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Tallicarb

Tallicarb



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Tallicarb

Talicarb

TALICARB, società appartenente dal 1990 al gruppo Angelo Ghezzi & C. S.p.A., è specializzata nella progettazione e realizzazione di utensili in metallo duro saldobrasato ed integrale. Produce dal 1962 frese per cave, frese per sgrossatura e finitura, alesatori, utensili monotaglianti secondo le normative ISO ed ha intensificato in questi ultimi anni il suo programma di prodotti per stampisti ad alto rendimento e di utensili speciali a disegno.

A seguito di continui investimenti in nuove tecnologie, ha ulteriormente arricchito il proprio assortimento di frese "POWER" con l'aumento della gamma di diametri e di molte nuove tipologie di utensili particolarmente adatti al settore stampista e per l'alta velocità. Grazie all'esperienza acquisita in anni di consulenza tecnica presso l'utilizzatore finale, in questa nuova edizione del catalogo Power viene proposto il rivestimento X-TREME come rivestimento ottimale. Sono utensili realizzati, dopo un'accurata ricerca ed uno studio particolare, finalizzati a proporre all'utilizzatore finale una scelta tecnicamente idonea al tipo di lavorazione da eseguire e alle caratteristiche del materiale da lavorare. La Talicarb infatti da sempre si impegna ad indirizzare il proprio consumatore verso la giusta scelta dell'utensile.

Tra le novità di questa edizione si segnalano l'introduzione di nuovi prodotti relativi alle tipologie di frese toriche e semisferiche e l'ampliamento della gamma di diametri tra i prodotti già a catalogo.

Per lavorazioni particolari ricordiamo la presenza nel catalogo delle sezioni relative alle frese Power Graphite con rivestimento Diamond e frese Power PKD - PCD con riporto in policristallino.

Talicarb, which is part of Angelo Ghezzi & C. S.p.A. group since 1990, is specialized in designing and manufacturing of solid carbide and carbide tipped tools. Since 1962 the company has produced slot milling cutters, roughing and finishing end mills, reamers and turning tools in accordance with ISO standards. During the last few years Talicarb has intensified its range of products in the diesinker field and special tools according to drawing.

Having constantly invested in new technologies, Talicarb has further on increased its range of POWER end mills with more diameters and lots of new types of tools that are peculiar in the diesinking and high speed fields.

Thanks to the expertise gained in years of technical consultancy for the end user, in this new edition of Power catalogue X-TREME is suggested as the best coating. After a thorough research and a dedicated study, these tools are meant to be the most suitable technical choice for the kind of machining and the type of material to work. As a matter of fact Talicarb has always guided its customer on the correct choice of the tool.

Among the news of this catalogue we highlight the introduction of new products in toric and ball nose end mills and the widening of range of diameters of the old products.

For less ordinary machinings we point out the section of Power Graphite end mills with Diamond coating and Power PKD - PCD with polycrystalline diamond.





Die Firma TALICARB, die seit 1990 zur Gruppe Angelo Ghezzi & C. S.p.A. gehört, ist auf die Entwicklung und Herstellung von Werkzeugen in Vollhartmetall sowie Hartmetall-bestückt spezialisiert. Seit 1962 stellt sie Nutenfräser, Schrupp- und Schlichtfräser, Reibahlen, einschneidige Werkzeuge nach ISO Normen her und hat in den letzten Jahren ihre Palette von Hochleistungsformenfräser sowie Sonderwerkzeuge nach Zeichnung ziemlich verbreitet.

Infolge ständiger Investitionen in neuen Technologien hat Talicarb ihre Palette von „POWER“ Fräser mit weiteren Durchmessern sowie mit vielen neuen Werkzeugen verbreitet, die besonders geeignet für den Formenbereich und für die Hochgeschwindigkeitsbearbeitungen sind. Dank der Erfahrung die Talicarb nach Jahren technischer Beratung bei Endbenutzern gemacht hat, wird in dieser neuen Auflage des „Power Fräser“ Katalogs die X-TREME Beschichtung als optimale angegeben. Diese Werkzeuge werden nach einer sorgfältigen und vertieften Forschung hergestellt so dass der Endbenutzer die geeignetste Werkzeuge für seine Bearbeitung und für das entsprechende Material zur Verfügung hat. Talicarb verpflichtet sich seit immer dem Benutzer das passende Werkzeug zu empfehlen.

Weitere Neuheiten dieser Auflage sind die Einführung zusätzlicher torischen und Radiusfräser sowie viele neue Abmessungen für Werkzeuge die schon im Katalog standen. Für besondere Bearbeitungen bitte schauen sie in den Kapiteln über Graphite Powerfräser mit Diamond Beschichtung und PKD Powerfräser mit Polykristallinauflage nach

TALICARB, société qui fait partie depuis le 1990 du group Angelo Ghezzi & C. S.p.A., est spécialisée dans le projet et réalisation d'outils en carbure monobloc, carbure brasé et intégral. Talicarb produise depuis le 1962 fraises à rainurer, fraises à ébaucher et à finir, alesiors, outils monocoupes suivant les normatives ISO et elle a augmenté dans ces derniers années sa gamme de produits pour moulistes à haute performance et d'outils spéciaux sur plan.

Grâce à l'engagement soutenu dans les nouvelles technologies, Talicarb a de plus en plus enrichi sa gamme de fraises "POWER" avec l'introduction d'autres diamètres et de nouvelles typologies d'outils notamment indiqués dans le secteur mouleur et pour l'haute vitesse. Grâce à l'expérience acquise pendant plusieurs années de consultation technique chez l'utilisateur final, dans cette dernière édition du catalogue Power on va proposer le revêtement X-TREME tel que revêtement optimal. Ils sont des outils réalisés, après une recherche soignée et un étude particulier, finalisés à proposer à l'utilisateur final un choix techniquement approprié au type d'usinage à réaliser et aux caractéristiques de la matière à travailler. En effet Talicarb depuis toujours s'engage à adresser ses consommateurs pour un bon choix de l'outil.

Parmi les nouveautés de cette édition on signale l'introduction de nouveaux produits qui font partie de la typologie des fraises toriques et sphériques et l'élargissement de la gamme de diamètres pour les produits déjà à catalogue. Pour usinages particuliers nous vous rappelons la présence dans le catalogue des sessions qui correspondent aux fraises Power Graphite avec revêtement Diamond et fraises Power PKD - PCD avec rechargement en polycristallin.

TALICARB, empresa del grupo Angelo Ghezzi y C. S.p. A. desde 1990, está especializada en el diseño y la fabricación de herramientas en metal duro soldado e integral. Desde 1962 la compañía ha producido fresas de ranurado, desbaste y acabado, escariadores y herramientas de torno conforme a normas ISO. Durante los últimos años Talicarb ha intensificado su gama de productos para moldes de alto rendimiento y herramientas especiales según plano.

Haciendo constantes inversiones en investigación y nuevas tecnologías han llevado a Talicarb a llegar más lejos aumentando su gama de fresado POWER con más diámetros y muchas nuevas tipologías de fresas particularmente adaptadas al sector del molde de alta velocidad. Gracias a la experiencia ganada durante los años de consulta técnica con el usuario final, en esta nueva edición del catalogo Power proponemos el recubrimiento X-TREME como el recubrimiento optimo. Después de una investigación cuidadosa y los estudios realizados, proponemos al usuario final estas herramientas por ser la opción técnica más conveniente para el tipo de trabajo a realizar y el material a trabajar. De hecho Talicarb siempre guía a su cliente sobre la elección correcta de la herramienta.

Entre las novedades de este catálogo destacamos la introducción de nuevos productos en fresas tóricas y fresas esféricas y la ampliación de diámetros en los productos ya catalogados.

Para trabajos particulares recordamos la presencia en el catálogo de las secciones relativas a las fresas Power Grafito con recubrimiento de Diamante y las fresas Power PKD - PCD en policristalino.

LEGENDA

CAPTION
LÉGENDE
LEGENDE
INSCRIPCIÓN



Serie corta
Short series
Série courte
Kurze Ausführung
Serie corta



Serie normale
Normal series
Série normale
Normal Ausführung
Serie normal



Serie lunga
Long series
Série longue
Lange Ausführung
Serie larga



Serie extralunga
Extralong series
Série extralongue
Extralange Ausführung
Serie extralarga



N° 1 tagliente
Number of flutes
Nombre de dents
Zähnezahl
Número de Labios



N° 2 taglienti
Number of flutes
Nombre de dents
Zähnezahl
Número de Labios



N° 3 taglienti
Number of flutes
Nombre de dents
Zähnezahl
Número de Labios



N° 4 taglienti
Number of flutes
Nombre de dents
Zähnezahl
Número de Labios



Fresa multitaglio
End mills multi-flutes
Fraises Multi-dents
Fräser Multi-Schneiden
Fresas dientes múltiples



Frese cilindriche
End mills
Fraise à queue
Schaftfräser
Fresas de mango cilíndrico



Frese Toriche
Toric end mills
Fraises toriques
Schaftfräser mit Eckenradius
Fresas tóricas



Frese semisferiche
Ball-nosed endmills
Fraise hémisphérique
Radiuskopierfräse
Fresas de cabeza esférica



Frese semisferiche 220° e 250°
Ball nose end mills 220° and 250°
Fraises Power
sémisphériques 220° et 250°
Power Radiusfräser 220° und 250°
Fresas Power esféricas 220° y 250°



Taglio al centro -Z1
Center Cutting - Z1
Coupe au centre - Z1
Zentrumschnitt - Z1
Corte al centro - Z1



Taglio al centro -Z2
Center Cutting - Z2
Coupe au centre - Z2
Zentrumschnitt - Z2
Corte al centro - Z2



Taglio al centro -Z3
Center Cutting - Z3
Coupe au centre - Z3
Zentrumschnitt - Z3
Corte al centro - Z3



Taglio al centro -Z4
Center Cutting - Z4
Coupe au centre - Z4
Zentrumschnitt - Z4
Corte al centro - Z4



Taglio al centro -Z3/4
Center Cutting - Z3/4
Coupe au centre - Z3/4
Zentrumschnitt - Z3/4
Corte al centro - Z3/4



Rivestimento Diamond
Diamond coating
Revêtement Diamond
Beschichtung Diamond
Recubrimiento Diamante



Rivestimento X-Treme
X-Treme Coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme



Possibilità di penetrazione
Vertical Penetration Possibilities
Possibilité de Pénétration
Senkrechtindringung Möglichkeit
Posibilidad de penetración



Traslazione laterale
Lateral Translation
Translation latérale
Seitlichverschiebung
Traslación lateral



Traslazione in 3D
Tridimensional Translation
Translation en 3D
3-D Verschiebung
Traslación en 3D



Angolo elica
Helix angle
Angle d'hélice
Drallwinkel
Angulo de hélice



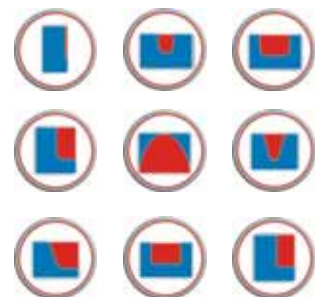
Attacco DIN 6535 HA
Shank DIN 6535 HA
Queue DIN 6535 HA
Shaft DIN 6535 HA
Mango DIN 6535 HA



Attacco DIN 6535 HB
Shank DIN 6535 HB
Queue DIN 6535 HB
Shaft DIN 6535 HB
Mango DIN 6535 HB

Esempi di applicazione

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Bearbeitungsbeispiel • Ejemplos de aplicaciones



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X-Treme Coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

Rivestimento Diamond
Diamond coating
Revêtement Diamond
Beschichtung Diamond
Recubrimiento Diamante






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FRESE POWER

Talcarb

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FRESE POWER TORICHE A 2 TAGLI - ANGOLO ELICA 35°



1432XT

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FRAISES POWER TORIQUE À 2 DENTS - ANGLE D'HÉLICE 35°
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FRESE POWER TORICHE A 4 TAGLI - ANGOLO ELICA 35°



1434XT

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FRAISES POWER TORIQUE À 4 DENTS - ANGLE D'HÉLICE 35°
POWER TORUSFRÄSER - 4 NUTEN - DRALLWINKEL 35°
FRESAS POWER TÓRICAS - 4 LABIOS - ANGULO DE HÉLICE 35°

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FRESE POWER TORICHE A 2 TAGLI - ANGOLO ELICA 30°



1422XT

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POWER TORIC END MILLS - 2 FLUTES - HELIX ANGLE 30°
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FRESE POWER TORICHE A 4 TAGLI - ANGOLO ELICA 30°



1424XT

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POWER TORUSFRÄSER - 4 NUTEN - DRALLWINKEL 30°
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FRESE POWER ELICOIDALI MULTITAGLI - ANGOLO ELICA 50°



1350XT

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FRESAS POWER HELICOIDALES - MULTILABIO - ANGULO DE HÉLICE 50°

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FRESE POWER ELICOIDALI MULTITAGLI - ANGOLO ELICA 50°



1360XT

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FRESE POWER TORICHE MULTITAGLI - ANGOLO ELICA 50°

NEW



1450XT

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6 ÷ 20

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NEW



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FRESE POWER ELICOIDALI A 4 TAGLI - ANGOLO ELICA 50°



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NEW



1452XT

3 ÷ 20






POWER TORIC END MILLS - 4 FLUTES - HELIX ANGLE 45°
FRAISES POWER TORIQUE À 4 DENTS - ANGLE D'HÉLICE 45°
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FRESE POWER HARD TORICHE A 4 TAGLI - ANGOLO ELICA 30°



1415XT

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FRESE POWER HARD SEMISFERICHE A 2 TAGLI - ANGOLO ELICA 15°



497RXT

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HARD BALL NOSE END MILLS 2 FLUTES - HELIX ANGLE 15°
FRAISES POWER HARD SÉMISPHERIQUES À 2 DENTS
ANGLE D'HÉLICE 15°
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FRESE POWER HARD SEMISFERICHE 250° A 2 TAGLI - ANGOLO ELICA 15°

NEW



432RXT

1 ÷ 10

HARD BALL NOSE 250° POWER END MILLS - 2 FLUTES - HELIX ANGLE 15°
FRAISES POWER HARD SÉMISPHERIQUES 250° À 2 DENTS
ANGLE D'HÉLICE 15°
HARD POWER RADIUSFRÄSER 250° - 2 NUTEN - DRALLWINKEL 15°
FRESAS POWER HARD ESFÉRICAS 250° - 2 LABIOS
ANGULO DE HÉLICE 15°

58

FRESE POWER HARD SEMISFERICHE A 2 TAGLI - ANGOLO ELICA 30°



402RXT

1 ÷ 12

HARD BALL NOSE POWER END MILLS - 2 FLUTES - HELIX ANGLE 30°
FRAISES POWER HARD SÉMISPHERIQUES À 2 DENTS
ANGLE D'HÉLICE 30°
HARD POWER RADIUSFRÄSER - 2 NUTEN - DRALLWINKEL 30°
FRESAS POWER HARD ESFÉRICAS - 2 LABIOS - ANGULO DE HÉLICE 30°

60

FRESE POWER HARD SEMISFERICHE A 2 TAGLI - ANGOLO ELICA 30°



416RXT

1 ÷ 25

HARD BALL NOSE POWER END MILLS 2 FLUTES - HELIX ANGLE 30°
FRAISES POWER HARD SÉMISPHERIQUES À 2 DENTS
ANGLE D'HÉLICE 30°
HARD POWER RADIUSFRÄSER - 2 NUTEN - DRALLWINKEL 30°
FRESAS POWER HARD ESFÉRICAS - 2 LABIOS - ANGULO DE HÉLICE 30°








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MICRO POWER HPM-HCM

Talicarb

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POWER GRAPHITE



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POWER PKD-PCD

Talicarb

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www.angeloghezzi.it

The screenshot displays the website for Angelo Ghezzi & C SpA. At the top left is the company logo and name. A navigation menu includes 'Home | Azienda | Ufficio vendite | Assistenza tecnica | Info'. A search bar is labeled 'CERCA (Inserire codice articolo)'. The main content is divided into two columns. The left column features a 'CATALOGO PRODOTTI' section with a sub-header 'Angelo Ghezzi Spa propone la più ampia gamma di utensili di precisione selezionati tra i principali produttori mondiali.' Below this is a featured product, 'ILIX Precision', with an image of a tool and descriptive text: 'ILIX Precision è una gamma storica di utensili avanzi per lavorazioni meccaniche di alta precisione. Il programma ILIX comprende un ventaglio di soluzioni per attività di foratura, maschiatura, alesatura e svasatura in HSS, HSS-Co, HSS-Ce-PM.' Below the product description are logos for 'ILIX PRECISION', 'HSS-Co', and 'Talicarb'. The right column has a section 'I NOSTRI MIGLIORI RIVENDITORI IN ITALIA' with a 'Sales Leader' logo and text: 'Angelo Ghezzi Spa opera su tutto il territorio nazionale. I rivenditori con i quali il gruppo ha un forte rapporto commerciale sono chiamati Sales Leader. Questi soggetti autonomi altamente specializzati offrono agli utilizzatori la gamma completa di prodotti Angelo Ghezzi.' Below this is an 'AREA RISERVATA' section with the text 'Riservato ai Sales Leader ed ai clienti registrati.' and a login form with fields for 'Login' and 'Password', and a 'Ho dimenticato la password' link. At the bottom, there are two links: 'DOWNLOAD Scarica le nostre brochure in formato PDF.' and 'GUIDA ALL'ACQUISTO ONLINE Termini di utilizzo del sito internet.' with a small image of a product.

FRESE POWER



POWER END MILLS

FRAISES POWER

POWER FRÄSER

FRESAS POWER

Talicarb

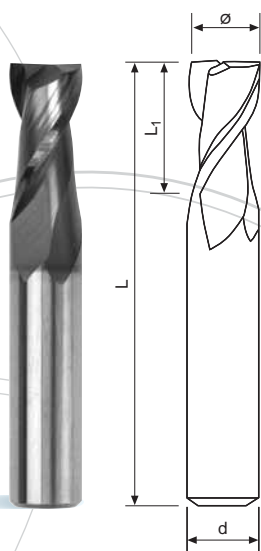
FRESE POWER ELICOIDALI A 2 TAGLI

POWER TWIST END MILLS - 2 FLUTES
FRAISES POWER HÉLICOÏDALES - 2 DENTS
POWER DRALLNUTIGE FRÄSER - 2 NUTEN
FRESAS POWER HELICOIDALES - 2 LABIOS

MICROGRANA ULTRAFINE

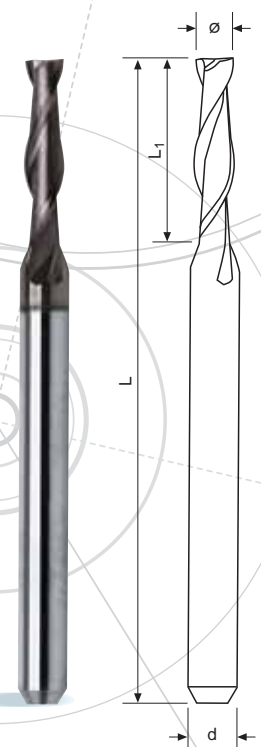
SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

1412XT



NEW

1417XT



Ø mm	L mm	L1 mm	d mm	z	1412XT
					€
1	39	3	3	2	26,65
1.5	39	5	3	2	24,60
2	39	7	3	2	24,60
2.5	39	8	3	2	24,60
3	39	10	3	2	24,60
4	51	14	6	2	32,80
5	51	16	6	2	36,20
6	64	19	6	2	47,30
7	64	19	8	2	61,00
8	64	21	8	2	66,80
9	70	22	10	2	91,50
10	70	25	10	2	91,50
12	76	25	12	2	126,50
14	89	30	14	2	171,50
16	89	32	16	2	198,00
18	102	35	18	2	280,00
20	102	38	20	2	337,00
22	102	38	22	2	425,00
25	102	38	25	2	491,00



Ø mm	L mm	L1 mm	d mm	z	1417XT
					€
0,3	38	1	3	2	35,10
0,4	38	2,5	3	2	35,10
0,5	38	2,5	3	2	35,10
0,6	38	3	3	2	35,10
0,8	38	4	3	2	35,10
1	38	5	3	2	35,10
1,2	38	5	3	2	35,10
1,5	38	5	3	2	35,10
1,6	38	6	3	2	35,10
1,8	38	6	3	2	35,10
2	38	9	3	2	35,10
2,4	38	10	3	2	35,10
2,5	38	10	3	2	35,10
2,8	38	10	3	2	35,10
3	38	12	3	2	35,10

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 1 mm a 3 mm	+ .000 mm - .025 mm	+ .000 mm - .013 mm
da 4 mm a 25 mm	+ .000 mm - .038 mm	+ .000 mm - .013 mm



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

ilix@ilix-tools.ru
www.ilix-tools.ru

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA
 PARAMÈTRES DE COUPE
 EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE
 PARÁMETROS DE CORTE

1412XT

PER FRESATURA DI CAVE • SLOT MILLING • POUR FRESAGE DES GORGES • BOHRNUTENFRÄSEN • FRESADO DE RANURAS

Materiale da lavorare	Ghisa	Acciaio debolmente legato Acciaio al carbonio - Ghisa	Leghe d'acciaio Acciai da utensili	Acciai temprati Acciai legati	Acciai temprati Acciai legati	Acciai temprati	Acciai temprati		
Material to work	Cast Iron	Mild steel Carbon steel - Cast Iron	Steel alloys Tool steel	Hardened steel Prehardened steel	Hardened steel Prehardened steel	Hardened Steels	Hardened Steels		
Matière à usiner	Fonte	Acier faiblement lié Acier au carbone - Fonte	Alliages d'acier Aciers à outils	Aciers trempés Aciers liés	Aciers trempés Aciers liés	Aciers trempés	Aciers trempés		
zu bearbeitendes Material	Guß	unlegierter Stahl Stahl- und Stahlguß - Guß	Stahllegierung Werkzeugstahl	gehärteter Stahl vorgehärteter Stahl	gehärteter Stahl vorgehärteter Stahl	gehärteter Stahl	gehärteter Stahl		
Material a trabajar	Fundición	Acero de baja aleacion Acero al carbono - Fundición	Aceros aleados Acero para herramientas	Acero templado	Acero templado	Acero templado	Acero templado		
		Durezza . Hardness . Dureté . Härte . Durezza		≥ 750N/mm2	≥ 30 HRC	≥ 38 HRC	≥ 45 HRC	≥ 55 HRC	≥ 60 HRC

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
1	21.450	142	19.500	130	14.500	124	12.500	89	11.000	66	7.000	30
2	12.100	148	11.000	135	8.400	124	7.000	89	6.350	71	2.950	41
3	6.140	221	7.400	201	6.350	150	5.300	99	4.450	76	2.750	46
4	6.545	260	5.950	238	4.900	185	4.260	124	3.500	89	2.200	51
5	5.830	348	5.300	315	4.300	236	3.550	130	3.050	99	1.900	56
6	4.895	341	4.450	310	3.600	236	2.950	130	2.500	99	1.550	56
8	3.630	324	3.300	295	2.700	236	2.200	124	1.900	99	1.150	51
10	2.915	307	2.650	279	2.150	231	1.750	124	1.500	94	955	51
12	2.420	307	2.200	279	1.800	231	1.450	124	1.250	94	795	46
14	2.090	307	1.900	279	1.500	216	1.260	109	1.050	94	680	41
16	1.815	265	1.650	259	1.350	201	1.100	99	955	84	595	36
18	1.595	254	1.450	231	1.200	180	990	89	845	76	530	30
20	1.430	228	1.300	206	1.050	155	690	79	760	66	475	30
22	1.320	210	1.200	191	960	145	810	71	690	61	430	25
25	1.155	182	1.050	165	885	130	710	86	610	56	380	20

1417XT

PER FRESATURA DI CAVE • SLOT MILLING • POUR FRESAGE DES GORGES • BOHRNUTENFRÄSEN • FRESADO DE RANURAS

Materiale da lavorare	Ghisa	Alluminio	Acciaio	Acciaio	Acciaio inossidabile	Titanio
Material to work	Cast Iron	Aluminium	Steel	Steel	Stainless steel	Titanium
Matière à usiner	Fonte	Aluminium	Acier	Acier	Acier inoxydable	Titane
zu bearbeitendes Material	Guß	Aluminium	Stahl	Stahl	Rostfreier Stahl	Titan
Material a trabajar	Fundición	Aluminio	Acero	Acero	Acero inoxidable	Titanio
		Durezza . Hardness . Dureté . Härte . Durezza		<1200 N/mm2	<1600 N/mm2	>800 N/mm2

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
0.3	min. 50000	600	min. 50000	770	min. 50000	600	min. 50000	510	min. 50000	320	min. 50000	400
0.4 - 1	min. 50000	1000	min. 50000	1280	min. 50000	1000	min. 50000	850	26500	280	31800	430
1.2 - 3	17500	460	42200	1400	17500	460	15100	330	8000	110	9500	170

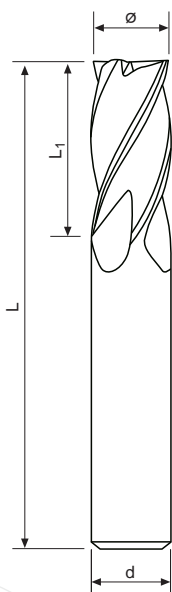
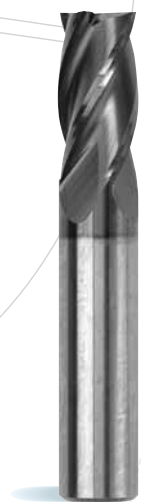
FRESE POWER ELICOIDALI A 4 TAGLI

POWER TWIST END MILLS - 4 FLUTES
FRAISES POWER HÉLICOÏDALES - 4 DENTS
POWER DRALLNUTIGE FRÄSER - 4 NUTEN
FRESAS POWER HELICOIDALES - 4 LABIOS

MICROGRANA ULTRAFINE

SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

1414XT



Ø mm	L mm	L1 mm	d mm	z	1414XT
					€
1	39	3	3	4	26,65
2	39	7	3	4	24,60
3	39	10	3	4	24,60
4	51	14	6	4	32,80
5	51	16	6	4	36,20
6	64	19	6	4	47,30
7	64	19	8	4	61,00
8	64	21	8	4	66,80
9	70	22	10	4	91,50
10	70	25	10	4	91,50
12	76	25	12	4	126,50
14	89	30	14	4	171,50
16	89	32	16	4	198,00
18	102	35	18	4	280,00
20	102	38	20	4	337,00
22	102	38	22	4	425,00
25	102	38	25	4	491,00



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 1 mm a 3 mm	+ .000 mm - .025 mm	+ .000 mm - .013 mm
da 4 mm a 25 mm	+ .000 mm - .038 mm	+ .000 mm - .013 mm

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

PARÁMETROS DE CORTE

PER FRESATURA DI CAVE • SLOT MILLING • POUR FRESAGE DES GORGES • BOHRNUTENFRÄSEN • FRESADO DE RANURAS

Materiale da lavorare Material to work Matière à usiner zu bearbeitendes Material Material a trabajar	Ghisa Cast Iron	Acciaio debolmente legato Acciaio al carbonio - Ghisa Mild steel Carbon steel - Cast Iron	Leghe d'acciaio Acciai da utensili Steel alloys Tool steel	Acciai temprati Acciai legati Hardened steel Prehardened steel	Acciai temprati Acciai legati Hardened steel Prehardened steel	Acciai temprati Hardened Steels	Acciai temprati Hardened Steels
	Fonte Cast Iron	Acier faiblement lié Acier au carbone - Fonte	Alliages d'acier Aciers à outils	Aciers trempés Aciers liés	Aciers trempés Aciers liés	Aciers trempés	Aciers trempés
	Guß Cast Iron	unlegierter Stahl Stahl- und Stahlguß - Guß	Stahllegierung Werkzeugstahl	gehärteter Stahl vorgehärteter Stahl	gehärteter Stahl vorgehärteter Stahl	gehärteter Stahl	gehärteter Stahl
	Fundición Cast Iron	Acero de baja aleación Acero al carbono - Fundición	Aceros aleados Acero para herramientas	Acero templado	Acero templado	Acero templado	Acero templado
Durezza . Hardness . Dureté . Härte . Durezza							
		≥ 750N/mm ²	≥ 30 HRC	≥ 38 HRC	≥ 45 HRC	≥ 55 HRC	≥ 60 HRC

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
1	20.000	250	18.000	200	12.500	130	10.760	65	10.000	48	7.500	18
2	15.500	334	13.000	248	7.480	182	5.740	87	5.207	79	3.950	30
3	10.500	535	8.900	404	6.032	231	4.346	100	2.750	49	2.255	30
4	7.850	572	6.650	425	3.774	241	3.485	106	3.034	91	2.200	36
5	6.350	695	5.300	498	3.026	276	2.911	112	2.683	100	1.900	38
6	6.300	861	4.450	492	2.516	276	2.419	116	2.173	104	1.550	36
8	3.950	640	3.300	471	1.870	272	1.804	116	1.599	104	1.150	33
10	3.150	640	2.650	471	1.498	272	1.435	116	1.271	104	955	33
12	2.650	640	2.200	471	1.258	272	1.189	118	1.066	104	795	30
14	2.250	813	1.900	459	1.054	269	1.025	116	902	100	680	25
16	1.950	590	1.650	441	918	269	902	104	816	91	596	23
18	1.750	590	1.450	433	816	263	812	91	722	83	530	20
20	1.550	558	1.300	417	740	241	730	83	662	75	476	18
22	1.400	506	1.200	384	680	221	664	75	590	67	430	15
25	1.260	450	1.050	336	605	195	582	67	521	61	380	15

PER FRESATURA FRONTALE E LATERALE • SIDE MILLING • POUR FRESAGE FRONTAL ET LATÉRAL • SCHEIBENFRÄSEN • FRESADO FRONTAL Y LATERAL

