantità ml	Code 4601 Art.-Nr.
50	0 4601000011 00
125	0 4601000021 00
500	0 4601000031 00

D Maschinengewindebohrer Speedtap 4.0–Ultra Hard Steel 63 HRC,
gerade genutet, für Whitworth-Rohrgewinde DIN ISO 228

Einsatzbereich:
VHM Gewindebohrer für Durchgangs- und Grundgewinde. Besonders geeignet für zähe und schwer zerspanbare Werkstoffe sowie Hartbearbeitung ≤63HRC. Die Generation 4.0 setzt neue Maßstäbe beim Gewinden.

E Machine taps Speedtap 4.0–Ultra Hard steel 63 HRC,
straight fluted, for whitworth pipe threads DIN ISO 228

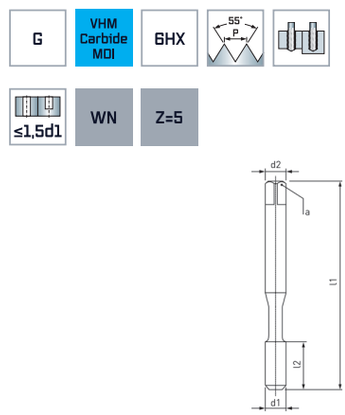
Range of application:
Solid carbide tap for through hole threads and blind hole threads. Especially suitable for tough and difficult to machine materials as well as hard machining ≤63HRC. The generation 4.0 sets new standards in threading.

I Maschi a macchina Speedtap 4.0–Ultra Hard steel 63 HRC,
scanalature diritte, per filettatura whitworth per tubi, DIN ISO 228

Impiego:
Maschi in metallo duro per fori passanti e fori ciechi. Particolarmente adatti per materiali duri e tenaci difficili da lavorare oltre che per materiali temprati ≤63HRC. La nuova generazione 4.0 stabilisce nuovi standard per realizzare maschiature.

Speedtap 4.0







TiCN



TiCN

d1 inch	P Gg / 1"	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4645 Art.-Nr.	Code 4655 Art.-Nr.
G 1/8"	28	63	18	7	5,5	5	Ø 8,9	0 4645317001 00	0 4655317001 00
G 1/4"	19	70	20	11	9	5	Ø 11,9	0 4645635001 00	0 4655635001 00

Schneidöl / Cutting oil / Olio da taglio

Menge / Quantity / Quantità ml	Code 4601 Art.-Nr.
50	0 4601000011 00
125	0 4601000021 00
500	0 4601000031 00

D Maschinengewindeformer Speedtap–Universal,
mit Ölnuten, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE Gewindeformer für Durchgangs- und Grundgewinde. Besonders geeignet für unlegierte, und legierte Stähle ≤1300 N/mm², Aluminium Si ≤ 10%.

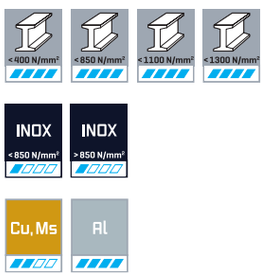
E Rolling taps Speedtap–Universal,
with oil grooves, for metric ISO-threads DIN 13

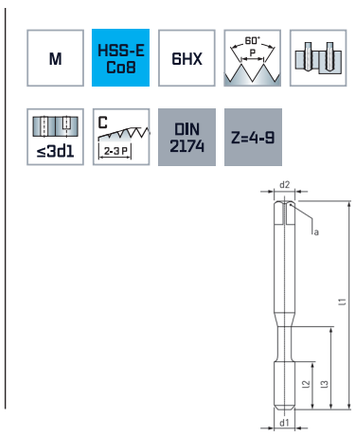
Range of application:
HSS Cobalt rolling tap for through hole threads and blind hole threads. Especially suitable for non-alloyed and alloyed steels ≤1300 N/mm², aluminium Si ≤10%.

I Maschi a macchina a rulare Speedtap–Universal,
con scanalature per lubrificazione, per filettatura metrica ISO, DIN 13

Impiego:
Maschi a rullare in acciaio super rapido al Cobalto HSSE per fori passanti e fori ciechi. Particolarmente adatti per acciai legati e non legati ≤1300 N/mm², alluminio Si ≤ 10%.

Speedtap







TiCN



TiCN

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4689/4699 Art.-Nr.	Code 4669/4679 Art.-Nr.
M 1	0,25	40	5,5	–	2,5	2,1	–	Ø 0,9		0 4669001001 00
M 1,2	0,25	40	5,5	–	2,5	2,1	–	Ø 1,1		0 4669001201 00
M 1,4	0,3	40	7	–	2,5	2,1	–	Ø 1,27		0 4669001401 00
M 1,6	0,35	40	8	–	2,5	2,1	–	Ø 1,45		0 4669001601 00
M 2	0,4	45	8	–	2,8	2,1	–	Ø 1,85		0 4669002001 00
M 2,5	0,45	50	9	–	2,8	2,1	–	Ø 2,33		0 4669002501 00
M 3	0,5	56	8	18	3,5	2,7	4	Ø 2,8		0 4669003001 00
M 4	0,7	63	11	21	4,5	3,4	4	Ø 3,7		0 4669004001 00
M 5	0,8	70	12	25	6	4,9	5	Ø 4,65		0 4669005001 00
M 6	1	80	10	30	6	4,9	5	Ø 5,55	0 4689006001 00	0 4669006001 00
M 8	1,25	90	12	35	8	6,2	5	Ø 7,4	0 4689008001 00	0 4669008001 00
M 10	1,5	100	15	39	10	8	8	Ø 9,3	0 4689010001 00	0 4669010001 00
M 12	1,75	110	17	–	9	7	8	Ø 11,2	0 4699012001 00	0 4679012001 00
M 14	2	110	20	–	11	9	8	Ø 13	0 4699014001 00	0 4679014001 00
M 16	2	110	20	–	12	9	8	Ø 15	0 4699016001 00	0 4679016001 00
M 18	2,5	125	20	–	14	11	8	Ø 16,8	0 4699018001 00	0 4679018001 00
M 20	2,5	140	20	–	16	12	8	Ø 18,8	0 4699020001 00	0 4679020001 00
M 22	2,5	140	20	–	18	14,5	8	Ø 20,8	0 4699022001 00	0 4679022001 00
M 24	3	160	24	–	18	14,5	8	Ø 22,5	0 4699024001 00	0 4679024001 00
M 27	3	160	18	–	20	16	8	Ø 25,5	0 4699027001 00	0 4679027001 00
M 30	3,5	180	21	–	22	18	8	Ø 28,2	0 4699030001 00	0 4679030001 00
M 33	3,5	180	21	–	25	20	8	Ø 31,2	0 4699033001 00	
M 36	4	200	24	–	28	22	8	Ø 33,9	0 4699036001 00	
M 39	4	200	24	–	32	24	9	Ø 36,9	0 4699039001 00	
M 42	4,5	200	27	–	32	24	9	Ø 39,6	0 4699042001 00	
M 45	4,5	220	27	–	36	29	9	Ø 42,6	0 4699045001 00	

D Maschinengewindeformer Speedtap–Inox,
mit Ölnuten, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
HSSE Gewindeformer für Durchgangs- und Grundgewinde. Besonders geeignet für rostfreie Cr-Ni-Stähle ≤1200 N/mm², Aluminium Si ≤ 10%.

E Rolling taps Speedtap–Inox,
with oil grooves, for metric ISO-threads DIN 13

Range of application:
HSS Cobalt rolling tap for through hole threads and blind hole threads. Especially suitable for stainless Cr-Ni-steels ≤1200 N/mm², aluminium Si ≤10%.

I Maschi a macchina a rulare Speedtap–Inox,
con scanalature per lubrificazione, per filettatura metrica ISO, DIN 13

Impiego:
Maschi a rullare in acciaio super rapido al Cobalto HSSE per fori passanti e fori ciechi. Particolarmente adatti per acciai inossidabili Cr-Ni ≤1200 N/mm², alluminio Si ≤ 10%.

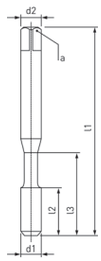
Speedtap

<400 N/mm² | <850 N/mm² | <1100 N/mm² | <1300 N/mm²

INOX <850 N/mm² | INOX >850 N/mm²

Cu, Ms | Al

M | HSS-E | 6HX | 60° P | ≤3d1 | DIN 2174 | C 2-3 P | Z=3-7





TiN



TiN

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4678/4688 Art.-Nr.	Code 4644/4654 Art.-Nr.
M 2	0,4	45	8	–	2,8	2,1	3	Ø 1,83		0 4644002001 00
M 2,5	0,45	50	9	–	2,8	2,1	3	Ø 2,33		0 4644002501 00
M 3	0,5	56	11	18	3,5	2,7	4	Ø 2,8		0 4644003001 00
M 3,5	0,6	56	11	18	4	3	4	Ø 3,25		0 4644003501 00
M 4	0,7	63	13	21	4,5	3,4	5	Ø 3,7		0 4644004001 00
M 5	0,8	70	16	25	6	4,9	5	Ø 4,65		0 4644005001 00
M 6	1	80	19	30	6	4,9	5	Ø 5,55	0 4678006001 00	0 4644006001 00
M 8	1,25	90	22	35	8	6,2	6	Ø 7,4	0 4678008001 00	0 4644008001 00
M 10	1,5	100	24	39	10	8	6	Ø 9,3	0 4678010001 00	0 4644010001 00
M 12	1,75	110	28	–	9	7	6	Ø 11,2	0 4688012001 00	0 4654012001 00
M 14	2	110	30	–	11	9	5	Ø 13	0 4688014001 00	0 4654014001 00
M 16	2	110	32	–	12	9	7	Ø 15	0 4688016001 00	0 4654016001 00

D Maschinengewindeformer Speedtap–Universal,
mit Ölnuten, für metrisches ISO-Feingewinde DIN 13

Einsatzbereich:
HSSE Gewindeformer für Durchgangs- und Grundgewinde. Besonders geeignet für unlegierte, und legierte Stähle ≤1300 N/mm², Aluminium Si ≤ 10%.

E Rolling taps Speedtap–Universal,
with oil grooves, for metric ISO-fine threads DIN 13

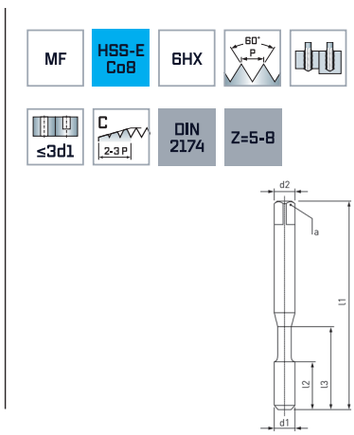
Range of application:
HSS Cobalt rolling tap for through hole threads and blind hole threads. Especially suitable for non-alloyed and alloyed steels ≤1300 N/mm², aluminium Si ≤10%.

I Maschi a macchina a rulare Speedtap–Universal,
con scanalature per lubrificazione, per filettatura metrica ISO fine, DIN 13

Impiego:
Maschi a rullare in acciaio super rapido al Cobalto HSSE per fori passanti e fori ciechi. Particolarmente adatti per acciai legati e non legati ≤1300 N/mm², alluminio Si ≤ 10%.

Speedtap





Uni



TiCN

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4773 Art.-Nr.
MF 8	1	90	10	35	8	6,2	5	Ø 7,55	0 4773022001 00
MF 10	1	90	12	35	10	8	8	Ø 9,55	0 4773024001 00
MF 10	1,25	100	12	39	10	8	8	Ø 9,45	0 4773037001 00
MF 12	1	100	15	–	9	7	8	Ø 11,6	0 4773026001 00
MF 12	1,25	100	15	–	9	7	8	Ø 11,4	0 4773038001 00
MF 12	1,5	100	15	–	9	7	8	Ø 11,3	0 4773040001 00
MF 14	1,25	100	15	–	11	9	8	Ø 13,4	0 4773039001 00
MF 14	1,5	100	15	–	11	9	8	Ø 13,3	0 4773041001 00
MF 16	1,5	100	15	–	12	9	8	Ø 15,3	0 4773043001 00
MF 18	1,5	110	15	–	14	11	8	Ø 17,3	0 4773044001 00
MF 20	1,5	125	15	–	16	12	8	Ø 19,3	0 4773045001 00
MF 22	1,5	125	15	–	18	14,5	8	Ø 21,3	0 4773046001 00
MF 24	1,5	140	15	–	18	14,5	8	Ø 23,3	0 4773047001 00

D Maschinengewindeformer Speedtap–Inox,
mit Ölnuten, für metrisches ISO-Feingewinde DIN 13

Einsatzbereich:
HSSE Gewindeformer für Durchgangs- und Grundgewinde. Besonders geeignet für rostfreie Cr-Ni-Stähle ≤1200 N/mm², Aluminium Si ≤ 10%.

E Rolling taps Speedtap–Inox,
with oil grooves, for metric ISO-fine threads DIN 13

Range of application:
HSS Cobalt rolling tap for through hole threads and blind hole threads. Especially suitable for stainless Cr-Ni-steels ≤1200 N/mm², aluminium Si ≤10%.

I Maschi a macchina a rulare Speedtap–Inox,
con scanalature per lubrificazione, per filettatura metrica ISO fine, DIN 13

Impiego:
Maschi a rullare in acciaio super rapido al Cobalto HSSE per fori passanti e fori ciechi. Particolarmente adatti per acciai inossidabili Cr-Ni ≤1200 N/mm², alluminio Si ≤ 10%.

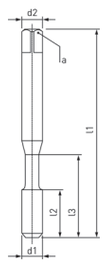
Speedtap

<400 N/mm² | <850 N/mm² | <1100 N/mm² | <1300 N/mm²

INOX <850 N/mm² | INOX >850 N/mm²

Cu, Ms | Al

MF | HSS-E | 6HX | 60° P | ≤3d1 | DIN 2174 | C 2-3 P | Z=3-6



Inox



TiN

d1 mm	P mm	l1 mm	l2 mm	l3 mm	d2 h9 mm	a h12 mm	Z		Code 4783 Art.-Nr.
MF 3	0,35	56	8	18	3,5	2,7	3	Ø 2,85	0 4783006001 00
MF 4	0,5	63	10	21	4,5	3,4	4	Ø 3,9	0 4783009001 00
MF 5	0,5	70	12	25	6	4,9	4	Ø 4,78	0 4783011001 00
MF 6	0,75	80	14	30	6	4,9	5	Ø 5,7	0 4783015001 00
MF 8	1	90	22	35	8	6,2	5	Ø 7,55	0 4783022001 00
MF 10	1	90	20	35	10	8	5	Ø 9,55	0 4783024001 00
MF 12	1,5	100	22	–	9	7	6	Ø 11,3	0 4783040001 00
MF 16	1,5	100	22	–	12	9	6	Ø 15,3	0 4783043001 00

D Maschinengewindeformer Speedtap–Universal,
mit Ölnuten, für Whitworth-Rohrgewinde DIN ISO 228

Einsatzbereich:
HSSE Gewindeformer für Durchgangs- und Grundgewinde. Besonders geeignet für unlegierte, und legierte Stähle ≤1300 N/mm², Aluminium Si ≤ 10%.

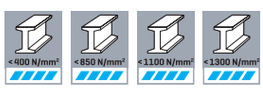
E Rolling taps Speedtap–Universal,
with oil grooves, for whitworth pipe threads DIN ISO 228

Range of application:
HSS Cobalt rolling tap for through hole threads and blind hole threads. Especially suitable for non-alloyed and alloyed steels ≤1300 N/mm², aluminium Si ≤10%.

I Maschi a macchina a rulare Speedtap–Universal,
con scanalature per lubrificazione, per filettatura whitworth per tubi, DIN ISO 228

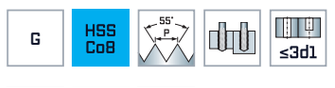
Impiego:
Maschi a rullare in acciaio super rapido al Cobalto HSSE per fori passanti e fori ciechi. Particolarmente adatti per acciai legati e non legati ≤1300 N/mm², alluminio Si ≤ 10%.

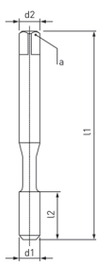
Speedtap











Uni



TiCN

d1 inch	P Gg / 1"	l1 mm	l2 mm	d2 h9 mm	a h12 mm	Z		Code 4692 Art.-Nr.
G 1/8"	28	90	9	7	5,5	8	Ø 9,3	0 4692016001 00
G 1/4"	19	100	13	11	9	8	Ø 12,5	0 4692020001 00
G 3/8"	19	100	13	12	9	8	Ø 16	0 4692024001 00
G 1/2"	14	125	18	16	12	8	Ø 20	0 4692028001 00





HSS-Gewindewerkzeuge

E HSS taps and dies

I HSS maschi e filiere



D Übersicht
Gewindewerkzeuge

E Overview
Taps and dies

I Sommario
Maschi e filiere

D Anwendungsbereiche der Farbring-Maschinengewindebohrer auf Seite 450.

E Application range of colour-ring machine taps on page 450.

I Impiego maschi a macchina funzione colore anello pagina 450.



	Maschinengewindebohrer / Machine taps / Maschi a macchina					
Norm / Standard	DIN 371 / DIN 376					
Gewindeart / Type of thread / Tipo di maschio	M	M	M	M	M	M
Lochart / Hole type / Tipo di fore						
Toleranz / Tolerance / Tolleranza	ISO2 6H	ISO2 6H	ISO3 6G	ISO2 6H	ISO2 6H	ISO3 6G
Anschnitt / Chamfer / Imbocco	C	B	B	B	C	C
Drallwinkel / Spiral angle / Angolo elica					35°	35°
Schneidstoff / Cutting material / Acciaio	HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5
Beschichtung / Coating / Rivestimento						
Ø mm	M 2 - M 24	M 2 - M 10	M 3 - M 12	M 3 - M 36	M 2 - M 30	M 3 - M 12
Code / Codice	4790/4794	4711	4720	4716	4891/4896	4812
Seite / Page / Pagina	368	369	369	370	371	371
Geeignet für / Suitable for / Adatte per						
< 400 N/mm² — Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²	▬	▬	▬	▬	▬	▬
< 850 N/mm² — Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²	▭	▬	▬	▬	▬	▬
< 1100 N/mm² — Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²						
< 1300 N/mm² — Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²						
> 45 HRC — Stähle > 45 HRC / Steels > 45 HRC / Acciai > 45 HRC						
INOX < 850 N/mm² — Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²						
INOX > 850 N/mm² — Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²						
GRAUGUSS CAST IRON GHISA GRIGIA — Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile		▭	▭	▭	▭	▭
Ti — Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio						
Cu, Ms — Kupfer, Messing / Copper, brass / Rame, ottone	▭	▭	▭	▭	▭	▭
Al — Aluminium / Aluminium / Alluminio	▭	▭	▭	▭	▭	▭
Kunststoffe / Plastics / Materie plastiche						

▬ **Ideal** / Ideal / Ideale | ▭ **Geeignet** / Suitable / Adatte

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Maschi e filiere

Maschinengewindebohrer / Machine taps / Maschi a macchina



DIN 371 / DIN 376

M	M	M	M	M	M	M	M
ISO2 6H	ISO2 6H	ISO2 6H	ISO2 6H	ISO2 6H	ISO2 6H	ISO2 6H	ISO2 6H
B	B	C	C	B	C	B	C
		40°	40°		35°		35°
HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5
	ALUNIT®		ALUNIT®	TiN	TiN		
M 2 - M 30	M 2 - M 16	M 2 - M 30	M 2 - M 16	M 3 - M 24	M 3 - M 30	M 3 - M 12	M 3 - M 16
4802/4803	4807/4817	4804/4805	4837/4847	4801/4806	4971/4976	4740/4744	4981/4986
372	372	373	373	374	375	376	377
▬	▬	▬	▬	▱	▱		
▬	▬	▬	▬	▱	▱		
▱	▱	▱	▱	▱	▱		
▱	▱	▱	▱	▬	▬		
				▱	▱		
▬	▬	▬	▬				
▬	▬	▬	▬	▱	▱		
▬	▬	▬	▬	▱	▱	▬	▬
▱	▱	▱	▱			▱	▱

▬ Ideal / Ideal / Ideale | ▱ Geeignet / Suitable / Adatte



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Gewindewerkzeuge

E **Overview**
Taps and dies

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Maschi e filiere

	Gewindeformer / Rolling taps / Maschi a rullare	Maschinengewindebohrer / Machine taps / Maschi a macchina		
				
Norm / Standard	DIN 371 / DIN 376	DIN 374		DIN 5156
Gewindeart / Type of thread / Tipo di maschio	**M**	**MF**	**MF**	**G**
Lochart / Hole type / Tipo di fore				
Toleranz / Tolerance / Tolleranza	ISO2 6HX	ISO2 6H	ISO2 6H	
Anschnitt / Chamfer / Imbocco	C	B	C	C
Drallwinkel / Spiral angle / Angolo elica			35°	
Schneidstoff / Cutting material / Acciaio	HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5
Beschichtung / Coating / Rivestimento	TiN			
Ø mm	M 3 - M 12	MF 4 - MF 30	MF 4 - MF 30	G 1/8" – G 1"
Code / Codice	4855/4856	5154	5174	4905
Seite / Page / Pagina	378	379	380	381
Geeignet für / Suitable for / Adatte per				
< 400 N/mm² — Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²	▬	▬	▬	▬
< 850 N/mm² — Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²	▬	▬	▬	▬
< 1100 N/mm² — Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²				
< 1300 N/mm² — Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²				
> 45 HRC — Stähle > 45 HRC / Steels > 45 HRC / Acciai > 45 HRC				
INOX < 850 N/mm² — Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²				
INOX > 850 N/mm² — Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²				
GRAUGUSS CAST IRON GHISA GRIGIA — Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile				
Ti — Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio				
Cu, Ms — Kupfer, Messing / Copper, brass / Rame, ottone	▭	▭	▭	▭
Al — Aluminium / Aluminium / Alluminio	▬	▭	▭	▭
Kunststoffe / Plastics / Materie plastiche				

▬ **Ideal** / Ideal / Ideale | ▭ **Geeignet** / Suitable / Adatte

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Maschinengewindebohrer / Machine taps / Maschi a macchina					Handgewindebohrer / Hand taps / Maschi a mano
					
DIN 5156		DIN 371 / DIN 376		DIN 374	DIN 352
G	**G**	**BSW**	**UNC**	**UNF**	**M**
			2B	2B	ISO2 6H
B	C	B	B	B	C
	35°				
HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5	HSS
G 1/8" – G 1"	G 1/8" – G 1"	W 1/8" – W 1"	5 – 1 1/8"	5– 1 1/8"	M 2 - M 30
5204	5055	5207	5205/5215	5206	4503
382	383	384	385	386	387
▬	▬	▬	▬	▬	▬
▱	▱	▱	▱	▱	▬
					▬
▱	▱	▱	▱	▱	▱
▱	▱	▱	▱	▱	▱

▬ Ideal / Ideal / Ideale | ▱ Geeignet / Suitable / Adatte



D **Übersicht**
Gewindewerkzeuge

E **Overview**
Taps and dies

I **Sommario**
Maschi e filiere

	Handgewindebohrer / Hand taps / Maschi a mano			Schneideisen / Dies / Filiere	
					LINKS LEFT HAND SINISTRA 
Norm / Standard	DIN 352	DIN 2181	DIN 5157	WN	
Gewindeart / Type of thread / Tipo di maschio	**M**	**MF**	**G**	**M**	**M**
Lochart / Hole type / Tipo di fore					
Toleranz / Tolerance / Tolleranza	ISO2 6H	ISO2 6H		6g	6g
Anschnitt / Chamfer / Imbocco	C	C	C		
Drallwinkel / Spiral angle / Angolo elica					
Schneidstoff / Cutting material / Acciaio	HSS-Co5	HSS	HSS	HSS	HSS
Beschichtung / Coating / Rivestimento					
Ø mm	M 3 - M 20	MF 3 - MF 22	G 1/8" - G 1"	M 2 - M 30	M 3 - M 24
Code / Codice	4523	4533	4573	5553	5554
Seite / Page / Pagina	388	389	390	391	392
Geeignet für / Suitable for / Adatte per					
Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²	▬	▬	▬	▬	▬
Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²	▬	▬	▬	▬	▬
Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²	▰			▰	▰
Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²					
Stähle > 45 HRC / Steels > 45 HRC / Acciai > 45 HRC					
Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²	▰			▰	▰
Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²	▰				
Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile	▰	▬	▬	▰	▰
Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio				▰	▰
Kupfer, Messing / Copper, brass / Rame, ottone	▬	▰	▰	▬	▬
Aluminium / Aluminium / Alluminio	▰	▰	▰	▬	▬
Kunststoffe / Plastics / Materie plastiche				▬	▬

▬ **Ideal** / Ideal / Ideale | ▰ **Geeignet** / Suitable / Adatte

maykestag PERFORMANCE IN PRECISION

D Übersicht
Gewindewerkzeuge

E Overview
Taps and dies

I Sommario
Maschi e filiere

Schneideisen / Dies / Filiere					Windeisen / Tap wrenches / Giramaschio	Handgewindebohrer / Hand taps / Maschi a mano
						
WN					DIN 1814	DIN EN 22568, EN 24231
M	**MF**	**G**	**UNC**	**UNF**		
6g	6g		2A	2A		
HSS-Co5	HSS	HSS	HSS	HSS		
M 2 – M 20	MF 4 – MF 30	G 1/8″ – G 1″	Nr. 1 – 1″	Nr. 1 – 1 1/8″	Nr. 1 – Nr. 5	Nr. 1 – Nr. 13
5555	5613	5673	5753	5773	5430/712	5440
393	394	395	396	397	398	398
▬	▬	▬	▬	▬		
▬	▬	▬	▬	▬		
▭	▭	▭	▭	▭		
▭	▭	▭	▭	▭		
▬						
	▭	▭	▭	▭		
	▭	▭	▭	▭		
▭	▬	▬	▬	▬		
▭	▬	▬	▬	▬		
	▬	▬	▬	▬		

▬ Ideal / Ideal / Ideale | ▭ Geeignet / Suitable / Adatte



D Maschinengewindebohrer
gerade genutet, für metrisches ISO-Gewinde DIN 13

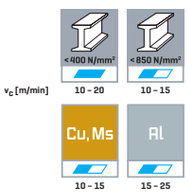
Einsatzbereich:
Für Durchgangs- und Grundgewinde allgemeiner Anwendung. Geeignet für legierte und unlegierte Stähle bis ca. 600 N/mm², Stahlguss sowie Aluminium-Legierungen (kurzspanend).

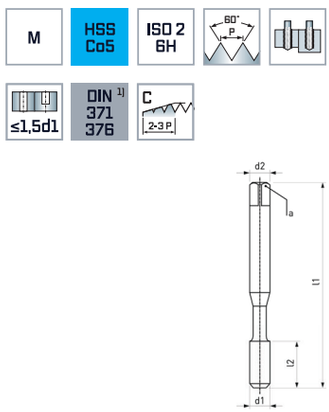
E Machine taps
straight fluted, for metric ISO-threads DIN 13

Range of application:
For through hole and blind hole threads in general application. Suitable for alloyed and unalloyed steels up to appr. 600 N/mm², cast steels as well as aluminium alloys (short chipping).

I Maschi a macchina
scanalature diritte, per filettatura metrica ISO, DIN 13

Impiego:
Impiego generale per fori ciechi e fori passanti. Adatti per acciai legati e non legati con R fino a 600 N/mm², acciaio fuso, leghe di alluminio (a truciolo corto).







d1 mm	P mm	l1 mm	l2 mm	d2 mm	a_{h12} mm		Code 4790 / 4794 Art.-Nr.
M 2	0,4	45	8	2,8	2,1	Ø 1,6 mm	0 4790002001 00
M 2,5	0,45	50	9	2,8	2,1	Ø 2,05 mm	0 4790002501 00
M 3	0,5	56	11	3,5	2,7	Ø 2,5 mm	0 4790003001 00
M 3,5	0,6	56	13	4	3	Ø 2,9 mm	0 4790003501 00
M 4	0,7	63	13	4,5	3,4	Ø 3,3 mm	0 4790004001 00
M 5	0,8	70	16	6	4,9	Ø 4,2 mm	0 4790005001 00
M 6	1	80	19	6	4,9	Ø 5,0 mm	0 4790006001 00
M 7	1	80	19	7	5,5	Ø 6,0 mm	0 4790007001 00
M 8	1,25	90	22	8	6,2	Ø 6,8 mm	0 4790008001 00
M 10	1,5	100	24	10	8	Ø 8,5 mm	0 4790010001 00
M 12	1,75	110	29	9	7	Ø 10,2 mm	0 4794012001 00
M 14	2	110	30	11	9	Ø 12,0 mm	0 4794014001 00
M 16	2	110	32	12	9	Ø 14,0 mm	0 4794016001 00
M 18	2,5	125	34	14	11	Ø 15,5 mm	0 4794018001 00
M 20	2,5	140	34	16	12	Ø 17,5 mm	0 4794020001 00
M 22	2,5	140	34	18	14,5	Ø 19,5 mm	0 4794022001 00
M 24	3	160	38	18	14,5	Ø 21,0 mm	0 4794024001 00

(1) DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer
gerade genutet, für metrisches ISO-Gewinde DIN 13

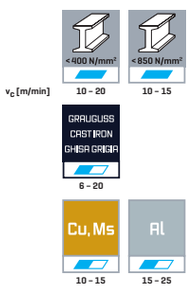
Einsatzbereich:
Maschinengewindebohrer mit Schälanschnitt für Durchgangsgewinde, geeignet für legierte und unlegierte Stähle bis ca. 850 N/mm², Temperguss, Sphäroguss, Zinklegierungen, Zinkdruckguss sowie Messing (langspanend).

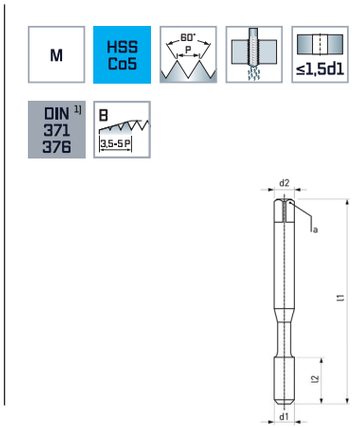
E Machine taps
straight fluted, for metric ISO-threads DIN 13

Range of application:
Machine taps with spiral point for through hole threads, suitable for alloyed and unalloyed steels up to appr. 850 N/mm², malleable cast iron, spheroidal graphite, zinc alloys, zinc die castings as well as brass (long chipping).

I Maschi a macchina
scanalature diritte, per filettatura metrica ISO, DIN 13

Impiego:
Maschi a macchina, imbocco coretto per fori passanti, particolarmente adatti per acciai legati e non legati con R fino a 850 N/mm², ghisa malleabile, ghisa sferoidale, leghe di zinco, pressogetti di zinco, ottone (a truciolo lungo).







d1 mm	P mm	l1 mm	l2 mm	d2 mm	a_{h12} mm		Code 4711 Art.-Nr.	Code 4720 Art.-Nr.
M 2	0,4	45	8	2,8	2,1	Ø 1,6 mm	0 4711002001 00	
M 2,5	0,45	50	9	2,8	2,1	Ø 2,05 mm	0 4711002501 00	
M 3	0,5	56	11	3,5	2,7	Ø 2,5 mm	0 4711003001 00	0 4720003001 00
M 3,5	0,6	56	13	4	3	Ø 2,9 mm	0 4711003501 00	
M 4	0,7	63	13	4,5	3,4	Ø 3,3 mm	0 4711004001 00	0 4720004001 00
M 5	0,8	70	16	6	4,9	Ø 4,2 mm	0 4711005001 00	0 4720005001 00
M 6	1	80	19	6	4,9	Ø 5,0 mm	0 4711006001 00	0 4720006001 00
M 7	1	80	19	7	5,5	Ø 6,0 mm	0 4711007001 00	
M 8	1,25	90	22	8	6,2	Ø 6,8 mm	0 4711008001 00	0 4720008001 00
M 10	1,5	100	24	10	8	Ø 8,5 mm	0 4711010001 00	0 4720010001 00
M 12	1,75	110	29	9	7	Ø 10,2 mm		0 4720012001 00

(1) DIN 371 ≤ M 10
DIN 376 ≥ M 12



D Maschinengewindebohrer
gerade genutet, für metrisches ISO-Gewinde DIN 13

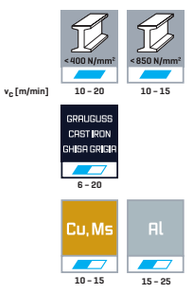
Einsatzbereich:
Maschinengewindebohrer mit Schälanschnitt für Durchgangsgewinde, geeignet für legierte und unlegierte Stähle bis ca. 850 N/mm², Temperguss, Sphäroguss, Zinklegierungen, Zinkdruckguss sowie Messing (langspanend).

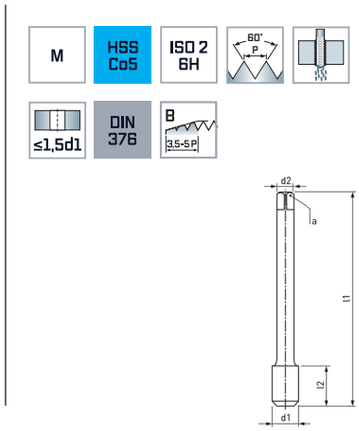
E Machine taps
straight fluted, for metric ISO-threads DIN 13

Range of application:
Machine taps with spiral point for through hole threads, suitable for alloyed and unalloyed steels up to appr. 850 N/mm², malleable cast iron, spheroidal graphite, zinc alloys, zinc die castings as well as brass (long chipping).

I Maschi a macchina
scanalature diritte, per filettatura metrica ISO, DIN 13

Impiego:
Maschi a macchina, imbocco coretto per fori passanti, particolarmente adatti per acciai legati e non legati con R fino a 850 N/mm², ghisa malleabile, ghisa sferoidale, leghe di zinco, pressogetti di zinco, ottone (a truciolo lungo).







d1 mm	P mm	l1 mm	l2 mm	d2 mm	a_{h12} mm		Code 4716 Art.-Nr.
M 3	0,5	56	11	2,2		Ø 2,5 mm	0 4716003001 00
M 4	0,7	63	13	2,8	2,1	Ø 3,3 mm	0 4716004001 00
M 5	0,8	70	16	3,5	2,7	Ø 4,2 mm	0 4716005001 00
M 6	1	80	19	4,5	3,4	Ø 5,0 mm	0 4716006001 00
M 8	1,25	90	22	6	4,9	Ø 6,8 mm	0 4716008001 00
M 10	1,5	100	24	7	5,5	Ø 8,5 mm	0 4716010001 00
M 12	1,75	110	29	9	7	Ø 10,2 mm	0 4716012001 00
M 14	2	110	30	11	9	Ø 12,0 mm	0 4716014001 00
M 16	2	110	32	12	9	Ø 14,0 mm	0 4716016001 00
M 18	2,5	125	34	14	11	Ø 15,5 mm	0 4716018001 00
M 20	2,5	140	34	16	12	Ø 17,5 mm	0 4716020001 00
M 22	2,5	140	34	18	14,5	Ø 19,5 mm	0 4716022001 00
M 24	3	160	36	18	14,5	Ø 21,0 mm	0 4716024001 00
M 27	3	160	36	20	16	Ø 24,0 mm	0 4716027001 00
M 30	3,5	180	45	22	18	Ø 26,5 mm	0 4716030001 00
M 36	4	200	50	28	22	Ø 32,0 mm	0 4716036001 00

D Maschinengewindebohrer
spiral-genutet, für metrisches ISO-Gewinde DIN 13

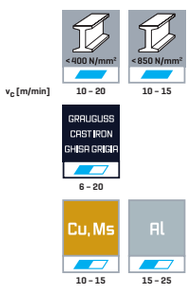
Einsatzbereich:
Für Grundgewinde, geeignet für legierte und unlegierte Stähle bis ca. 850 N/mm², Temperguss, Sphäroguss, Zinklegierungen, Zinkdruckguss sowie Messing (langspanend).

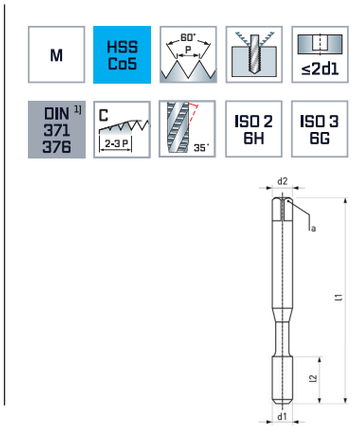
E Machine taps
spiral fluted, for metric ISO-threads DIN 13

Range of application:
For blind hole threads, suitable for alloyed and unalloyed steels up to appr. 850 N/mm², malleable cast iron, spheroidal graphite, zinc alloys, zinc die castings as well as brass (long chipping).

I Maschi a macchina
scanalature elicoidali, per filettatura metrica ISO, DIN 13

Impiego:
Per fori ciechi, particolarmente adatti per acciai legati e non legati con R fino a 850 N/mm², ghisa malleabile, ghisa sferoidale, leghe di zinco, pressogetti di zinco, ottone (a truciolo lungo).







d1 mm	P mm	l1 mm	l2 mm	d2 mm	a_{h12} mm		Code 4891/4896 Art.-Nr.	Code 4812 Art.-Nr.
M 2	0,4	45	6	2,8	2,1	Ø 1,6 mm	0 4891002001 00	
M 2,5	0,45	50	6	2,8	2,1	Ø 2,05 mm	0 4891002501 00	
M 3	0,5	56	5	3,5	2,7	Ø 2,5 mm	0 4891003001 00	0 4812003001 00
M 3,5	0,6	56	6	4	3	Ø 2,9 mm	0 4891003501 00	
M 4	0,7	63	7	4,5	3,4	Ø 3,3 mm	0 4891004001 00	0 4812004001 00
M 5	0,8	70	8	6	4,9	Ø 4,2 mm	0 4891005001 00	0 4812005001 00
M 6	1	80	10	6	4,9	Ø 5,0 mm	0 4891006001 00	0 4812006001 00
M 8	1,25	90	13	8	6,2	Ø 6,8 mm	0 4891008001 00	0 4812008001 00
M 10	1,5	100	15	10	8	Ø 8,5 mm	0 4891010001 00	0 4812010001 00
M 12	1,75	110	18	9	7	Ø 10,2 mm	0 4896012001 00	0 4812012001 00
M 14	2	110	20	11	9	Ø 12,0 mm	0 4896014001 00	
M 16	2	110	20	12	9	Ø 14,0 mm	0 4896016001 00	
M 18	2,5	125	25	14	11	Ø 15,5 mm	0 4896018001 00	
M 20	2,5	140	25	16	12	Ø 17,5 mm	0 4896020001 00	
M 22	2,5	140	25	18	14,5	Ø 19,5 mm	0 4896022001 00	
M 24	3	160	30	18	14,5	Ø 21,0 mm	0 4896024001 00	
M 27	3	160	30	20	16	Ø 24,0 mm	0 4896027001 00	
M 30	3,5	180	35	22	18	Ø 26,5 mm	0 4896030001 00	

(1) DIN 371 ≤ M 10
DIN 376 ≥ M 12



D Maschinengewindebohrer
gerade genutet, für metrisches ISO-Gewinde DIN 13

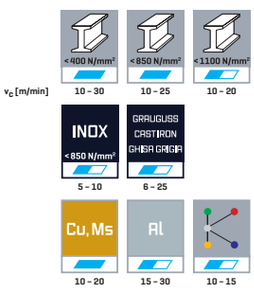
Einsatzbereich:
Universal-Maschinengewindebohrer mit Schälanschnitt für Durchgangsgewinde. Besonders geeignet für Baustähle, Einsatzstähle, Vergütungsstähle, rost- und säurebeständige Stähle sowie Aluminium-Kupferlegierungen.

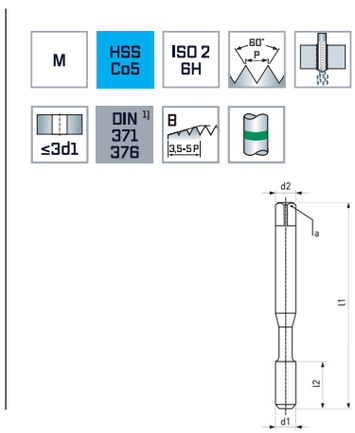
E Machine taps
straight fluted, for metric ISO-threads DIN 13

Range of application:
Universal machine taps with spiral point for through hole threads. Especially suitable for structural steels, case hardening steels, heat treatable steels, stainless and acid-resistant steels as well as aluminium-copper alloys.

I Maschi a macchina
scanalature diritte, per filettatura metrica ISO, DIN 13

Impiego:
Maschi a macchina, imbocco corretto, impiego generale per fori passanti. Particolarmente adatti per acciai da costruzione, acciai da cementazione, acciai bonificati, acciai inossidabili, acciai resistenti agli acidi, leghe di alluminio.





Uni



Uni



ALUNIT®

d1 mm	P mm	l1 mm	l2 mm	d2 mm	a_{h12} mm		Code 4802/4803 Art.-Nr.	Code 4807/4817 Art.-Nr.
M 2	0,4	45	8	2,8	2,1	Ø 1,6 mm	0 4802002001 00	0 4807002001 00
M 2,5	0,45	50	9	2,8	2,1	Ø 2,05 mm	0 4802002501 00	0 4807002501 00
M 3	0,5	56	10	3,5	2,7	Ø 2,5 mm	0 4802003001 00	0 4807003001 00
M 4	0,7	63	12	4,5	3,4	Ø 3,3 mm	0 4802004001 00	0 4807004001 00
M 5	0,8	70	14	6	4,9	Ø 4,2 mm	0 4802005001 00	0 4807005001 00
M 6	1	80	16	6	4,9	Ø 5,0 mm	0 4802006001 00	0 4807006001 00
M 8	1,25	90	18	8	6,2	Ø 6,8 mm	0 4802008001 00	0 4807008001 00
M 10	1,5	100	20	10	8	Ø 8,5 mm	0 4802010001 00	0 4807010001 00
M 12	1,75	110	22	9	7	Ø 10,2 mm	0 4803012001 00	0 4817012001 00
M 14	2	110	25	11	9	Ø 12,0 mm	0 4803014001 00	0 4817014001 00
M 16	2	110	28	12	9	Ø 14,0 mm	0 4803016001 00	0 4817016001 00
M 20	2,5	140	32	16	12	Ø 17,5 mm	0 4803020001 00	
M 22	2,5	140	32	18	14,5	Ø 19,5 mm	0 4803022001 00	
M 24	3	160	36	18	14,5	Ø 21,0 mm	0 4803024001 00	
M 30	3,5	180	40	22	18	Ø 26,5 mm	0 4803030001 00	

(1) DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer
spiral-genutet, für metrisches ISO-Gewinde DIN 13

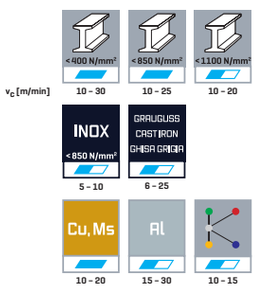
Einsatzbereich:
Universal-Maschinengewindebohrer für Grundgewinde. Besonders geeignet für Baustähle, Einsatzstähle, Vergütungsstähle, rost- und säurebeständige Stähle sowie Aluminium-Kupferlegierungen.

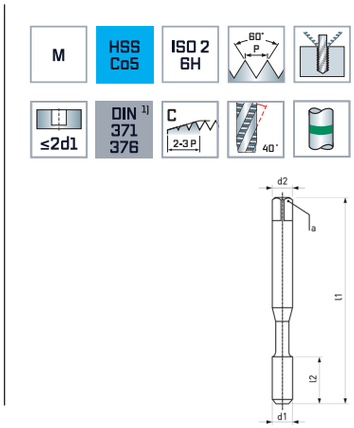
E Machine taps
spiral fluted, for metric ISO-threads DIN 13

Range of application:
Universal machine taps for blind hole threads. Especially suitable for structural steels, case hardening steels, heat treatable steels, stainless and acid-resistant steels as well as aluminium-copper alloys.

I Maschi a macchina
scanalature elicoidali, per filettatura metrica ISO, DIN 13

Impiego:
Maschi a macchina impiego generale per fori ciechi. Particolarmente adatti per acciai da costruzione, acciai da cementazione, acciai bonificati, acciai inossidabili, acciai resistenti agli acidi, leghe di alluminio.









ALUNIT®

d1 mm	P mm	l1 mm	l2 mm	d2 mm	a_{h12} mm		Code 4804/4805 Art.-Nr.	Code 4837/4847 Art.-Nr.
M 2	0,4	45	8	2,8	2,1	Ø 1,6 mm	0 4804002001 00	0 4837002001 00
M 2,5	0,45	50	9	2,8	2,1	Ø 2,05 mm	0 4804002501 00	0 4837002501 00
M 3	0,5	56	6	3,5	2,7	Ø 2,5 mm	0 4804003001 00	0 4837003001 00
M 4	0,7	63	7	4,5	3,4	Ø 3,3 mm	0 4804004001 00	0 4837004001 00
M 5	0,8	70	8	6	4,9	Ø 4,2 mm	0 4804005001 00	0 4837005001 00
M 6	1	80	10	6	4,9	Ø 5,0 mm	0 4804006001 00	0 4837006001 00
M 8	1,25	90	13	8	6,2	Ø 6,8 mm	0 4804008001 00	0 4837008001 00
M 10	1,5	100	15	10	8	Ø 8,5 mm	0 4804010001 00	0 4837010001 00
M 12	1,75	110	18	9	7	Ø 10,2 mm	0 4805012001 00	0 4847012001 00
M 14	2	110	20	11	9	Ø 12,0 mm	0 4805014001 00	0 4847014001 00
M 16	2	110	20	12	9	Ø 14,0 mm	0 4805016001 00	0 4847016001 00
M 20	2,5	140	25	16	12	Ø 17,5 mm	0 4805020001 00	
M 22	2,5	140	25	18	14,5	Ø 19,5 mm	0 4805022001 00	
M 24	3	160	30	18	14,5	Ø 21,0 mm	0 4805024001 00	
M 30	3,5	180	35	22	18	Ø 26,5 mm	0 4805030001 00	

(1) DIN 371 ≤ M 10
DIN 376 ≥ M 12



D Maschinengewindebohrer
gerade genutet, für metrisches ISO-Gewinde DIN 13

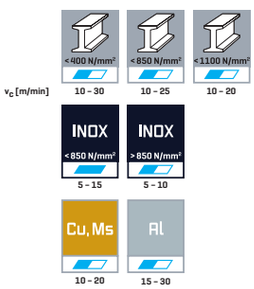
Einsatzbereich:
Maschinengewindebohrer mit Schälanschnitt für Durchgangsgewinde, besonders geeignet für rost- und säurebeständige Stähle sowie Aluminium-Legierungen (langspanend), Kupfer und Kupfer-Legierungen (langspanend).

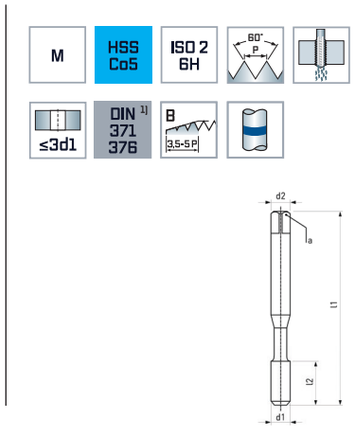
E Machine taps
straight fluted, for metric ISO-threads DIN 13

Range of application:
Machine taps with spiral point for through hole threads, especially suitable for stainless and acid-resistant steels as well as aluminium-alloys (long chipping), copper and copper-alloys (long chipping).

I Maschi a macchina
scanalature diritte, per filettatura metrica ISO, DIN 13

Impiego:
Maschi a macchina, imbocco coretto per fori passanti, particolarmente adatti per, acciai inossidabili, acciai resistenti agli acidi, leghe di alluminio (a truciolo lungo) rame e leghe di rame (a truciolo lungo).





Inox



TiN

d1 mm	P mm	l1 mm	l2 mm	d2 mm	a_{h12} mm		Code 4801/4806 Art.-Nr.
M 3	0,5	56	11	3,5	2,7	Ø 2,5 mm	0 4801003001 00
M 4	0,7	63	13	4,5	3,4	Ø 3,3 mm	0 4801004001 00
M 5	0,8	70	16	6	4,9	Ø 4,2 mm	0 4801005001 00
M 6	1	80	19	6	4,9	Ø 5,0 mm	0 4801006001 00
M 8	1,25	90	22	8	6,2	Ø 6,8 mm	0 4801008001 00
M 10	1,5	100	24	10	8	Ø 8,5 mm	0 4801010001 00
M 12	1,75	110	29	9	7	Ø 10,2 mm	0 4806012001 00
M 14	2	110	30	11	9	Ø 12,0 mm	0 4806014001 00
M 16	2	110	32	12	9	Ø 14,0 mm	0 4806016001 00
M 18	2,5	125	34	14	11	Ø 15,5 mm	0 4806018001 00
M 20	2,5	140	34	16	12	Ø 17,5 mm	0 4806020001 00
M 22	2,5	140	34	18	14,5	Ø 19,5 mm	0 4806022001 00
M 24	3	160	38	18	14,5	Ø 21,0 mm	0 4806024001 00

(1) DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer
spiral-genutet, für metrisches ISO-Gewinde DIN 13

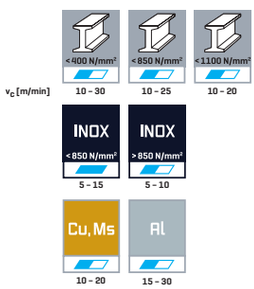
Einsatzbereich:
Für Grundgewinde, besonders geeignet für rost- und säurebeständige Stähle sowie Aluminium-Legierungen (langspanend), Kupfer und Kupfer-Legierungen (langspanend).

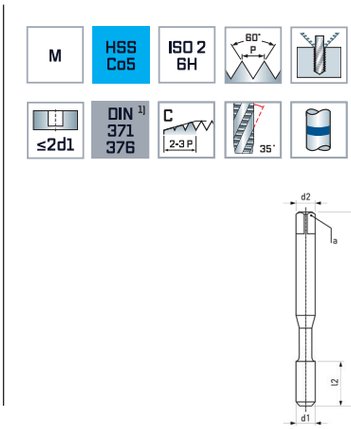
E Machine taps
spiral fluted, for metric ISO-threads DIN 13

Range of application:
For blind hole threads, especially suitable for stainless and acid-resistant steels as well as aluminium-alloys (long chipping), copper and copper-alloys (long chipping).

I Maschi a macchina
scanalature elicoidali, per filettatura metrica ISO, DIN 13

Impiego:
Per fori ciechi, particolarmente adatti per, acciai inossidabili, acciai resistenti agli acidi, leghe di alluminio (a truciolo lungo), rame, leghe di rame (a truciolo lungo).





Inox



TiN

d1 mm	P mm	l1 mm	l2 mm	d2 mm	a_{h12} mm		Code 4971/4976 Art.-Nr.
M 3	0,5	56	5	3,5	2,7	Ø 2,5 mm	0 4971003001 00
M 4	0,7	63	7	4,5	3,4	Ø 3,3 mm	0 4971004001 00
M 5	0,8	70	8	6	4,9	Ø 4,2 mm	0 4971005001 00
M 6	1	80	10	6	4,9	Ø 5,0 mm	0 4971006001 00
M 8	1,25	90	13	8	6,2	Ø 6,8 mm	0 4971008001 00
M 10	1,5	100	15	10	8	Ø 8,5 mm	0 4971010001 00
M 12	1,75	110	18	9	7	Ø 10,2 mm	0 4976012001 00
M 14	2	110	20	11	9	Ø 12,0 mm	0 4976014001 00
M 16	2	110	20	12	9	Ø 14,0 mm	0 4976016001 00
M 18	2,5	125	25	14	11	Ø 15,5 mm	0 4976018001 00
M 20	2,5	140	25	16	12	Ø 17,5 mm	0 4976020001 00
M 22	2,5	140	25	18	14,5	Ø 19,5 mm	0 4976022001 00
M 24	3	160	30	18	14,5	Ø 21,0 mm	0 4976024001 00
M 30	3,5	180	35	22	18	Ø 26,5 mm	0 4976030001 00

[1] DIN 371 ≤ M 10
DIN 376 ≥ M 12



D Maschinengewindebohrer
gerade genutet, für metrisches ISO-Gewinde DIN 13

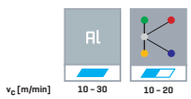
Einsatzbereich:
Maschinengewindebohrer mit Schälanschnitt für Durchgangsgewinde, besonders geeignet für weiches Aluminium.

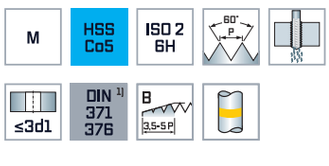
E Machine taps
straight fluted, for metric ISO-threads DIN 13

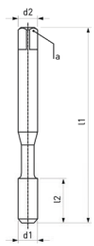
Range of application:
Machine taps with spiral point for through hole threads, especially suitable for soft aluminium.

I Maschi a macchina
scanalature diritte, per filettatura metrica ISO, DIN 13

Impiego:
Maschi a macchina, imbocco coretto per fori passanti, particolarmente adatti per alluminio dolce.







Alu



d1 mm	P mm	l1 mm	l2 mm	d2 mm	a_{h12} mm		Code 4740/4744 Art.-Nr.
M 3	0,5	56	11	3,5	2,7	Ø 2,5 mm	0 4740003001 00
M 4	0,7	63	13	4,5	3,4	Ø 3,3 mm	0 4740004001 00
M 5	0,8	70	16	6	4,9	Ø 4,2 mm	0 4740005001 00
M 6	1	80	19	6	4,9	Ø 5,0 mm	0 4740006001 00
M 8	1,25	90	22	8	6,2	Ø 6,8 mm	0 4740008001 00
M 10	1,5	100	24	10	8	Ø 8,5 mm	0 4740010001 00
M 12	1,75	110	29	9	7	Ø 10,2 mm	0 4744012001 00

(1) DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer
spiral-genutet, für metrisches ISO-Gewinde DIN 13

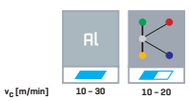
Einsatzbereich:
Für Grundgewinde, besonders geeignet für weiches Aluminium.

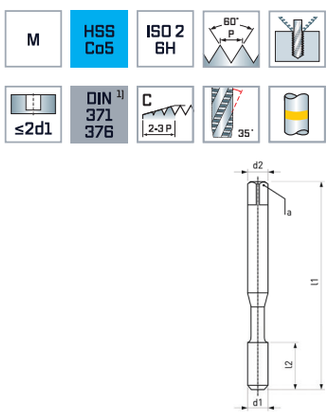
E Machine taps
spiral fluted, for metric ISO-threads DIN 13

Range of application:
For blind hole threads, especially suitable for soft aluminium.

I Maschi a macchina
scanalature elicoidal, per filettatura metrica ISO, DIN 13

Impiego:
Per fori ciechi, particolarmente adatti per alluminio dolce.





Alu



d1 mm	P mm	l1 mm	l2 mm	d2 mm	a_{h12} mm		Code 4981/4986 Art.-Nr.
M 3	0,5	56	5	3,5	2,7	Ø 2,5 mm	0 4981003001 00
M 4	0,7	63	7	4,5	3,4	Ø 3,3 mm	0 4981004001 00
M 5	0,8	70	8	6	4,9	Ø 4,2 mm	0 4981005001 00
M 6	1	80	10	6	4,9	Ø 5,0 mm	0 4981006001 00
M 8	1,25	90	13	8	6,2	Ø 6,8 mm	0 4981008001 00
M 10	1,5	100	15	10	8	Ø 8,5 mm	0 4981010001 00
M 12	1,75	110	18	9	7	Ø 10,2 mm	0 4986012001 00
M 14	2	110	20	11	9	Ø 12,0 mm	0 4986014001 00
M 16	2	110	20	12	9	Ø 14,0 mm	0 4986016001 00

(1) DIN 371 ≤ M 10
DIN 376 ≥ M 12



D Gewindeformer
gerade genutet, für metrisches ISO-Gewinde DIN 13

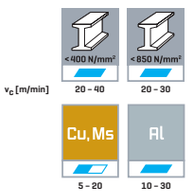
Einsatzbereich:
Für Durchgangs- und Grundgewinde, geeignet für legierte und unlegierte Stähle bis ca. 850 N/mm² sowie Aluminium, Aluminium-Legierungen (< 10% Si), Kupfer und Kupfer-Legierungen (langspanend).