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
1	20.000	260	18.000	200	16.000	180	12.000	85	11.000	75	8.000	46
2	15.500	371	13.000	310	11.000	278	7.000	109	6.350	99	3.950	61
3	10.500	594	8.900	505	7.400	356	6.300	124	4.000	104	2.750	61
4	7.950	635	6.650	531	6.550	371	4.250	135	3.700	114	2.200	71
5	6.350	739	5.300	620	4.450	424	3.550	140	3.150	124	1.900	76
6	6.300	734	4.450	616	3.700	424	2.950	145	3.650	130	1.550	71
8	3.950	711	3.300	589	2.750	419	2.200	145	1.950	130	1.150	68
10	3.150	711	2.650	589	2.200	419	1.750	145	1.550	130	955	86
12	2.650	711	2.200	589	1.850	419	1.450	145	1.300	130	795	61
14	2.250	661	1.900	574	1.550	414	1.250	145	1.100	124	680	51
16	1.950	655	1.650	551	1.350	414	1.100	130	995	114	595	48
18	1.750	655	1.450	541	1.200	404	990	114	880	104	530	41
20	1.550	620	1.300	521	1.100	371	890	104	795	94	475	36
22	1.400	559	1.200	480	1.000	340	810	94	720	84	430	30
25	1.260	500	1.050	419	890	300	710	84	635	76	380	30

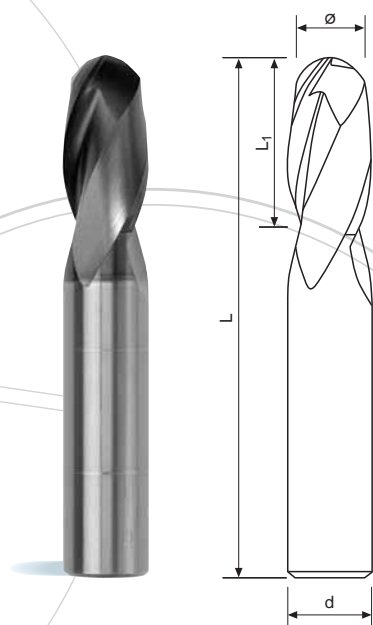
FRESE POWER SEMISFERICHE A 2 TAGLI

POWER BALL NOSE END MILLS - 2 FLUTES
FRAISES POWER SÉMISPHERIQUES À 2 DENTS
POWER RADIUSFRÄSER - 2 NUTEN
FRESAS POWER ESFÉRICAS - 2 LABIOS

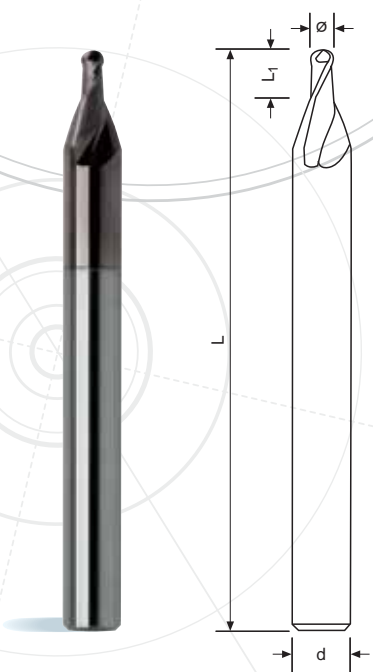
MICROGRANA ULTRAFINE

SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

412RXT



NEW 417RXT



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme



Ø mm	L mm	L1 mm	d mm	z	412RXT
					€
1	39	3	3	2	34,00
1.5	39	5	3	2	31,40
2	39	7	3	2	31,40
2.5	39	8	3	2	31,40
3	39	10	3	2	31,40
4	51	14	6	2	41,90
5	51	16	6	2	46,40
6	64	19	6	2	60,50
7	64	19	8	2	77,90
8	64	21	8	2	85,30
9	70	22	10	2	117,00
10	70	25	10	2	117,00
12	76	25	12	2	161,50
14	89	30	14	2	219,50
16	89	32	16	2	253,00
18	102	35	18	2	357,00
20	102	38	20	2	431,00
22	102	38	22	2	557,00
25	102	38	25	2	644,00



Ø mm	L mm	L1 mm	d mm	z	417RXT
					€
0,4	38	2	3	2	71,10
0,5	38	2	3	2	61,70
0,6	38	2	3	2	61,70
0,8	38	2	3	2	61,70
1	38	3	3	2	57,70
1,5	38	3	3	2	57,70
2	57	3	6	2	67,10
2,5	57	3	6	2	67,10
3	57	4	6	2	67,10

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 1 mm a 3 mm	+0.00 mm -0.025 mm	+0.00 mm -0.013 mm
da 4 mm a 25 mm	+0.00 mm -0.038 mm	+0.00 mm -0.013 mm

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

PARÁMETROS DE CORTE

PER FRESATURA FRONTALE E LATERALE • SIDE MILLING • POUR FRESAGE FRONTAL ET LATÉRAL • SCHEIBENFRÄSEN • FRESADO FRONTAL Y LATERAL

Materiale da lavorare	Ghisa	Leghe d'acciaio Acciai da utensili	Acciai temprati Acciai legati	Acciai temprati	Acciai temprati
Material to work	Cast Iron	Steel alloys Tool steel	Hardened steel Prehardened steel	Hardened Steels	Hardened Steels
Matière à usiner	Fonte	Alliages d'acier Aciers à outils	Aciers trempés Aciers liés	Aciers trempés	Aciers trempés
zu bearbeitendes Material	Guß	Stahllegierung Werkzeugstahl	gehärteter Stahl vorgehärteter Stahl	gehärteter Stahl	gehärteter Stahl
Material a trabajar	Fundición	Aceros aleados Acero para herramientas	Acero templado	Acero templado	Acero templado
Durezza . Hardness . Dureté . Härte . Dureza					
		≥ 30 HRC	≥ 45 HRC	≥ 55 HRC	≥ 60 HRC

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
0,4	15.900	160	15.900	160	8.000	160	15.900	160	15.900	100
0,5	15.900	160	15.900	160	6.400	160	15.900	160	15.900	100
0,6	15.900	160	15.900	160	8.000	160	15.900	160	15.900	100
0,8	15.900	250	15.900	190	8.000	190	15.900	190	15.900	160
1	14.300	230	12.700	150	8.500	160	7.000	130	5050	25
2	13.000	400	9.000	260	9.000	260	5.000	130	2750	25
3	9.000	650	7.800	450	7.800	450	5.200	210	2000	30
4	9.000	650	7.800	450	7.800	450	5.200	210	1550	30
5	6.500	700	5.700	460	5.700	460	3.900	230	1260	30
6	6.500	700	5.700	460	5.700	460	3.900	230	1050	25
8	4.700	650	3.900	430	3.900	430	2.600	220	795	25
10	3.900	650	3.300	430	3.300	430	2.200	210	635	25
12	3.100	630	2.600	420	2.600	420	1.600	200	530	20
14	2.300	610	2.000	420	2.000	420	1.300	200	455	18
16	2.300	610	2.000	420	2.000	420	1.300	200	395	15
18	1.800	580	1.500	420	1.500	420	900	200	350	15
20	1.800	580	1.500	420	1.500	420	890	190	315	13
22	1.735	578	1.363	382	1.363	382	818	182	286	10
25	1.580	509	1.200	336	1.200	336	720	159	255	10

Per fresatura di cave ridurre l'avanzamento (feed = mm/min) del 20%.

In slot milling reduce feed to -20%

Pour fresaage des gorges réduire l'avancement (av=mm/min) du 20%.

Beim Bohmutenfräsen den Vorschub auf -20 % reduzieren.

Para fresado de ranuras reducir el avance un 20%.



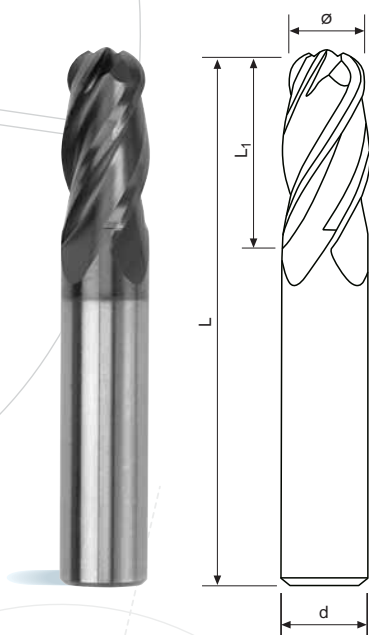
FRESE POWER SEMISFERICHE A 4 TAGLI

POWER BALL NOSE END MILLS - 4 FLUTES
FRAISES POWER SÉMISPHERIQUES À 4 DENTS
POWER RADIUSFRÄSER - 4 NUTEN
FRESAS POWER ESFÉRICAS - 4 LABIOS

MICROGRANA ULTRAFINE

SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

414RXT



Ø mm	L mm	L1 mm	d mm	z	414RXT
					€
1	39	3	3	4	34,00
2	39	7	3	4	31,40
3	39	10	3	4	31,40
4	51	14	6	4	41,90
5	51	16	6	4	46,40
6	64	19	6	4	60,50
7	64	19	8	4	77,90
8	64	21	8	4	85,30
9	70	22	10	4	117,00
10	70	25	10	4	117,00
12	76	25	12	4	161,50
14	89	30	14	4	219,50
16	89	32	16	4	253,00
18	102	35	18	4	357,00
20	102	38	20	4	431,00
22	102	38	22	4	557,00
25	102	38	25	4	644,00



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 1 mm a 3 mm	+0.00 mm -0.025 mm	+0.00 mm -0.013 mm
da 4 mm a 25 mm	+0.00 mm -0.038 mm	+0.00 mm -0.013 mm

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

PARÁMETROS DE CORTE

PER FRESATURA FRONTALE E LATERALE • SIDE MILLING • POUR FRESAGE FRONTAL ET LATÉRAL • SCHEIBENFRÄSEN • FRESADO FRONTAL Y LATERAL

Materiale da lavorare	Chisa	Leghe d'acciaio Acciai da utensili	Acciai temprati Acciai legati	Acciai temprati	Acciai temprati
Material to work	Cast Iron	Steel alloys Tool steel	Hardened steel Prehardened steel	Hardened Steels	Hardened Steels
Matière à usiner	Fonte	Alliages d'acier Aciers à outils	Aciers trempés Aciers liés	Aciers trempés	Aciers trempés
zu bearbeitendes Material	Guß	Stahllegierung Werkzeugstahl	gehärteter Stahl vorgehärteter Stahl	gehärteter Stahl	gehärteter Stahl
Material a trabajar	Fundición	Aceros aleados Acero para herramientas	Acero templado	Acero templado	Acero templado
Durezza . Hardness . Dureté . Härte . Dureza					
		≥ 30 HRC	≥ 45 HRC	≥ 55 HRC	≥ 60 HRC

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
1	21.450	264	21.324	286	21.324	286	7.000	195	4.500	37
2	13.000	600	9.000	390	9.000	390	5.000	195	2.475	37
3	9.000	975	7.800	675	7.800	675	5.200	315	1.800	45
4	9.000	975	7.800	675	7.800	675	5.200	315	1.350	45
5	6.500	1.050	5.700	690	5.700	690	3.900	345	1.125	45
6	6.500	1.050	5.700	690	5.700	690	3.900	345	945	37
8	4.700	975	3.900	645	3.900	645	2.600	330	716	37
10	3.900	975	3.300	645	3.300	645	2.200	315	572	37
12	3.100	945	2.600	630	2.600	630	1.600	300	477	30
14	2.300	915	2.000	630	2.000	630	1.300	300	410	27
16	2.300	915	2.000	630	2.000	630	1.300	300	356	23
18	1.800	870	1.500	630	1.500	630	900	300	315	23
20	1.800	870	1.500	630	1.500	630	890	285	284	19
22	1.735	867	1.363	573	1.363	573	818	273	257	15
25	1.580	764	1.200	504	1.200	504	720	238	230	15

Per fresatura di cave ridurre l'avanzamento (feed = mm/min) del 20%.

In slot milling reduce feed to -20%

Pour fresaie des gorges réduire l'avancement (av=mm/min) du 20%.

Beim Bohrmutenfräsen den Vorschub auf -20 % reduzieren.

Para fresado de ranuras reducir el avance un 20%.

PER ULTERIORI INFORMAZIONI CONTATTATECI

FOR MORE INFORMATION PLEASE CONTACT US

POUR TOUT REINSEIGNEMENT CONTACTEZ-NOUS

FÜR WEITERE INFORMATIONEN BITTEN WIR UM KONTAKTAUFNAHME

PARA MÁS INFORMACIÓN LLAMENOS

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FRESE POWER TORICHE A 2 TAGLI

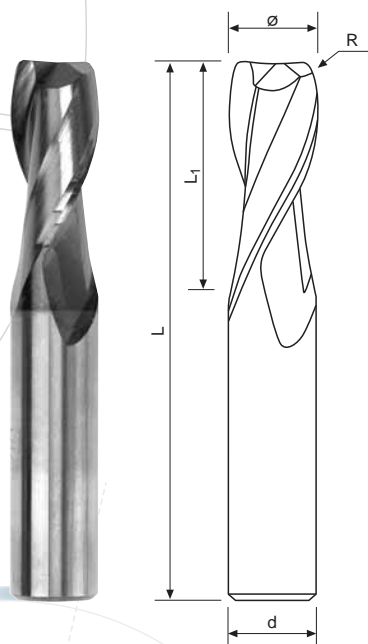
POWER TORIC END MILLS - 2 FLUTES
FRAISES POWER TORIQUE À 2 DENTS
POWER TORUSFRÄSER - 2 NUTEN
FRESAS POWER TÓRICAS - 2 LABIOS

MICROGRANA ULTRAFINE

SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO



1432XT



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 3 mm a 25 mm	+0.000 mm -0.038 mm	+0.000 mm -0.013 mm

Ø mm	R	L mm	L ₁ mm	d mm	z	1432XT
						€
3	0.2	39	10	3	2	32,90
3	0.5	39	10	3	2	32,90
4	0.2	51	14	6	2	43,80
4	0.5	51	14	6	2	43,80
4	1	51	14	6	2	43,80
5	0.2	51	16	6	2	48,30
5	0.5	51	16	6	2	48,30
5	1	51	16	6	2	48,30
6	0.2	64	19	6	2	63,00
6	0.5	64	19	6	2	63,00
6	1	64	19	6	2	63,00
6	1.5	64	19	6	2	63,00
6	2	64	19	6	2	63,00
8	0.5	64	21	8	2	89,00
8	1	64	21	8	2	89,00
8	1.5	64	21	8	2	89,00
8	2	64	21	8	2	89,00
10	0.5	70	25	10	2	122,00
10	1	70	25	10	2	122,00
10	1.5	70	25	10	2	122,00
10	2	70	25	10	2	122,00
10	3	70	25	10	2	122,00
12	0.5	76	25	12	2	168,50
12	1	76	25	12	2	168,50
12	1.5	76	25	12	2	168,50
12	2	76	25	12	2	168,50
12	3	76	25	12	2	168,50
14	0.5	89	30	14	2	229,00
14	1	89	30	14	2	229,00
14	1.5	89	30	14	2	229,00
14	2	89	30	14	2	229,00
16	0.5	89	32	16	2	264,00
16	1	89	32	16	2	264,00
16	1.5	89	32	16	2	264,00
16	2	89	32	16	2	264,00
18	0.5	102	35	18	2	373,00
18	1	102	35	18	2	373,00
18	1.5	102	35	18	2	373,00
18	2	102	35	18	2	373,00
20	0.5	102	38	20	2	450,00
20	1	102	38	20	2	450,00
20	1.5	102	38	20	2	450,00
20	2	102	38	20	2	450,00
22	0.5	102	38	22	2	566,00
22	1	102	38	22	2	566,00
22	1.5	102	38	22	2	566,00
22	2	102	38	22	2	566,00
25	0.5	102	38	25	2	655,00
25	1	102	38	25	2	655,00
25	1.5	102	38	25	2	655,00
25	2	102	38	25	2	655,00

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

PARÁMETROS DE CORTE

PER FRESATURA FRONTALE E LATERALE • SIDE MILLING • POUR FRESAGE FRONTAL ET LATÉRAL • SCHEIBENFRÄSEN • FRESADO FRONTAL Y LATERAL

Materiale da lavorare	Ghisa	Acciaio debolmente legato Acciaio al carbonio - Ghisa	Leghe d'acciaio Acciai da utensili	Acciai temprati Acciai legati	Acciai temprati Acciai legati	Acciai temprati	Acciai temprati						
Material to work	Cast Iron	Mild steel Carbon steel - Cast Iron	Steel alloys Tool steel	Hardened steel Prehardened steel	Hardened steel Prehardened steel	Hardened Steels	Hardened Steels						
Matière à usiner	Fonte	Acier faiblement lié Acier au carbone - Fonte	Alliages d'acier Aciers à outils	Aciers trempés Aciers liés	Aciers trempés Aciers liés	Aciers trempés	Aciers trempés						
zu bearbeitendes Material	Guß	unlegierter Stahl Stahl- und Stahlguß - Guß	Stahllegierung Werkzeugstahl	gehärteter Stahl vorgehärteter Stahl	gehärteter Stahl vorgehärteter Stahl	gehärteter Stahl	gehärteter Stahl						
Material a trabajar	Fundición	Acero de baja aleacion Acero al carbono - Fundición	Aceros aleados Acero para herramientas	Acero templado	Acero templado	Acero templado	Acero templado						
		Durezza . Hardness . Dureté . Härte . Durezza											
		≥ 750N/mm ²		≥ 30 HRC		≥ 38 HRC		≥ 45 HRC		≥ 55 HRC		≥ 60 HRC	

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
3	6.140	177	7.400	161	6.350	120	5.300	79	4.450	61	2.750	37	2.000	24
4	6.545	208	5.950	190	4.900	148	4.260	99	3.500	71	2.200	41	1.550	24
5	5.830	278	5.300	252	4.300	189	3.550	104	3.050	79	1.900	45	1.260	24
6	4.895	276	4.450	248	3.600	189	2.950	104	2.500	79	1.550	45	1.050	20
8	3.630	259	3.300	236	2.700	189	2.200	99	1.900	79	1.150	41	795	20
10	2.915	246	2.650	223	2.150	185	1.750	99	1.500	75	955	41	635	20
12	2.420	246	2.200	223	1.800	185	1.450	99	1.250	75	795	37	530	16
14	2.090	246	1.900	223	1.500	173	1.260	87	1.050	75	680	33	455	14
16	1.815	212	1.650	207	1.350	161	1.100	79	955	67	595	29	395	12
18	1.595	203	1.450	185	1.200	144	990	71	845	61	530	24	350	12
20	1.430	182	1.300	165	1.050	124	690	63	760	53	475	24	315	10
22	1.320	168	1.200	153	960	116	810	57	690	49	430	20	286	8
25	1.155	146	1.050	132	885	104	710	69	610	45	380	16	255	8

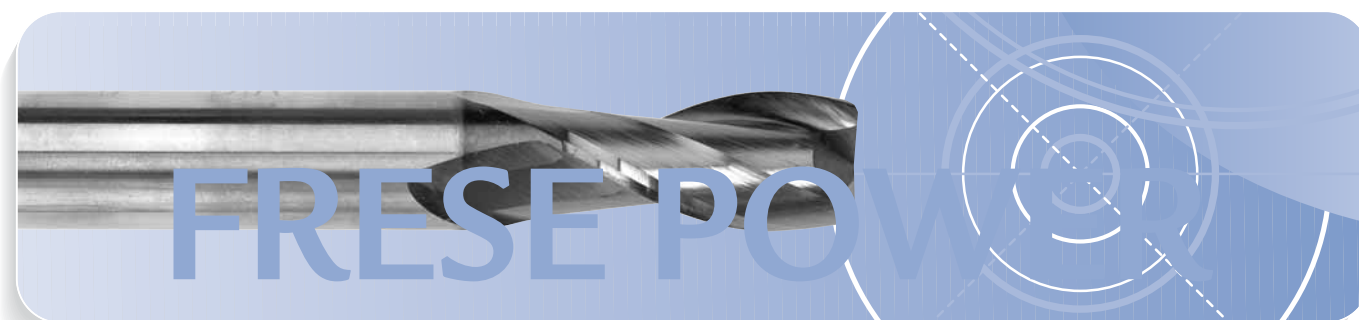
Per fresatura di cave ridurre l'avanzamento (feed = mm/min) del 20%.

In slot milling reduce feed to -20%

Pour fresaage des gorges réduire l'avancement (av=mm/min) du 20%.

Beim Bohrnutenfräsen den Vorschub auf -20 % reduzieren.

Para fresado de ranuras reducir el avance un 20%.



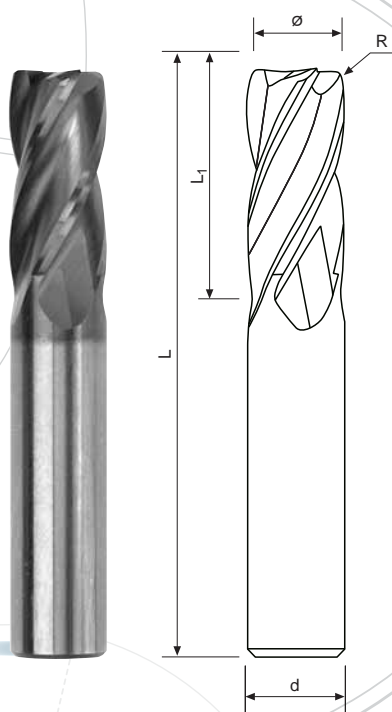
FRESE POWER TORICHE A 4 TAGLI

POWER TORIC END MILLS - 4 FLUTES
FRAISES POWER TORIQUE À 4 DENTS
POWER TORUSFRÄSER - 4 NUTEN
FRESAS POWER TÓRICAS - 4 LABIOS

MICROGRANA ULTRAFINE

SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

1434XT



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 3 mm a 25 mm	+0.000 mm -0.038 mm	+0.000 mm -0.013 mm

Ø mm	R	L mm	L1 mm	d mm	z	1434XT
						€
3	0.2	39	10	3	4	32,90
3	0.5	39	10	3	4	32,90
4	0.2	51	14	6	4	43,80
4	0.5	51	14	6	4	43,80
4	1	51	14	6	4	43,80
5	0.2	51	16	6	4	48,30
5	0.5	51	16	6	4	48,30
5	1	51	16	6	4	48,30
6	0.2	64	19	6	4	63,00
6	0.5	64	19	6	4	63,00
6	1	64	19	6	4	63,00
6	1.5	64	19	6	4	63,00
6	2	64	19	6	4	63,00
8	0.5	64	21	8	4	89,00
8	1	64	21	8	4	89,00
8	1.5	64	21	8	4	89,00
8	2	64	21	8	4	89,00
10	0.5	70	25	10	4	122,00
10	1	70	25	10	4	122,00
10	1.5	70	25	10	4	122,00
10	2	70	25	10	4	122,00
10	3	70	25	10	4	122,00
12	0.5	76	25	12	4	168,50
12	1	76	25	12	4	168,50
12	1.5	76	25	12	4	168,50
12	2	76	25	12	4	168,50
12	3	76	25	12	4	168,50
14	0.5	89	30	14	4	229,00
14	1	89	30	14	4	229,00
14	1.5	89	30	14	4	229,00
14	2	89	30	14	4	229,00
16	0.5	89	32	16	4	264,00
16	1	89	32	16	4	264,00
16	1.5	89	32	16	4	264,00
16	2	89	32	16	4	264,00
18	0.5	102	35	18	4	373,00
18	1	102	35	18	4	373,00
18	1.5	102	35	18	4	373,00
18	2	102	35	18	4	373,00
20	0.5	102	38	20	4	450,00
20	1	102	38	20	4	450,00
20	1.5	102	38	20	4	450,00
20	2	102	38	20	4	450,00

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

PARÁMETROS DE CORTE

PER FRESATURA FRONTALE E LATERALE • SIDE MILLING • POUR FRESAGE FRONTAL ET LATÉRAL • SCHEIBENFRÄSEN • FRESADO FRONTAL Y LATERAL

Materiale da lavorare	Ghisa	Acciaio debolmente legato Acciaio al carbonio - Ghisa	Leghe d'acciaio Acciai da utensili	Acciai temprati Acciai legati	Acciai temprati Acciai legati	Acciai temprati	Acciai temprati
Material to work	Cast Iron	Mild steel Carbon steel - Cast Iron	Steel alloys Tool steel	Hardened steel Prehardened steel	Hardened steel Prehardened steel	Hardened Steels	Hardened Steels
Matière à usiner	Fonte	Acier faiblement lié Acier au carbone - Fonte	Alliages d'acier Aciers à outils	Aciers trempés Aciers liés	Aciers trempés Aciers liés	Aciers trempés	Aciers trempés
zu bearbeitendes Material	Guß	unlegierter Stahl Stahl- und Stahlguß - Guß	Stahllegierung Werkzeugstahl	gehärteter Stahl vorgehärteter Stahl	gehärteter Stahl vorgehärteter Stahl	gehärteter Stahl	gehärteter Stahl
Material a trabajar	Fundición	Acero de baja aleacion Acero al carbono - Fundición	Aceros aleados Acero para herramientas	Acero templado	Acero templado	Acero templado	Acero templado
		Durezza . Hardness . Dureté . Härte . Dureza					
		≥ 750N/mm ²	≥ 30 HRC	≥ 38 HRC	≥ 45 HRC	≥ 55 HRC	≥ 60 HRC

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
3	6.140	221	7.400	201	9.336	185	6.463	99	5.427	76	2.750	73	2.222	50
4	6.646	260	5.950	236	7.208	212	5.183	126	4.268	89	2.200	82	1.722	49
5	5.830	346	5.300	315	6.324	290	4.329	130	3.720	99	1.800	90	1.389	49
6	4.895	341	4.450	310	5.284	290	3.598	130	3.049	99	1.550	90	1.167	41
8	3.630	324	3.300	293	3.971	290	2.683	125	2.317	99	1.150	82	883	41
10	2.915	307	2.650	279	3.162	285	2.134	125	1.829	94	955	82	706	41
12	2.420	307	2.200	279	2.847	285	1.768	125	1.524	94	795	73	589	33
14	2.090	307	1.900	272	2.206	266	1.524	110	1.260	94	680	65	506	29
16	1.815	285	1.650	259	1.965	247	1.341	99	1.185	84	595	57	439	24
18	1.595	254	1.450	215	1.765	222	1.207	89	1.030	76	530	49	369	24
20	1.430	226	1.300	206	1.544	189	1.085	78	927	50	475	49	350	20

Per fresatura di cave ridurre l'avanzamento (feed = mm/min) del 20%.

In slot milling reduce feed to -20%

Pour fresaage des gorges réduire l'avancement (av=mm/min) du 20%.

Beim Bohrnutenfräsen den Vorschub auf -20 % reduzieren.

Para fresado de ranuras reducir el avance un 20%.

RICHIEDI I NUOVI CATALOGHI TALICARB

ASK FOR OUR NEW TALICARB CATALOGUES

DEMANDEZ LES NOUVEAUX CATALOGUES TALICARB

FRAGEN SIE NACH UNSEREN NEUEN TALICARB KATALOGEN

PIDA NUESTROS NUEVOS CATALOGOS TALICARB



FRESE POWER TORICHE A 2 TAGLI

POWER TORIC END MILLS - 2 FLUTES
FRAISES POWER TORIQUE À 2 DENTS
POWER TORUSFRÄSER - 2 NUTEN
FRESAS POWER TÓRICAS - 2 LABIOS

MICROGRANA ULTRAFINE

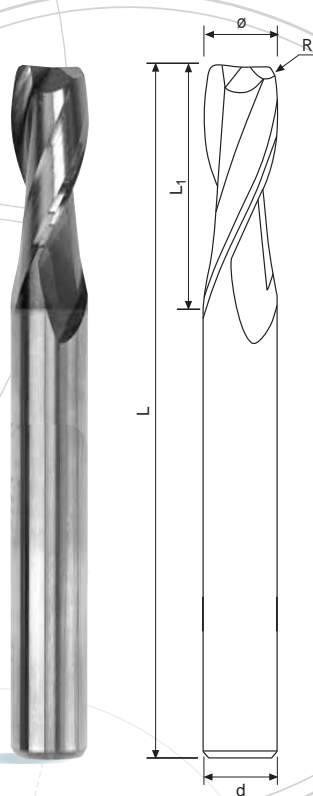
SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

1422XT



SERIE LUNGA

EXTENDED LENGTH - SÉRIE LONGUE
ÜBERLÄNGE - SERIE LARGA



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme



Ø mm	R	L mm	L1 mm	d mm	z	1422XT
						€
3	0.2	60	8	6	2	37,15
3	0.5	60	8	6	2	37,15
4	0.2	70	11	6	2	48,00
4	0.5	70	11	6	2	48,00
4	1	70	11	6	2	48,00
5	0.2	80	13	6	2	53,50
5	0.5	80	13	6	2	53,50
5	1	80	13	6	2	53,50
6	0.2	90	20	6	2	68,20
6	0.5	90	20	6	2	68,20
6	1	90	20	6	2	68,20
6	1.5	90	20	6	2	68,20
6	2	90	20	6	2	68,20
8	0.5	100	28	8	2	97,30
8	1	100	28	8	2	97,30
8	1.5	100	28	8	2	97,30
8	2	100	28	8	2	97,30
10	0.5	100	34	10	2	133,00
10	1	100	34	10	2	133,00
10	1.5	100	34	10	2	133,00
10	2	100	34	10	2	133,00
12	0.5	110	40	12	2	181,00
12	1	110	40	12	2	181,00
12	1.5	110	40	12	2	181,00
12	2	110	40	12	2	181,00
12	3	110	40	12	2	181,00

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 3 mm a 12 mm	+0.00 mm -0.038 mm	+0.000 mm -0.013 mm

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

PARÁMETROS DE CORTE

PER FRESATURA FRONTALE E LATERALE • SIDE MILLING • POUR FRESAGE FRONTAL ET LATÉRAL • SCHEIBENFRÄSEN • FRESADO FRONTAL Y LATERAL

Materiale da lavorare	Chisa	Acciaio debolmente legato Acciaio al carbonio - Ghisa	Leghe d'acciaio Acciai da utensili	Acciai temprati Acciai legati	Acciai temprati Acciai legati	Acciai temprati	Acciai temprati
Material to work	Cast Iron	Mild steel Carbon steel - Cast Iron	Steel alloys Tool steel	Hardened steel Prehardened steel	Hardened steel Prehardened steel	Hardened Steels	Hardened Steels
Matière à usiner	Fonte	Acier faiblement lié Acier au carbone - Fonte	Alliages d'acier Aciers à outils	Aciers trempés Aciers liés	Aciers trempés Aciers liés	Aciers trempés	Aciers trempés
zu bearbeitendes Material	Guß	unlegierter Stahl Stahl- und Stahlguß - Guß	Stahllegierung Werkzeugstahl	gehärteter Stahl vorgehärteter Stahl	gehärteter Stahl vorgehärteter Stahl	gehärteter Stahl	gehärteter Stahl
Material a trabajar	Fundición	Acero de baja aleacion Acero al carbono - Fundición	Aceros aleados Acero para herramientas	Acero templado	Acero templado	Acero templado	Acero templado
		Durezza . Hardness . Dureté . Härte . Durezza					
		≥ 750N/mm ²	≥ 30 HRC	≥ 38 HRC	≥ 45 HRC	≥ 55 HRC	≥ 60 HRC

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
3	10.500	428	8.900	323	6.032	185	4.346	80	2.750	39	2.255	24
4	7.850	458	6.650	340	3.774	193	3.485	85	3.034	73	2.200	29
5	6.350	556	5.300	398	3.026	221	2.911	90	2.683	80	1.900	30
6	6.300	689	4.450	394	2.516	221	2.419	93	2.173	83	1.550	29
8	3.950	512	3.300	377	1.870	218	1.804	93	1.599	83	1.150	26
10	3.150	512	2.650	377	1.498	218	1.435	93	1.271	83	955	26
12	2.650	512	2.200	377	1.258	218	1.189	94	1.066	83	795	24

Per fresatura di cave ridurre l'avanzamento (feed = mm/min) del 20%.

In slot milling reduce feed to -20%

Pour fresage des gorges réduire l'avancement (av=mm/min) du 20%.

Beim Bohrmutenfräsen den Vorschub auf -20 % reduzieren.

Para fresado de ranuras reducir el avance un 20%.

FRESE POWER



FRESE POWER TORICHE A 4 TAGLI

POWER TORIC END MILLS - 4 FLUTES
FRAISES POWER TORIQUE À 4 DENTS
POWER TORUSFRÄSER - 4 NUTEN
FRESAS POWER TÓRICAS - 4 LABIOS

MICROGRANA ULTRAFINE

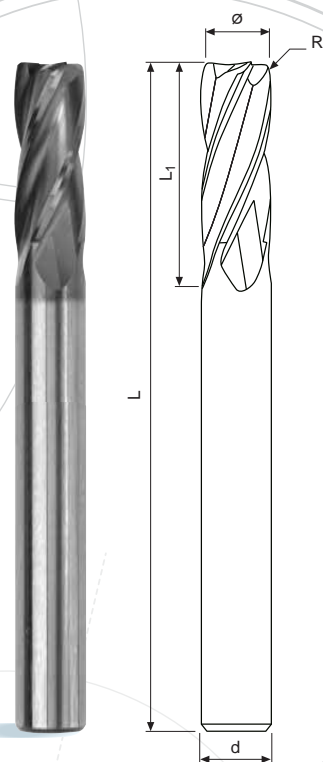
SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

1424XT



SERIE LUNGA

EXTENDED LENGTH - SÉRIE LONGUE
ÜBERLÄNGE - SERIE LARGA



Ø mm	R	L mm	L1 mm	d mm	z	1424XT
						€
3	0.2	60	8	6	4	37,15
3	0.5	60	8	6	4	37,15
4	0.2	70	11	6	4	48,00
4	0.5	70	11	6	4	48,00
4	1	70	11	6	4	48,00
5	0.2	80	13	6	4	53,50
5	0.5	80	13	6	4	53,50
5	1	80	13	6	4	53,50
6	0.2	90	20	6	4	67,20
6	0.5	90	20	6	4	67,20
6	1	90	20	6	4	67,20
6	1.5	90	20	6	4	67,20
6	2	90	20	6	4	67,20
8	0.5	100	28	8	4	97,30
8	1	100	28	8	4	97,30
8	1.5	100	28	8	4	97,30
8	2	100	28	8	4	97,30
10	0.5	100	34	10	4	133,00
10	1	100	34	10	4	133,00
10	1.5	100	34	10	4	133,00
10	2	100	34	10	4	133,00
10	3	100	34	10	4	133,00
12	0.5	110	40	12	4	181,00
12	1	110	40	12	4	181,00
12	1.5	110	40	12	4	181,00
12	2	110	40	12	4	181,00
12	3	110	40	12	4	181,00



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 3 mm a 12 mm	+0.00 mm -0.038 mm	+0.00 mm -0.013 mm

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

PARÁMETROS DE CORTE

PER FRESATURA FRONTALE E LATERALE - SIDE MILLING - POUR FRESAGE FRONTAL ET LATÉRAL - SCHEIBENFRÄSEN - FRESADO FRONTAL Y LATERAL

Materiale da lavorare	Ghisa	Acciaio debolemente legato Acciaio al carbonio - Ghisa	Leghe d'acciaio Acciai da utensili	Acciai temprati Acciai legati	Acciai temprati Acciai legati	Acciai temprati	Acciai temprati
Material to work	Cast Iron	Mild steel Carbon steel - Cast Iron	Steel alloys Tool steel	Hardened steel Prehardened steel	Hardened steel Prehardened steel	Hardened Steels	Hardened Steels
Matière à usiner	Fonte	Acier faiblement lié Acier au carbone - Fonte	Alliages d'acier Aciers à outils	Aciers trempés Aciers liés	Aciers trempés Aciers liés	Aciers trempés	Aciers trempés
zu bearbeitendes Material	Guß	unlegierter Stahl Stahl- und Stahlguß - Guß	Stahllegierung Werkzeugstahl	gehärteter Stahl vorgehärteter Stahl	gehärteter Stahl vorgehärteter Stahl	gehärteter Stahl	gehärteter Stahl
Material a trabajar	Fundición	Acero de baja aleacion Acero al carbono - Fundición	Aceros aleados Acero para herramientas	Acero templado	Acero templado	Acero templado	Acero templado
		Durezza . Hardness . Dureté . Härte . Durezza					
		≥ 750N/mm ²	≥ 30 HRC	≥ 38 HRC	≥ 45 HRC	≥ 55 HRC	≥ 60 HRC

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
3	10.500	475	8.900	404	6.032	285	4.346	99	2.750	49	2.255	49	1.800	37
4	7.850	508	6.650	425	3.774	297	3.485	108	3.034	91	2.200	57	1.350	37
5	6.350	591	5.300	496	3.026	339	2.911	112	2.683	99	1.900	61	1.125	33
6	6.300	587	4.450	493	2.516	339	2.419	116	2.173	104	1.550	57	945	33
8	3.950	569	3.300	471	1.870	335	1.804	116	1.599	104	1.150	54	716	29
10	3.150	569	2.650	471	1.498	335	1.435	116	1.271	104	955	69	572	29
12	2.650	569	2.200	471	1.258	335	1.189	116	1.066	104	795	49	477	24

Per fresatura di cave ridurre l'avanzamento (feed = mm/min) del 20%.

In slot milling reduce feed to -20%

Pour fresaage des gorges réduire l'avancement (av=mm/min) du 20%.

Beim Bohrmutterfräsen den Vorschub auf -20 % reduzieren.

Para fresado de ranuras reducir el avance un 20%.



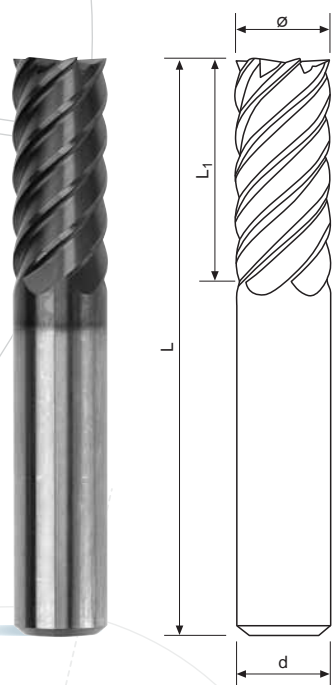
FRESE POWER ELICOIDALI MULTITAGLI

POWER MULTI-FLUTES TWIST END MILLS
FRAISES POWER HÉLICOÏDALES MULTICOUPE
POWER MULTI DRALLNUTIGE FRÄSER
FRESAS POWER HELICOIDALES - MULTILABIO

MICROGRANA ULTRAFINE

SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

1350XT



Ø mm	L mm	L ₁ mm	d mm	z	1350XT
					€
3	57	8	6	6	58,60
4	57	11	6	6	58,60
5	57	13	6	6	54,30
6	57	13	6	6	61,60
8	63	19	8	6	70,80
10	72	22	10	6	121,50
12	83	26	12	6	164,50
14	83	26	14	6	214,50
16	92	32	16	8	293,00
18	92	32	18	8	330,00
20	104	38	20	8	428,00



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 3 mm a 6 mm	+0.00 mm -0.018 mm	+0.00 mm -0.008 mm
da 6 mm a 10 mm	+0.00 mm -0.022 mm	+0.00 mm -0.009 mm
da 10 mm a 18 mm	+0.00 mm -0.027 mm	+0.00 mm -0.011 mm
da 18 mm a 20 mm	+0.00 mm -0.033 mm	+0.00 mm -0.013 mm

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

PARÁMETROS DE CORTE

PER FRESATURA FRONTALE E LATERALE • SIDE MILLING • POUR FRESAGE FRONTAL ET LATÉRAL • SCHEIBENFRÄSEN • FRESADO FRONTAL Y LATERAL

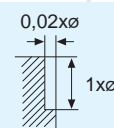
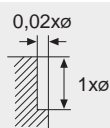
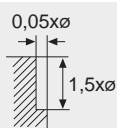
MACCHINE TRADIZIONALI . Conventional CNC machines

MACCHINE ALTA VELOCITA' . High speed CNC machines

Materiale da lavorare Material to work Matière à usiner zu bearbeitendes Material Material a trabajar	Acciai temprati Hardened Steels	Acciai temprati Hardened Steels
	50 ÷ 55 HRC	55 ÷ 63 HRC
	63 ÷ 68 HRC	63 ÷ 68 HRC

Ø mm	Speed RPM (giri/min)		Feed mm/min		Speed RPM (giri/min)		Feed mm/min		Speed RPM (giri/min)		Feed mm/min	
	1	2	3	4	5	6	7	8	9	10	11	12
3	3.000	180	2.400	90	2.200	80	15.000	1.000	10.000	650	8.000	400
4	3.000	180	2.400	90	2.200	80	15.000	1.000	10.000	650	8.000	400
5	2.200	180	1.800	90	1.650	80	12.000	1.000	8.200	650	6.600	400
6	1.800	260	1.500	130	1.400	110	9.000	1.300	6.500	900	5.200	550
8	1.300	260	1.050	130	950	110	6.500	1.300	4.800	900	3.800	550
10	1.100	260	900	130	820	110	5.500	1.300	3.800	900	3.000	550
12	900	260	740	130	670	110	4.500	1.200	3.200	800	2.600	480
14	800	240	650	120	590	100	3.600	1.000	2.700	700	2.200	420
16	700	240	560	120	500	100	3.200	1.000	2.400	700	1.900	420
18	600	200	480	100	430	85	2.700	900	2.100	600	1.700	360
20	500	180	400	90	360	80	2.500	800	1.900	500	1.550	300

Profondità di taglio
Cutting Depth
Profondeur de coupe
Schnitt-Tiefe
Profundidad de corte



PER ULTERIORI INFORMAZIONI CONTATTATECI

FOR MORE INFORMATION PLEASE CONTACT US

POUR TOUT REINSEIGNEMENT CONTACTEZ-NOUS

FÜR WEITERE INFORMATIONEN BITTEN WIR UM KONTAKTAUFNAHME

PARA MÁS INFORMACIÓN LLAMENOS

Servizio tecnico
chiamata gratuita

Numero Verde

800-018130

FRESE POWER ELICOIDALI MULTITAGLI

POWER MULTI-FLUTES TWIST END MILLS
FRAISES POWER HÉLICOÏDALES MULTICOUPEES
POWER MULTI DRALLNUTIGE FRÄSER
FRESAS POWER HELICOIDALES - MULTILABIO

MICROGRANA ULTRAFINE

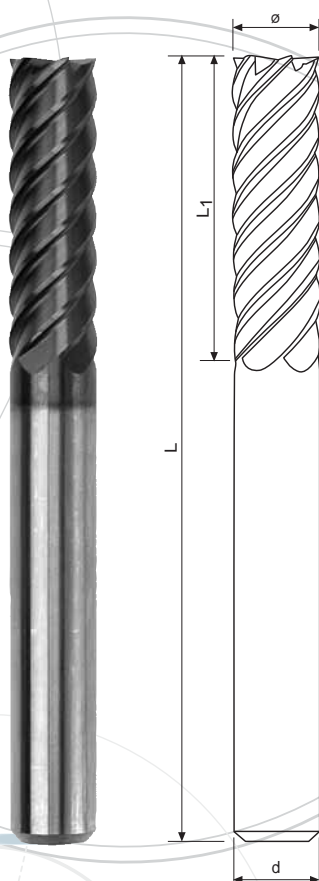
SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

1360XT



SERIE LUNGA

EXTENDED LENGTH - SÉRIE LONGUE
ÜBERLÄNGE - SERIE LARGA



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme



Ø mm	L mm	L1 mm	d mm	z	1360XT
					€
3	62	12	6	6	63,40
4	62	16	6	6	63,40
5	62	18	6	6	61,20
6	62	18	6	6	68,10
8	68	24	8	6	76,80
10	80	30	10	6	137,00
12	93	36	12	6	186,00
14	99	42	14	6	259,00
16	108	48	16	8	355,00
18	114	54	18	8	414,00
20	126	60	20	8	543,00

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 3 mm a 6 mm	+0.00 mm -0.18 mm	+0.00 mm -0.08 mm
da 6 mm a 10 mm	+0.00 mm -0.22 mm	+0.00 mm -0.09 mm
da 10 mm a 18 mm	+0.00 mm -0.27 mm	+0.00 mm -0.11 mm
da 18 mm a 20 mm	+0.00 mm -0.33 mm	+0.00 mm -0.13 mm

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

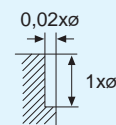
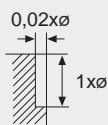
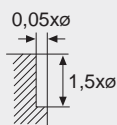
PARÁMETROS DE CORTE

PER FRESATURA FRONTALE E LATERALE • SIDE MILLING • POUR FRESAGE FRONTAL ET LATÉRAL • SCHEIBENFRÄSEN • FRESADO FRONTAL Y LATERAL

MACCHINE TRADIZIONALI . Conventional CNC machines				MACCHINE ALTA VELOCITA' . High speed CNC machines			
Materiale da lavorare	Acciai temprati			Acciai temprati			
Material to work	Hardened Steels			Hardened Steels			
Matière à usiner	Aciers trempés			Aciers trempés			
zu bearbeitendes Material	gehärteter Stahl			gehärteter Stahl			
Material a trabajar	Acero templado			Acero templado			
Durezza . Hardness . Dureté . Härte . Dureza							
	50 ÷ 55 HRC	55 ÷ 63 HRC	63 ÷ 68 HRC	50 ÷ 55 HRC	55 ÷ 63 HRC	63 ÷ 68 HRC	

Ø mm	Speed RPM (giri/min)		Feed mm/min		Speed RPM (giri/min)		Feed mm/min		Speed RPM (giri/min)		Feed mm/min	
3	3.000	144	2.400	72	2.200	64	15.000	1.000	10.000	520	8.000	320
4	3.000	144	2.400	72	2.200	64	15.000	1.000	10.000	520	8.000	320
5	2.200	208	1.800	72	1.650	64	12.000	1.000	8.200	520	6.600	320
6	1.800	208	1.500	104	1.400	88	9.000	1.300	6.500	720	5.200	440
8	1.300	208	1.050	104	950	88	6.500	1.300	4.800	720	3.800	440
10	1.100	208	900	104	820	88	5.500	1.300	3.800	720	3.000	440
12	900	192	740	104	670	88	4.500	1.200	3.200	640	2.600	384
14	800	192	650	96	590	80	3.600	1.000	2.700	560	2.200	336
16	700	160	560	96	500	80	3.200	1.000	2.400	560	1.900	336
18	600	160	480	80	430	68	2.700	900	2.100	480	1.700	288
20	500	144	400	72	360	64	2.500	800	1.900	400	1.550	288

Profondità di taglio
Cutting Depth
Profondeur de coupe
Schnitt-Tiefe
Profundidad de corte



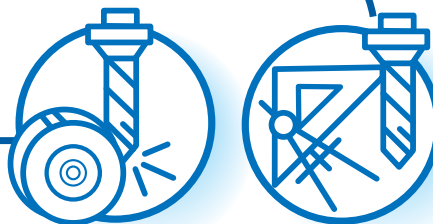
I NOSTRI SERVIZI SEMPRE A VOSTRA DISPOSIZIONE

OUR PROMPT SERVICES ALWAYS READY FOR YOU

NOS SERVICES TOUJOURS À VOTRE DISPOSITION

UNSER PROMPTER SERVICE IST IMMER FÜR SIE DA

NUESTRO RÁPIDO SERVICIO SIEMPRE LISTO PARA USTED



SERVIZIO DI RIAFFILATURA E RIVESTIMENTO

RE-SHARPENING AND COATING SERVICE
SERVICE DE AFFÛTAGE À NOUVEAU ET REVÊTEMENT
NACHSCHLEIF- UND BESCHICHTUNGSSERVICE
SERVICIO DE AFILADO Y RECUBRIMIENTO

UTENSILI SPECIALI

SPECIAL TOOLS DEPARTMENT
OUTILS SPÉCIAUX
ABTEILUNG FÜR SONDERWERKZEUGE
HERRAMIENTAS ESPECIALES

FRESE POWER TORICHE MULTITAGLI

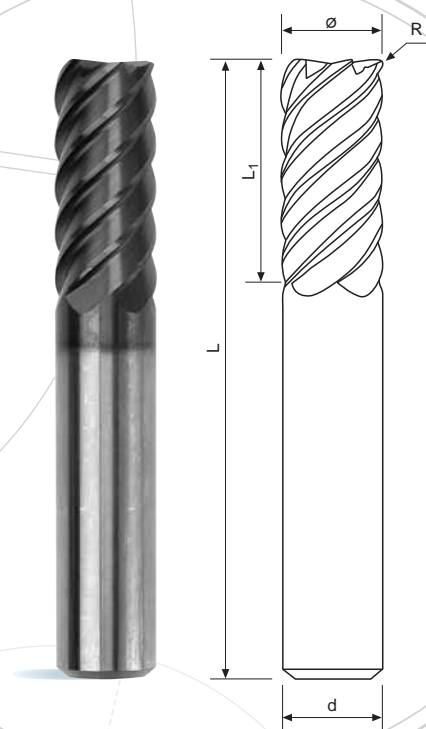
POWER MULTI-FLUTES TORIC END MILLS
FRAISES POWER TORIQUES MULTICOUPES
POWER MEHRNUTIGE TORUSFRÄSER
FRESA POWER TORICA MULTILABIOS

MICROGRANA ULTRAFINE

SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

NEW

1450XT



Ø mm	R	L mm	L1 mm	d mm	Z	1450XT
						€
6	0.5	57	13	6	6	76,50
6	1	57	13	6	6	76,50
8	0,5	63	19	8	6	106,00
8	1	63	19	8	6	106,00
10	0.5	72	22	10	6	161,00
10	1	72	22	10	6	161,00
10	1.5	72	22	10	6	161,00
12	0.5	83	26	12	6	204,00
12	1	83	26	12	6	204,00
12	1.5	83	26	12	6	204,00
14	1	83	26	14	6	266,00
14	2	83	26	14	6	266,00
16	1	92	32	16	6	355,00
16	2	92	32	16	6	355,00
20	1	104	38	20	6	518,00
20	2	104	38	20	6	518,00

XT

Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 6 mm a 10 mm	+0.00 mm -0.022 mm	+0.00 mm -0.009 mm
da 10 mm a 18 mm	+0.00 mm -0.027 mm	+0.00 mm -0.011 mm
da 18 mm a 20 mm	+0.00 mm -0.033 mm	+0.00 mm -0.013 mm

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

PARÁMETROS DE CORTE

PER FRESATURA FRONTALE E LATERALE • SIDE MILLING • POUR FRESAGE FRONTAL ET LATÉRAL • SCHEIBENFRÄSEN • FRESADO FRONTAL Y LATERAL

MACCHINE TRADIZIONALI . Conventional CNC machines				MACCHINE ALTA VELOCITA' . High speed CNC machines			
Materiale da lavorare	Acciai temprati			Acciai temprati			
Material to work	Hardened Steels			Hardened Steels			
Matière à usiner	Aciers trempés			Aciers trempés			
zu bearbeitendes Material	gehärteter Stahl			gehärteter Stahl			
Material a trabajar	Acero templado			Acero templado			
Durezza . Hardness . Dureté . Härte . Dureza							
	50 ÷ 55 HRC	55 ÷ 63 HRC	63 ÷ 68 HRC	50 ÷ 55 HRC	55 ÷ 63 HRC	63 ÷ 68 HRC	

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
6	2.150	310	1.800	150	1.700	130	10.800	1.550	7.800	1.050	6.200	650
8	1.550	310	1.250	150	1.150	130	7.800	1.550	5.700	1.050	4.500	650
10	1.350	310	900	150	980	130	6.600	1.550	4.500	1.050	3.600	650
12	1.100	310	850	150	800	130	5.400	1.450	3.800	950	3.100	550
16	850	290	650	140	600	120	3.800	1.200	2.800	800	2.300	500
20	600	220	450	100	430	95	3.000	950	2.300	600	1.800	350

Profondità' di taglio Cutting Depth Profondeur de coupe Schnitt-Tiefe Profundidad de corte			
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I NOSTRI SERVIZI SEMPRE A VOSTRA DISPOSIZIONE

OUR PROMPT SERVICES ALWAYS READY FOR YOU

NOS SERVICES TOUJOURS À VOTRE DISPOSITION

UNSER PROMPTER SERVICE IST IMMER FÜR SIE DA

NUESTRO RÁPIDO SERVICIO SIEMPRE LISTO PARA USTED



SERVIZIO TECNICO

TECHNICAL HELP

SERVICE TECHNIQUE

TECHNISCHE HILFE

AYUDA TÉCNICA



E-COMMERCE

FRESE POWER TORICHE MULTITAGLI

POWER MULTI-FLUTES TORIC END MILLS
FRAISES POWER TORIQUES MULTICOUPES
POWER MEHRNUTIGE TORUSFRÄSER
FRESA POWER TORICA MULTILABIOS

MICROGRANA ULTRAFINE

SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

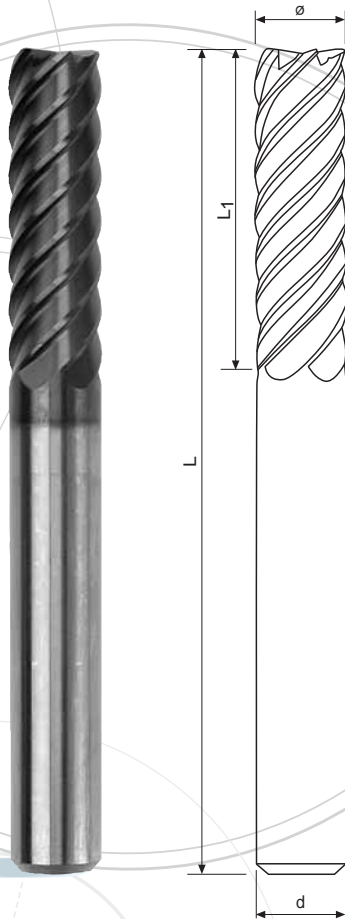
NEW

1460XT



SERIE LUNGA

EXTENDED LENGTH - SÉRIE LONGUE
ÜBERLÄNGE - SERIE LARGA



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

Ø mm	R	L mm	L1 mm	d mm	z	1460XT
						€
6	0.5	62	18	6	6	85,90
6	1	62	18	6	6	85,90
8	0.5	68	24	8	6	118,50
8	1	68	24	8	6	118,50
10	0.5	80	30	10	6	172,00
10	1	80	30	10	6	172,00
10	1.5	80	30	10	6	172,00
12	0.5	93	36	12	6	239,00
12	1	93	36	12	6	239,00
12	1.5	93	36	12	6	239,00
14	1	99	42	14	6	328,00
14	2	99	42	14	6	328,00
16	1	108	48	16	6	424,00
16	2	108	48	16	6	424,00
18	1	114	54	18	6	529,00
18	2	114	54	18	6	529,00
20	1	125	60	20	6	666,00
20	2	125	60	20	6	666,00

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 6 mm a 10 mm	+0.000 mm -0.022 mm	+0.000 mm -0.009 mm
da 10 mm a 18 mm	+0.000 mm -0.027 mm	+0.000 mm -0.011 mm
da 18 mm a 20 mm	+0.000 mm -0.033 mm	+0.000 mm -0.013 mm

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

PARÁMETROS DE CORTE

PER FRESATURA FRONTALE E LATERALE • SIDE MILLING • POUR FRESAGE FRONTAL ET LATÉRAL • SCHEIBENFRÄSEN • FRESADO FRONTAL Y LATERAL

MACCHINE TRADIZIONALI . Conventional CNC machines				MACCHINE ALTA VELOCITA' . High speed CNC machines			
Materiale da lavorare	Acciai temprati			Acciai temprati			
Material to work	Hardened Steels			Hardened Steels			
Matière à usiner	Aciers trempés			Aciers trempés			
zu bearbeitendes Material	gehärteter Stahl			gehärteter Stahl			
Material a trabajar	Acero templado			Acero templado			
Durezza . Hardness . Dureté . Härte . Dureza							
	50 ÷ 55 HRC	55 ÷ 63 HRC	63 ÷ 68 HRC	50 ÷ 55 HRC	55 ÷ 63 HRC	63 ÷ 68 HRC	

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
6	2.150	250	1.800	125	1.700	110	10.800	1.550	7.800	850	6.200	550
8	1.550	250	1.250	125	1.150	110	7.800	1.550	5.700	850	4.500	550
10	1.350	250	900	125	980	110	6.600	1.550	4.500	850	3.600	550
12	1.100	250	850	125	800	110	5.400	1.450	3.800	750	3.100	450
16	850	200	650	110	600	95	3.800	1.200	2.800	650	2.300	400
20	600	150	450	75	430	70	3.000	950	2.300	500	1.800	320

Profondità' di taglio Cutting Depth Profondeur de coupe Schnitt-Tiefe Profundidad de corte			
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FRESE POWER



FRESE POWER ELICOIDALI A 4 TAGLI

POWER TWIST END MILLS - 4 FLUTES
FRAISES POWER HÉLICOÏDALES À 4 DENTS
POWER DRALLNUTIGE FRÄSER - 4 NUTEN
FRESAS POWER HELICOIDALES - 4 LABIOS

MICROGRANA ULTRAFINE

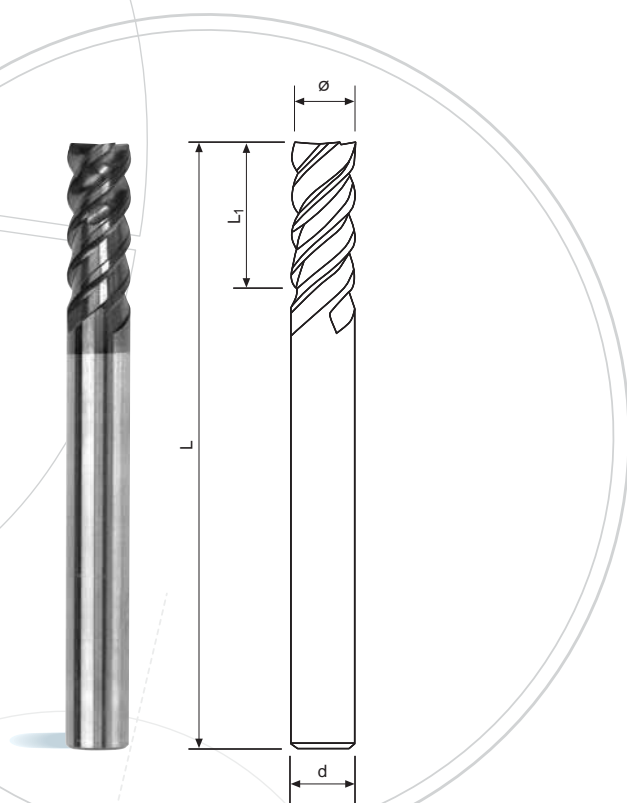
SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

1451XT



SERIE LUNGA

EXTENDED LENGTH - SÉRIE LONGUE
ÜBERLÄNGE - SERIE LARGA



Ø mm	L mm	L1 mm	d mm	z	1451XT
					€
4	60	12	6	4	84,50
6	60	15	6	4	88,70
8	75	20	8	4	102,50
10	80	25	10	4	174,50
12	102	30	12	4	237,50
16	110	40	16	4	444,00
20	125	45	20	4	656,00



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 4 mm a 20 mm	+0.000 mm -0.038 mm	+0.000 mm -0.013 mm

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

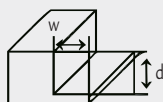
EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

PARÁMETROS DE CORTE

PER FRESATURA FRONTALE E LATERALE • SIDE MILLING • POUR FRESAGE FRONTAL ET LATÉRAL • SCHEIBENFRÄSEN • FRESADO FRONTAL Y LATERAL

Ø mm	Durezza . Hardness . Dureté . Härte . Durezza									
	150-200 HB		200-250 HB		25-35 HRC		35-50 HRC		50-55 HRC	
	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
4	6.800	700	6.400	1.300	8.800	1.100	4.800	400	3.200	240
6	4.500	800	4.200	1.500	5.800	1.300	3.200	400	2.100	260
8	3.400	700	3.200	1.400	4.400	1.200	2.400	620	1.600	410
10	2.700	680	2.500	1.300	3.500	1.100	1.900	600	1.300	410
12	2.300	660	2.100	1.200	2.900	1.000	1.600	510	1.050	350
16	1.700	550	1.600	950	2.200	900	1.200	390	800	330
20	1.350	450	1.250	750	1.750	800	950	320	650	260

Profondita' di taglio
Cutting Depth
Profondeur de coupe
Schnitt-Tiefe
Profundidad de corte



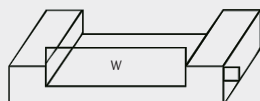
$$d = 1,5D$$

$$w = 0,1D$$

PER FRESATURA DI CAVE • SLOT MILLING • POUR FRESAGE DES GORGES • BOHRNUTENFRÄSEN • FRESADO DE RANURAS

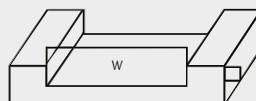
Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
4	3200	320	6.000	450	6.800	900	4.000	290	2.400	170
6	2.100	370	4.000	630	5.800	1.000	2.700	340	1.600	230
8	1.600	330	3.000	580	4.400	950	2.000	340	1.200	230
10	1.300	300	2.400	470	3.500	900	1.600	310	950	210
12	1.060	290	2.000	450	2.900	800	1.300	290	800	200
16	800	480	1.500	680	2.200	700	1.000	220	600	180
20	650	420	1.200	320	1.750	600	800	180	480	140