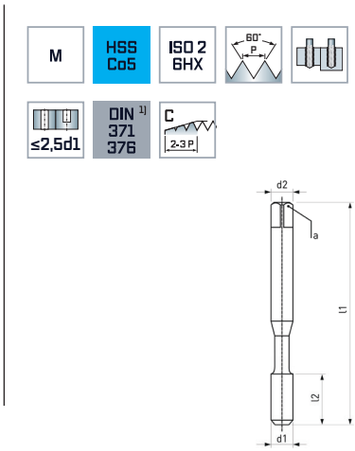
E Rolling taps
straight fluted, for metric ISO-threads DIN 13

Range of application:
For through hole and blind hole threads, suitable for alloyed and unalloyed steels up to appr. 850 N/mm² as well as aluminium, aluminium alloys (< 10% Si), copper and copper alloys (long chipping).

I Maschi a macchina a rullare
scanalature diritte, per filettatura metrica ISO, DIN 13

Impiego:
Per fori passanti e fori ciechi, adatti per acciai legati e non legati con R fino a 850 N/mm², alluminio, leghe di alluminio (< 10% Si), rame, leghe di rame (a truciolo lungo).







d1 mm	P mm	l1 mm	l2 mm	d2 mm	a_{h12} mm		Code 4855/4856 Art.-Nr.
M 3	0,5	56	10	3,5	2,7	Ø 2,77 – 2,82 mm	0 4855003001 00
M 4	0,7	63	12	4,5	3,4	Ø 3,68 – 3,73 mm	0 4855004001 00
M 5	0,8	70	14	6	4,9	Ø 4,63 – 4,68 mm	0 4855005001 00
M 6	1	80	16	6	4,9	Ø 5,51 – 5,59 mm	0 4855006001 00
M 8	1,25	90	18	8	6,2	Ø 7,39 – 7,48 mm	0 4855008001 00
M 10	1,5	100	20	10	8	Ø 9,25 – 9,35 mm	0 4855010001 00
M 12	1,75	110	22	9	7	Ø 11,12 –11,25 mm	0 4856012001 00

(1) DIN 371 ≤ M 10
DIN 376 ≥ M 12

D Maschinengewindebohrer
gerade genutet, für metrisches ISO-Feingewinde DIN 13

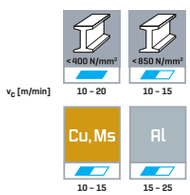
Einsatzbereich:
Maschinengewindebohrer mit Schälanschnitt für Durchgangsgewinde, geeignet für legierte und unlegierte Stähle bis ca. 600 N/mm² sowie Kupfer-Legierungen (kurzspanend) und Aluminium-Legierungen (< 10% Si).

E Machine taps
straight fluted, for metric ISO fine threads DIN 13

Range of application:
Machine taps with spiral point for through hole threads, suitable for alloyed and unalloyed steels up to appr. 600 N/mm² as well as copper alloys (short chipping) and aluminium alloys (< 10% Si).

I Maschi a macchina
scanalature diritte, per filettatura metrica ISO fine, DIN 13

Impiego:
Maschi a macchina, imbocco coretto per fori passanti, adatti per acciai legati e non legati con R fino a 600 N/mm², leghe di rame (a truciolo corto), leghe di alluminio (< 10% Si).









d1 mm	P mm	l1 mm	l2 mm	d2 mm	a_{h12} mm		Code 5154 Art.-Nr.
MF 4	0,5	63	10	2,8	2,1	Ø 3,5 mm	0 5154009001 00
MF 5	0,5	70	12	3,5	2,7	Ø 4,5 mm	0 5154011001 00
MF 6	0,5	80	14	4,5	3,4	Ø 5,5 mm	0 5154013001 00
MF 6	0,75	80	14	4,5	3,4	Ø 5,2 mm	0 5154015001 00
MF 8	0,75	80	19	6	4,9	Ø 7,2 mm	0 5154017001 00
MF 10	0,75	90	20	7	5,5	Ø 9,2 mm	0 5154019001 00
MF 8	1	90	22	6	4,9	Ø 7,0 mm	0 5154022001 00
MF 10	1	90	20	7	5,5	Ø 9,0 mm	0 5154024001 00
MF 12	1	100	22	9	7	Ø 11,0 mm	0 5154026001 00
MF 14	1	100	22	11	9	Ø 13,0 mm	0 5154027001 00
MF 16	1	100	22	12	9	Ø 15,0 mm	0 5154029001 00
MF 18	1	110	25	14	11	Ø 17,0 mm	0 5154030001 00
MF 20	1	125	25	16	12	Ø 19,0 mm	0 5154031001 00
MF 22	1	125	25	18	14,5	Ø 21,0 mm	0 5154032001 00
MF 24	1	140	28	18	14,5	Ø 23,0 mm	0 5154033001 00
MF 10	1,25	100	24	7	5,5	Ø 8,8 mm	0 5154037001 00
MF 12	1,25	100	22	9	7	Ø 10,8 mm	0 5154038001 00
MF 14	1,25	100	22	11	9	Ø 12,8 mm	0 5154039001 00
MF 12	1,5	100	22	9	7	Ø 10,5 mm	0 5154040001 00
MF 14	1,5	100	22	11	9	Ø 12,5 mm	0 5154041001 00
MF 16	1,5	100	22	12	9	Ø 14,5 mm	0 5154043001 00
MF 18	1,5	110	25	14	11	Ø 16,5 mm	0 5154044001 00
MF 20	1,5	125	25	16	12	Ø 18,5 mm	0 5154045001 00
MF 22	1,5	125	25	18	14,5	Ø 20,5 mm	0 5154046001 00
MF 24	1,5	140	28	18	14,5	Ø 22,5 mm	0 5154047001 00
MF 25	1,5	140	28	18	14,5	Ø 23,5 mm	0 5154048001 00
MF 26	1,5	140	28	18	14,5	Ø 24,5 mm	0 5154049001 00
MF 27	1,5	140	28	20	16	Ø 25,5 mm	0 5154050001 00
MF 30	1,5	150	28	22	18	Ø 28,5 mm	0 5154052001 00
MF 20	2	140	34	16	12	Ø 18,0 mm	0 5154066001 00
MF 24	2	140	28	18	14,5	Ø 22,0 mm	0 5154068001 00
MF 27	2	140	28	20	16	Ø 25,0 mm	0 5154069001 00
MF 30	2	150	28	22	18	Ø 28,0 mm	0 5154070001 00



D Maschinengewindebohrer
spiral-genutet, für metrisches ISO-Feingewinde DIN 13

Einsatzbereich:
Für Grundgewinde, geeignet für legierte und unlegierte Stähle bis ca. 600 N/mm² sowie Kupfer-Legierungen (kurzspanend) und Aluminium-Legierungen (< 10% Si).

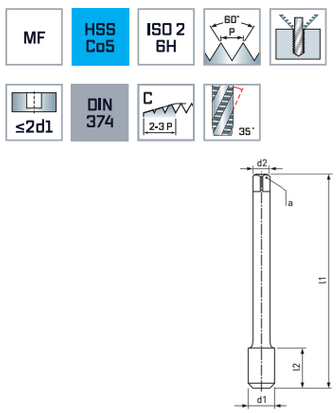
E Machine taps
spiral fluted, for metric ISO fine threads DIN 13

Range of application:
For blind hole threads, suitable for alloyed and unalloyed steels up to appr. 600 N/mm² as well as copper alloys (short chipping) and aluminium alloys (< 10% Si).

I Maschi a macchina
scanalature diritte, per filettatura metrica ISO fine, DIN 13

Impiego:
Per fori ciechi, adatti per acciai legati e non legati con R fino a 600 N/mm², leghe di rame (a truciolo corto), leghe di alluminio (< 10% Si).







d1 mm	P mm	l1 mm	l2 mm	d2 mm	a_{h12} mm		Code 5174 Art.-Nr.
MF 4	0,5	63	6	2,8	2,1	Ø 3,5 mm	0 5174009001 00
MF 5	0,5	70	7	3,5	2,7	Ø 4,5 mm	0 5174011001 00
MF 6	0,5	80	8	4,5	3,4	Ø 5,5 mm	0 5174013001 00
MF 6	0,75	80	8	4,5	3,4	Ø 5,2 mm	0 5174015001 00
MF 8	0,75	80	10	6	4,9	Ø 7,2 mm	0 5174017001 00
MF 8	1	90	10	6	4,9	Ø 7,0 mm	0 5174022001 00
MF 10	1	90	12	7	5,5	Ø 9,0 mm	0 5174024001 00
MF 12	1	100	14	9	7	Ø 11,0 mm	0 5174026001 00
MF 14	1	100	16	11	9	Ø 13,0 mm	0 5174028001 00
MF 16	1	100	16	12	9	Ø 15,0 mm	0 5174029001 00
MF 18	1	110	20	14	11	Ø 17,0 mm	0 5174030001 00
MF 20	1	125	20	16	12	Ø 19,0 mm	0 5174031001 00
MF 22	1	125	20	18	14,5	Ø 21,0 mm	0 5174032001 00
MF 24	1	140	24	18	14,5	Ø 23,0 mm	0 5174033001 00
MF 12	1,25	100	14	9	7	Ø 10,8 mm	0 5174038001 00
MF 14	1,25	100	16	11	9	Ø 12,8 mm	0 5174039001 00
MF 12	1,5	100	14	9	7	Ø 10,5 mm	0 5174040001 00
MF 14	1,5	100	16	11	9	Ø 12,5 mm	0 5174041001 00
MF 16	1,5	100	16	12	9	Ø 14,5 mm	0 5174043001 00
MF 18	1,5	110	20	14	11	Ø 16,5 mm	0 5174044001 00
MF 20	1,5	125	20	16	12	Ø 18,5 mm	0 5174045001 00
MF 22	1,5	125	20	18	14,5	Ø 20,5 mm	0 5174046001 00
MF 24	1,5	140	24	18	14,5	Ø 22,5 mm	0 5174047001 00
MF 27	1,5	140	24	20	16	Ø 25,5 mm	0 5174050001 00
MF 30	1,5	150	28	22	18	Ø 28,5 mm	0 5174052001 00
MF 20	2	140	20	16	12	Ø 18,0 mm	0 5174066001 00
MF 24	2	140	24	18	14,5	Ø 22,0 mm	0 5174068001 00
MF 27	2	140	24	20	16	Ø 25,0 mm	0 5174069001 00
MF 30	2	150	28	22	18	Ø 28,0 mm	0 5174070001 00

D Maschinengewindebohrer
gerade genutet, für Whitworth-Rohrgewinde DIN ISO 228

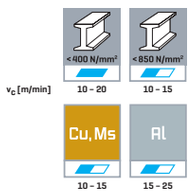
Einsatzbereich:
Für Durchgangs- und Grundgewinde, geeignet für legierte und unlegierte Stähle bis ca. 600 N/mm² sowie Kupfer-Legierungen (kurzspanend) und Aluminium-Legierungen (< 10% Si).

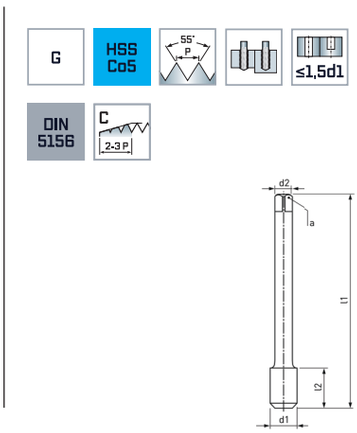
E Machine taps
straight fluted, for whitworth pipe threads DIN ISO 228

Range of application:
For through hole and blind hole threads, suitable for alloyed and unalloyed steels up to appr. 600 N/mm² as well as copper alloys (short chipping) and aluminium alloys (< 10% Si).

I Maschi a macchina
scanalature diritte, per filettatura whitworth per tubi, DIN ISO 228

Impiego:
Per fori passanti e fori ciechi, adatti per acciai legati e non legati con R fino a 600 N/mm², leghe di rame (a truciolo corto), leghe di alluminio (< 10% Si).







d1 inch	P Gg / 1"	l1 mm	l2 mm	d2 mm	a_{h12} mm		Code 4905 Art.-Nr.
G 1/8"	28	90	20	7	5,5	Ø 8,8 mm	0 4905016001 00
G 1/4"	19	100	22	11	9	Ø 11,8 mm	0 4905020001 00
G 3/8"	19	100	22	12	9	Ø 15,25 mm	0 4905024001 00
G 1/2"	14	125	25	16	12	Ø 19,0 mm	0 4905028001 00
G 5/8"	14	125	25	18	14,5	Ø 21,0 mm	0 4905032001 00
G 3/4"	14	140	28	20	16	Ø 24,5 mm	0 4905034001 00
G 7/8"	14	150	28	22	18	Ø 28,25 mm	0 4905036001 00
G 1"	11	160	30	25	20	Ø 30,75 mm	0 4905038001 00



D Maschinengewindebohrer
gerade genutet, für Whitworth-Rohrgewinde DIN ISO 228

Einsatzbereich:
Maschinengewindebohrer für Durchgangsgewinde, geeignet für legierte und unlegierte Stähle bis ca. 600 N/mm² sowie Kupfer-Legierungen (kurzspanend) und Aluminium-Legierungen (< 10% Si).

E Machine taps
straight fluted, for whitworth pipe threads DIN ISO 228

Range of application:
Machine taps for through hole threads, suitable for alloyed and unalloyed steels up to appr. 600 N/mm² as well as copper alloys (short chipping) and aluminium alloys (< 10% Si).

I Maschi a macchina
scanalature diritte, per filettatura whitworth per tubi, DIN ISO 228

Impiego:
Maschi a macchina per fori passanti, adatti per acciai legati e non legati con R fino a 600 N/mm², leghe di rame (a truciolo corto), leghe di alluminio (< 10% Si).









d1 inch	P Gg / 1"	l1 mm	l2 mm	d2 mm	a_{h12} mm		Code 5204 Art.-Nr.
G 1/8"	28	90	20	7	5,5	Ø 8,8 mm	0 5204016001 00
G 1/4"	19	100	22	11	9	Ø 11,8 mm	0 5204020001 00
G 3/8"	19	100	22	12	9	Ø 15,25 mm	0 5204024001 00
G 1/2"	14	125	25	16	12	Ø 19,0 mm	0 5204028001 00
G 5/8"	14	125	25	18	14,5	Ø 21,0 mm	0 5204032001 00
G 3/4"	14	140	28	20	16	Ø 24,5 mm	0 5204034001 00
G 7/8"	14	150	28	22	18	Ø 28,25 mm	0 5204036001 00
G 1"	11	160	30	25	20	Ø 30,75 mm	0 5204038001 00

D Maschinengewindebohrer
spiral genutet, für Whitworth-Rohrgewinde DIN ISO 228

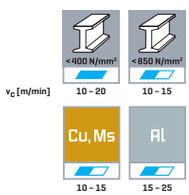
Einsatzbereich:
Für Grundgewinde, geeignet für legierte und unlegierte Stähle bis ca. 600 N/mm² sowie Kupfer-Legierungen (kurzspanend) und Aluminium-Legierungen (< 10% Si).

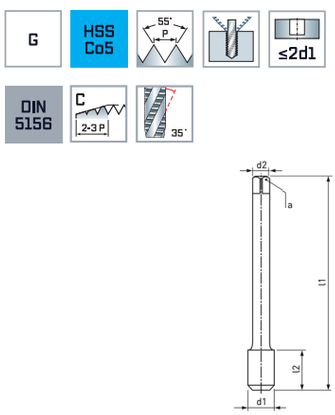
E Machine taps
spiral fluted, for whitworth pipe threads DIN ISO 228

Range of application:
For blind hole threads, suitable for alloyed and unalloyed steels up to appr. 600 N/mm² as well as copper alloys (short chipping) and aluminium alloys (< 10% Si).

I Maschi a macchina
scanalature diritte, per filettatura whitworth per tubi, DIN ISO 228

Impiego:
Per fori ciechi, adatti per acciai legati e non legati con R fino a 600 N/mm², leghe di rame (a truciolo corto), leghe di alluminio (< 10% Si).







d1 inch	P Gg / 1"	l1 mm	l2 mm	d2 mm	a_{h12} mm		Code 5055 Art.-Nr.
G 1/8"	28	90	20	7	5,5	Ø 8,8 mm	0 5055016001 00
G 1/4"	19	100	22	11	9	Ø 11,8 mm	0 5055020001 00
G 3/8"	19	100	22	12	9	Ø 15,25 mm	0 5055024001 00
G 1/2"	14	125	25	16	12	Ø 19,0 mm	0 5055028001 00
G 5/8"	14	125	25	18	14,5	Ø 21,0 mm	0 5055032001 00
G 3/4"	14	140	28	20	16	Ø 24,5 mm	0 5055034001 00
G 7/8"	14	150	28	22	18	Ø 28,25 mm	0 5055036001 00
G 1"	11	160	30	25	20	Ø 30,75 mm	0 5055038001 00



D Maschinengewindebohrer
gerade genutet, für Whitworth-Gewinde BSW, DIN 11

Einsatzbereich:
Maschinengewindebohrer mit Schälanschnitt für Durchgangsgewinde, geeignet für legierte und unlegierte Stähle bis ca. 600 N/mm² sowie Kupfer-Legierungen (kurzspanend) und Aluminium-Legierungen (< 10% Si).

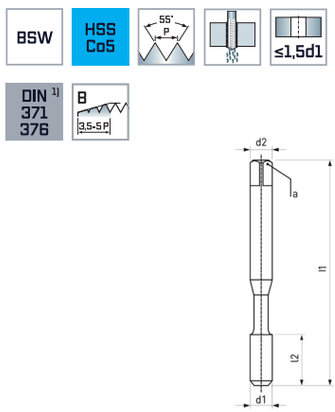
E Machine taps
straight fluted, for whitworth threads BSW, DIN 11

Range of application:
Machinte taps with spiral point for through hole threads, suitable for alloyed and unalloyed steels up to appr. 600 N/mm² as well as copper alloys (short chipping) and aluminium alloys (< 10% Si).

I Maschi a macchina
scanalature diritte, per filettatura whitworth BSW, DIN 11

Impiego:
Maschi a macchina, imbocco coretto per fori passanti, adatti per acciai legati e non legati con R fino a 600 N/mm², leghe di rame (a truciolo corto), leghe di alluminio (< 10% Si).







d1 inch	P Gg / 1"	l1 mm	l2 mm	d2 mm	a_{h12} mm		Code 5207 Art.-Nr.
W 1/8"	40	56	11	3,5	2,7	Ø 2,5 mm	0 5207016001 00
W 5/32"	32	63	13	4,5	3,4	Ø 3,2 mm	0 5207017001 00
W 3/16"	24	70	15	6	4,9	Ø 3,6 mm	0 5207018001 00
W 1/4"	20	80	17	7	5,5	Ø 5,1 mm	0 5207020001 00
W 5/16"	18	90	20	8	6,2	Ø 6,5 mm	0 5207022001 00
W 3/8"	16	100	22	9	7	Ø 7,9 mm	0 5207024001 00
W 7/16"	14	100	22	11	9	Ø 9,2 mm	0 5207026001 00
W 1/2"	12	110	25	12	9	Ø 10,5 mm	0 5207028001 00
W 9/16"	12	110	26	11	9	Ø 12,0 mm	0 5207030001 00
W 5/8"	11	110	27	12	9	Ø 13,25 mm	0 5207032001 00
W 3/4"	10	125	30	14	11	Ø 16,25 mm	0 5207034001 00
W 7/8"	9	140	32	18	14,5	Ø 19,25 mm	0 5207036001 00
W 1"	8	160	36	20	16	Ø 22,0 mm	0 5207038001 00

[1] DIN 371 ≤ W 1/8"–W1/2"
DIN 376 ≥ W 9/16"–W1"

D Maschinengewindebohrer
gerade genutet, für Unified Grobgewinde UNC ANSI B 1.1

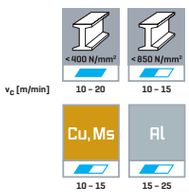
Einsatzbereich:
Maschinengewindebohrer mit Schälanschnitt für Durchgangsgewinde, geeignet für legierte und unlegierte Stähle bis ca. 600 N/mm² sowie Kupfer-Legierungen (kurzspanend) und Aluminium-Legierungen (< 10% Si).

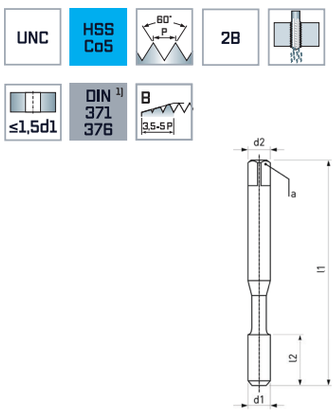
E Machine taps
straight fluted, for unified coarse threads UNC ANSI B 1.1

Range of application:
Machine taps with spiral point for through hole threads, suitable for alloyed and unalloyed steels up to appr. 600 N/mm² as well as copper alloys (short chipping) and aluminium alloys (< 10% Si).

I Maschi a macchina
scanalature diritte, per filettatura americana UNC grossa ANSI B 1.1

Impiego:
Maschi a macchina, imbocco coretto per fori passanti, adatti per acciai legati e non legati con R fino a 600 N/mm², leghe di rame (a truciolo corto), leghe di alluminio (< 10% Si)







d1 inch	P Gg / 1"	l1 mm	l2 mm	d2 mm	a_{h12} mm		Code 5205/5215 Art.-Nr.
5	40	56	11	3,5	2,7	Ø 2,6 mm	0 5205005001 00
6	32	56	12	4	3	Ø 2,8 mm	0 5205006001 00
8	32	63	13	4,5	3,4	Ø 3,5 mm	0 5205008001 00
10	24	70	16	6	4,9	Ø 3,9 mm	0 5205010001 00
12	24	80	17	6	4,9	Ø 4,5 mm	0 5205012001 00
1/4"	20	80	19	7	5,2	Ø 5,2 mm	0 5205020001 00
5/16"	18	90	22	8	6,2	Ø 6,6 mm	0 5205022001 00
3/8"	16	90	22	9	7	Ø 8,0 mm	0 5205024001 00
7/16"	14	100	24	8	6,2	Ø 9,4 mm	0 5215026001 00
1/2"	13	110	28	9	7	Ø 10,75 mm	0 5215028001 00
9/16"	12	110	30	11	9	Ø 12,25 mm	0 5215030001 00
5/8"	11	110	32	12	9	Ø 13,5 mm	0 5215032001 00
3/4"	10	125	34	14	11	Ø 16,5 mm	0 5215034001 00
7/8"	9	140	34	18	14,5	Ø 19,5 mm	0 5215038001 00
1"	8	160	38	18	14,5	Ø 22,25 mm	0 5215042001 00
1 1/8"	7	180	45	22	18	Ø 25,0 mm	0 5215046001 00

[1] DIN 371 ≤ 5-40 — 3/8"-16
DIN 376 ≥ 7/16-14"—1 1/8"-7



D Maschinengewindebohrer
gerade genutet, für Unified Feingewinde UNF ANSI B 1.1

Einsatzbereich:
Maschinengewindebohrer mit Schälanschnitt für Durchgangsgewinde, geeignet für legierte und unlegierte Stähle bis ca. 600 N/mm² sowie Kupfer-Legierungen (kurzspanend) und Aluminium-Legierungen (< 10% Si).

E Machine taps
straight fluted, for unified fine threads UNF ANSI B 1.1

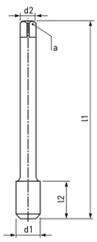
Range of application:
Machine taps with spiral point for through hole threads, suitable for alloyed and unalloyed steels up to appr. 600 N/mm² as well as copper alloys (short chipping) and aluminium alloys (< 10% Si).

I Maschi a macchina
scanalature diritte, per filettatura americana UNf fine ANSI B 1.1

Impiego:
Maschi a macchina, imbocco coretto per fori passanti, adatti per acciai legati e non legati con R fino a 600 N/mm², leghe di rame (a truciolo corto), leghe di alluminio (< 10% Si).









d1 inch	P Gg / 1"	l1 mm	l2 mm	d2 mm	a_{h12} mm		Code 5206 Art.-Nr.
5	44	56	11	2,2	–	Ø 2,7 mm	0 5206005001 00
6	40	56	12	2,5	2,1	Ø 3,0 mm	0 5206006001 00
8	36	63	13	2,8	2,1	Ø 3,5 mm	0 5206008001 00
10	32	70	16	3,5	2,7	Ø 4,1 mm	0 5206010001 00
12	28	80	17	4	3	Ø 4,7 mm	0 5206012001 00
1/4"	28	80	19	4,5	3,4	Ø 5,5 mm	0 5206020001 00
5/16"	24	90	22	6	4,9	Ø 6,9 mm	0 5206022001 00
3/8"	24	90	20	7	5,5	Ø 8,5 mm	0 5206024001 00
7/16"	20	100	24	8	6,2	Ø 9,9 mm	0 5206026001 00
1/2"	20	100	22	9	7	Ø 11,5 mm	0 5206028001 00
9/16"	18	100	22	11	9	Ø 12,9 mm	0 5206030001 00
5/8"	18	100	22	12	9	Ø 14,5 mm	0 5206032001 00
3/4"	16	110	25	14	11	Ø 17,5 mm	0 5206034001 00
7/8"	14	125	25	18	14,5	Ø 20,5 mm	0 5206036001 00
1"	12	125	25	18	14,5	Ø 23,25 mm	0 5206038001 00
1 1/8"	12	150	28	22	18	Ø 26,5 mm	0 5206040001 00

D Handgewindebohrer
gerade genutet, für metrisches ISO-Gewinde DIN 13

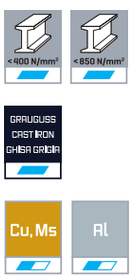
Einsatzbereich:
Für Durchgangs- und Grundgewinde, geeignet für legierte und unlegierte Stähle bis ca. 850 N/mm², Stahlguss, Temperguss, Messing, Aluminium und Kupfer.

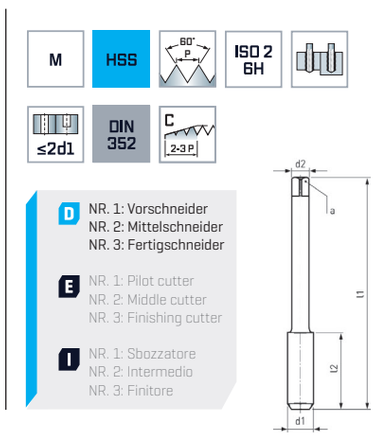
E Hand taps
straight fluted, for metric ISO-threads DIN 13

Range of application:
For through hole and blind hole threads, suitable for alloyed and unalloyed steels up to appr. 850 N/mm², cast steels, malleable cast iron, brass, aluminium and copper.

I Maschi a mano
scanalature diritte, per filettatura metrica ISO, DIN 13

Impiego:
Per fori passanti e fori ciechi, adatti per acciai legati e non legati con R fino a 850 N/mm², acciaio fuso, ghisa malleabile, ottone, alluminio, rame.







d1 mm	P mm	l1 mm	l2 mm	d2 mm	a_{h12} mm		Code 4503 / Set* Art.-Nr.	Code 4503/Nr.1 Art.-Nr.	Code 4503/Nr. 2 Art.-Nr.	Code 4503/Nr. 3 Art.-Nr.
M 2	0,4	36	8	2,8	2,1	Ø 1,6 mm	0 4503008001 00	0 4503008101 00	0 4503008201 00	0 4503008301 00
M 2,2	0,45	36	9	2,8	2,1	Ø 1,75 mm	0 4503009001 00	0 4503009101 00	0 4503009201 00	0 4503009301 00
M 2,3	0,4	36	9	2,8	2,8	Ø 1,9 mm	0 4503010001 00	0 4503010101 00	0 4503010201 00	0 4503010301 00
M 2,5	0,45	40	9	2,8	2,1	Ø 2,05 mm	0 4503011001 00	0 4503011101 00	0 4503011201 00	0 4503011301 00
M 2,6	0,45	40	9	2,8	2,1	Ø 2,1 mm	0 4503012001 00	0 4503012101 00	0 4503012201 00	0 4503012301 00
M 3	0,5	40	11	3,5	2,7	Ø 2,5 mm	0 4503013001 00	0 4503013101 00	0 4503013201 00	0 4503013301 00
M 3,5	0,6	45	13	4	3	Ø 2,9 mm	0 4503014001 00	0 4503014101 00	0 4503014201 00	0 4503014301 00
M 4	0,7	45	13	4,5	3,4	Ø 3,3 mm	0 4503015001 00	0 4503015101 00	0 4503015201 00	0 4503015301 00
M 4,5	0,75	50	16	6	4,9	Ø 3,7 mm	0 4503016001 00	0 4503016101 00	0 4503016201 00	0 4503016301 00
M 5	0,8	50	16	6	4,9	Ø 4,2 mm	0 4503017001 00	0 4503017101 00	0 4503017201 00	0 4503017301 00
M 6	1	50	19	6	4,9	Ø 5,0 mm	0 4503019001 00	0 4503019101 00	0 4503019201 00	0 4503019301 00
M 7	1	50	19	6	4,9	Ø 6,0 mm	0 4503020001 00	0 4503020101 00	0 4503020201 00	0 4503020301 00
M 8	1,25	56	22	6	4,9	Ø 6,8 mm	0 4503021001 00	0 4503021101 00	0 4503021201 00	0 4503021301 00
M 9	1,25	63	22	7	5,5	Ø 7,8 mm	0 4503022001 00	0 4503022101 00	0 4503022201 00	0 4503022301 00
M 10	1,5	70	24	7	5,5	Ø 8,5 mm	0 4503023001 00	0 4503023101 00	0 4503023201 00	0 4503023301 00
M 11	1,5	70	24	8	6,2	Ø 9,5 mm	0 4503024001 00	0 4503024101 00	0 4503024201 00	0 4503024301 00
M 12	1,75	75	29	9	7	Ø 10,2 mm	0 4503025001 00	0 4503025101 00	0 4503025201 00	0 4503025301 00
M 14	2	80	30	11	9	Ø 12,0 mm	0 4503026001 00	0 4503026101 00	0 4503026201 00	0 4503026301 00
M 16	2	80	32	12	9	Ø 14,0 mm	0 4503027001 00	0 4503027101 00	0 4503027201 00	0 4503027301 00
M 18	2,5	95	40	14	11	Ø 15,5 mm	0 4503028001 00	0 4503028101 00	0 4503028201 00	0 4503028301 00
M 20	2,5	95	40	16	12	Ø 17,5 mm	0 4503029001 00	0 4503029101 00	0 4503029201 00	0 4503029301 00
M 22	2,5	100	40	18	14,5	Ø 19,5 mm	0 4503030001 00	0 4503030101 00	0 4503030201 00	0 4503030301 00
M 24	3	110	50	18	14,5	Ø 21,0 mm	0 4503031001 00	0 4503031101 00	0 4503031201 00	0 4503031301 00
M 27	3	110	50	20	16	Ø 24,0 mm	0 4503032001 00	0 4503032101 00	0 4503032201 00	0 4503032301 00
M 30	3,5	125	56	22	18	Ø 26,5 mm	0 4503033001 00	0 4503033101 00	0 4503033201 00	0 4503033301 00

* Satz bestehend aus je 1 Stk. Vor-, Mittel- und Fertigschneider
* Set consisting 1 pc. each pilot, middle and finishing cutter
* Serie composta di 1 sbozzatore, 1 intermedio, 1 finitore



D Handgewindebohrer
gerade genutet, für metrisches ISO-Gewinde DIN 13

Einsatzbereich:
Für Durchgangs- und Grundgewinde, besonders geeignet für rost- und säurebeständige Stähle sowie legierte und unlegierte Stähle bis ca. 1.000 N/mm², Stahlguss, Temperguss, Messing, Aluminium und Kupfer.

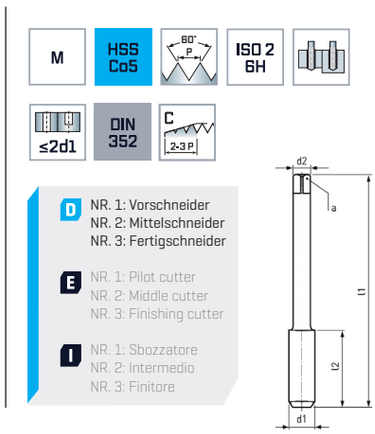
E Hand taps
straight fluted, for metric ISO-threads DIN 13

Range of application:
For through hole and blind hole threads, especially suitable for stainless and acid-resistant steels as well as alloyed and unalloyed steels up to appr. 1.000 N/mm², cast steels, malleable cast iron, brass, aluminium and copper.

I Maschi a mano
scanalature diritte, per filettatura metrica ISO, DIN 13

Impiego:
Per fori passanti e fori ciechi,particolarmente adatti per acciai inossidabili, acciai resistenti agli acidi, acciai legati e non legati con R fino a 1.000 N/mm², acciaio fuso, ghisa malleabile, ottone, alluminio, rame.







d1 mm	P mm	l1 mm	l2 mm	d2 mm	a_{h12} mm		Code 4523 / Set* Art.-Nr.	Code 4523/Nr.1 Art.-Nr.	Code 4523/Nr. 2 Art.-Nr.	Code 4523/Nr. 3 Art.-Nr.
M 3	0,5	40	12	3,5	2,7	Ø 2,5 mm	0 4523013001 00	0 4523013101 00	0 4523013201 00	0 4523013301 00
M 4	0,7	45	14	4,5	3,4	Ø 3,3 mm	0 4523015001 00	0 4523015101 00	0 4523015201 00	0 4523015301 00
M 5	0,8	50	16	6	4,9	Ø 4,2 mm	0 4523017001 00	0 4523017101 00	0 4523017201 00	0 4523017301 00
M 6	1	50	18	6	4,9	Ø 5,0 mm	0 4523019001 00	0 4523019101 00	0 4523019201 00	0 4523019301 00
M 8	1,25	56	18	6	4,9	Ø 6,8 mm	0 4523021001 00	0 4523021101 00	0 4523021201 00	0 4523021301 00
M 10	1,5	70	23	7	5,5	Ø 8,5 mm	0 4523023001 00	0 4523023101 00	0 4523023201 00	0 4523023301 00
M 12	1,75	75	28	9	7	Ø 10,2 mm	0 4523025001 00	0 4523025101 00	0 4523025201 00	0 4523025301 00
M 14	2	80	30	11	9	Ø 12,0 mm	0 4523026001 00	0 4523026101 00	0 4523026201 00	0 4523026301 00
M 16	2	80	30	12	9	Ø 14,0 mm	0 4523027001 00	0 4523027101 00	0 4523027201 00	0 4523027301 00
M 18	2,5	95	35	14	11	Ø 15,5 mm	0 4523028001 00	0 4523028101 00	0 4523028201 00	0 4523028301 00
M 20	2,5	95	35	16	12	Ø 17,5 mm	0 4523029001 00	0 4523029101 00	0 4523029201 00	0 4523029301 00

* Satz bestehend aus je 1 Stk. Vor-, Mittel- und Fertigschneider
* Set consisting 1 pc. each pilot, middle and finishing cutter
* Serie composta di 1 sbozzatore, 1 intermedio, 1 finitore

D Handgewindebohrer
gerade genutet, für metrisches ISO-Feingewinde DIN 13

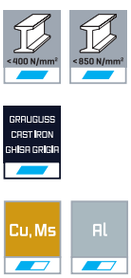
Einsatzbereich:
Für Durchgangs- und Grundgewinde, geeignet für legierte und unlegierte Stähle bis ca. 850 N/mm², Stahlguss, Temperguss, Messing, Aluminium und Kupfer.

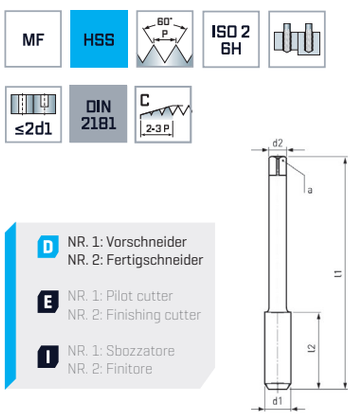
E Hand taps
straight fluted, for metric ISO fine threads DIN 13

Range of application:
For through hole and blind hole threads, suitable for alloyed and unalloyed steels up to appr. 850 N/mm², cast steels, malleable cast iron, brass, aluminium and copper.

I Maschi a mano
scanalature diritte, per filettatura metrica ISO fine, DIN 13

Impiego:
Per fori passanti e fori ciechi, adatti per acciai legati e non legati con R fino a 850 N/mm², acciaio fuso, ghisa malleabile, ottone, alluminio, rame.







d1 mm	P mm	l1 mm	l2 mm	d2 mm	a_{h12} mm		Code 4533 / Set* Art.-Nr.
MF 3	0,35	40	9	3,5	2,7	Ø 2,65 mm	0 4533006001 00
MF 4	0,35	45	10	4,5	3,4	Ø 3,65 mm	0 4533008001 00
MF 4	0,5	45	10	4,5	3,4	Ø 3,5 mm	0 4533009001 00
MF 5	0,5	50	12	6	4,9	Ø 4,5 mm	0 4533011001 00
MF 6	0,5	50	14	6	4,9	Ø 5,5 mm	0 4533013001 00
MF 6	0,75	50	14	6	4,9	Ø 5,2 mm	0 4533015001 00
MF 8	0,75	50	19	6	4,9	Ø 7,2 mm	0 4533017001 00
MF 10	0,75	63	20	7	5,5	Ø 9,2 mm	0 4533019001 00
MF 14	0,75	70	16	11	9	Ø 13,0 mm	0 4533021001 00
MF 8	1	56	22	6	4,9	Ø 7,0 mm	0 4533022001 00
MF 10	1	63	20	7	5,5	Ø 9,0 mm	0 4533024001 00
MF 12	1	70	22	9	7	Ø 11,0 mm	0 4533026001 00
MF 14	1	70	22	11	9	Ø 13,0 mm	0 4533027001 00
MF 16	1	70	22	12	9	Ø 15,0 mm	0 4533029001 00
MF 18	1	80	22	14	11	Ø 17,0 mm	0 4533030001 00
MF 20	1	80	22	16	12	Ø 19,0 mm	0 4533031001 00
MF 22	1	80	22	18	14,5	Ø 21,0 mm	0 4533032001 00
MF 10	1,25	70	24	7	5,5	Ø 8,8 mm	0 4533037001 00
MF 12	1,25	70	22	9	7	Ø 10,8 mm	0 4533038001 00
MF 14	1,25	70	22	11	9	Ø 12,8 mm	0 4533039001 00
MF 12	1,5	70	22	9	7	Ø 10,5 mm	0 4533040001 00
MF 14	1,5	70	22	11	9	Ø 12,5 mm	0 4533041001 00
MF 16	1,5	70	22	12	9	Ø 14,5 mm	0 4533043001 00
MF 18	1,5	80	22	14	11	Ø 16,5 mm	0 4533044001 00
MF 20	1,5	80	22	16	12	Ø 18,5 mm	0 4533045001 00
MF 22	1,5	80	22	18	14,5	Ø 20,5 mm	0 4533046001 00

* Satz bestehend aus je 1 Stk. Vor- und Fertigschneider
* Set consisting 1 pc. each pilot and finishing cutter
* Serie composta di 1 sbozzatore, 1 finitore



D Handgewindebohrer
gerade genutet, für Whitworth-Rohrgewinde DIN ISO 228

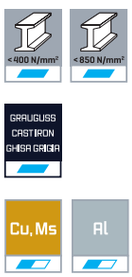
Einsatzbereich:
Für Durchgangs- und Grundgewinde, geeignet für legierte und unlegierte Stähle bis ca. 850 N/mm², Stahlguss, Temperguss, Messing, Aluminium und Kupfer.

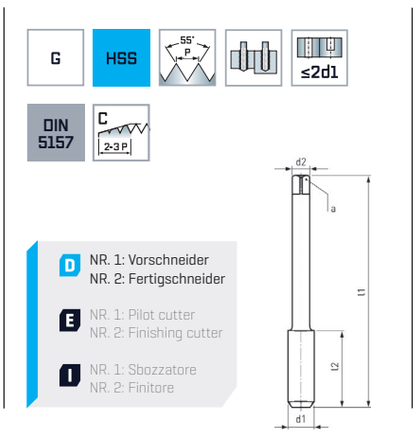
E Hand taps
straight fluted, for whitworth pipe threads DIN ISO 228

Range of application:
For through hole and blind hole threads, suitable for alloyed and unalloyed steels up to appr. 850 N/mm², cast steels, malleable cast iron, brass, aluminium and copper.

I Maschi a mano
scanalature diritte, per filettatura whitworth per tubi DIN ISO 228

Impiego:
Per fori passanti e fori ciechi, adatti per acciai legati e non legati con R fino a 850 N/mm², acciaio fuso, ghisa malleabile, ottone, alluminio, rame.







d1 inch	P Gg / 1"	l1 mm	l2 mm	d2 mm	a_{h12} mm		Code 4573/ Set* Art.-Nr.	Code 4573/Nr. 1 Art.-Nr.	Code 4573/Nr. 2 Art.-Nr.
G 1/8"	28	63	20	7	5,5	Ø 8,8 mm	0 4573016001 00	0 4573016101 00	0 4573016201 00
G 1/4"	19	70	22	11	9	Ø 11,8 mm	0 4573020001 00	0 4573020101 00	0 4573020201 00
G 3/8"	19	70	22	12	9	Ø 15,25 mm	0 4573024001 00	0 4573024101 00	0 4573024201 00
G 1/2"	14	80	22	16	12	Ø 19,0 mm	0 4573028001 00	0 4573028101 00	0 4573028201 00
G 5/8"	14	80	22	18	14,5	Ø 21,0 mm	0 4573032001 00	0 4573032101 00	0 4573032201 00
G 3/4"	14	90	22	20	16	Ø 24,5 mm	0 4573034001 00	0 4573034101 00	0 4573034201 00
G 7/8"	14	90	22	22	18	Ø 28,25 mm	0 4573036001 00	0 4573036101 00	0 4573036201 00
G 1"	11	100	25	25	20	Ø 30,75 mm	0 4573038001 00	0 4573038101 00	0 4573038201 00

* Satz bestehend aus je 1 Stk. Vor- und Fertigschneider
* Set consisting 1 pc. each pilot and finishing cutter
* Serie composta di 1 sbozzatore, 1 finitore

D Schneideisen
für metrisches ISO-Gewinde
DIN 13

Schneideisen mit Schälanschnitt.

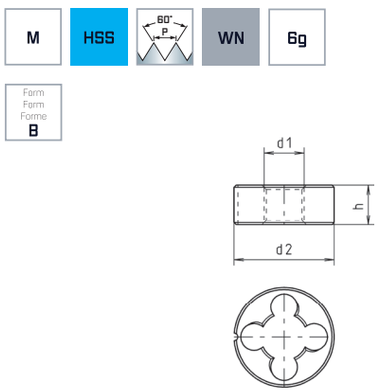
E Dies
for metic ISO-threads
DIN 13

Dies with spiral point.

I Filiere
per filettatura metrica ISO,
DIN 13

Filiere, imbocco corretto.







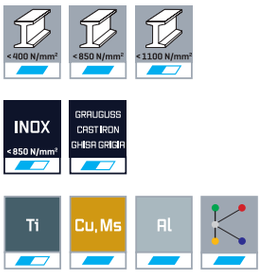
d1 mm	P mm	d2 mm	h mm	Code 5553 Art.-Nr.
M 2	0,4	16	5	0 5553002001 00
M 2,2	0,45	16	5	0 5553002201 00
M 2,3	0,4	16	5	0 5553002301 00
M 2,5	0,45	16	5	0 5553002501 00
M 2,6	0,45	16	5	0 5553002601 00
M 3	0,5	20	5	0 5553003001 00
M 3,5	0,6	20	5	0 5553003501 00
M 4	0,7	20	5	0 5553004001 00
M 4,5	0,75	20	7	0 5553004501 00
M 5	0,8	20	7	0 5553005001 00
M 6	1	20	7	0 5553006001 00
M 7	1	25	9	0 5553007001 00
M 8	1,25	25	9	0 5553008001 00
M 9	1,25	25	9	0 5553009001 00
M 10	1,5	30	11	0 5553010001 00
M 11	1,5	30	11	0 5553011001 00
M 12	1,75	38	14	0 5553012001 00
M 14	2	38	14	0 5553014001 00
M 16	2	45	18	0 5553016001 00
M 18	2,5	45	18	0 5553018001 00
M 20	2,5	45	18	0 5553020001 00
M 22	2,5	55	22	0 5553022001 00
M 24	3	55	22	0 5553024001 00
M 27	3	65	25	0 5553027001 00
M 30	3,5	65	25	0 5553030001 00

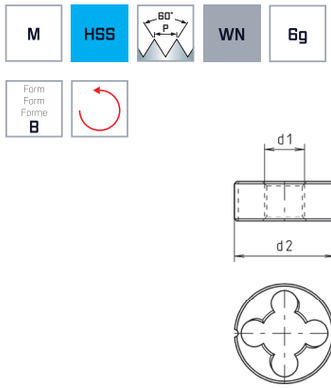


D Schneideisen
für metrisches ISO-Gewinde
DIN 13, links

E Dies
for metic ISO-threads
DIN 13, left hand

I Filiere
per filettatura metrica ISO,
DIN 13, filettatura sinistra







d1 mm	P mm	d2 mm	h mm	Code 5554 Art.-Nr.
M 3	0,5	20	5	0 5554003001 00
M 3,5	0,6	20	5	0 5554003501 00
M 4	0,7	20	5	0 5554004001 00
M 4,5	0,75	20	7	0 5554004501 00
M 5	0,8	20	7	0 5554005001 00
M 6	1	20	7	0 5554006001 00
M 8	1,25	25	9	0 5554008001 00
M 9	1,25	25	9	0 5554009001 00
M 10	1,5	30	11	0 5554010001 00
M 12	1,75	38	14	0 5554012001 00
M 14	2	38	14	0 5554014001 00
M 16	2	45	18	0 5554016001 00
M 18	2,5	45	18	0 5554018001 00
M 20	2,5	45	18	0 5554020001 00
M 22	2,5	55	22	0 5554022001 00
M 24	3	55	22	0 5554024001 00

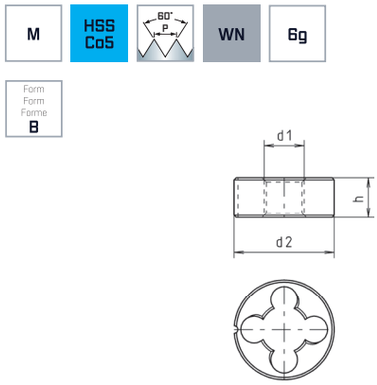
D HSS-Cobalt Schneideisen
für metrisches ISO-Gewinde
DIN 13

Schneideisen mit Schälanschnitt, speziell für rostfreie Stähle.



E HSS-Cobalt dies
for metic ISO-threads
DIN 13

Dies with spiral point, especially for stainless steels.



I Filiere HSS-Cobalto
per filettatura metrica ISO,
DIN 13

Filiere, imbocco corretto, particolarmente adatte per acciai inossidabili.



d1 mm	P mm	d2 mm	h mm	Code 5555 Art.-Nr.
M 2	0,4	16	5	0 5555002001 00
M 3	0,5	20	5	0 5555003001 00
M 4	0,7	20	5	0 5555004001 00
M 5	0,8	20	7	0 5555005001 00
M 6	1	20	7	0 5555006001 00
M 8	1,25	25	9	0 5555008001 00
M 10	1,5	30	11	0 5555010001 00
M 12	1,75	38	14	0 5555012001 00
M 14	2	38	14	0 5555014001 00
M 16	2	45	18	0 5555016001 00
M 18	2,5	45	18	0 5555018001 00
M 20	2,5	45	18	0 5555020001 00



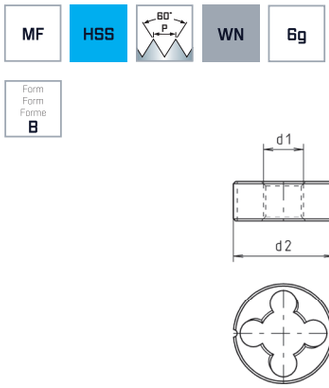
D Schneideisen
für metrisches ISO-Feingewinde DIN 13

Schneideisen mit Schälanschnitt.



E Dies
for metic ISO fine threads DIN 13

Dies with spiral point.



I Filiere
per filettatura metrica ISO fine, DIN 13

Filiere, imbocco corretto.



d1 mm	P mm	d2 mm	h mm	Code 5613 Art.-Nr.
MF 4	0,5	20	5	0 5613009001 00
MF 5	0,5	20	5	0 5613011001 00
MF 6	0,5	20	5	0 5613013001 00
MF 8	0,5	25	9	0 5613014001 00
MF 6	0,75	20	7	0 5613015001 00
MF 8	0,75	25	9	0 5613017001 00
MF 10	0,75	30	11	0 5613019001 00
MF 8	1	25	9	0 5613022001 00
MF 9	1	25	9	0 5613023001 00
MF 10	1	30	11	0 5613024001 00
MF 11	1	30	11	0 5613025001 00
MF 12	1	38	10	0 5613026001 00
MF 14	1	38	10	0 5613027001 00
MF 16	1	45	14	0 5613029001 00
MF 18	1	45	14	0 5613030001 00
MF 20	1	45	14	0 5613031001 00
MF 10	1,25	30	11	0 5613037001 00
MF 12	1,25	38	10	0 5613038001 00
MF 14	1,25	38	10	0 5613039001 00
MF 12	1,5	38	10	0 5613040001 00
MF 14	1,5	38	10	0 5613041001 00
MF 16	1,5	45	14	0 5613043001 00
MF 18	1,5	45	14	0 5613044001 00
MF 20	1,5	45	14	0 5613045001 00
MF 22	1,5	55	16	0 5613046001 00
MF 24	1,5	55	16	0 5613047001 00
MF 26	1,5	55	16	0 5613049001 00
MF 30	1,5	65	18	0 5613052001 00

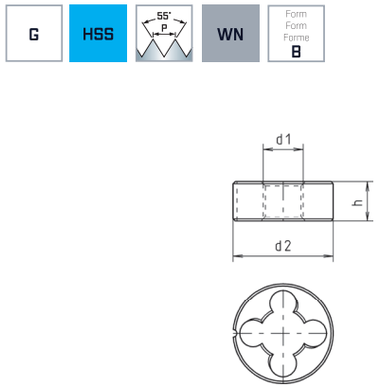
D Schneideisen
für Whitworth-Rohrgewinde
DIN ISO 228

Schneideisen mit Schälanschnitt.



E Dies
for whitworth pipe threads
DIN ISO 228

Dies with spiral point.



I Filiere
per filettatura whitworth per
tubi DIN ISO 228

Filiere, imbocco corretto.

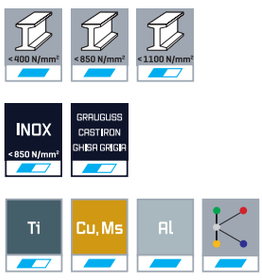


d1 inch	d1 mm	P Gg / 1"	d2 mm	h mm	Code 5673 Art.-Nr.
G 1/8"	9,73	28	30	11	0 5673016001 00
G 1/4"	13,16	19	38	10	0 5673020001 00
G 3/8"	16,66	19	45	14	0 5673024001 00
G 1/2"	20,96	14	45	14	0 5673028001 00
G 5/8"	22,91	14	55	16	0 5673032001 00
G 3/4"	26,44	14	55	16	0 5673034001 00
G 7/8"	30,20	14	65	18	0 5673036001 00
G 1"	33,25	11	65	18	0 5673038001 00



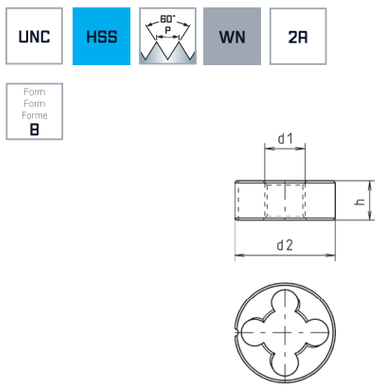
D Schneideisen
für Unified Grobgewinde UNC ANSI B 1.1

Schneideisen mit Schälanschnitt.



E Dies
for unified coarse threads UNC ANSI B 1.1

Dies with spiral point.



I Filiere
per filettatura americana UNC grossa ANSI B 1.1.

Filiere, imbocco corretto.



d1 inch	d1 mm	P Gg / 1"	d2 mm	h mm	Code 5753 Art.-Nr.
Nr. 1	1,85	64	16	5	0 5753001001 00
Nr. 2	2,18	56	16	5	0 5753002001 00
Nr. 3	2,52	48	16	5	0 5753003001 00
Nr. 4	2,85	40	16	5	0 5753004001 00
Nr. 5	3,18	40	20	5	0 5753005001 00
Nr. 6	3,51	32	20	7	0 5753006001 00
Nr. 8	4,17	32	20	7	0 5753008001 00
Nr. 10	4,83	24	20	7	0 5753010001 00
Nr. 12	5,49	24	20	7	0 5753012001 00
1/4"	6,35	20	20	7	0 5753020001 00
5/16"	7,94	18	25	9	0 5753022001 00
3/8"	9,53	16	30	11	0 5753024001 00
7/16"	11,11	14	30	11	0 5753026001 00
1/2"	12,7	13	38	14	0 5753028001 00
9/16"	14,29	12	38	14	0 5753030001 00
5/8"	15,88	11	45	18	0 5753032001 00
3/4"	19,05	10	45	18	0 5753034001 00
7/8"	22,23	9	55	22	0 5753036001 00
1"	25,4	8	55	22	0 5753038001 00

D Schneideisen
für Unified Feingewinde UNF
ANSI B 1.1

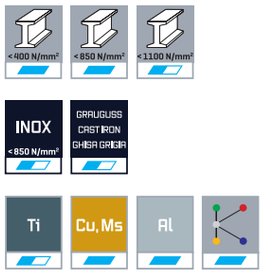
E Dies
for unified fine threads UNF
ANSI B 1.1

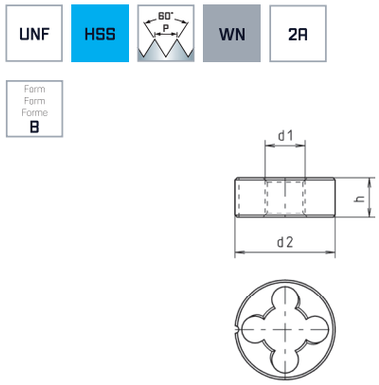
I Filiere
per filettatura americana UNF
fine ANSI B 1.1.

Schneideisen mit Schälanschnitt.

Dies with spiral point.

Filiere, imbocco corretto.







d1 inch	d1 mm	P Gg / 1"	d2 mm	h mm	Code 5773 Art.-Nr.
Nr. 1	1,85	72	16	5	0 5773001001 00
Nr. 2	2,18	64	16	5	0 5773002001 00
Nr. 3	2,52	56	16	5	0 5773003001 00
Nr. 4	2,85	48	16	5	0 5773004001 00
Nr. 5	3,18	44	20	5	0 5773005001 00
Nr. 6	3,51	40	20	5	0 5773006001 00
Nr. 8	4,17	36	20	7	0 5773008001 00
Nr. 10	4,83	32	20	7	0 5773010001 00
Nr. 12	5,49	28	20	7	0 5773012001 00
1/4"	6,35	28	20	7	0 5773020001 00
5/16"	7,94	24	25	9	0 5773022001 00
3/8"	9,53	24	30	11	0 5773024001 00
7/16"	11,11	20	30	11	0 5773026001 00
1/2"	12,7	20	38	10	0 5773028001 00
9/16"	14,29	18	38	10	0 5773030001 00
5/8"	15,88	18	45	14	0 5773032001 00
3/4"	19,05	16	45	14	0 5773034001 00
7/8"	22,23	14	55	16	0 5773036001 00
1"	25,4	12	55	16	0 5773038001 00
1 1/8"	28,58	12	65	18	0 5773040001 00

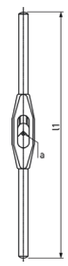


D Windeisen
verstellbar

E Tap wrenches
adjustable

I Giramaschio
regolabile

DIN 1814





Nr. No.	a ⟷	l1 mm	Code 5430 Art.-Nr.	Code 712 Art.-Nr.
1	M1–M10	180	0 5430000101 00	
1 1/2″	M1–M12	180		0 0712000151 00
2	M4–M12	280	0 5430000201 00	
3	M5–M20	380	0 5430000301 00	
4	M11–M27	500	0 5430000401 00	
5	M14–M33	750	0 5430000501 00	

D Schneideisenhalter
für runde geschlitzte Schneideisen ohne Kapsel

E Die stocks
for split round dies without die insert

I Portafiliera
per filiere tonde

DIN EN 22568 DIN EN 24231





Nr. No.	d2 mm	h mm				Code 5440 Art.-Nr.
1	16	5	≤ M 2,6	M 2,6 x 0,25	3/32″	0 5440016501 00
2	20	5	≤ M 4	M 6 x 0,5	5/32″	0 5440020501 00
3	20	7	≤ M 6	M 6 x 0,75	1/4″	0 5440020701 00
4	25	9	≤ M 9	M 9 x 1	5/16″	0 5440025901 00
5	30	11	≤ M 11	M 11 x 1	7/16″, G 1/8″	0 5440030101 00
6	38	10		M 15 x 1,5	G 1/4″	0 5440038101 00
7	38	14	≤ M 14		9/16″	0 5440038401 00
8	45	14		M 20 x 2	G 1/2″	0 5440045101 00
9	45	18	≤ M 20		13/16″	0 5440045801 00
10	55	16		M 26 x 2	G 3/4″	0 5440055101 00
11	55	22	≤ M 24		1″	0 5440055201 00
12	65	18	≤ MF 36	MF 36 x 2	G1″	0 5440065101 00
13	65	25	≤ M 36	M 36 x 3	1 3/8″	0 5440065201 00

* Angaben von Schneideisen / Data of dies / Dati relativi alle filiere

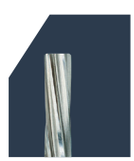




HSS-Handreibahlen, Maschinenreibahlen, Kegelreibahlen

E HSS hand reamers, machine reamers, taper pin reamers

I HSS alesatori a mano, alesatori a macchina, alesatori per spine coniche



D Übersicht
HSS-Reibahlen

E Overview
HSS reamers

I Sommario
alesatori HSS

D Die Schnittwerte für alle Werkzeuge entnehmen Sie bitte unserem separaten Zerspanungshandbuch.