Profondita' di taglio
Cutting Depth
Profondeur de coupe
Schnitt-Tiefe
Profundidad de corte



$$w = D$$

$$d = W$$



$$w = D$$

$$d = 0,5D$$



FRESE POWER TORICHE A 4 TAGLI

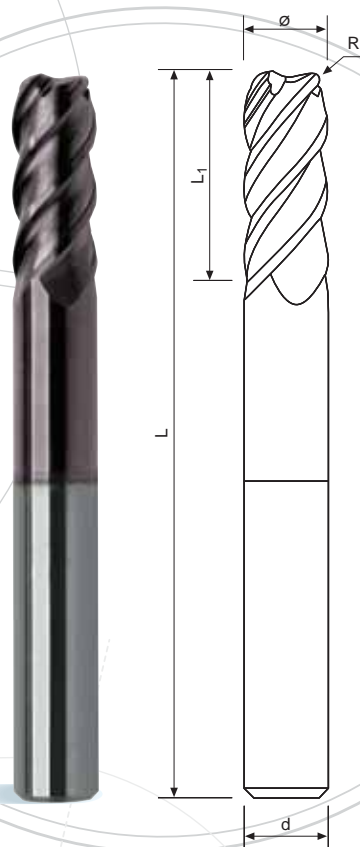
POWER TORIC END MILLS - 4 FLUTES
FRAISES POWER TORIQUE À 4 DENTS
POWER TORUSFRÄSER - 4 NUTEN
FRESAS POWER TÓRICAS - 4 LABIOS

MICROGRANA ULTRAFINE

SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

NEW

1452XT



Ø mm	R	L mm	L1 mm	d mm	z	1452XT
						€
3	0,2	60	8	6	4	115,50
3	0,5	60	8	6	4	115,50
4	0,2	60	11	6	4	115,00
4	0,5	60	11	6	4	115,50
4	1	60	11	6	4	115,50
5	0,2	60	13	6	4	115,50
5	0,5	60	13	6	4	115,50
5	1	60	13	6	4	115,50
6	0,3	60	13	6	4	115,50
6	0,5	60	13	6	4	115,00
6	1	60	13	6	4	115,00
8	0,3	80	19	8	4	156,00
8	0,5	80	19	8	4	156,00
8	1	80	19	8	4	156,00
8	1,5	80	19	8	4	156,00
8	2	80	19	8	4	156,00
10	0,3	80	22	10	4	212,00
10	0,5	80	22	10	4	212,00
10	1	80	22	10	4	212,00
10	1,5	80	22	10	4	212,00
10	2	80	22	10	4	212,00
10	3	80	22	10	4	212,00
12	0,5	100	26	12	4	282,00
12	1	100	26	12	4	282,00
12	1,5	100	26	12	4	282,00
12	2	100	26	12	4	282,00
12	3	100	26	12	4	282,00
16	1	115	32	16	4	416,00
16	1,5	115	32	16	4	416,00
16	2	115	32	16	4	416,00
16	3	115	32	16	4	416,00
20	1	125	38	20	4	612,00
20	1,5	125	38	20	4	612,00
20	2	125	38	20	4	612,00
20	3	125	38	20	4	612,00



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

TOLLERANZA - TOLERANCE - TOLERANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 3 mm a 20 mm	+0.00 mm -0.038 mm	+0.00 mm -0.013 mm

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

PARÁMETROS DE CORTE

PER FRESATURA FRONTALE E LATERALE • SIDE MILLING • POUR FRESAGE FRONTAL ET LATÉRAL • SCHEIBENFRÄSEN • FRESADO FRONTAL Y LATERAL

Materiale da lavorare Material to work Matière à usiner zu bearbeitendes Material Material a trabajar	Ghisa Cast iron	Acciaio inossidabile Stainless steel	Acciai Steel	Acciai temprati Acciai legati Hardened steel Prehardened steel	Acciai temprati Hardened Steels
	Fonte Cast iron	Acier inoxydable Stainless steel	Acier Steel	Aciers trempés Aciers liés Hardened steel Prehardened steel	Aciers trempés Hardened Steels
	Guß Cast iron	Rostfreier Stahl Stainless steel	Stahl Steel	gehärteter Stahl vorgehärteter Stahl	gehärteter Stahl Hardened Steels
	Fundición Cast iron	Acero inoxidable Stainless steel	Acero Steel	Acero templado Hardened steel	Acero templado Hardened Steels
		Durezza . Hardness . Dureté . Härte . Dureza < 800 N/mm ²		< 55 HRC	
				< 60 HRC	

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
3	9.000	830	5.800	470	9.000	830	5.300	410	2.700	160
4	6.800	850	4.400	500	6.800	850	4.000	440	2.000	160
5	5.400	890	3.500	540	5.400	890	3.200	450	1.600	160
6	4.500	1.060	2.900	560	4.500	1.060	2.700	460	1.300	160
8	3.400	1.060	2.200	540	3.400	1.060	2.000	470	1.000	150
10	2.700	940	1.800	500	2.700	940	1.600	450	800	140
12	2.300	940	1.500	450	2.300	940	1.300	400	700	140
16	1.700	810	1.100	380	1.700	810	1.000	340	500	140
20	1.400	650	900	340	1.400	650	800	300	400	140

Per fresatura di cave ridurre l'avanzamento (feed = mm/min) del 20%.

In slot milling reduce feed to -20%

Pour fresage des gorges réduire l'avancement (av=mm/min) du 20%.

Beim Bohrmutenfräsen den Vorschub auf -20 % reduzieren.

Para fresado de ranuras reducir el avance un 20%.

PER ULTERIORI INFORMAZIONI CONTATTATECI

FOR MORE INFORMATION PLEASE CONTACT US

POUR TOUT REINSEIGNEMENT CONTACTEZ-NOUS

FÜR WEITERE INFORMATIONEN BITTEN WIR UM KONTAKTAUFNAHME

PARA MÁS INFORMACIÓN LLAMENOS

Servizio tecnico
chiamata gratuita

Numero Verde

800-018130

angeloghezzi

RICHIEDI I NUOVI CATALOGHI TALICARB

ASK FOR OUR NEW TALICARB CATALOGUES

DEMANDEZ LES NOUVEAUX CATALOGUES TALICARB

FRAGEN SIE NACH UNSEREN NEUEN TALICARB KATALOGEN

PIDA NUESTROS NUEVOS CATALOGOS TALICARB



FRESE POWER HARD



HARD POWER END MILLS

FRAISES POWER HARD

HARD POWER FRÄSER

FRESAS POWER HARD

Talicarb

FRESE POWER HARD SEMISFERICHE A 2 TAGLI PER COPIATURA

HARD POWER BALL NOSE COPY END MILLS - 2 FLUTES
FRAISES POWER HARD SÉMISPHERIQUES À 2 DENTS POUR COPIAGE
HARD POWER RADIUSKOPIERFRÄSER - 2 NUTEN
FRESAS POWER HARD ESFÉRICAS DE COPIADO - 2 LABIOS

MICROGRANA ULTRAFINE

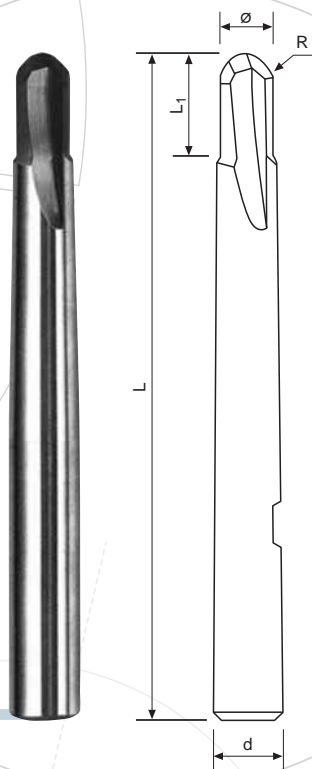
SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

302RXT



SERIE LUNGA

EXTENDED LENGTH - SÉRIE LONGUE
ÜBERLÄNGE - SERIE LARGA



Ø mm	R	L mm	L1 mm	d mm	z	302RXT
						€
3	1.5	75	4	6	2	123,00
3	1.5	100	4	6	2	128,50
4	2	75	5	6	2	123,00
4	2	100	6	6	2	128,50
5	2.5	75	6	6	2	123,00
5	2.5	100	6	6	2	128,50
6	3	75	8	10	2	150,50
6	3	100	8	10	2	156,50
8	4	85	12	10	2	161,50
8	4	110	12	10	2	180,50
8	4	140	12	10	2	196,50
10	5	110	15	12	2	200,00
10	5	150	15	12	2	219,50



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 3 mm a 6 mm	+0.00 mm -0.018 mm	+0.00 mm -0.008 mm
da 6 mm a 10 mm	+0.013 mm -0.035 mm	+0.00 mm -0.009 mm

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

PARÁMETROS DE CORTE

MACCHINE TRADIZIONALI . Conventional CNC machines		MACCHINE ALTA VELOCITA' . High speed CNC machines	
Materiale da lavorare Material to work Matière à usiner zu bearbeitendes Material Material a trabajar	Acciai temprati Hardened Steels Aciers trempés gehärteter Stahl Acero templado	Acciai temprati Hardened Steels Aciers trempés gehärteter Stahl Acero templado	Acciai temprati Hardened Steels Aciers trempés gehärteter Stahl Acero templado
Durezza . Hardness . Dureté . Härte . Dureza		Durezza . Hardness . Dureté . Härte . Dureza	
50 ÷ 55 HRC		50 ÷ 55 HRC	

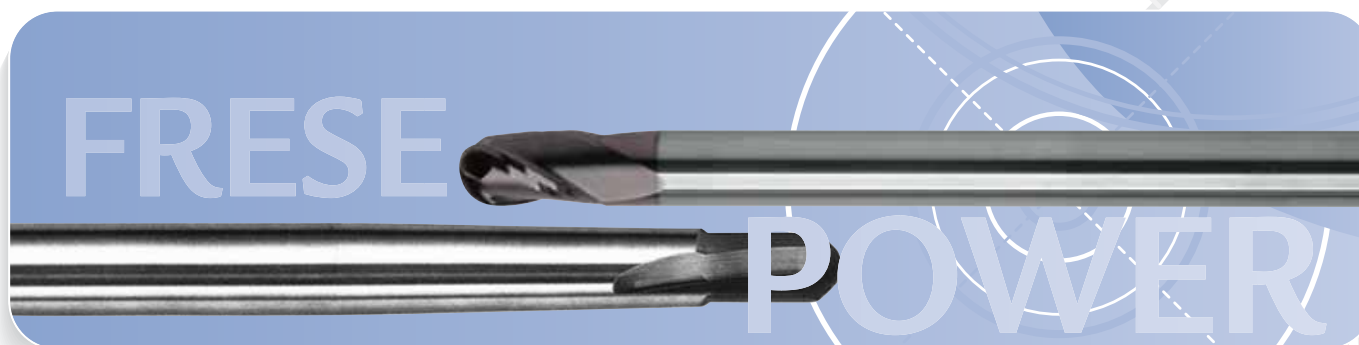
Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
3	10.500 ÷ 9.500	900 ÷ 850	16.000 ÷ 12.000	1.400 ÷ 1.000
4	9.600 ÷ 7.500	1.100 ÷ 900	12.000 ÷ 9.500	1.600 ÷ 1.400
5	7.700 ÷ 6.000	1.200 ÷ 1.000	10.500 ÷ 8.500	1.700 ÷ 1.500
6	6.500 ÷ 5.000	1.300 ÷ 1.100	9.000 ÷ 7.500	1.800 ÷ 1.600
8	4.800 ÷ 3.800	1.000 ÷ 800	7.000 ÷ 5.500	1.500 ÷ 1.100
10	4.100 ÷ 3.000	820 ÷ 630	5.600 ÷ 4.400	1.200 ÷ 900
12	3.500 ÷ 2.800	700 ÷ 580	4.500 ÷ 3.600	900 ÷ 720

Profondità' di taglio
Cutting Depth
Profondeur de coupe
Schnitt-Tiefe
Profundidad de corte

0,1±0,3mm

0,1xØ

0,2xD



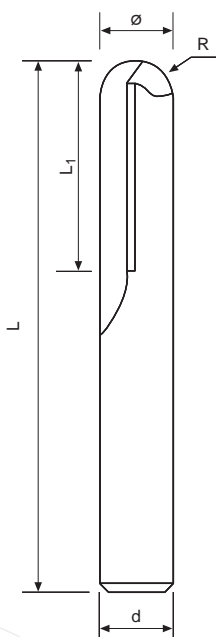
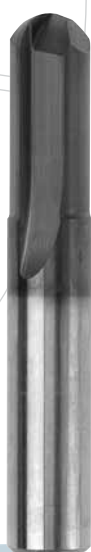
FRESE POWER HARD SEMISFERICHE A 2 TAGLI PER COPIATURA

HARD POWER BALL NOSE COPY END MILLS - 2 FLUTES
FRAISES POWER HARD SÉMISPHERIQUES À 2 DENTS POUR COPIAGE
HARD POWER RADIUSKOPIERFRÄSER - 2 NUTEN
FRESAS POWER HARD ESFÉRICAS DE COPIADO - 2 LABIOS

MICROGRANA ULTRAFINE

SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

130RXT



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

Ø mm	R	L mm	L1 mm	d mm	z	130RXT
						€
3	1.5	50	8	6	2	94,60
4	2	50	10	6	2	94,60
5	2.5	50	12	6	2	94,60
6	3	50	18	6	2	82,50
8	4	60	22	8	2	100,50
10	5	60	26	10	2	123,00
12	6	70	30	12	2	174,50

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 3 mm a 6 mm	+0.010 mm -0.028 mm	+0.000 mm -0.008 mm
da 6 mm a 12 mm	+0.013 mm -0.035 mm	+0.000 mm -0.009 mm

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

PARÁMETROS DE CORTE

MACCHINE TRADIZIONALI . Conventional CNC machines				MACCHINE ALTA VELOCITA' . High speed CNC machines			
Materiale da lavorare Material to work Matière à usiner zu bearbeitendes Material Material a trabajar	Acciai e ghisa Steel and cast iron Aciers et fonte Stahl und Grauguß Acero y fundicion	Acciao Steels Acier Stahl Acero	Acciao, Leghe Ni-Co Steel, Ni-Co alloys Acier, Alliages Ni-Co Stahl, Ni-Co Legierungen Acero, aleación de Ni-Co	Acciai e ghisa Steel and cast iron Aciers et fonte Stahl und Grauguß Acero y fundicion	Acciao Steels Acier Stahl Acero	Durezza . Hardness . Dureté . Härte . Dureza	
	<30 HRC	30 ÷ 45 HRC	45 ÷ 55 HRC	<45 HRC	45 ÷ 55 HRC		

Ø mm	Speed RPM (giri/min)		Feed mm/min		Speed RPM (giri/min)		Feed mm/min		Speed RPM (giri/min)		Feed mm/min	
	2	13.000	320	9.000	210	6.000	105	20.000	500	20.000	350	
4	9.000	520	7.800	360	5.200	170	20.000	1.000	12.000	400		
6	6.500	560	5.700	370	3.900	190	19.000	1.500	10.000	480		
8	4.700	520	3.900	340	2.600	180	14.000	1.500	7.000	550		
10	3.900	520	3.300	340	2.200	170	12.000	1.400	6.000	650		

Profondità' di taglio Cutting Depth Profondeur de coupe Schnitt-Tiefe Profundidad de corte		
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Per superfici con inclinazione > 15° parametri ridotti del 30%.

For surfaces with inclination > 15° reduce parameters to -30%.

Pour surfaces avec inclination > 15° paramètres réduits du 30%.

Für Oberflächen mit einer Neigung > 15° reduzieren Sie die Parameter auf -30%.

Para superficies con inclinación > 15° reducir parametros - 30%.

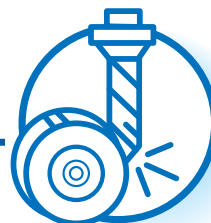
I NOSTRI SERVIZI SEMPRE A VOSTRA DISPOSIZIONE

OUR PROMPT SERVICES ALWAYS READY FOR YOU

NOS SERVICES TOUJOURS À VOTRE DISPOSITION

UNSER PROMPTER SERVICE IST IMMER FÜR SIE DA

NUESTRO RÁPIDO SERVICIO SIEMPRE LISTO PARA USTED



SERVIZIO DI RIAFFILATURA E RIVESTIMENTO

RE-SHARPENING AND COATING SERVICE

SERVICE DE AFFÛTAGE À NOUVEAU ET REVÊTEMENT

NACHSCHLEIF- UND BESCHICHTUNGSSERVICE

SERVICIO DE AFILADO Y RECUBRIMIENTO

UTENSILI SPECIALI

SPECIAL-TOOLS DEPARTMENT

OUTILS SPÉCIAUX

ABTEILUNG FÜR SONDERWERKZEUGE

HERRAMIENTAS ESPECIALES

FRESE POWER HARD SEMISFERICHE A 3 TAGLI

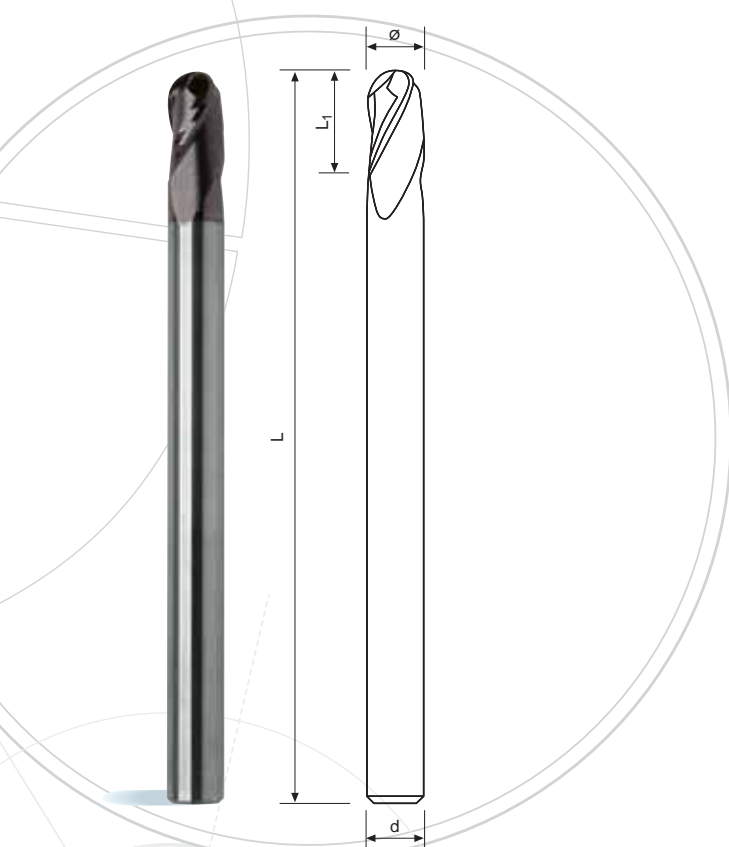
HARD POWER BALL NOSE END MILLS - 3 FLUTES
FRAISES POWER HARD SÉMISPHERIQUES À 3 DENTS
HARD POWER RADIUSFRÄSER - 3 NUTEN
FRESAS POWER HARD ESFÉRICAS - 3 LABIOS

MICROGRANA ULTRAFINE

SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

NEW

493RXT



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

Ø mm	L mm	L1 mm	d mm	z	493RXT
					€
2	50	5	6	3	70,60
3	60	8	6	3	70,60
4	70	8	6	3	70,60
5	80	10	6	3	75,50
6	90	12	6	3	75,50
6	140	12	6	3	119,50
8	100	14	8	3	101,50
8	160	14	8	3	167,00
10	100	18	10	3	135,50
10	180	18	10	3	227,00
12	110	22	12	3	177,00
12	200	22	12	3	297,00
16	140	30	16	3	342,00
16	220	30	16	3	428,00
20	160	38	20	3	418,00
20	250	38	20	3	569,00

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA		
Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 2 mm a 20 mm	f8	h6

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

PARÁMETROS DE CORTE

FRESATURA PER COPIATURA • COPY MILLING • POUR COPIAGE • KOPIERFRÄSER • FRESA DE COPIAR

Materiale da lavorare	Ghisa	Acciai	Acciai temprati Acciai legati	Acciai temprati
Material to work	Cast iron	Steel	Hardened steel Prehardened steel	Hardened Steels
Matière à usiner	Fonte	Acier	Aciers trempés Aciers liés	Aciers trempés
zu bearbeitendes Material	Guß	Stahl	gehärteter Stahl vorgehärteter Stahl	gehärteter Stahl
Material a trabajar	Fundición	Acero	Acero templado	Acero templado
		< 1200 N/mm ²	< 55 HRC	< 60 HRC
				< 65 HRC

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
2	26.700	5.060	26.700	5.060	16.600	2.680	12.700	2.010	11.500	1.810
3	17.800	4.820	17.800	4.820	11.000	2.530	8.500	1.830	7.600	1.650
4	13.400	4.570	13.400	4.570	8.300	2.380	6.400	1.660	5.700	1.500
5	11.100	4.450	11.100	4.450	6.900	2.250	5.300	1.580	4.800	1.420
6	8.900	3.360	8.900	3.360	5.100	1.660	4.200	1.280	3.400	950
8	6.700	3.560	6.700	3.560	3.800	1.600	3.200	1.240	2.500	920
10	5.300	3.470	5.300	3.470	3.100	1.430	2.500	1.190	2.000	880
12	4.500	3.200	4.500	3.200	2.500	1.430	2.100	1.100	1.700	730
15	3.300	2.410	3.300	2.410	1.900	1.100	1.600	860	1.300	550
20	2.700	1.920	2.700	1.920	1.500	880	1.300	680	1.000	440

RICHIEDI I NUOVI CATALOGHI TALICARB

ASK FOR OUR NEW TALICARB CATALOGUES

DEMANDEZ LES NOUVEAUX CATALOGUES TALICARB

FRAGEN SIE NACH UNSEREN NEUEN TALICARB KATALOGEN

PIDA NUESTROS NUEVOS CATALOGOS TALICARB



FRESE POWER HARD TORICHE

A 3/4 TAGLI

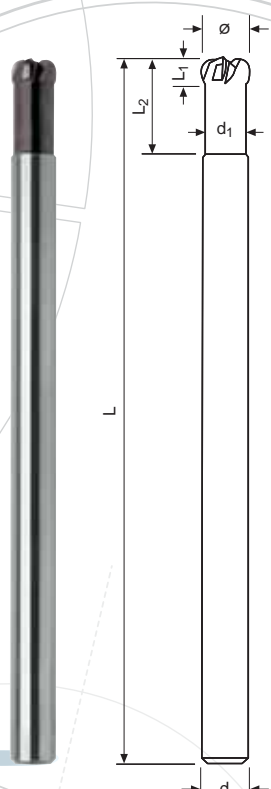
HARD POWER TORIC END MILLS 3/4 FLUTES
 FRAISES POWER HARD TORIQUES À 3/4 DENTS
 HARD POWER TORUSFRÄSER 3/4 NUTEN
 FRESAS POWER HARD TÓRICAS - 3/4 LABIOS

FRESE MICROGRANA ULTRAFINE

SUB-MICROGRAIN
 MICRO-GRAIN ULTRAFIN
 HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
 SUB-MICROGRANO

NEW

491HXT



Ø/R mm	d1 mm	L mm	L1 mm	L2 mm	d mm	z	491HXT
							€
2/0.5	1.8	60	0.8	5	6	3	96,40
3/0.75	2.7	60	1.2	7.5	6	4	96,40
4/1	3.6	70	1.6	10	6	4	99,40
5/1.2	4.5	80	2	12.5	6	4	99,40
6/1.5	5.4	90	2.5	12	6	4	137,50
7/1.5	—	90	3	—	6	4	149,50
8/2	7.2	104	3.5	32	8	4	161,00
9/2	—	104	4	—	8	4	183,00
10/2	9	104	4	40	10	4	199,00
11/2	—	104	4.5	—	10	4	221,00
12/3	11	104	5	48	12	4	236,50
13/3	—	104	5.5	—	12	4	261,00
16/4	14	104	6.5	28	16	4	322,00



Rivestimento X-Treme
 X-Treme coating
 Revêtement X-Treme
 X-Treme-Beschichtung
 Recubrimiento X-Treme

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA		
Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 2 mm a 16 mm	e8	h6

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

PARÁMETROS DE CORTE

FRESATURA TASCHE • POCKET MILLING • FRESAGE POCHES • TASCHENFRÄSEN • CAJEADO

Materiale da lavorare	Ghisa	Acciaio inossidabile	Acciai	Acciai temprati Acciai legati	Acciai temprati	Titanio
Material to work	Cast iron	Stainless steel	Steel	Hardened steel Prehardened steel	Hardened Steels	Titanium
Matière à usiner	Fonte	Acier inoxydable	Acier	Aciers trempés Aciers liés	Aciers trempés	Titane
zu bearbeitendes Material	Guß	Rostfreier Stahl	Stahl	gehärteter Stahl vorgehärteter Stahl	gehärteter Stahl	Titan
Material a trabajar	Fundición	Acero inoxidable	Acero	Acero templado	Acero templado	Titanio
Durezza . Hardness . Dureté . Härte . Durezza						
		< 800 N/mm ²	< 1200 N/mm ²	< 55 HRC	< 60 HRC	

MACCHINE TRADIZIONALI . Conventional CNC machines

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
2	12.700	4.200	8.800	2.680	12.700	4.200	6.400	1.720	4.000	690	6.400	1.720
3	8.500	5.000	5.800	3.120	8.500	5.000	4.200	2.080	2.700	800	4.200	2.080
4	6.400	5.280	4.400	3.360	6.400	5.280	3.200	2.200	2.000	840	3.200	2.200
5	5.100	5.600	3.500	3.560	5.100	5.600	2.500	2.280	1.600	920	2.500	2.280
6	4.200	5.600	2.900	3.560	4.200	5.600	2.100	2.280	1.300	920	2.100	2.280
7	3.600	4.800	2.500	3.040	3.600	4.800	1.800	1.960	1.100	780	1.800	1.960
8	3.200	5.600	2.200	3.560	3.200	5.600	1.600	2.280	1.000	920	1.600	2.280
9	2.800	4.960	1.900	3.160	2.800	4.960	1.400	2.040	900	800	1.400	2.040
10	2.500	5.600	1.800	3.560	2.500	5.600	1.300	2.280	800	920	1.300	2.280
11	2.300	5.080	1.600	3.240	2.300	5.080	1.200	2.080	700	840	1.200	2.080
12	2.100	5.600	1.500	3.560	2.100	5.600	1.100	2.280	700	920	1.100	2.280
13	2.000	5.160	1.300	3.280	2.000	5.160	1.000	2.120	600	840	1.000	2.120
16	1.600	3.040	1.100	1.870	1.600	5.000	800	1.280	500	480	800	1.280

MACCHINE ALTA VELOCITA' . High speed CNC machines

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
2	25.500	8.400	19.100	5.720	25.500	8.400	19.100	5.160	12.700	2.280	19.100	5.160
3	17.000	10.000	12.700	6.720	17.000	10.000	12.700	6.280	8.500	2.640	12.700	6.280
4	12.700	10.400	9.500	7.200	12.700	10.400	9.500	6.560	6.400	2.840	9.500	6.560
5	10.200	11.200	7.600	7.640	10.200	11.200	7.600	6.880	5.100	3.040	7.600	6.880
6	8.500	11.200	6.400	7.640	8.500	11.200	6.400	6.880	4.200	3.040	6.400	6.880
7	7.300	9.600	5.500	6.560	7.300	9.600	5.500	5.880	3.600	2.600	5.500	5.880
8	6.400	11.200	4.800	7.640	6.400	11.200	4.800	6.880	3.200	3.040	4.800	6.880
9	5.700	9.920	4.200	6.800	5.700	9.920	4.200	6.120	2.800	2.720	4.200	6.120
10	5.100	11.200	3.800	7.640	5.100	11.200	3.800	6.880	2.500	3.040	3.800	6.880
11	4.600	10.160	3.500	6.960	4.600	10.160	3.500	6.240	2.300	2.800	3.500	6.240
12	4.200	11.200	3.200	7.640	4.200	11.200	3.200	6.880	2.100	3.040	3.200	6.880
13	3.900	10.320	2.900	7.040	3.900	10.320	2.900	6.360	2.000	2.840	2.900	6.360
16	3.200	6.080	2.400	4.080	3.200	6.080	2.400	3.840	1.600	1.540	2.400	3.840

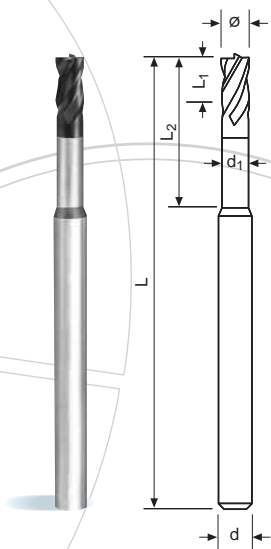
FRESE POWER HARD ELICOIDALI E TORICHE A 4 TAGLI

MICROGRANA ULTRAFINE

HARD POWER TWIST AND TORIC END MILLS - 4 FLUTES
FRAISES POWER HARD HÉLICOÏDALES ET TORIQUES À 4 DENTS
HARD POWER DRALLNUTIGE UND TORUS-FRÄSER - 4 NUTEN
FRESAS POWER HARD HELICOIDALES Y TÓRICAS - 4 LABIOS

SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

1411XT

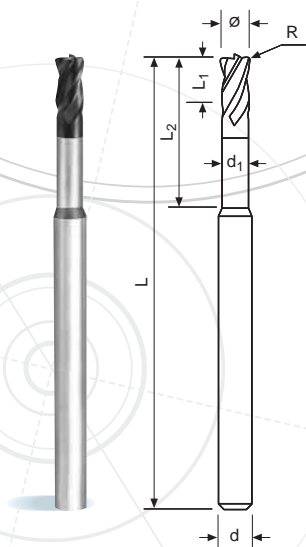


Ø mm	d1 mm	L mm	L1 mm	L2 mm	d mm	z	1411XT
							€
3	2.85	70	4.5	15	6	4	55,80
3.5	3.35	70	5.3	17.5	6	4	58,80
4	3.85	70	6	20	6	4	57,70
5	4.85	80	7.5	25	6	4	62,10
6	5.85	90	9	30	6	4	64,70

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 3 mm a 6 mm	+0.000 mm -0.025 mm	+0.000 mm -0.013 mm

1415XT



Ø mm	R	d1 mm	L mm	L1 mm	L2 mm	d mm	Z	1415XT
								€
3	0.5	2.85	70	4.5	15	6	4	60,20
3.5	0.5	3.35	70	5.3	17.5	6	4	63,60
4	0.5	3.85	70	6	20	6	4	62,40
5	0.5	4.85	80	7.5	25	6	4	67,10
6	0.5	5.85	90	9	30	6	4	69,90

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 3 mm a 6 mm	+0.000 mm -0.025 mm	+0.000 mm -0.013 mm

XT

Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE


EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

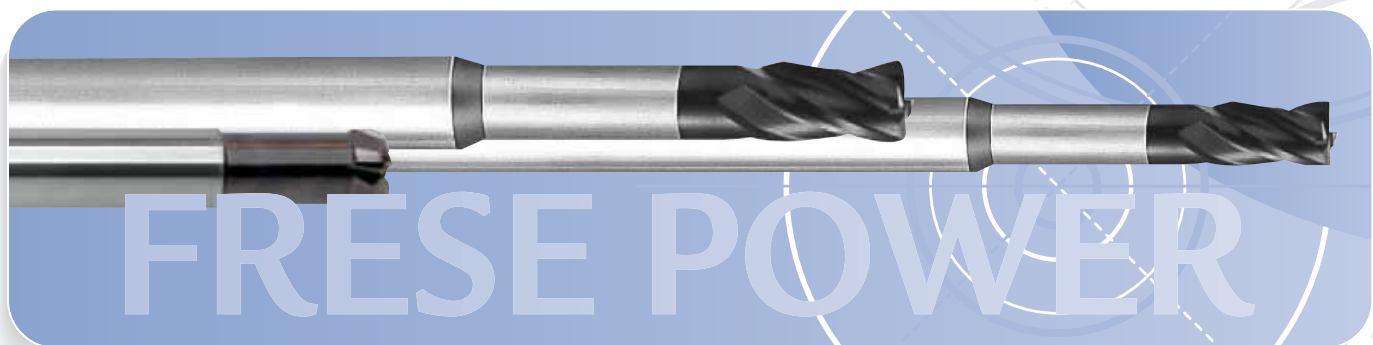
PARÁMETROS DE CORTE

PER FRESATURA DI CAVE • SLOT MILLING • POUR FRESAGE DES GORGES • BOHRNUTENFRÄSEN • FRESADO DE RANURAS

Materiale da lavorare Material to work Matière à usiner zu bearbeitendes Material Material a trabajar	Acciaio debolmente legato Acciaio al carbonio - Ghisa Mild steel Carbon steel - Cast Iron	Leghe d'acciaio Acciai da utensili Steel alloys Tool steel	Acciai temprati Acciai legati Hardened steel Prehardened steel	Acciai temprati Acciai legati Hardened steel Prehardened steel
	Acier faiblement lié Acier au carbone - Fonte unlegierter Stahl Stahl- und Stahlguß - Guß	Alliages d'acier Aciers à outils Stahllegierung Werkzeugstahl	Aciers trempés Aciers liés gehärteter Stahl vorgehärteter Stahl	Aciers trempés gehärteter Stahl
	Acero de baja aleacion Acero al carbono - Fundición Aceros aleados Acero para herramientas		Acero templado	Acero templado
		Durezza . Hardness . Dureté . Härte . Durezza		
> 750 N/mm ²		> 30 HRC	30 - 38 HRC	38 - 45 HRC
			45 - 55 HRC	55 - 60 HRC

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
3	8.900	1.000	7.200	700	5.900	500	5.100	400	3.200	150	2.100	50
4	6.700	1.000	5.400	700	4.500	500	3.800	400	2.400	150	1.600	50
5	5.300	1.000	4.300	700	3.600	500	3.100	400	1.900	150	1.300	50
6	4.500	1.000	3.600	700	3.000	500	2.500	400	1.600	150	1.100	50

<p>Profondità' di taglio Cutting Depth Profondeur de coupe Schnitt-Tiefe Profundidad de corte</p>	<p>$Aa = 0.1 D$</p>		<p>$Aa = 0.02 D$</p>
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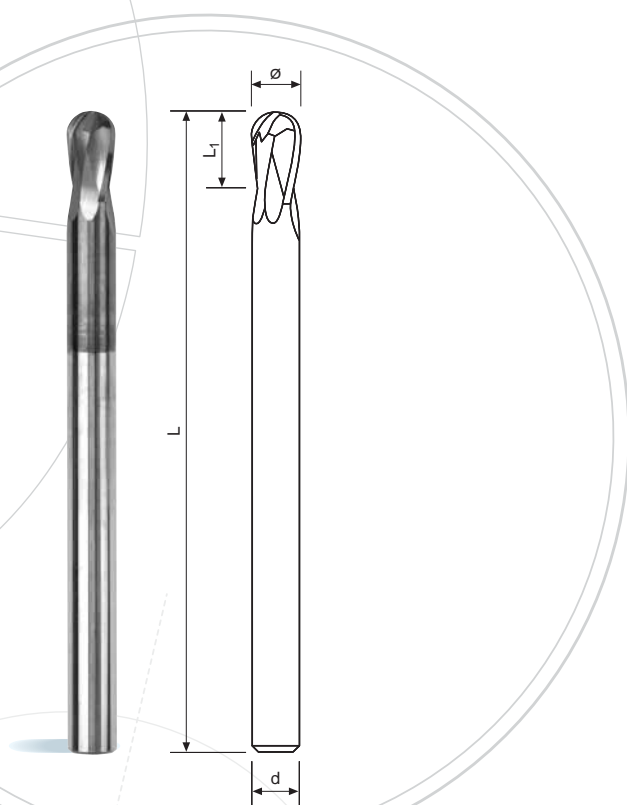
FRESE POWER HARD SEMISFERICHE A 2 TAGLI

HARD BALL NOSE POWER END MILLS 2 FLUTES
FRAISES POWER HARD SÉMISPHERIQUES À 2 DENTS
HARD POWER RADIUSFRÄSER - 2 NUTEN
FRESAS POWER HARD ESFÉRICAS - 2 LABIOS

MICROGRANA ULTRAFINE

SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

497RXT



Ø mm	L mm	L1 mm	d mm	z	497RXT
					€
3	64	4.5	3	2	49,30
4	64	6	4	2	64,70
5	64	7.5	5	2	72,70
6	102	9	6	2	82,10
8	102	12	8	2	114,00
10	102	15	10	2	133,50
11	127	16.5	11	2	224,00
12	127	18	12	2	269,00
14	127	21	14	2	364,00
16	153	24	16	2	440,00
18	153	27	18	2	497,00
20	153	30	20	2	552,00
22	153	33	22	2	623,00
25	153	37.5	25	2	803,00



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 3 mm a 25 mm	+ .000 mm - .038 mm	+ .000 mm - .013 mm

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

PARÁMETROS DE CORTE

LAVORAZIONI DI PROFILATURA • PROFILING • USINAGES DE PROFILAGE • PROFILFRÄSEN • FRESADO DE PERFIL

Materiale da lavorare	Acciaio debolemente legato Aciaio al carbonio - Ghisa	Acciai temprati Acciai legati	Leghe di TITANIO
Material to work	Mild steel Carbon steel - Cast Iron	Hardened steel Prehardened steel	Titanium alloys
Matière à usiner	Acier faiblement lié Acier au carbone - Fonte	Aciers trempés Aciers liés	Alliages de titane
zu bearbeitendes Material	unlegierter Stahl Stahl- und Stahlguß - Guß	gehärteter Stahl vorgehärteter Stahl	Titanlegierungen
Material a trabajar	Acero de baja aleacion Acero al carbono - Fundición	Acero templado	Aleaciones de titanio
Durezza . Hardness . Dureté . Härte . Dureza			
	< 25 HRC	25 - 45 HRC	45 - 55 HRC
			55 - 60 HRC
			30 - 40 HRC

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
3	12.000	864	12.000	737	10.600	610	8.500	406	6.400	305
4	11.000	890	11.000	737	9.000	610	7.500	425	5.600	330
5	9.600	914	9.600	737	8.000	610	6.400	457	4.800	355
6	7.600	914	7.600	737	6.400	610	5.100	483	3.800	355
8	6.400	914	6.400	762	5.300	610	4.200	508	3.200	381
10	4.800	666	4.800	584	4.000	483	3.200	381	2.400	279
12	3.500	508	3.500	406	2.900	356	2.300	279	1.700	203
14	3.200	457	3.200	381	2.600	330	2.100	254	1.600	203
16	2.400	356	2.400	279	2.000	229	1.600	203	1.200	152
20	1.900	279	1.900	229	1.600	203	1.300	152	950	127
25	1.500	229	1.500	178	1.300	152	1.000	127	760	102



FRESE POWER HARD SEMISFERICHE 250° A 2 TAGLI

HARD BALL NOSE 250° POWER END MILLS - 2 FLUTES
FRAISES POWER HARD SÉMISPHERIQUES 250° À 2 DENTS
HARD POWER RADIUSFRÄSER 250° - 2 NUTEN
FRESAS POWER HARD ESFÉRICAS 250° - 2 LABIOS

MICROGRANA ULTRAFINE

SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

NEW

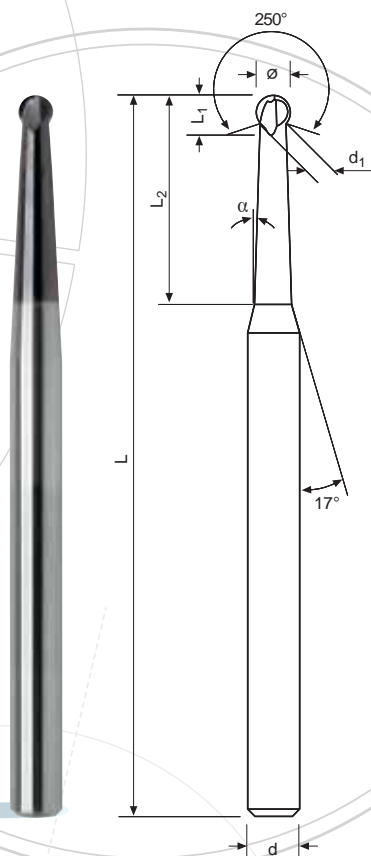
432RXT



SERIE LUNGA

EXTENDED LENGHT - SÉRIE LONGUE

ÜBERLÄNGE - SERIE LARGA



Ø mm	d1 mm	L mm	L1 mm	L2 mm	α	d mm	z	432RXT	
									€
1	0.7	80	0.7	20	1.5°	6	2		130,00
2	1.4	80	1.35	20	1.5°	6	2		127,50
3	2.1	80	2	30	1.5°	6	2		127,50
4	3.3	80	2.7	30	3°	6	2		125,50
5	4.1	90	3.4	40	1°	6	2		130,00
6	4.7	100	4.05	45	—	6	2		139,00
8	6.5	100	5.4	45	1°	8	2		190,50
10	8.2	100	6.75	45	1°	10	2		259,50

XT

Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 1 mm a 10 mm	f8	h6

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

PARÁMETROS DE CORTE

LAVORAZIONI DI PROFILATURA • PROFILING • USINAGES DE PROFILAGE • PROFILFRÄSEN • FRESADO DE PERFIL

Materiale da lavorare	Ghisa	Acciaio inossidabile	Acciai	Acciai temprati
Material to work	Cast iron	Stainless steel	Steel	Hardened Steels
Matière à usiner	Fonte	Acier inoxydable	Acier	Aciers trempés
zu bearbeitendes Material	Guß	Rostfreier Stahl	Stahl	gehärteter Stahl
Material a trabajar	Fundición	Acero inoxidable	Acero	Acero templado

Durezza . Hardness . Dureté . Härte . Durezza

> 800 N/mm ²	< 800 N/mm ²	< 800 N/mm ²	< 1200 N/mm ²	> 1200 N/mm ²	< 55 HRC	< 60 HRC	< 66 HRC
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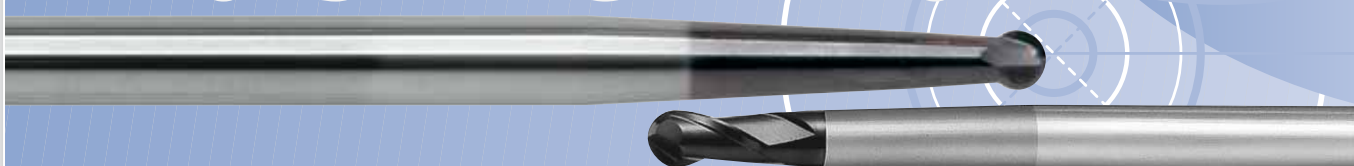
MACCHINE TRADIZIONALI . Conventional CNC machines

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
1	25.900	1.500	22.300	1.400	20.700	1.300	25.900	1.500	20.700	1.500	18.800	900	15.900	800	15.900	800	23.900	450
2	19.100	1.200	19.100	1.300	15.900	1.000	19.100	1.200	19.100	1.200	15.900	900	15.900	800	15.900	800	11.900	450
3	15.900	1.100	12.700	1.300	10.600	1.000	15.900	1.100	12.700	1.100	10.600	700	10.600	800	10.600	800	8.000	450
4	11.900	1.100	9.500	1.400	8.000	1.100	11.900	1.100	9.500	1.100	8.000	600	8.000	850	8.000	850	6.000	350
5	9.500	900	7.600	1.200	6.400	1.000	9.500	900	7.600	900	6.400	600	6.400	750	6.400	750	4.800	300
6	8.000	900	6.400	1.100	5.300	900	8.000	900	6.400	900	5.300	600	5.300	650	5.300	650	4.000	250
8	6.000	800	4.800	1.000	4.000	800	6.000	800	4.800	800	4.000	500	4.000	600	4.000	600	3.000	250
10	4.800	800	3.800	800	3.200	700	4.800	800	3.800	800	3.200	500	3.200	500	3.200	500	2.400	200

MACCHINE ALTA VELOCITA' . High speed CNC machines

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
1	47.700	2.770	44.600	1.340	41.400	1.080	47.700	2.770	41.400	2.280	38.200	1.830	31.800	950	43.000	1.090	38.200	690
2	44.600	2.770	38.200	2.670	31.800	1.910	44.600	2.770	38.200	2.250	31.800	1.780	31.800	1.590	23.900	1.210	23.100	690
3	31.800	2.230	25.500	2.550	21.200	1.910	31.800	2.230	2.500	1.700	21.200	1.310	21.200	1.700	19.100	1.460	15.900	890
4	23.900	2.180	19.100	2.750	15.900	2.240	23.900	2.180	19.100	1.650	15.900	1.270	15.900	1.690	14.300	1.190	11.900	690
5	19.100	1.880	15.300	2.410	12.700	1.990	19.100	1.880	15.300	1.430	12.700	1.140	12.700	1.490	11.500	1.060	9.500	590
6	15.900	1.800	12.700	2.230	10.600	1.770	15.900	1.800	12.700	1.370	10.600	1.100	10.600	1.300	9.500	890	8.000	500
8	11.900	1.490	9.500	1.950	8.000	1.620	11.900	1.490	9.500	1.130	8.000	910	8.000	1.200	7.200	850	6.000	500
10	9.500	1.480	7.600	1.690	6.400	1.400	9.500	1.480	7.600	1.130	6.400	920	6.400	1.000	5.700	690	4.800	400

FRESE POWER



FRESE POWER HARD SEMISFERICHE A 2 TAGLI

HARD BALL NOSE POWER END MILLS - 2 FLUTES
FRAISES POWER HARD SÉMISPHERIQUES À 2 DENTS
HARD POWER RADIUSFRÄSER - 2 NUTEN
FRESAS POWER HARD ESFÉRICAS - 2 LABIOS

MICROGRANA ULTRAFINE

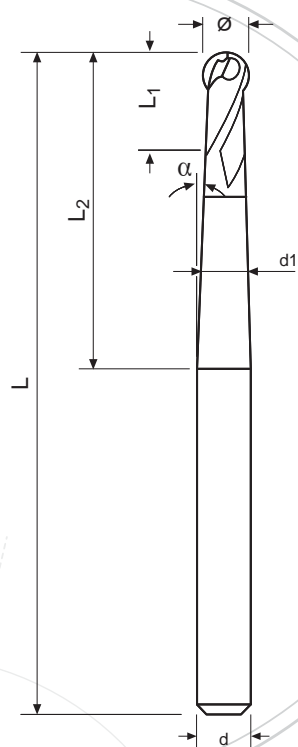
SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

402RXT



SERIE LUNGA

EXTENDED LENGTH - SÉRIE LONGUE
ÜBERLÄNGE - SERIE LARGA



Ø mm	d1 mm	L mm	L1 mm	L2 mm	α	d mm	z	402RXT
								€
1	3.8	60	2.5	20	5°	6	2	72,30
1	4.8	80	2.5	40	3°	6	2	76,90
2	4.3	60	5	20	5°	6	2	72,30
2	5.5	80	5	40	3°	6	2	76,90
3	5	70	8	30	3°	6	2	74,50
3	5.1	90	8	50	1°30'	6	2	79,10
4	6	70	8	28	3°	6	2	74,30
4	6	90	8	48	1°30'	6	2	78,90
5	8	90	10	40	3°	8	2	95,00
5	7.5	110	10	60	1°30'	8	2	100,50
6	8	90	12	33.5	3°	8	2	99,50
6	8	110	12	52	1°30'	8	2	105,00
8	10	100	14	35.5	3°	10	2	129,00
8	10	120	14	54.5	1°30'	10	2	137,50
10	12	110	18	39.5	3°	12	2	159,50
10	12	130	18	58.5	1°30'	12	2	168,00
12	16	140	22	60	3°	16	2	239,00
12	14.9	160	22	80	1°30'	16	2	261,00

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 1 mm a 3 mm	+0.00 mm -0.025 mm	+0.000 mm -0.013 mm
da 4 mm a 12 mm	+0.000 mm -0.038 mm	+0.000 mm -0.013 mm



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA . PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE . PARÁMETROS DE CORTE

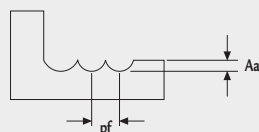
LAVORAZIONI AD ALTA VELOCITÀ

HIGH SPEED LIGHT MILLING - USINAGES À HAUTE VITESSE - HOCHGESCHWINDIGKEITS-BEARBEITUNG - FRESADO ALTA VELOCIDAD

Materiale da lavorare	Ghisa	Acciaio debolmente legato Acciaio al carbonio - Ghisa	Leghe d'acciaio Acciai da utensili	Acciai temprati Acciai legati
Material to work	Cast Iron	Mild steel Carbon steel - Cast Iron	Steel alloys Tool steel	Hardened steel Prehardened steel
Matière à usiner	Fonte	Acier faiblement lié Acier au carbone - Fonte	Alliages d'acier Aciers d'outils	Aciers trempés Aciers liés
zu bearbeitendes Material	Guß	unlegierter Stahl Stahl- und Stahlguß - Guß	Stahllegierung Werkzeugstahl	gehärteter Stahl vorgehärteter Stahl
Material a trabajar	Fundición	Acero de baja aleacion Acero al carbono - Fundición	Aceros aleados Acero para herramientas	Acero templado
		Durezza . Hardness . Dureté . Härte . Dureza > to 750 N/mm ²	> 30 HRC	30-38 HRC

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
1	32.000	408-609	25.000-32.000	360-609	25.000-31.500	300-500	20.000-25.000	190-320
2	19.000-23.500	408-673	15.500-19.000	370-609	12.500-15.500	300-500	10.000-12.500	190-320
3	12.500-15.500	449-711	10.500-12.500	375-609	9.450-10.500	300-500	6.750-8.450	190-320
4	9.500-11.500	449-723	7.950-9.500	381-609	6.350-7.950	300-505	5.050-6.350	210-355
5	7.600-9.500	510-850	6.350-7.600	424-680	5.050-6.350	300-505	4.050-5.050	216-360
6	6.350-7.950	510-850	5.300-6.350	424-680	4.200-5.300	315-536	3.350-4.200	216-365
8	4.750-5.950	640-1.049	3.850-4.750	510-820	3.150-3.950	360-630	2.500-3.150	264-444
10	3.800-4.750	574-960	3.150-3.800	475-770	2.500-3.150	355-594	2.000-2.500	248-419
12	3.150-3.950	617-900	2.650-3.150	449-711	2.100-2.650	330-560	1.650-2.100	231-369

Profondità' di taglio
Cutting Depth
Profondeur de coupe
Schnitt-Tiefe
Profundidad de corte



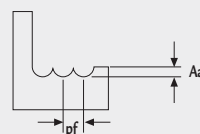
$Aa = 0.1 D$ $pf = 0.2 D$

Materiale da lavorare	Acciai temprati Acciai legati	Acciai temprati Acciai legati
Material to work	Hardened steel Prehardened steel	Hardened steel Prehardened steel
Matière à usiner	Aciers trempés Aciers liés	Aciers trempés Aciers liés
zu bearbeitendes Material	gehärteter Stahl vorgehärteter Stahl	gehärteter Stahl vorgehärteter Stahl
Material a trabajar	Acero templado	Acero templado
		Durezza . Hardness . Dureté . Härte . Dureza
		38-45 HRC
		45-55 HRC
		55-60 HRC

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
1	14.500-22.000	109-226	14.500-19.000	94-170	11.000	66-109
2	8.900-11.000	139-236	7.600-9.500	99-170	14.000	66-109
3	5.900-7.400	139-236	5.50-6.350	99-170	5.700-7.150	66-109
4	4.450-5.550	175-294	3.800-4.750	130-241	3.800-4.750	84-140
5	3.550-4.450	175-294	3.050-3.800	135-231	2.950-3.550	84-104
6	2.950-3.700	185-309	2.500-3.150	140-263	2.250-2.850	89-145
8	2.200-2.750	215-360	1.900-2.350	160-259	1.900-2.350	99-165
10	1.750-2.200	205-345	1.500-1.900	160-269	1.400-1.750	99-170
12	1.450-1.650	182-330	1.250-1.550	150-244	1.100-1.400	94-155

Profondità' di taglio
Cutting Depth
Profondeur de coupe
Schnitt-Tiefe
Profundidad de corte

$Aa = 0.1 D$ $pf = 0.2 D$



$Aa = 0.05 D$ $pf = 0.2 D$

FRESE POWER HARD SEMISFERICHE A 2 TAGLI

HARD BALL NOSE POWER END MILLS 2 FLUTES
FRAISES POWER HARD SÉMISPHERIQUES À 2 DENTS
HARD POWER RADIUSFRÄSER - 2 NUTEN
FRESAS POWER HARD ESFÉRICAS - 2 LABIOS

MICROGRANA ULTRAFINE

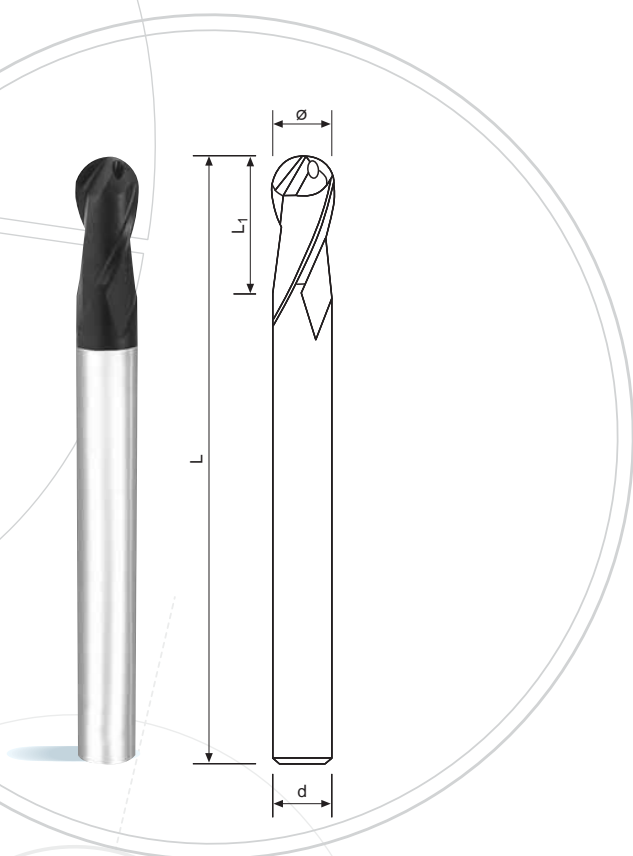
SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

416RXT



SERIE LUNGA

EXTENDED LENGTH - SÉRIE LONGUE
ÜBERLÄNGE - SERIE LARGA



Ø mm	L mm	L1 mm	d mm	z	416RXT
					€
1	50	2.5	4	2	65,00
1.2	50	3	4	2	69,20
1.4	50	3.5	4	2	69,20
1.5	50	4	4	2	69,20
1.6	50	4	4	2	69,20
1.8	50	4.5	4	2	69,20
2	50	5	6	2	62,10
2.5	60	6	6	2	75,60
3	60	8	6	2	63,30
4	60	8	4	2	63,00
4	70	8	6	2	63,30
5	80	10	6	2	74,00
6	90	12	6	2	71,60
7	90	14	6	2	95,40
8	100	14	8	2	93,60
9	100	18	10	2	136,00
10	100	18	10	2	118,50
12	110	22	12	2	154,00
13	110	26	12	2	188,50
14	110	26	12	2	264,00
15	110	30	12	2	269,00
16	140	30	16	2	344,00
18	140	34	16	2	430,00
20	160	38	20	2	537,00
25	180	50	25	2	998,00



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 1 mm a 3 mm	+0.00 mm -0.025 mm	+0.00 mm -0.013 mm
da 4 mm a 25 mm	+0.00 mm -0.038 mm	+0.00 mm -0.013 mm

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA . PARAMÈTRES DE COUPE

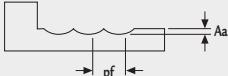

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE . PARÁMETROS DE CORTE

LAVORAZIONI AD ALTA VELOCITÀ

HIGH SPEED LIGHT MILLING - USINAGES À HAUTE VITESSE - HOCHGESCHWINDIGKEITS-BEARBEITUNG - FRESADO ALTA VELOCIDAD

Materiale da lavorare Material to work	Acciaio debolmente legato Acciaio al carbonio - Ghisa Mild Steel - Carbon Steel Cast Iron	Leghe d'acciaio Acciai da utensili Alloy Steels Tool Steels	Acciai temprati Acciai legati Hardened Steels Prehardened Steels		Acciai temprati Hardened Steels	
Durezza . Hardness . Hardness . Hardness . Hardness						
	> 750 N/mm ²	> 30 HRC	30 - 38 HRC	38 - 45 HRC	45 - 55 HRC	55 - 60 HRC

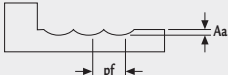

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
1	50.000	2.799	50.000	2.799	50.000	2.499	47.500	2.250	32.000	1.450	25.000	1.001
1÷2	31.500	3.500	25.000	2.799	24.500	2.499	23.500	2.250	17.000	1.549	12.500	1.001
3	21.000	3.500	16.500	2.799	16.000	2.499	15.500	2.250	11.000	1.549	8.450	1.001
4	18.000	3.701	15.500	3.401	15.000	2.751	13.500	2.451	11.000	1.900	7.950	1.100
5	15.500	4.001	15.000	4.049	14.000	2.901	11.000	2.301	10.000	2.101	7.600	1.199
6	15.000	4.801	13.500	4.300	11.500	2.751	9.500	2.250	9.500	2.250	6.600	1.151
7÷8	11.500	3.650	10.000	3.200	8.950	2.101	7.150	1.699	7.150	1.699	4.950	889
10	9.500	2.974	8.250	2.601	7.150	1.699	5.700	1.349	5.700	1.349	3.950	711
12	7.950	2.499	6.850	2.149	5.950	1.400	4.750	1.100	4.750	1.100	3.300	589
14	6.800	2.149	5.900	1.849	5.100	1.199	4.050	970	4.050	970	2.800	500
16	5.950	1.900	5.150	1.600	4.450	1.049	3.550	851	3.550	851	2.450	439
18	5.300	1.651	4.550	1.450	3.950	945	3.150	754	3.150	754	2.200	396
20	4.750	1.501	4.100	1.300	3.550	851	2.850	681	2.850	681	1.950	351
25	3.800	1.199	3.300	1.049	2.850	681	2.250	541	2.250	541	1.550	274

Profondità' di taglio Depth of cut				
	Aa	pf	Aa	pf
	0.02D	0.05D	0.02D	0.05D

LAVORAZIONI DI PROFILATURA • PROFILING • USINAGES DE PROFILAGE • PROFILFRÄSEN • FRESADO DE PERFIL

Materiale da lavorare Material to work	Ghisa Cast Iron	Acciaio deb. legato Acciaio al carbonio - Ghisa Mild Steel Carbon Steel . Cast Iron	Leghe d'acciaio Acciai da utensili Alloy steels Tool Steels	Acciai temprati Acciai legati Hardened Steels Prehardened Steels		Acciai temprati Hardened Steels	
Durezza . Hardness . Hardness . Hardness . Hardness							
	> 750 N/mm ²	>30 HRC	30-38 HRC	38-45 HRC	45-55 HRC	55-60 HRC	

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
1	32.000	765	32.000	765	31.500	620	25.000	399	22.000	284	19.000	211	14.000	140
1÷2	23.500	940	19.000	765	15.500	620	12.500	399	11.000	589	9.500	211	7.150	140
3	15.500	940	12.500	765	10.500	630	8.450	404	7.400	290	6.350	211	4.750	140
4	11.500	940	9.500	765	7.950	630	6.350	445	5.550	371	4.750	269	3.550	175
5	9.500	1.049	7.600	856	6.350	635	5.050	445	4.450	371	3.800	284	2.850	175
6	7.950	1.049	6.350	856	5.300	621	4.200	465	3.700	391	3.150	295	2.350	185
7÷8	5.950	1.300	4.750	1.049	3.950	790	3.150	556	2.750	455	2.350	325	1.750	211
10	4.750	1.199	3.800	960	3.150	744	2.500	526	2.200	429	1.900	335	1.400	211
12	3.950	1.100	3.150	889	2.650	701	2.100	490	1.850	429	1.550	310	1.150	196
14	3.400	1.049	2.700	866	2.250	676	1.800	475	1.550	391	1.350	300	1.000	191
16	2.950	1.049	2.350	841	1.950	645	1.550	475	1.350	381	1.150	269	895	185
18	2.650	1.001	2.100	795	1.750	610	1.400	475	1.200	381	1.050	259	795	175
20	2.350	940	1.900	765	1.550	569	1.250	450	1.100	371	955	249	715	170
25	1.900	759	1.500	671	1.250	465	1.000	361	890	295	760	211	570	145