E You will find the cutting conditions for all tools in our separate cutting manual.

I Per i parametri di lavorazione per tutti gli utensili richiedete il nostro manuale tecnico.

	Handreibahle / Hand reamers Alesatori a mano	NC-Maschinenreibahlen / NC-machine reamers Alesatori a macchina NC	
			
Norm / Standard	DIN 206	~ DIN 212, WN	
Form / Forma	B	links / left hand / sinistra	links / left hand / sinistra
Schneidstoff / Cutting material / Acciaio punta	HSS	HSS-E	HSS-E
Ø mm	2-20	1,5-20	1-12,03
Code / Codice	3020	3080	3082
Seite / Page / Pagina	404	405	407
Geeignet für / Suitable for / Adatte per			
Stähle < 400 N/mm² Steels < 400 N/mm² Acciai < 400 N/mm²	▬	▬	▬
Stähle < 850 N/mm² Steels < 850 N/mm² Acciai < 850 N/mm²	▬	▬	▬
Stähle < 1.100 N/mm² Steels < 1.100 N/mm² Acciai < 1.100 N/mm²	▬	▬	▬
Stähle < 1.300 N/mm² Steels < 1.300 N/mm² Acciai < 1.300 N/mm²	▬	▬	▬
Stähle > 45 HRC Steels > 45 HRC Acciai > 45 HRC			
Rostfreie Stähle < 850 N/mm² Stainless steels < 850 N/mm² Acciai inossidabili < 850 N/mm²	▭	▭	▭
Rostfreie Stähle > 850 N/mm² Stainless steels > 850 N/mm² Acciai inossidabili > 850 N/mm²	▭	▭	▭
Grauguss, Temperguss Cast iron, malleable cast iron Ghisa grigia, ghisa malleabile	▬	▬	▬
Titan- und Titanlegierung Titanium and titanium alloys Titanio e leghe di Titanio			
Kupfer, Messing Copper, brass Rame, ottone	▭	▭	▭
Aluminium Aluminium Alluminio	▭	▭	▭
Kunststoffe Plastics Materie plastiche	▭	▭	▭

▬ **Ideal** / Ideal / Ideale | ▭ **Geeignet** / Suitable / Adatte

D **Übersicht**
HSS-Reibahlen

E **Overview**
HSS reamers

I **Sommario**
alesatori HSS

NC-Maschinenreibahlen / NC-machine reamers Alesatori a macchina NC	Kegelreibahlen / Taper pin reamers Alesatori per feri di spine coniche	
		
DIN 208	DIN 9	DIN 2179
B	B	
HSS-E	HSS	HSS-E
10-30	3-12	5-10
3130	3300	3320
409	410	411
▬	▬	▬
▬	▬	▬
▬	▬	▬
▬	▭	▬
▭	▭	▭
▭	▭	▭
▬	▬	▬
▭	▭	▭
▭	▭	▭
▭	▭	▭

▬ **Ideal** / Ideal / Ideale | ▭ **Geeignet** / Suitable / Adatte



D Handreibahlen
DIN 206 B

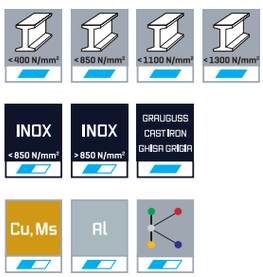
E Hand reamers
DIN 206 B

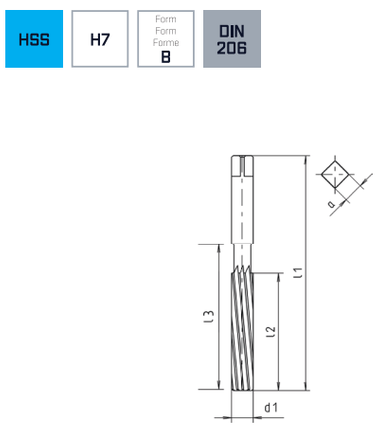
I Alesatori a mano
DIN 206 B

Einsatzbereich:
Drallgenutete Ausführung für alle E- und NE-Metalle sowie Kunststoffe hart und weich. Besonders bei unterbrochenen Schnitten zu empfehlen, z. B. Keilnuten, Querbohrungen u.ä.

Range of application:
For ferrous and non-ferrous metals, synthetic materials soft and hard. Slow helix type suitable for interrupted borings, slots, cross-borings etc.

Impiego:
Alesatori con taglienti elicoidali adatti per tutti i materiali ferrosi, non ferrosi, plastiche dure e dolci, termoindurenti. Particolarmente adatti per lavorazioni di cave longitudinali, fori trasversali ecc.







d1 H7 mm	l1 mm	l2 mm	l3 mm	a h12 mm	Z		Code 3020 Art.-Nr.
2,00	50	25	30	1,60	4	Ø 1,90 mm	0 3020002001 00
2,50	58	29	34	2,10	4	Ø 2,40 mm	0 3020002501 00
3,00	62	31	36	2,10	6	Ø 2,90 mm	0 3020003001 00
3,50	71	35	43	2,70	6	Ø 3,40 mm	0 3020003501 00
4,00	76	38	46	3,00	6	Ø 3,90 mm	0 3020004001 00
4,50	81	41	49	3,40	6	Ø 4,40 mm	0 3020004501 00
5,00	87	44	54	3,80	6	Ø 4,90 mm	0 3020005001 00
5,50	93	47	57	4,30	6	Ø 5,30 mm	0 3020005501 00
6,00	93	47	57	4,30	6	Ø 5,80 mm	0 3020006001 00
7,00	107	54	66	5,50	6	Ø 6,80 mm	0 3020007001 00
8,00	115	58	70	6,20	6	Ø 7,80 mm	0 3020008001 00
9,00	124	62	74	7,00	6	Ø 8,80 mm	0 3020009001 00
10,00	133	66	78	8,00	6	Ø 9,80 mm	0 3020010001 00
11,00	142	71	86	9,00	6	Ø 10,80 mm	0 3020011001 00
12,00	152	76	91	10,00	6	Ø 11,80 mm	0 3020012001 00
13,00	152	76	91	10,00	6	Ø 12,80 mm	0 3020013001 00
14,00	163	81	96	11,00	6	Ø 13,80 mm	0 3020014001 00
15,00	163	81	96	11,00	6	Ø 14,80 mm	0 3020015001 00
16,00	175	87	107	12,00	6	Ø 15,80 mm	0 3020016001 00
18,00	188	93	113	14,50	6	Ø 17,80 mm	0 3020018001 00
20,00	201	100	120	16,00	6	Ø 19,80 mm	0 3020020001 00

D NC-Maschinenreibahlen
Linksspirale, ähnlich DIN 212

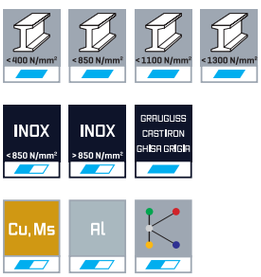
E NC-machine reamers
left hand spiral, similar to DIN 212

I Alesatori a macchina NC
tagliente elic. sinistri, simile DIN 212

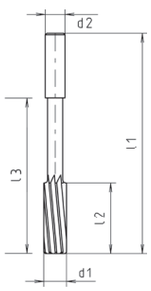
Einsatzbereich:
NC-gerechte Ausführung ähnl. DIN 212 mit geradem Schaftdurchmesser für die standardisierte Aufnahme speziell in Hydro-Dehnspannfuttern oder Hochgenauigkeitsspannfuttern. Drallgenutete Ausführung, Linksspirale für alle E- und NE-Metalle geeignet.

Range of application:
Specificly designed for CNC-operations, sim. DIN 212, with reinforced shank for shrink fit systems. For ferrous and non-ferrous metals. Slow helix type (8° left hand). Suitable for individual and mass production.

Impiego:
Alesatori con taglienti elicoidali, elica sinistra simili DIN 212, codolo nominale, per mandrini idraulici e di alta precisione. Adatti per tutti i materiali ferrosi, non ferrosi.



HSS-E | h6 *1 | H7 | WN





d1 H7 mm	d2 h6 mm	l1 mm	l2 mm	l3 mm	Z		Code 3080 Art.-Nr.
1,50	2,00	40	8	18	3	Ø 1,40 mm	0 3080001501 00
1,60	2,00	43	9	20	3	Ø 1,50 mm	0 3080001601 00
1,70	2,00	43	9	20	3	Ø 1,60 mm	0 3080001701 00
1,80	2,00	46	10	22	4	Ø 1,70 mm	0 3080001801 00
1,90	2,00	46	10	18	4	Ø 1,80 mm	0 3080001901 00
2,00	2,00	49	11	24	4	Ø 1,90 mm	0 3080002001 00
2,10	2,00	49	11	24	4	Ø 2,00 mm	0 3080002101 00
2,20	3,00	53	12	25	4	Ø 2,10 mm	0 3080002201 00
2,30	3,00	53	12	25	4	Ø 2,20 mm	0 3080002301 00
2,40	3,00	57	14	29	4	Ø 2,30 mm	0 3080002401 00
2,50	3,00	57	14	29	4	Ø 2,40 mm	0 3080002501 00
2,60	3,00	57	14	29	4	Ø 2,50 mm	0 3080002601 00
2,70	3,00	61	15	33	6	Ø 2,60 mm	0 3080002701 00
2,80	3,00	61	15	33	6	Ø 2,70 mm	0 3080002801 00
2,90	3,00	61	15	33	6	Ø 2,80 mm	0 3080002901 00
3,00	3,00	61	15	33	6	Ø 2,90 mm	0 3080003001 00
3,10	4,00	65	16	37	6	Ø 3,00 mm	0 3080003101 00
3,20	4,00	65	16	37	6	Ø 3,10 mm	0 3080003201 00
3,30	4,00	65	16	37	6	Ø 3,20 mm	0 3080003301 00
3,40	4,00	70	18	42	6	Ø 3,30 mm	0 3080003401 00
3,50	4,00	70	18	42	6	Ø 3,40 mm	0 3080003501 00
3,60	4,00	70	18	42	6	Ø 3,50 mm	0 3080003601 00
3,70	4,00	70	18	42	6	Ø 3,60 mm	0 3080003701 00
3,80	4,00	75	19	47	6	Ø 3,70 mm	0 3080003801 00
3,90	4,00	75	19	47	6	Ø 3,80 mm	0 3080003901 00
4,00	4,00	75	19	47	6	Ø 3,90 mm	0 3080004001 00
4,10	4,00	75	19	47	6	Ø 4,00 mm	0 3080004101 00
4,20	4,00	75	19	47	6	Ø 4,10 mm	0 3080004201 00
4,30	5,00	80	21	52	6	Ø 4,20 mm	0 3080004301 00
4,40	5,00	80	21	52	6	Ø 4,30 mm	0 3080004401 00
4,50	5,00	80	21	52	6	Ø 4,40 mm	0 3080004501 00
4,60	5,00	80	21	52	6	Ø 4,50 mm	0 3080004601 00
4,70	5,00	80	21	52	6	Ø 4,60 mm	0 3080004701 00
4,80	5,00	86	23	58	6	Ø 4,70 mm	0 3080004801 00

* ganzzahliger Schaftdurchmesser / nominal shank / diam. codolo nominale

Fortsetzung / Continuation / Continuazione ▶



d1 H7 mm	d2 h6 mm	l1 mm	l2 mm	l3 mm	z		Code 3080 Art.-Nr.
4,90	5,00	86	23	58	6	Ø 4,80 mm	0 3080004901 00
5,00	5,00	86	23	58	6	Ø 4,90 mm	0 3080005001 00
5,10	5,00	86	23	58	6	Ø 4,90 mm	0 3080005101 00
5,20	5,00	86	23	58	6	Ø 5,00 mm	0 3080005201 00
5,30	5,00	86	23	58	6	Ø 5,10 mm	0 3080005301 00
5,40	6,00	93	26	57	6	Ø 5,20 mm	0 3080005401 00
5,50	6,00	93	26	57	6	Ø 5,30 mm	0 3080005501 00
5,60	6,00	93	26	57	6	Ø 5,40 mm	0 3080005601 00
5,70	6,00	93	26	57	6	Ø 5,50 mm	0 3080005701 00
5,80	6,00	93	26	57	6	Ø 5,60 mm	0 3080005801 00
5,90	6,00	93	26	57	6	Ø 5,70 mm	0 3080005901 00
6,00	6,00	93	26	57	6	Ø 5,80 mm	0 3080006001 00
6,10	6,00	101	28	65	6	Ø 5,90 mm	0 3080006101 00
6,20	6,00	101	28	65	6	Ø 6,00 mm	0 3080006201 00
6,30	6,00	101	28	65	6	Ø 6,10 mm	0 3080006301 00
6,40	6,00	101	28	65	6	Ø 6,20 mm	0 3080006401 00
6,50	6,00	101	28	65	6	Ø 6,30 mm	0 3080006501 00
6,60	6,00	101	28	65	6	Ø 6,40 mm	0 3080006601 00
6,70	6,00	101	28	65	6	Ø 6,50 mm	0 3080006701 00
6,80	8,00	109	31	73	6	Ø 6,60 mm	0 3080006801 00
6,90	8,00	109	31	73	6	Ø 6,70 mm	0 3080006901 00
7,00	8,00	109	31	73	6	Ø 6,80 mm	0 3080007001 00
7,10	8,00	109	31	73	6	Ø 6,90 mm	0 3080007101 00
7,20	8,00	109	31	73	6	Ø 7,00 mm	0 3080007201 00
7,30	8,00	109	31	73	6	Ø 7,10 mm	0 3080007301 00
7,40	8,00	109	31	73	6	Ø 7,20 mm	0 3080007401 00
7,50	8,00	109	31	73	6	Ø 7,30 mm	0 3080007501 00
7,60	8,00	117	33	81	6	Ø 7,40 mm	0 3080007601 00
7,70	8,00	117	33	81	6	Ø 7,50 mm	0 3080007701 00
7,80	8,00	117	33	81	6	Ø 7,60 mm	0 3080007801 00
7,90	8,00	117	33	81	6	Ø 7,70 mm	0 3080007901 00
8,00	8,00	117	33	81	6	Ø 7,80 mm	0 3080008001 00
8,10	8,00	117	33	81	6	Ø 7,90 mm	0 3080008101 00
8,20	8,00	117	33	81	6	Ø 8,00 mm	0 3080008201 00
8,30	8,00	117	33	81	6	Ø 8,10 mm	0 3080008301 00
8,40	8,00	117	33	81	6	Ø 8,20 mm	0 3080008401 00
8,50	8,00	117	33	81	6	Ø 8,30 mm	0 3080008501 00
8,60	10,00	125	36	85	6	Ø 8,40 mm	0 3080008601 00
8,70	10,00	125	36	85	6	Ø 8,50 mm	0 3080008701 00
8,80	10,00	125	36	85	6	Ø 8,60 mm	0 3080008801 00
8,90	10,00	125	36	85	6	Ø 8,70 mm	0 3080008901 00
9,00	10,00	125	36	85	6	Ø 8,80 mm	0 3080009001 00
9,10	10,00	125	36	85	6	Ø 8,90 mm	0 3080009101 00
9,20	10,00	125	36	85	6	Ø 9,00 mm	0 3080009201 00
9,30	10,00	125	36	85	6	Ø 9,10 mm	0 3080009301 00
9,40	10,00	125	36	85	6	Ø 9,20 mm	0 3080009401 00
9,50	10,00	125	36	85	6	Ø 9,30 mm	0 3080009501 00
9,60	10,00	133	38	93	6	Ø 9,40 mm	0 3080009601 00
9,70	10,00	133	38	93	6	Ø 9,50 mm	0 3080009701 00
9,80	10,00	133	38	93	6	Ø 9,60 mm	0 3080009801 00
9,90	10,00	133	38	93	6	Ø 9,70 mm	0 3080009901 00
10,00	10,00	133	38	93	6	Ø 9,80 mm	0 3080010001 00
11,00	10,00	142	41	102	6	Ø 10,80 mm	0 3080011001 00
12,00	10,00	151	44	111	6	Ø 11,80 mm	0 3080012001 00
13,00	10,00	151	44	111	6	Ø 12,80 mm	0 3080013001 00
14,00	14,00	160	47	120	8	Ø 13,80 mm	0 3080014001 00
15,00	14,00	162	50	122	8	Ø 14,80 mm	0 3080015001 00
16,00	14,00	170	52	130	8	Ø 15,80 mm	0 3080016001 00
17,00	14,00	175	54	135	8	Ø 16,80 mm	0 3080017001 00
18,00	14,00	182	56	142	8	Ø 17,80 mm	0 3080018001 00
19,00	16,00	189	58	149	8	Ø 18,80 mm	0 3080019001 00
20,00	16,00	195	60	155	8	Ø 19,80 mm	0 3080020001 00

D NC-Werkzeugmacher-reibahlen, ganzzahliger Schaftdurchmesser, ähnlich DIN 212

E NC-machine reamers with nominal shank, similar to DIN 212

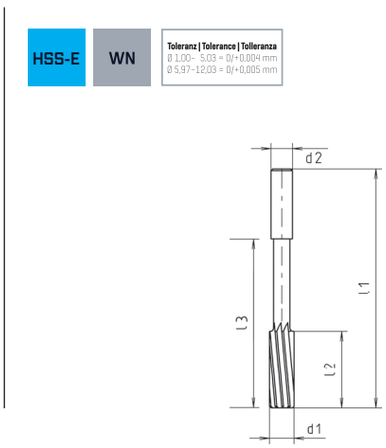
I Alesatori a macchina NC taglienti elicoidali, diam. codolo nominale, simile DIN 212

Einsatzbereich:
NC-gerechte Ausführung ähnl. DIN 212 mit geradem Schaftdurchmesser für die standardisierte Aufnahme speziell in Hydrodehn- oder Hochgenauigkeitsfutter für höchste Rundlaufgenauigkeit und Prozesssicherheit. Drallgenutete Ausführung (8° Linksspirale). Für den Werkzeug- und Formenbau, um Bohrungen mit Unter-/Übermaß herzustellen.

Range of application:
Specificly designed for CNC-operations, similar DIN 212, with nominal shank for shrink fit systems, especially for highest precision of radial runout and process-safety. Slow helix type (8° left hand). Specially suitable for the tool and mold industry, to achieve undersized and oversized holes.

Impiego:
Alesatori simili DIN 212 codolo nominale per mandrini idraulici e di alta precisione, per una migliore coassialità e sicurezza di processo.
Elica sinistra 8°. Per lavorazioni di utensili e di stampi di fori sotto o sopra misura.







d1 mm	d2 h6 mm	l1 mm	l2 mm	l3 mm	z		Code 3082 Art.-Nr.
1,00	1,00	35	6	17	3	Ø 0,90 mm	0 3082001001 00
1,01	1,00	35	6	17	3	Ø 0,90 mm	0 3082001011 00
1,02	1,00	35	6	17	3	Ø 0,90 mm	0 3082001021 00
1,03	1,00	35	6	17	3	Ø 0,90 mm	0 3082001031 00
1,51	2,00	43	9	23	3	Ø 1,40 mm	0 3082001511 00
1,52	2,00	43	9	23	3	Ø 1,40 mm	0 3082001521 00
1,53	2,00	43	9	23	3	Ø 1,40 mm	0 3082001531 00
1,97	2,00	49	11	27	4	Ø 1,90 mm	0 3082001971 00
1,98	2,00	49	11	27	4	Ø 1,90 mm	0 3082001981 00
1,99	2,00	49	11	27	4	Ø 1,90 mm	0 3082001991 00
2,01	2,00	49	11	27	4	Ø 1,90 mm	0 3082002011 00
2,02	2,00	49	11	27	4	Ø 1,90 mm	0 3082002021 00
2,03	2,00	49	11	27	4	Ø 1,90 mm	0 3082002031 00
2,47	3,00	57	14	28	4	Ø 2,40 mm	0 3082002471 00
2,48	3,00	57	14	28	4	Ø 2,40 mm	0 3082002481 00
2,49	3,00	57	14	28	4	Ø 2,40 mm	0 3082002491 00
2,51	3,00	57	14	28	4	Ø 2,40 mm	0 3082002511 00
2,52	3,00	57	14	28	4	Ø 2,40 mm	0 3082002521 00
2,53	3,00	57	14	28	4	Ø 2,40 mm	0 3082002531 00
2,97	3,00	61	15	30	6	Ø 2,90 mm	0 3082002971 00
2,98	3,00	61	15	30	6	Ø 2,90 mm	0 3082002981 00
2,99	3,00	61	15	30	6	Ø 2,90 mm	0 3082002991 00
3,01	4,00	65	16	34	6	Ø 2,90 mm	0 3082003011 00
3,02	4,00	65	16	34	6	Ø 2,90 mm	0 3082003021 00
3,03	4,00	65	16	34	6	Ø 2,90 mm	0 3082003031 00
3,97	4,00	75	19	47	6	Ø 3,90 mm	0 3082003971 00
3,98	4,00	75	19	47	6	Ø 3,90 mm	0 3082003981 00
3,99	4,00	75	19	47	6	Ø 3,90 mm	0 3082003991 00
4,01	4,00	75	19	47	6	Ø 3,90 mm	0 3082004011 00
4,02	4,00	75	19	47	6	Ø 3,90 mm	0 3082004021 00

Fortsetzung / Continuation / Continuazione ▶



d1 mm	d2 h6 mm	l1 mm	l2 mm	l3 mm	Z		Code 3082 Art.-Nr.
4,03	4,00	75	19	47	6	Ø 3,90 mm	0 3082004031 00
4,97	5,00	86	23	58	6	Ø 4,90 mm	0 3082004971 00
4,98	5,00	86	23	58	6	Ø 4,90 mm	0 3082004981 00
4,99	5,00	86	23	58	6	Ø 4,90 mm	0 3082004991 00
5,01	5,00	86	23	58	6	Ø 4,80 mm	0 3082005011 00
5,02	5,00	86	23	58	6	Ø 4,80 mm	0 3082005021 00
5,03	5,00	86	23	58	6	Ø 4,80 mm	0 3082005031 00
5,97	6,00	93	26	57	6	Ø 5,80 mm	0 3082005971 00
5,98	6,00	93	26	57	6	Ø 5,80 mm	0 3082005981 00
5,99	6,00	93	26	57	6	Ø 5,80 mm	0 3082005991 00
6,01	6,00	101	28	65	6	Ø 5,80 mm	0 3082006011 00
6,02	6,00	101	28	65	6	Ø 5,80 mm	0 3082006021 00
6,03	6,00	101	28	65	6	Ø 5,80 mm	0 3082006031 00
7,97	8,00	117	33	81	6	Ø 7,80 mm	0 3082007971 00
7,98	8,00	117	33	81	6	Ø 7,80 mm	0 3082007981 00
7,99	8,00	117	33	81	6	Ø 7,80 mm	0 3082007991 00
8,01	8,00	117	33	81	6	Ø 7,80 mm	0 3082008011 00
8,02	8,00	117	33	81	6	Ø 7,80 mm	0 3082008021 00
8,03	8,00	117	33	81	6	Ø 7,80 mm	0 3082008031 00
9,01	10,00	125	36	85	6	Ø 8,80 mm	0 3082009011 00
9,02	10,00	125	36	85	6	Ø 8,80 mm	0 3082009021 00
9,03	10,00	125	36	85	6	Ø 8,80 mm	0 3082009031 00
9,97	10,00	133	38	93	6	Ø 9,80 mm	0 3082009971 00
9,98	10,00	133	38	93	6	Ø 9,80 mm	0 3082009981 00
9,99	10,00	133	38	93	6	Ø 9,80 mm	0 3082009991 00
10,01	10,00	133	38	93	6	Ø 9,80 mm	0 3082010011 00
10,02	10,00	133	38	93	6	Ø 9,80 mm	0 3082010021 00
10,03	10,00	133	38	93	6	Ø 9,80 mm	0 3082010031 00
11,97	10,00	151	44	111	6	Ø 11,80 mm	0 3082011971 00
11,98	10,00	151	44	111	6	Ø 11,80 mm	0 3082011981 00
11,99	10,00	151	44	111	6	Ø 11,80 mm	0 3082011991 00
12,01	10,00	151	44	111	6	Ø 11,80 mm	0 3082012011 00
12,02	10,00	151	44	111	6	Ø 11,80 mm	0 3082012021 00
12,03	10,00	151	44	111	6	Ø 11,80 mm	0 3082012031 00

D Maschinenreibahlen
mit Morsekegel,
DIN 208 B

Einsatzbereich:
Drallgenutete Ausführung mit 8° Linksspirale für alle E- und NE-Metalle geeignet.

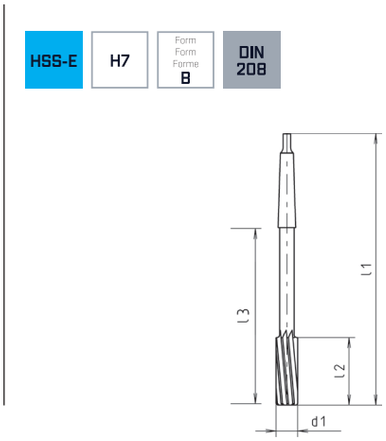
E Machine reamers
with morse taper shank,
DIN 208 B

Range of application:
For ferrous and non-ferrous metals. Slow helix type 8° left hand spiral.

I Alesatori a macchina
cono morse,
DIN 208 B

Impiego:
Alesatori con taglienti elicoidali, elica sinistra ca. 8°. Adatti per tutti i materiali ferrosi, non ferrosi.







d1 H7 mm	l1 mm	l2 mm	l3 mm		Z		Code 3130 Art.-Nr.
10,00	168	38	102,50	1	6	Ø 9,80 mm	0 3130010001 00
11,00	175	41	109,50	1	6	Ø 10,80 mm	0 3130011001 00
12,00	182	44	116,50	1	6	Ø 11,80 mm	0 3130012001 00
13,00	182	44	116,50	1	6	Ø 12,80 mm	0 3130013001 00
14,00	189	47	123,50	1	8	Ø 13,80 mm	0 3130014001 00
15,00	204	50	124,00	2	8	Ø 14,80 mm	0 3130015001 00
16,00	210	52	130,00	2	8	Ø 15,80 mm	0 3130016001 00
17,00	214	54	134,00	2	8	Ø 16,80 mm	0 3130017001 00
18,00	219	56	139,00	2	8	Ø 17,80 mm	0 3130018001 00
19,00	223	58	143,00	2	8	Ø 18,80 mm	0 3130019001 00
20,00	228	60	148,00	2	8	Ø 19,80 mm	0 3130020001 00
21,00	232	62	152,00	2	8	Ø 20,60 mm	0 3130021001 00
22,00	237	64	157,00	2	8	Ø 21,60 mm	0 3130022001 00
23,00	241	66	161,00	2	8	Ø 22,60 mm	0 3130023001 00
24,00	268	68	169,00	3	8	Ø 23,60 mm	0 3130024001 00
25,00	268	68	169,00	3	8	Ø 24,60 mm	0 3130025001 00
26,00	273	70	174,00	3	8	Ø 25,60 mm	0 3130026001 00
27,00	277	71	178,00	3	8	Ø 26,60 mm	0 3130027001 00
28,00	277	71	178,00	3	8	Ø 27,60 mm	0 3130028001 00
30,00	281	73	182,00	3	10	Ø 29,60 mm	0 3130030001 00



D Hand-Kegelreibahlen
drallgenutet, Kegel 1:50, DIN 9 B

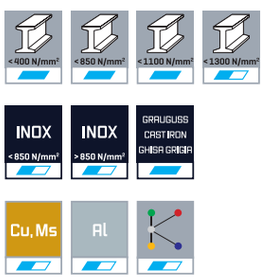
E Hand taper pin reamers
slow helix, taper 1:50, DIN 9 B

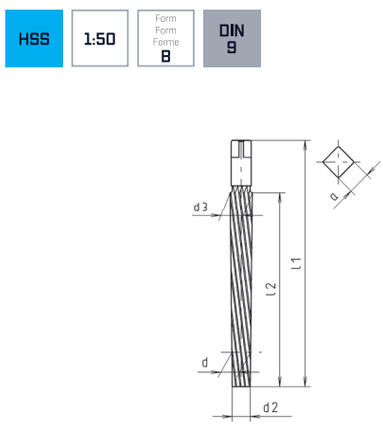
I Alesatori a mano per fori di spine coniche,
taglienti elicoidali, conicità 1:50, DIN 9 B

Einsatzbereich:
Drallgenutete Ausführung für E- und NE-Metalle, Kunststoffe hart und weich. Einsatz bei Einzel- und Reparaturfertigung, geeignet.

Range of application:
For ferrous and non-ferrous metals, synthetic materials soft and hard. Slow helix type suitable for interrupted conical borings.

Impiego:
Alesatori con taglienti elicoidali, adatti per tutti i materiali ferrosi, non ferrosi, materie plastiche dolci, termoindurenti, in lavorazioni singole o per riparazioni.







d mm	d2 mm	d3 mm	l1 mm	l2 mm	a h12 mm	Z	Code 3300 Art.-Nr.
3,00	2,90	4,06	80	58	3,00	5	0 3300003001 00
4,00	3,90	5,26	93	68	3,00	5	0 3300004001 00
5,00	4,90	6,36	100	73	4,90	5	0 3300005001 00
6,00	5,90	8,00	135	105	6,20	6	0 3300006001 00
7,00	6,90	9,50	160	130	6,20	6	0 3300007001 00
8,00	7,90	10,80	180	145	8,00	6	0 3300008001 00
10,00	9,90	13,40	215	175	10,00	6	0 3300010001 00
12,00	11,80	16,00	255	210	11,00	8	0 3300012001 00

D Maschinen-Kegel-Schälreibahlen
Kegel 1:50, DIN 2179

E Machine taper pin reamers
high helix, taper 1:50, DIN 2179

I Alesatori a macchina per fori di spine coniche
a forte torsione, conicità 1:50, DIN 2179

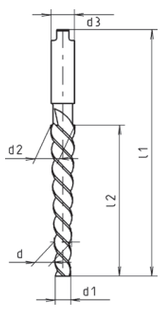
Einsatzbereich:
Stark spiralgenutete Ausführung (45°) für E- und NE-Metalle, Kunststoffe hart und weich. Der Schneidenteil weist eine Kegeltoleranz AT 8 nach DIN 7178 Teil 1 auf. Einsatz bei Einzel- und Serienfertigung mit hoher Zerspanungsleistung zum Reiben von Bohrungen für Kegelstifte.

Range of application:
For ferrous and non-ferrous metals, synthetic materials soft and hard. Quick helix type (45°) suitable for reaming of taper pin borings (1:50). The cutting part has a taper tolerance corresponding to the Taper Angle-Tolerances Class AT 8 according to DIN 7178 Part 1. Suitable for individual and mass production with high cutting efficiency.

Impiego:
Alesatori a forte torsione (45°), adatti per tutti i materiali ferrosi, non ferrosi, materie plastiche dolci, termoindurenti, sia per lavorazioni singole che di serie, con elevata capacità di asportazione. Alesatura di fori per spine coniche. Il tagliente ha una tolleranza di conicità AT 8 secondo DIN 7178 parte 1.



HSS-E | DIN 2179 | 1:50





d mm	d1 mm	d2 mm	d3 mm	l1 mm	l2 mm	Z	Code 3320 Art.-Nr.
5,00	4,90	6,36	6,30	122	73	3	0 3320005001 00
6,00	5,90	8,00	8,00	160	105	3	0 3320006001 00
8,00	7,90	10,80	10,00	207	145	3	0 3320008001 00
10,00	9,90	13,40	12,50	245	175	3	0 3320010001 00





HSS-Flachsenker, Kegelsenker

E HSS counterbores, countersinks

I HSS allargatori per sedi viti, svasatori



D Übersicht
HSS-Senker

E Overview
HSS countersinks

I Sommario
Svasatori HSS

D Die Schnittwerte für alle Werkzeuge entnehmen Sie bitte unserem separaten Zerspanungshandbuch.

E You will find the cutting conditions for all tools in our separate cutting manual.

I Per i parametri di lavorazione per tutti gli utensili richiedete il nostro manuale tecnico.

Kegelsenker / Countersinks
Svasatori



Norm / Standard	DIN 334		DIN 335			
Typ / Typ / Tipo	60°	60°	90°	90°	90°	90°
Form / Forma	C	C	C	C	C	C
Schneidstoff / Cutting material / Acciaio punta	HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5
Beschichtung / Coating / Rivestimento				ALUNIT®		ALUNIT®
Ø mm	6,3-25	6,3-25	4,3-31	4,3-31	4,3-31	4,3-31
Code / Codice	2270	2280	2390	2397	2380	2387
Seite / Page / Pagina	416	417	418	418	419	419
Geeignet für / Suitable for / Adatte per						
Stähle < 400 N/mm² Steels < 400 N/mm² Acciai < 400 N/mm²	▬	▬	▬	▬	▬	▬
Stähle < 850 N/mm² Steels < 850 N/mm² Acciai < 850 N/mm²	▬	▬	▬	▬	▬	▬
Stähle < 1.100 N/mm² Steels < 1.100 N/mm² Acciai < 1.100 N/mm²	▬	▬	▬	▬	▬	▬
Stähle < 1.300 N/mm² Steels < 1.300 N/mm² Acciai < 1.300 N/mm²	▭	▭	▭	▭	▭	▭
Stähle > 45 HRC Steels > 45 HRC Acciai > 45 HRC	▭		▭	▭	▭	▭
Rostfreie Stähle < 850 N/mm² Stainless steels < 850 N/mm² Acciai inossidabili < 850 N/mm²	▭	▭	▭	▭	▭	▭
Rostfreie Stähle > 850 N/mm² Stainless steels > 850 N/mm² Acciai inossidabili > 850 N/mm²	▭	▭	▭	▭	▭	▭
Grauguss, Temperguss Cast iron, malleable cast iron Ghisa grigia, ghisa malleabile	▬	▬	▬	▬	▬	▬
Titan- und Titanlegierung Titanium and titanium alloys Titanio e leghe di Titanio						
Kupfer, Messing Copper, brass Rame, ottone	▭	▭	▭	▭	▭	▭
Aluminium Aluminium Alluminio	▭	▭	▭	▭	▭	▭
Kunststoffe Plastics Materie plastiche	▭	▭	▭	▭	▭	▭

▬ **Ideal** / Ideal / Ideale | ▭ **Geeignet** / Suitable / Adatte

D **Übersicht**
HSS-Senker

E **Overview**
HSS countersinks

I **Sommario**
Svasatori HSS

Kegelsenker / Countersinks Svasatori					Flachsenker / Counterbores Allargatori per sedi viti			Führungszapfen / Pilots Guide	
									
DIN 335					DIN 373		DIN 375	DIN 1868	
90°	90°	90°	90°	90°	N	N	N		
C	C	C	C	D	fein / fine	mittel/medium		fein / fine	mittel/medium
HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5	HSS	HSS	HSS	HSS	HSS
	ALUNIT®		ALUNIT®						
6,3-31	6,3-31	4,3-31	5-31	25-50	M3 - M12	M4 - M12	M10 - M24	M10 - M24	M10 - M24
2340	2347	2290	2297	2330	2140	2150	2160	2180	2190
420	420	421	421	422	423	423	424	425	425
▬	▬	▬	▬	▬	▬	▬	▬		
▬	▬	▬	▬	▬	▬	▬	▬		
▬	▬	▬	▬	▬	▬	▬	▬		
▭	▭	▭	▭	▭	▭	▭	▭		
▭	▭								
▭	▭	▭	▭	▭	▭	▭	▭		
▭	▭	▭	▭	▭	▭	▭	▭		
▬	▬	▬	▬	▬	▬	▬	▬		
▭	▭	▭	▭	▭	▭	▭	▭		
▭	▭	▭	▭	▭	▭	▭	▭		
▭	▭	▭	▭	▭	▭	▭	▭		

▬ **Ideal** / Ideal / Ideale | ▭ **Geeignet** / Suitable / Adatte



D HSS Cobalt Kegelsenker ungleiche Teilung
DIN 334 C, 60°

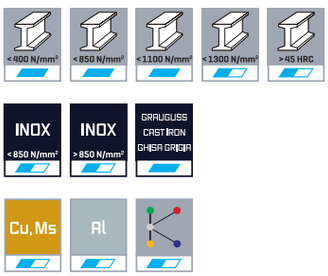
Einsatzbereich:
Für alle E- und NE-Metalle, Kunststoffe hart und weich. Universell einsetzbares Entgrat- und Senkwerkzeug für Bohrungen aller Art. Sehr gute Schneideigenschaften durch ungleichgeteilte Schneiden. Verringerung der Vorschubkraft und Ratterbildung an der Senkoberfläche durch reduzierte Axial- und Radialkraft.

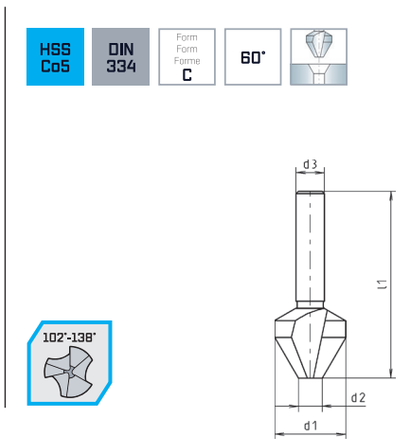
E HSS Cobalt countersinks different partition
DIN 334 C, 60°

Range of application:
For ferrous and non-ferrous metals, synthetic materials soft and hard. Universal deburring and sink tool for all kind of borings. Excellent cutting features guarantee a smooth surface by unequally divided cutting edges. Reduction of feed force and chatter marks on the countersinking surface due to reduced axial and radial force.

I Svasatori HSS Cobalt disuguale tagliente
DIN 334 C, 60°

Impiego:
Adatti per tutti i materiali ferrosi, non ferrosi, plastiche dure e dolci, per sbavature e svasature di tutti i tipi di fori. Perfette proprietà di taglio, a causa di disuguale tagliente. Riduzione della forza di alimentazione e vibrazioni sulla superficie di affondamento grazie alla ridotta forza assiale e radiale.







d1 mm	d2 mm	d3 h9 mm	l1 mm	Z	Code 2270 Art.-Nr.
6,30	1,60	5,00	45	3	0 2270006301 00
8,00	2,00	6,00	50	3	0 2270008001 00
10,00	2,50	6,00	50	3	0 2270010001 00
12,50	3,20	8,00	56	3	0 2270012501 00
16,00	4,00	10,00	63	3	0 2270016001 00
20,00	5,00	10,00	67	3	0 2270020001 00
25,00	6,30	10,00	71	3	0 2270025001 00



Standard Kegelsenker
Standard countersink
Svasatori Standard



mit ungleicher Teilung
with different partition
con divisione variabile

D HSS Cobalt Kegelsenker
DIN 334 C, 60°

Einsatzbereich:
Für alle E- und NE-Metalle, Kunststoffe hart und weich. Universell einsetzbares Entgrat- und Senkwerkzeug für Bohrungen aller Art. Sehr gute Schneideigenschaften, durch radialen Hinterschliff leicht nachschärfbar an der Spanfläche.

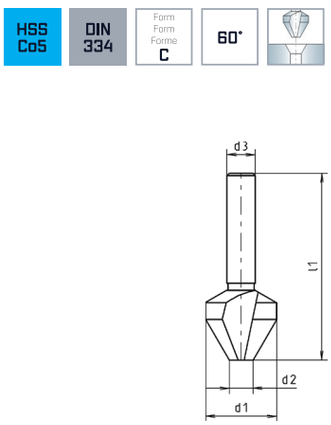
E HSS Cobalt countersinks
DIN 334 C, 60°

Range of application:
For ferrous and non-ferrous metals, synthetic materials soft and hard. Universal deburring and sink tool for all kind of borings. Excellent cutting features guarantee a smooth surface; profile relief facilitates an easy regrind.

I Svasatori HSS Cobalt
DIN 334 C, 60°

Impiego:
Adatti per tutti i materiali ferrosi, non ferrosi, plastiche dure e dolci, per sbavature e svasature di tutti i tipi di fori. Ottime proprietà di taglio, mentre la spoglia radiale permette una facile riaffilatura.







d1 mm	d2 mm	d3 h9 mm	l1 mm	Z	Code 2280 Art.-Nr.
6,30	1,60	5,00	45	3	0 2280006301 00
8,00	2,00	6,00	50	3	0 2280008001 00
12,50	3,20	8,00	56	3	0 2280012501 00
16,00	4,00	10,00	63	3	0 2280016001 00
20,00	5,00	10,00	67	3	0 2280020001 00
25,00	6,30	10,00	71	3	0 2280025001 00



D HSS Cobalt Kegelsenker ungleiche Teilung
DIN 335 C, 90°

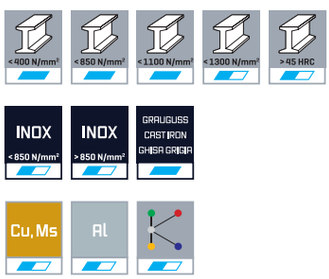
Einsatzbereich:
Für alle E- und NE-Metalle, Kunststoffe hart und weich. Universell einsetzbares Entgrat- und Senkwerkzeug für Bohrungen aller Art. Sehr gute Schneideigenschaften durch ungleichgeteilte Schneiden. Verringerung der Vorschubkraft und Ratterbildung an der Senkoberfläche durch reduzierte Axial- und Radialkraft.

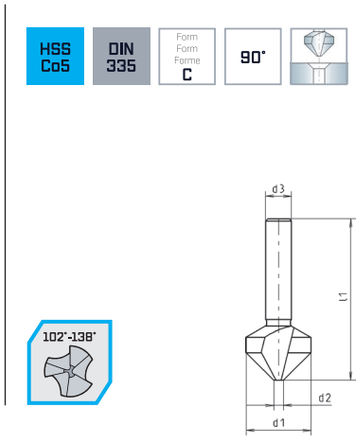
E HSS Cobalt countersinks different partition
DIN 335 C, 90°

Range of application:
For ferrous and non-ferrous metals, synthetic materials soft and hard. Universal deburring and sink tool for all kind of borings. Excellent cutting features guarantee a smooth surface by unequally divided cutting edges. Reduction of feed force and chatter marks on the countersinking surface due to reduced axial and radial force.

I Svasatori HSS Cobalt disuguale tagliente
DIN 335 C, 90°

Impiego:
Adatti per tutti i materiali ferrosi, non ferrosi, plastiche dure e dolci, per sbavature e svasature di tutti i tipi di fori. Perfette proprietà di taglio, a causa di disuguale tagliente. Riduzione della forza di alimentazione e vibrazioni sulla superficie di affondamento grazie alla ridotta forza assiale e radiale.







	d1 mm		d2 mm	d3 h9 mm	l1 mm	Z	Code 2390 Art.-Nr.	Code 2397 Art.-Nr.
New	**4,30**	M2	1,30	4,00	40	3	0 2390004301 00	0 2397004301 00
New	**6,00**	M3	1,50	5,00	45	3	0 2390006001 00	0 2397006001 00
	6,30	M3	1,50	5,00	45	3	0 2390006301 00	0 2397006301 00
New	**8,00**	M4	2,00	6,00	50	3	0 2390008001 00	0 2397008001 00
	8,30	M4	2,00	6,00	50	3	0 2390008301 00	0 2397008301 00
New	**10,00**	M5	2,50	6,00	50	3	0 2390010001 00	0 2397010001 00
	10,40	M5	2,50	6,00	50	3	0 2390010401 00	0 2397010401 00
New	**11,50**	M6	2,80	8,00	50	3	0 2390011501 00	0 2397011501 00
	12,40	M6	2,80	8,00	56	3	0 2390012401 00	0 2397012401 00
New	**15,00**	M8	3,20	10,00	60	3	0 2390015001 00	0 2397015001 00
	16,50	M8	3,20	10,00	60	3	0 2390016501 00	0 2397016501 00
New	**19,00**	M10	3,50	10,00	63	3	0 2390019001 00	0 2397019001 00
	20,50	M10	3,50	10,00	63	3	0 2390020501 00	0 2397020501 00
New	**23,00**	M12	3,80	10,00	67	3	0 2390023001 00	0 2397023001 00
	25,00	M12	3,80	10,00	67	3	0 2390025001 00	0 2397025001 00
	31,00	M16	4,20	12,00	71	3	0 2390031001 00	0 2397031001 00



Standard Kegelsenker
Standard countersink
Svasatori Standard



mit ungleicher Teilung
with different partition
con divisione variabile

D HSS Cobalt Kegelsenker 3-Flächenschaft, ungleiche Teilung
DIN 335 C, 90°

Einsatzbereich:
Für alle E- und NE-Metalle, Kunststoffe hart und weich. Universell einsetzbares Entgrat- und Senkwerkzeug für Bohrungen aller Art. Sehr gute Schneideigenschaften durch ungleichgeteilte Schneiden. Verringerung der Vorschubkraft und Ratterbildung an der Senkoberfläche durch reduzierte Axial- und Radialkraft.

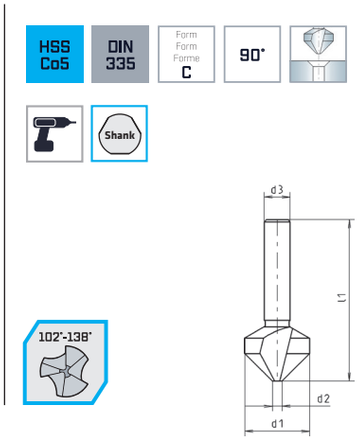
E HSS Cobalt countersinks 3-surface shank, different partition
DIN 335 C, 90°

Range of application:
For ferrous and non-ferrous metals, synthetic materials soft and hard. Universal deburring and sink tool for all kind of borings. Excellent cutting features guarantee a smooth surface by unequally divided cutting edges. Reduction of feed force and chatter marks on the countersinking surface due to reduced axial and radial force.

I Svasatori HSS Cobalt Codolo a 3 superfici, disuguale tagliente
DIN 335 C, 90°

Impiego:
Adatti per tutti i materiali ferrosi, non ferrosi, plastiche dure e dolci, per sbavature e svasature di tutti i tipi di fori. Perfette proprietà di taglio, a causa di disuguale tagliente. Riduzione della forza di alimentazione e vibrazioni sulla superficie di affondamento grazie alla ridotta forza assiale e radiale.







ALUNIT®

	d1 mm		d2 mm	d3 h9 mm	l1 mm	Z	Code 2380 Art.-Nr.	Code 2387 Art.-Nr.
New	**4,30**	M2	1,30	4,00	40	3	0 2380004301 00	0 2387004301 00
New	**6,00**	M3	1,50	5,00	45	3	0 2380006001 00	0 2387006001 00
	6,30	M3	1,50	5,00	45	3	0 2380006301 00	0 2387006301 00
New	**8,00**	M4	2,00	6,00	50	3	0 2380008001 00	0 2387008001 00
	8,30	M4	2,00	6,00	50	3	0 2380008301 00	0 2387008301 00
New	**10,00**	M5	2,50	6,00	50	3	0 2380010001 00	0 2387010001 00
	10,40	M5	2,50	6,00	50	3	0 2380010401 00	0 2387010401 00
New	**11,50**	M6	2,80	8,00	56	3	0 2380011501 00	0 2387011501 00
	12,40	M6	2,80	8,00	56	3	0 2380012401 00	0 2387012401 00
New	**15,00**	M8	3,20	10,00	60	3	0 2380015001 00	0 2387015001 00
	16,50	M8	3,20	10,00	60	3	0 2380016501 00	0 2387016501 00
New	**19,00**	M10	3,50	10,00	63	3	0 2380019001 00	0 2387019001 00
	20,50	M10	3,50	10,00	63	3	0 2380020501 00	0 2387020501 00
New	**23,00**	M12	3,80	10,00	67	3	0 2380023001 00	0 2387023001 00
	25,00	M12	3,80	10,00	67	3	0 2380025001 00	0 2387025001 00
	31,00	M16	4,20	12,00	71	3	0 2380031001 00	0 2387031001 00



Standard Kegelsenker
Standard countersink
Svasatori Standard

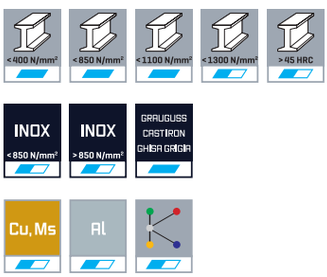


mit ungleicher Teilung
with different partition
con divisione variabile



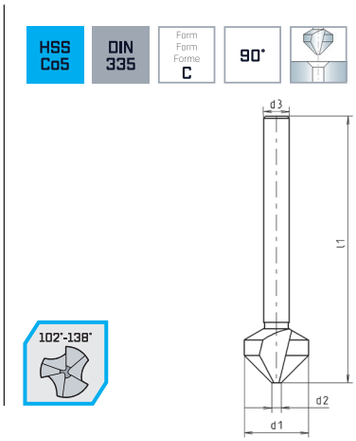
D HSS Cobalt Kegelsenker lang, ungleiche Teilung
DIN 335 C, 90°

Einsatzbereich:
Für alle E- und NE-Metalle, Kunststoffe hart und weich. Universell einsetzbares Entgrat- und Senkwerkzeug für Bohrungen aller Art. Sehr gute Schneideigenschaften durch ungleichgeteilte Schneiden. Verringerung der Vorschubkraft und Ratterbildung an der Senkoberfläche durch reduzierte Axial- und Radialkraft.



E HSS Cobalt countersinks long series, different partition
DIN 335 C, 90°

Range of application:
For ferrous and non-ferrous metals, synthetic materials soft and hard. Universal deburring and sink tool for all kind of borings. Excellent cutting features guarantee a smooth surface by unequally divided cutting edges. Reduction of feed force and chatter marks on the countersinking surface due to reduced axial and radial force.



I Svasatori HSS Cobalt serie lunga, disuguale tagliente
DIN 335 C, 90°

Impiego:
Adatti per tutti i materiali ferrosi, non ferrosi, plastiche dure e dolci, per sbavature e svasature di tutti i tipi di fori. Perfette proprietà di taglio, a causa di disuguale tagliente. Riduzione della forza di alimentazione e vibrazioni sulla superficie di affondamento grazie alla ridotta forza assiale e radiale.



ALUNIT®

d1 mm		d2 mm	d3 h9 mm	l1 mm	Z	Code 2340 Art.-Nr.	Code 2347 Art.-Nr.
6,30	M3	1,50	5,00	104	3	0 2340006301 00	0 2347006301 00
8,30	M4	2,00	6,00	105	3	0 2340008301 00	0 2347008301 00
10,40	M5	2,50	6,00	107	3	0 2340010401 00	0 2347010401 00
12,40	M6	2,80	8,00	108	3	0 2340012401 00	0 2347012401 00
16,50	M8	3,20	10,00	111	3	0 2340016501 00	0 2347016501 00
20,50	M10	3,50	10,00	114	3	0 2340020501 00	0 2347020501 00
25,00	M12	3,80	10,00	118	3	0 2340025001 00	0 2347025001 00
31,00	M16	4,20	12,00	140	3	0 2340031001 00	0 2347031001 00



Standard Kegelsenker
Standard countersink
Svasatori Standard



mit ungleicher Teilung
with different partition
con divisione variabile

D Kegelsenker
DIN 335 C,
90°

Einsatzbereich:
Für alle E- und NE-Metalle, Kunststoffe hart und weich. Universell einsetzbares Entgrat- und Senkwerkzeug für Bohrungen aller Art. Gute Schneideigenschaften, durch radialen Hinterschliff leicht nachschärfbar an der Spanfläche.

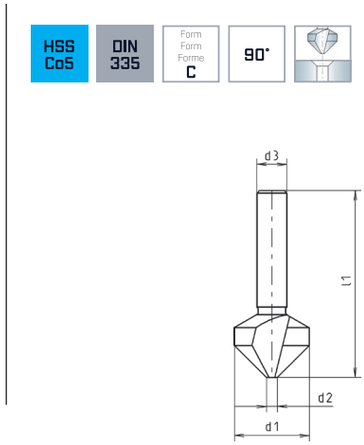
E Countersinks
DIN 335 C,
90°

Range of application:
For ferrous and non-ferrous metals, synthetic materials soft and hard. Universal deburring and sink tool for all kind of borings. Good cutting features guarantee a smooth surface; profile relief facilitates an easy regrind.

I Svasatori
DIN 335 C,
90°

Impiego:
Adatti per tutti i materiali ferrosi, non ferrosi, plastiche dure e dolci, per sbavature e svasature di tutti i tipi di fori. Ottime proprietà di taglio, mentre la spoglia radiale permette una facile riaffilatura.









ALUNIT®

d1 mm	d2 mm	d3 h9 mm	l1 mm	Z	Code 2290 Art.-Nr.	Code 2297 Art.-Nr.
4,30	1,30	4,00	40	3	0 2290004301 00	
5,00	1,50	4,00	40	3	0 2290005001 00	0 2297005001 00
5,30	1,50	4,00	40	3	0 2290005301 00	
6,00	1,50	5,00	45	3	0 2290006001 00	0 2297006001 00
6,30	1,50	5,00	45	3	0 2290006301 00	0 2297006301 00
8,00	2,00	6,00	50	3	0 2290008001 00	0 2297008001 00
8,30	2,00	6,00	50	3	0 2290008301 00	0 2297008301 00
9,40	2,20	6,00	50	3	0 2290009401 00	
10,00	2,50	6,00	50	3	0 2290010001 00	0 2297010001 00
10,40	2,50	6,00	50	3	0 2290010401 00	0 2297010401 00
11,50	2,80	8,00	56	3	0 2290011501 00	
12,40	2,80	8,00	56	3	0 2290012401 00	0 2297012401 00
13,40	2,90	8,00	56	3	0 2290013401 00	
15,00	3,20	10,00	60	3	0 2290015001 00	0 2297015001 00
16,50	3,20	10,00	60	3	0 2290016501 00	0 2297016501 00
19,00	3,50	10,00	63	3	0 2290019001 00	0 2297019001 00
20,50	3,50	10,00	63	3	0 2290020501 00	0 2297020501 00
23,00	3,80	10,00	67	3	0 2290023001 00	
25,00	3,80	10,00	67	3	0 2290025001 00	0 2297025001 00
31,00	4,20	12,00	71	3	0 2290031001 00	0 2297031001 00



D Kegelsenker mit MK-Schaft
DIN 335 D, 90°

Einsatzbereich:
Für alle E- und NE-Metalle, Kunststoffe hart und weich. Universell einsetzbares Entgrat- und Senkwerkzeug für Bohrungen aller Art. Sehr gute Schneideigenschaften, durch radialen Hinterschliff leicht nachschärfbar an der Spanfläche.

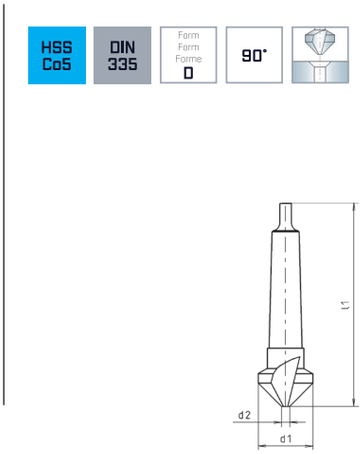
E Countersinks with MT-Shank
DIN 335 D, 90°

Range of application:
For ferrous and non-ferrous metals, synthetic materials soft and hard. Universal deburring and sink tool for all kind of borings. Excellent cutting features guarantee a smooth surface; profile relief facilitates an easy regrind.