Profondità' di taglio Depth of cut				
	Aa	pf	Aa	pf
	0.1D	0.2D	0.05D	0.1D

angeloghezzi

I NOSTRI SERVIZI SEMPRE A VOSTRA DISPOSIZIONE

OUR PROMPT SERVICES ALWAYS READY FOR YOU

NOS SERVICES TOUJOURS À VOTRE DISPOSITION

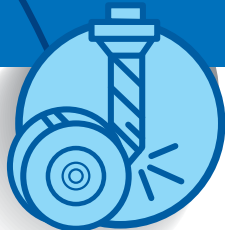
UNSER PROMPTER SERVICE IST IMMER FÜR SIE DA

NUESTRO RÁPIDO SERVICIO SIEMPRE LISTO PARA USTED



SERVIZIO TECNICO

TECHNICAL HELP
SERVICE TECHNIQUE
TECHNISCHE HILFE
AYUDA TÉCNICA



SERVIZIO DI RIAFFILATURA E RIVESTIMENTO

RE-SHARPENING AND COATING SERVICE
SERVICE DE AFFÛTAGE À NOUVEAU ET REVÊTEMENT
NACHSCHLEIF- UND BESCHICHTUNGSSERVICE
SERVICIO DE AFILADO Y RECUBRIMIENTO



UTENSILI SPECIALI

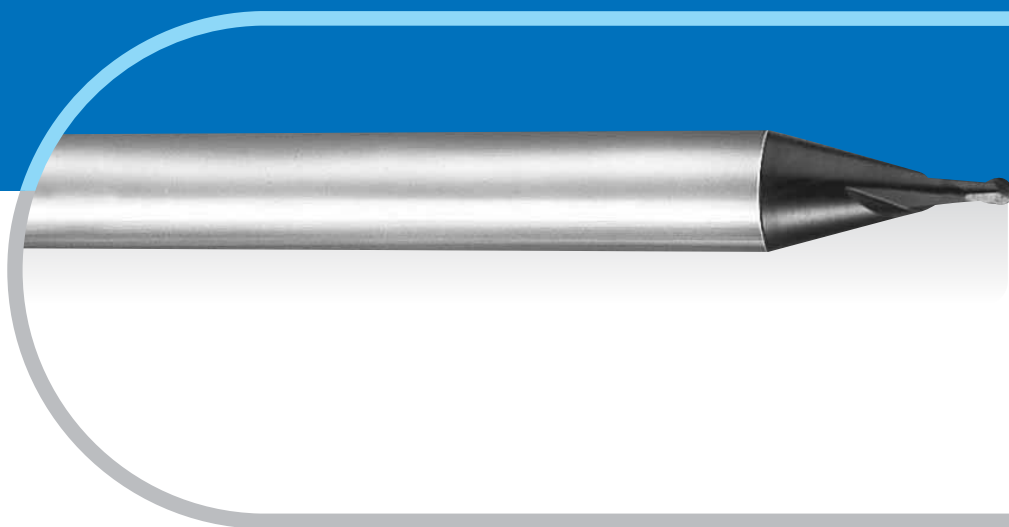
SPECIAL TOOLS DEPARTMENT
OUTILS SPÉCIAUX
ABTEILUNG FÜR SONDERWERKZEUGE
HERRAMIENTAS ESPECIALES



E-COMMERCE

для заказа - ilix@ilix-tools.ru

MICRO POWER
HPM - HCM



Talicarb

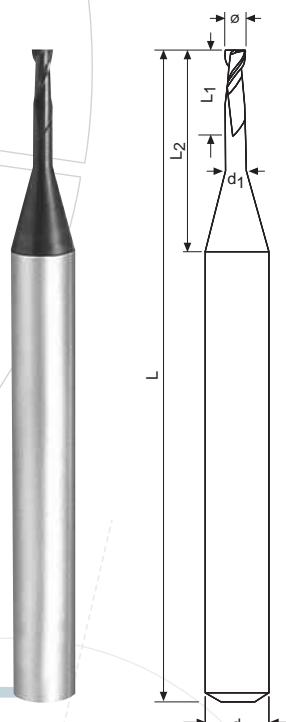
FRESE MICRO POWER ELICOIDALI A 2 TAGLI

MICRO POWER TWIST END MILLS - 2 FLUTES
FRAISES MICRO POWER - 2 DENTS
MICRO POWER DRALLNUTIGE FRÄSER - 2 NUTEN
FRESAS POWER HELICOIDALES MICRO - 2 LABIOS

MICROGRANA ULTRAFINE

SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

1410XT



Ø mm	d1 mm	L mm	L1 mm	L2 mm	d mm	z	1410XT
							€
0.5	0.45	60	0.7	2.5	6	2	49,50
0.6	0.55	60	0.9	3	6	2	49,50
0.8	0.75	60	1.2	4	6	2	48,80
1	0.95	60	1.5	5	6	2	42,80
1.2	1.15	60	1.8	6	6	2	48,00
1.4	1.35	60	2.1	7	6	2	48,60
1.5	1.45	60	2.3	7.5	6	2	43,10
1.6	1.55	60	2.4	8	6	2	48,60
1.8	1.75	60	2.7	9	6	2	48,60
2	1.95	60	3	10	6	2	40,00
2.5	2.4	60	3.7	12.5	6	2	40,70



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 0.5 mm a 2.5 mm	+0.000 mm -0.025 mm	+0.000 mm -0.013 mm

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

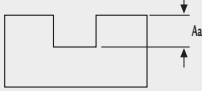
EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

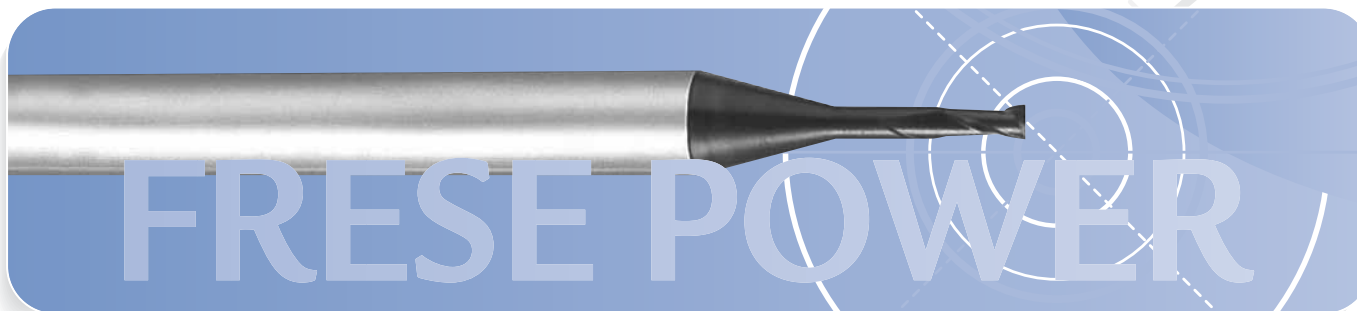
PARÁMETROS DE CORTE

PER FRESATURA DI CAVE • SLOT MILLING • POUR FRESAGE DES GORGES • BOHRNUTENFRÄSEN • FRESADO DE RANURAS

Materiale da lavorare	Acciaio debolmente legato Acciaio al carbonio - Ghisa	Leghe d'acciaio Acciai da utensili	Acciai temprati Acciai legati	Acciai temprati		
Material to work	Mild steel Carbon steel - Cast Iron	Steel alloys Tool steel	Hardened steel Prehardened steel	Hardened Steels		
Matière à usiner	Acier faiblement lié Acier au carbone - Fonte	Alliages d'acier Aciers à outils	Aciers trempés Aciers liés	Aciers trempés		
zu bearbeitendes Material	unlegierter Stahl Stahl- und Stahlguß - Guß	Stahllegierung Werkzeugstahl	gehärteter Stahl vorgehärteter Stahl	gehärteter Stahl		
Material a trabajar	Acero de baja aleacion Acero al carbono - Fundición	Aceros aleados Acero para herramientas	Acero templado	Acero templado		
Durezza . Hardness . Durezza . Härte . Durezza						
> 750 N/mm ²		> 30 HRC	30 - 38 HRC	38 - 45 HRC	45 - 55 HRC	55 - 60 HRC

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
0.5	32.000	248	32.000	231	32.000	200	30.500	149	19.000	78	10.000	30
0.6	32.000	299	32.000	269	29.500	248	25.000	200	15.500	78	8.450	30
0.8	32.000	408	27.000	350	22.000	248	19.000	200	11.500	78	6.350	30
1	26.500	599	21.500	500	17.500	398	15.000	248	9.500	78	5.050	30
1.5	17.500	599	14.000	500	11.500	398	10.000	248	6.350	78	3.350	30
2	13.000	599	10.500	500	8.900	398	7.600	248	4.750	78	2.500	30
2.5	10.400	599	8.400	500	7.100	398	6.100	248	3.800	78	2.000	30

Profondità di taglio Cutting Depth Profondeur de coupe Schnitt-Tiefe Profundidad de corte	Ø < 1	Aa 0.05 D		Aa = 0.02 D	Ø < 1	Aa 0.01 D
	Ø > 1	0.1 D			Ø > 1	0.02 D



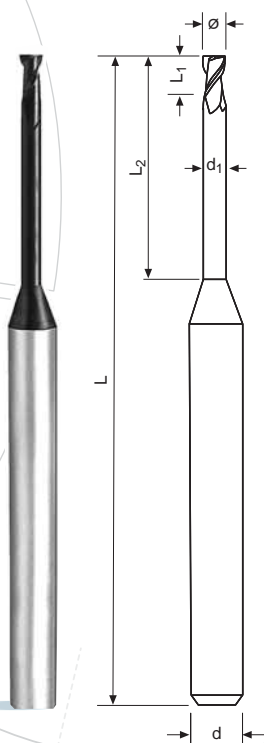
FRESE MICRO POWER ELICOIDALI A 2 TAGLI

MICRO POWER TWIST END MILLS - 2 FLUTES
FRAISES MICRO POWER - 2 DENTS
MICRO POWER DRALLNUTIGE FRÄSER - 2 NUTEN
FRESAS POWER HELICOIDALES MICRO - 2 LABIOS

MICROGRANA ULTRAFINE

SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

1430XT



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 0.4 mm a 3 mm	+ .000 mm - .025 mm	+ .000 mm - .013 mm

Ø mm	d1 mm	L mm	L1 mm	L2 mm	d mm	Z	1430XT €
0.4	0.36	35	0.6	4	3	2	68,30
0.5	0.45	35	0.7	6	3	2	63,90
0.6	0.55	35	0.9	6	3	2	63,90
0.7	0.65	45	1	6	4	2	63,90
0.8	0.75	45	1.2	8	4	2	63,90
0.9	0.85	45	1.35	10	4	2	63,90
1	0.97	45	1.5	6	4	2	63,90
1	0.95	45	1.5	8	4	2	63,90
1	0.93	45	1.5	12	4	2	63,90
1.2	1.15	45	1.8	8	4	2	63,90
1.2	1.13	45	1.8	12	4	2	63,90
1.4	1.33	45	2.1	12	4	2	63,90
1.4	1.31	50	2.1	16	4	2	63,90
1.5	1.45	45	2.3	8	4	2	63,90
1.5	1.45	45	2.3	10	4	2	63,90
1.5	1.43	45	2.3	12	4	2	63,90
1.5	1.41	50	2.3	16	4	2	63,90
1.5	1.39	55	2.3	20	4	2	63,90
1.6	1.53	45	2.4	12	4	2	63,90
1.6	1.49	55	2.4	20	4	2	63,90
1.7	1.64	45	2.6	8	4	2	63,90
1.7	1.63	45	2.6	12	4	2	63,90
1.7	1.59	55	2.6	20	4	2	63,90
1.8	1.73	45	2.7	12	4	2	63,90
1.8	1.69	55	2.7	20	4	2	63,90
1.9	1.85	45	2.8	8	4	2	63,90
1.9	1.81	50	2.8	16	4	2	63,90
1.9	1.79	55	2.8	20	4	2	63,90
2	1.95	45	3	8	4	2	63,90
2	1.93	45	3	12	4	2	63,90
2	1.91	50	3	16	4	2	63,90
2	1.89	70	3	30	4	2	67,70
2.5	2.4	45	3.7	8	4	2	63,90
2.5	2.4	45	3.7	12	4	2	63,90
2.5	2.4	50	3.7	14	4	2	63,90
2.5	2.4	55	3.7	16	4	2	63,90
2.5	2.4	80	3.7	30	4	2	67,70
3	2.85	45	4.5	8	6	2	76,30
3	2.85	50	4.5	14	6	2	76,30
3	2.85	55	4.5	18	6	2	76,30
3	2.85	90	4.5	40	6	2	84,00

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA . PARAMÈTRES DE COUPE
 EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE . PARÁMETROS DE CORTE

LAVORAZIONI AD ALTA VELOCITÀ • HIGH SPEED LIGHT MILLING • USINAGES À HAUTE VITESSE
 HOCHGESCHWINDIGKEITS-BEARBEITUNG • FRESADO ALTA VELOCIDAD

Materiale da lavorare Material to work	Acciai temprati Acciai legati Hardened Steels Prehardened Steels		Durezza . Hardness . Hardness . Hardness . Hardness		Acciai temprati Acciai legati Hardened Steels Prehardened Steels	
	30-45 HRC		47-55 HRC		55-60 HRC	
Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
0.4	28.500-25.000	50-100	19.000-23.000	30-80	12.500	20-30
0.5	24.000-30.500	50-150	15.000-19.000	30-80	10.000	20-30
0.6	20.000-25.000	50-200	12.500-15.500	30-80	7.540	20-30
0.7	17.000-21.500	50-200	10.500-13.500	30-80	7.250	20-30
0.8	15.000-19.000	50-200	9.500-11.500	30-80	6.350	20-30
0.9	13.000-16.500	80-230	8.450-10.500	40-80	5.650	20-30
1	12.000-15.000	80-250	7.600-9.500	40-80	5.050	20-30
1.2	10.000-12.500	80-250	6.350-7.950	40-80	4.200	20-30
1.4	8.600-10.500	80-250	5.450-6.800	40-80	3.600	20-30
1.5	8.05-10.000	80-250	5.050-6.350	40-80	3.350	20-30
1.6	7.550-9.500	80-250	4.750-5.950	40-80	3.150	20-30
1.7	7.100-8.950	80-250	4.450-5.600	40-80	2.950	20-30
1.8	6.700-8.450	80-250	4.200-5.300	40-80	2.800	20-30
1.9	6.350-8.000	80-250	4.000-5.000	40-80	2.650	20-30
2	6.000-7.600	80-250	3.800-4.750	40-80	2.500	20-30
2.5	4.800-6.100	80-250	3.050-3.800	40-80	2.000	20-30
3	4.000-5.050	80-250	2.500-3.150	40-80	1.650	20-30

Materiale da lavorare Material to work	Acciaio debolmente legato Acciaio al carbonio . Ghisa Mild Steel Carbon Steel . Cast Iron		Leghe d'acciaio Acciai da utensili Alloy steels Tool Steels		Acciai temprati Acciai legati Hardened Steels Prehardened Steels	
	> 750 N/mm ²		Durezza . Hardness . Hardness . Hardness . Hardness >30 HRC		30-38 HRC	
Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
0.4	30.000-32.000	160-200	28.500-32.000	100-150	28.500-32.000	80-150
0.5	30.000-32.000	160-250	28.500-32.000	130-200	28.500-32.000	100-200
0.6	30.000-32.000	160-300	28.500-32.000	160-250	23.500-29.500	130-220
0.7	30.000-32.000	160-350	24.500-30.500	160-300	20.000-25.000	130-250
0.8	26.500-31.500	160-400	21.000-27.000	160-350	17.500-22.000	130-250
0.9	23.500-29.500	180-450	19.000-24.000	160-400	15.500-19.500	130-300
1	21.000-26.500	180-500	17.000-21.500	160-450	14.000-17.500	130-350
1.2	17.500-22.000	200-600	14.000-18.000	160-500	11.500-14.500	130-350
1.4	15.000-19.000	200-600	12.000-15.000	160-500	10.000-12.500	130-350
1.5	14.000-17.500	200-600	11.000-14.000	160-500	9.500-11.500	130-400
1.6	13.000-16.500	200-600	10.500-13.500	160-500	8.950-11.000	130-400
1.7	12.500-15.500	200-600	10.000-12.500	160-500	8.400-10.000	130-400
1.8	11.500-14.500	200-600	9.500-12.000	160-500	7.950-9.900	130-400
1.9	11.000-14.000	200-600	9.000-11.000	160-500	7.500-9.350	130-400
2	10.500-13.000	200-600	8.500-10.500	160-500	7.150-8.900	130-400
2.5	8.500-10.500	200-600	6.850-8.650	160-500	5.700-7.100	130-400
3	7.100-8.900	200-600	5.700-7.200	160-500	4.750-5.900	130-400

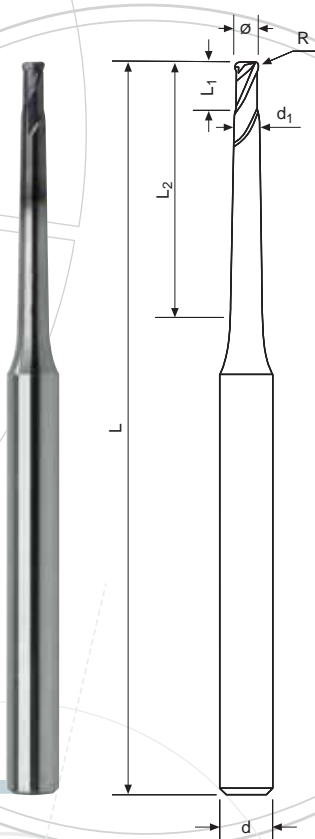
FRESE MICRO POWER TORICHE A 2 TAGLI

MICRO POWER TORIC END MILLS - 2 FLUTES
FRAISES MICRO POWER TORIQUES - 2 DENTS
MICRO POWER TORUSFRÄSER - 2 NUTEN
FRESAS POWER MICRO TÓRICAS - 2 LABIOS

FRESE POWER



NEW
1431XT



GAMBO RASTREMATO
TAPERED SHANK
QUEUE FUSELÉE
VERJÜNGTER SCHAFT
MANGO REBAJADO



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

Ø/R mm	d1 mm	L mm	L1 mm	L2 mm	d mm	Z	1431XT
							€
0.2/0.05	0.18	45	0.3	0.5	4	2	105,00
0.2/0.05	0.18	45	0.3	1	4	2	105,00
0.2/0.05	0.18	45	0.3	1.5	4	2	105,00
0.3/0.05	0.28	45	0.45	1	4	2	105,00
0.3/0.05	0.28	45	0.45	2	4	2	105,00
0.3/0.05	0.28	45	0.45	3	4	2	105,00
0.4/0.05	0.37	45	0.6	2	4	2	105,00
0.4/0.05	0.37	45	0.6	3	4	2	105,00
0.4/0.05	0.37	45	0.6	4	4	2	105,00
0.5/0.05	0.45	45	0.7	2	4	2	105,00
0.5/0.05	0.45	45	0.7	4	4	2	105,00
0.5/0.05	0.45	45	0.7	6	4	2	105,00
0.5/0.05	0.45	45	0.7	8	4	2	105,00
0.6/0.06	0.55	45	0.9	2	4	2	105,00
0.6/0.06	0.55	45	0.9	4	4	2	105,00
0.6/0.06	0.55	45	0.9	6	4	2	105,00
0.6/0.06	0.55	45	0.9	8	4	2	105,00
0.6/0.06	0.55	45	0.9	10	4	2	105,00
0.7/0.07	0.65	45	1	2	4	2	105,00
0.7/0.07	0.65	45	1	4	4	2	105,00
0.7/0.07	0.65	45	1	6	4	2	105,00
0.7/0.07	0.65	45	1	8	4	2	105,00
0.7/0.07	0.65	45	1	10	4	2	105,00
0.8/0.08	0.75	45	1.2	4	4	2	105,00
0.8/0.08	0.75	45	1.2	6	4	2	105,00
0.8/0.08	0.75	45	1.2	8	4	2	105,00
0.8/0.08	0.75	45	1.2	10	4	2	105,00
0.8/0.08	0.75	45	1.2	12	4	2	105,00
0.9/0.09	0.85	45	1.35	6	4	2	105,00
0.9/0.09	0.85	45	1.35	8	4	2	105,00
0.9/0.09	0.85	45	1.35	10	4	2	105,00
0.9/0.09	0.85	50	1.35	15	4	2	105,00
1.0/0.1	0.95	45	1.5	6	4	2	96,60
1.0/0.1	0.95	45	1.5	8	4	2	96,60
1.0/0.1	0.95	45	1.5	10	4	2	96,60
1.0/0.1	0.95	45	1.5	12	4	2	96,60
1.0/0.1	0.95	50	1.5	14	4	2	96,60
1.0/0.1	0.95	50	1.5	16	4	2	96,60

1-2 >>

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 0.2 mm a 5 mm	+0.00 mm -0.01 mm	h6

MICROGRANA ULTRAFINE

SUB-MICROGRAIN

MICRO-GRAIN ULTRAFIN

HARTMETALLQUALITÄT: ULTRA-FEINSTKORN

SUB-MICROGRANO



1431XT

Ø/R mm	d1 mm	L mm	L1 mm	L2 mm	d mm	z	1431XT €
1.2/0.12	1.15	45	1.8	6	4	2	96,60
1.2/0.12	1.15	4	1.8	8	4	2	96,60
1.2/0.12	1.15	45	1.8	10	4	2	96,60
1.2/0.12	1.15	45	1.8	12	4	2	96,60
1.4/0.14	1.35	45	2.1	6	4	2	96,60
1.4/0.14	1.35	45	2.1	8	4	2	96,60
1.4/0.14	1.35	45	2.1	10	4	2	96,60
1.4/0.14	1.35	45	2.1	12	4	2	96,60
1.4/0.14	1.35	50	2.1	14	4	2	96,60
1.4/0.14	1.35	50	2.1	16	4	2	96,60
1.5/0.15	1.45	45	2.3	6	4	2	96,60
1.5/0.15	1.45	45	2.3	8	4	2	96,60
1.5/0.15	1.45	45	2.3	10	4	2	96,60
1.5/0.15	1.45	45	2.3	12	4	2	96,60
1.5/0.15	1.45	50	2.3	14	4	2	96,60
1.5/0.15	1.45	50	2.3	16	4	2	96,60
1.5/0.15	1.45	55	2.3	18	4	2	96,60
1.5/0.15	1.45	55	2.3	20	4	2	96,60
1.6/0.16	1.55	45	2.4	6	4	2	96,60
1.6/0.16	1.55	45	2.4	8	4	2	96,60
1.6/0.16	1.55	45	2.4	10	4	2	96,60
1.6/0.16	1.55	45	2.4	12	4	2	96,60
1.6/0.16	1.55	50	2.4	14	4	2	96,60
1.6/0.16	1.55	50	2.4	16	4	2	96,60
1.6/0.16	1.55	55	2.4	18	4	2	96,60
1.6/0.16	1.55	55	2.4	20	4	2	96,60
1.8/0.18	1.75	45	2.7	6	4	2	96,60
1.8/0.18	1.75	45	2.7	8	4	2	96,60
1.8/0.18	1.75	45	2.7	10	4	2	96,60
1.8/0.18	1.75	45	2.7	12	4	2	96,60
1.8/0.18	1.75	50	2.7	14	4	2	96,60
1.8/0.18	1.75	50	2.7	16	4	2	96,60
1.8/0.18	1.75	55	2.7	18	4	2	96,60
1.8/0.18	1.75	55	2.7	20	4	2	96,60
2.0/0.2	1.95	45	3	6	4	2	89,90
2.0/0.2	1.95	45	3	8	4	2	89,90
2.0/0.2	1.95	45	3	10	4	2	89,90
2.0/0.2	1.95	45	3	12	4	2	89,90

Ø/R mm	d1 mm	L mm	L1 mm	L2 mm	d mm	z	1431XT €
2.0/0.2	1.95	50	3	14	4	2	89,90
2.0/0.2	1.95	50	3	16	4	2	89,90
2.0/0.2	1.95	55	3	18	4	2	89,90
2.0/0.2	1.95	55	3	20	4	2	89,90
2.0/0.2	1.95	60	3	25	4	2	89,90
2.0/0.2	1.95	70	3	30	4	2	89,90
2.5/0.25	2.4	45	3.7	8	4	2	89,90
2.5/0.25	2.4	45	3.7	10	4	2	89,90
2.5/0.25	2.4	45	3.7	12	4	2	89,90
2.5/0.25	2.4	50	3.7	14	4	2	89,90
2.5/0.25	2.4	55	3.7	16	4	2	89,90
2.5/0.25	2.4	55	3.7	18	4	2	89,90
2.5/0.25	2.4	60	3.7	20	4	2	89,90
2.5/0.25	2.4	70	3.7	25	4	2	89,90
2.5/0.25	2.4	80	3.7	30	4	2	89,90
3.0/0.3	2.85	45	4.5	8	6	2	89,90
3.0/0.3	2.85	45	4.5	10	6	2	89,90
3.0/0.3	2.85	45	4.5	12	6	2	89,90
3.0/0.3	2.85	50	4.5	14	6	2	89,90
3.0/0.3	2.85	55	4.5	16	6	2	89,90
3.0/0.3	2.85	55	4.5	18	6	2	89,90
3.0/0.3	2.85	60	4.5	20	6	2	89,90
3.0/0.3	2.85	65	4.5	25	6	2	89,90
3.0/0.3	2.85	80	4.5	30	6	2	89,90
3.0/0.3	2.85	90	4.5	35	6	2	89,90
3.0/0.3	2.85	90	4.5	40	6	2	89,90
4.0/0.4	3.85	50	6	12	6	2	96,60
4.0/0.4	3.85	60	6	16	6	2	96,60
4.0/0.4	3.85	60	6	20	6	2	96,60
4.0/0.4	3.85	70	6	25	6	2	96,60
4.0/0.4	3.85	80	6	30	6	2	96,60
4.0/0.4	3.85	90	6	35	6	2	96,60
4.0/0.4	3.85	90	6	40	6	2	96,60
4.0/0.4	3.85	100	6	45	6	2	96,60
4.0/0.4	3.85	100	6	50	6	2	96,60
5.0/0.5	4.85	60	7.5	16	6	2	96,60
5.0/0.5	4.85	70	7.5	25	6	2	96,60
5.0/0.5	4.85	90	7.5	35	6	2	96,60
5.0/0.5	4.85	110	7.5	50	6	2	96,60

2-2

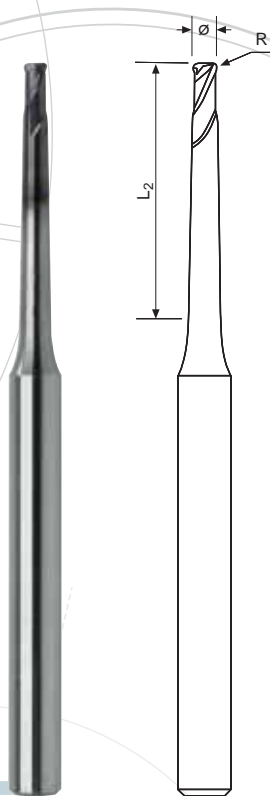
INFORMAZIONI TECNICHE ANGOLO DI COLLISIONE β

TECHNICAL DATA - INCLINED ANGLE β
SERVICE TECHNIQUE - ANGLE DE COLLISION β
TECHNISCHE HILFE - NEIGUNGSWINKEL β
INFORMACIÓN TÉCNICA - ANGULO INCLINADO β

FRESE MICROPOWER TORICHE A 2 TAGLI

MICRO POWER TORIC END MILLS - 2 FLUTES
FRAISES MICRO POWER TORIQUES - 2 DENTS
"MICRO POWER" TORUSFRÄSER - 2 NUTEN
FRESAS POWER MICRO TÓRICAS - 2 LABIOS

NEW
1431XT



L2 = LUNGHEZZA UTILE DI LAVORO

L2 = MACHINING DEPTH

L2 = LONGUEUR UTILE

L2 = ARBEITSTIEFE

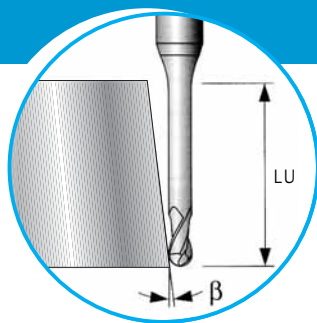
L2 = LARGO UTIL DE TRABAJO

Ø/R mm	L2 mm	β					
		0.5°	1°	1.5°	2°	2.5°	3°

		LU					
0.2/0.05	0.5	0.55	0.60	0.66	0.73	0.81	0.96
0.2/0.05	1	1.09	1.19	1.30	1.41	1.53	1.66
0.2/0.05	1.5	1.64	1.78	1.92	2.07	2.22	2.37
0.3/0.05	1	1.09	1.19	1.30	1.41	1.53	1.66
0.3/0.05	2	2.33	2.82	3.15	3.44	3.7	3.94
0.3/0.05	3	2.3	3.82	4.25	4.59	4.88	5.16
0.4/0.05	2	2.57	2.94	3.24	3.51	3.76	3.99
0.4/0.05	3	3.32	3.94	4.33	4.65	4.94	5.21
0.4/0.05	4	3.27	4.94	5.41	5.78	6.1	6.4
0.5/0.05	2	2.79	3.1	3.37	3.62	3.86	4.08
0.5/0.05	4	4.47	5.1	5.52	5.87	6.18	6.47
0.5/0.05	6	4.81	7.1	7.65	8.08	8.45	8.78
0.5/0.05	8	8.81	9.1	9.77	10.26	10.68	11.06
0.6/0.06	2	2.84	3.14	3.4	3.64	3.88	4.1
0.6/0.06	4	4.55	5.14	5.54	5.89	6.2	6.48
0.6/0.06	6	5.2	7.14	7.67	8.09	8.46	8.8
0.6/0.06	8	5.2	9.14	9.79	10.28	10.7	11.07
0.6/0.06	10	5.2	11.14	11.9	12.45	12.91	13.32
0.7/0.07	2	2.88	3.17	3.43	3.67	3.9	4.12
0.7/0.07	4	4.62	5.17	5.57	5.91	6.21	6.5
0.7/0.07	6	5.59	7.17	7.17	8.11	8.48	8.81
0.7/0.07	8	5.59	9.17	9.17	10.29	10.71	11.08
0.7/0.07	10	5.59	11.17	11.17	12.46	12.92	13.33
0.8/0.08	4	4.68	5.2	5.2	5.93	6.23	6.51
0.8/0.08	6	6.16	7.2	7.2	8.13	8.49	8.82
0.8/0.08	8	5.98	9.2	9.2	10.31	10.72	11.09
0.8/0.08	10	5.98	11.2	11.2	12.48	12.93	13.34
0.8/0.08	12	5.98	13.2	13.2	14.63	15.12	15.56
0.9/0.09	6	6.36	7.23	7.23	8.15	8.51	8.83
0.9/0.09	8	6.37	9.23	9.23	10.33	10.74	11.1
0.9/0.09	10	6.37	11.23	11.23	12.49	12.94	13.35
0.9/0.09	15	6.37	16.23	16.23	17.85	18.39	18.87
1.1/0.1	6	6.46	7.26	7.26	8.16	8.52	8.85
1.1/0.1	8	6.76	9.26	9.26	10.34	10.75	11.12
1.1/0.1	10	6.76	11.26	11.26	12.5	12.96	13.36
1.1/0.1	12	6.76	13.26	14.07	14.65	15.14	15.58
1.1/0.1	14	6.76	15.26	16.16	16.79	17.23	17.78
1.1/0.1	16	6.76	17.26	18.25	18.93	19.49	19.97