I Svasatori cono morse
DIN 335 D, 90°

Impiego:
Adatti per tutti i materiali ferrosi, non ferrosi, plastiche dure e dolci, per sbavature e svasature di tutti i tipi di fori. Ottime proprietà di taglio, mentre la spoglia radiale permette una facile riaffilatura.







d1 mm	d2 mm	l1 mm		Z	Code 2330 Art.-Nr.
25,00	3,80	106	2	3	0 2330025001 00
31,00	4,20	112	2	3	0 2330031001 00
34,00	4,50	118	2	3	0 2330034001 00
37,00	4,80	118	2	3	0 2330037001 00
40,00	10,00	140	3	3	0 2330040001 00
50,00	14,00	150	3	3	0 2330050001 00

D Flachsenker
DIN 373, fein

Einsatzbereich:
Für alle E- und NE-Metalle, Kunststoffe hart und weich. Zur Verwendung in Durchgangslöcher nach DIN 273 Gütegrad „fein" bei Einzel- und Serienfertigung. Zum Versenken von Innensechskantschrauben DIN 912, 6912, 7984 und Zylinderschrauben ISO 1207 (DIN 84).

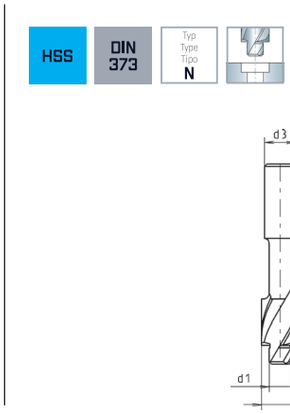
E Counterbores
DIN 373, fine

Range of application:
For ferrous and non-ferrous metals, synthetic materials soft and hard, for working in through holes according to DIN 273 Quality level "fine". Suitable in individual and mass production. For countersinking Allen screws DIN 912, 6912, 7984 and cheese-head screws ISO 1207 (DIN 84).

I Allargatori per sedi viti
DIN 373, fine

Impiego:
Adatti per tutti i materiali ferrosi, non ferrosi, plastiche dure e dolci, per fori passanti secondo DIN 273 Grado di precisione "fino", sia per lavorazioni singole che di serie. Per accecare le viti ad esagono cavo DIN 912, 6912, 7984 e le viti a testa cilindrica ISO 1207 (DIN 84).







	d1 e8 mm	d2 z9 mm	d3 h9 mm	l1 mm	l2 mm	Z	Code 2140 Art.-Nr.
M 3	3,20	6,00	5,00	71	14	3	0 2140006001 00
M 4	4,30	8,00	5,00	71	14	3	0 2140008001 00
M 5	5,30	10,00	8,00	80	18	3	0 2140010001 00
M 6	6,40	11,00	8,00	80	18	3	0 2140011001 00
M 8	8,40	15,00	12,50	100	22	3	0 2140015001 00
M10	10,50	18,00	12,50	100	22	3	0 2140018001 00
M12	13,00	20,00	12,50	100	22	3	0 2140020001 00

D Flachsenker
DIN 373, mittel

Einsatzbereich:
Für alle E- und NE-Metalle, Kunststoffe hart und weich. Zur Verwendung in Durchgangslöcher nach DIN 273 Gütegrad „mittel" bei Einzel- und Serienfertigung. Zum Versenken von Innensechskantschrauben DIN 912, 6912, 7984 und Zylinderschrauben ISO 1207 (DIN 84).

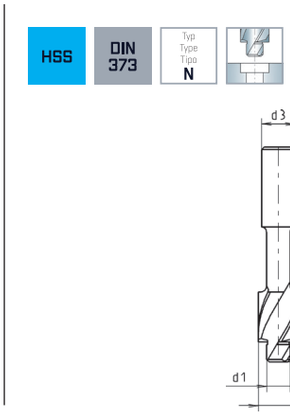
E Counterbores
DIN 373, medium

Range of application:
For ferrous and non-ferrous metals, synthetic materials soft and hard, for working in through holes according to DIN 273 Quality level "medium". Suitable in individual and mass production. For countersinking Allen screws DIN 912, 6912, 7984 and cheese-head screws ISO 1207 (DIN 84).

I Allargatori per sedi viti
DIN 373, media

Impiego:
Adatti per tutti i materiali ferrosi, non ferrosi, plastiche dure e dolci, per fori passanti secondo DIN 273 Grado di precisione "medio", sia per lavorazioni singole che di serie. Per accecare le viti ad esagono cavo DIN 912, 6912, 7984 e le viti a testa cilindrica ISO 1207 (DIN 84).









	d1 e8 mm	d2 z9 mm	d3 h9 mm	l1 mm	l2 mm	z	Code 2150 Art.-Nr.
M 4	4,50	8,00	5,00	71	14	3	0 2150008001 00
M 5	5,50	10,00	8,00	80	18	3	0 2150010001 00
M 6	6,60	11,00	8,00	80	18	3	0 2150011001 00
M 8	9,00	15,00	12,50	100	22	3	0 2150015001 00
M10	11,00	18,00	12,50	100	22	3	0 2150018001 00
M12	13,50	20,00	12,50	100	22	3	0 2150020001 00

D Flachsenker für auswechselbare Führungszapfen,
MK-Schaft, DIN 375

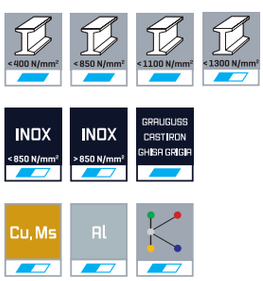
Einsatzbereich:
Für alle E- und NE-Metalle, Kunststoffe hart und weich. Zur Verwendung in Durchgangslöcher nach DIN 273 bei Einzel- und Serienfertigung.

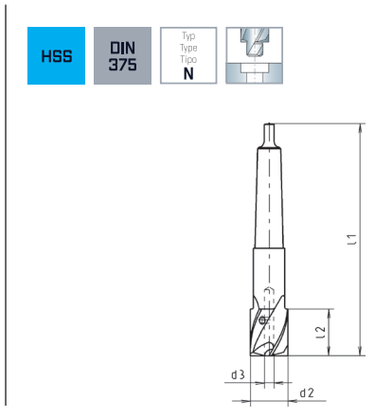
E Counterbores for detachable pilots,
MT-shank, DIN 375

Range of application:
For ferrous and non-ferrous metals, synthetic materials soft and hard, for working in through holes according to DIN 273. Suitable in individual and mass production.

I Allargatori con guida intercambiabile,
Cono morse, DIN 375

Impiego:
Adatti per tutti i materiali ferrosi, non ferrosi plastiche dure e dolci, per fori passanti secondo DIN 273, sia per lavorazioni singole che di serie.







	d2 z9 mm	d3 mm	l1 mm	l2 mm		z	Code 2160 Art.-Nr.
M10	18,00	5,00	140	25	2	3	0 2160018001 00
M12	20,00	5,00	140	25	2	3	0 2160020001 00
M14	24,00	6,00	150	30	2	3	0 2160024001 00
M16	26,00	8,00	180	35	3	3	0 2160026001 00
M18	30,00	8,00	180	35	3	3	0 2160030001 00
M20	33,00	10,00	190	40	3	3	0 2160033001 00
M24	40,00	10,00	190	40	3	3	0 2160040001 00

D Führungszapfen
DIN 1868

Einsatzbereich:
Für Flachsenker DIN 375 und Kegelsenker DIN 1867 für Durchgangslöcher nach DIN 69.

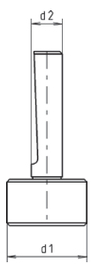
E Pilots
DIN 1868

Range of application:
For counterbores DIN 375 and countersinks DIN 1867 for body holes according to DIN 69.

I Guide
DIN 1868

Impiego:
Per allargatori DIN 375 e svasatori DIN 1867. Adatte per fori passanti secondo DIN 69.

HSS | DIN 1868





für Durchgangslöcher „fein" / for body holes „fine" / per fori passanti „fine"

	d1 e8 mm	d2 f7 mm	Code 2180 Art.-Nr.
M10	10,50	5,00	0 2180010501 00
M12	13,00	5,00	0 2180013001 00
M14	15,00	6,00	0 2180015001 00
M16	17,00	8,00	0 2180017001 00
M18	19,00	8,00	0 2180019001 00
M20	21,00	10,00	0 2180021001 00
M24	25,00	10,00	0 2180025001 00

D Führungszapfen
DIN 1868

Einsatzbereich:
Für Flachsenker DIN 375 und Kegelsenker DIN 1867 für Durchgangslöcher nach DIN 69.

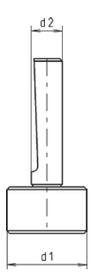
E Pilots
DIN 1868

Range of application:
For counterbores DIN 375 and countersinks DIN 1867 for body holes according to DIN 69.

I Guide
DIN 1868

Impiego:
Per allargatori DIN 375 e svasatori DIN 1867. Adatte per fori passanti secondo DIN 69.

HSS | DIN 1868





für Durchgangslöcher „mittel" / for body holes „medium" / per fori passanti „media"

	d1 e8 mm	d2 f7 mm	Code 2190 Art.-Nr.
M10	11,00	5,00	0 2190011001 00
M12	13,50	5,00	0 2190013501 00
M14	15,50	6,00	0 2190015501 00
M16	17,50	8,00	0 2190017501 00
M18	20,00	8,00	0 2190020001 00
M20	22,00	10,00	0 2190022001 00
M24	26,00	10,00	0 2190026001 00



D HSS-Co5 Kegelsenkersätze
DIN 335 C, 90°

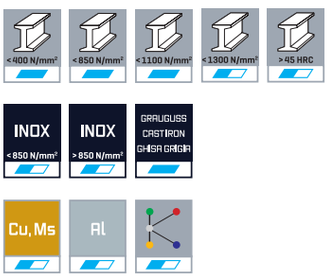
Einsatzbereich:
Für alle E- und NE-Metalle, Kunststoffe hart und weich. Universell einsetzbares Entgrat- und Senkwerkzeug für Bohrungen aller Art. Sehr gute Schneideigenschaften.

E HSS-Co5 Countersink-sets
DIN 335 C, 90°

Range of application:
For ferrous and non-ferrous metals, synthetic materials soft and hard. Universal deburring and sink tool for all kind of borings. Excellent cutting features guarantee a smooth surface.

I Assortimenti svasatori HSS-Co5
DIN 335 C, 90°

Impiego:
Adatti per tutti i materiali ferrosi, non ferrosi, plastiche dure e dolci, per sbavature e svasature di tutti i tipi di fori. Ottime proprietà di taglio.



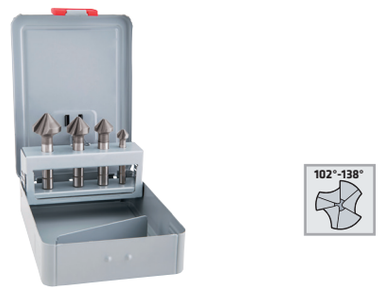


HSS Co5-Kegelsenker-Satz, 4-tlg.
HSS Co5-Countersink set, 4 pcs.
Assortimento svasatori HSS Co5, 4 pz.

Inhalt / Contents / Contenuto:

Code 2397 Ø 10,4 | 16,5 | 20,5 | 25,0

Art.-Nr. 0 2397000041 00



HSS Co5-Kegelsenker-Satz, 4-tlg.
HSS Co5-Countersink set, 4 pcs.
Assortimento svasatori HSS Co5, 4 pz.

Inhalt / Contents / Contenuto:

Code 2390 Ø 10,4 | 16,5 | 20,5 | 25,0

Art.-Nr. 0 2390000041 00



HSS Co5 Kegelsenker-Satz, 5-tlg.
HSS Co5 Countersink set, 5 pcs.
Assortimenti svasatori HSS Co5, 5 pz.

Inhalt / *Contents / Contenuto:*

Code 2397 Ø 6,3 | 10,4 | 16,5 | 20,5 | 25,0

Art.-Nr. 0 2397000051 00



HSS Co5 Kegelsenker-Satz, 5-tlg.
HSS Co5 Countersink set, 5 pcs.
Assortimenti svasatori HSS Co5, 5 pz.

Inhalt / *Contents / Contenuto:*

Code 2390 Ø 6,3 | 10,4 | 16,5 | 20,5 | 25,0

Art.-Nr. 0 2390000051 00

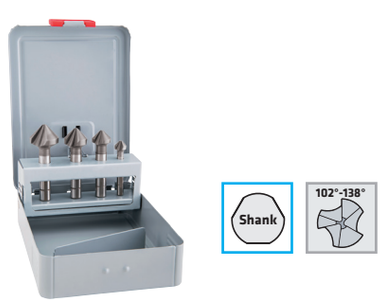


HSS Co5-Kegelsenker-Satz, 4-tlg.
HSS Co5-Countersink set, 4 pcs.
Assortimento svasatori HSS Co5, 4 pz.

Inhalt / Contents / Contenuto:

Code 2387 Ø 10,4 | 16,5 | 20,5 | 25,0

Art.-Nr. 0 2387000041 00



HSS Co5-Kegelsenker-Satz, 4-tlg.
HSS Co5-Countersink set, 4 pcs.
Assortimento svasatori HSS Co5, 4 pz.

Inhalt / Contents / Contenuto:

Code 2380 Ø 10,4 | 16,5 | 20,5 | 25,0

Art.-Nr. 0 2380000041 00



HSS Co5 Kegelsenker-Satz, 5-tlg.
HSS Co5 Countersink set, 5 pcs.
Assortimenti svasatori HSS Co5, 5 pz.

Inhalt / *Contents / Contenuto:*

Code 2387 Ø 6,3 | 10,4 | 16,5 | 20,5 | 25,0

Art.-Nr. 0 2387000051 00



HSS Co5 Kegelsenker-Satz, 5-tlg.
HSS Co5 Countersink set, 5 pcs.
Assortimenti svasatori HSS Co5, 5 pz.

Inhalt / *Contents / Contenuto:*

Code 2380 Ø 6,3 | 10,4 | 16,5 | 20,5 | 25,0

Art.-Nr. 0 2380000051 00

LANGE AUSFÜHRUNG
LONG SERIES
SERIE LUNGA



HSS Co5 Kegelsenker-Satz, 6-tlg.
HSS Co5 Countersink set, 6 pcs.
Assortimenti svasatori HSS Co5, 6 pz.

Inhalt / *Contents / Contenuto:*

Code 2340 Ø 6,3 | 8,3 | 10,4 | 12,4 | 16,5 | 20,5

Art.-Nr. 0 2340000061 00



HSS Co5 Kegelsenker-Satz, 6-tlg.
HSS Co5 Countersink set, 6 pcs.
Assortimenti svasatori HSS Co5, 6 pz.

Inhalt / *Contents / Contenuto:*

Code 2347 Ø 6,3 | 8,3 | 10,4 | 12,4 | 16,5 | 20,5

Art.-Nr. 0 2347000061 00



HSS Co5-Kegelsenker-Satz, 4-tlg., Alunit®
HSS Co5 Countersink set, 4 pcs., Alunit®
Assortimenti svasatori HSS Co5, 4 pz., Alunit®

Inhalt / Contents / Contenuto:

Code 2297 Ø 10,4 | 16,5 | 20,5 | 25,0

Art.-Nr. 0 2297000041 00



HSS Co5-Kegelsenker-Satz, 4-tlg.
HSS Co5 Countersink set, 4 pcs.
Assortimenti svasatori HSS Co5, 4 pz.

Inhalt / Contents / Contenuto:

Code 2290 Ø 10,4 | 16,5 | 20,5 | 25,0

Art.-Nr. 0 2290000041 00



HSS Co5-Kegelsenker-Satz, 6-tlg.
HSS Co5-Countersink set, 6 pcs.
Assortimento svasatori HSS Co5, 6 pz.

Inhalt / Contents / Contenuto:

Code 2290 Ø 6,3 | 8,3 | 10,4 | 12,4 | 16,5 | 20,5

Art.-Nr. 0 2290000961 00





HSS-Fräser

E HSS milling cutters

I HSS frese



D Übersicht
HSS-Fräser

E Overview
HSS milling cutters

I Sommario
Frese HSS

D Die Schnittwerte für alle Werkzeuge entnehmen Sie bitte unserem separaten Zerspanungshandbuch.

E You will find the cutting conditions for all tools in our separate cutting manual.

I Per i parametri di lavorazione per tutti gli utensili richiedete il nostro manuale tecnico.

	Langlochfräser / Slot end mills / Frese per cave				
					
Norm / Standard	DIN 327 D		WN		
Typ / Type / Tipo	N	N	N	N	N
Länge / Length / Lunghezza	kurz / short	kurz / short	lang / long	kurz / short	kurz / short
Schneidenanzahl / No. of flutes / Nr. denti	2	2	2	3	3
Drallwinkel / Spiral angle / Anglo elica	30°	30°	30°	30°	30°
Schaftform / Shank type / Forma codolo	DIN 1835-B	DIN 1835-B	DIN 1835-B	DIN 1835-B	DIN 1835-B
Schneidstoff / Cutting material / Acciaio frese	HSS-Co8	HSS-Co8	HSS-Co8	HSS-Co8	HSS-Co8
Beschichtung / Coating / Rivestimento		ALUNIT®			ALUNIT®
Ø mm	2-40	2-20	4-30	3-20	3-20
Code / Codice	1026	1027	1086	1156	1157
Seite / Page / Pagina	440	440	441	442	442
Geeignet für / Suitable for / Adatte per					
< 400 N/mm² — Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²	▬	▬	▬	▬	▬
< 850 N/mm² — Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²	▬	▬	▬	▬	▬
< 1100 N/mm² — Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²	▬	▬	▬	▬	▬
< 1300 N/mm² — Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²	▭	▭	▭	▬	▬
> 45 HRC — Stähle > 45 HRC / Steels > 45 HRC / Acciai > 45 HRC					
INOX < 850 N/mm² — Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²	▬	▬	▬	▬	▬
INOX > 850 N/mm² — Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²	▭	▭	▭	▭	▭
GRAUGUSS CAST IRON GHISA GRIGIA — Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile	▭	▭	▭	▬	▬
Ti — Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio	▭	▭	▭	▭	▭
Cu, Ms — Kupfer, Messing / Copper, brass / Rame, ottone	▬	▬	▬	▭	▭
Al — Aluminium / Aluminium / Alluminio	▭	▭	▭		
Kunststoffe / Plastics / Materie plastiche	▭	▭	▭	▭	▭

▬ **Ideal** / Ideal / Ideale | ▭ **Geeignet** / Suitable / Adatte

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Langlochfräser / Slot end mills / Frese per cave				Minifräser / Mini end mills / Mini frese		Schaftfräser / End mills / Frese cilindriche
						
DIN 844 L		WN				DIN 844 K
N	N	N	N	N	N	N
lang / long	lang / long	kurz / short	kurz / short	kurz / short	lang / long	kurz / short
3	3	2	2	3	3	4-6
30°	30°	30°	30°	30°	30°	40°
DIN 1835-B	DIN 1835-B	DIN 1835-B	DIN 1835-B	DIN 1835-B*	DIN 1835-B*	DIN 1835-B
HSS-Co8	HSS-Co8	HSS-Co8	HSS-Co8	HSS-Co8	HSS-Co8	HSS-Co8
	ALUNIT®		ALUNIT®			
2-20	2-20	2-20	3-12	1,5-6	2-6	4-30
1186	1187	1056	1057	1246	1256	1616
443	443	444	444	445	445	446
▬	▬	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬	▬
▬	▬	▭	▭	▬	▬	▬
▬	▬	▬	▬	▭	▭	▬
▭	▭	▭	▭	▭	▭	▭
▬	▬	▭	▭	▭	▭	▭
▭	▭	▭	▭	▭	▭	▭
▭	▭	▬	▬	▭	▭	▭
		▭	▭			
▭	▭	▭	▭	▭	▭	▭

*Schaft nach DIN 1835 B, gekürzt / Shank according to DIN 1835 B, shorten / Codolo secondo DIN 1835 B, ridotto

▬ **Ideal** / Ideal / Ideale | ▭ **Geeignet** / Suitable / Adatte



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E You will find the cutting conditions for all tools in our separate cutting manual. Application range of colour-ring milling cutters on page 450.

I Per i parametri di lavorazione per tutti gli utensili richiedete il nostro manuale tecnico. Impiego frese, funzione colore anello pagina 450.

	Schaftfräser / End mills / Frese cilindriche						
							
Norm / Standard	DIN 844 K		DIN 327 D	DIN 844 B	DIN 844 K		
Typ / Type / Tipo	N	N	N	N	N	N	N
Länge / Length / Lunghezza	kurz / short	kurz / short	kurz / short	kurz / short	kurz / short	kurz / short	kurz / short
Schneidenanzahl / No. of flutes / Nr. denti	3-6	3-6	4	4	4-6	4-6	3
Drallwinkel / Spiral angle / Anglo elica	30°	30°	30°	30°	40°	40°	40°
Schaftform / Shank type / Forma codolo	DIN 1835-B	DIN 1835-B	DIN 1835-B	DIN 1835-B	DIN 1835-B	DIN 1835-B	DIN 1835-B
Schneidstoff / Cutting material / Acciaio frese	HSS-Co8	HSS-Co8	HSS-SPM	HSS-SPM	HSS-Co8	HSS-Co8	HSS-Co8
Beschichtung / Coating / Rivestimento		ALUNIT®	ALUNIT®	ALUNIT®		ALUNIT®	
Ø mm	2-32	2-25	6-22	3-25	3-32	3-32	4-25
Code / Codice	1816	1817	1877	1867	1786	1787	1666
Seite / Page / Pagina	447	447	448	448	449	449	450
Geeignet für / Suitable for / Adatte per							
Stähle < 400 N/mm² Steels < 400 N/mm² Acciai < 400 N/mm²	▬	▬	▬	▬	▬	▬	▬
Stähle < 850 N/mm² Steels < 850 N/mm² Acciai < 850 N/mm²	▬	▬	▬	▬	▬	▬	▬
Stähle < 1.100 N/mm² Steels < 1.100 N/mm² Acciai < 1.100 N/mm²	▬	▬	▬	▬	▬	▬	▬
Stähle < 1.300 N/mm² Steels < 1.300 N/mm² Acciai < 1.300 N/mm²	▬	▬	▬	▬	▱	▱	▬
Stähle > 45 HRC Steels > 45 HRC Acciai > 45 HRC							
Rostfreie Stähle < 850 N/mm² Stainless steels < 850 N/mm² Acciai inossidabili < 850 N/mm²	▱	▱	▱	▱	▱	▱	▱
Rostfreie Stähle > 850 N/mm² Stainless steels > 850 N/mm² Acciai inossidabili > 850 N/mm²	▱	▱	▱	▱	▱	▱	▱
Grauguss, Temperguss Cast iron, malleable cast iron Ghisa grigia, ghisa malleabile	▬	▬	▱	▱	▱	▱	▱
Titan- und Titanlegierung Titanium and titanium alloys Titanio e leghe di Titanio	▱	▱			▱	▱	▱
Kupfer, Messing Copper, brass Rame, ottone	▱	▱	▱	▱	▱	▱	▱
Aluminium Aluminium Alluminio			▬	▬			▱
Kunststoffe Plastics Materie plastiche	▱	▱			▱	▱	▱

▬ **Ideal** / Ideal / Ideale | ▱ **Geeignet** / Suitable / Adatte

maykestag PERFORMANCE IN PRECISION

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Schaftfräser / End mills / Frese cilindriche











DIN 844 L	DIN 844 K		DIN 844 L	DIN 844 K			DIN 844 L
N	N	W	W	NR	NR	NR	NR
lang / long	kurz / short	kurz / short	lang / long	kurz / short	kurz / short	kurz / short	lang / long
4-6	4	2-3	2-3	3-5	3-5	3-5	4-5
30°	50°	40°	40°	30°	30°	30°	30°
DIN 1835-B	DIN 1835-B	DIN 1835-B	DIN 1835-B	DIN 1835-B	DIN 1835-B	DIN 1835-B	DIN 1835-B
HSS-Co8	HSS-E/PM	HSS-Co5	HSS-Co5	HSS-Co8	HSS-Co8	HSS-Co8	HSS-Co8
	ALUNIT®					ALUNIT®	
3-32	6-20	5-30	5-30	5-30	6-25	6-25	10-30
1836	1537	1644	1754	2026	2286	2287	2076
451	452	453	454	454	455	455	456
▬	▬	▱	▱	▬	▬	▬	▬
▬	▬			▬	▬	▬	▬
▬	▬			▬	▬	▬	▬
▬	▬			▬	▬	▬	▬
▱	▱			▬	▬	▬	▬
▱	▬			▱	▱	▱	▱
▬	▱			▱	▱	▱	▱
▱	▱	▱	▱	▱	▱	▱	▱
▱		▬	▬	▱	▱	▱	▱
		▬	▬				
▱		▬	▬	▱	▱	▱	▱

▬ Ideal / Ideal / Ideale | ▱ Geeignet / Suitable / Adatte



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	Schaftfräser / End mills / Frese cilindriche						
							
Norm / Standard	WN		DIN 844 K				DIN 327 D
Typ / Type / Tipo	HR	HR	HR	HR	HR	HR	HF
Länge / Length / Lunghezza	extra kurz	extra kurz	kurz / short	kurz / short	kurz / short	kurz / short	kurz / short
Schneidenanzahl / No. of flutes / Nr. denti	4	3-4	3-6	3-6	3-6	3-5	3-6
Drallwinkel / Spiral angle / Anglo elica	30°	30°	30°	30°	30°	45°	30°
Schaftform / Shank type / Forma codolo	DIN 1835-B	DIN 1835-B	DIN 1835-B	DIN 1835-B	DIN 1835-B	DIN 1835-B	DIN 1835-B
Schneidstoff / Cutting material / Acciaio frese	HSS-Co8	HSS-Co8	HSS-Co8	HSS-Co8	HSS-E/PM	HSS-SPM	HSS-SPM
Beschichtung / Coating / Rivestimento	ALUNIT®	ALUNIT®		ALUNIT®	ALUNIT®	ALUNIT®	ALUNIT®
Ø mm	6-20	6-20	10-32	6-32	6-25	6-20	6-32
Code / Codice	2007	2057	2036	2047	2017	2147	2137
Seite / Page / Pagina	456	457	458	459	460	461	462
Geeignet für / Suitable for / Adatte per							
< 400 N/mm² — Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²	▬	▬	▬	▬	▬	▬	▬
< 850 N/mm² — Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²	▬	▬	▬	▬	▬	▬	▬
< 1100 N/mm² — Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²	▬	▬	▬	▬	▬	▬	▭
< 1300 N/mm² — Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²	▬	▬	▬	▬	▬	▭	
> 45 HRC — Stähle > 45 HRC / Steels > 45 HRC / Acciai > 45 HRC							
INOX < 850 N/mm² — Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²	▭	▭	▭	▭	▭	▭	▬
INOX > 850 N/mm² — Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²	▭	▭	▭	▭	▭	▬	▬
GRAUGUSS CAST IRON GHISA GRIGIA — Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile	▬	▬	▬	▬	▬		
Ti — Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio	▭	▭	▭	▭	▭	▭	
Cu, Ms — Kupfer, Messing / Copper, brass / Rame, ottone							
Al — Aluminium / Aluminium / Alluminio							▭
Kunststoffe / Plastics / Materie plastiche							

▬ Ideal / Ideal / Ideale | ▭ Geeignet / Suitable / Adatte

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Schaftfräser / End mills / Frese cilindriche						
						
DIN 844 K	DIN 844 L	DIN 844 K	DIN 844 L	DIN 844 K	DIN 845 B (C)	
HF	HR	WR	WR	NF	N	N
kurz / short	lang / long	kurz / short	lang / long	kurz / short	kurz / short	lang / long
3-6	4-5	3	3	3-5	4-6	4-6
30°	30°	35°	35°	30°	35°	35°
DIN 1835-B	DIN 1835-B	DIN 1835-B	DIN 1835-B	DIN 1835-B	DIN 228 A	DIN 228 A[1]
HSS-SPM	HSS-Co8	HSS-Co5	HSS-E/PM	HSS-Co8	HSS-Co5	HSS-Co5
ALUNIT®	ALUNIT®					
6-32	10-25	6-25	10-25	5-30	12-45	16-40
2117	2087	2094	2172	2156	2664	2684
463	464	465	466	466	467	468
▬	▬	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬	▬
▭	▬			▬	▬	▬
	▬			▬	▬	▬
▬	▬	▬	▬	▬	▭	▭
▬	▭			▭	▭	▭
	▬			▬	▬	▬
	▭			▭	▭	▭
		▬	▬	▭	▭	▭
▭		▬	▬			
		▭	▭	▭	▭	▭

[1] ≤ 28 mm DIN 228 A, ≥ 30 mm DIN 2207

▬ Ideal / Ideal / Ideale | ▭ Geeignet / Suitable / Adatte



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	Schaftfräser	Formfräser / Form cutters / Frese di forma				
						
Norm / Standard	DIN 845 B/C	DIN 1833 C	DIN 1833 D	DIN 6518 B	DIN 851 AB	
Typ / Type / Tipo	NR	N	N	N	N	NF
Länge / Length / Lunghezza	kurz / short					
Schneidenanzahl / No. of flutes / Nr. denti	4-6	10-12	8-12	4-6	6-10	6-10
Drallwinkel / Spiral angle / Anglo elica	30°				10-12°	15°
Schaftform / Shank type / Forma codolo	DIN 228 A[2]	DIN 1835-B	DIN 1835-B	DIN 1835-B	DIN 1835-B	DIN 1835-B
Schneidstoff / Cutting material / Acciaio frese	HSS-Co8	HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5
Beschichtung / Coating / Rivestimento						
Ø mm	12-45	16-32	16-32	8-56	12,5-40	12,5-45
Code / Codice	2756	1394	1424	1464	1484	1504
Seite / Page / Pagina	469	470	470	471	472	472
Geeignet für / Suitable for / Adatte per						
Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²	▬	▬	▬	▬	▬	▬
Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²	▬	▬	▬	▬	▬	▬
Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²	▬	▬	▬	▬	▬	▬
Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²	▬	▭	▭	▭	▭	▬
Stähle > 45 HRC / Steels > 45 HRC / Acciai > 45 HRC						
Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²	▬	▭	▭	▭	▭	▭
Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²	▭	▭	▭	▭	▭	▭
Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile	▭	▭	▭	▭	▭	▭
Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio	▭	▭	▭	▭	▭	▭
Kupfer, Messing / Copper, brass / Rame, ottone	▭	▭	▭	▭	▭	▭
Aluminium / Aluminium / Alluminio						
Kunststoffe / Plastics / Materie plastiche	▭	▭	▭	▭	▭	▭

▬ Ideal / Ideal / Ideale | ▭ Geeignet / Suitable / Adatte

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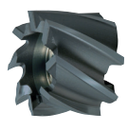
Formfräser / Form cutters / Frese di forma			Walzenstirnfräser / Shell end mills / Frese frontali				
							
DIN 850 D	WN		DIN 841		DIN 1880		DIN 841
N	N	NR	N	H	N	N	NR
	kurz / short	kurz / short					
6-14	6	5-6	6-10	10-16	6-12	6-10	6-8
8-12°	30°	30°	30°	20°	30°	30°	30°
DIN 1835-B	DIN 1835-B	DIN 1835-B					
HSS-Co5	HSS-Co5	HSS-Co8	HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5
						ALUNIT®	
4,5-45,5	30-50	30-50	30-90	30-90	40-100	40-80	35-60
1524	1374	1356	3044	3054	3074	3077	3106
473	474	474	475	476	476	476	477
▬	▬	▬	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬	▬	▬
▭	▬	▬	▬	▬	▬	▬	▬
▭	▬	▬	▬	▭	▬	▬	▬
▭	▬	▬	▬	▬	▭	▭	▭
▭	▭	▭	▭	▬	▭	▭	▭
▭	▭	▭	▭	▭	▭	▭	▭
▭	▭	▭	▭		▭	▭	▭
	▭						
▭	▭	▭	▭		▭	▭	▭

[1] ≤ 28 mm DIN 228 A, ≥ 30 mm DIN 2207 / [2] ≤ 30 mm DIN 228 A, ≥ 32 mm DIN 2207

▬ **Ideal** / Ideal / Ideale | ▭ **Geeignet** / Suitable / Adatte



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	Walzenstirnfräser / Shell end mills / Frese frontali						
							
Norm / Standard	DIN 841	DIN 1880					
Typ / Type / Tipo	NF	NR	NR	HR	HR	NF	NF
Länge / Length / Lunghezza							
Schneidenanzahl / No. of flutes / Nr. denti	6-10	6-10	6-10	8-12	8-12	6-10	6-10
Drallwinkel / Spiral angle / Anglo elica	30°	30°	30°	30°	30°	30°	30°
Schaftform / Shank type / Forma codolo							
Schneidstoff / Cutting material / Acciaio frese	HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5	HSS-Co5
Beschichtung / Coating / Rivestimento			TiN		ALUNIT®		TiN
Ø mm	35-90	40-100	40-100	40-80	40-100	40-100	40-63
Code / Codice	3116	3126	3128	3146	3147	3136	3138
Seite / Page / Pagina	477	478	478	478	478	479	479
Geeignet für / Suitable for / Adatte per							
Stähle < 400 N/mm² / Steels < 400 N/mm² / Acciai < 400 N/mm²	▬	▬	▬	▱	▱	▬	▬
Stähle < 850 N/mm² / Steels < 850 N/mm² / Acciai < 850 N/mm²	▬	▬	▬	▱	▱	▬	▬
Stähle < 1.100 N/mm² / Steels < 1.100 N/mm² / Acciai < 1.100 N/mm²	▬	▬	▬	▬	▬	▬	▬
Stähle < 1.300 N/mm² / Steels < 1.300 N/mm² / Acciai < 1.300 N/mm²	▬	▬	▬	▬	▬	▬	▬
Stähle > 45 HRC / Steels > 45 HRC / Acciai > 45 HRC							
Rostfreie Stähle < 850 N/mm² / Stainless steels < 850 N/mm² / Acciai inossidabili < 850 N/mm²	▱	▱	▱	▱	▱	▱	▱
Rostfreie Stähle > 850 N/mm² / Stainless steels > 850 N/mm² / Acciai inossidabili > 850 N/mm²	▱	▱	▱	▱	▱	▱	▱
Grauguss, Temperguss / Cast iron, malleable cast iron / Ghisa grigia, ghisa malleabile	▬	▱	▱	▬	▬	▬	▬
Titan- und Titanlegierung / Titanium and titanium alloys / Titanio e leghe di Titanio	▱	▱	▱	▱	▱	▱	▱
Kupfer, Messing / Copper, brass / Rame, ottone	▱	▱	▱			▱	▱
Aluminium / Aluminium / Alluminio							
Kunststoffe / Plastics / Materie plastiche	▱	▱	▱			▱	▱

▬ **Ideal** / Ideal / Ideale | ▱ **Geeignet** / Suitable / Adatte

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Bohrungsfräser / Bore miling cutters / Frese a disco					Verzahnungswerkzeuge/ Gear generating tools / Frese a dentare	
						
DIN 885 A		DIN 842 A	DIN 847	DIN 856	DIN 855	BPII DIN 3972
N	H	H				
12-16	24-48	16-26	16-28	12-14	12-14	12-∞
14°	10-15°					
HSS-Co5	HSS-Co5	HSS	HSS	HSS	HSS	HSS
50-125	50-160	50-125	50-100	50-80	50-80	40-70
3174	3224	3293	3303	3313	3323	3353
480	480	481	482	482	483	485
▬	▱	▬	▬	▬	▬	▬
▬	▱	▬	▬	▬	▬	▬
▬	▬	▬	▬	▬	▬	▬
▱	▬	▱	▱	▱	▱	▱
▬	▱	▱	▱	▱	▱	▱
▱	▱	▱	▱	▱	▱	▱
▱	▱	▱	▱	▱	▱	▱
▱	▱	▱	▱			
▱	▱	▱	▱			
▱						
▱		▱	▱			

▬ **Ideal** / Ideal / Ideale | ▱ **Geeignet** / Suitable / Adatte



D Langlochfräser
kurz, Zweischneider, zentrumschneidend, DIN 327 D

Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittleren und hohen Festigkeiten bis ca. 1.200 N/mm². Bohren auf volle Tiefe und Längsfräsen mit exakten Passungen.

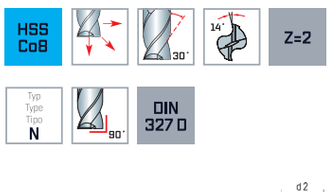
E Slot end mills
short series, two flutes, centre cutting, DIN 327 D

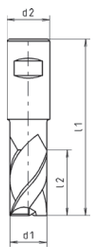
Range of application:
Recommended for milling in materials with medium and high tensile strength up to 1.200 N/mm². Vertical cutting to full depth and horizontal cutting with exact tolerances.

I Frese a due taglienti per cave
serie corta, taglienti al centro, DIN 327 D

Impiego:
Adatte per lavorazione di acciai di media ed alta resistenza fino a R = 1.200 N/mm². Foratura dal pieno, fresatura orizzontale con accoppiamenti perfetti.











ALUNIT®

d1 e8 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 1026 Art.-Nr.	Code 1027 Art.-Nr.
2	6	48	4	2	0 1026002001 00	0 1027002001 00
2,5	6	49	5	2	0 1026002501 00	0 1027002501 00
3	6	49	5	2	0 1026003001 00	0 1027003001 00
3,5	6	50	6	2	0 1026003501 00	0 1027003501 00
4	6	51	7	2	0 1026004001 00	0 1027004001 00
4,5	6	51	7	2	0 1026004501 00	0 1027004501 00
5	6	52	8	2	0 1026005001 00	0 1027005001 00
5,5	6	52	8	2	0 1026005501 00	0 1027005501 00
6	6	52	8	2	0 1026006001 00	0 1027006001 00
6,5	10	60	10	2	0 1026006501 00	0 1027006501 00
7	10	60	10	2	0 1026007001 00	0 1027007001 00
7,5	10	60	10	2	0 1026007501 00	
8	10	61	11	2	0 1026008001 00	0 1027008001 00
8,5	10	61	11	2	0 1026008501 00	
9	10	61	11	2	0 1026009001 00	0 1027009001 00
9,5	10	61	11	2	0 1026009501 00	
10	10	63	13	2	0 1026010001 00	0 1027010001 00
10,5	12	70	13	2	0 1026010501 00	
11	12	70	13	2	0 1026011001 00	0 1027011001 00
11,5	12	70	13	2	0 1026011501 00	
12	12	73	16	2	0 1026012001 00	0 1027012001 00
13	12	73	16	2	0 1026013001 00	0 1027013001 00
14	12	73	16	2	0 1026014001 00	0 1027014001 00
15	12	73	16	2	0 1026015001 00	
16	16	79	19	2	0 1026016001 00	0 1027016001 00
17	16	79	19	2	0 1026017001 00	
18	16	79	19	2	0 1026018001 00	0 1027018001 00
19	16	79	19	2	0 1026019001 00	
20	20	88	22	2	0 1026020001 00	0 1027020001 00
21	20	88	22	2	0 1026021001 00	
22	20	88	22	2	0 1026022001 00	
23	20	88	22	2	0 1026023001 00	
24	25	102	26	2	0 1026024001 00	
25	25	102	26	2	0 1026025001 00	

ALUNIT®

d1 e8 mm	d2 h6 mm	l1 mm	l2 mm	z	Code 1026 Art.-Nr.	Code 1027 Art.-Nr.
26	25	102	26	2	0 1026026001 00	
28	25	102	26	2	0 1026028001 00	
30	25	102	26	2	0 1026030001 00	
32	32	112	32	2	0 1026032001 00	
34	32	112	32	2	0 1026034001 00	
36	32	112	32	2	0 1026036001 00	
40	32*	118*	38	2	0 1026040001 00	

*Entspricht nicht der DIN / Not corresponding to DIN / Non secondo DIN

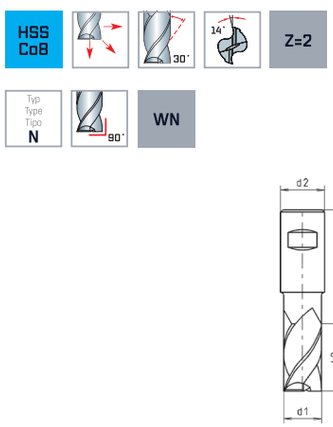
D Langlochfräser
lang, Zweischneider, zentrumschneidend

Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittleren und hohen Festigkeiten bis ca. 1.200 N/mm². Bohren auf volle Tiefe und Längsfräsen mit exakten Passungen.



E Slot end mills
long series, two flutes, centre cutting

Range of application:
Recommended for milling in materials with medial and high tensile strength up to 1.200 N/mm². Vertical cutting to full depth and horizontal cutting with exact tolerances.



I Frese a due taglienti per cave
serie lunga, taglienti al centro

Impiego:
Adatte per lavorazione di acciai di media ed alta resistenza fino a R = 1.200 N/mm². Foratura dal pieno, fresatura orizzontale con accoppiamenti perfetti.



d1 e8 mm	d2 h6 mm	l1 mm	l2 mm	z	Code 1086 Art.-Nr.
4	6	63	11	2	0 1086004001 00
5	6	68	13	2	0 1086005001 00
6	6	68	13	2	0 1086006001 00
7	10	80	16	2	0 1086007001 00
8	10	88	19	2	0 1086008001 00
9	10	88	19	2	0 1086009001 00
10	10	95	22	2	0 1086010001 00
11	12	102	22	2	0 1086011001 00
12	12	110	26	2	0 1086012001 00
13	12	110	26	2	0 1086013001 00
14	12	110	26	2	0 1086014001 00

d1 e8 mm	d2 h6 mm	l1 mm	l2 mm	z	Code 1086 Art.-Nr.
15	12	110	26	2	0 1086015001 00
16	16	123	32	2	0 1086016001 00
18	16	123	32	2	0 1086018001 00
20	20	141	38	2	0 1086020001 00
22	20	141	38	2	0 1086022001 00
24	25	166	45	2	0 1086024001 00
25	25	166	45	2	0 1086025001 00
26	25	166	45	2	0 1086026001 00
28	25	166	45	2	0 1086028001 00
30	25	166	45	2	0 1086030001 00



D Langlochfräser
kurz, Dreischneider, zentrumschneidend

Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittleren und hohen Festigkeiten bis ca. 1.300 N/mm². Bohren auf volle Tiefe und Längsfräsen mit exakten Passungen.

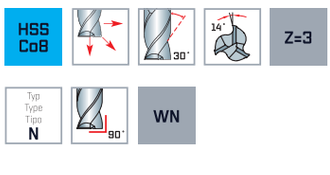
E Slot end mills
short series, three flutes, centre cutting

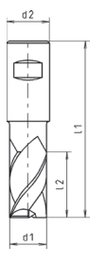
Range of application:
Recommended for milling in materials with medial and high tensile strength up to 1.300 N/mm². Vertical cutting to full depth and horizontal cutting with exact tolerances.

I Frese a tre taglienti per cave
serie corta, taglienti al centro

Impiego:
Adatte per lavorazione di acciai di media ed alta resistenza fino a R = 1.300 N/mm². Foratura dal pieno, fresatura orizzontale con accoppiamenti perfetti.











ALUNIT®

d1 e8 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 1156 Art.-Nr.	Code 1157 Art.-Nr.
3	6	49	5	3	0 1156003001 00	0 1157003001 00
4	6	51	7	3	0 1156004001 00	0 1157004001 00
5	6	52	8	3	0 1156005001 00	0 1157005001 00
6	6	52	8	3	0 1156006001 00	0 1157006001 00
8	10	61	11	3	0 1156008001 00	0 1157008001 00
10	10	63	13	3	0 1156010001 00	0 1157010001 00
12	12	73	16	3	0 1156012001 00	0 1157012001 00
14	12	73	16	3	0 1156014001 00	0 1157014001 00
16	16	79	19	3	0 1156016001 00	0 1157016001 00
18	16	79	19	3	0 1156018001 00	0 1157018001 00
20	20	88	22	3	0 1156020001 00	0 1157020001 00

D Langlochfräser

lang, Dreischneider, zentrumschneidend, DIN 844 L

Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit, bis ca. 1.300 N/mm². Fräsen von Nuten mit größerer Bohrtiefe, exakten Passungen, ebenso zum Stirn- und Umfangfräsen geeignet. Hohe Zerspanungsleistung und große Laufruhe ergeben beste Oberflächengüte.

E Slot end mills

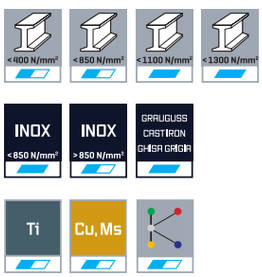
long series, three flutes, centre cutting, DIN 844 L

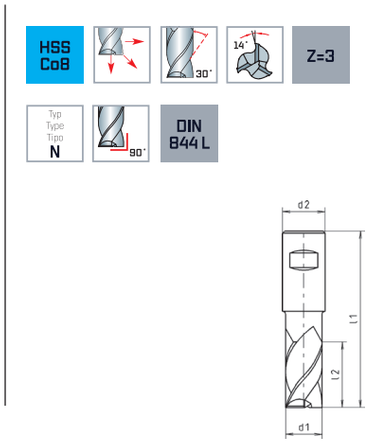
Range of application:
Recommended for milling in materials with medium/high tensile strength up to 1.300 N/mm². For producing slots with large depth and accurate fits. High efficiency in chipping and a smooth run result in an excellent quality surface.

I Frese cilindriche frontali a tre taglienti

serie lunga, taglienti al centro, DIN 844 L

Impiego:
Adatte per lavorazione di acciai di media ed alta resistenza fino a R = 1.300 N/mm². Fresatura di cave profonde, con accoppiamenti perfetti, adatte per lavorazioni sia di testa che di contornatura. Elevata potenza di fresatura, silenziosità di passata con una finitura della superficie ottimale.









ALUNIT®

d1 e8 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 1186 Art.-Nr.	Code 1187 Art.-Nr.
2	6	51	7	3	0 1186002001 00	0 1187002001 00
3	6	52	8	3	0 1186003001 00	0 1187003001 00
4	6	55	11	3	0 1186004001 00	0 1187004001 00
5	6	57	13	3	0 1186005001 00	0 1187005001 00
6	6	57	13	3	0 1186006001 00	0 1187006001 00
8	10	69	19	3	0 1186008001 00	0 1187008001 00
9	10	69	19	3	0 1186009001 00	0 1187009001 00
10	10	72	22	3	0 1186010001 00	0 1187010001 00
12	12	83	26	3	0 1186012001 00	0 1187012001 00
13	12	83	26	3	0 1186013001 00	0 1187013001 00
14	12	83	26	3	0 1186014001 00	0 1187014001 00
16	16	92	32	3	0 1186016001 00	0 1187016001 00
20	20	104	38	3	0 1186020001 00	0 1187020001 00



D Langlochfräser mit Radius
kurz, Zweischneider, zentrumschneidend

Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit bis ca. 1.100 N/mm². Zum Längsfräsen und besonders zum Kopierfräsen geeignet.

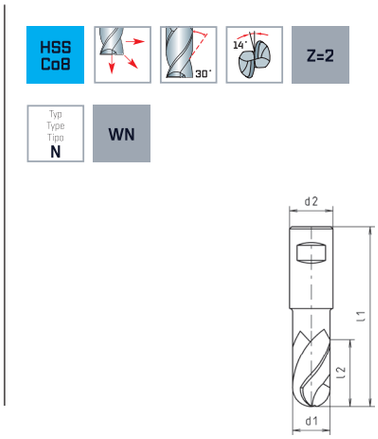
E Slot end mills with radius
short series, two flutes, centre cutting

Range of application:
Recommended for milling in materials with medium/high tensile strength up to 1.100 N/mm². For horizontal milling, especially suited for copy milling.

I Frese a due taglienti con punta semisferica
serie corta, taglienti al centro

Impiego:
Adatte per lavorazione di acciai di media ed alta resistenza fino a R = 1.100 N/mm². Particolarmente adatte per fresatura in orizzontale ed a copiare.









ALUNIT®

d1 e8 mm	d2 h6 mm	l1 mm	l2 mm	z	Code 1056 Art.-Nr.	Code 1057 Art.-Nr.
2	6	48	4	2	0 1056002001 00	
3	6	49	5	2	0 1056003001 00	0 1057003001 00
4	6	51	7	2	0 1056004001 00	0 1057004001 00
5	6	52	8	2	0 1056005001 00	0 1057005001 00
6	6	52	8	2	0 1056006001 00	0 1057006001 00
7	10	60	10	2	0 1056007001 00	
8	10	61	11	2	0 1056008001 00	0 1057008001 00
9	10	61	11	2	0 1056009001 00	
10	10	63	13	2	0 1056010001 00	0 1057010001 00
12	12	73	16	2	0 1056012001 00	0 1057012001 00
14	12	73	16	2	0 1056014001 00	
16	16	79	19	2	0 1056016001 00	
20	20	88	22	2	0 1056020001 00	

D Minifräser
Dreischneider, zentrumschneidend

E Mini end mills
three flutes, centre cutting

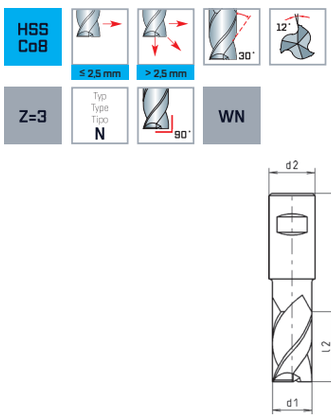
I Minifrese a tre taglienti
taglienti al centro

Einsatzbereich:
Tauchfräsen auf volle Nutentiefe oder allmähliche Tiefenzustellung, auch als Schaftfräser für konventionelles Stirn- und Umfangsfräsen.

Range of application:
Plunge milling to full depth or with gradual feed; also for conventional face and peripheral milling.

Impiego:
Adatte per foratura dal pieno e fresatura generale sia di testa che di contornatura.









Kurze Ausführung / Short series / Esecuzione corta

d1 e8 mm	d2 h6 mm	l1 mm	l2 mm	z	Code 1246 Art.-Nr.
1,5	6	34	3	3	0 1246001501 00
2	6	35	4	3	0 1246002001 00
2,5	6	36	5	3	0 1246002501 00
3	6	36	5	3	0 1246003001 00
3,5	6	37	6	3	0 1246003501 00
4	6	38	7	3	0 1246004001 00
4,5	6	38	7	3	0 1246004501 00
5	6	39	8	3	0 1246005001 00
5,5	6	39	8	3	0 1246005501 00
6	6	39	8	3	0 1246006001 00

Lange Ausführung / Long series / Esecuzione lunga

d1 e8 mm	d2 h6 mm	l1 mm	l2 mm	z	Code 1256 Art.-Nr.
2	6	38	7	3	0 1256002001 00
2,5	6	39	8	3	0 1256002501 00
3	6	39	8	3	0 1256003001 00
3,5	6	41	10	3	0 1256003501 00
4	6	42	11	3	0 1256004001 00
4,5	6	42	11	3	0 1256004501 00
5	6	44	13	3	0 1256005001 00
5,5	6	44	13	3	0 1256005501 00
6	6	44	13	3	0 1256006001 00

*Schaft nach DIN 1835 B, gekürzt / Shank according to DIN 1835 B, shorten / Codolo secondo DIN 1835 B, ridotto



D Schaftfräser
kurz, DIN 844 K

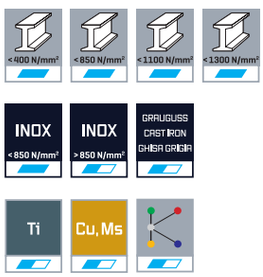
E End mills
short series, DIN 844 K

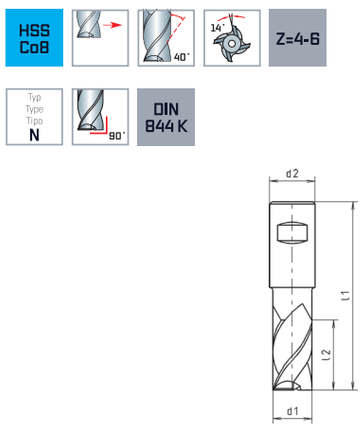
I Frese cilindriche frontali
serie corta, DIN 844 K

Einsatzbereich:
Zum Schlichten mit hoher Zerspanungsleistung bei gleichzeitig guter Oberfläche von Stählen mit mittlerer bis hoher Festigkeit bis 1.300 N/mm² (z.B. Bau-, Einsatz-, Vergütungsstähle); NE-Metalle, rost- und säurebeständige Stähle. Bevorzugt Gleichlauffräsen.

Range of application:
Finishing with high cutting performance and excellent surface quality by steels with medium to high tensile strength up to 1.300 N/mm² (for example structural, case-hardening, heat-treatable steels); non-ferrous metals, stainless and acid resistant steels. Climb milling preferred.

Impiego:
Adatte per lavorazione di acciai di media ed alta resistenza fino a R = 1.300 N/mm², (ad es. acciai da costruzione, acciai da cementazione, acciai bonificati); materiali non ferrosi, acciai inossidabili, acciai resistenti agli acidi, con elevata potenza di fresatura e con una finitura della superficie ottimale. Consigliata fresatura concorde.







d1 k10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 1616 Art.-Nr.
4	6	55	11	4	0 1616004001 00
5	6	57	13	4	0 1616005001 00
6	6	57	13	4	0 1616006001 00
7	10	66	16	4	0 1616007001 00
8	10	69	19	4	0 1616008001 00
9	10	69	19	4	0 1616009001 00
10	10	72	22	4	0 1616010001 00
11	12	79	22	4	0 1616011001 00
12	12	83	26	4	0 1616012001 00
14	12	83	26	4	0 1616014001 00
15	12	83	26	4	0 1616015001 00
16	16	92	32	4	0 1616016001 00
18	16	92	32	4	0 1616018001 00
20	20	104	38	4	0 1616020001 00
22	20	104	38	6	0 1616022001 00
24	25	121	45	6	0 1616024001 00
25	25	121	45	6	0 1616025001 00
30	25	121	45	6	0 1616030001 00

D Schaftfräser
kurz, zentrumschneidend,
DIN 844 K

Einsatzbereich:
Ein breites Anwendungsspektrum bei Werkstoffen geringer Festigkeit, bis hin zu schwer zerspanbaren Werkstoffen auch mit hoher Zähigkeit, z. B. Baustählen bis hin zu legierten Werkzeugstählen. Aber auch NE-Metalle, Kobalt- und Nickellegierungen, sowie für Titan und Titanlegierungen.

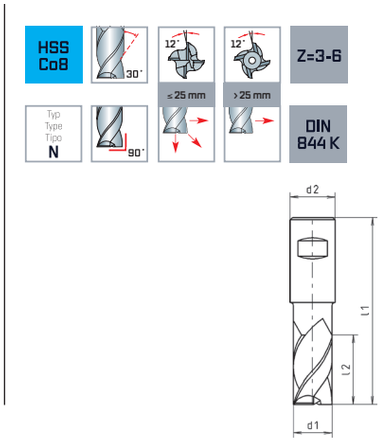
E End mills
short series, centre cutting,
DIN 844 K

Range of application:
Wide range of applications on materials with low strength up to materials difficult to machine, having a high toughness, for example structural steels or alloyed tool steels. Also including non-ferrous metals, cobalt- and nickel-alloys, as well as titanium and titanium-alloyed materials.

I Frese cilindriche frontali
serie corta, tagliente al centro,
DIN 844 K

Impiego:
Fresatura generale adatte per lavorazioni di acciai sia a bassa resistenza che di difficile lavorabilità e ad elevata tenacità come acciai da costruzione, acciai legati da utensili. Adatte anche per materiali non ferrosi leghe al Cobalto, leghe al Nickel, Titanio e leghe di Titanio.