INFORMAZIONI TECNICHE

TECHNICAL DATA - SERVICE TECHNIQUE - TECHNISCHE HILFE - INFORMACIÓN TÉCNICA



Effettiva lunghezza utile di lavoro legata all'inclinazione β del pezzo da lavorare

Effective machining depth depending on inclined angle β of workpiece

Longueur utile effective d'usinage liée à l'inclinaison β de la pièce à usiner

Die effektive Arbeitstiefe hängt vom Neigungswinkel β des Werkstückes ab

Largo util de trabajo depende del angulo de inclinacion de la pieza

Ø/R mm	L ₂ mm	β					
		0.5°	1°	1.5°	2°	2.5°	3°

		LU					
1.2/0.12	6	6.61	7.32	7.8	8.2	8.55	8.87
1.2/0.12	8	7.54	9.32	9.91	10.37	10.77	11.14
1.2/0.12	10	7.54	11.32	12.01	12.53	12.98	13.38
1.2/0.12	12	7.54	13.32	14.1	14.68	15.17	15.59
1.4/0.14	6	6.73	7.38	7.84	8.23	8.58	8.89
1.4/0.14	8	8.34	9.38	9.95	10.4	10.8	11.16
1.4/0.14	10	8.32	11.38	12.04	12.56	13	13.4
1.4/0.14	12	8.32	13.38	14.14	14.71	15.19	15.61
1.4/0.14	14	8.32	15.38	16.23	16.84	17.36	17.81
1.4/0.14	16	8.32	17.38	18.31	18.97	19.52	20
1.5/0.15	6	6.78	7.41	7.86	8.25	8.59	8.91
1.5/0.15	8	8.45	9.41	9.96	10.42	10.81	11.17
1.5/0.15	10	8.71	11.41	12.06	12.57	13.01	13.4
1.5/0.15	12	8.71	13.41	14.15	14.72	15.2	15.62
1.5/0.15	14	8.71	15.41	16.24	16.86	17.37	17.82
1.5/0.15	16	8.71	17.41	18.32	18.98	19.53	20.01
1.5/0.15	18	8.71	19.41	20.41	21.11	21.68	22.19
1.5/0.15	20	8.71	21.41	22.48	23.22	23.83	-
1.6/0.16	6	6.83	7.43	7.88	8.26	8.6	8.92
1.6/0.16	8	8.53	9.43	9.98	10.43	10.82	11.18
1.6/0.16	10	9.1	11.43	12.08	12.59	13.02	13.41
1.6/0.16	12	9.1	13.43	14.17	14.73	15.21	15.63
1.6/0.16	14	9.1	15.43	16.26	16.87	17.38	17.83
1.6/0.16	16	9.1	17.43	18.34	19	19.54	20.02
1.6/0.16	18	9.1	19.43	20.42	21.12	21.69	22.19
1.6/0.16	20	9.1	21.43	22.5	23.23	23.84	-
1.8/0.18	6	6.91	7.48	7.92	8.29	8.63	8.94
1.8/0.18	8	8.67	9.48	10.02	10.46	10.85	11.2
1.8/0.18	10	9.88	11.48	12.11	12.61	13.05	13.43
1.8/0.18	12	9.88	13.48	14.2	14.76	15.23	15.65
1.8/0.18	14	9.88	15.48	16.29	16.89	17.4	17.85
1.8/0.18	16	9.88	17.48	18.37	19.02	19.56	20.03
1.8/0.18	18	9.88	19.48	20.45	21.14	21.71	-
1.8/0.18	20	9.88	21.48	22.52	23.25	23.85	-
2.0/0.2	6	6.99	7.53	7.96	8.23	8.66	8.96
2.0/0.2	8	8.77	9.53	10.05	10.49	10.87	11.22
2.0/0.2	10	10.44	11.53	12.15	12.64	13.07	13.45
2.0/0.2	12	10.66	13.53	14.23	14.78	15.25	15.67

Ø/R mm	L ₂ mm	β					
		0.5°	1°	1.5°	2°	2.5°	3°

		LU					
2.0/0.2	14	10.66	15.53	16.32	16.91	17.42	17.86
2.0/0.2	16	10.66	17.53	18.4	19.04	19.58	-
2.0/0.2	18	10.66	19.53	20.48	21.16	21.73	-
2.0/0.2	20	10.66	21.53	22.55	23.28	-	-
2.0/0.2	25	10.66	26.53	27.73	28.54	-	-
2.0/0.2	30	10.66	31.53	32.89	-	-	-
2.5/0.25	8	9.23	9.81	10.26	10.66	11.02	11.36
2.5/0.25	10	11.07	11.81	12.35	12.8	13.21	13.58
2.5/0.25	12	12.87	13.81	14.43	14.94	15.38	-
2.5/0.25	14	14.6	15.81	16.5	17.06	-	-
2.5/0.25	16	15.48	17.81	18.58	19.18	-	-
2.5/0.25	18	15.48	19.61	20.65	21.29	-	-
2.5/0.25	20	15.48	21.81	22.72	-	-	-
2.5/0.25	25	15.48	26.81	27.88	-	-	-
2.5/0.25	30	15.48	31.81	-	-	-	-
3.0/0.3	8	9.54	10.02	10.43	10.8	11.14	11.45
3.0/0.3	10	11.41	12.02	12.51	12.93	13.31	13.66
3.0/0.3	12	13.28	14.02	14.58	15.06	15.48	15.86
3.0/0.3	14	15.12	16.02	16.65	17.18	17.63	18.05
3.0/0.3	16	16.94	18.02	18.72	19.29	19.78	20.22
3.0/0.3	18	18.7	20.02	20.79	21.4	21.92	22.38
3.0/0.3	20	20.24	22.02	22.85	23.5	24.06	24.54
3.0/0.3	25	20.09	27.02	28.01	28.75	29.37	-
3.0/0.3	30	20.09	32.02	33.16	33.98	34.65	-
3.0/0.3	35	20.09	37.02	38.3	39.19	-	-
3.0/0.3	40	20.09	42.02	43.43	-	-	-
4.0/0.4	12	13.54	14.2	14.72	15.18	15.58	15.95
4.0/0.4	16	17.28	18.2	18.85	19.4	19.87	-
4.0/0.4	20	20.94	22.2	22.98	23.6	-	-
4.0/0.4	25	24.09	27.2	28.13	28.84	-	-
4.0/0.4	30	24.09	32.2	33.27	-	-	-
4.0/0.4	35	24.09	37.2	38.4	-	-	-
4.0/0.4	40	24.09	42.2	-	-	-	-
4.0/0.4	45	24.09	47.2	-	-	-	-
4.0/0.4	50	24.09	52.2	-	-	-	-
5.0/0.5	16	17.53	18.36	18.98	-	-	-
5.0/0.5	25	25.83	27.36	-	-	-	-
5.0/0.5	35	28.09	-	-	-	-	-
5.0/0.5	50	28.09	-	-	-	-	-

INFORMAZIONI TECNICHE

TECHNICAL DATA - SERVICE TECHNIQUE - TECHNISCHE HILFE - INFORMACIÓN TÉCNICA

1431XT

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA . PARAMÈTRES DE COUPE
EMPFOLHENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE
PARÁMETROS DE CORTE

Materiale da lavorare Material to work Matière à usiner zu bearbeitendes Material Material a trabajar	Ghisa Cast iron Fonte Guß Fundición	Acciaio inossidabile Stainless steel Acier inoxydable Rostfreier Stahl Acero inoxidable	Acciai Steel Aciers Stahl Acero	Acciai temprati Hardened steel Aciers trempés gehärteter Stahl Acero templado	Acciai temprati <60 HRC Hardened steel <60 HRC Aciers trempés <60 HRC gehärteter Stahl <60 HRC Acero templado <60 HRC
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MACCHINE TRADIZIONALI • CONVENTIONAL CNC MACHINES

FRESATURA PER COPIATURA • COPY MILLING • POUR COPIAGE • KOPIERFRÄSER • FRESA DE COPIAR

Ø mm	L3 mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
0.2	0.5	28.000	400	25.000	150	28.000	400	21.000	100	15.000	50
	1.0	28.000	300	25.000	100	28.000	300	21.000	50	15.000	30
	1.5	24.000	200	21.000	60	24.000	200	18.000	30	-	-
0.3	1.0	28.000	400	25.000	100	28.000	400	21.000	50	15.000	30
	2.0	24.000	250	21.000	60	24.000	250	18.000	30	12.000	20
	3.0	18.000	150	16.000	40	18.000	150	-	-	-	-
0.4	2.0	28.000	400	25.000	100	28.000	400	21.000	50	15.000	30
	3.0	24.000	250	21.000	60	24.000	250	18.000	30	-	-
	4.0	18.000	150	16.000	40	18.000	150	-	-	-	-
0.5	2.0	28.000	400	25.000	100	28.000	400	21.000	50	15.000	30
	4.0	24.000	250	21.000	60	24.000	250	18.000	30	-	-
	6.0	18.000	150	16.000	40	18.000	150	-	-	-	-
0.6	8.0	14.000	100	16.000	40	14.000	100	-	-	-	-
	2.0	28.000	400	23.000	100	28.000	400	19.000	50	13.000	50
	4.0	24.000	250	20.000	60	24.000	250	16.000	30	-	-
0.6	6.0	18.000	150	15.000	40	18.000	150	-	-	-	-
	8.0	18.000	150	15.000	40	18.000	150	-	-	-	-
	10.0	14.000	100	15.000	40	14.000	100	-	-	-	-
0.7	2.0	28.000	500	20.000	200	28.000	500	17.000	50	12.000	50
	4.0	24.000	300	17.000	150	24.000	300	15.000	30	10.000	30
	6.0	24.000	300	17.000	100	24.000	300	-	-	-	-
0.8	8.0	18.000	150	15.000	50	18.000	150	-	-	-	-
	10.0	18.000	150	15.000	50	18.000	150	-	-	-	-
	4.0	26.000	500	18.000	200	26.000	500	15.000	50	11.000	50
0.8	6.0	22.000	300	15.000	150	22.000	300	13.000	30	-	-
	8.0	18.000	200	12.000	100	18.000	200	-	-	-	-
	10.0	18.000	200	12.000	100	18.000	200	-	-	-	-
0.9	12.0	18.000	200	12.000	100	18.000	200	-	-	-	-
	6.0	25.000	700	16.000	300	25.000	700	14.000	100	9.000	50
	8.0	20.000	400	13.000	200	20.000	400	12.000	60	-	-
0.9	10.0	15.000	300	10.000	150	15.000	300	-	-	-	-
	15.0	12.000	100	10.000	150	12.000	100	-	-	-	-
	6.0	22.000	700	15.000	300	22.000	700	12.000	150	8.000	50
1	8.0	18.000	400	13.000	200	18.000	400	10.000	100	-	-
	10.0	14.000	300	10.000	150	14.000	300	-	-	-	-
	12.0	14.000	300	10.000	150	14.000	300	-	-	-	-
1.2	14.0	12.000	200	8.000	50	12.000	200	-	-	-	-
	16.0	12.000	150	8.000	50	12.000	150	-	-	-	-
	6.0	18.000	700	13.000	300	18.000	700	11.000	150	7.000	50
1.2	8.0	15.000	400	11.000	200	15.000	400	9.000	100	7.000	50
	10.0	15.000	400	11.000	200	15.000	400	9.000	100	-	-
	12.0	12.000	300	8.000	150	12.000	300	-	-	-	-
1.4	6.0	15.000	700	11.000	300	15.000	700	9.000	150	6.000	50
	8.0	13.000	400	9.000	200	13.000	400	7.000	100	5.000	30
	10.0	13.000	400	9.000	200	13.000	400	7.000	100	-	-
1.4	12.0	13.000	300	9.000	200	13.000	300	7.000	100	-	-
	14.0	10.000	300	7.000	150	10.000	300	-	-	-	-
	16.0	10.000	700	7.000	150	10.000	700	-	-	-	-
1.5	6.0	15.000	400	10.000	300	15.000	400	9.000	150	6.000	100
	8.0	13.000	400	8.000	200	13.000	400	7.000	100	5.000	50
	10.0	13.000	400	8.000	200	13.000	400	7.000	100	5.000	50
1.5	12.0	13.000	400	8.000	200	13.000	400	7.000	100	-	-
	14.0	13.000	400	8.000	200	13.000	400	7.000	100	-	-
	16.0	10.000	300	6.000	150	10.000	300	-	-	-	-
1.5	18.0	10.000	300	6.000	150	10.000	300	-	-	-	-
	20.0	10.000	300	6.000	150	10.000	300	-	-	-	-

1431XT

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA . PARAMÈTRES DE COUPE
 EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE
 PARÁMETROS DE CORTE

Materiale da lavorare Material to work Matière à usiner zu bearbeitendes Material Material a trabajar	Ghisa Cast iron Fonte Guß Fundición	Acciaio inossidabile Stainless steel Acier inoxydable Rostfreier Stahl Acero inoxidable	Acciai Steel Aciers Stahl Acero	Acciai temprati Hardened steel Aciers trempés gehärteter Stahl Acero templado	Acciai temprati <60 HRC Hardened steel <60 HRC Aciers trempés <60 HRC gehärteter Stahl <60 HRC Acero templado <60 HRC
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MACCHINE TRADIZIONALI • CONVENTIONAL CNC MACHINES

FRESATURA PER COPIATURA • COPY MILLING • POUR COPIAGE • KOPIERFRÄSER • FRESA DE COPIAR

Ø mm	L3 mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
1.6	6.0	13.000	700	9.000	300	13.000	700	8.000	150	5.000	100
	8.0	11.000	400	7.000	200	11.000	400	7.000	100	4.000	50
	10.0	11.000	400	7.000	200	11.000	400	7.000	100	4.000	50
	12.0	11.000	400	7.000	200	11.000	400	7.000	100	-	-
	14.0	11.000	400	7.000	200	11.000	400	7.000	100	-	-
	16.0	8.000	300	6.000	150	8.000	300	-	-	-	-
1.8	6.0	13.000	700	9.000	400	13.000	700	7.000	150	4.000	100
	8.0	13.000	700	9.000	400	13.000	700	7.000	150	4.000	100
	10.0	10.000	400	7.000	250	10.000	400	6.000	100	3.000	50
	12.0	10.000	400	7.000	250	10.000	400	6.000	100	3.000	50
	14.0	10.000	400	7.000	250	10.000	400	6.000	100	-	-
	16.0	10.000	400	7.000	250	10.000	400	6.000	100	-	-
2	6.0	11.000	700	8.000	400	11.000	700	6.000	150	4.000	100
	8.0	11.000	700	8.000	400	11.000	700	6.000	150	4.000	100
	10.0	9.000	400	7.000	250	9.000	400	5.000	100	3.000	50
	12.0	9.000	400	7.000	250	9.000	400	5.000	100	3.000	50
	14.0	9.000	400	7.000	250	9.000	400	5.000	100	-	-
	16.0	9.000	400	7.000	250	9.000	400	5.000	100	-	-
	18.0	9.000	400	7.000	250	9.000	400	5.000	100	-	-
	20.0	7.000	300	5.000	150	7.000	300	-	-	-	-
	25.0	7.000	300	5.000	150	7.000	300	-	-	-	-
	30.0	7.000	300	5.000	150	7.000	300	-	-	-	-
2.5	8.0	9.000	700	6.000	400	9.000	700	5.000	150	3.000	100
	10.0	9.000	700	6.000	400	9.000	700	5.000	150	3.000	100
	12.0	9.000	700	6.000	400	9.000	700	5.000	150	3.000	100
	14.0	8.000	400	5.000	250	8.000	400	4.000	100	2.500	50
	16.0	8.000	400	5.000	250	8.000	400	4.000	100	2.500	50
	18.0	8.000	400	5.000	250	8.000	400	4.000	100	-	-
	20.0	8.000	400	5.000	250	8.000	400	4.000	100	-	-
	25.0	6.000	300	4.000	150	6.000	300	-	-	-	-
	30.0	6.000	300	4.000	150	6.000	300	-	-	-	-
	3	8.0	8.000	700	5.000	400	8.000	700	5.000	150	3.000
10.0		8.000	700	5.000	400	8.000	700	5.000	150	3.000	100
12.0		8.000	700	5.000	400	8.000	700	5.000	150	3.000	100
14.0		8.000	700	5.000	400	8.000	700	5.000	150	3.000	100
16.0		7.000	400	4.000	250	7.000	400	4.000	100	2.500	50
18.0		7.000	400	4.000	250	7.000	400	4.000	100	2.500	50
20.0		7.000	400	4.000	250	7.000	400	4.000	100	2.500	50
25.0		7.000	400	4.000	250	7.000	400	4.000	100	-	-
30.0		5.000	300	3.000	150	5.000	300	-	-	-	-
35.0		5.000	300	3.000	150	5.000	300	-	-	-	-
40.0		5.000	300	3.000	150	5.000	300	-	-	-	-
4		12.0	5.000	700	3.000	400	5.000	700	3.000	150	2.000
	16.0	5.000	700	3.000	400	5.000	700	3.000	150	2.000	100
	20.0	5.000	400	3.000	250	5.000	400	2.000	100	1.000	100
	25.0	5.000	400	3.000	250	5.000	400	2.000	100	1.000	100
	30.0	5.000	400	3.000	250	5.000	400	2.000	100	1.000	100
	35.0	5.000	400	3.000	250	5.000	400	2.000	100	1.000	100
	40.0	4.000	300	2.000	150	4.000	300	2.000	100	1.000	100
	50.0	4.000	300	2.000	150	4.000	300	2.000	100	1.000	100
5	16.0	4.000	600	3.000	300	4.000	600	2.000	150	1.000	100
	25.0	3.000	300	3.000	300	3.000	300	2.000	150	2.000	100
	35.0	2.000	300	3.000	300	2.000	300	2.000	150	2.000	100
50.0	2.000	100	1.500	100	2.000	100	2.000	150	2.000	100	

FRESE MICRO POWER SEMISFERICHE A 2 TAGLI

MICRO POWER BALL NOSE END MILLS - 2 FLUTES
FRAISES MICRO POWER SÉMISPHERIQUES À 2 DENTS
MICRO POWER RADIUSFRÄSER - 2 NUTEN
FRESAS MICRO POWER ESFÉRICAS - 2 LABIOS

MICROGRANA ULTRAFINE

SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

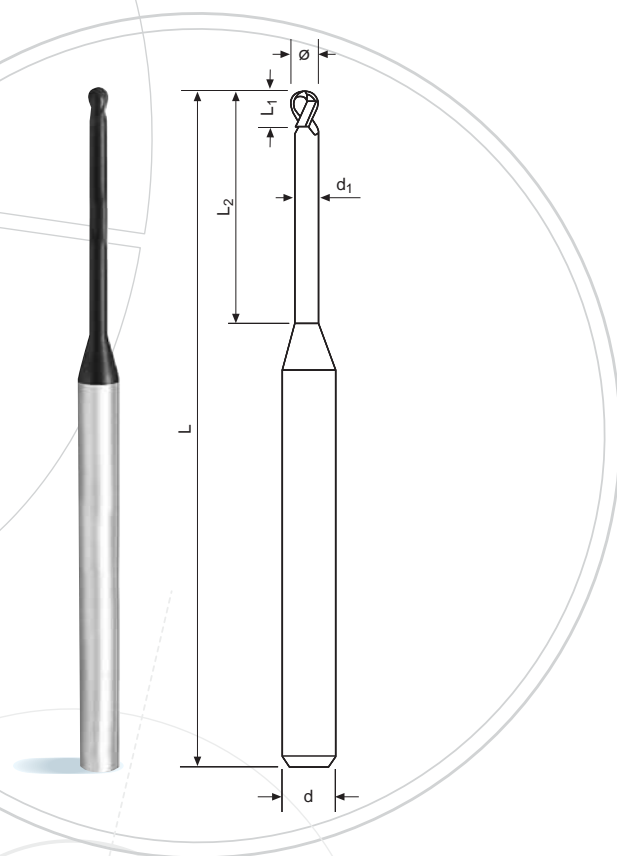
419RXT



SERIE LUNGA

EXTENDED LENGHT - SÉRIE LONGUE

ÜBERLÄNGE - SERIE LARGA



Ø mm	d1 mm	L mm	L1 mm	L2 mm	d mm	Z	419RXT €
0.5	0.45	60	0.5	2.5	6	2	64,80
0.6	0.55	60	0.6	3	6	2	64,80
0.8	0.75	60	0.8	4	6	2	64,80
1	0.95	60	1	5	6	2	58,80
1.2	1.15	60	1.2	6	6	2	58,80
1.4	1.35	60	1.4	7	6	2	69,30
1.6	1.55	60	1.6	8	6	2	69,30
1.8	1.75	60	1.8	9	6	2	69,30
2	1.95	60	2	10	6	2	61,80
2.5	2.4	60	2.5	12.5	6	2	66,20
3	2.85	70	3	15	6	2	66,20
3.5	3.35	70	3.5	17.5	6	2	72,97
4	3.85	70	4	20	6	2	66,20
5	4.85	80	5	25	6	2	70,40
6	5.85	90	6	30	6	2	74,70



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 0.5 mm a 3 mm	+0.00 mm -0.025 mm	+0.00 mm -0.013 mm
da 3.5 mm a 6 mm	+0.00 mm -0.038 mm	+0.00 mm -0.013 mm

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

PARÁMETROS DE CORTE

LAVORAZIONI AD ALTA VELOCITÀ

HIGH SPEED LIGHT MILLING - USINAGES À HAUTE VITESSE - HOCHGESCHWINDIGKEITS-BEARBEITUNG - FRESADO ALTA VELOCIDAD

Materiale da lavorare	Acciaio debolmente legato - Acciaio al carbonio - Ghisa	Leghe d'acciaio - Acciai da utensili	Acciai temprati - Acciai Legati
Material to work	Mild steel - Carbon steel - Cast iron	Steel alloys - Tool steel	Hardened steel - Prehardened steel
Matière à usiner	Acier faiblement lié - Acier au carbone - Fonte	Alliages d'acier - Aciers à outils	Aciers trempés - Aciers liés
zu bearbeitendes Material	unlegierter Stahl - Stahl- und Stahlguß - Guß	Stahllegierung - Werkzeugstahl	gehärteter Stahl - vorgehärteter Stahl
Material a trabajar	Acero de baja aleacion - Acero al carbono - Fundición	Aceros aleados - Acero para herramientas	Acero templado
Durezza . Hardness . Dureté . Härte . Dureza			
> 750 N/mm ²		> 30 HRC	30 -38 HRC

Ø mm	Speed RPM (giri/min)	Feed mm/min	Profondità di passata Depth per sweep	Speed RPM (giri/min)	Feed mm/min	Profondità di passata Depth per sweep	Speed RPM (giri/min)	Feed mm/min	Profondità di passata Depth per sweep
0.5	32.000	290	0.012-0.030	32.000	320	0.012-0.030	32.000	205	0.012-0.030
0.6	28.500-32.000	230	0.012-0.030	28.500-32.000	225	0.012-0.030	28.500-32.000	175	0.012-0.030
0.8	28.500-32.000	270-470	0.016-0.040	23.500-31.500	225-450	0.016-0.040	22.000-28.500	175-325	0.016-0.040
1	22.500-30.500	270-540	0.050-0.100	19.000-25.000	225-450	0.050-0.100	17.500-22.500	175-325	0.050-0.100
1.2	19.000-25.000	270-540	0.060-0.120	15.500-21.000	225-450	0.060-0.120	14.500-19.000	175-325	0.060-0.120
1.4	16.000-22.000	270-540	0.070-0.140	13.500-18.000	225-450	0.070-0.140	12.500-16.000	175-325	0.070-0.140
1.5	15.000-20.000	270-540	0.075-0.150	12.500-16.500	225-450	0.075-0.150	11.500-15.000	175-325	0.075-0.150
1.6	14.000-19.000	270-540	0.080-0.160	11.500-16.000	225-450	0.080-0.160	11.000-14.000	175-325	0.080-0.160
1.8	12.500-17.000	270-540	0.090-0.180	10.500-14.000	225-450	0.090-0.180	9.900-13.000	175-325	0.090-0.180
2	11.000-15.000	270-540	0.100-0.200	9.500-12.500	225-450	0.100-0.200	8.900-11.000	175-325	0.100-0.200
3	7.600-10.000	270-540	0.150-0.300	6.350-8.450	225-450	0.150-0.300	6.000-7.600	175-325	0.150-0.300
4	5.700-7.600	270-540	0.200-0.400	4.800-6.350	225-450	0.200-0.400	4.400-5.700	175-325	0.200-0.400

Materiale da lavorare	Acciai temprati - Acciai Legati	Acciai temprati	Acciai temprati
Material to work	Hardened steel - Prehardened steel	Hardened steel	Hardened steel
Matière à usiner	Aciers trempés - Aciers liés	Aciers trempés	Aciers trempés
zu bearbeitendes Material	gehärteter Stahl - vorgehärteter Stahl	gehärteter Stahl	gehärteter Stahl
Material a trabajar	Acero templado	Acero templado	Acero templado
Durezza . Hardness . Dureté . Härte . Dureza			
> 38-45 HRC		> 45-55 HRC	> 55-60 HRC

Ø mm	Speed RPM (giri/min)	Feed mm/min	Profondità di passata Depth per sweep	Speed RPM (giri/min)	Feed mm/min	Profondità di passata Depth per sweep	Speed RPM (giri/min)	Feed mm/min	Profondità di passata Depth per sweep
0.5	32.000	205	0.012-0.030	26.500	140	0.006-0.012	22.900	140	0.006
0.6	26.000-30.000	125	0.012-0.030	22.000-30.000	90	0.006-0.012	18.500-21.000	55	0.006
0.8	19.500-25.000	125-240	0.016-0.040	16.500-23.000	90-180	0.008-0.016	12.500-15.500	60-100	0.008
1	15.500-20.000	125-240	0.050-0.100	13.000-18.000	90-180	0.010-0.020	10.000-12.500	60-100	0.010-0.020
1.2	13.000-16.500	125-240	0.060-0.120	11.000-15.000	90-180	0.012-0.024	8.450-10.500	60-100	0.012-0.024
1.4	11.000-14.000	125-240	0.070-0.140	9.500-13.000	90-180	0.014-0.028	7.250-9.000	60-100	0.014-0.028
1.5	10.500-13.000	125-240	0.075-0.150	8.900-12.000	90-180	0.015-0.030	6.750-8.450	60-100	0.015-0.030
1.6	9.900-12.500	125-240	0.080-0.160	8.350-11.500	90-180	0.016-0.032	6.350-8.000	60-100	0.016-0.032
1.8	8.800-11.000	125-240	0.090-0.180	7.400-10.500	90-180	0.018-0.036	5.650-7.000	60-100	0.018-0.036
2	7.950-10.000	125-240	0.100-0.200	6.950-9.200	90-180	0.020-0.040	5.050-6.350	60-100	0.020-0.040
3	5.300-6.650	125-240	0.150-0.300	4.500-6.150	90-180	0.030-0.060	3.400-4.200	60-100	0.030-0.060
4	4.000-5.000	125-240	0.200-0.400	3.300-4.600	90-180	0.040-0.080	2.500-3.150	60-100	0.040-0.080

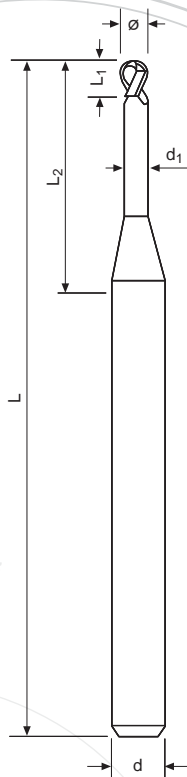
FRESE MICRO POWER SEMISFERICHE A 2 TAGLI

MICRO POWER BALL NOSE END MILLS - 2 FLUTES
FRAISES MICRO POWER SÉMISPHERIQUES À 2 DENTS
MICRO POWER RADIUSFRÄSER - 2 NUTEN
FRESAS MICRO POWER ESFÉRICAS - 2 LABIOS