ALUNIT®

d1 k10 mm	d2 h6 mm	l1 mm	l2 mm	z	Code 1816 Art.-Nr.	Code 1817 Art.-Nr.
2	6	51	7	3	0 1816002001 00	0 1817002001 00
2,5	6	52	8	3	0 1816002501 00	0 1817002501 00
3	6	52	8	4	0 1816003001 00	0 1817003001 00
3,5	6	54	10	4	0 1816003501 00	0 1817003501 00
4	6	55	11	4	0 1816004001 00	0 1817004001 00
4,5	6	55	11	4	0 1816004501 00	0 1817004501 00
5	6	57	13	4	0 1816005001 00	0 1817005001 00
5,5	6	57	13	4	0 1816005501 00	0 1817005501 00
6	6	57	13	4	0 1816006001 00	0 1817006001 00
6,5	10	66	16	4	0 1816006501 00	0 1817006501 00
7	10	66	16	4	0 1816007001 00	0 1817007001 00
7,5	10	66	16	4	0 1816007501 00	0 1817007501 00
8	10	69	19	4	0 1816008001 00	0 1817008001 00
8,5	10	69	19	4	0 1816008501 00	0 1817008501 00
9	10	69	19	4	0 1816009001 00	0 1817009001 00
10	10	72	22	4	0 1816010001 00	0 1817010001 00
11	12	79	22	4	0 1816011001 00	0 1817011001 00
12	12	83	26	4	0 1816012001 00	0 1817012001 00
13	12	83	26	4	0 1816013001 00	0 1817013001 00
14	12	83	26	4	0 1816014001 00	0 1817014001 00
15	12	83	26	4	0 1816015001 00	0 1817015001 00
16	16	92	32	4	0 1816016001 00	0 1817016001 00
18	16	92	32	4	0 1816018001 00	0 1817018001 00
20	20	104	38	4	0 1816020001 00	0 1817020001 00
22	20	104	38	6	0 1816022001 00	0 1817022001 00
25	25	121	45	6	0 1816025001 00	0 1817025001 00
28	25	121	45	6	0 1816028001 00	
30	25	121	45	6	0 1816030001 00	
32	32	133	53	6	0 1816032001 00	



D HPT-Schaftfräser
kurz, zentrumschneidend, DIN 327 D

Einsatzbereich:
Mehrschneidiger Universal-Schaftfräser, gefertigt aus neuem Substrat SPM mit sehr hohem Kobalt-Anteil. Es verbindet die Härte von VHM und die Zähigkeit des PM-Stahles. Der Fräser kann durch seine universelle Geometrie für die verschiedensten Werkstoffe eingesetzt werden.

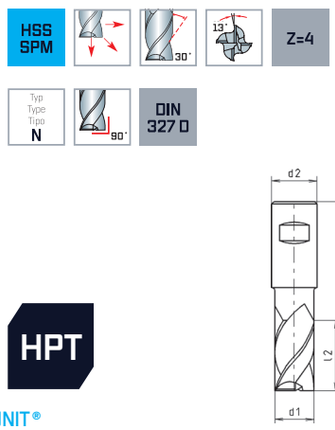
E HPT-End mills
short series, centre cutting, DIN 327 D

Range of application:
Universal multi-flute end mill, made from new substrate SPM with extreme high content of cobalt. It combines the hardness of solid carbide and the toughness of powder-metallurgical steel. Due to its universal geometry this end mill is suitable for various materials.

I HPT-Frese cilindriche frontali
serie corta, tagliente al centro, DIN 327 D

Impiego:
Frese a più taglienti adatte per lavorazione universale, fabbricate con un nuova tipologia di acciaio con substrato SPM ad elevato tenore di cobalto. Associa la durezza del M.D. alla resilienza dell' acciaio da polveri. La fresa, grazie alla sua particolare geometria, può essere impiegata per i più diversi materiali.







ALUNIT®

d1 k10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 1877 Art.-Nr.
6	6	52	8	4	0 1877006001 00
8	10	61	11	4	0 1877008001 00
10	10	63	13	4	0 1877010001 00
12	12	73	16	4	0 1877012001 00

ALUNIT®

d1 k10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 1877 Art.-Nr.
14	12	73	16	4	0 1877014001 00
16	16	79	19	4	0 1877016001 00
20	20	88	22	4	0 1877020001 00
22	20	88	22	4	0 1877022001 00

D HPT-Schaftfräser
kurz, zentrumschneidend, DIN 844 B

Einsatzbereich:
Mehrschneidiger, Universal-Schaftfräser. Einsetzbar als Schlicht-, Schruppschlicht- und Schruppfräser. Gefertigt aus pulvermetallurgischem Material zur Verwendung bei extremen Zerspanungsbedingungen oder großen Standwegen.

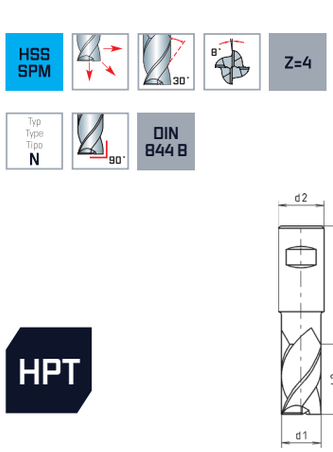
E HPT-End mills
short series, centre cutting, DIN 844 B

Range of application:
Universal multi-flute end mill. Useable for finishing, roughing finishing and roughing. Made from powder-metallurgical steel for using at extreme cutting conditions for long continuous utilisation.

I HPT-Frese cilindriche frontali
serie corta, tagliente al centro, DIN 844 B

Impiego:
Frese a più taglienti adatte per lavorazione universal. Adatto per finitura, sgrossatura finitura e sgrossatura. Frese in acciai speciali da polveri particolarmente adatte per lavorazioni di acciai in condizioni estreme ovvero in passate di fresatura molto lunghe.







ALUNIT®

d1 k12 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 1867 Art.-Nr.
3	6	52	8	4	0 1867003001 00
3,5	6	54	10	4	0 1867003501 00
4	6	55	11	4	0 1867004001 00
4,5	6	55	11	4	0 1867004501 00
5	6	57	13	4	0 1867005001 00
6	6	57	13	4	0 1867006001 00
7	10	66	16	4	0 1867007001 00
8	10	69	19	4	0 1867008001 00

ALUNIT®

d1 k12 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 1867 Art.-Nr.
9	10	69	19	4	0 1867009001 00
10	10	72	22	4	0 1867010001 00
12	12	83	26	4	0 1867012001 00
14	12	83	27	4	0 1867014001 00
16	16	92	32	4	0 1867016001 00
18	16	92	32	4	0 1867018001 00
20	20	104	38	4	0 1867020001 00
25	25	121	45	4	0 1867025001 00

D Schaftfräser

kurz, zentrumschneidend, DIN 844 K

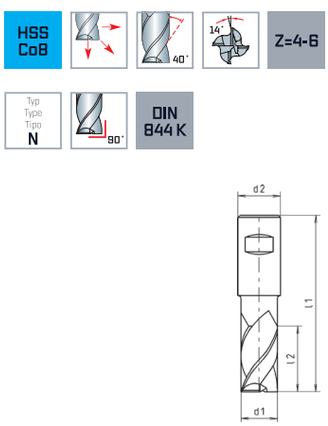
Einsatzbereich:
Zum Schlichten mit hoher Zerspanungsleistung bei gleichzeitig guter Oberfläche von Stählen mit mittlerer bis hoher Festigkeit bis 1.200 N/mm² (z.B. Bau-, Einsatz-, Vergütungsstähle); NE-Metalle, rost- und säurebeständige Stähle. Bevorzugt Gleichlauffräsen.



E End mills

short series, centre cutting, DIN 844 K

Range of application:
Finishing with high cutting performance and excellent surface quality by steels with medium to high tensile strength up to 1.200 N/mm² (for example structural, case-hardening, heat-treatable steels); non-ferrous metals, stainless and acid resistant steels. Climb milling preferred.



I Frese cilindriche frontali

serie corta, tagliente al centro, DIN 844 K

Impiego:
Adatte per lavorazione di acciai di media ed alta resistenza fino a R = 1.200 N/mm², (ad es. acciai da costruzione, acciai da cementazione, acciai bonificati); materiali non ferrosi, acciai inossidabili, acciai resistenti agli acidi, con elevata potenza di fresatura e con una finitura della superficie ottimale. Consigliata fresatura concorde.





ALUNIT®

d1 k10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 1786 Art.-Nr.	Code 1787 Art.-Nr.
3	6	52	8	4	0 1786003001 00	0 1787003001 00
4	6	55	11	4	0 1786004001 00	0 1787004001 00
5	6	57	13	4	0 1786005001 00	0 1787005001 00
6	6	57	13	4	0 1786006001 00	0 1787006001 00
8	10	69	19	4	0 1786008001 00	0 1787008001 00
10	10	72	22	4	0 1786010001 00	0 1787010001 00
12	12	83	26	4	0 1786012001 00	0 1787012001 00
14	12	83	26	4	0 1786014001 00	0 1787014001 00
16	16	92	32	4	0 1786016001 00	0 1787016001 00
18	16	92	32	4	0 1786018001 00	0 1787018001 00
20	20	104	38	4	0 1786020001 00	0 1787020001 00
25	25	121	45	6	0 1786025001 00	0 1787025001 00
28	25	121	45	6	0 1786028001 00	0 1787028001 00
30	25	121	45	6	0 1786030001 00	0 1787030001 00
32	32	133	53	6	0 1786032001 00	0 1787032001 00



D Schaftfräser,
kurz, Dreischneider, zentrumschneidend, DIN 844 K

Einsatzbereich:
Tauchfräsen auf volle Nutentiefe oder allmähliche Tiefenzustellung, auch als Schaftfräser für konventionelles Stirn- und Umfangsfräsen.

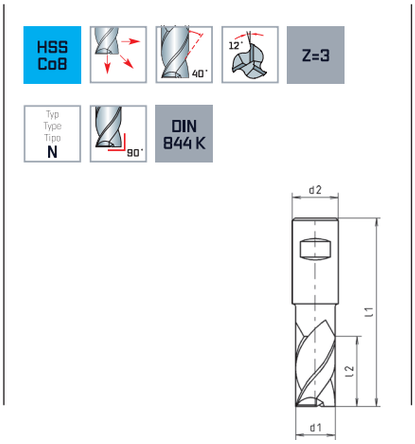
E End mills
short series, three flutes, centre cutting, DIN 844 K

Range of application:
Plunge milling to full depth or with gradual feed; also for conventional face and peripheral milling.

I Frese cilindriche frontali
3 taglienti, serie corta, taglienti al centro, DIN 844 K

Impiego:
Adatte per foratura dal pieno e fresatura generale sia di testa che di contornatura.







d1 k10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 1666 Art.-Nr.
4	6	55	11	3	0 1666004001 00
5	6	57	13	3	0 1666005001 00
6	6	57	13	3	0 1666006001 00
7	10	66	16	3	0 1666007001 00
8	10	69	19	3	0 1666008001 00
9	10	69	19	3	0 1666009001 00
10	10	72	22	3	0 1666010001 00
11	12	79	22	3	0 1666011001 00

d1 k10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 1666 Art.-Nr.
12	12	83	26	3	0 1666012001 00
13	12	83	26	3	0 1666013001 00
14	12	83	26	3	0 1666014001 00
15	12	83	26	3	0 1666015001 00
16	16	92	32	3	0 1666016001 00
18	16	92	32	3	0 1666018001 00
20	20	104	38	3	0 1666020001 00
25	25	121	45	3	0 1666025001 00

D Schaftfräser
lang, zentrumschneidend, DIN 844 L

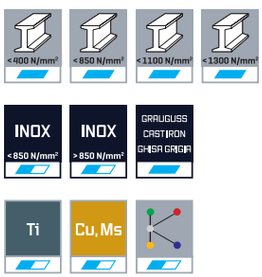
Einsatzbereich:
Ein breites Anwendungsspektrum bei Werkstoffen geringer Festigkeit, bis hin zu schwer zerspanbaren Werkstoffen auch mit hoher Zähigkeit, z. B. Baustählen bis hin zu legierten Werkzeugstählen. Aber auch NE-Metalle, Kobalt- und Nickellegierungen, sowie für Titan und Titanlegierungen.

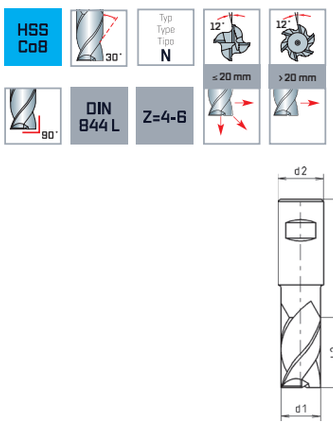
E End mills
long series, centre cutting, DIN 844 L

Range of application:
Wide range of applications on materials with low strength up to materials difficult to machine, having a high toughness, for example structural steels or alloyed tool steels. Also including non-ferrous metals, cobalt- and nickel-alloys, as well as titanium and titanium-alloyed materials.

I Frese cilindriche frontali
serie lunga, taglienti al centro, DIN 844 L

Impiego:
Fresatura generale adatte per lavorazioni di acciai sia a bassa resistenza che di difficile lavorabilità e ad elevata tenacità come acciai da costruzione, acciai legati da utensili. Adatte anche per materiali non ferrosi leghe al Cobalto, leghe al Nickel, Titanio e leghe di Titanio.







d1 k10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 1836 Art.-Nr.
3	6	56	12	4	0 1836003001 00
4	6	63	19	4	0 1836004001 00
5	6	68	24	4	0 1836005001 00
6	6	68	24	4	0 1836006001 00
7	10	80	30	4	0 1836007001 00
8	10	88	38	4	0 1836008001 00
9	10	88	38	4	0 1836009001 00
10	10	95	45	4	0 1836010001 00
11	12	102	45	4	0 1836011001 00
12	12	110	53	4	0 1836012001 00
13	12	110	53	4	0 1836013001 00

d1 k10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 1836 Art.-Nr.
14	12	110	53	4	0 1836014001 00
15	12	110	53	4	0 1836015001 00
16	16	123	63	4	0 1836016001 00
18	16	123	63	4	0 1836018001 00
20	20	141	75	4	0 1836020001 00
22	20	141	75	6	0 1836022001 00
25	25	166	90	6	0 1836025001 00
28	25	166	90	6	0 1836028001 00
30*	25	166	90	6	0 1836030001 00
32	32	186	106	6	0 1836032001 00

*Entspricht nicht der DIN / Not corresponding to DIN / Non secondo DIN



D HPT-Schaftfräser
kurz, vierschneider, zentrumschneidend, DIN 844 K

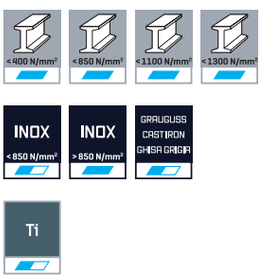
Einsatzbereich:
Schaftfräser hochgedrallt, gefertigt aus pulvermetallurgischem Material zur Verwendung bei extremen Zerspanungsbedingungen oder großen Standwegen. Hohe Konturgenauigkeit durch geringe Abdrängung, ruhiges Fräsverhalten durch geringe Vibrationsneigung, sehr gute Oberflächengüte.

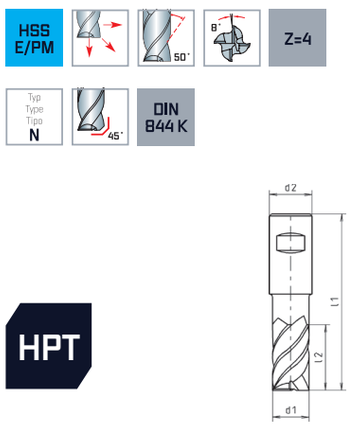
E HPT-End mills
short series, four flutes, centre cutting, DIN 844 K

Range of application:
End mills, high helix angle, made from powder-metallurgical steel for extreme cutting conditions for long continuous utilisation. High contour accuracy due to low deflection, smooth milling operation because of low vibration in tendency, excellent surface quality.

I HPT-Frese cilindriche frontali
serie corta, 4 taglienti, tagliente al centro, DIN 844 K

Impiego:
Frese a finire a forte torsione in acciai speciali da polveri particolarmente adatte per lavorazioni di acciai in condizioni estreme ovvero in passate di fresatura molto lunghe, e per lavorazioni di contornatura di elevata precisione che, grazie ad una minima deviazione, un comportamento dolce della fresa ed all'assenza di vibrazioni, permette una superfinitura della superficie.







ALUNIT®

d1 k10 mm	d2 h6 mm	l1 mm	l2 mm	Z	45°	Code 1537 Art.-Nr.
6	6	57	13	4	0,20	0 1537006001 00
8	10	69	19	4	0,30	0 1537008001 00
10	10	72	22	4	0,30	0 1537010001 00
12	12	83	26	4	0,30	0 1537012001 00
14	12	83	26	4	0,30	0 1537014001 00
16	16	92	32	4	0,30	0 1537016001 00
18	16	92	32	4	0,30	0 1537018001 00
20	20	104	38	4	0,30	0 1537020001 00

D Schaftfräser
kurz, zentrumschneidend,
DIN 844 K

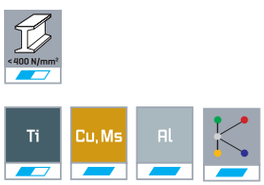
Einsatzbereich:
Empfohlen zum Fräsen von weichen bis zähen, langspanenden Werkstoffen wie Al- und Cu-Legierungen sowie Thermoplaste.

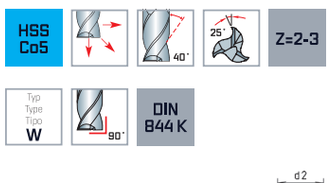
E End mills
short series, centre cutting,
DIN 844 K

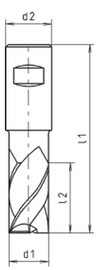
Range of application:
Recommended for milling in soft as well as in tough, long chipping materials such as Al- and Cu-alloys as well as in thermo plastics.

I Frese cilindriche frontali
serie corta, tagliente al centro,
DIN 844 K

Impiego:
Adatte per lavorazioni di acciai teneri, tenaci, a truciolo lungo, leghe alluminio, leghe rame, materiali termoplastici.









d1 k10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 1644 Art.-Nr.
5	6	57	13	2	0 1644005001 00
6	6	57	13	2	0 1644006001 00
8	10	69	19	2	0 1644008001 00
10	10	72	22	2	0 1644010001 00
12	12	83	26	3	0 1644012001 00
14	12	83	26	3	0 1644014001 00

d1 k10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 1644 Art.-Nr.
16	16	92	32	3	0 1644016001 00
18	16	92	32	3	0 1644018001 00
20	20	104	38	3	0 1644020001 00
25	25	121	45	3	0 1644025001 00
30	25	121	45	3	0 1644030001 00



D Schaftfräser
lang, zentrumschneidend, DIN 844 L

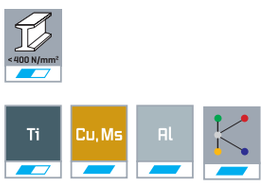
Einsatzbereich:
Empfohlen zum Fräsen von weichen bis zähen, langspanenden Werkstoffen wie Al- und Cu-Legierungen sowie Thermoplaste.

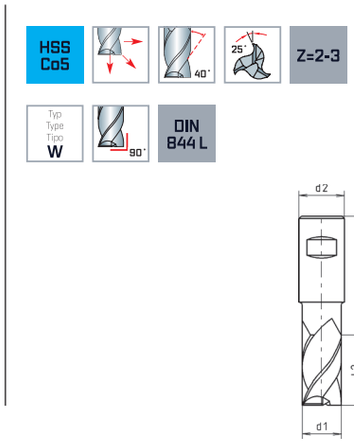
E End mills
long series, centre cutting, DIN 844 L

Range of application:
Recommended for milling in soft as well as in tough, long chipping materials such as Al- and Cu-alloys as well as in thermo plastics.

I Frese cilindriche frontali
serie lunga, tagliente al centro, DIN 844 L

Impiego:
Adatte per lavorazioni di acciai teneri, tenaci, a truciolo lungo, leghe alluminio, leghe rame, materiali termoplastici.







d1 k10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 1754 Art.-Nr.
5	6	68	24	2	0 1754005001 00
6	6	68	24	2	0 1754006001 00
8	10	88	38	2	0 1754008001 00
10	10	95	45	2	0 1754010001 00
12	12	110	53	3	0 1754012001 00

d1 k10 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 1754 Art.-Nr.
14	12	110	53	3	0 1754014001 00
16	16	123	63	3	0 1754016001 00
20	20	141	75	3	0 1754020001 00
25	25	166	90	3	0 1754025001 00
30	25	166	90	3	0 1754030001 00

D Schaftfräser
kurz, DIN 844 K

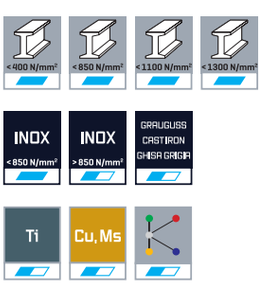
Einsatzbereich:
Empfohlen zum Fräsen von schwer zerspanbaren Werkstoffen mit hoher Festigkeit bis 1.300 N/mm² sowie für Titan und Titanlegierungen.

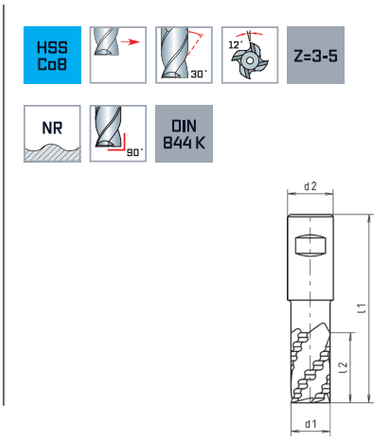
E End mills
short series, DIN 844 K

Range of application:
Recommended for milling in heavy duty materials with high tensile strength up to 1.300 N/mm² as well as in titanium and titanium-alloyed materials.

I Frese cilindriche frontali
serie corta, DIN 844 K

Impiego:
Adatte per lavorazioni di acciai di difficile lavorabilità ad elevata resistenza fino a R = 1.300 N/mm², Titanio, leghe di Titanio.







d1 k12 mm	d2 h6 mm	l1 mm	l2 mm	z	Code 2026 Art.-Nr.
5	6	57	13	3	0 2026005001 00
6	6	57	13	3	0 2026006001 00
7	10	66	16	3	0 2026007001 00
8	10	69	19	4	0 2026008001 00
9	10	69	19	4	0 2026009001 00
10	10	72	22	4	0 2026010001 00
11	12	79	22	4	0 2026011001 00
12	12	83	26	4	0 2026012001 00
14	12	83	26	4	0 2026014001 00
16	16	92	32	4	0 2026016001 00
18	16	92	32	4	0 2026018001 00
20	20	104	38	4	0 2026020001 00
25	25	121	45	5	0 2026025001 00
30	25	121	45	5	0 2026030001 00

D Schaftfräser
kurz, zentrumschneidend, DIN 844 K

Einsatzbereich:
Empfohlen zum Fräsen von schwer zerspanbaren Werkstoffen mit hoher Festigkeit bis 1.300 N/mm² sowie für Titan und Titanlegierungen.

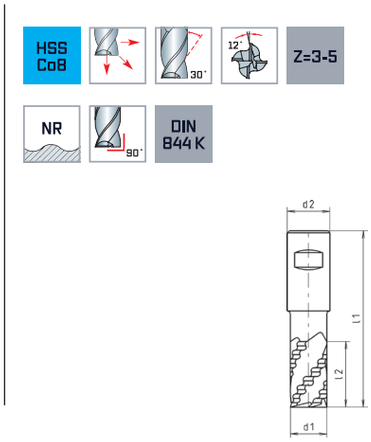


E End mills
short series, centre cutting, DIN 844 K

Range of application:
Recommended for milling in heavy duty materials with high tensile strength up to 1.300 N/mm² as well as in titanium and titanium-alloyed materials.

I Frese cilindriche frontali
serie corta, tagliente al centro, DIN 844 K

Impiego:
Adatte per lavorazioni di acciai di difficile lavorabilità ad elevata resistenza fino a R = 1.300 N/mm², Titanio, leghe di Titanio.







ALUNIT®

d1 k12 mm	d2 h6 mm	l1 mm	l2 mm	z	Code 2286 Art.-Nr.	Code 2287 Art.-Nr.
6	6	57	13	3	0 2286006001 00	0 2287006001 00
8	10	69	19	4	0 2286008001 00	0 2287008001 00
10	10	72	22	4	0 2286010001 00	0 2287010001 00
12	12	83	26	4	0 2286012001 00	0 2287012001 00
14	12	83	26	4	0 2286014001 00	0 2287014001 00
16	16	92	32	4	0 2286016001 00	0 2287016001 00
18	16	92	32	4	0 2286018001 00	0 2287018001 00
20	20	104	38	4	0 2286020001 00	0 2287020001 00
22	20	104	38	5	0 2286022001 00	0 2287022001 00
25	25	121	45	5	0 2286025001 00	0 2287025001 00



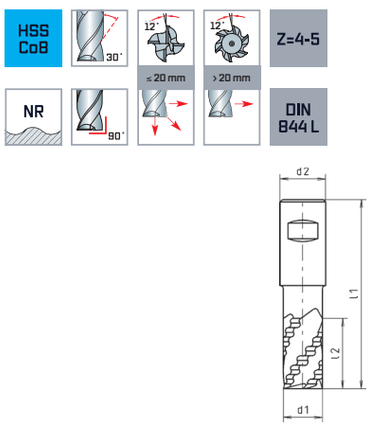
D Schaftfräser
lang, DIN 844 L

Einsatzbereich:
Empfohlen zum Fräsen von schwer zerspanbaren Werkstoffen mit hoher Festigkeit bis 1.300 N/mm² sowie für Titan und Titanlegierungen.



E End mills
long series, DIN 844 L

Range of application:
Recommended for milling in heavy duty materials with high tensile strength up to 1.300 N/mm² as well as in titanium and titanium-alloyed materials.



I Frese cilindriche frontali
serie lunga, DIN 844 L

Impiego:
Adatte per lavorazioni di acciai di difficile lavorabilità ad elevata resistenza fino a R = 1.300 N/mm², Titanio, leghe di Titanio.



d1 k12 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 2076 Art.-Nr.
10	10	95	45	4	0 2076010001 00
12	12	110	53	4	0 2076012001 00
16	16	123	63	4	0 2076016001 00
18	16	123	63	4	0 2076018001 00
20	20	141	75	4	0 2076020001 00

d1 k12 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 2076 Art.-Nr.
22	20	141	75	5	0 2076022001 00
24	25	166	90	5	0 2076024001 00
25	25	166	90	5	0 2076025001 00
30	25	166	90	5	0 2076030001 00

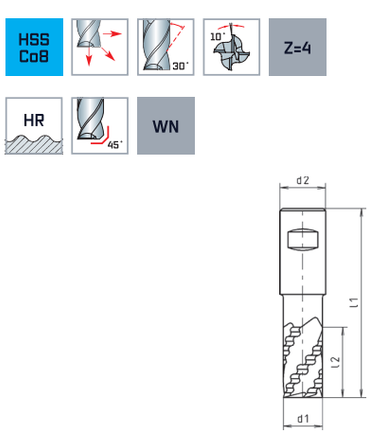
D Schaftfräser
extra kurz, zentrumschneidend

Einsatzbereich:
Großer Anwendungsbereich bei Werkstoffen mit mittlerer bis hoher Festigkeit (ca. 900–1.400 N/mm²), z.B. Einsatz-, Vergütungsstähle, Werkzeugstahl legiert, vergütet, NE-Metalle, hochwarmfeste Werkstoffe sowie Gusseisen und Gusslegierungen.



E Stub end mills
extra short series, centre cutting

Range of application:
Wide range of applications on materials of medium strength up to high tensile strength (~ 900–1.400 N/mm²), for example case-hardening, heat-treatable steels, alloyed tool steel; hardened and tempered non-ferrous metals, high temperature materials, also cast iron and alloyed cast iron.



I Frese cilindriche frontali
serie extra corta, tagliente al centro

Impiego:
Fresatura generale adatte per lavorazioni di acciai sia a media che ad elevata resistenza (ca. 900 – fino a 1400 N/mm²) ad es. acciai da cementazione, acciai da utensili legati bonificati, metalli non ferrosi, metalli resistenti al calore, ghisa, leghe di ghisa.



ALUNIT®

d1 k12 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 2007 Art.-Nr.
6	6	52	8	4	0 2007006001 00
8	10	61	11	4	0 2007008001 00
10	10	63	13	4	0 2007010001 00

ALUNIT®

d1 k12 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 2007 Art.-Nr.
12	12	66	16	4	0 2007012001 00
16	16	75	19	4	0 2007016001 00
20	20	89	22	4	0 2007020001 00

D Schaftfräser
extra kurz, zentrumschneidend

Einsatzbereich:
Großer Anwendungsbereich bei Werkstoffen mit mittlerer bis hoher Festigkeit (ca. 900–1.400 N/mm²), z.B. Einsatz-, Vergütungsstähle, Werkzeugstahl legiert, vergütet, NE-Metalle, hochwarmfeste Werkstoffe sowie Gusseisen und Gusslegierungen.

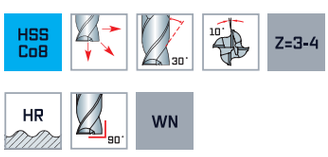
E Stub end mills
extra short series, centre cutting

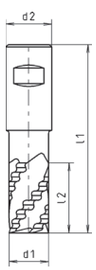
Range of application:
Wide range of applications on materials of medium strength up to high tensile strength (~ 900–1.400 N/mm²), for example case-hardening, heat-treatable steels, alloyed tool steel; hardened and tempered non-ferrous metals, high temperature materials, also cast iron and alloyed cast iron.

I Frese cilindriche frontali
serie extra corta, tagliente al centro

Impiego:
Fresatura generale adatte per lavorazioni di acciai sia a media che ad elevata resistenza (ca. 900 – fino a 1400 N/mm²) ad es. acciai da cementazione, acciai da utensili legati bonificati, metalli non ferrosi, metalli resistenti al calore, ghisa, leghe di ghisa.









ALUNIT®

d1 k12 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 2057 Art.-Nr.
6	6	52	8	3	0 2057006001 00
8	10	61	11	4	0 2057008001 00
10	10	63	13	4	0 2057010001 00
12	12	73	16	4	0 2057012001 00

ALUNIT®

d1 k12 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 2057 Art.-Nr.
14	12	73	16	4	0 2057014001 00
16	16	79	19	4	0 2057016001 00
18	16	79	19	4	0 2057018001 00
20	20	88	22	4	0 2057020001 00



D Schaftfräser
kurz, DIN 844 K

E End mills
short series, DIN 844 K

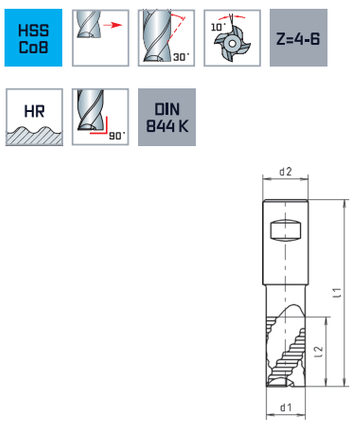
I Frese cilindriche frontaliserie serie corta, DIN 844 K

Einsatzbereich:
Großer Anwendungsbereich bei Werkstoffen mit mittlerer bis hoher Festigkeit (ca. 900–1.400 N/mm²), z.B. Einsatz-, Vergütungsstähle, Werkzeugstahl legiert, vergütet, NE-Metalle, hochwarmfeste Werkstoffe sowie Gusseisen und Gusslegierungen.

Range of application:
Wide range of applications on materials of medium strength up to high tensile strength (~ 900–1.400 N/mm²), for example case-hardening, heat-treatable steels, alloyed tool steel; hardened and tempered non-ferrous metals, high temperature materials, also cast iron and alloyed cast iron.

Impiego:
Fresatura generale adatte per lavorazioni di acciai sia a media che ad elevata resistenza (ca. 900 – fino a 1400 N/mm²) ad es. acciai da cementazione, acciai da utensili legati bonificati, metalli non ferrosi, metalli resistenti al calore, ghisa, leghe di ghisa.







d1 k12 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 2036 Art.-Nr.
10	10	72	22	4	0 2036010001 00
12	12	83	26	4	0 2036012001 00
16	16	92	32	4	0 2036016001 00
18	16	92	32	4	0 2036018001 00
20	20	104	38	4	0 2036020001 00
25	25	121	45	5	0 2036025001 00
30	25	121	45	5	0 2036030001 00
32	32	133	53	6	0 2036032001 00

D Schaftfräser
kurz, zentrumschneidend, DIN 844 K

Einsatzbereich:
Großer Anwendungsbereich bei Werkstoffen mit mittlerer bis hoher Festigkeit (ca. 900–1.400 N/mm²), z.B. Einsatz-, Vergütungsstähle, Werkzeugstahl legiert, vergütet, NE-Metalle, hochwarmfeste Werkstoffe sowie Gusseisen und Gusslegierungen.

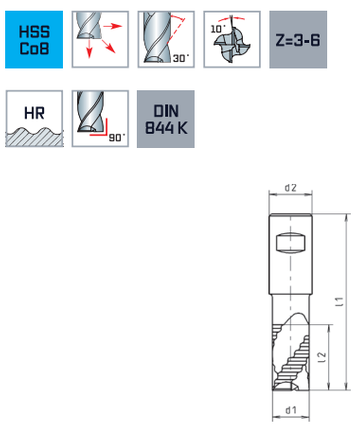
E End mills
short series, centre cutting, DIN 844 K

Range of application:
Wide range of applications on materials of medium strength up to high tensile strength (~ 900–1.400 N/mm²), for example case-hardening, heat-treatable steels, alloyed tool steel; hardened and tempered non-ferrous metals, high temperature materials, also cast iron and alloyed cast iron.

I Frese cilindriche frontali
serie corta, tagliente al centro, DIN 844 K

Impiego:
Fresatura generale adatte per lavorazioni di acciai sia a media che ad elevata resistenza (ca. 900 – fino a 1400 N/mm²) ad es. acciai da cementazione, acciai da utensili legati bonificati, metalli non ferrosi, metalli resistenti al calore, ghisa, leghe di ghisa.









ALUNIT®

d1 k12 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 2047 Art.-Nr.
6	6	57	13	3	0 2047006001 00
7	10	66	16	3	0 2047007001 00
8	10	69	19	4	0 2047008001 00
9	10	69	19	4	0 2047009001 00
10	10	72	22	4	0 2047010001 00
11	12	79	22	4	0 2047011001 00
12	12	83	26	4	0 2047012001 00
13	12	83	26	4	0 2047013001 00
14	12	83	26	4	0 2047014001 00
15	12	83	26	4	0 2047015001 00
16	16	92	32	4	0 2047016001 00
18	16	92	32	4	0 2047018001 00
20	20	104	38	4	0 2047020001 00
22	20	104	38	5	0 2047022001 00
25	25	121	45	5	0 2047025001 00
30	25	121	45	5	0 2047030001 00
32	32	133	53	6	0 2047032001 00



D HPT-Schaftfräser
kurz, zentrumschneidend, DIN 844 K

Einsatzbereich:
Gefertigt aus pulvermetallurgischem Material zur Verwendung bei extremen Zerspanungsbedingungen und/oder großen Standwegen. Großer Anwendungsbereich bei Werkstoffen mit mittlerer bis hoher Festigkeit (ca. 900–1.400 N/mm²), z.B. Einsatz-, Vergütungsstähle, Werkzeugstahl legiert, vergütet, NE-Metalle, hochwarmfeste Werkstoffe sowie Gusseisen und Gusslegierungen.

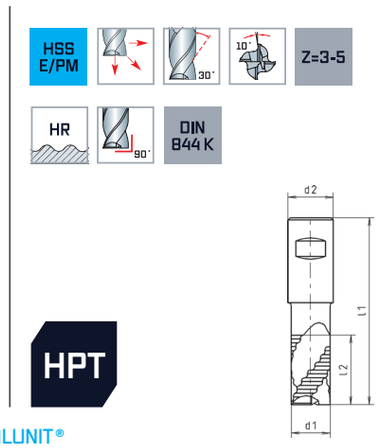
E HPT-End mills
short series, centre cutting, DIN 844 K

Range of application:
Made from powder-metallurgical steel for extreme cutting conditions for long continuous utilisation. Wide range of applications on materials of medium strength up to high tensile strength (~ 900– 1.400 N/mm²), for example case-hardening, heat-treatable steels, alloyed tool steel; hardened and tempered non-ferrous metals, high temperature materials, also cast iron and alloyed cast iron.

I HPT-Frese cilindriche frontali
serie corta, tagliente al centro, DIN 844 K

Impiego:
Frese in acciai speciali da polveri particolarmente adatte per lavorazioni di acciai in condizioni estreme ovvero in passate di fresatura molto lunghe. Adatte per lavorazioni di acciai sia a media che ad elevata resistenza (ca. 900 – fino a 1400 N/mm²) ad es. acciai da cementazione, acciai da utensili legati bonificati, metalli non ferrosi, metalli resistenti al calore, ghisa, leghe di ghisa.





ALUNIT®



ALUNIT®

d1 k12 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 2017 Art.-Nr.
6	6	57	13	3	0 2017006001 00
8	10	69	19	4	0 2017008001 00
10	10	72	22	4	0 2017010001 00
12	12	83	26	4	0 2017012001 00

d1 k12 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 2017 Art.-Nr.
16	16	92	32	4	0 2017016001 00
18	16	92	32	4	0 2017018001 00
20	20	104	38	4	0 2017020001 00
25	25	121	45	5	0 2017025001 00

D HPT-Schrupp-Schaftfräser
kurz, zentrumschneidend,
DIN 844 K

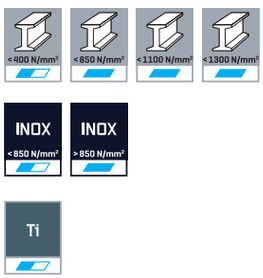
Einsatzbereich:
Universalfräser mit dynamischen Spezialkordelprofil zum Schruppen. Gefertigt aus neuem Substrat SPM mit sehr hohem Kobalt-Anteil. Es verbindet die Härte von VHM und die Zähigkeit des PM-Stahles. Dieser Fräser ist für höchste Ansprüche an Zerspanungsleistung und Steigerung des Zerspanungsvolumens ideal geeignet.

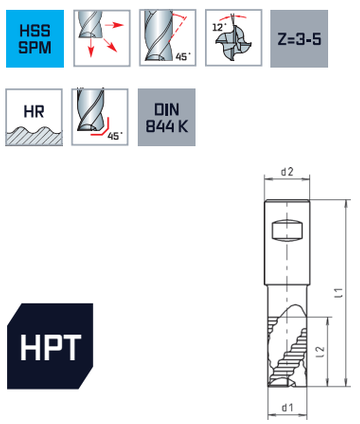
E HPT-Roughing end mills
short series, centre cutting,
DIN 844 K

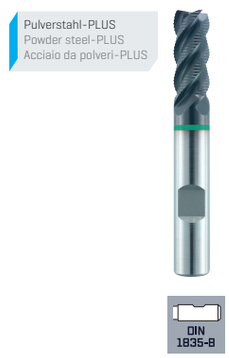
Range of application:
Universal milling cutter with dynamic special cord profile for roughing. Made from new substrate SPM with extreme high content of cobalt. It combines the hardness of solid carbide and the toughness of powder-metallurgical steel. This milling cutter is specially suitable for highest requirements in cutting performance and increase of cutting volume.

I HPT-Frese cilindriche frontali a sgrossare
serie corta, tagliente al centro,
DIN 844 K

Impiego:
Frese universali con speciale profilo dinamico per sgrossatura. Prodotta con la nuova tipologia di acciaio con substrato SPM ad elevato tenore di cobalto. Associa la durezza del M.D. alla resilienza dell'acciaio da polveri. Questa fresa è particolarmente adatta per elevate esigenze di resa e di asportazione di grandi volumi nella lavorazione.







ALUNIT®

d1 k12 mm	d2 h6 mm	l1 mm	l2 mm	Z	45°	Code 2147 Art.-Nr.
6	6	57	13	3	0,20	0 2147006001 00
8	10	69	19	4	0,20	0 2147008001 00
10	10	72	22	4	0,20	0 2147010001 00
12	12	83	26	4	0,30	0 2147012001 00
14	12	83	26	4	0,30	0 2147014001 00
16	16	92	32	5	0,30	0 2147016001 00
18	16	92	32	5	0,30	0 2147018001 00
20	20	104	38	5	0,30	0 2147020001 00



D HPT-Schaftfräser
kurz, zentrumschneidend, DIN 327 D

Einsatzbereich:
Gefertigt aus neuem Substrat SPM mit sehr hohem Kobalt-Anteil. Es verbindet die Härte von VHM und die Zähigkeit des PM-Stahles. Dieser Fräser ist für höchste Ansprüche an Zerspanungsleistung und Steigerung des Zerspanungsvolumens in rostfreien Stählen ideal geeignet.

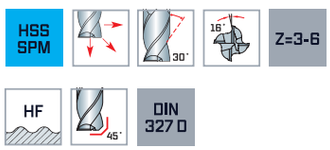
E HPT-End mills
short series, centre cutting, DIN 327 D

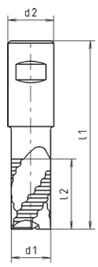
Range of application:
Made from new substrate SPM with extreme high content of cobalt. It combines the hardness of solid carbide and the toughness of powder-metallurgical steel. This milling cutter is specially suitable for highest requirements in cutting performance and increase of cutting volume in stainless steels.

I HPT-Frese cilindriche frontali
serie corta, tagliente al centro, DIN 327 D

Impiego:
Prodotta con la nuova tipologia di acciaio con substrato SPM ad elevato tenore di cobalto. Associa la durezza del M.D alla resilienza dell'acciaio da pollveri. Questa fresa è particolarmente adatta per elevate esigenze di resa e di asportazione di grandi volumi nella lavorazione degli acciai inossidabili.







Pulverstahl-PLUS
Powder steel-PLUS
Acciaio da polveri-PLUS



DIN 1835-B

ALUNIT®

d1 k12 mm	d2 h6 mm	l1 mm	l2 mm	z	45°	Code 2137 Art.-Nr.
6	6	52	8	3	0,30	0 2137006001 00
8	10	61	11	4	0,30	0 2137008001 00
10	10	63	13	4	0,30	0 2137010001 00
12	12	73	16	4	0,30	0 2137012001 00
14	12	73	16	4	0,30	0 2137014001 00
16	16	79	19	5	0,30	0 2137016001 00
18	16	79	19	5	0,30	0 2137018001 00
20	20	88	22	5	0,30	0 2137020001 00
25	25	102	26	5	0,30	0 2137025001 00
32	32	112	32	6	0,30	0 2137032001 00

D HPT-Schaftfräser
kurz, zentrumschneidend, DIN 844 K

Einsatzbereich:
Gefertigt aus neuem Substrat SPM mit sehr hohem Kobalt-Anteil. Es verbindet die Härte von VHM und die Zähigkeit des PM-Stahles. Dieser Fräser ist für höchste Ansprüche an Zerspanungsleistung und Steigerung des Zerspanungsvolumens in rostfreien Stählen ideal geeignet.

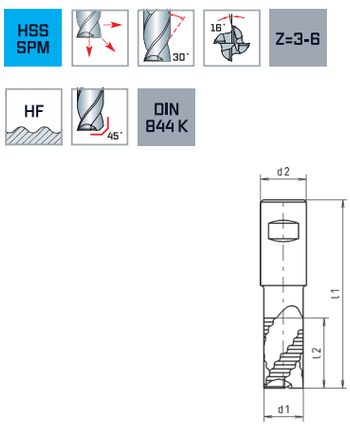
E HPT-End mills
short series, centre cutting, DIN 844 K

Range of application:
Made from new substrate SPM with extreme high content of cobalt. It combines the hardness of solid carbide and the toughness of powder-metallurgical steel. This milling cutter is specially suitable for highest requirements in cutting performance and increase of cutting volume in stainless steels.

I HPT-Frese cilindriche frontali
serie corta, tagliente al centro, DIN 844 K

Impiego:
Prodotta con la nuova tipologia di acciaio con substrato SPM ad elevato tenore di cobalto. Associa la durezza del M.D alla resilienza dell'acciaio da pollveri. Questa fresa è particolarmente adatta per elevate esigenze di resa e di asportazione di grandi volumi nella lavorazione degli acciai inossidabili.







ALUNIT®

d1 k12 mm	d2 h6 mm	l1 mm	l2 mm	Z	45°	Code 2117 Art.-Nr.
6	6	57	13	3	0,30	0 2117006001 00
8	10	69	19	4	0,30	0 2117008001 00
10	10	72	22	4	0,30	0 2117010001 00
12	12	83	26	4	0,30	0 2117012001 00
14	12	83	26	4	0,30	0 2117014001 00
16	16	92	32	5	0,30	0 2117016001 00
18	16	92	32	5	0,30	0 2117018001 00
20	20	104	38	5	0,30	0 2117020001 00
25	25	121	45	5	0,30	0 2117025001 00
32	32	133	53	6	0,30	0 2117032001 00



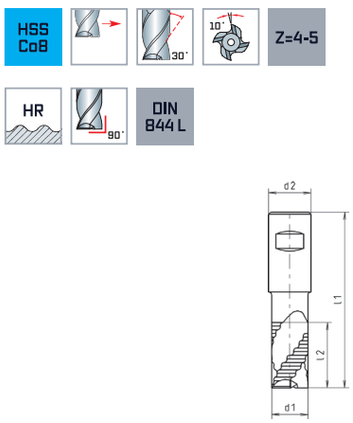
D Schaftfräser
lang, DIN 844 L

Einsatzbereich:
Großer Anwendungsbereich bei Werkstoffen mit mittlerer bis hoher Festigkeit (ca. 900–1.400 N/mm²), z.B. Einsatz-, Vergütungsstähle, Werkzeugstahl legiert, vergütet, NE-Metalle, hochwarmfeste Werkstoffe sowie Gusseisen und Gusslegierungen.



E End mills
long series, DIN 844 L

Range of application:
Wide range of applications on materials of medium strength up to high tensile strength (~ 900–1.400 N/mm²), for example case-hardening, heat-treatable steels, alloyed tool steel; hardened and tempered non-ferrous metals, high temperature materials, also cast iron and alloyed cast iron.



I Frese cilindriche frontali
serie lunga, DIN 844 L

Impiego:
Fresatura generale adatte per lavorazioni di acciai sia a media che ad elevata resistenza (ca. 900 – fino a 1400 N/mm²) ad es. acciai da cementazione, acciai da utensili legati bonificati, metalli non ferrosi, metalli resistenti al calore, ghisa, leghe di ghisa.



ALUNIT®

d1 k12 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 2087 Art.-Nr.
10	10	95	45	4	0 2087010001 00
12	12	110	53	4	0 2087012001 00
14	12	110	53	4	0 2087014001 00
16	16	123	63	4	0 2087016001 00
18	16	123	63	4	0 2087018001 00
20	20	141	75	4	0 2087020001 00
25	25	166	90	5	0 2087025001 00

D Schaftfräser
kurz, dreischneider, zentrumschneidend, DIN 844 K

Einsatzbereich:
Empfohlen zum Fräsen von weichen bis zähen, langspanenden Werkstoffen wie Al- und Cu-Legierungen sowie Thermoplaste.

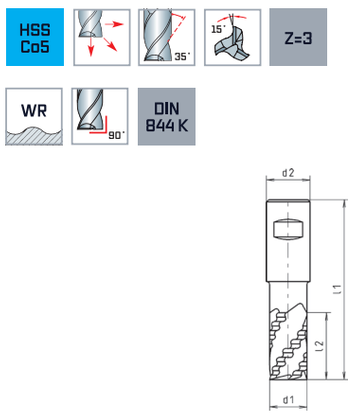
E End mills
short series, three flutes, centre cutting, DIN 844 K

Range of application:
Recommended for milling in soft as well as in tough, long chipping materials such as Al- and Cu-alloys as well as in thermo plastics.

I Frese cilindriche frontali
serie corta, 3 taglienti, tagliente al centro, DIN 844 K

Impiego:
Adatte per lavorazioni di acciai teneri, tenaci, a truciolo lungo, leghe alluminio, leghe rame, materiali termoplastici.







d1 k12 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 2094 Art.-Nr.
6	6	57	13	3	0 2094006001 00
8	10	69	19	3	0 2094008001 00
10	10	72	22	3	0 2094010001 00
12	12	83	26	3	0 2094012001 00
14	12	83	26	3	0 2094014001 00

d1 k12 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 2094 Art.-Nr.
16	16	92	32	3	0 2094016001 00
18	16	92	32	3	0 2094018001 00
20	20	104	38	3	0 2094020001 00
25	25	121	45	3	0 2094025001 00



D Schaftfräser
lang, dreischneider, zentrumschneidend, DIN 844 L

Einsatzbereich:
Empfohlen zum Fräsen von weichen bis zähen, langspanenden Werkstoffen wie Al- und Cu-Legierungen sowie Thermoplaste.

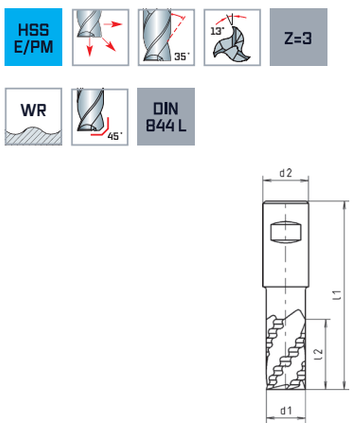
E End mills
long series, three flutes, centre cutting, DIN 844 L

Range of application:
Recommended for milling in soft as well as in tough, long chipping materials such as Al- and Cu-alloys as well as in thermo plastics.

I Frese cilindriche frontali
serie lunga, 3 taglienti, tagliente al centro, DIN 844 L

Impiego:
Adatte per lavorazioni di acciai teneri, tenaci, a truciolo lungo, leghe alluminio, leghe rame, materiali termoplastici.







d1 js14 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 2172 Art.-Nr.
10	10	95	45	3	0 2172010001 00
12	12	110	53	3	0 2172012001 00
14	12	110	53	3	0 2172014001 00
16	16	123	63	3	0 2172016001 00

d1 js14 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 2172 Art.-Nr.
18	16	123	63	3	0 2172018001 00
20	20	141	75	3	0 2172020001 00
25	25	166	90	3	0 2172025001 00

D Schaftfräser
kurz, DIN 844 K

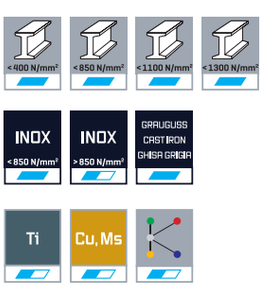
Einsatzbereich:
Empfohlen zum Fräsen von schwer zerspanbaren Werkstoffen mit hoher Festigkeit bis 1.300 N/mm² sowie für Titan und Titanlegierungen.

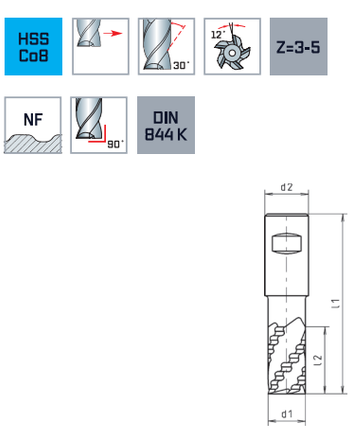
E End mills
short series, DIN 844 K

Range of application:
Recommended for milling in heavy duty materials with high tensile strength up to 1.300 N/mm² as well as in titanium and titanium-alloyed materials.

I Frese cilindriche frontali
serie corta, DIN 844 K

Impiego:
Adatte per lavorazioni di acciai di difficile lavorabilità ad elevata resistenza fino a R = 1.300 N/mm², Titanio, leghe di Titanio.







d1 k12 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 2156 Art.-Nr.
5	6	57	13	3	0 2156005001 00
6	6	57	13	3	0 2156006001 00

d1 k12 mm	d2 h6 mm	l1 mm	l2 mm	Z	Code 2156 Art.-Nr.
8	10	69	19	4	0 2156008001 00
9	10	69	19	4	0 2156009001 00
10	10	72	22	4	0 2156010001 00
11	12	79	22	4	0 2156011001 00
12	12	83	26	4	0 2156012001 00
14	12	83	26	4	0 2156014001 00
15	12	83	26	4	0 2156015001 00
16	16	92	32	4	0 2156016001 00
18	16	92	32	4	0 2156018001 00
20	20	104	38	4	0 2156020001 00
25	25	121	45	5	0 2156025001 00
30	25	121	45	5	0 2156030001 00

D Schaftfräser
kurz, Morsekegelschaft, DIN 845 B

Einsatzbereich:
Zum Schlichten mit hoher Zerspanungsleistung bei gleichzeitig exzellenter Oberfläche von Stählen mit mittlerer bis hoher Festigkeit bis 1.300 N/mm² (z.B. Bau-, Einsatz-, Vergütungsstähle); NE-Metalle, rost- und säurebeständige Stähle. Bevorzugt Gleichlauffräsen.

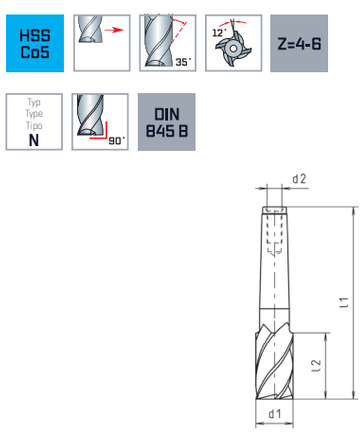
E End mills
short series, morse taper shank, DIN 845 B

Range of application:
Finishing with high cutting performance and excellent surface on steels with medium to high tensile strength up to 1.300 N/mm² (for example for structural, case-hardening, heat-treatable steels); non-ferrous metals, stainless and acid resistant steels. Climb milling preferred.

I Frese frontali
serie corta, cono morse, DIN 845 B

Impiego:
Adatte per lavorazione di acciai di media ed alta resistenza fino a R = 1.300 N/mm², (ad es. acciai da costruzione, acciai da cementazione, acciai bonificati); materiali non ferrosi, acciai inossidabili, acciai resistenti agli acidi, con elevata potenza di fresatura e con una finitura della superficie ottimale. Consigliata fresatura concorde.







d1 k10 mm		d2 mm	l1 mm	l2 mm	Z	Code 2664 Art.-Nr.
12	2	M 6	111	26	4	0 2664012001 00
14	2	M10	111	26	4	0 2664014001 00
16	2	M10	117	32	4	0 2664016001 00
18	2	M10	117	32	4	0 2664018001 00
20	2	M10	123	38	4	0 2664020001 00
22	2	M10	123	38	5	0 2664022001 00
25	3	M12	147	45	5	0 2664025001 00
26	3	M12	147	45	5	0 2664026001 00
28	3	M12	147	45	5	0 2664028001 00
30	3	M12	147	45	6	0 2664030001 00
32	4	M16	178	53	6	0 2664032001 00
36	4	M16	178	53	6	0 2664036001 00
40	4	M16	188	63	6	0 2664040001 00
45	4	M16	188	63	6	0 2664045001 00



D Schaftfräser
lang, Morsekegelschaft, DIN 845 B

Einsatzbereich:
Zum Schlichten mit hoher Zerspanungsleistung bei gleichzeitig exzellenter Oberfläche von Stählen mit mittlerer bis hoher Festigkeit bis 1.300 N/mm² (z.B. Bau-, Einsatz-, Vergütungsstähle); NE-Metalle, rost- und säurebeständige Stähle. Bevorzugt Gleichlauffräsen.

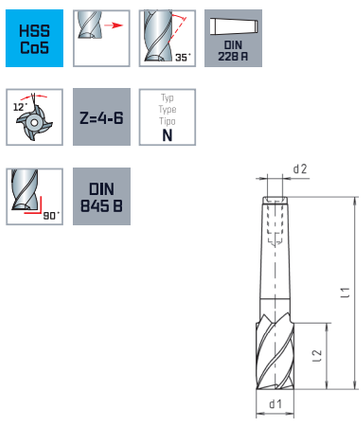
E End mills
long series, morse taper shank, DIN 845 B

Range of application:
Finishing with high cutting performance and excellent surface on steels with medium to high tensile strength up to 1.300 N/mm² (for example for structural, case-hardening, heat-treatable steels); non-ferrous metals, stainless and acid resistant steels. Climb milling preferred.

I Frese frontali
serie lunga, cono morse, DIN 845 B

Impiego:
Adatte per lavorazione di acciai di media ed alta resistenza fino a R = 1.300 N/mm², (ad es. acciai da costruzione, acciai da cementazione, acciai bonificati); materiali non ferrosi, acciai inossidabili, acciai resistenti agli acidi, con elevata potenza di fresatura e con una finitura della superficie ottimale. Consigliata fresatura concorde.







d1 k10 mm		d2 mm	l1 mm	l2 mm	Z	Code 2684 Art.-Nr.
16	2	M10	148	63	4	0 2684016001 00
20	2	M10	160	75	4	0 2684020001 00
22	2	M12	160	75	5	0 2684022001 00
25	3	M12	192	90	5	0 2684025001 00
28	3	M12	192	90	5	0 2684028001 00
30	3	M12	192	90	6	0 2684030001 00
36	4	M16	231	106	6	0 2684036001 00
40	4	M16	250	125	6	0 2684040001 00

D Schaftfräser
kurz, Morsekegelschaft, DIN 845 B (C)

Einsatzbereich:
Empfohlen zum Fräsen von schwer zerspanbaren Werkstoffen mit hoher Festigkeit bis 1.300 N/mm² sowie für Titan und Titanlegierungen.

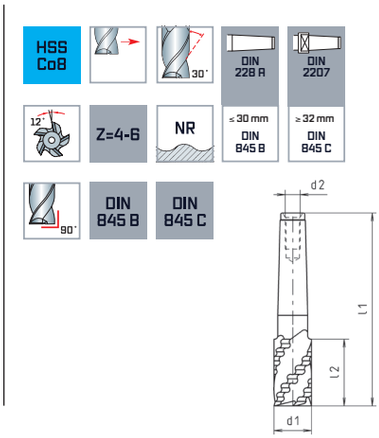
E End mills
short series, morse taper shank, DIN 845 B (C)

Range of application:
Recommended for milling in heavy duty materials with high tensile strength up to 1.300 N/mm² as well as in titanium and titanium-alloyed materials.

I Frese frontali
serie corta, cono morse, DIN 845 B (C)

Impiego:
Adatte per lavorazioni di acciai di difficile lavorabilità ed elevata resistenza fino a R = 1.300 N/mm², Titanio, leghe di Titanio.







d1 k12 mm		d2 mm	l1 mm	l2 mm	Z	Code 2756 Art.-Nr.
12	1	M 6	96	26	4	0 2756012001 00
14	2	M10	111	26	4	0 2756014001 00
16	2	M10	117	32	4	0 2756016001 00
20	2	M10	123	38	4	0 2756020001 00
24	3	M12	147	45	5	0 2756024001 00
25	3	M12	147	45	5	0 2756025001 00
30	3	M12	147	45	5	0 2756030001 00
32	4	M16	201	53	6	0 2756032001 00
40	4	M16	211	63	6	0 2756040001 00
45	4	M16	211	63	6	0 2756045001 00



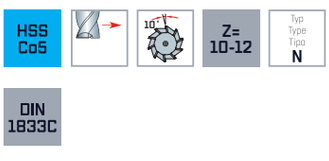
D Winkelfräser
DIN 1833 C

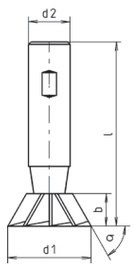
Einsatzbereich:
Empfohlen zum Fräsen von Bau-, Einsatz- und Vergütungsstählen mit normaler Festigkeit bis 1.100 N/mm² sowie für kurzspanende NE-Metalle



E Dovetail cutters
DIN 1833 C

Range of application:
Recommended for milling in construction steels, tempered steels and cementation steels with standard tensile strength up to 1.100 N/mm² and short-chipping of non-ferrous metals.





I Frese ad angolo divergente
DIN 1833 C

Impiego:
Fresatura di acciai da costruzione, acciai da cementazione, acciai bonificati con R fino a 1.100 N/mm² e di materiali non ferrosi a truciolo corto.



σ	d1 js16 mm	b mm	d2 h6 mm	l mm	Z	Code 1394 Art.-Nr.
45°	16	4,0	12	60	10	0 1394016401 00
45°	20	5,0	12	63	10	0 1394020401 00
45°	25	6,3	12	67	10	0 1394025401 00
45°	32	8,0	16	71	12	0 1394032401 00
60°	16	6,3	12	60	10	0 1394016601 00
60°	20	8,0	12	63	10	0 1394020601 00
60°	25	10,0	12	67	10	0 1394025601 00
60°	32	12,5	16	71	12	0 1394032601 00

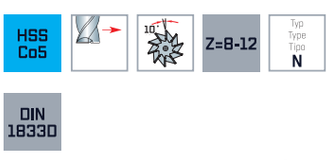
D Winkelfräser
DIN 1833 D

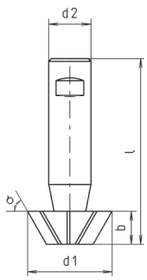
Einsatzbereich:
Empfohlen zum Fräsen von Bau-, Einsatz- und Vergütungsstählen mit normaler Festigkeit bis 1.100 N/mm² sowie für kurzspanende NE-Metalle.



E Dovetail cutters
DIN 1833 D

Range of application:
Recommended for milling in construction steels, tempered steels and cementation steels with standard tensile strength up to 1.100 N/mm² and short-chipping of non-ferrous metals.





I Frese ad angolo convergente
DIN 1833 D

Impiego:
Fresatura di acciai da costruzione, acciai da cementazione, acciai bonificati con R fino a 1.100 N/mm² e di materiali non ferrosi a truciolo corto.



σ	d1 $_{js16}$ mm	b mm	d2 $_{h6}$ mm	l mm	z	Code 1424 Art.-Nr.
45°	16	4,0	12	60	8	0 1424016401 00
45°	20	5,0	12	63	8	0 1424020401 00
45°	25	6,3	12	67	10	0 1424025401 00
45°	32	8,0	16	71	12	0 1424032401 00
60°	16	6,3	12	60	8	0 1424016601 00
60°	20	8,0	12	63	8	0 1424020601 00
60°	25	10,0	12	67	10	0 1424025601 00
60°	32	12,5	16	71	12	0 1424032601 00

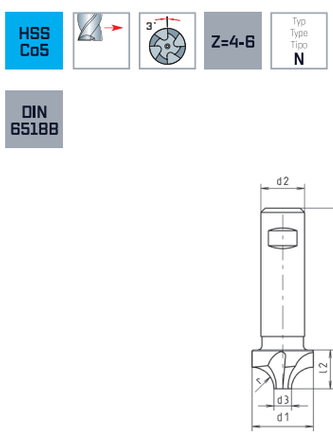
D Viertelrund-Profilfräser
DIN 6518 B

Einsatzbereich:
Empfohlen zum Fräsen von Bau-, Einsatz- und Vergütungsstählen mit normaler Festigkeit bis 1.100 N/mm² sowie für kurzspanende NE-Metalle.



E Quarter circle cutters
DIN 6518 B

Range of application:
Recommended for milling in construction steels, tempered steels and cementation steels with standard tensile strength up to 1.100 N/mm² and short-chipping of non-ferrous metals.



I Frese a quarto di cerchio
DIN 6518 B

Impiego:
Adatte per lavorazioni di acciai da costruzione, acciai da cementazione, acciai bonificati con R fino a 1.100 N/mm² e di materiali non ferrosi a truciolo corto.



r H11 mm	d1 mm	d2 $_{h6}$ mm	d3 mm	l1 mm	l2 mm	z	Code 1464 Art.-Nr.
1,00	8	10	6	60	10	4	0 1464001001 00
1,25	8,5	10	6	60	10	4	0 1464001201 00
Δ 1,50	9	10	6	60	10	4	0 1464001501 00
1,60	9,2	10	6	60	10	4	0 1464001601 00
2,00	10	10	6	60	15	4	0 1464002001 00
2,50	11	10	6	60	15	4	0 1464002501 00
3,00	12	12	6	60	11	4	0 1464003001 00
Δ 3,50	13	12	6	60	11	4	0 1464003501 00
4,00	14	12	6	60	11	4	0 1464004001 00
Δ 4,50	15	12	6	60	11	4	0 1464004501 00
5,00	16	12	6	60	11	4	0 1464005001 00
Δ 5,50	19	16	8	67	14	4	0 1464005501 00
6,00	20	16	8	67	14	4	0 1464006001 00
6,30	20,6	16	8	71	18	4	0 1464006301 00
Δ 6,50	21	16	8	71	18	4	0 1464006501 00
Δ 7,00	22	16	8	71	18	4	0 1464007001 00
Δ 7,50	23	16	8	71	18	4	0 1464007501 00
8,00	24	16	8	71	18	4	0 1464008001 00
10,00	28	25	8	85	22	4	0 1464010001 00
12,00	34	25	10	90	27	4	0 1464012001 00
12,50	41	25	16	100	32	6	0 1464012501 00
Δ 15,00	46	25	16	100	32	6	0 1464015001 00
16,00	48	25	16	100	32	6	0 1464016001 00
20,00	56	32	16	112	40	6	0 1464020001 00

Δ Zwischenradien / Intermediate radii / raggi intermedi



D T-Nutenfräser
DIN 851 AB

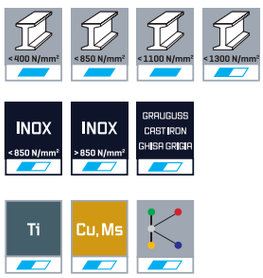
Einsatzbereich:
Schaftfräser für T-Nuten nach DIN 650, kreuzverzahnt. Empfohlen zum Fräsen von Bau-, Einsatz- und Vergütungsstählen mit normaler Festigkeit bis 1.100 N/mm² sowie für kurzspanende NE-Metalle.

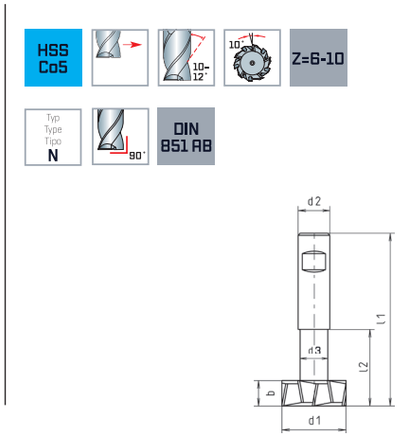
E T-Slot milling cutters
DIN 851 AB

Range of application:
Milling cutters for T-slots according to DIN 650, staggered teeth. Recommended for milling in construction steels, tempered steels and cemen-tation steels with standard tensile strength up to 1.100 N/mm² and short-chipping of non-ferrous metals.

I Frese per scanalature A "T",
DIN 851 AB

Impiego:
Frese a finire per scanalatura a T secondo DIN 650, denti alternati. Adatte per lavorazioni di acciai da costruzione, acciai da cementazione, acciai bonificati con R fino a 1.100 N/mm² e di materiali non ferrosi a truciolo corto.







a*	d1 d11 mm	b d11 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	Z	Code 1484 Art.-Nr.
6	12,5	6	10	5	57	17	6	0 1484012501 00
8	16	8	10	7	62	21	6	0 1484016001 00
10	18	8	12	8	70	25	6	0 1484018001 00
12	21	9	12	10	74	29	6	0 1484021001 00
14	25	11	16	12	82	34	8	0 1484025001 00
16	28	12	16	13	85	37	8	0 1484028001 00
18	32	14	16	15	90	41	8	0 1484032001 00
20	36	16	25	17	103	47	8	0 1484036001 00
22	40	18	25	19	108	52	10	0 1484040001 00

* Für T-Nuten nach DIN 650 / For T-slots according to DIN 650 / Per scanalature a "T" secondo DIN 650

D T-Nutenfräser
DIN 851 AB

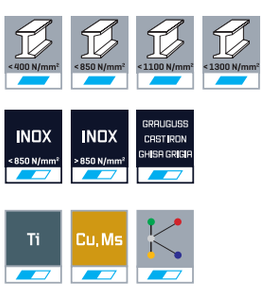
Einsatzbereich:
Schaftfräser für T-Nuten nach DIN 650 mit Schrupp-Schlichtverzahnung. Empfohlen zum Fräsen von Bau-, Einsatz- und Vergütungsstählen mit normaler Festigkeit bis 1.300 N/mm² sowie für kurzspanende NE-Metalle.

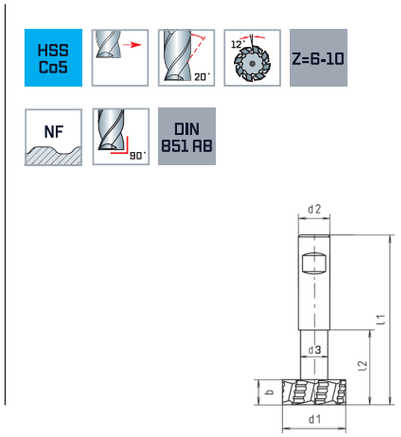
E T-Slot milling cutters
DIN 851 AB

Range of application:
Schaftfräser für T-Nuten nach DIN 650 mit Schrupp-Schlichtverzahnung. Empfohlen zum Fräsen von Bau-, Einsatz- und Vergütungsstählen mit normaler Festigkeit bis 1.300 N/mm² sowie für kurzspanende NE-Metalle.

I Frese per scanalature A "T",
DIN 851 AB

Impiego:
Frese a sgrossare per scanalatura a T secondo DIN 650. Adatte per lavorazioni di acciai da costruzione, acciai da cementazione, acciai bonificati con R fino a 1.300 N/mm² e di materiali non ferrosi a truciolo corto.







a*	d1 d11 mm	b d11 mm	d2 h6 mm	d3 mm	l1 mm	l2 mm	Z	Code 1504 Art.-Nr.
6	12,5	6	10	5	57	17	6	0 1504012501 00
8	16	8	10	7	62	21	6	0 1504016001 00
10	18	8	12	8	70	25	6	0 1504018001 00
12	21	9	12	10	74	29	8	0 1504021001 00
14	25	11	16	12	82	34	8	0 1504025001 00
16	28	12	16	13	85	37	8	0 1504028001 00
18	32	14	16	15	90	41	8	0 1504032001 00
20	36	16	25	17	103	47	10	0 1504036001 00
22	40	18	25	19	108	52	10	0 1504040001 00
24	45	20	25	21	113	57	10	0 1504045001 00

* Für T-Nuten nach DIN 650 / For T-slots according to DIN 650 / Per scanalature a "T" secondo DIN 650

D Schlitzfräser
DIN 850 D

Einsatzbereich:
Empfohlen zum Fräsen von Bau-, Einsatz- und Vergütungsstählen mit normaler Festigkeit bis 1.100 N/mm² sowie für kurzspanende NE-Metalle.

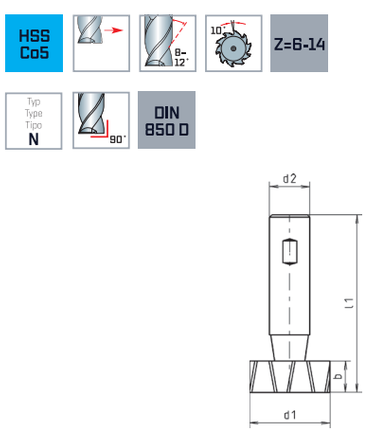
E Woodruff keyseat cutters
DIN 850 D

Range of application:
Recommended for milling in construction steels, tempered steels and cementation steels with standard tensile strength up to 1.100 N/mm² and short-chipping of non-ferrous metals.

I Frese per sede di chiavetta
DIN 850 D

Impiego:
Fresatura di acciai da costruzione, acciai da cementazione, acciai bonificati con R fino a 1.100 N/mm² e di materiali non ferrosi a truciolo corto.







x* mm	d1 h11 mm	b e8 mm	d2 h6 mm	l1 mm	Z	Code 1524 Art.-Nr.
1,0x 1,4	4,5	1	6	50	6	0 1524004501 00
1,5x 2,6	7,5	1,5	6	50	6	0 1524007101 00
2,0x 2,6	7,5	2	6	50	6	0 1524007201 00
2,0x 3,7	10,5	2	6	50	8	0 1524010001 00
2,5x 3,7	10,5	2,5	6	50	8	0 1524010101 00
3,0x 3,7	10,5	3	6	50	8	0 1524010201 00
3,0x 5,0	13,5	3	10	56	8	0 1524013301 00
4,0x 5,0	13,5	4	10	56	8	0 1524013401 00
3,0x 6,5	16,5	3	10	56	8	0 1524016301 00
4,0x 6,5	16,5	4	10	56	8	0 1524016401 00
5,0x 6,5	16,5	5	10	56	8	0 1524016501 00
4,0x 7,5	19,5	4	10	63	10	0 1524019401 00
5,0x 7,5	19,5	5	10	63	10	0 1524019501 00
6,0x 7,5	19,5	6	10	63	10	0 1524019601 00
5,0x 9,0	22,5	5	10	63	10	0 1524022501 00
6,0x 9,0	22,5	6	10	63	10	0 1524022601 00
8,0x 9,0	22,5	8	10	63	10	0 1524022801 00
6,0x10,0	25,5	6	10	63	10	0 1524025501 00
6,0x11,0	28,5	6	10	63	12	0 1524028101 00
8,0x11,0	28,5	8	10	63	12	0 1524028201 00

Fortsetzung / Continuation / Continuazione ▶



x* mm	d1 h11 mm	b e8 mm	d2 h6 mm	l1 mm	z	Code 1524 Art.-Nr.
10,0x11,0	28,5	10	12	71	12	0 1524028301 00
8,0x13,0	32,5	8	12	71	12	0 1524032101 00
10,0x13,0	32,5	10	12	71	12	0 1524032201 00
10,0x16,0	45,5	10	12	71	14	0 1524045501 00

* Nuten für Scheibenfedern nach DIN 6888 / Woodruff keyseats according to DIN 6888 / Per scanalature secondo DIN 6888

D Kurzschaftfräser

E Short shank cutters

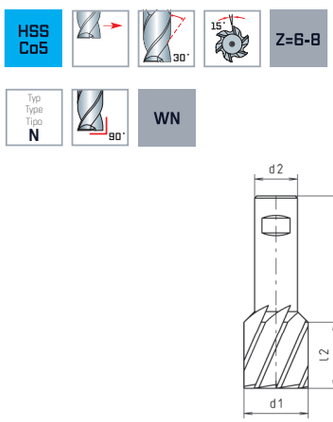
I Frese frontali
serie corta

Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit bis 1.300 N/mm² sowie für Titan und Titanlegierungen.

Range of application:
Recommended for milling in materials with medium/high tensile strength up to 1.300 N/mm² as well as in titanium and titanium-alloyed materials.

Impiego:
Fresatura generale di acciai di media ed alta resistenza fino a R = 1.300 N/mm², Titanio, leghe di Titanio.







d1 js16 mm	d2 h6 mm	l1 mm	l2 mm	z	Code 1374 Art.-Nr.
30	20	90	30	6	0 1374003001 00
35	20	90	30	6	0 1374003501 00

d1 js16 mm	d2 h6 mm	l1 mm	l2 mm	z	Code 1374 Art.-Nr.
40	25	95	32	6	0 1374004001 00
50	32	100	36	8	0 1374005001 00

D Kurzschaftfräser

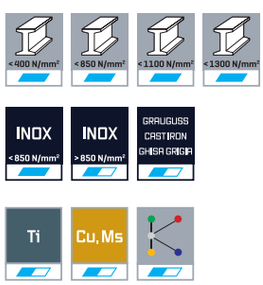
E Short shank cutters

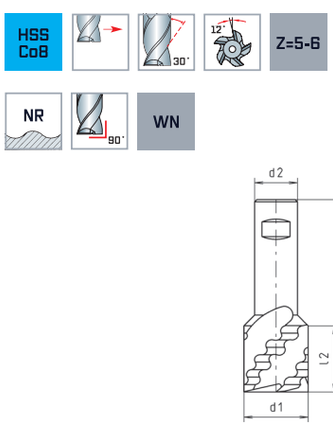
I Frese frontali
serie corta

Einsatzbereich:
Empfohlen zum Fräsen von Werkstoffen mit mittlerer bis hoher Festigkeit bis 1.300 N/mm² sowie für Titan und Titanlegierungen.

Range of application:
Recommended for milling in materials with medium/high tensile strength up to 1.300 N/mm² as well as in titanium and titanium-alloyed materials.

Impiego:
Fresatura generale di acciai di media ed alta resistenza fino a R = 1.300 N/mm², Titanio, leghe di Titanio.







d1 js16 mm	d2 h6 mm	l1 mm	l2 mm	z	Code 1356 Art.-Nr.
30	20	90	30	5	0 1356003001 00
35	20	90	30	6	0 1356003501 00

d1 js16 mm	d2 h6 mm	l1 mm	l2 mm	z	Code 1356 Art.-Nr.
40	25	95	32	6	0 1356004001 00
50	32	100	36	6	0 1356005001 00

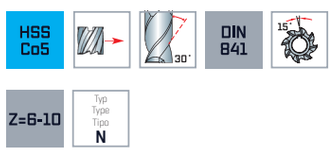
D Walzenstirnfräser
DIN 841

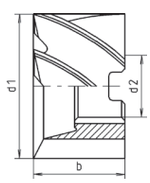
Einsatzbereich:
Empfohlen zum Fräsen von schwer zerspanbaren Werkstoffen bis 1.300 N/mm² Festigkeit sowie von rost- und säurebeständigen Stählen, Titanlegierungen u. ä.



E Shell end mills
DIN 841

Range of application:
Recommended for milling in heavy duty materials up to a tensile strength of 1.300 N/mm² as well as in rust- and acid-resistant steels, titanium-alloyed materials etc.





I Frese frontali
DIN 841

Impiego:
Fresatura generale di acciai di difficile lavorabilità con R fino a 1.300 N/mm², acciai inossidabili, acciai resistenti agli acidi, leghe di Titanio.



d1 js16 mm	b k16 mm	d2 H7 mm	z	Code 3044 Art.-Nr.
30	30	13	6	0 3044003001 00
35	35	16	6	0 3044003501 00
40	20	16	6	0 3044004201 00
40	40	16	6	0 3044004401 00
50	25	22	8	0 3044005201 00

d1 js16 mm	b k16 mm	d2 H7 mm	z	Code 3044 Art.-Nr.
50	50	22	8	0 3044005501 00
60	30	27	8	0 3044006301 00
60	60	27	8	0 3044006601 00
75	35	27	10	0 3044007301 00
90	35	27	10	0 3044009001 00



D Walzenstirnfräser
DIN 841

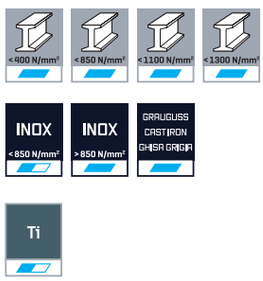
Einsatzbereich:
Für harte, kurzspanende Werkstoffe wie Grauguss, Messing, Bronze, legierte Werkzeugstähle.

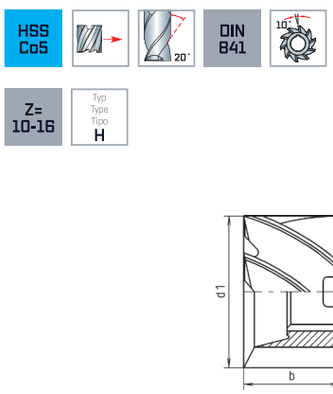
E Shell end mills
DIN 841

Range of application:
For hard, short chipping materials such as cast iron, brass, bronze, alloyed tool steels.

I Frese frontali
DIN 841

Impiego:
Fresatura generale di acciai duri a truciolo corto, ghisa grigia, ottone, bronzo, acciai legati da utensili.







d1 js16 mm	b k16 mm	d2 H7 mm	Z	Code 3054 Art.-Nr.
30	30	13	10	0 3054003001 00
35	35	16	10	0 3054003501 00
40	20	16	10	0 3054004201 00
40	40	16	10	0 3054004401 00
50	25	22	12	0 3054005201 00

d1 js16 mm	b k16 mm	d2 H7 mm	Z	Code 3054 Art.-Nr.
50	50	22	12	0 3054005501 00
60	30	27	12	0 3054006301 00
60	60	27	12	0 3054006601 00
90	35	27	16	0 3054009001 00

D Walzenstirnfräser
DIN 1880

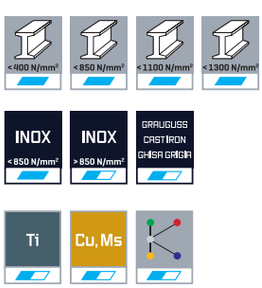
Einsatzbereich:
Empfohlen zum Fräsen von schwer zerspanbaren Werkstoffen bis 1.300 N/mm² Festigkeit sowie von rost- und säurebeständigen Stählen, Titanlegierungen u. ä.

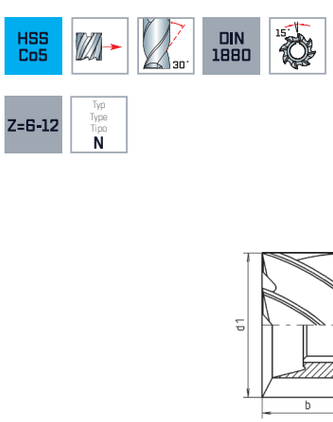
E Shell end mills
DIN 1880

Range of application:
Recommended for milling in heavy duty materials up to a tensile strength of 1.300 N/mm² as well as in rust- and acid-resistant steels, titanium-alloyed materials and similars.

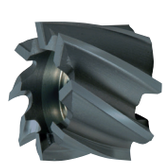
I Frese frontali
DIN 1880

Impiego:
Fresatura generale di acciai di difficile lavorabilità con R fino a 1.300 N/mm², acciai inossidabili, acciai resistenti agli acidi, leghe di Titanio.





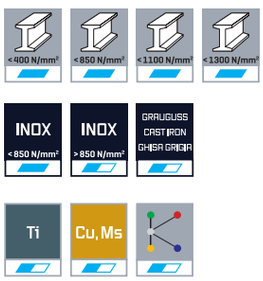




d1 js16 mm	b k16 mm	d2 H7 mm	Z	Code 3074 Art.-Nr.	Code 3077 Art.-Nr.
40	32	16	6	0 3074004001 00	0 3077004001 00
50	36	22	8	0 3074005001 00	0 3077005001 00
63	40	27	8	0 3074006301 00	0 3077006301 00
80	45	27	10	0 3074008001 00	0 3077008001 00
100	50	32	12	0 3074010001 00	

D Walzenstirnfräser
DIN 841

Einsatzbereich:
Empfohlen zum Fräsen von schwer zerspanbaren Werkstoffen mit hoher Festigkeit bis 1.300 N/mm² sowie für Titan und Titanlegierungen.

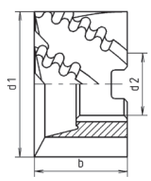


E Shell end mills
DIN 841

Range of application:
Recommended for milling in heavy duty materials with high tensile strength up to 1.300 N/mm² as well as in titanium and titanium-alloyed materials.







I Frese frontali
DIN 841

Impiego:
Fresatura generale di acciai di difficile lavorabilità con R fino a 1.300 N/mm², Titanio, leghe di Titanio.



d1 js16 mm	b k16 mm	d2 H7 mm	Z	Code 3106 Art.-Nr.
35	35	16	6	0 3106003501 00
40	40	16	6	0 3106004401 00

d1 js16 mm	b k16 mm	d2 H7 mm	Z	Code 3106 Art.-Nr.
50	50	22	6	0 3106005501 00
60	30	27	8	0 3106006301 00

D Walzenstirnfräser
DIN 841

Einsatzbereich:
Empfohlen zum Fräsen von schwer zerspanbaren Werkstoffen mit hoher Festigkeit bis 1.300 N/mm² sowie für Titan und Titanlegierungen.

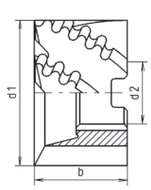


E Shell end mills
DIN 841

Range of application:
Recommended for milling in heavy duty materials with high tensile strength up to 1.300 N/mm² as well as in titanium and titanium-alloyed materials.







I Frese frontali
DIN 841

Impiego:
Fresatura generale di acciai di difficile lavorabilità con R fino a 1.300 N/mm², Titanio, leghe di Titanio.



d1 js16 mm	b k16 mm	d2 H7 mm	Z	Code 3116 Art.-Nr.
35	35	16	6	0 3116003501 00
40	20	16	6	0 3116004201 00
50	50	22	6	0 3116005501 00

d1 js16 mm	b k16 mm	d2 H7 mm	Z	Code 3116 Art.-Nr.
60	60	27	8	0 3116006601 00
75	75	27	8	0 3116007701 00
90	35	27	10	0 3116009001 00



D Walzenstirnfräser
DIN 1880

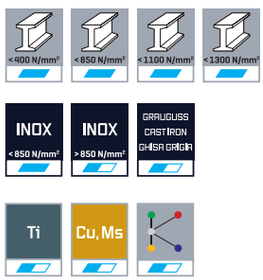
Einsatzbereich:
Empfohlen zum Fräsen von schwer zerspanbaren Werkstoffen mit hoher Festigkeit bis 1.300 N/mm² sowie für Titan und Titanlegierungen.

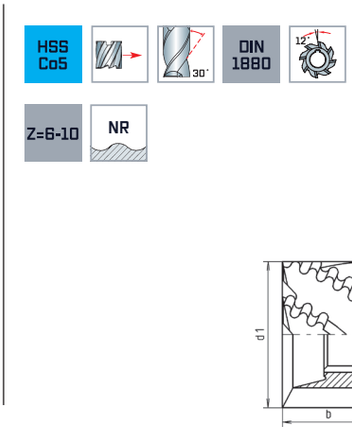
E Shell end mills
DIN 1880

Range of application:
Recommended for milling in heavy duty materials with high tensile strength up to 1.300 N/mm² as well as in titanium and titanium-alloyed materials.

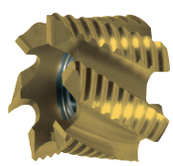
I Frese frontali
DIN 1880

Impiego:
Fresatura generale di acciai di difficile lavorabilità con R fino a 1.300 N/mm², Titanio, leghe di Titanio









TiN

d1 js16 mm	b k16 mm	d2 H7 mm	Z	Code 3126 Art.-Nr.	Code 3128 Art.-Nr.
40	32	16	6	0 3126004001 00	0 3128004001 00
50	36	22	6	0 3126005001 00	0 3128005001 00
63	40	27	8	0 3126006301 00	0 3128006301 00
80	45	27	8	0 3126008001 00	0 3128008001 00
100	50	32	10	0 3126010001 00	0 3128010001 00

D Walzenstirnfräser
DIN 1880

Einsatzbereich:
Empfohlen zum Fräsen von schwer zerspanbaren Werkstoffen mit hoher Festigkeit bis 1.300 N/mm² sowie für Titan und Titanlegierungen.

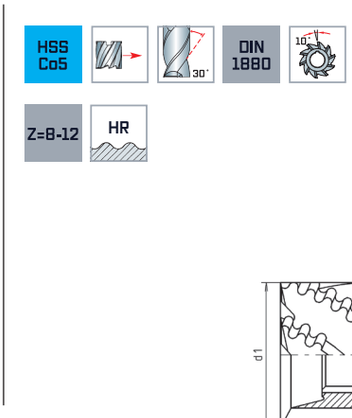
E Shell end mills
DIN 1880

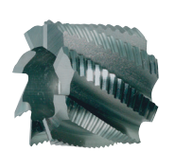
Range of application:
Recommended for milling in heavy duty materials with high tensile strength up to 1.300 N/mm² as well as in titanium and titanium-alloyed materials.

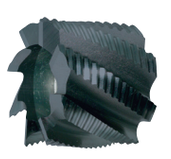
I Frese frontali
DIN 1880

Impiego:
Fresatura generale di acciai di difficile lavorabilità con R fino a 1.300 N/mm², Titanio, leghe di Titanio.







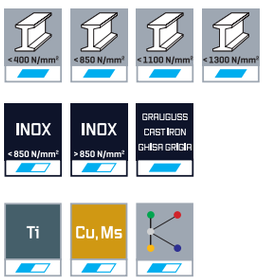


ALUNIT®

d1 js16 mm	b k16 mm	d2 H7 mm	Z	Code 3146 Art.-Nr.	Code 3147 Art.-Nr.
40	32	16	8	0 3146004001 00	0 3147004001 00
50	36	22	8	0 3146005001 00	0 3147005001 00
63	40	27	10	0 3146006301 00	0 3147006301 00
80	45	27	10	0 3146008001 00	0 3147008001 00
100	50	32	12		0 3147010001 00

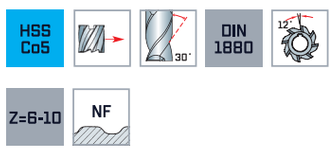
D Walzenstirnfräser
DIN 1880

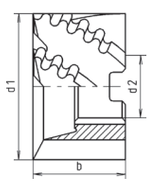
Einsatzbereich:
Empfohlen zum Fräsen von schwer zerspanbaren Werkstoffen mit hoher Festigkeit bis 1.300 N/mm² sowie für Titan und Titanlegierungen.



E Shell end mills
DIN 1880

Range of application:
Recommended for milling in heavy duty materials with high tensile strength up to 1.300 N/mm² as well as in titanium and titanium-alloyed materials.





I Frese frontali
DIN 1880

Impiego:
Fresatura generale di acciai di difficile lavorabilità con R fino a 1.300 N/mm², Titanio, leghe di Titanio.





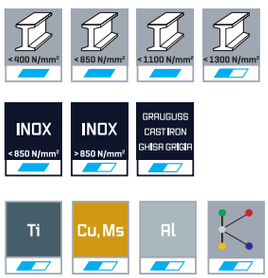
TiN

d1 js16 mm	b k16 mm	d2 H7 mm	Z	Code 3136 Art.-Nr.	Code 3138 Art.-Nr.
40	32	16	6	0 3136004001 00	0 3138004001 00
50	36	22	6	0 3136005001 00	0 3138005001 00
63	40	27	8	0 3136006301 00	0 3138006301 00
80	45	27	8	0 3136008001 00	
100	50	32	10	0 3136010001 00	



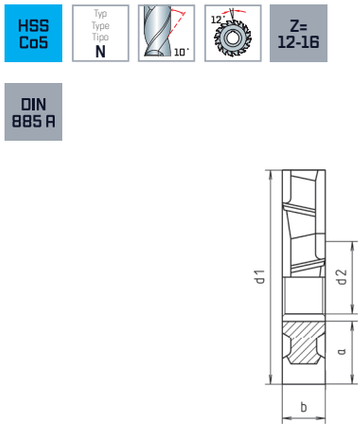
D Scheibenfräser
kreuzverzahnt, DIN 885 A

Einsatzbereich:
Empfohlen zum Fräsen von Bau-, Einsatz- und Vergütungsstählen bis 1.100 N/mm² Festigkeit sowie für kurzspanende NE-Metalle.



E Side milling cutters
staggered teeth, DIN 885 A

Range of application:
Recommended for milling in construction steels, tempered steels and cementation steels up to a tensile strength of 1.100 N/mm² as well as in short-chipping non-ferrous metals.



I Frese a disco a tre
tagli denti alternati, DIN 885 A

Impiego:
Fresatura generale di incasso: adatte per tutti i tipi di acciaio con R = 1.100 N/mm², acciai da costruzione, acciai bonificati, acciai da cementazione, materiali non ferrosi a truciolo corto.



d1 js16 mm	b k11 mm	a mm	d2 H7 mm	Z	Code 3174 Art.-Nr.
50	4	11,5	16	12	0 3174004901 00
50	5	11,5	16	12	0 3174005001 00
50	6	11,5	16	12	0 3174005101 00
50	8	11,5	16	12	0 3174005201 00
63	4	14,5	22	12	0 3174005901 00
63	6	14,5	22	12	0 3174006101 00
63	8	14,5	22	12	0 3174006201 00
63	10	14,5	22	12	0 3174006301 00
63	12	14,5	22	12	0 3174006401 00
80	4	19,5	27	14	0 3174007901 00
80	5	19,5	27	14	0 3174008001 00
80	6	19,5	27	14	0 3174008101 00

d1 js16 mm	b k11 mm	a mm	d2 H7 mm	Z	Code 3174 Art.-Nr.
80	8	19,5	27	14	0 3174008201 00
80	10	19,5	27	14	0 3174008301 00
80	12	19,5	27	14	0 3174008401 00
100	5	26	32	14	0 3174010001 00
100	6	26	32	14	0 3174010101 00
100	8	26	32	14	0 3174010201 00
100	10	26	32	14	0 3174010301 00
125	6	38,5	32	16	0 3174011901 00
125	8	38,5	32	16	0 3174012001 00
125	10	38,5	32	16	0 3174012101 00
125	12	38,5	32	16	0 3174012201 00

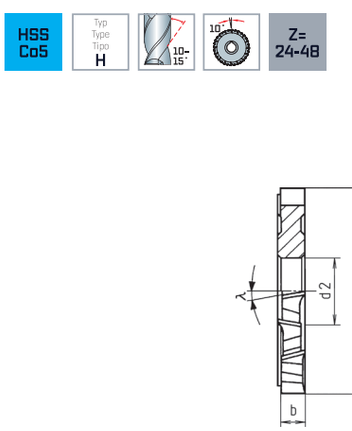
D Metallkreisfräser
kreuzverzahnt

Einsatzbereich:
Empfohlen zum Fräsen von harten, kurzspanenden Werkstoffen wie Grauguss, Messing, Bronze und legierten Werkzeugstählen.



E Metal slitting cutters
staggered teeth

Range of application:
Recommended for milling in hard, short-chipping materials such as grey cast iron, brass, bronze and alloyed tool steels.



I Seghe circolari a denti alternati

Impiego:
Fresatura generale di acciai duri a truciolo corto, ghisa grigia, ottone, bronzo, acciai legati da utensili.



d1 js16 mm	b k9 mm	d2 H7 mm	Z	Code 3224 Art.-Nr.
50	1,6	16	24	0 3224005001 00
50	2,0	16	24	0 3224005101 00
50	2,5	16	24	0 3224005201 00
63	1,6	22	28	0 3224006001 00
63	2,0	22	28	0 3224006101 00
63	2,5	22	28	0 3224006201 00
63	3,0	22	28	0 3224006301 00
80	1,6	27	32	0 3224008001 00
80	2,0	27	32	0 3224008101 00
80	2,5	27	32	0 3224008201 00
80	3,0	27	32	0 3224008301 00
80	4,0	27	32	0 3224008501 00
100	1,6	32	36	0 3224010001 00
100	2,0	32	36	0 3224010101 00

d1 js16 mm	b k9 mm	d2 H7 mm	Z	Code 3224 Art.-Nr.
100	2,5	32	36	0 3224010201 00
100	3,0	32	36	0 3224010301 00
100	4,0	32	36	0 3224010501 00
100	5,0	32	36	0 3224010601 00
125	2,0	32	40	0 3224012001 00
125	2,5	32	40	0 3224012101 00
125	3,0	32	40	0 3224012201 00
125	4,0	32	40	0 3224012401 00
125	5,0	32	40	0 3224012501 00
160	2,0	40	48	0 3224016001 00
160	3,0	40	48	0 3224016201 00
160	4,0	40	48	0 3224016401 00
160	5,0	40	48	0 3224016501 00

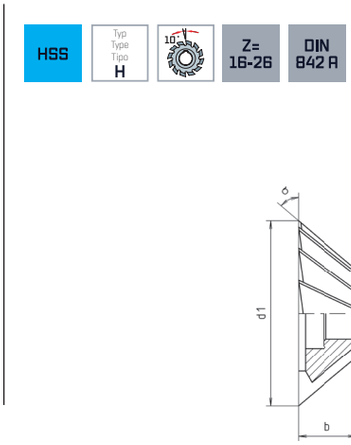
D Winkelstirnfräser
DIN 842 A

Einsatzbereich:
Empfohlen zum Fräsen von geraden Nuten und Führungen in Bau-, Einsatz- und Vergütungsstählen bis 1.100 N/mm² Festigkeit.



E Single angle cutters
DIN 842 A

Range of application:
Recommended for milling straight slots and guidances in construction-, cementation- and tempered steels up to a tensile strength of 1.100 N/mm².



I Frese frontali ad angolo
DIN 842 A

Impiego:
Fresatura generale di scanalature diritte e di guide in acciai da costruzione, acciai da cementazione, acciai bonificati, con R fino a 1.100 N/mm².



σ	d1 js16 mm	b js14 mm	d2 H7 mm	Z	Code 3293 Art.-Nr.
45°	**63**	18	16	18	0 3293006401 00
45°	**80**	22	22	20	0 3293008401 00
45°	**100**	28	27	22	0 3293010401 00
50°	**50**	16	13	16	0 3293005501 00
50°	**63**	20	16	18	0 3293006501 00
50°	**80**	25	22	20	0 3293008501 00
50°	**100**	32	27	22	0 3293010501 00

σ	d1 js16 mm	b js14 mm	d2 H7 mm	Z	Code 3293 Art.-Nr.
60°	**50**	16	13	16	0 3293005601 00
60°	**63**	20	16	18	0 3293006601 00
60°	**80**	25	22	20	0 3293008601 00
60°	**100**	32	27	22	0 3293010601 00
60°	**125**	40	32	26	0 3293012601 00



D Prismenfräser
DIN 847

Einsatzbereich:
Empfohlen zum Fräsen von prismatischen Nuten und Führungen in Bau-, Einsatz- und Vergütungsstählen bis 1.100 N/mm² Festigkeit.

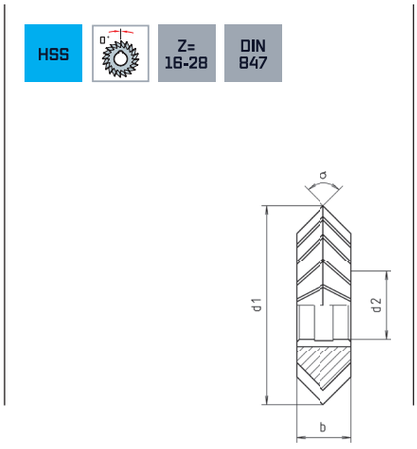
E Double angle cutters
DIN 847

Range of application:
Recommended for milling of prismatical slots and guidances in construction-, cementation- and tempered steels up to a tensile strength of 1.100 N/mm².

I Frese prismatiche
DIN 847

Impiego:
Fresatura generale di scanalature prismatiche e di guide in acciai da costruzione, acciai da cementazione, acciai bonificati, con R fino a 1.100 N/mm².







σ	d1 js16 mm	b js16 mm	d2 H7 mm	Z	Code 3303 Art.-Nr.
45°	50	8	16	22	0 3303005401 00
45°	63	10	22	24	0 3303006401 00
45°	80	12	27	26	0 3303008401 00
45°	100	18	32	28	0 3303010401 00
60°	50	10	16	18	0 3303005601 00
60°	63	14	22	20	0 3303006601 00
60°	80	18	27	22	0 3303008601 00
60°	100	25	32	24	0 3303010601 00

σ	d1 js16 mm	b js16 mm	d2 H7 mm	Z	Code 3303 Art.-Nr.
90°	50	14	16	16	0 3303005901 00
90°	63	20	22	18	0 3303006901 00
90°	80	22	27	20	0 3303008901 00
90°	100	32	32	24	0 3303010901 00

D Halbrund-Profilfräser
hinterdreht, DIN 856

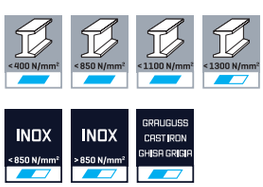
Einsatzbereich:
Halbrundfräser nach außen gewölbt (konvex). Empfohlen zum Fräsen von halbrunden Nuten in Bau-, Einsatz- und Vergütungsstahl bis 1.100 N/mm² Festigkeit.

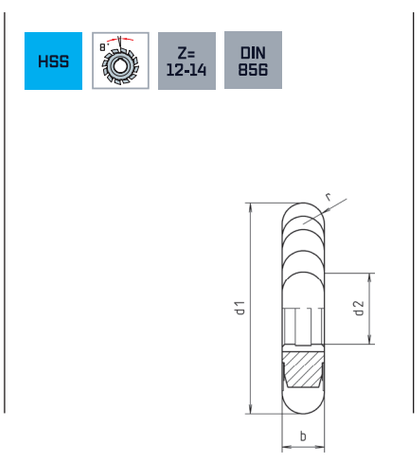
E Half circle form cutters
relieved, DIN 856

Range of application:
Convex cutters, relieved. Recommended for milling semicircular slots in construction-, cementation- and tempered steels up to a tensile strength of 1.100 N/mm².

I Frese semicircolari
convesse, DIN 856

Impiego:
Fresatura generale di scanalature semicircolari convesse in acciai da costruzione, acciai da cementazione, acciai bonificati con R fino a 1.100 N/mm².



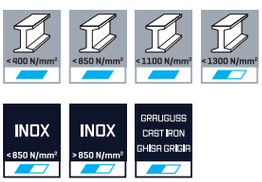




r h11 mm	d1 js16 mm	b mm	d2 H7 mm	Z	Code 3313 Art.-Nr.
1	**50**	2	16	14	0 3313001001 00
1,6	**50**	3,2	16	14	0 3313001601 00
2	**50**	4	16	14	0 3313002001 00
2,5	**63**	5	22	12	0 3313002501 00
3	**63**	6	22	12	0 3313003001 00
4	**63**	8	22	12	0 3313004001 00
5	**63**	10	22	12	0 3313005001 00
6	**80**	12	27	12	0 3313006001 00
8	**80**	16	27	12	0 3313008001 00

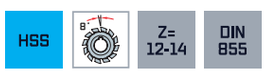
D Halbrund-Profilfräser
hinterdreht, DIN 855

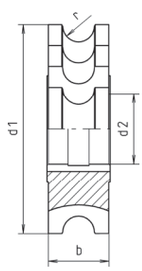
Einsatzbereich:
Halbrundfräser nach innen gewölbt (konkav). Empfohlen zum Fräsen von halbrunden Profilen in Bau-, Einsatz- und Vergütungsstahl bis 1.100 N/mm² Festigkeit.



E Half circle form cutters
relieved, DIN 855

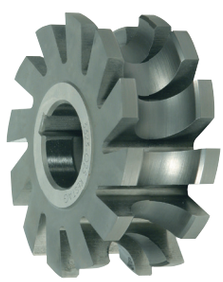
Range of application:
Concave cutters, relieved. Recommended for milling semicircular profiles in construction-, cementation-and tempered steels up to a tensile strength of 1.100 N/mm².





I Frese semicircolari
concave, DIN 855

Impiego:
Fresatura generale di scanalature semicircolari concave in acciai da costruzione, acciai da cementazione, acciai bonificati con R fino a 1.100 N/mm².



r h11 mm	d1 js16 mm	b mm	d2 H7 mm	Z	Code 3323 Art.-Nr.
2	**50**	9	16	14	0 3323002001 00
2,5	**63**	10	22	12	0 3323002501 00
3	**63**	12	22	12	0 3323003001 00
4	**63**	16	22	12	0 3323004001 00
5	**63**	20	22	12	0 3323005001 00
6	**80**	24	27	12	0 3323006001 00
8	**80**	32	27	12	0 3323008001 00



D Zahnformfräser
hinterdreht,
Eingriffswinkel 20°

Einsatzbereich:
Zum Fräsen von Stirnräder nach Modul.

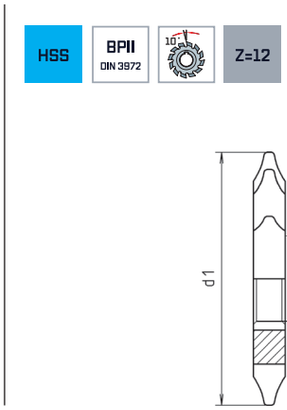
E Involute gear cutters
relieved, pressure angle 20°

Range of application:
For milling spur gears by module.

I Frese a modulo
per taglio ingranaggi per catene a rulli, angolo di pressione 20°

Impiego:
Fresatura di ingranaggi per catene a rulli in funzione del modulo.







Modul	d1 js16 mm	d2 H7 mm	Z	NR. 1: 12-13 ZÄHNE / TEETH / DENTI Code 3353 Art.-Nr.	NR. 2: 14-16 ZÄHNE / TEETH / DENTI Code 3353 Art.-Nr.
0,5	40	16	12	0 3353001101 00	0 3353001201 00
1	50	16	12	0 3353003101 00	0 3353003201 00
1,5	63	22	12	0 3353005101 00	0 3353005201 00
2	63	22	12	0 3353007101 00	0 3353007201 00
2,5	63	22	12	0 3353009101 00	0 3353009201 00
3	70	27	12	0 3353011101 00	0 3353011201 00

Modul	d1 js16 mm	d2 H7 mm	Z	NR. 3: 17-20 ZÄHNE / TEETH / DENTI Code 3353 Art.-Nr.	NR. 4: 21-25 ZÄHNE / TEETH / DENTI Code 3353 Art.-Nr.
0,5	40	16	12	0 3353001301 00	0 3353001401 00
1	50	16	12	0 3353003301 00	0 3353003401 00
1,5	63	22	12	0 3353005301 00	0 3353005401 00
2	63	22	12	0 3353007301 00	0 3353007401 00
2,5	63	22	12	0 3353009301 00	0 3353009401 00
3	70	27	12	0 3353011301 00	0 3353011401 00

Modul	d1 js16 mm	d2 H7 mm	Z	NR. 5: 26-34 ZÄHNE / TEETH / DENTI Code 3353 Art.-Nr.	NR. 6: 35-54 ZÄHNE / TEETH / DENTI Code 3353 Art.-Nr.
0,5	40	16	12	0 3353001501 00	0 3353001601 00
1	50	16	12	0 3353003501 00	0 3353003601 00
1,5	63	22	12	0 3353005501 00	0 3353005601 00
2	63	22	12	0 3353007501 00	0 3353007601 00
2,5	63	22	12	0 3353009501 00	0 3353009601 00
3	70	27	12	0 3353011501 00	0 3353011601 00

				NR. 7: 55-134 ZÄHNE / TEETH / DENTI	NR. 8: 135-∞ ZÄHNE / TEETH / DENTI	
Modul	**d1 $_{js16}$ mm**	**d2 $_{H7}$ mm**	**Z**	**Code 3353 Art.-Nr.**	**Code 3353 Art.-Nr.**	**€ %Gr.12**
0,5	**40**	16	12	0 3353001701 00	0 3353001801 00	
1	**50**	16	12	0 3353003701 00	0 3353003801 00	
1,5	**63**	22	12	0 3353005701 00	0 3353005801 00	
2	**63**	22	12	0 3353007701 00	0 3353007801 00	
2,5	**63**	22	12	0 3353009701 00	0 3353009801 00	
3	**70**	27	12	0 3353011701 00	0 3353011801 00	





Technische Informationen

E Technical information

I Informazioni tecniche

Specialtools

NO REQUIREMENT IS TOO SPECIAL.

D **Wir produzieren Sonderwerkzeuge speziell nach Ihren Anforderungen. Welche Hightech-Lösung auch immer die richtige für Ihre Anforderung ist – wir entwickeln sie. Schnell, zuverlässig und konkurrenzfähig.**

DIE HIGHTECH-LÖSUNG FÜR IHRE SPEZIELLEN ANWENDUNGEN.

E We produce special tools especially to meet your requirements. Whatever high-tech solution is the right one for your requirement - we will develop it. Quick, reliable and competitive.

THE HIGH-TECH SOLUTION FOR YOUR SPECIAL APPLICATION.

I Noi produciamo anche utensili speciali sulla base delle vostre esigenze. Qualunque sia la giusta soluzione high-tech per la vostra richiesta, noi la sviluppiamo. Con rapidità, affidabilità e competitività.

LA SOLUZIONE HIGH-TECH PER LE VOSTRE APPLICAZIONI SPECIALI





Online Formular
Online Formular
Formulario online

Jetzt anfragen
Inquire now
Richiedete adesso

MaySpeedGuide

DETAILED CALCULATION OF CUTTING VALUES.

D Detaillierte Schnitt-werte-Berechnung

Schnell, einfach und präzise. Mit der Schnittwerte-App „MaySpeedGuide“ erhalten Sie eine exakte Berechnung der Schnittdaten für eine Vielzahl von Bearbeitungen im Bereich Fräsen, Bohren und Gewindebohren.

Somit können CNC-Maschinen im Handumdrehen auf die richtigen Werte und deren Gegebenheiten eingestellt werden. Dank Responsive Design kann die App sowohl als Desktop-Anwendung, als auch am Tablet und Smartphone verwendet werden.

E Detailed calculation of cutting values

Quick, simple, and precise. The cutting calculation App „MaySpeed-Guide“ provides a precise calculation of cutting data for a variety of milling, drilling and tapping processes.

This means that CNC machines can quickly be set to the right values and their circumstances. Thanks to re-sponsive design, the App can be used both as desktop application and on the tablet and smartphone.



I Calcolo dettagliato dei parametri di taglio

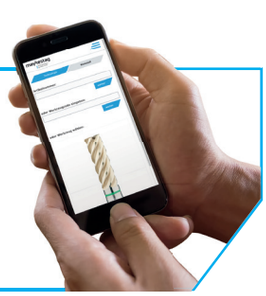
Veloce, semplice e preciso. La App di calcolo dei parametri di taglio “MaySpeed-Guide” fornisce un preciso calcolo dei parametri per una grande varietà di processi di fresatura foratura e maschiatura.

Questo significa che la macchina CNC può essere velocemente impostata con i giusti parametri di taglio. Grazie al web design reattivo la App puó essere indifferentemente utilizzata su desktop, su tablet e anche su smartphone.



Schnittwerte App
cutting calculation app.
app per parametri di taglio.

Jetzt berechnen
Calculate now
Calcola adesso



D Anwendungsbereiche der Farbringe

E Application range of colour-rings

I Funzione colore anello



Grünring:
Universeller Einsatz: für Baustähle, Einsatzstähle, Vergütungsstähle, rost- und säurebeständige Stähle sowie Aluminium-Kupferlegierungen.

Green ring:
Universal range of application: suitable for structural steels, case hardening steels, heat treatable steels, stainless and acid-resistant steels as well as aluminium-copper alloys.

Anello verde:
Impiego universale: acciai da costruzione, acciai da cementazione, acciai bonificati, acciai inossidabili, acciai resistenti agli acidi, leghe di rame-alluminio.



Rotring:
Speziell für die Bearbeitung von hochfesten und gehärteten Stählen bis 68 HRC.

Red ring:
Specially for working high tensile and hardened steels up to 68 HRC.

Anello rosso:
Ideale per la lavorazione di acciai temprati e di elevata durezza fino a 68 HRC.



Blauring:
Besonders geeignet für rost- und säurebeständige Stähle sowie Aluminium-Legierungen (langspanend), Kupfer und Kupfer-Legierungen (langspanend).

Blue ring:
Especially suitable for stainless and acid-resistant steels as well as aluminium-alloys (long chipping), copper and copper-alloys (long chipping).

Anello blu:
Particolarmente adatto per acciai inossidabili ed acciai resistenti agli acidi, leghe di alluminio (a truciolo lungo), rame, leghe di rame (a truciolo lungo).



Magentaring:
Besonders geeignet für Titan, Sonderlegierungen. Materialien mit einem hohem Nickelgehalt.

Magenta ring:
Especially suitable for titanium, special alloys. Materials with a high nickel content.

Anello magenta:
Particolarmente adatto per titanio, leghe speciale. Materiali con alto contenuto di nickel.



Weißring:
Besonders geeignet für Grauguss, Sphäroguss und Temperguss sowie Aluminium-Legierungen (kurzspanend) und Kupfer-Legierungen (kurzspanend).

White ring:
Especially suitable for grey cast iron, spheroidal graphite and malleable cast iron as well as aluminium-alloys (short chipping) and copper-alloys (short chipping).

Anello bianco:
Particolarmente adatto per ghisa grigia, ghisa sferoidale, ghisa malleabile, leghe di alluminio (a truciolo corto), leghe di rame (a truciolo corto).



Gelbring:
Besonders geeignet für weiches Aluminium.

Yellow ring:
Especially suitable for soft aluminium.

Anello giallo:
Particolarmente adatto per alluminio dolce.

D Beschichtungen

E Coating

I Rivestimenti

Beschichtung Coating Rivestimenti	**Schichtaufbau** Layer Struttura a strati	**Farbe** Colour Colore	**Bevorzugt bearbeitbare Werkstoffe** Preferably workable materials Preferibilmente materiale lavorabili	**Typische Zerspanungsart** Typical machining Tipica lavorazione
TiN	einlagig / Single-layer / Strato singolo	Goldgelb Golden yellow / Giallo oro	universell einsetzbare Schicht Universal usable layer / Rivestimento utilizzabile universalmente	Universell Universal / Universale
TiCN	einlagig Single-layer Strato singolo	Blaugrau Blue gray Grigio-azzuro	hoch-, u. niedriglegierte Stähle, VA-Stähle, hochfeste Werkstoffe, Gusseisen High and low-alloy steels, structural steels, high-strength materials, cast iron Acciai debolmente e altamente legati, acciai strutturali, materiali ad alta resistenza, ghisa	Gewindebohren Tapping Maschiatura
HARDDUR	einlagig Single-layer Strato singolo	Dunkelgrau Dark gray / Grigio scuro	universeller Einsatz, schwer zerspanbare Werkstoffe Universal applications, difficult to machine materials Applicazioni universali, materiali di difficile lavorabilitá	Gewindebohren Tapping Maschiatura
VAPO	–	Dunkelgrau Dark gray / Grigio scuro	weiche, duktile (zähe) Werkstoffe Soft, ductile (tough) materials / Materiali dolci, plastici e duttili	Gewindebohren Tapping / Maschiatura
TWINDUR	mehrlagig Multiple layer Strato multiplo	Goldgelb Golden yellow Giallo oro	Speziell für hoch-, und niedriglegierte Stähle, Gusseisen Especially for high and low alloy steels, cast iron Adatto per acciai debolmente e altamente legati, ghisa	Universell Universal Universale
ULTRADUR	einlagig Single-layer Strato singolo	Dunkelgrau Dark gray Grigio scuro	Speziell für rostfreie Stähle und hochfeste Werkstoffe Especially for stainless steels and high-strength materials Adatto per acciai inossidabilie e materiali ad alta resistenza	Fräsen Milling Fresatura
KUPRADUR	einlagig / Single-layer / Strato singolo	Bronze Bronze / bronzeo	Speziell für gehärtete Stähle Especially for hardened steels / Adatto per acciai temprati	Formenbau Molding / Stampi
ALUNIT S	einlagig / Single-layer / Strato singolo	Dunkelgrau Dark gray / Grigio scuro	universell, für Allgemeine Stähle, Guss / Universal, for general steels, castings / Universale, per acciai in generale, Ghisa	Universell Universal / Universale
ZOX	einlagig / Single-layer / Strato singolo	Goldgelb Golden yellow / Giallo oro	Aluminium und Knetlegierungen Aluminum and wrought alloys / Alluminio, bronzo e stagno	Bohren Drilling / Foratura
ALUNIT	einlagig / Single-layer / Strato singolo	Dunkelgrau Dark gray / Grigio scuro	universell, für Allgemeine Stähle, Guss / Universal, for general steels, castings / Universale, per acciai in generale, Ghisa	Universell Universal / Universale
AERODUR	einlagig Single-layer Strato singolo	Bronze Bronze bronzeo	Speziell für Titan, Nickelbasislegierungen, rostfreie Stahl Especially for titanium, nickel-base alloys, stainless steels Adatto per per titanio, leghe di nickel, acciai inossidabili	Fräsen Milling Fresatura
ANTRADUR	einlagig / Single-layer / Strato singolo	Dunkelgrau Dark gray / Grigio scuro	Speziell für Allgemeine Stähle, Guss /Universal, for general steels, castings / Adatto per acciai in generale, ghisa	Bohren Drilling / Foratura
NANODUR	einlagig / Single-layer / Strato singolo	Dunkelgrau Dark gray / Grigio scuro	Speziell für rostfreie Stähle Especially for stainless steels / Adatto per acciai inossidabili	Bohren Drilling / Foratura

D Zeichenerklärung

E Signs and symbols

I Legenda dei simboli

STC
Speed Trochoidal Cutting

HPC
High Performance Cutting

HPC+
HPC mit höherer Standzeit
HPC with a longer tool life
HPC con lunga durata

HSC
High Speed Cutting

MTC
Multi Task Cutting

HPT
High Production Tool

HSS
Hochleistungsschnellarbeitsstahl
High Speed Steel
Acciaio Super-rapido

HSS-E
HSS mit erhöhter Verschleißbeständigkeit
HSS with increased resistance to wear
HSS con una superiore resistenza all'usura

HSS Co5
5% kobaltlegierter HSS-Stahl
5% cobalt-alloyed high speed steel
Acciaio Super-rapido 5% di Cobalto

HSS Co8
8% kobaltlegierter HSS-Stahl
8% cobalt-alloyed high speed steel
Acciaio Super-rapido 8% di Cobalto

HSS SPM
HSS Substrat mit hohem Kobaltanteil
HSS substrate with extreme high content of cobalt
Substrato HSS con elevato tenore di cobalto

HSS E/PM
Pulvermetallurgisch hergestellter HSS Stahl
Powder-metallurgical manufactured high speed steel
Acciao Super-rapido sinterizzato

HSS E/PM 55/105
HSS PM Stahl mit unterschiedlich hohem Vanadium und Kobaltgehalt
HSS PM steel with different high content of vanadium and cobalt
Acciao Super-rapido sinterizzato con alto contenuto di vanadio e cobalto

Solid carbide
Vollhartmetall
Solid carbide
Metallo duro integrale

Q
sehr hohes Zeitspanvolumen
Very high cutting volume
Elevata rimozione del materiale

Werkzeuge mit Innenkühlung
Tools with internal coolant supply
Utensili con fori lubrorefrigerazione

Konturbearbeitung
Contouring
Lavorazione contornatura

Helixfräsen
Helix milling
Fresatura ellittica

Trochoidalfräsen Statisch/Dynamisch
Trochoidal milling Static / Dynamic
Fresatura trocoidale statica / dinamica

Bearbeitungsrichtungen
Machining directions
Verso di lavorazione

Rampenfräsen
Ramp milling
Fresatura in rampa

Nutfräsen
Slot milling
Fresatura di scanalature

Tauchfräsen
Diving
Fresatura dal pieno

Eckenausführung
Corner version
Esecuzione di spigoli

Drallsteigung
Spiral grade
Angolo elica

Spanwinkel
Rake angle
Angolo di spoglia

Ungleichteilung Senker
Unequal spacing - countersink
Svasatore con angolo tagliente diseguale

Farbringe
Colour rings
Colore anello

Z=4
Zähnezahl
Number of teeth
Numero denti

Typ / Type / Tipo / N
Werkzeug Typ
Tool type
Tipo utensile

5xd
Bohrtiefe
Drilling depth
Profondità di foratura

118°
Spitzenwinkel
Point angle
Angolo affilatura

Kreuzanschliff / Split Point / Affilatura diamante / C
Anschliffform
Taper lead form
Tipo di affilatura

DIN 1835-B*
Schaftform
Shank form
Forma codolo

ISO 2 6HX
Gewindetoleranz
Thread tolerance
Toleranza di filettatura

B / 3,5-5,5 P
Anschnittform bei Gewindebohrern
Taper lead form, taps
Forma imbocco del maschio

60° / P
Flankenwinkel
Flank angle
Angolo filetto

Durchgangsbohrung / Grundlochbohrung
Through hole / blind hole
Fori passanti / fori ciechi

WR
Schneidengeometrie (Siehe Seite 500)
Geometry (See page 500)
Geometria di taglio (Pagina 500)

DIN 373
Baumaße nach DIN
Dimensions according to DIN
Dimensioni secondo DIN

WN
Werksnorm
Internal standard
Norma interna

H7
Toleranz
Tolerance
Tolleranza

GRAUGUSS / CAST IRON / GHISA GRIGIA
Geeignet für Material
Suitable for material
Adatto per materiale

Ti
Besonders geeignet für Material
Especially suitable for material
Particolarmente adatto per il materiale

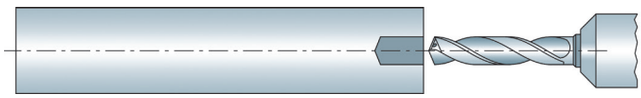
Art der Materialien
Type of materials
Tipo dei materiali

D Tieflochbohranleitung > 16xD

1. Glatte Oberfläche:

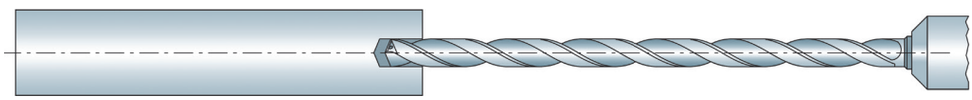
Planfräsen mit einem Schaftfräser – rechtwinkelig zum Eintrittswinkel der Bohrbearbeitung (Empfehlung Speedcut).

2. Pilotbohrung:



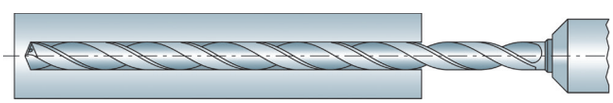
Bohrdurchmesser + 0,02 mm, Bohrtiefe 3xD (Empfehlung Speeddrill Code 6727)

3. Eintritt in die Pilotbohrung mit Tieflochbohrer:



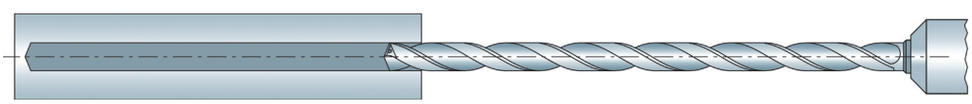
Langsames Eintauchen mit einer Drehzahl von n = 300 U/min und einem Vorschub von ca. vf = 1.000 mm/min.
1–2 mm vor Erreichen des Bohrungsgrundes der Pilotbohrung stoppen des Vorschubes, erhöhen auf Solldrehzahl und Kühlschmiermittel einschalten.

4. Tieflochbohren:



Erhöhen des Vorschubes auf Sollgeschwindigkeit und kontinuierliches Bohren auf volle Bohrtiefe – ohne Entspanzyklus.
Bei Durchgangsbohrungen 2 mm vor dem Austritt den Vorschub um 50% reduzieren.

5. Herausfahren des Bohrers:



Nach Erreichen der Bohrtiefe Verringerung der Drehzahl auf n = 300 U/min, Kühlschmiermittel ausschalten und mit einem Vorschub von ca. 1.000 mm/min herausfahren.

E Deep hole drilling Instructions > 16xD

1. Smooth surface:

Face mill with a milling cutter – at right angles to the angle of entry of the drilling work (Recommendation Speedcut).

2. Pilot drill hole:

Drill hole diameter + 0.02 mm, drill depth 3xD (Recommendation Speeddrill Code 6727)

3. Putting the deep hole drill into the pilot drill hole:

Penetrate slowly with a spindle speed of n = 300 rpm and feedrate of about vf = 1,000 mm/min.
1–2 mm before reaching the bottom of the pilot drill hole, stop feed, increase to target spindle speed and turn on coolant.

4. Deep hole drilling:

Increase the feed to target speed and continue drilling to full drill hole depth – without an easing off cycle.
When drilling right through, reduce feedrate to 50% before breaking through.

5. Removing the drill:

After reaching the drill hole depth, reduce the spindle speed to n = 300 rpm, turn off coolant and reverse with a feed rate of about 1,000 mm/min.

I Istruzioni per forature profonde > 16xD

1. Superficie di finitura:

Spianatura con una fresa – con angoli di entrata uguali all'angolo di foratura (raccomandata Speedcut)

2. Foratura di con punta pilota:

Diametro foro + 0,02 mm, profondita di foratura 3xD (raccomandata Speeddrill Codice 6727)

3. Inserire la punta per foratura profonda nel foro pilota:

Forare lentamente con una velocita' di rotazione di n = 300 giri/min ed avanzamento di circa vf = 1.000 mm/min.
1–2 mm prima di raggiungere il fondo del foro pilota stoppare l'avanzamento aumentare la velocita' di rotazione fino al valore raccomandato ed introdurre il fluido di taglio

4. Foratura profonda:

Aumentare l'avanzamento fino al valore raccomandato e continuare a forare fino alla profondita' necessaria senza rallentamento del ciclo. Durante la rimozione della punta ridurre l'avanzamento del 50% fino alla fuoriuscita dal foro.

5. Rimozione della punta:

Dopo aver raggiunto la profondita' necessaria ridurre la velocita' di rotazione a n = 300 e ritorno con avanzamento di circa vf = 1,000 mm/min.

D Beispiel 16xD Bohrung / Ø 6H7, Code 6777

E Example 16xD Drilling / Ø 6H7, Code 6777

I Esempio 16xD Foratura / Ø 6H7 codice 6777

Material: 42CrMo4

Voraussetzung: Planfläche Mit Rz10. Keine Durchgangsbohrung
Requirement: plane surface with Rz10. No through hole
Richiesta> superficie piana con Rz10. Non foro passante

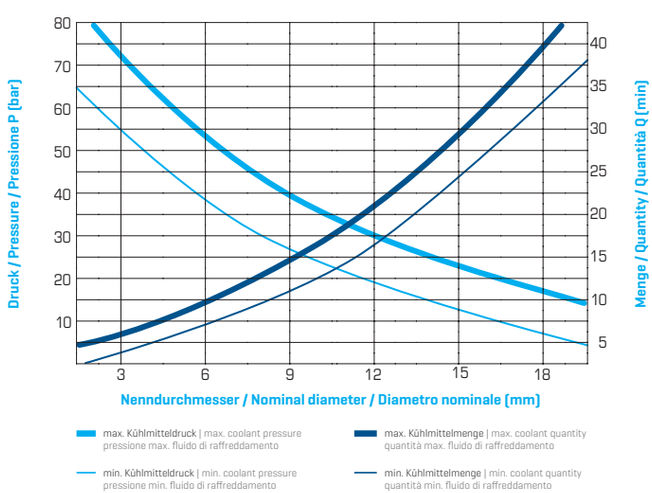
	Bearbeitungsart Machining Tipo di lavorazione	**Code**	**Winkel °** Angle Angolo	**Ø mm**	**Ap mm**	**Vc m/min**	**n U/min**	**vf mm/ min**	**Info**
1	Pilotbohrung Pilot drill hole Punta per foratura pilota	6727	140	6,02	18	80		410	
2	Senkung Sinking Svasatura	2397	90	16,5	0,5	10		18	bei horizontal Bearbeitung erforderlich required for horizontal processing necessario per lavorazione orizzontale
3	Tieflochbohrer Deep hole drill / Punta per foratura vprofonda	6777	135	6,0	16		300	1000	ohne Kühlung auf Ap 1-2 mm vor erreichen des Bohrungsgrundes without cooling to Ap 1-2 mm before reaching the hole of bottom / senza raffreddamento ad Ap 1-2 mm prima di raggiungere il fondo del foro
4	Tieflochbohrer Deep hole drill / Punta per foratura vprofonda	6777	135	6,0		75			ik Kühlung einschalten und warten bis Solldrehzahl erreicht ist Switch on the internal coolant supply and wait until the set rotation speed has been reached / Attivare la lubrorefrigerazione e aspettare fino raggiungimento della velocitá di taglio raccomandata
5	Tieflochbohrer Deep hole drill / Punta per foratura vprofonda	6777	135	6,0	96	75		481	
6	Tieflochbohrer Deep hole drill / Punta per foratura vprofonda	6777	135	6,0	94				Rückzug des Bohrers um 1-2 mm Retract the drill by 1-2 mm Ritirare la punta di 1 – 2 mm
7	Tieflochbohrer Deep hole drill / Punta per foratura vprofonda	6777	135	6,0			300		ik Ausschalten und auf die Drehzahl 300 U/min reduzieren Switch off the internal coolant supply and reduce to speed 300 rpm Interrompere la lubrorefrigerazione e ridurre velocità di taglio a 300 giri/min
8	Tieflochbohrer Deep hole drill / Punta per foratura vprofonda	6777	135	6,0				1000	Herrausfahren des Bohrers Reverse out the drill Dopo l'uscita del punte

Tieflochbohrer müssen beim Anbohren geführt werden, niemals mit voller Drehzahl frei im Maschinenraum bewegen!
Deep hole drills must be conducted for pilot drilling. Never move with full spindle speed in the machine room!
Le forature profonde devono essere eseguite con preforo. Mai avanzare con il regime di giri massimo del mandrino!

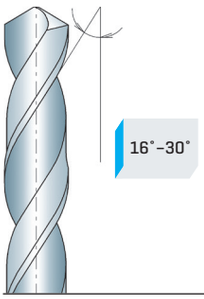
Richtwerte für Kühlmittel (Emulsion) bei Tieflochbohrungen >16xD

Coolant instructions (emulsion) for deep hole drilling >16xD

Istruzioni per fluido di raffreddamento (emulsione) nelle forature profonde > 16xD



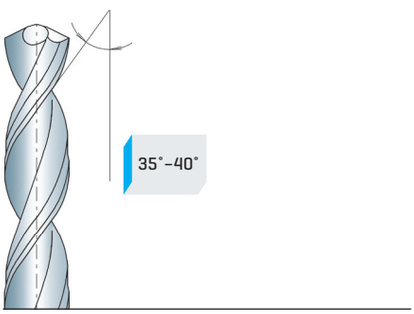
D Bohrertypen
HSS-Bohrer



Normaldrallbohrer, Typ N
für allgemeine Baustähle, weichen Grauguss, mittelharte Nichteisenmetalle.

Standard Spiral Drill, Type N
for general construction steels, soft grey iron, moderately hard non-ferrous metals.

Punte ad elica normale, tipo N
Per acciai da costruzione di uso generale, ghisa grigia, ghisa dolce metalli non ferrosi di media durezza..

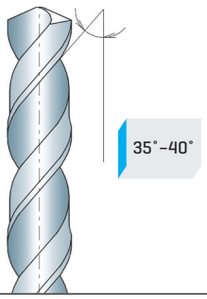


Tieflochbohrer, Typ Forte/Forte W
für große Bohrtiefen und erschwerte Einsatzbedingungen mit weiten Spannuten und sehr gerundeten Rückenkanten.

Deep Hole Drill, Type Forte/Forte W
for extremely deep holes under difficult conditions with wide flutes and strongly rounded trailing edges.

Punte per fori profondi tipo Forte/ForteW
Per forature profonde e condizioni di utilizzo particolarmente difficili. Con scanalature larghe e spigoli dorsali molto arrotondati.

E Types of drills
HSS drills

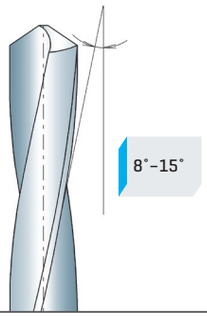


Kurzdrallbohrer, Typ W
für weiche und zähe, langspanende Werkstoffe.

Fast Spiral Drill, Type W
for soft and tough materials producing long chips.

Punte ad elica corta, tipo W
Per materiali dolci e plastici a truciolo lungo.

I Tipi di punte
HSS punte elicoidali

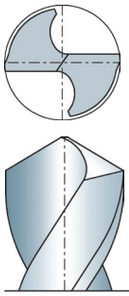


Langdrallbohrer, Typ H
für härtere und zähharte, kurzspanende Werkstoffe.

Slow Spiral Drill, Type H
for tough and hard materials producing short chips.

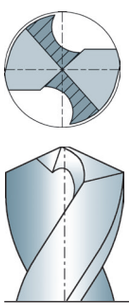
Punte ad elica lunga tipo H
Per materiali più duri e più plastici a truciolo corto.

D Spitzenanschliffe
HSS-Bohrer

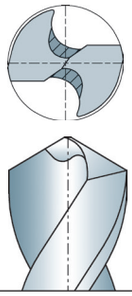


Kegelmantelanschliff:
Universeller Anschliff für viele Bohrarbeiten in Stahl- und Eisenwerkstoffen, Nichteisenmetallen, Kunststoffen und sonstigen Werkstoffen.

Kreuzanschliff C:
Spezialanschliff für die Zerspanung von nichtrostenden und Sonderwerkstoffen.

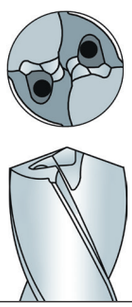


E Point shapes
HSS drills

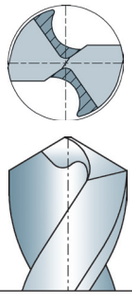


Anschliff Form A
(angespitzte Querschneide):
Anschliff mit verbesserter Bohrleistung und guter Zentrierung.

Sonderanschliff S:
Spezialanschliff für die Zerspanung mit längerer Standzeit.



I Tipi di affilature
HSS punte elicoidali



Kreuzanschliff AC:
Anschliff mit verbesserter Bohrleistung und sehr guter Zentrierung.

Split Point AC:
Point-shape with increased performance and superior centering.

Affilatura a diamante AC:
Affilatura con un migliore rendimento nella foratura ed una ottima centratura.

Relieved cone:
Universal point-shape for a lot of drilling applications in steel and iron, non-ferrous materials, plastics and other materials.

Split Point C:
Special point-shape for cutting in stainless steels and special materials.

Point Shape A
(relieved point):
Point-shape with increased performance and excellent centering.

Special point-shape S:
Special point-shape for machining with longer tool life time.

Affilatura conoide:
Affilatura universale per molteplici tipi di forature di acciai, materiali ferrosi, materiali non ferrosi, plastiche ed altri tipi di materiali.

Affilatura a diamante C:
Affilatura speciale per favorire la formazione dei trucioli nelle lavorazioni di acciai inossidabili e materiali speciali.

Affilatura forma A
(tagliente trasversale corretto):
Affilatura con un migliore rendimento nella foratura ed una ottima centratura.

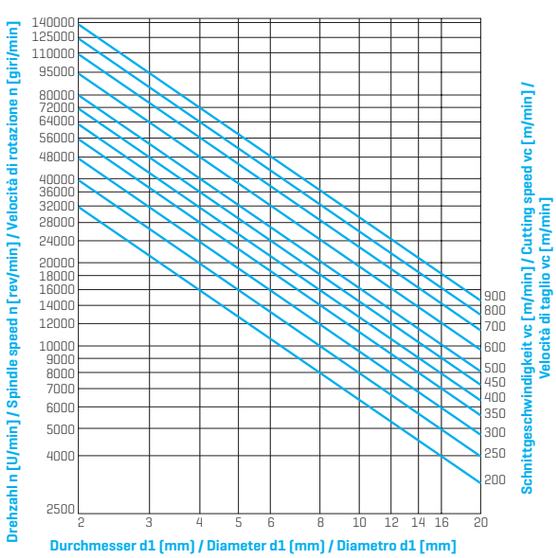
Affilatura speciale tipo S:
Affilatura speciale per lavorazioni con elevata vita utensile.

D Anwendung der Zahnungen, Schnittwertempfehlung

E Application of different cuts, recommended cutting conditions

I Impiego funzione dentatura, velocità di taglio consigliate

Werkstoffgruppen Material groups Materiali			Zerspanung Cutting Lavorazione	Zahnung Cut Dentatura	v_c (m/min)
Stahl- und Stahlgusswerkstoffe **Steels and cast steels** **Acciaio, acciaio fuso**	ungehärtete, nicht vergütete Stähle < 1.200 N/mm² (< 35 HRC) non-hardened, non heat treatable steels < 1.200 N/mm² (< 35 HRC) Acciai non temprati, non bonificati < 1.200 N/mm² (< 35 HRC)	Baustähle, Kohlenstoffstähle, Werkzeugstähle, unlegierte Stähle, Einsatzstähle, Stahlguss Structural steels, carbon steels, tool steels, unalloyed steels, case hardening steels, cast steels Acciai da costruzione, acciai al carbonio, acciai da stampi, acciai non legati, acciai da cementazione, acciai fusi	Grob/Rough/Grosso	1	600-900
				2	500-700
				6 TiN	450-600
				6	450-600
				9	850-1.100
			Fein/Fine/Fino	3,4	500-600
	gehärtete, vergütete Stähle > 1.200 N/mm² (> 35 HRC) hardened, heat treatable steels > 1.200 N/mm² (> 35 HRC) Acciai temprati, bonificati > 1.200 N/mm² (> 35 HRC)	Werkzeugstähle, Vergütungsstähle, legierte Stähle, Stahlguss Tool steels, heat treatable steels, alloyed steels, cast steels Acciai da utensili, acciai bonificati, acciai legati, acciai fusi	Grob/Rough/Grosso	2	250-350
				6 TiN	250-350
				6	250-350
				9	550-800
			Fein/Fine/Fino	3,4	350-450
Inox	rost- und säurebeständige Stähle stainless and acid-resistant steels Acciai inossidabili e acciai resistenti agli acidi	austenitisch und ferritisch austenitic and ferritic Acciai austenitici, acciai ferritici	Grob/Rough/Grosso	0	550-800
				1	300-450
				2	300-400
				6 TiN	250-350
				6	250-350
			Fein/Fine/Fino	3,4	350-450
NE-Metalle **Non-ferrous metals** **Materiali non ferrosi**	weiche NE-Metalle soft non-ferrous metals Materiali non ferrosi dolci	Alu-Legierungen, Messing, Zink, Kupfer Alu-alloys, brass, zinc, copper Leghe alluminio, ottone, zinco, rame	Grob/Rough/Grosso	1A	600-900
				1	600-900
				2	500-700
				6 TiN	400-600
			Fein/Fine/Fino	2	800-900
	harte NE-Metalle hard non-ferrous metals Materiali non ferrosi duri	Titan, Titanlegierungen, Bronze, Alu-Legierungen mit hohen Si-Anteil Titanium and Ti-alloys, bronze, Alu-alloys with high Si-content Titanio, leghe Titanio, bronzo, leghe alluminio con alto tenore Si	Grob/Rough/Grosso	2	250-350
				6,6 TiN	250-450
			Fein/Fine/Fino	3,4	350-450
	hochwarmfeste Werkstoffe high-temperature materials Materiali resistenti al calore	Nickelbasislegierungen, Ni-Co Legierungen Ni-alloys, Ni-Co alloys Leghe base nickel, leghe Ni-Co	Grob/Rough/Grosso	1,2	300-450
				6	300-450
			Fein/Fine/Fino	3,4	350-500
Gusseisenwerkstoffe **Cast iron** **Ghisa**		Grauguss, Sphäroguss Grey cast iron, spheroidal cast iron Ghisa grigia, ghisa sferoidale	Grob/Rough/Grosso	6 TiN	600-800
				2	500-700
				3	450-600
				6	450-600
				9	850-1.100
			Fein/Fine/Fino	3,4	500-600
Kunststoffe **Plastics** **Plastica**		faserverstärkte Kunststoffe, thermoplastische Kunststoffe, Hartgummi fibre-reinforced plastics, thermoplastics, hard plastics Plastica a fibre rinforzate, termoplastica, gomma dura	Grob/Rough/Grosso	1A	500-900
				6 TiN	500-900
			Fein/Fine/Fino	1,2	500-900



Einsatzempfehlungen / Hints for use / Impiego:
Verwenden Sie nach Möglichkeit die Höchstwerte.
If possible use the highest values.
Usare, se possibile, i valori più alti.

Ausnahmen / Exceptions / Eccezioni:
Senkarbeiten mit allseitiger Umschlingung des Frässtiftes, Drehzahl < 3000 U/min möglich.
Stationärer Einsatz, Drehzahl < 3000 U/min möglich.
Werkstoffe mit schlechter Wärmeleitfähigkeit, Drehzahl senken, um Blaufärbung des Frässtiftes zu vermeiden.

Counterboring with totally engagement of the rotary burr, recommended spindle speed < 3000 rpm.
Stationary use, recommended spindle speed < 3000 rpm.
Materials with bad heat conductivity, reduce spindle speed to avoid superheating of the rotary burr.

Lavori di allargatura su tutto il perimetro possibile nr di giri < 3000.
Lavorazione fissa, possibile nr di giri < 3000.
Materiali a cattiva conduzione termica, ridurre il nr dei giri per evitare che la fresa diventi blu.

Sicherheitshinweise / Safety hints / Norme di sicurezza:
Augenschutz benutzen! Je härter der Werkstoff, desto feiner die Zahnung wählen.
Nur schlagfreie Spannfutter verwenden!

Use eye-protection! The harder the material use the more finely tooth. Use only chucks free from chatter!

Usare occhiali di protezione! Per materiali molto tenaci scegliere una dentatura fine non impiegare mandrini a percussione.

D Beschreibung der Verzahnungen

E Description of cuts

I Descrizione delle dentature



Zahnung 0 (INOX):
Herausragende Fräsleistung bei Edelstahl sowie ferritischen, austenitischen und martenitischen Materialien.

Cut 0 (INOX):
Outstanding milling performance in stainless steel as well as ferritic, austenitic and martenitic materials.

Taglio 0 (INOX):
Eccellenti rendimento di fresatura con acciaio inossidabile e materiali ferritici, austenitici e martensitici.



Zahnung 1A (Aluminium)
Für Aluminium und Aluminiumlegierungen sowie Kunststoffe.

Cut 1A (aluminium):
Suitable for aluminium and aluminium alloys as well as plastics.

Dentatura 1A (alluminio):
Per sgrossatura alluminio, leghe di alluminio, plastica.



Zahnung 1 (DIN C)
Zum Entgraten nicht gehärteter Stähle, Leichtmetalle, Legierungen und Hartgummi.

Cut 1 (DIN C):
Suitable for deburring non-hardened steels, soft steels, alloys and hard plastics.

Dentatura 1 (DIN C):
Sgrossatura di acciai non temprati, metalli leggeri, leghe, gomma dura.



Zahnung 2
Für Stähle hoher Festigkeit, Inox, Stahlguss, Schweißnähte und Messing.

Cut 2:
Suitable for steels with high tensile strength, inox, cast steels, welding seams and brass

Dentatura 2:
Adatte per acciai ad alta resistenza, acciai inox, acciaio fuso, cordoni di saldatura, ottone.



Zahnung 3 (DIN MY)
Für allgemeine Arbeiten wie Entgraten, Fasen, Kantenbrechen mit sauberer Oberfläche. Für Stähle mit hoher Festigkeit, Schweißnähte.

Cut 3 (DIN MY):
For general purposes such as deburring, chamfering and smoothing edges with clean surface. Suitable for steels with high tensile strength and welding seams.

Dentatura 3 (DIN MY):
Per lavorazioni universali di sgrossatura, smussatura, spianatura degli spigoli, con ottima finitura della superficie. Adatte per acciai ad alta resistenza, cordoni di saldature.



Zahnung 4 (Diamant):
Hohe Oberflächengüte für gehärtete Stähle, Schweißnähte hoher Festigkeit.

Cut 4 (diamond):
Suitable for hardened steels with excellent surface quality and welding seams with high tensile strength.

Dentatura 4 (diamante):
Ottima finitura delle superficie su acciai temprati, e saldature alta resistenza.



Zahnung 6 (DIN MX):
Mit dieser Universalverzahnung werden auch bei härtesten Werkstoffen und Schweißnähten glatte Oberflächen erzielt, ideal für den Werkzeug- und Formenbau.

Cut 6 (DIN MX):
With this universal cutting profile even hardest materials and welding seams can be machined with best finishing quality. Ideal for the tool and mould industry

Dentatura 6 (DIN MX):
Questa dentatura universale permette di ottenere delle superfici ottimali anche su acciai e saldature ad alta resistenza; ideale per acciai da utensili e acciai da stampi.



Zahnung 9 (SPECIAL STEEL):
Speziell entwickelte Geometrie für Stahl- und Gusseisenanwendungen. Hervorragende Zerspanungsleistung und hoher Materialabtrag.

Cut 9 (SPECIAL STEEL):
Special designed geometry for steel and cast iron applications. Excellent cutting performance and high chip removal.

Taglio 9 (ACCIAIO SPECIALE):
Speciale geometria adatta in particolare per le applicazioni con acciaio e ghisa. Eccellenti prestazioni di taglio ed elevata asportazione del truciolo

D Schneidstoffe und Beschichtung

- Verwendung von hochqualitativem europäischen Vormaterial
  Stahlqualitäten (nach EN 4957):

HSS (No. 1.3343):

C	Cr	Mo	V	W	Co
0.90	4.1	5.0	1.9	6.4	–

HSS-Co5 (No. 1.3243):

C	Cr	Mo	V	W	Co
0.92	4.1	5.0	1.9	6.4	4.8

HSS-Co8 (No. 1.3247):

C	Cr	Mo	V	W	Co
1.10	4.0	9.5	1.2	1.5	8.0

HSS-E/PM (No. 1.3253):

C	Cr	Mo	V	W	Co
1.6	4.8	2.0	5.0	10.5	8.0

HSS-SPM:

C	Cr	Mo	V	W	Co
2.0	3.8	2.5	5.1	14.3	11.0

- Konstante Werkzeughärtung durch computerunterstützte Vakuum-Wärmebehandlung
- Engste Fertigungstoleranzen durch Einsatz modernster CNC-Schleiftechnik
- Spezielle Schneidengeometrien für jedes Bearbeitungsproblem
- Oberflächenbeschichtung **ALUNIT®** = Superhartstoffbeschichtung TiAlN
  Schichtdicken: 3–5 µm
  Mikrohärte: 3600 HV

Vorteile:
- Reduzierter Reibungskoeffizient
- Niedrigere Wärmebelastung
- Verminderung des Freiflächenverschleißes
- Erhöhung der Schnittgeschwindigkeit
- Produktivitätssteigerung
- Verbesserung der Produktqualität

E Cutting materials and coating

- Use of high quality European High Speed Steel
  Steel grades (according to EN 4957)

HSS (No. 1.3343):

C	Cr	Mo	V	W	Co
0.90	4.1	5.0	1.9	6.4	–

HSS-Co5 (No. 1.3243):

C	Cr	Mo	V	W	Co
0.92	4.1	5.0	1.9	6.4	4.8

HSS-Co8 (No. 1.3247):

C	Cr	Mo	V	W	Co
1.10	4.0	9.5	1.2	1.5	8.0

HSS-E/PM (No. 1.3253):

C	Cr	Mo	V	W	Co
1.6	4.8	2.0	5.0	10.5	8.0

HSS-SPM:

C	Cr	Mo	V	W	Co
2.0	3.8	2.5	5.1	14.3	11.0

- Constant tool hardening by computer controlled vacuum heat treatment
- Extremely tight manufacturing tolerances by utilisation of most modern CNC-grinding technologies
- Special tool geometries for each machining problem
- **ALUNIT®** = super hard coating TiAlN
  Coating thickness: 3–5 µm
  Micro hardness: 3600 HV

Advantages:
- Reduced coefficient of friction
- Lower heat load
- Decreased wear of the clearance land
- Increase of cutting speed
- Higher productivity
- Improved workpiece quality

I Acciai e rivestimento

- Utilizzati acciai Europei di alta qualità
  Tipi di acciaio (secondo EN 4957):

HSS (No. 1.3343):

C	Cr	Mo	V	W	Co
0.90	4.1	5.0	1.9	6.4	–

HSS-Co5 (No. 1.3243):

C	Cr	Mo	V	W	Co
0.92	4.1	5.0	1.9	6.4	4.8

HSS-Co8 (No. 1.3247):

C	Cr	Mo	V	W	Co
1.10	4.0	9.5	1.2	1.5	8.0

HSS-E/PM (No. 1.3253):

C	Cr	Mo	V	W	Co
1.6	4.8	2.0	5.0	10.5	8.0

HSS-SPM:

C	Cr	Mo	V	W	Co
2.0	3.8	2.5	5.1	14.3	11.0

- Costante trattamento termico sotto vuoto, con controllo computerizzato
- Rigorose tolleranze costruttive, grazie alle più moderne tecnologie costruttive con macchine CNC
- Geometrie speciali per ogni tipo di lavorazione
- Rivestimento della superficie **ALUNIT®** = Rivestimento con elevata durezza TiAlN
  Spessore rivestimento: 3–5 µm
  Durezza rivestimento: 3600 HV

Vantaggi:
- Ridotto coefficiente d'attrito
- Minore sviluppo di calore
- Maggiore resistenza all'usura dei taglienti
- Maggiore velocità di taglio
- Maggiore produttività
- Miglioramento della qualità del prodotto

D Härtevergleichstabelle Materialien

E Hardness comparison table materials

I Tabella di comparazione durezza dei materiali

Rm [N/mm²]	HV 10	HB	HRC
240	75	71	–
255	80	76	–
270	85	81	–
285	90	86	–
305	95	90	–
320	100	95	–
335	105	100	–
350	110	105	–
370	115	109	–
385	120	114	–
400	125	119	–
415	130	124	–
430	135	128	–
450	140	133	–
465	145	138	–
480	150	143	–
495	155	147	–
510	160	152	–
530	165	157	–
545	170	162	–
560	175	166	–
575	180	171	–
595	185	176	–
610	190	181	–
625	195	185	–
640	200	190	–
660	205	195	–
675	210	199	–
690	215	204	–
705	220	209	–
720	225	214	–
740	230	219	–
755	235	223	–
770	240	228	–
785	245	233	–
800	250	238	22
820	255	242	23
835	260	247	24
860	268	255	25
870	272	258	26
900	280	266	27

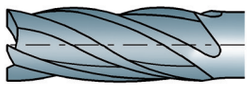
Rm [N/mm²]	HV 10	HB	HRC
920	287	273	28
940	293	278	29
970	302	287	30
995	310	295	31
1020	317	301	32
1050	327	311	33
1080	336	319	34
1110	345	328	35
1140	355	337	36
1170	364	346	37
1200	373	354	38
1230	382	363	39
1260	392	372	40
1300	403	383	41
1330	413	393	42
1360	423	402	43
1400	434	413	44
1440	446	424	45
1480	458	435	46
1530	473	449	47
1570	484	460	48
1620	497	472	49
1680	514	488	50
1730	527	501	51
1790	544	517	52
1845	560	532	53
1910	578	549	54
1980	596	567	55
2050	615	584	56
2140	639	607	57
–	655	622	58
–	675	–	59
–	698	–	60
–	720	–	61
–	745	–	62
–	773	–	63
–	800	–	64
–	829	–	65
–	864	–	66
–	900	–	67
–	940	–	68

D Beschreibung der Fräsertypen

E Description of milling cutter types

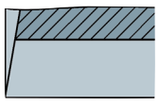
I Descrizione dei tipi di frese

Typ „N“



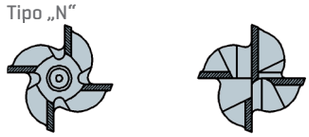
Für Werkstoffe mit normaler Festigkeit und Härte, bis ca. 1.100 N/mm²

Type „N“



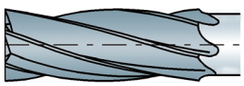
For materials with normal tensile strength and hardness, up to appr. 1.100 N/mm²

Tipo „N“



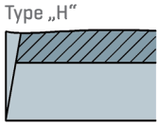
Per materiali normali con resistenza e durezza fino a 1.100 N/mm².

Typ „H“



Für harte, zähharte und kurzspanende Werkstoffe, bis ca. 1.400 N/mm² Festigkeit

Type „H“



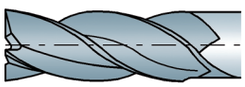
For hard and short chipping materials, up to appr. 1.400 N/mm² tensile strength

Tipo „H“



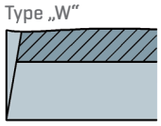
Per materiali duri, tenaci e materiali a truciolo corto con resistenza fino a ca. 1.400 N/mm².

Typ „W“



Für weiche, zähe und langspanende Werkstoffe

Type „W“



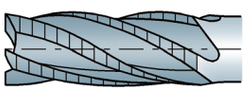
For soft, tough and long chipping materials

Tipo „W“



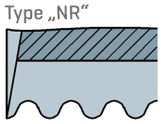
Per materiali teneri, plastici e materiali a truciolo lungo.

Typ „NR“



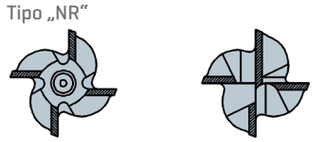
Für Werkstoffe mit normaler Festigkeit und Härte, bis ca. 1.100 N/mm². Rundes Profil mit grober Teilung

Type „NR“



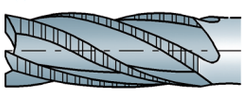
For materials with normal tensile strength and hardness, up to appr. 1.100 N/mm². Knuckle type with coarse pitch profile

Tipo „NR“



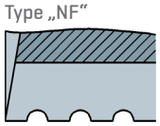
Per materiali con resistenza e durezza fino a 1.100 N/mm². Profilo tondo grosso

Typ „NF“



Für Werkstoffe mit normaler Festigkeit und Härte, bis ca. 1.100 N/mm². Flaches Profil mit grober Teilung

Type „NF“



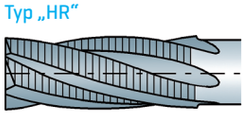
For materials with normal tensile strength and hardness, up to appr. 1.100 N/mm². Truncated type with coarse pitch profile

Tipo „NF“



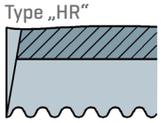
Per materiali con resistenza e durezza fino a 1.110 N/mm². Profilo piatto, divisione grossa

Typ „HR“



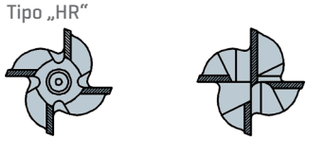
Für harte, zähharte und kurzspanende Werkstoffe, bis ca. 1.400 N/mm² Festigkeit. Rundes Profil mit feiner, kompensierter Teilung

Type „HR“



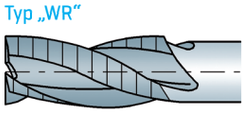
For hard and short chipping materials, up to appr. 1.400 N/mm² tensile strength. Knuckle type with fine pitch, staggered tooth profile

Tipo „HR“



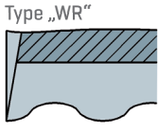
Per materiali duri tenaci e materiali a truciolo corto fino a ca. 1.400 N/mm². Profilo tondo, fine con divisione compensata.

Typ „WR“



Für weiche, zähe und langspanende Werkstoffe. Rundes Profil mit grober Teilung

Type „WR“



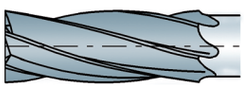
For soft, tough and long chipping materials. Knuckle type with coarse pitch profile

Tipo „WR“



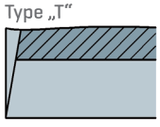
Per materiali dolci, plastici e materiali a truciolo lungo. Profilo tondo, divisione grossa

Typ „T“



Für Materialien mit hoher Festigkeit, wie Titan

Type „T“



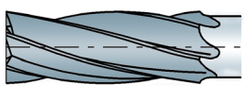
For materials with high tensile strength such as titanium

Tipo „T“



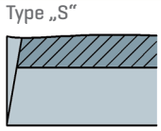
Per materiali ad alta resistenza, come titanio

Typ „S“



Für Materialien mit hoher Festigkeit, wie Sonderlegierungen und Nickel

Type „S“



For materials with high tensile strength such as special alloys and nickel

Tipo „S“



Per materiali con alta resistenza, come leghe special e nickel

D ISO-Toleranzen

E ISO-Tolerances

I Tolleranze ISO

über-bis | above-to | da-a	1–3 µm	3–6 µm	6–10 µm	10–18 µm	18–30 µm	30–50 µm	50–80 µm	80–120 µm	120–180 µm	180–250 µm
d 8	– 20 – 34	– 30 – 48	– 40 – 62	– 50 – 77	– 65 – 98	– 80 – 119	– 100 – 146	– 120 – 174	– 145 – 208	– 170 – 242
d 9	– 20 – 45	– 30 – 60	– 40 – 76	– 50 – 93	– 65 – 117	– 80 – 142	– 100 – 174	– 120 – 207	– 145 – 245	– 170 – 285
d 11	– 20 – 80	– 30 – 105	– 40 – 130	– 50 – 160	– 65 – 195	– 80 – 240	– 100 – 290	– 120 – 340	– 145 – 395	– 170 – 460
e 8	– 14 – 28	– 20 – 38	– 25 – 47	– 32 – 59	– 40 – 73	– 50 – 89	– 60 – 106	– 72 – 126	– 85 – 148	– 100 – 172
f 10	– 6 – 46	– 10 – 58	– 13 – 71	– 16 – 86	– 20 – 104	– 25 – 125	– 30 – 150	– 36 – 176	– 43 – 203	– 50 – 235
h 6	0 – 6	0 – 8	0 – 9	0 – 11	0 – 13	0 – 16	0 – 19	0 – 22	0 – 25	0 – 29
h 8	0 – 14	0 – 18	0 – 22	0 – 27	0 – 33	0 – 39	0 – 46	0 – 54	0 – 63	0 – 72
h 10	0 – 40	0 – 48	0 – 58	0 – 70	0 – 84	0 – 100	0 – 120	0 – 140	0 – 160	0 – 185
h 11	0 – 60	0 – 75	0 – 90	0 – 110	0 – 130	0 – 160	0 – 190	0 – 220	0 – 250	0 – 290
h 12	0 – 100	0 – 120	0 – 150	0 – 180	0 – 210	0 – 250	0 – 300	0 – 350	0 – 400	0 – 460
h 13	0 – 140	0 – 180	0 – 220	0 – 270	0 – 330	0 – 390	0 – 460	0 – 540	0 – 630	0 – 720
h 14	0 – 250	0 – 300	0 – 360	0 – 430	0 – 520	0 – 620	0 – 740	0 – 870	0 – 1000	0 – 1150
h 15	0 – 400	0 – 480	0 – 580	0 – 700	0 – 840	0 – 1000	0 – 1200	0 – 1400	0 – 1600	0 – 1850
h 16	0 – 600	0 – 750	0 – 900	0 – 1100	0 – 1300	0 – 1600	0 – 1900	0 – 2200	0 – 2500	0 – 2900
js 11	± 30	± 37,5	± 45	± 55	± 65	± 80	± 95	± 110	± 125	± 145
js 12	± 50	± 60	± 75	± 90	± 105	± 125	± 150	± 175	± 200	± 230
js 14	± 125	± 150	± 180	± 215	± 260	± 310	± 370	± 435	± 500	± 575
js 15	± 200	± 240	± 290	± 350	± 420	± 500	± 600	± 700	± 800	± 925
js 16	± 300	± 375	± 450	± 550	± 650	± 800	± 950	± 1100	± 1250	± 1450
js 18	–	–	–	± 1350	± 1650	± 1950	± 2300	± 2700	± 3150	± 3600
k 8	+ 14 0	+ 18 0	+ 22 0	+ 27 0	+ 33 0	+ 39 0	+ 46 0	+ 54 0	+ 63 0	+ 72 0
k 9	+ 25 0	+ 30 0	+ 36 0	+ 43 0	+ 52 0	+ 62 0	+ 74 0	+ 87 0	+ 100 0	+ 115 0
k 10	+ 40 0	+ 48 0	+ 58 0	+ 70 0	+ 84 0	+ 100 0	+ 120 0	+ 140 0	+ 160 0	+ 185 0
k 11	+ 60 0	+ 75 0	+ 90 0	+ 110 0	+ 130 0	+ 160 0	+ 190 0	+ 220 0	+ 250 0	+ 290 0
k 12	+ 100 0	+ 120 0	+ 150 0	+ 180 0	+ 210 0	+ 250 0	+ 300 0	+ 350 0	+ 400 0	+ 460 0
k 14	+ 250 0	+ 300 0	+ 360 0	+ 430 0	+ 520 0	+ 620 0	+ 740 0	+ 870 0	+ 1000 0	+ 1150 0
k 16	+ 600 0	+ 750 0	+ 900 0	+ 1100 0	+ 1300 0	+ 1600 0	+ 1900 0	+ 2200 0	+ 2500 0	+ 2900 0
D 8	+ 34 + 20	+ 48 + 30	+ 62 + 40	+ 77 + 50	+ 98 + 65	+ 119 + 80	+ 146 + 100	+ 174 + 120	+ 208 + 145	+ 242 + 170
D 10	+ 60 + 20	+ 78 + 30	+ 98 + 40	+ 120 + 50	+ 149 + 65	+ 180 + 80	+ 220 + 100	+ 260 + 120	+ 305 + 145	+ 355 + 170
E 10	+ 54 + 14	+ 68 + 20	+ 83 + 25	+ 102 + 32	+ 124 + 40	+ 150 + 50	+ 180 + 60	+ 212 + 72	+ 245 + 85	+ 285 + 100
F 8	+ 20 + 6	+ 28 + 10	+ 35 + 13	+ 43 + 16	+ 53 + 20	+ 64 + 25	+ 76 + 30	+ 90 + 36	+ 106 + 43	+ 122 + 50
H 5	+ 4 0	+ 5 0	+ 6 0	+ 8 0	+ 9 0	+ 11 0	+ 13 0	+ 15 0	+ 18 0	+ 20 0
H 6	+ 6 0	+ 8 0	+ 9 0	+ 11 0	+ 13 0	+ 16 0	+ 19 0	+ 22 0	+ 25 0	+ 29 0
H 7	+ 10 0	+ 12 0	+ 15 0	+ 18 0	+ 21 0	+ 25 0	+ 30 0	+ 35 0	+ 40 0	+ 46 0
H 11	+ 60 0	+ 75 0	+ 90 0	+ 110 0	+ 130 0	+ 160 0	+ 190 0	+ 220 0	+ 250 0	+ 29 0
H 12	+ 100 0	+ 120 0	+ 150 0	+ 180 0	+ 210 0	+ 250 0	+ 300 0	+ 350 0	+ 400 0	+ 460 0
JS 9	± 12,5	± 15	± 18	± 21,5	± 26	± 31	± 37	± 43,5	± 50	± 57,5
JS 12	± 50	± 60	± 75	± 90	± 105	± 125	± 150	± 175	± 200	± 230
N 9	– 4 – 29	0 – 30	0 – 36	0 – 43	0 – 52	0 – 62	0 – 74	0 – 87	0 – 100	0 – 115
N 11	– 4 – 64	0 – 75	0 – 90	0 – 110	0 – 130	0 – 160	0 – 190	0 – 220	0 – 250	0 – 290
P 9	– 6 – 31	– 12 – 42	– 15 – 51	– 18 – 61	– 22 – 74	– 26 – 88	– 32 – 106	– 37 – 124	– 43 – 143	– 50 – 165

D ISO-Passung Einheitswellen

E ISO system of standardised fits for shafts

I Tolleranze di accoppiamenti ISO, sistema albero base

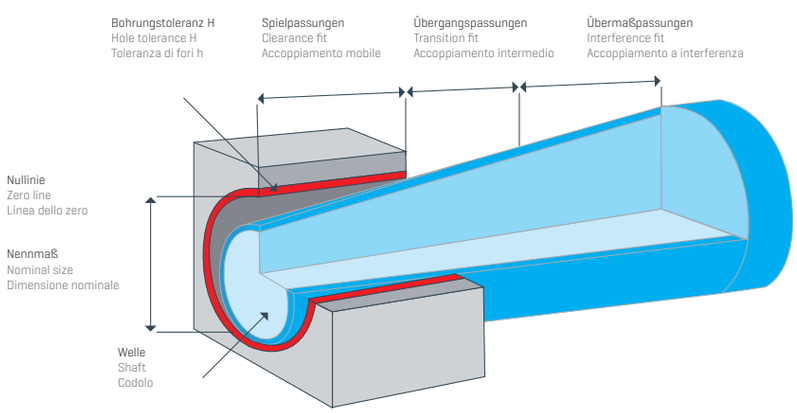
Bohrungen Holes Fori	Nennmaß über... bis ... mm / Nominal dimension over ... to ... mm / Dimensione nominale oltre .. fino a .. mm																		
	1 3	3 6	6 10	10 14	14 18	18 24	24 30	30 40	40 50	50 65	65 80	80 100	100 120	120 140	140 160	160 180	180 200	200 225	225 250
Welle / Shaft / Codolo **h5**	0 -4	0 -5	0 -6	0 -8		0 -9		0 -11		0 -13		0 -15		0 -18				0 -20	
P 6	-6 -12	-9 -17	-12 -21	-15 -26		-18 -31		-21 -37		-26 -45		-30 -52		-36 -61				-41 -70	
N 6	-4 -10	-5 -13	-7 -16	-9 -20		-11 -24		-12 -28		-14 -33		-16 -38		-20 -45				-22 -51	
M 6	-2 -8	-1 -9	-3 -12	-4 -15		-4 -17		-4 -20		-5 -24		-6 -28		-8 -33				-8 -37	
J 6	+2 -4	+5 -3	+5 -4	+6 -5		+8 -5		+10 -6		+13 -6		+16 -6		+18 -7				+22 -7	
H 6	+6 0	+8 0	+9 0	+11 0		+13 0		+16 0		+19 0		+22 0		+25 0				+29 0	
Welle / Shaft / Codolo **h 6**	0 -6	0 -8	0 -9	0 -11		0 -13		0 -16		0 -19		0 -22		0 -25				0 -29	
S 7	-14 -24	-15 -27	-17 -32	-21 -39		-27 -48		-34 -59	-42 -72	-48 -78		-58 -93	-66 -101	-77 -117	-85 -125	-93 -133	-105 -151	-113 -159	-123 -169
R 7	-10 -20	-11 -23	-13 -28	-16 -34		-20 -41		-25 -50	-30 -60	-32 -62		-38 -73	-41 -76	-48 -88	-50 -90	-53 -93	-60 -106	-63 -109	-67 -113
N 7	-4 -14	-4 -16	-4 -19	-5 -23		-7 -28		-8 -33		-9 -39		-10 -45		-12 -52				-14 -60	
M 7	-2 -12	0 -12	0 -15	0 -18		0 -21		0 -25		0 -30		0 -35		0 -40				0 -46	
K 7	0 -10	+3 -9	+5 -10	+6 -12		+6 -15		+7 -18		+9 -21		+10 -25		+12 -28				+13 -33	
J 7	+4 -6	+6 -6	+8 -7	+10 -8		+12 -9		+14 -11		+18 -12		+22 -13		+26 -14				+30 -16	
H 7	+10 0	+12 0	+15 0	+18 0		+21 0		+25 0		+30 0		+35 0		+40 0				+46 0	
G 7	+12 +2	+16 +4	+20 +5	+24 +6		+28 +7		+34 +9		+40 +10		+47 +12		+54 +14				+61 +15	
F 7	+16 +6	+22 +10	+28 +13	+34 +16		+41 +20		+50 +25		+60 +30		+71 +36		+83 +43				+96 +50	
Welle / Shaft / Codolo **h 9**	0 -25	0 -30	0 -36	0 -43		0 -52		0 -62		0 -74		0 -87		0 -100				0 -115	
H 8	+14 0	+18 0	+22 0	+27 0		+33 0		+39 0		+46 0		+57 0		+63 0				+72 0	
H 11	+60 0	+75 0	+90 0	+110 0		+130 0		+160 0		+190 0		+220 0		+250 0				+290 0	
F 8	+20 +6	+28 +10	+35 +13	+43 +16		+53 +20		+64 +25		+76 +30		+90 +36		+106 +43				+122 +50	
E 9	+39 +14	+50 +20	+61 +25	+75 +32		+92 +40		+112 +50		+134 +60		+159 +72		+185 +85				+215 +100	
D 10	+60 +20	+78 +330	+98 +40	+120 +50		+149 +65		+180 +80		+220 +100		+260 +120		+305 +145				+355 +170	
C 11	+120 +60	+145 +70	+170 +80	+205 +95		+240 +110	+280 +110	+290 +130	+330 +140	+340 +150	+390 +170	+400 +180	+450 +200	+460 +210	+480 +230	+530 +240	+550 +260	+570 +280	
Welle / Shaft / Codolo **h 11**	0 -60	0 -75	0 -90	0 -110		0 -130		0 -160		0 -190		0 -220		0 -250				0 -290	
H 11	+60 0	+75 0	+90 0	+110 0		+130 0		+160 0		+190 0		+220 0		+250 0				+290 0	
D 11	+80 +20	+105 +30	+130 +40	+160 +50		+195 +65		+240 +80		+290 +100		+340 +120		+395 +145				+460 +170	
C 11	+120 +60	+145 +70	+170 +80	+205 +95		+240 +110	+280 +120	+290 +130	+330 +140	+340 +150	+390 +170	+400 +180	+450 +200	+460 +210	+480 +230	+530 +240	+550 +260	+570 +280	
A 11	+330 +270	+345 +270	+370 +280	+400 +290		+430 +300	+470 +310	+480 +320	+530 +340	+550 +360	+600 +380	+630 +410	+710 +460	+770 +520	+830 +580	+950 +660	+1030 +740	+1110 +820	

ISO Passung Einheitswellen
ISO system of standardised fits for shafts
Tolleranze di accoppiamenti ISO, Sistema albero base

Übermaßpassung (Presspassung)
Interference fit (press fit)
Accoppiamento a interferenza (stabile)

Übergangspassung
Transition fit
Accoppiamento intermedio

Spielpassung
Clearance fit
Accoppiamento mobile



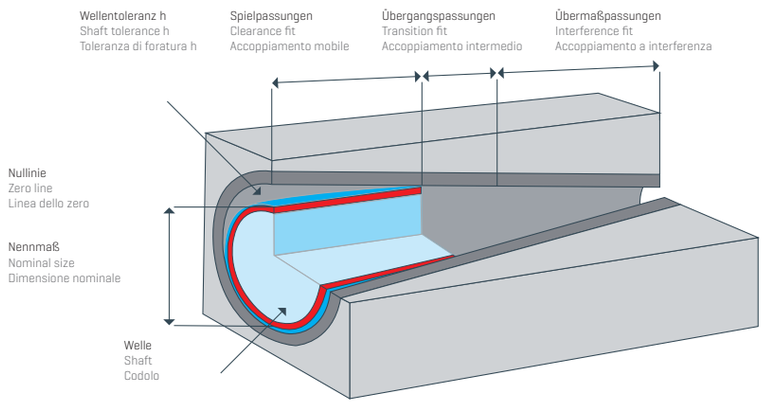
D ISO-Passung Einheitsbohrung

E ISO system of standardised fits for hole

I Tolleranze di accoppiamenti ISO, Sistema foro base

Wellen Shaft Codolo	Nennmaß über... bis ... mm / Nominal dimension over ... to ... mm / Dimensione nominale oltre .. fino a .. mm																		
	1 3	3 6	6 10	10 14	14 18	18 24	24 30	30 40	40 50	50 65	65 80	80 100	100 120	120 140	140 160	160 180	180 200	200 225	225 250
Bohrung / Hole / Fori **H 6**	+6 0	+8 0	+9 0	+11 0		+13 0		+16 0		+19 0		+22 0		+25 0			+29 0		
p 5	+10 +6	+17 +12	+21 +15	+26 +18		+31 +22		+37 +26		+45 +32		+52 +37		+61 +43			+70 +50		
n 5	+8 +4	+13 +18	+16 +10	+20 +12		+24 +15		+28 +17		+33 +20		+38 +23		+45 +27			+51 +31		
k 6	+6 0	+9 +1	+10 +1	+12 +1		+15 +2		+18 +2		+21 +2		+25 +3		+28 +3			+33 +4		
j 6	+4 -2	+6 -2	+7 -2	+8 -3		+9 -4		+11 -5		+12 -7		+13 -9		+14 -11			+16 -13		
h 5	0 -4	0 -5	0 -6	0 -8		0 -9		0 -11		0 -13		0 -15		0 -18			0 -20		
Bohrung / Hole / Fori **H 7**	+10 0	+12 0	+15 0	+18 0		+21 0		+25 0		+30 0		+35 0		+40 0			+46 0		
s 6	+20 +14	+27 +19	+32 +23	+39 +28		+48 +35		+59 +43		+72 +35	+78 +59	+93 +71	+101 +79	+117 +92	+125 +100	+133 +108	+151 +122	+159 +130	+169 +140
r 6	+16 +10	+23 +15	+28 +19	+34 +23		+41 +28		+50 +34		+60 +41	+62 +43	+73 +51	+76 +54	+88 +63	+90 +65	+93 +68	+106 +77	+109 +80	+113 +84
n 6	+10 +4	+16 +8	+19 +10	+23 +12		+28 +15		+33 +17		+39 +20		+45 +23		+52 +27			+60 +31		
m 6	+8 +2	+12 +4	+15 +6	+18 +7		+21 +8		+25 +9		+30 +11		+35 +13		+40 +15			+46 +17		
k 6	+6 0	+9 +1	+10 +1	+12 +1		+15 +2		+18 +2		+21 +2		+25 +3		+28 +3			+33 +4		
j 6	+4 -2	+6 -2	+7 -2	+8 -3		+9 -4		+11 -5		+12 -7		+13 -9		+14 -11			+16 -13		
h 6	0 -6	0 -8	0 -9	0 -11		0 -13		0 -16		0 -19		0 -22		0 -25			0 -29		
g 6	-2 -8	-4 -12	-5 -14	-6 -17		-7 -20		-9 -25		-10 -29		-12 -34		-14 -39			-15 -44		
r 7	-6 -16	-10 -22	-13 -28	-16 -34		-20 -41		-25 -50		-30 -60		-36 -71		-43 -83			-50 -96		
Bohrung / Hole / Fori **H 8**	+14 0	+18 0	+22 0	+27 0		+33 0		+39 0		+46 0		+54 0		+63 0			+72 0		
x 8	+34 +20	+46 +28	+56 +34	+67 +40	+72 +45	+87 +54	+97 +64	+119 +70	+136 +97	+168 +122	+192 +146	+232 +178	+264 +210	+311 +248	+343 +280	+373 +310	+422 +350	+457 +385	+497 +425
u 8	+32 +18	+41 +23	+50 +28	+60 +33	+60 +33	+74 +41	+81 +48	+99 +60	+109 +70	+133 +87	+148 +102	+178 +124	+198 +144	+233 +170	+253 +190	+273 +210	+308 +236	+330 +258	+356 +284
h 9	0 -25	0 -30	0 -36	0 -43		0 -52		0 -62		0 -74		0 -87		0 -100			0 -115		
f 7	-6 -16	-10 -22	-13 -28	-16 -34		-20 -41		-25 -50		-30 -60		-36 -71		-43 -83			-50 -96		
d 9	-20 -45	-30 -60	-40 -76	-50 -93		-65 -117		-80 -142		-100 -174		-120 -207		-145 -245			-170 -285		
Bohrung / Hole / Fori **H 11**	+60 0	+75 0	+90 0	+110 0		+130 0		+160 0		+190 0		+220 0		+250 0			+290 0		
h 9	0 -25	0 -30	0 -36	0 -43		0 -52		0 -62		0 -74		0 -87		0 -100			0 -115		
h 11	0 -60	0 -75	0 -90	0 -110		0 -130		0 -160		0 -190		0 -220		0 -250			0 -290		
d 9	-20 -45	-30 -60	-40 -76	-50 -93		-65 -117		-80 -142		-100 -174		-120 -207		-145 -245			-170 -285		
c 11	-60 -120	-70 -145	-80 -170	-95 -205		-110 -240		-120 -280	-130 -290	-140 -330	-150 -340	-170 -390	-180 -400	-200 -450	-210 -460	-230 -480	-240 -530	-260 -550	-280 -570
a 11	-270 -330	-270 -345	-280 -370	-290 -400		-300 -430		-310 -470	-320 -480	-340 -530	-360 -550	-380 -600	-410 -630	-460 -710	-520 -770	-580 -830	-660 -950	-740 -1030	-820 -1110

- **ISO Passung Einheitswellen**
  ISO system of standardised fits for shafts
  Tolleranze di accoppiamenti ISO, Sistema albero base
- **Übermaßpassung (Presspassung)**
  Interference fit (press fit)
  Accoppiamento a interferenza (stabile)
- **Übergangspassung**
  Transition fit
  Accoppiamento intermedio
- **Spielpassung**
  Clearance fit
  Accoppiamento mobile



D Kernlochdurchmesser für Gewindebohren

E Core hole diameters for tapping

I Diametri prefori per lavorazioni di maschiatura

M

P mm	Ø mm
M 1	0,25	0,75
M 1,1	0,25	0,85
M 1,2	0,25	0,95
M 1,4	0,3	1,1
M 1,6	0,35	1,25
M 1,7	0,35	1,3
M 1,8	0,35	1,45
M 2	0,4	1,6
M 2,2	0,45	1,75
M 2,3	0,4	1,9
M 2,5	0,45	2,05
M 2,6	0,45	2,1
M 3	0,5	2,5
M 3,5	0,6	2,9
M 4	0,7	3,3
M 4,5	0,75	3,7
M 5	0,8	4,2
M 6	1	5,0
M 7	1	6,0
M 8	1,25	6,8
M 9	1,25	7,8
M 10	1,5	8,5
M 11	1,5	9,5
M 12	1,75	10,2
M 14	2	12,0
M 16	2	14,0
M 18	2,5	15,5
M 20	2,5	17,5
M 22	2,5	19,5
M 24	3	21,0
M 27	3	24,0
M 30	3,5	26,5
M 33	3,5	29,5
M 36	4	32,0
M 39	4	35,0
M 42	4,5	37,5
M 45	4,5	40,5
M 48	5	43,0
M 52	5	47,0

MF

P mm	Ø mm
MF 2 x 0,25	1,75
MF 2,5 x 0,35	2,15
MF 3 x 0,35	2,65
MF 3,5 x 0,35	3,15
MF 4 x 0,35	3,65
MF 4 x 0,5	3,5
MF 5 x 0,5	4,5
MF 6 x 0,5	5,5
MF 6 x 0,75	5,2
MF 7 x 0,75	6,2
MF 8 x 0,5	7,5
MF 8 x 0,75	7,2
MF 8 x 1	7,0
MF 9 x 1	8,0
MF 10 x 0,75	9,2
MF 10 x 1	9,0
MF 10 x 1,25	8,8
MF 11 x 1	10,0
MF 12 x 1	11,0
MF 12 x 1,25	10,75
MF 12 x 1,5	10,5
MF 14 x 1	13,0
MF 14 x 1,25	12,8
MF 14 x 1,5	12,5
MF 15 x 1	14,0
MF 15 x 1,5	13,5
MF 16 x 1	15,0
MF 16 x 1,5	14,5
MF 18 x 1	17,0
MF 18 x 1,5	16,5
MF 18 x 2	16,0
MF 20 x 1	19,0
MF 20 x 1,5	18,5
MF 20 x 2	18,0
MF 22 x 1	21,0
MF 22 x 1,5	20,5
MF 22 x 2	20,0
MF 24 x 1	23,0
MF 24 x 1,5	22,5
MF 24 x 2	22,0
MF 25 x 1,5	23,5
MF 26 x 1,5	24,5
MF 27 x 1,5	25,5
MF 27 x 2	25,0
MF 28 x 1,5	26,5
MF 30 x 1	29,0
MF 30 x 1,5	28,5

EG-M

P mm	Ø mm
EG M 2,5 x 0,45	2,65
EG M 3 x 0,5	3,15
EG M 3,5 x 0,6	3,7
EG M 4 x 0,7	4,20
EG M 5 x 0,8	5,25
EG M 6 x 1	6,3
EG M 8 x 1,25	8,4
EG M 10 x 1,5	10,5
EG M 12 x 1,75	12,5
EG M 14 x 2	14,5
EG M 16 x 2	16,5

MJ

P mm	Ø mm
MJ 3 x 0,5	2,6
MJ 4 x 0,7	3,4
MJ 5 x 0,8	4,3
MJ 6 x 1	5,1
MJ 8 x 1,25	6,9
MJ 10 x 1,5	8,7
MJ 12 x 1,75	10,5
MJ 16 x 2	14,3

UNC

P/1″	Ø mm
Nr. 1 – 64	1,55
Nr. 2 – 56	1,85
Nr. 3 – 48	2,1
Nr. 4 – 40	2,35
Nr. 5 – 40	2,65
Nr. 6 – 32	2,85
Nr. 8 – 32	3,5
Nr. 10 – 24	3,9
Nr. 12 – 24	4,5
1/4″ – 20	5,1
5/16″ – 18	6,6
3/8″ – 16	8,0
7/16″ – 14	9,4
1/2″ – 13	10,8
9/16″ – 12	12,2
5/8″ – 11	13,5
3/4″ – 10	16,5
7/8″ – 9	19,5
1″ – 8	22,25
1 1/8″ – 7	25,0

UNF

P/1″	Ø mm
Nr. 0 – 80	1,25
Nr. 1 – 72	1,55
Nr. 2 – 64	1,85
Nr. 3 – 56	2,1
Nr. 4 – 48	2,4
Nr. 5 – 44	2,7
Nr. 6 – 40	3,0
Nr. 8 – 36	3,5
Nr. 10 – 32	4,1
Nr. 12 – 28	4,65
1/4″ – 28	5,5
5/16″ – 24	6,9
3/8″ – 24	8,5
7/16″ – 20	9,9
1/2″ – 20	11,5
9/16″ – 18	12,9
5/8″ – 18	14,5
3/4″ – 16	17,5
7/8″ – 14	20,4
1″ – 12	23,25
1 1/8″ – 12	26,5
1 1/4″ – 12	29,5
1 3/8″ – 12	32,75
1 1/2″ – 12	36,0

G

	P/1˝	Ø mm
G 1/8˝	19	8,8
G 1/4˝	19	11,8
G 3/8˝	14	15,25
G 1/2˝	14	19,0
G 5/8˝	14	21,0
G 3/4˝	14	24,5
G 7/8˝	11	28,25
G 1˝	11	30,75
G 1 1/8˝	11	35,5
G 1 1/4˝	11	39,5
G 1 3/8˝	11	41,9
G 1 1/2˝	11	45,25
G 1 3/4˝	11	51,0
G 2˝	11	57,0

UN-8

	P/1˝	Ø mm
1 1/8˝	-8	25,4
1 1/4˝	-8	28,5
1 1/2˝	-8	35,0
1 3/4˝	-8	41,5
2˝	-8	48,0

PG

	P/1˝	Ø mm
Pg	7 – 20	11,4
Pg	9 – 18	14,0
Pg	11 – 18	17,25
Pg	13,5 – 18	19,0
Pg	16 – 18	21,25
Pg	21 – 16	27,0
Pg	29 – 16	35,5

NPT

	P/1˝	Ø mm
NPT	1/16 – 27	6,3
NPT	1/8 – 27	8,5
NPT	1/4 – 18	11,1
NPT	3/8 – 18	14,5
NPT	1/2 – 14	17,75
NPT	3/4 – 14	23,2
NPT	1 – 11,5	29,0

UNJC

	P/1˝	Ø mm
Nr.	4 – 40	2,3
Nr.	6 – 32	2,85
Nr.	8 – 32	3,5
Nr.	10 – 24	3,9
1/4˝	– 20	5,25
5/16˝	– 18	6,7
3/8˝	– 16	8,1

UNJF

	P/1˝	Ø mm
Nr.	6 – 40	3,0
Nr.	8 – 32	3,55
Nr.	10 – 20	4,15
1/4˝	– 28	5,55
5/16˝	– 24	7,0
3/8˝	– 24	8,6

M: Metrisches ISO-Gewinde DIN 13
Metric ISO-thread DIN 13
Filettatura metrica ISO, DIN 13

MF: Metrisches ISO-Feingewinde DIN 13
Metric ISO fine thread DIN 13
Filettatura metrica ISO fine, DIN 13

EG-M: Metrisches Einsatz-Gewinde für Gewindeeinsätze aus Draht
Metric insert thread for wire inserts
Metrica – per filetti riportati

MJ: Metrisches MJ-Gewinde
Metric MJ-thread
Metrica MJ

Nenndurchmesser
Nominal diameter
Diametro nominale

P: Steigung
Pitch
Passo

UNC: Unified Grobgewinde UNC ANSI B 1.1
Unified coarse thread UNC ANSI B 1.1
Filettatura Americana UNC grossa ANSI 1.1

UNF: Unified Feingewinde UNF ANSI B 1.1
Unified fine thread UNF ANSI B 1.1
Filettatura Americana UNF fine ANSI B 1.1

G: Whithworth-Rohrgewinde
Whithworth pipe thread
Withworth-gas

UN-8: UN-8-Gewinde
UN-8 thread
UN-8 sec.

Ø: Kernlochdurchmesser
Core hole diameter
Diametri prefori per maschiatura

PG: Stahlpanzerrohr-Gewinde
Steel conduit thread
Filettatura per tubi elettrici

NPT: Amerikanisches kegeliges Rohrgewinde
American tapered pipe thread
Fliettatura Americana conica secondo

UNJC: UNJC-Gewinde
UNJC thread
UNJC-passo fine

UNJF: UNJF-Gewinde
UNJF thread
UNJF-passo fine

D Kernlochdurchmesser für Gewindeformen

E Core Hole diameters for rolling taps

I Diametri fori per maschiatura

M								MF					G			
	P	6HX		6GX		7GX			P	Ø	Ø		P/1"	Ø	Ø
	mm	min Ø	max Ø	min Ø	max Ø	min Ø	max Ø		mm	min	max			min	max
M 1	0,25	0,89	0,91					MF 2 x	0,25	1,89	1,91	G 1/8" -	28	9,25	9,32
M 1,1	0,25	0,99	1,01					MF 2,5 x	0,35	2,35	2,37	G 1/4" -	19	12,43	12,53
M 1,2	0,25	1,09	1,11					MF 3 x	0,35	2,85	2,87	G 3/8" -	19	15,94	16,04
M 1,4	0,3	1,27	1,29					MF 3,5 x	0,35	3,35	3,37	G 1/2" -	14	19,93	20,15
M 1,6	0,35	1,45	1,47					MF 4 x	0,35	3,85	3,88				
M 1,7	0,35	1,55	1,57					MF 4 x	0,5	3,77	3,8				
M 1,8	0,35	1,65	1,67					MF 5 x	0,5	4,77	4,8				
M 2	0,4	1,82	1,84	1,85	1,88			MF 6 x	0,5	5,78	5,83				
M 2,2	0,45	2,01	2,04	2,02	2,06			MF 6 x	0,75	5,64	5,69				
M 2,3	0,4	2,12	2,14					MF 7 x	0,75	6,64	6,69				
M 2,5	0,45	2,31	2,34	2,32	2,36			MF 8 x	0,5	7,78	7,83				
M 2,6	0,45	2,41	2,44					MF 8 x	0,75	7,64	7,69				
M 3	0,5	2,78	2,81	2,79	2,84	2,81	2,85	MF 8 x	1	7,50	7,56				
M 3,5	0,6	3,23	3,27	3,24	3,3			MF 9 x	1	8,50	8,56				
M 4	0,7	3,67	3,71	3,69	3,73	3,71	3,77	MF 10 x	0,75	9,64	9,69				
M 4,5	0,75	4,15	4,21					MF 10 x	1	9,5	9,56				
M 5	0,8	4,62	4,67	4,65	4,71	4,66	4,73	MF 10 x	1,25	9,35	9,43				
M 6	1	5,5	5,56	5,55	5,63	5,56	5,64	MF 11 x	1	10,5	10,56				
M 7	1	6,5	6,56					MF 12 x	1	11,5	11,56				
M 8	1,25	7,36	7,44	7,4	7,47	7,42	7,5	MF 12 x	1,25	11,35	11,43				
M 9	1,25	8,36	8,44					MF 12 x	1,5	11,21	11,3				
M 10	1,5	9,22	9,31	9,26	9,35	9,3	9,39	MF 14 x	1	13,52	13,58				
M 11	1,5	10,22	10,31					MF 14 x	1,25	13,4	13,49				
M 12	1,75	11,08	11,19	11,14	11,24	11,17	11,28	MF 14 x	1,5	13,24	13,33				
M 14	2	12,96	13,08	13,0	13,12	13,04	13,16	MF 15 x	1	14,52	14,6				
M 16	2	14,96	15,08	15,0	15,12	15,04	15,16	MF 15 x	1,5	14,26	14,36				
M 18	2,5	16,66	16,81					MF 16 x	1	15,52	15,58				
M 20	2,5	18,66	18,81					MF 16 x	1,5	15,24	15,33				
M 22	2,5	20,66	20,81					MF 18 x	1,5	17,25	17,34				
M 24	3	22,39	22,56					MF 20 x	1,5	19,25	19,34				
M 27	3	25,39	25,56					MF 22 x	1,5	21,25	21,37				
M 30	3,5	28,09	28,28					MF 24 x	1,5	23,25	23,37				
M 33	3,5	31,09	31,28												
M 36	4	33,8	34,01												
M 39	4	36,8	37,01												
M 42	4,5	39,52	39,73												
M 45	4,5	42,52	42,73												

UNC					UNF			
		P/1˝	Ø min	Ø max		P/1˝	Ø min	Ø max
NR	5	-	2,86	2,93	NR	6 - 40	3,19	3,26
NR	6	-	3,09	3,17	NR	10 - 32	4,41	4,47
NR	8	-	3,76	3,84	1/4˝	- 28	5,87	5,94
NR	10	-	4,26	4,35	5/16˝	- 24	7,39	7,47
1/4˝		-	5,66	5,76	3/8˝	- 24	8,98	9,06
5/16˝		-	7,18	7,29	7/16˝	- 20	10,45	10,55
3/8˝		-	8,66	8,78	1/2˝	- 20	12,05	12,14
7/16˝		-	10,12	10,27	9/16˝	- 18	13,56	13,64
1/2˝		-	11,62	11,78	5/8˝˝	- 18	15,15	15,23
9/16˝		-	13,14	13,28	3/4˝	- 16	18,22	18,3
5/8˝		-	14,61	14,76	7/8˝	- 14	21,27	21,38
3/4˝		-	17,65	17,8	1	- 12	24,26	24,37
7/8˝		-	20,66	20,84				
1		-	23,63	23,84				

M: Metrisches ISO-Gewinde DIN 13
Metric ISO-thread DIN 13
Filettatura metrica ISO, DIN 13

MF: Metrisches ISO-Feingewinde DIN 13
Metric ISO fine thread DIN 13
Filettatura metrica ISO fine, DIN 13

G: Whithworth-Rohrgewinde
Whithworth pipe thread
Withworth-gas

Nenndurchmesser
Nominal diameter
Diametro nominale

P: Steigung
Pitch
Passo

UNC: Unified Grobgewinde UNC ANSI B 1.1
Unified coarse thread UNC ANSI B 1.1
Filettatura Americana UNC grossa ANSI 1.1

UNF: Unified Feingewinde UNF ANSI B 1.1
Unified fine thread UNF ANSI B 1.1
Filettatura Americana UNF fine ANSI B

Ø: Kernlochdurchmesser
Core hole diameter
Diametri prefori per maschiatura

D Anschnittform

E Taper lead form

I Forma imbocco

Form „B“

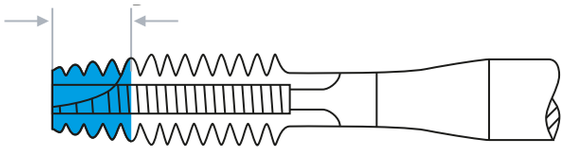
Für alle Durchgangslöcher und große Gewindetiefen in mittel und langspanenden Werkstoffen.

Form „B“

For all through holes and large thread depths in medium and long-chipping materials.

Forma „B“

Per tutti I fori passanti e alte profonditá di maschiatura di materiali a truciolo medio/ lungo



3,5 - 5,5 Gänge, mittel
3,5 - 5,5 Threads, medium
3,5 - 5,5 Filettatura, lunga

Form „C“

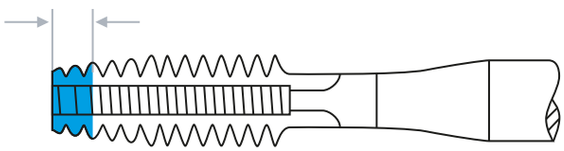
Für Sacklöcher und ganz allgemein für Alu, Grauguss und Messing.

Form „C“

For blind holes and generally for aluminum, gray cast iron and brass.

Forma „C“

Per fori ciechi e generalmente per alluminio, ghisa e ottone.



2 - 3 Gänge, kurz
2 - 3 Threads, short
2 - 3 Filettatura, corta

Form „D“

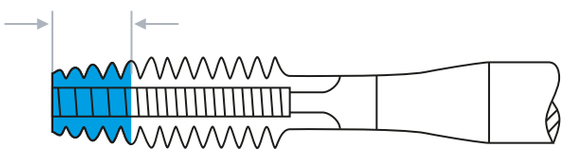
Für kurze Durchgangslöcher.

Form „D“

For short through holes.

Forma „D“

Per fori passanti corti.



3,5 - 5 Gänge, mittel
3,5 - 5 Threads, medium
3,5 - 5 Filettatura, media

Form „E“

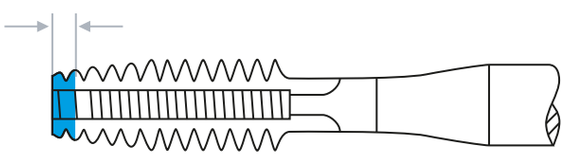
Für Sacklöcher mit sehr kurzem Gewindeauslauf.

Form „E“

For blind holes with very short thread outlet.

Forma „E“

Per fori ciechi con profondit' molto corta.



1,5 - 2 Gänge, extrem kurz
1,5 - 2 Threads, extremely short
1,5 - 2 Filettatura, estremamente corta

D Toleranzen von metrischen ISO-Gewinden

Bei der Herstellung von MAYKESTAG-Gewindebohrern erfolgt die Toleranzzuordnung entsprechend der untenstehenden Tabelle. Ausgenommen sind Werkzeuge für spezielle Einsatzzwecke (z. B. Grauguss). Diese erhalten abweichende Toleranzwerte, die mit dem Zusatz „X" gekennzeichnet sind (6HX, 6GX). Dieser Zusatz bezeichnet eine Maßanpassung, die aufgrund unserer Erfahrungswerte festgelegt wurde.

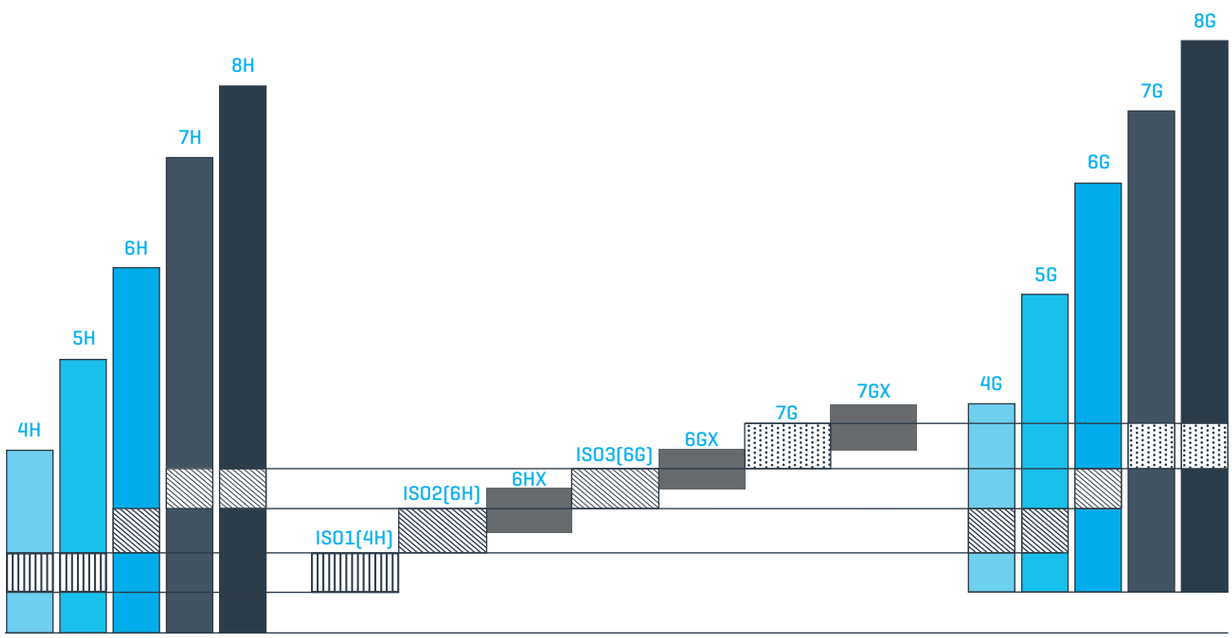
E Tolerances of metric ISO-threads

The tolerances of MAYKESTAG-taps are done according to the table below, excluding taps for special uses (e. g. grey cast iron). These taps have different tolerances, witch are marked with the addition "X" (6HX, 6GX). This addition describes the size adaption, which is fixed due to our experienced values.

I Tolleranze per filettature metriche-ISO

Nella fabbricazione dei maschi, MAYKESTAG segue l'ordine di tolleranza come da tabella illustrativa, ad esclusione degli utensili previsti in impieghi speciali (ad es. ghisa grigia), i quali hanno dei valori di tolleranza diversi, che sono marcati con una "X" (6HX, 6GX). Questo supplemento indica un adattamento dimensionale predeterminato grazie alla nostra esperienza professionale.

Toleranzklasse des Gewindebohrers Tolerance class of tap Classe di tolleranza dei maschi		Toleranzfeld des zu schneidenden Muttergewindes Tolerance field of female thread Campo di tolleranza delle madreviti da lavorare				
DIN	ISO	ISO				
4H	ISO 1	4H	5H	-	-	-
6H	ISO 2	4G	5G	6H	-	-
6G	ISO 3	-	-	6G	7H	8H
7G	-	-	-	-	6G	8G



Muttergewinde
Toleranzlage H

Female thread
tolerance position H

Madrevite
posizione della tolleranza H

Gewindebohrer
Toleranzklasse

Tap
tolerance class

Maschio
campo della tolleranza del maschio

Muttergewinde
Toleranzlage G

Female thread
tolerance position G

Madrevite
posizione della tolleranza G

Mehr technische Informationen unter:
More technical informations:
Ulteriori informazioni tecniche sotto:
www.maykestag.com




Ø 14
Art.: 07707014001O0
4 066600 141150
maykestag
PERFORMANCE
IN PRECISION

D Verkaufs- und Lieferbedingungen

1. Angebot, Auftrag, Preis

1.1 Die nachstehenden Verkaufs- und Lieferbedingungen gelten für alle mit uns abgeschlossenen Verträge. Anderslautende Bedingungen sind für uns nur dann bindend, wenn sie von uns schriftlich anerkannt werden. Das gilt auch für den Fall, dass ein Besteller auf seine eigenen Einkaufsbedingungen verweist. Mündliche Vereinbarungen, die für uns eine zusätzliche Verpflichtung beinhalten, sind nur dann bindend, wenn sie von uns schriftlich bestätigt werden.
1.2. Unsere Preise sind freibleibend. Die in der Preisliste angegebenen Maße entsprechen den jeweils gültigen Normen und werden bei Änderung der Normmaße entsprechend abgeändert.
1.3. Unsere Preise verstehen sich ohne die gesetzliche Mehrwertsteuer ab Werk. Verpackung, Fracht und Transportversicherungskosten gehen zu Lasten des Bestellers.
1.4. Bei einer auf elektronischem Wege bestellten Ware werden wir den Zugang der Bestellung des Kunden unverzüglich bestätigen. Die Zugangsbestätigung stellt noch keine verbindliche Annahmeerklärung der Bestellung dar; außer wenn wir dies ausdrücklich erklären. Bei auf elektronischem Wege bestellter Ware sind wir berechtigt, die Bestellung innerhalb von drei Werktagen nach Eingang bei uns anzunehmen.

2. Zahlungsziel, Zahlungsbedingungen, Rücktritt

2.1. Unsere Rechnungen sind 30 Tage ab Rechnungsdatum netto ohne Abzug zur Zahlung fällig. Der Kaufpreis ist sofort fällig, wenn der Besteller uns gegenüber mit anderen Zahlungsverpflichtungen in Zahlungsverzug gerät. Bei Überschreitung der Zahlungsfrist werden unter Vorbehalt der Geltendmachung eines weiteren Verzugsschadens 12% Verzugszinsen ab Verfalltag bis zum Zahlungstag in Rechnung gestellt.
2.2. Der Besteller hat ein Recht zur Aufrechnung nur, wenn seine Ansprüche rechtskräftig festgestellt wurden oder durch uns anerkannt wurden.
2.3. Bleibt der Besteller mit der Zahlung länger als 30 Tage im Rückstand, werden bei ihm Pfändungen durchgeführt oder verschlechtert sich seine Vermögenslage beträchtlich, sind wir berechtigt, von allen noch nicht erfüllten Lieferverträgen zurückzutreten oder Vorauszahlungen zu fordern.

3. Lieferung

3.1. Teillieferungen sind zulässig.
3.2. Wir sind bemüht die Lieferfristen so genau wie möglich einzuhalten. Lieferfristen sind nicht verbindlich. Fällt das Ende der Lieferfrist in die Zeit des Betriebsurlaubs, so verlängert sich die Lieferfrist um die Dauer des Betriebsurlaubs. Auf jeden Fall sind Schadenersatzansprüche oder Aufhebung des Vertrages wegen verspäteter Lieferung ausgeschlossen, wenn uns nicht krass grobe Fahrlässigkeit nachgewiesen wird.

4. Gefahrübergang

Der Versand erfolgt stets auf Rechnung und Gefahr des Bestellers. Für Beschädigungen und Verluste während des Transportes haften wir nicht. Mangels besonderer Versandvorschriften des Bestellers haben wir die Versendung auf dem nach unserem Ermessen besten Weg zu bewirken. Werden vom Besteller keine anderweitigen Vorschriften über die Versicherung gegen Transportschäden gemacht, so kann dies auf Kosten des Bestellers von uns ohne weiteres vorgenommen werden. Eine Versicherungspflicht unsererseits besteht jedoch nicht.

5. Eigentumsvorbehalt

Die gelieferte Ware bleibt unbeschadet des früheren Gefahrüberganges bis zur vollständigen Bezahlung aller aus dem Liefervertrag entstandenen Verbindlichkeiten des Bestellers unser Eigentum. Solange die Ware unser Eigentum ist, ist der Besteller nicht berechtigt, die gelieferte Ware einem Dritten zu verpfänden oder sicherungsweise zu übereignen. Droht unserem Eigentum von dritter Seite Gefahr, so sind wir unverzüglich zu benachrichtigen. Sollte ein Gerichtsvollzieher die gelieferte Ware pfänden wollen, so ist gegenüber dem Gerichtsvollzieher unser Eigentum unter Nennung unserer Firma und unserer Anschrift zu behaupten. Der Besteller hat uns alle Schäden und Kosten zu ersetzen, die durch einen Verstoß gegen diese Verpflichtungen und durch erforderliche Interventionsmaßnahmen gegen Zugriffe Dritter auf die Ware entstehen.

6. Gewährleistung, Haftungsbeschränkung und -Freistellung

6.1. Der Besteller hat eine Lieferung sofort nach Anlieferung eingehend zu untersuchen. Beanstandungen wegen unvollständiger Lieferung oder wegen entdeckter Mängel sind binnen 8 Tagen nach Empfang der einzelnen Lieferungen schriftlich anzuzeigen, andernfalls die Lieferung als vorbehaltlos angenommen gilt und auf diesbezügliche Gewährleistungs- und Schadenersatzansprüche verzichtet wird. Der Mangel ist nach Art und Umfang so deutlich zu kennzeichnen, dass wir den Grund der Beanstandung deutlich erkennen können. Der Besteller ist verpflichtet, für die einstweilige Aufbewahrung der beanstandeten Ware zu sorgen. Im Übrigen haften wir für Mängel der Lieferung unter Ausschluss weiterer Ansprüche wie folgt: Alle diejenigen Teile sind unentgeltlich nach unserer Wahl auszubessern oder neu zu liefern, welche innerhalb von sechs Monaten, ab Lieferdatum gerechnet, nachweisbar infolge eines vor dem Gefahrübergang liegenden Umstandes, insbesondere wegen fehlerhafter Bauart, schlechter Stoffe oder mangelhafter Ausführung unbrauchbar werden bzw. deren Brauchbarkeit erheblich beeinträchtigt wurde. Natürlicher Verschleiß, sachwidrige Behandlung, übermäßige Inanspruchnahme, Nachlässigkeit und Änderungen ohne unsere Genehmigung schließen eine Gewährleistung aus. Gewährleistungsansprüche können nur anerkannt werden, wenn sie unverzüglich nach Feststellung der Fehlerhaftigkeit schriftlich bei uns erhoben werden. Solche Teile müssen uns franko eingesandt werden. Das ersetzte Stück wird bei Ersatzlieferung oder Gutschrift unser Eigentum.
6.2. Außerhalb des Anwendungsbereiches des Produkthaftungsgesetzes beschränkt sich unsere Haftung auf Vorsatz und krass grobe Fahrlässigkeit. Die Haftung für schlicht grobe und leichte Fahrlässigkeit, der Ersatz von Folgeschäden und Vermögensschäden, nicht erzielten Ersparnissen, Zinsverlusten und von Schäden aus Ansprüchen Dritter gegen den Besteller sind ausgeschlossen. Ein Regress nach § 12 PHG gegen uns ist ausgeschlossen.
6.3. Wir haften nur für eigene Inhalte auf der Website unseres Online-Shops. Soweit wir mit Links den Zugang zu anderen Websites ermöglichen, sind wir für die dort enthaltenen fremden Inhalte nicht verantwortlich. Wir machen uns die fremden Inhalte nicht zu Eigen. Sofern wir Kenntnis von rechtswidrigen Inhalten auf externen Websites erhalten, werden wir den Zugang zu diesen Seiten unverzüglich sperren.

7. Abnahme, Abruf, Rückgabe

7.1. Auf Abruf gekaufte Ware ist binnen zwölf Monaten ab Bestelldatum abzunehmen. Bei nichtrechtzeitiger Abnahme sind wir berechtigt, die versandfertige Ware auf Kosten und Gefahr des Bestellers einzulagern und unter Belastung aller entstehenden Kosten als geliefert in Rechnung zu stellen. Bei Abnahmeverzug über den genannten zwölfmonatigen Zeitraum hinaus sind wir auf jeden Fall berechtigt, vom Vertrage zurückzutreten und unbeschadet weitergehender Ansprüche vom Besteller eine 10%ige Stornogebühr zu begehren.
7.2. Bestellte Ware wird ausnahmslos nicht zurückgenommen. Etwaige Rücklieferungen werden daher nicht angenommen und auf Kosten und Gefahr des Bestellers zurückgeschickt.

8. Schutzrechte, Zeichnungen, Muster

Der Besteller haftet dafür, dass durch seine Vorgaben bzw. durch die Verwendung uns zu Verfügung gestellter Zeichnungen, Muster und sonstiger Ausführungsvorschriften Schutzrechte Dritter, insbesondere Marken-, Muster-, Patent- und Urheberrechte, nicht verletzt werden. Der Besteller ist verpflichtet uns diesbezüglich schad- und klaglos zu halten. Für den Verlust oder die Beschädigung von zur Verfügung gestellter Unterlagen wird keine Haftung übernommen. Eine diesbezügliche Versicherung wird nur über ausdrücklichen Auftrag und auf Kosten des Bestellers abgeschlossen.

9. Datenschutz

9.1. Mit unserer „Datenschutzinformation" unterrichten wir unsere Kunden über: Art, Umfang und Zweck der Erhebung, Verarbeitung und Nutzung der für die Ausführung von Bestellungen sowie Abrechnungen erforderlichen personenbezogenen Daten; sein Widerspruchsrecht zur Erstellung und Verwendung seines anonymisierten Nutzungsprofils für Zwecke der Werbung und zur bedarfsgerechten Gestaltung unseres Angebotes; die Weitergabe von Daten an von uns beauftragte und zur Beachtung der gesetzlichen Datenschutzbestimmungen verpflichtete Unternehmen zum Zwecke und für die Dauer der Bonitätsprüfung sowie der Versendung der Ware; das Recht auf unentgeltliche Auskunft seiner bei uns gespeicherten personenbezogenen Daten; das Recht auf Berichtigung, Löschung und Sperrung seiner bei uns gespeicherten personenbezogenen Daten; Jede über Ziff. 1 hinausgehende Erhebung, Verarbeitung und Nutzung der personenbezogenen Daten bedarf der Einwilligung des Kunden. Der Kunde hat die Möglichkeit, diese Einwilligung vor Erklärung seiner Bestellung zu erteilen. Dem Kunden steht das Recht auf jederzeitigen Widerruf der Einwilligung mit der Wirkung für die Zukunft zu (siehe „Datenschutzrechtliche Einwilligung").

10. Allgemeines, Erfüllungsort, Gerichtsstand, Rechtswahl

10.1. Rechtliche Unwirksamkeit eines Teiles dieser Verkaufs- und Lieferbedingungen berührt die Gültigkeit der übrigen Bestimmungen nicht. Maßgeblich ist jeweils die zum Zeitpunkt der Vertragschließung gültige Fassung der AGB.
10.2. Erfüllungsort für Lieferung und Zahlung ist ausschließlich A 5412 Puch bei Hallein, soferne sich aus der Auftragsbestätigung nichts anderes ergibt.
10.3. Salzburg ist ausschließlicher Gerichtsstand bei allen sich aus diesem Vertragsverhältnis mittelbar oder unmittelbar ergebenden Streitigkeiten.
10.4. Diese AGB und die unter diesen AGB abzuschließenden Verträge unterliegen österreichischem materiellem Recht unter Ausschluss der Verweisungsnormen und des UN-Kaufrechts (CISG).
10.5. Zwingende Rechte eines Verbrauchers nach dem Konsumentenschutzgesetz werden durch die vorgenannten Bedingungen nicht eingeschränkt.

E General sales conditions

1. Quotation, order, price

1.1. The following sales and supply terms & conditions apply to all con-tracts concluded with us. Any rival terms & conditions are only binding on us if they are acknowledged by us in writing. This also applies in the event that a customer refers to its own purchasing terms & conditions. Oral agreements that contain an additional obligation upon us are only binding if they are confirmed by us in writing.
1.2. Our prices are subject to amendment. The measurements given in the pricelist correspond with the relevant applicable standards and will be amended in line with a change in the standard measurements.
1.3. Our prices are deemed to be ex works and to exclude the statutory Value Added Tax. Packaging, freight and transportation insurance costs are borne by the customer.
1.4. If goods are ordered by electronic means, we will confirm access to the customer's order without delay. Confirmation of access does not yet represent a binding declaration of acceptance of the order unless we expressly declare this. With goods ordered by electronic means we are entitled to accept the order within three working days of its receipt by us.

2. Payment terms, payment conditions, withdrawal

2.1. Our invoices are due for payment 30 days net following the invoice date without deduction. The purchase price is due immediately if the customer falls into arrears with us with other payment obligations. If the payment terms are exceeded, subject to a claim for further losses due to delayed payment, 12% interest on arrears will be charged from the due date until the date of payment.
2.2. The customer has a right of setoff only if its claims have been determined by action of law or acknowledged by us.
2.3. If the customer remains in arrears for longer than 30 days, if it is subject to distraints or attachments or if its asset situation deteriorates considerably, we are entitled to withdraw from all supply contracts not yet fulfilled or to demand payment in advance.

3. Delivery

3.1. Part deliveries are permitted.
3.2. We make every effort to meet delivery times as exactly as possible. Delivery times are not binding. If the end of the delivery time falls within the period of the company holiday, the delivery time is extended by the duration of the company holiday. In any event, compensation claims or cancellation of the contract as a result of delayed delivery are excluded if they cannot be attributed to our severe gross negligence.

4. Transfer of risk

Dispatch is always at the customer's expense and risk. We are not liable for damage or losses in transit. In the absence of special dispatch instructions by the customer, we can make the dispatch by what we consider to be the best means. If the customer does not give any contrary instructions regarding insurance against damage in transit, this may be arranged by us at the customer's expense without further consent. However, we are not obliged to provide insurance cover.

5. Reservation of title

Regardless of the earlier transfer of risk, the goods delivered remain our property until full payment of all the customer's liabilities arising from the supply contract. As long as the goods are our property, the customer is not entitled to pledge the goods or assign them as security to a third party. If a third party threatens our property, we are to be informed of this without delay. If a bailiff intends to distrain the goods delivered, our ownership claims are to be put forward to the bailiff, quoting the name and address of our company. The customer must compensate us for all losses and costs that arise from breach of these obligations and for the intervention measures necessary against third party claims on the goods.

6. Guarantee, limitation of liability and release from liability

6.1. The customer must thoroughly inspect any delivery immediately upon receipt. Complaints about incomplete delivery or arising from defects discovered are to be reported in writing within 8 days following receipt of the individual deliveries, otherwise the delivery is deemed to be accepted without reservation and claims for these under the guarantee or for damage/losses are waived. The defect is to be clearly indicated as to its nature and extent so that we can clearly identify the basis of the complaint. The customer is obliged to look after the temporary storage of the goods complained about. In addition, we are liable for defects in the delivery with the exclusion of other claims, as follows: We may choose either to repair or replace free of charge all such parts that evidently become unusable or whose usability has been significantly affected as a result of a circumstance prevailing before the transfer of risk, in particular as a result of defective design, poor materials or defective work within six months counting from the delivery date. Normal wear and tear, incorrect treatment, excessive use, neglect and changes without our consent invalidate the guarantee. Guarantee claims can only by recognised if they are made to us in writing without delay after discovery of the fault. Such parts must be sent to us carriage paid. The replaced part becomes our property upon replacement delivery or issue of a credit note.
6.2. Outside the area of applicability of the Produkthaftungsgesetz (PHG, Product Liability Act) our liability is limited to deliberate act and severe gross negligence. Our liability for simple gross negligence and slight negligence, compensation for consequential loss and damage to property, savings not achieved, loss of interest and for losses arising from third party claims against the customer are excluded. Redress against us in accordance with § 12 PHG is excluded.
6.3. We are liable only for our own content on the website of our online shop. In so far as we provide access to other websites with links, we are not liable for the third party content contained therein. We do not adopt the third party content. If we become aware of illegal content on external websites, we will block access to these sites without delay.

7. Acceptance, call-off, return

7.1. Goods purchased on call-off are to be accepted within twelve months of the order date. In the event of them not being accepted on time, we are entitled to store the goods ready for dispatch at the customer's expense and risk and to invoice for them as if delivered including all costs incurred. In the event of delay in acceptance beyond the above-mentioned twelve-month period, we are in any event entitled to withdraw from the contract and to demand a 10% cancellation fee from the customer without prejudice to further claims.
7.2. Without exception, goods ordered are not taken back. Therefore returns are not accepted and they are returned at the customer's expense and risk.

8. Intellectual property rights, drawings, samples

The customer is liable for ensuring that the intellectual property rights of third parties, in particular trade mark, sample and patent rights and copyright, are not infringed by its specifications or by the use of drawings, samples and other implementation specifications provided to us.
The customer is obliged to indemnify us against any losses or complaints arising from this. No liability is accepted for loss or damage to the documents provided to us. Insurance against this will only be taken out on the customer's express instruction and at its expense.

9. Data protection

9.1. With our „Data protection information" we inform our customers about: the nature, extent and purpose of the recording, processing and use of the personal data required for fulfilling orders and invoicing; his rights to object to the production and use of his anonymised use profile for purposes of advertising and for the design of our product range in line with demand; the passing on of data to companies engaged by us and obliged to observe the statutory provisions of data protection for the purpose and duration of the creditworthiness check and the dispatch of the goods; the right to information free of charge regarding his personal data stored by us; the right to the correction, deletion and blocking of his personal data stored by us; Any recording, processing or use of the personal data going beyond Point 1 requires the customer's consent. The customer has an option to grant this consent before giving his order. The customer is entitled to withdraw consent at any time with future effect (See „Data protection law consent").

10. General, place of fulfilment, place of jurisdiction, choice of law

10.1. The legal invalidity of a part of these sales and supply terms & conditions does not affect the remaining terms. It is the version of these STCs valid at the date of conclusion of the contract that applies in each case.
10.2. The place of fulfilment for delivery and payment is exclusively A 5412 Puch bei Hallein, in so far as not stated otherwise on the order confirmation.
10.3. Salzburg is the exclusive place of jurisdiction for all disputes arising directly or indirectly from this contractual relationship.
10.4. These STCs and the contracts to be signed under these STCs are subject to Austrian property law, with the exclusion of the reference provisions of the UN Convention on Contracts for the International Sale of Goods (CISG).
10.5. Consumers' statutory rights under the Konsumentenschutzgesetz (Consumer Protection Act) are not restricted by the above-mentioned terms.

Condizioni generali di vendita

1. Offerta, ordine, prezzo

1.1. Le condizioni di vendita e consegna riportate qui di seguito sono valide per tutti i contratti conclusi con noi. Delle condizioni diverse sono per noi vincolanti solo quando esse sono riconosciute da noi per iscritto. Questo vale anche per il caso in cui il committente rimanda alle proprie condizioni di acquisto. Gli accordi orali che contengono un obbligo supplementare per noi sono vincolanti solo quando sono confermati da noi per iscritto.
1.2. I nostri prezzi non sono impegnativi. Le dimensioni indicate nel listino prezzi soddisfano le norme valide di volta in volta e vengono adeguatamente modificate in caso di modifica delle dimensioni unificate.
1.3. I nostri prezzi si intendono privi dell'IVA legale franco fabbrica. L'imballaggio, il nolo e i costi di assicurazione del trasporto sono a carico del committente.
1.4. In caso di merce ordinata per via elettronica noi confermeremo immediatamente il ricevimento dell'ordinazione del cliente. Tuttavia, la conferma di ricevimento non rappresenta alcuna vincolante dichiarazione di accettazione dell'ordinazione se non esplicitamente da noi dichiarato. In caso di merce ordinata per via elettronica noi abbiamo il diritto di accettare l'ordinazione entro tre giorni lavorativi dalla data di ricevimento.

2. Termine di pagamento, condizioni di paga mento, recesso

2.1. Le nostre fatture sono esigibili a 30 giorni dalla data di fatturazione per il loro importo netto e senza detrazioni. Il prezzo di acquisto è immediatamente esigibile se il committente risulta essere in ritardo nei nostri confronti per altri pagamenti. In caso di superamento del termine di pagamento vengono aggiunti in fattura, con riserva della rivendicazione di un ulteriore danno per ritardo, degli interessi di mora del 12% calcolati a partire dal giorno di scadenza fino al giorno di pagamento.
2.2. Il committente ha un diritto di compensazione solo quando le sue rivendicazioni sono state accertate come legalmente valide oppure sono state da noi riconosciute.
2.3. Se il committente è in ritardo di pagamento di oltre 30 giorni oppure è soggetto a pignoramenti oppure la sua situazione patrimoniale peggiora considerevolmente, noi abbiamo il diritto di recedere da tutti i contratti di fornitura non ancora adempiuti oppure di esigere dei pagamenti anticipati.

3. Consegna

3.1. Le consegne parziali sono ammesse.
3.2. Noi ci sforziamo di rispettare i termini di consegna nel modo più preciso possibile. I termini di consegna non sono vincolanti. Se la scadenza del termine di consegna risulta durante il periodo delle vacanze aziendali, il termine di consegna viene prolungato per la durata delle vacanze aziendali. In ogni caso sono escluse rivendicazioni per risarcimento danni oppure l'annullamento del contratto a causa di consegne ritardate se non può essere provata contro di noi una colpa nettamente grave.

4. Trasferimento del rischio

La spedizione avviene sempre a spese e rischio del committente. Noi non siamo responsabili per danni e perdite durante il trasporto. In caso di insufficienza di particolari disposizioni di spedizione del committente, noi dobbiamo eseguire la spedizione secondo la modalità da noi considerata migliore. Se da parte del committente non vengono applicate altre disposizioni sull'assicurazione contro danni da trasporto, ciò può essere senz'altro eseguito da noi a spese del committente. Tuttavia, non esiste un obbligo di assicurazione da parte nostra.

5. Riserva di proprietà

Nonostante il precedente trasferimento del rischio, la merce consegnata rimane di nostra proprietà fino al completo pagamento di tutti i debiti da parte del cliente derivanti dal contratto di fornitura. Fino a quando la merce è di nostra proprietà, il committente non ha il diritto di darla in pegno a terzi oppure di cederla a garanzia. Se la nostra proprietà è minacciata da terzi, noi ne dobbiamo essere immediatamente informati. Se un ufficiale giudiziario vuole dare in pegno la merce consegnata, la nostra proprietà deve essere difesa davanti all'ufficiale giudiziario menzionando la nostra azienda e il nostro indirizzo. Il committente deve risarcirci tutti i danni e costi che sorgono da una violazione di questi obblighi nonché da necessarie misure d'intervento contro operazioni sulla merce da parte di terzi.

6. Garanzia, limitazione della responsabilità ed esenzione di responsabilità

6.1. Il committente deve ispezionare a fondo una fornitura subito dopo la consegna. I reclami dovuti a fornitura incompleta o a deficienze riscontrate devono essere comunicati per iscritto entro 8 giorni dal ricevimento delle singole forniture, altrimenti la fornitura viene considerata come accettata senza riserve e a tal riguardo ci si rinuncia a rivendicazioni di garanzia e di risarcimento danni. La deficienza deve essere definita chiaramente nella sua natura ed entità in modo tale che noi possiamo inequivocabilmente riconoscere il motivo del reclamo. Il committente è obbligato alla conservazione temporanea delle merce reclamata. Inoltre, escludendo altre rivendicazioni, noi rispondiamo di deficienze della fornitura come indicato di seguito: Noi possiamo scegliere di migliorare o riconsegnare gratuitamente tutte quelle parti per le quali entro sei mesi dalla data di consegna viene dimostrato che a causa di uno stato precedente al trasferimento del rischio, soprattutto a causa di una costruzione difettosa o di materiali scadenti o di un modello difettoso, queste sono inutilizzabili oppure la loro utilizzabilità è stata notevolmente pregiudicata. L'usura naturale, l'uso scorretto, le sollecitazioni eccessive, l'incuria e le modifiche senza la nostra autorizzazione escludono una garanzia. Le rivendicazioni di garanzia possono essere riconosciute solamente quando esse ci vengono indirizzate per iscritto subito dopo l'accertamento della deficienza. Tali pezzi ci devono essere spediti porto franco. Mediante la consegna sostitutiva o l'accredito il pezzo sostituito diventa di nostra proprietà.
6.2. Al di fuori dell'ambito di applicazione della legge sulla responsabilità di prodotto, la nostra responsabilità si limita al dolo e alla colpa nettamente grave. Sono esclusi la responsabilità per colpa lieve o modestamente grave, nonché il risarcimento di danni indiretti e danni patrimoniali, di risparmi non ottenuti, delle perdite di interessi e di danni derivanti da rivendicazioni di terzi contro il committente. È esclusa una rivalsa contro di noi secondo il § 12 PHG (legge sulla responsabilità di prodotto).
6.3. Noi rispondiamo solamente dei contenuti presenti sulla pagina web del nostro negozio online. Qualora dovessimo permettere l'accesso via link ad altri siti web, noi non siamo responsabili per i contenuti terzi lì presenti. I contenuti terzi non sono nostri. Non appena verremo a conoscenza di contenuti inadatti presenti su siti web esterni, noi bloccheremo immediatamente l'accesso a tali pagine web.

7. Ritiro, consegna dilazionata, restituzione

7.1. La merce acquistata con consegna dilazionata deve essere ritirata entro dodici mesi dalla data di ordinazione. In caso di ritiro non puntuale noi abbiamo il diritto di immagazzinare la merce pronta alla consegna a spese e rischio del committente, e di fatturarla come consegnata tenendo in considerazione tutti i costi derivanti. In caso di ritardo di ritiro oltre il periodo di dodici mesi indicato noi abbiamo comunque il diritto di recedere dal contratto, nonché di pretendere dal committente una spesa di annullamento del 10% nonostante l'esistenza di altre rivendicazioni.
7.2. La merce ordinata non viene ripresa senza alcuna eccezione. Eventuali rispedizioni non vengono quindi accettate e vengono rispedite a spese e rischio del committente.

8. Diritti di protezione, disegni, modelli

Il committente risponde del fatto che i diritti di protezione di terzi, soprattutto i diritti di marchi, di modelli, di brevetti e di autore, non vengano lesi attraverso le sue direttive e/o attraverso l'impiego di disegni e modelli messi a nostra disposizione e di altre prescrizioni d'esecuzione. Il committente si obbliga a tenerci sollevati e indenni in proposito. Non ci assumiamo alcuna responsabilità per la perdita o il danneggiamento di documentazione messa a disposizione. Un'assicurazione in proposito viene stipulata solamente su esplicito ordine e a spese del committente.

9. Protezione dei dati

9.1. Con la nostra „informativa sulla protezione dei dati" noi informiamo i nostri clienti su:
· tipo, entità e scopo del rilevamento, dell'elaborazione e dell'utilizzo dei dati personali necessari per l'esecuzione di ordinazioni e di fatturazioni;
· il proprio diritto di contestazione alla realizzazione e all'impiego del proprio profilo d'uso anonimo a fini pubblicitari e per l'adeguata formulazione della nostra offerta;
· l'inoltro di dati ad aziende, da noi incaricate e obbligate al rispetto delle disposizioni legali sulla protezione dei dati, ai fini e per la durata della verifica della solvibilità nonché dell'invio della merce;
· il diritto alla comunicazione gratuita dei propri dati personali archiviati presso la nostra azienda;
· il diritto alla rettifica, all'eliminazione e al blocco dei propri dati personali archiviati presso la nostra azienda;
· ogni rilevamento, elaborazione e utilizzo dei dati personali derivante dal punto 1 necessita l'autorizzazione del cliente. Il cliente ha la possibilità di comunicare questa autorizzazione prima della trasmissione della propria ordinazione. Al cliente spetta il diritto alla revoca dell'autorizzazione in qualsiasi momento e con effetto futuro (vedere „Autorizzazione sulle protezione dei dati").

10. Informazioni generali, luogo di esecu zione, foro competente, scelta del diritto applicabile

10.1. La nullità legale di una parte di queste condizioni di vendita e di consegna non pregiudicano la validità delle restanti disposizioni. Decisiva è la versione delle condizioni generali di contratto di volta in volta valida al momento della stipulazione del contratto.
10.2. Il luogo di esecuzione per la consegna e il pagamento è esclusivamente 5412 Puch bei Hallein (Austria) se non dichiarato diversamente nella conferma dell'ordine.
10.3. Salisburgo (Austria) è il solo foro competente per tutti i litigi derivati in modo diretto o indiretto da questo rapporto contrattuale.
10.4. Queste condizioni generali di contratto e i contratti stipulati sulla base di esse sono soggetti al diritto sostanziale austriaco, con esclusione delle norme di rinvio e del diritto commerciale ONU (CISG).
10.5. I diritti coattivi di un consumatore secondo la legge sulla tutela dei consumatori non vengono limitati dalle condizioni sopra citate.

Überreicht durch | With the compliments of | Utensileria

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