MICROGRANA ULTRAFINE

SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

431RXT



Ø mm	d1 mm	L mm	L1 mm	L2 mm	d mm	z	431RXT
							€
0.6	0.55	35	0.9	6	3	2	71,10
0.8	0.75	45	1.2	6	4	2	71,10
0.8	0.75	45	1.2	8	4	2	71,10
1	0.97	45	1.5	6	4	2	71,10
1	0.95	45	1.5	8	4	2	71,10
1	0.95	45	1.5	10	4	2	71,10
1	0.93	45	1.5	12	4	2	71,10
1.2	1.15	45	1.8	8	4	2	71,10
1.2	1.13	45	1.8	12	4	2	71,10
1.4	1.33	45	2.1	12	4	2	71,10
1.5	1.45	50	2.3	8	4	2	71,10
1.5	1.43	50	2.3	12	4	2	71,10
1.5	1.41	50	2.3	16	4	2	71,10
1.6	1.51	50	2.4	16	4	2	71,10
1.8	1.71	50	2.7	16	4	2	71,10
2	1.95	45	3	8	4	2	71,10
2	1.93	45	3	12	4	2	71,10
2	1.91	50	3	16	4	2	71,10
2	1.89	55	3	20	4	2	71,10
3	2.85	55	4.5	16	6	2	81,40
3	2.85	60	4.5	20	6	2	81,40
4	3.85	60	6	16	6	2	81,40
4	3.85	65	6	20	6	2	81,40
4	3.85	70	6	25	6	2	81,40
5	4.85	70	5	25	6	2	81,40



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 0.6 mm a 3 mm	+0.000 mm -0.025 mm	+0.000 mm -0.013 mm
da 3 mm a 5 mm	+0.000 mm -0.038 mm	+0.000 mm -0.013 mm

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

PARÁMETROS DE CORTE

LAVORAZIONI AD ALTA VELOCITÀ

HIGH SPEED LIGHT MILLING - USINAGES À HAUTE VITESSE - HOCHGESCHWINDIGKEITS-BEARBEITUNG - FRESADO ALTA VELOCIDAD

Materiale da lavorare	Acciaio debole legato - Acciaio al carbonio - Ghisa	Leghe d'acciaio - Acciai da utensili	Acciai temprati - Acciai Legati
Material to work	Mild steel - Carbon steel - Cast iron	Steel alloys - Tool steel	Hardened steel - Prehardened steel
Matière à usiner	Acier faiblement lié - Acier au carbone - Fonte	Alliages d'acier - Aciers à outils	Aciers trempés - Aciers liés
zu bearbeitendes Material	unlegierter Stahl - Stahl- und Stahlguß - Guß	Stahllegierung - Werkzeugstahl	gehärteter Stahl - vorgehärteter Stahl
Material a trabajar	Acero de baja aleacion - Acero al carbono - Fundición	Aceros aleados - Acero para herramientas	Acero templado
Durezza . Hardness . Dureté . Härte . Durezza			
> 750 N/mm ²		> 30 HRC	30-38 HRC

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
0.6	28.500-32.000	230	28.500-32.000	225	28.500-32.000	175
0.8	28.500-32.000	270-470	23.500-31.500	225-450	22.000-28.500	175-325
1	22.500-30.500	270-540	19.000-25.000	225-450	17.500-22.500	175-325
1.2	19.000-25.000	270-540	15.500-21.000	225-450	14.500-19.000	175-325
1.4	16.000-22.000	270-540	13.500-18.000	225-450	12.500-16.000	175-325
1.5	15.000-20.000	270-540	12.500-16.500	225-450	11.500-15.000	175-325
1.6	14.000-19.000	270-540	11.500-16.000	225-450	11.000-14.000	175-325
1.8	12.500-17.000	270-540	10.500-14.000	225-450	9.900-13.000	175-325
2	11.000-15.000	270-540	9.500-12.500	225-450	8.900-11.000	175-325
3	7.600-10.000	270-540	6.350-8.450	225-450	6.000-7.600	175-325
4-5	5.700-7.600	270-540	4.800-6.350	225-450	4.400-5.700	175-325

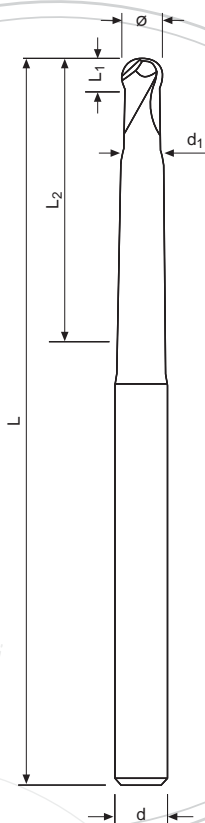
Materiale da lavorare	Acciai temprati - Acciai Legati	Acciai temprati	Acciai temprati
Material to work	Hardened steel - Prehardened steel	Hardened steel	Hardened steel
Matière à usiner	Aciers trempés - Aciers liés	Aciers trempés	Aciers trempés
zu bearbeitendes Material	gehärteter Stahl - vorgehärteter Stahl	gehärteter Stahl	gehärteter Stahl
Material a trabajar	Acero templado	Acero templado	Acero templado
Durezza . Hardness . Dureté . Härte . Durezza			
> 38-45 HRC		> 45-55 HRC	> 55-60 HRC

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
0.6	26.000-30.000	125	22.000-30.000	90	18.500-21.000	55
0.8	19.500-25.000	125-240	16.500-23.000	90-180	12.500-15.500	60-100
1	15.500-20.000	125-240	13.000-18.000	90-180	10.000-12.500	60-100
1.2	13.000-16.500	125-240	11.000-15.000	90-180	8.450-10.500	60-100
1.4	11.000-14.000	125-240	9.500-13.000	90-180	7.250-9.000	60-100
1.5	10.500-13.000	125-240	8.900-12.000	90-180	6.750-8.450	60-100
1.6	9.900-12.500	125-240	8.350-11.500	90-180	6.350-8.000	60-100
1.8	8.800-11.000	125-240	7.400-10.500	90-180	5.650-7.000	60-100
2	7.950-10.000	125-240	6.650-9.200	90-180	5.050-6.350	60-100
3	5.300-6.650	125-240	4.500-6.150	90-180	3.400-4.200	60-100
4-5	4.000-5.000	125-240	3.300-4.600	90-180	2.500-3.150	60-100

FRESE MICRO POWER SEMISFERICHE A 2 TAGLI

MICRO POWER BALL NOSE END MILLS - 2 FLUTES
FRAISES MICRO POWER SÉMISPHERIQUES À 2 DENTS
MICRO POWER RADIUSFRÄSER - 2 NUTEN
FRESAS MICRO POWER ESFÉRICAS - 2 LABIOS

NEW
433RXT



GAMBO RASTREMATO
TAPERED SHANK
QUEUE FUSELÉE
VERJÜNGTER SCHAFT
MANGO REBAJADO



Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

Ø mm	d1 mm	L mm	L1 mm	L2 mm	d mm	Z	433RXT
							€
0.2	0.18	45	0.16	0.5	4	2	93,00
0.2	0.18	45	0.16	1	4	2	93,00
0.2	0.18	45	0.16	1.5	4	2	93,00
0.3	0.28	45	0.24	1	4	2	93,00
0.3	0.28	45	0.24	1.5	4	2	93,00
0.3	0.28	45	0.24	2	4	2	93,00
0.4	0.37	45	0.3	1	4	2	93,00
0.4	0.37	45	0.3	1.5	4	2	93,00
0.4	0.37	45	0.3	2	4	2	93,00
0.4	0.37	45	0.3	2.5	4	2	93,00
0.4	0.37	45	0.3	3	4	2	93,00
0.5	0.45	45	0.4	2	4	2	93,00
0.5	0.45	45	0.4	3	4	2	93,00
0.5	0.45	45	0.4	4	4	2	93,00
0.5	0.45	45	0.4	5	4	2	93,00
0.5	0.45	45	0.4	6	4	2	93,00
0.5	0.45	45	0.4	8	4	2	93,00
0.6	0.55	45	0.5	2	4	2	93,00
0.6	0.55	45	0.5	3	4	2	93,00
0.6	0.55	45	0.5	4	4	2	93,00
0.6	0.55	45	0.5	5	4	2	93,00
0.6	0.55	45	0.5	6	4	2	93,00
0.6	0.55	45	0.5	8	4	2	93,00
0.8	0.75	45	0.6	2	4	2	93,00
0.8	0.75	45	0.6	4	4	2	93,00
0.8	0.75	45	0.6	5	4	2	93,00
0.8	0.75	45	0.6	6	4	2	93,00
0.8	0.75	45	0.6	7	4	2	93,00
0.8	0.75	45	0.6	8	4	2	93,00
0.8	0.75	45	0.6	10	4	2	93,00
1	0.95	45	0.8	3	4	2	85,90
1	0.85	45	0.8	4	4	2	85,90

1-2 >>

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 0.2 mm a 6 mm	+0.00 mm -0.01 mm	h6



SUB-MICROGRAIN
 MICRO-GRAIN ULTRAFIN
 HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
 SUB-MICROGRANO

Ø mm	d1 mm	L mm	L1 mm	L2 mm	d mm	z	433RXT
							€
1	0.95	45	0.8	5	4	2	85,90
1	0.95	45	0.8	6	4	2	85,90
1	0.95	45	0.8	7	4	2	85,90
1	0.95	45	0.8	8	4	2	85,90
1	0.95	45	0.8	9	4	2	85,90
1	0.95	45	0.8	10	4	2	85,90
1	0.95	45	0.8	12	4	2	85,90
1	0.95	50	0.8	14	4	2	85,90
1	0.95	50	0.8	16	4	2	85,90
1	0.95	55	0.8	20	4	2	85,90
1.2	1.15	45	1	6	4	2	85,90
1.2	1.15	45	1	8	4	2	85,90
1.2	1.15	45	1	10	4	2	85,90
1.2	1.15	45	1	12	4	2	85,90
1.4	1.35	45	1.1	8	4	2	85,90
1.4	1.35	45	1.1	12	4	2	85,90
1.4	1.35	50	1.1	16	4	2	85,90
1.5	1.45	45	1.2	8	4	2	85,90
1.5	1.45	45	1.2	12	4	2	85,90
1.5	1.45	50	1.2	16	4	2	85,90
1.5	1.45	55	1.2	20	4	2	85,90
1.6	1.55	45	1.3	8	4	2	85,90
1.6	1.55	45	1.3	12	4	2	85,90
1.6	1.55	50	1.3	16	4	2	85,90
1.6	1.55	55	1.3	20	4	2	85,90
1.8	1.75	45	1.4	8	4	2	85,90
1.8	1.75	45	1.4	12	4	2	85,90
1.8	1.75	50	1.4	16	4	2	85,90
1.8	1.95	55	1.4	20	4	2	85,90
2	1.95	45	1.6	6	4	2	82,30
2	1.95	45	1.6	8	4	2	82,30

Ø mm	d1 mm	L mm	L1 mm	L2 mm	d mm	z	433RXT
							€
2	1.95	45	1.6	10	4	2	82,30
2	1.95	45	1.6	12	4	2	82,30
2	1.95	50	1.6	14	4	2	82,30
2	1.95	50	1.6	16	4	2	82,30
2	1.95	55	1.6	18	4	2	82,30
2	1.95	55	1.6	20	4	2	82,30
2	1.95	60	1.6	22	4	2	82,30
2	1.95	65	1.6	25	4	2	82,30
2	1.95	70	1.6	30	4	2	82,30
3	2.85	50	2.4	8	6	2	82,30
3	2.85	50	2.4	10	6	2	82,30
3	2.85	55	2.4	16	6	2	82,30
3	2.85	60	2.4	20	6	2	82,30
3	2.85	65	2.4	25	6	2	82,30
3	2.85	70	2.4	30	6	2	82,30
3	2.85	80	2.4	35	6	2	82,30
4	3.85	60	3.2	10	6	2	85,90
4	3.85	60	3.2	16	6	2	85,90
4	3.85	65	3.2	20	6	2	85,90
4	3.85	70	3.2	25	6	2	85,90
4	3.85	80	3.2	30	6	2	85,90
4	3.85	80	3.2	35	6	2	85,90
4	3.85	90	3.2	40	6	2	85,90
4	3.85	90	3.2	45	6	2	85,90
4	3.85	100	3.2	50	6	2	85,90
5	4.85	70	4	20	6	2	85,90
5	4.85	70	4	25	6	2	85,90
5	4.85	80	4	30	6	2	85,90
5	4.85	80	4	35	6	2	85,90
6	5.85	80	4.8	30	8	2	119,50
6	5.85	120	4.8	50	8	2	138,50

2-2



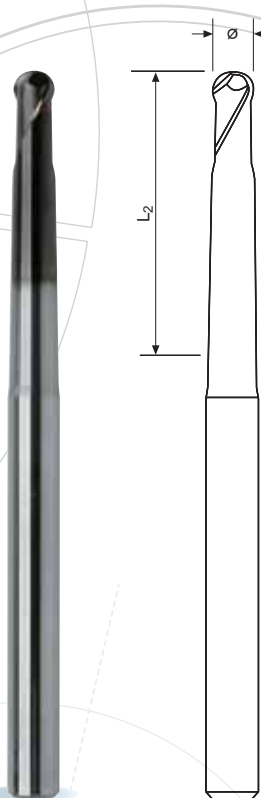
INFORMAZIONI TECNICHE ANGOLO DI COLLISIONE β

TECHNICAL DATA - INCLINED ANGLE β
SERVICE TECHNIQUE - ANGLE DE COLLISION β
TECHNISCHE HILFE - NEIGUNGSWINKEL β
INFORMACIÓN TÉCNICA - ANGULO INCLINADO β

FRESE SEMISFERICHE A 2 TAGLI

BALL NOSE END MILLS - 2 FLUTES
FRAISES SÉMISPHERIQUES À 2 DENTS
RADIUSFRÄSER - 2 NUTEN
FRESAS ESFÉRICAS - 2 LABIOS

NEW
433RXT



L2 = LUNGHEZZA UTILE DI LAVORO

L2 = MACHINING DEPTH

L2 = LONGUEUR UTILE

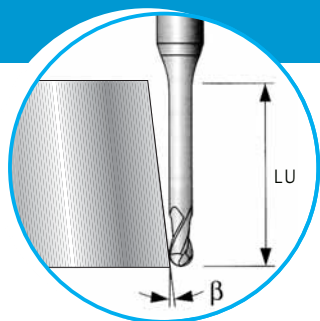
L2 = ARBEITSTIEFE

L2 = LARGO UTIL DE TRABAJO

Ø/R mm	L ₂ mm	β					
		0.5°	1°	1.5°	2°	2.5°	3°
LU							
0.2	0.5	1.08	1.25	1.43	1.6	1.77	1.94
0.2	1	1.48	1.75	1.99	2.21	2.41	2.62
0.2	1.5	1.85	2.25	2.55	2.8	3.04	3.26
0.3	1	1.55	1.8	2.02	2.23	2.43	2.62
0.3	1.5	1.95	2.3	2.57	2.82	3.05	3.27
0.3	2	2.29	2.8	3.12	3.41	3.66	3.9
0.4	1	1.7	1.91	2.11	2.3	2.49	2.67
0.4	1.5	2.13	2.41	2.66	2.89	3.1	3.31
0.4	2	2.54	2.91	3.2	3.47	3.71	3.94
0.4	2.5	2.93	3.41	3.75	4.04	4.31	4.56
0.4	3	3.26	3.91	4.29	4.61	4.9	5.16
0.5	2	2.77	3.06	3.32	3.57	3.79	4.01
0.5	3	3.62	4.06	4.4	4.7	4.97	5.23
0.5	4	4.43	5.06	5.48	5.82	6.13	6.42
0.5	5	4.61	6.06	6.54	6.93	7.27	7.59
0.5	6	4.61	7.06	7.61	8.04	8.41	8.79
0.5	8	4.61	9.06	9.73	10.23	10.65	11.08
0.6	2	2.81	3.09	3.34	3.58	3.8	4.02
0.6	3	3.68	4.09	4.42	4.71	4.98	5.23
0.6	4	4.51	5.09	5.49	5.83	6.14	6.42
0.6	5	5.12	6.09	6.56	6.94	7.28	7.59
0.6	6	4.96	7.09	7.63	8.05	8.41	8.74
0.6	8	4.96	9.09	9.75	10.24	10.65	11.02
0.8	2	2.89	3.15	3.38	3.61	3.82	4.03
0.8	4	4.63	5.15	5.53	5.86	6.15	6.43
0.8	5	5.44	6.15	6.59	6.96	7.29	7.6
0.8	6	5.66	7.15	7.66	8.07	8.43	8.75
0.8	7	5.66	8.15	8.72	9.16	9.55	9.9
0.8	8	5.66	9.15	9.77	10.25	10.66	11.03
0.8	10	5.66	11.15	11.88	12.42	12.88	13.28
1	3	3.86	4.2	4.49	4.76	5.01	5.25
1	4	4.74	5.2	5.56	5.88	6.17	6.44

INFORMAZIONI TECNICHE

TECHNICAL DATA - SERVICE TECHNIQUE - TECHNISCHE HILFE - INFORMACIÓN TÉCNICA



Effettiva lunghezza utile di lavoro legata all'inclinazione β del pezzo da lavorare
 Effective machining depth depending on inclined angle β of workpiece
 Longueur utile effective d'usinage liée à l'inclination β de la pièce à usiner
 Die effektive Arbeitstiefe hängt vom Neigungswinkel β des Werkstückes ab
 Largo util de trabajo depende del angulo de inclinacion de la pieza

Ø/R mm	L ₂ mm	β					
		0.5°	1°	1.5°	2°	2.5°	3°
LU							
1	5	5.58	6.2	6.63	6.99	7.31	7.6
1	6	6.35	7.2	7.69	8.09	8.44	8.76
1	7	6.36	8.2	8.75	9.18	9.56	9.9
1	8	6.36	9.2	9.8	10.27	10.68	11.04
1	9	6.36	10.2	10.86	11.36	11.78	12.17
1	10	6.36	11.2	11.91	12.44	12.89	13.29
1	12	6.36	13.2	14.01	14.6	15.08	15.51
1	14	6.36	15.2	16.11	16.74	17.26	17.72
1	16	6.36	17.2	18.2	18.88	19.43	19.91
1	20	6.36	21.2	22.36	23.13	23.74	24.27
1.2	6	6.53	7.25	7.72	8.11	8.45	8.77
1.2	8	7.06	9.25	9.83	10.29	10.69	11.04
1.2	10	7.06	11.25	11.94	12.46	12.9	13.29
1.2	12	7.06	13.25	14.03	14.61	15.09	15.52
1.4	8	7.76	9.3	9.86	10.31	10.7	11.05
1.4	12	7.76	13.3	14.06	14.63	15.1	15.52
1.4	16	7.76	17.3	18.24	18.9	19.45	19.92
1.5	8	8.25	9.32	9.87	10.32	10.7	11.05
1.5	12	8.11	13.32	14.07	14.63	15.11	15.53
1.5	16	8.11	17.32	18.25	18.91	19.45	19.93
1.5	20	8.11	21.32	22.41	23.15	23.76	24.38
1.6	8	8.38	9.34	9.88	10.32	10.71	11.06
1.6	12	8.46	13.34	14.08	14.64	15.11	15.53
1.6	16	8.46	17.34	18.26	18.91	19.46	19.93
1.6	20	8.46	21.34	22.42	23.16	23.76	-
1.8	8	8.55	9.38	9.91	10.34	10.72	11.06
1.8	12	9.16	13.38	14.11	14.65	15.12	15.53
1.8	16	9.16	17.38	18.28	18.93	19.46	19.93
1.8	20	9.16	21.38	22.44	23.17	23.77	-
2	6	6.91	7.43	7.83	8.18	8.5	8.8
2	8	8.66	9.43	9.94	10.36	10.73	11.07

Ø/R mm	L ₂ mm	β					
		0.5°	1°	1.5°	2°	2.5°	3°
LU							
2	10	9.86	11.43	12.03	12.52	12.94	13.32
2	12	9.86	13.43	14.13	14.67	15.13	15.54
2	14	9.86	15.43	16.22	16.81	17.31	17.75
2	16	9.86	17.43	18.3	18.94	19.47	19.94
2	18	9.86	19.43	20.38	21.07	21.63	-
2	20	9.86	21.43	22.46	23.18	23.78	-
2	22	9.86	23.43	24.54	25.3	-	-
2	25	9.86	26.43	27.65	28.46	-	-
2	30	9.86	31.43	32.81	-	-	-
3	8	9.48	9.93	10.31	10.66	10.98	11.28
3	10	11.35	11.93	12.39	12.8	13.17	13.5
3	16	16.83	17.93	18.62	19.18	19.66	20.09
3	20	19.09	21.93	22.76	23.4	23.94	24.42
3	25	19.09	26.93	27.92	28.65	29.27	29.8
3	30	19.09	31.93	33.07	33.89	34.56	-
3	35	19.09	36.93	38.21	39.11	-	-
4	10	11.57	12.07	12.49	12.87	13.21	13.53
4	16	17.16	18.07	18.7	19.23	19.7	20.11
4	20	20.76	22.07	22.84	23.45	23.98	-
4	25	22.59	27.07	27.99	28.7	-	-
4	30	22.59	32.07	33.14	-	-	-
4	35	22.59	37.07	38.28	-	-	-
4	40	22.59	42.07	-	-	-	-
4	45	22.59	47.07	-	-	-	-
4	50	22.59	52.07	-	-	-	-
5	20	21.12	22.2	-	-	-	-
5	25	25.53	27.2	-	-	-	-
5	30	26.09	-	-	-	-	-
5	35	26.09	-	-	-	-	-
6	30	29.59	32.32	33.28	-	-	-
6	50	29.59	52.32	-	-	-	-

INFORMAZIONI TECNICHE

TECHNICAL DATA - SERVICE TECHNIQUE - TECHNISCHE HILFE - INFORMACION TÉCNICA

433RXT

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA . PARAMÈTRES DE COUPE
EMPFOLHENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE
PARÁMETROS DE CORTE

Materiale da lavorare Material to work Matière à usiner zu bearbeitendes Material Material a trabajar	Ghisa Cast iron	Acciaio inossidabile Stainless steel	Acciai Steel	Acciai temprati Hardened steel	Acciai temprati <60 HRC Hardened steel <60 HRC
	Fonte Cast iron	Acier inoxydable Stainless steel	Aciers Steel	Aciers trempés Hardened steel	Aciers trempés <60 HRC Hardened steel <60 HRC
	Guß Cast iron	Rostfreier Stahl Stainless steel	Stahl Steel	gehärteter Stahl Hardened steel	gehärteter Stahl <60 HRC Hardened steel <60 HRC
	Fundición Cast iron	Acero inoxidable Stainless steel	Acero Steel	Acero templado Hardened steel	Acero templado <60 HRC Hardened steel <60 HRC

MACCHINE TRADIZIONALI • CONVENTIONAL CNC MACHINES

FRESATURA PER COPIATURA • COPY MILLING • POUR COPIAGE • KOPIERFRÄSER • FRESA DE COPIAR

Ø mm	L3 mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
0.2	0.5	20.000	200	20.000	100	20.000	200	20.000	30	20.000	40
	1.0	20.000	100	20.000	50	20.000	100	20.000	30	20.000	40
	1.5	20.000	100	20.000	50	20.000	100	20.000	30	-	-
0.3	1.0	20.000	200	20.000	100	20.000	200	20.000	50	20.000	40
	1.5	20.000	200	20.000	100	20.000	200	20.000	50	20.000	40
	2.0	20.000	200	20.000	100	20.000	200	20.000	50	-	-
0.4	1.0	20.000	300	20.000	200	20.000	300	20.000	100	20.000	50
	1.5	20.000	300	20.000	200	20.000	300	20.000	100	20.000	50
	2.0	17.000	200	17.000	150	17.000	200	17.000	50	17.000	40
0.5	2.0	17.000	200	17.000	150	17.000	200	17.000	50	-	-
	3.0	17.000	200	17.000	150	17.000	200	17.000	50	-	-
	4.0	17.000	200	17.000	150	17.000	200	17.000	50	-	-
0.6	2.0	20.000	400	20.000	200	20.000	400	20.000	100	15.000	100
	3.0	20.000	200	17.000	100	20.000	200	15.000	50	12.000	50
	4.0	20.000	200	17.000	100	20.000	200	15.000	50	12.000	50
0.8	2.0	20.000	400	17.000	200	20.000	400	15.000	100	10.000	100
	3.0	20.000	200	17.000	100	20.000	200	15.000	50	8.000	50
	4.0	20.000	200	15.000	100	20.000	200	13.000	50	-	-
1.0	2.0	20.000	400	17.000	200	20.000	400	15.000	100	10.000	100
	3.0	20.000	400	17.000	200	20.000	400	15.000	100	10.000	100
	4.0	18.000	200	12.000	100	18.000	200	11.000	50	8.000	50
1.2	6.0	16.000	300	11.000	100	16.000	300	9.000	100	6.000	100
	8.0	16.000	300	11.000	100	16.000	300	9.000	100	6.000	100
	10.0	16.000	300	11.000	100	16.000	300	9.000	100	-	-
1.4	8.0	14.000	300	9.000	150	14.000	300	9.000	100	5.000	100
	12.0	14.000	300	9.000	150	14.000	300	9.000	100	-	-
	16.0	10.000	100	6.000	50	10.000	100	6.000	30	-	-

433RXT

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA . PARAMÈTRES DE COUPE
EMPFOLHENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE
PARÁMETROS DE CORTE

Materiale da lavorare Material to work Matière à usiner zu bearbeitendes Material Material a trabajar	Ghisa Cast iron	Acciaio inossidabile Stainless steel	Acciai Steel	Acciai temprati Hardened steel	Acciai temprati <60 HRC Hardened steel <60 HRC
	Fonte Cast iron	Acier inoxydable Stainless steel	Aciers Steel	Aciers trempés Hardened steel	Aciers trempés <60 HRC Hardened steel <60 HRC
	Guß Cast iron	Rostfreier Stahl Stainless steel	Stahl Steel	gehärteter Stahl Hardened steel	gehärteter Stahl <60 HRC Hardened steel <60 HRC
	Fundición Cast iron	Acero inoxidable Stainless steel	Acero Steel	Acero templado Hardened steel	Acero templado <60 HRC Hardened steel <60 HRC

MACCHINE TRADIZIONALI • CONVENTIONAL CNC MACHINES

FRESATURA PER COPIATURA • COPY MILLING • POUR COPIAGE • KOPIERFRÄSER • FRESA DE COPIAR

Ø mm	L3 mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
1.5	8.0	14.000	300	9.000	150	14.000	300	9.000	100	5.000	100
	12.0	14.000	300	9.000	150	14.000	300	9.000	100	-	-
	16.0	10.000	100	7.000	50	10.000	100	6.000	50	-	-
1.6	8.0	14.000	300	9.000	150	14.000	300	9.000	100	4.000	100
	12.0	14.000	300	9.000	150	14.000	300	9.000	100	-	-
	16.0	9.500	100	6.000	50	9.500	100	6.000	100	-	-
1.8	8.0	14.000	300	9.000	200	14.000	300	9.000	100	4.000	100
	12.0	14.000	300	9.000	200	14.000	300	9.000	100	4.000	100
	16.0	14.000	300	9.000	200	14.000	300	9.000	100	-	-
2	4.0	14.000	700	11.000	300	14.000	700	10.000	250	5.000	150
	6.0	14.000	700	11.000	300	14.000	700	10.000	250	5.000	150
	8.0	14.000	700	11.000	300	14.000	700	10.000	250	5.000	150
	10.0	12.000	400	9.000	200	12.000	400	7.000	100	3.000	100
	12.0	12.000	400	9.000	200	12.000	400	7.000	100	3.000	100
	14.0	12.000	400	9.000	200	12.000	400	7.000	100	3.000	100
	16.0	12.000	400	9.000	200	12.000	400	7.000	100	-	-
	18.0	12.000	400	9.000	200	12.000	400	7.000	100	-	-
	20.0	9.000	200	9.000	100	9.000	200	5.000	50	-	-
	22.0	9.000	200	6.000	100	9.000	200	5.000	50	-	-
	25.0	9.000	200	6.000	100	9.000	200	5.000	50	-	-
3	8.0	10.000	600	6.000	200	10.000	600	5.000	200	2.000	100
	10.0	10.000	600	6.000	200	10.000	600	5.000	200	2.000	100
	16.0	8.000	400	6.000	150	8.000	400	4.000	100	1.700	50
	20.0	8.000	400	5.000	150	8.000	400	4.000	100	1.700	50
	25.0	8.000	400	5.000	150	8.000	400	4.000	100	-	-
	30.0	7.000	200	4.000	100	7.000	200	3.000	50	-	-
	35.0	7.000	200	4.000	100	7.000	200	3.000	50	-	-
4	10.0	7.000	600	5.000	200	7.000	600	4.000	200	2.000	100
	16.0	7.000	600	5.000	200	7.000	600	4.000	200	2.000	100
	20.0	5.000	400	4.000	150	5.000	400	3.000	100	1.700	30
	25.0	5.000	400	4.000	150	5.000	400	3.000	100	1.700	30
	30.0	5.000	400	4.000	150	5.000	400	3.000	100	-	-
	35.0	5.000	400	4.000	150	5.000	400	3.000	100	-	-
	40.0	3.000	200	3.000	100	3.000	200	2.500	50	-	-
	45.0	3.000	200	3.000	100	3.000	200	2.500	50	-	-
5	20.0	5.000	400	4.000	200	5.000	400	3.000	150	2.000	100
	25.0	4.000	300	3.000	150	4.000	300	3.000	150	2.000	30
	30.0	4.000	300	3.000	150	4.000	300	3.000	150	2.000	30
	35.0	4.000	300	3.000	150	4.000	300	3.000	150	2.000	30
5	30.0	4.000	300	3.000	150	4.000	300	3.000	150	2.000	100
	50.0	4.000	300	3.000	150	4.000	300	3.000	150	2.000	100

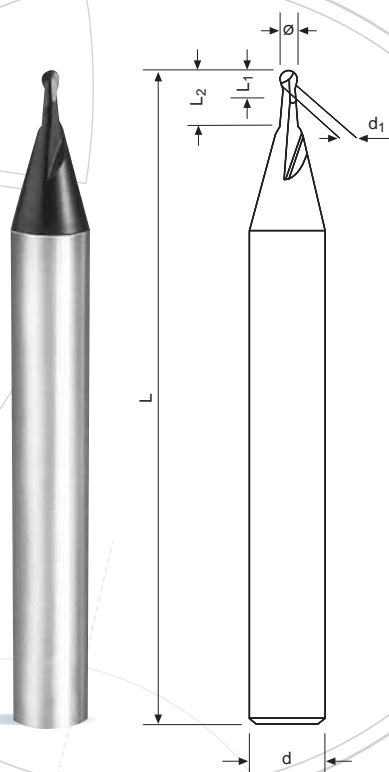
FRESE MICRO POWER SEMISFERICHE A 2 TAGLI

MICRO POWER BALL NOSE END MILLS - 2 FLUTES
FRAISES MICRO POWER SÉMISPHERIQUES À 2 DENTS
MICRO POWER RADIUSFRÄSER - 2 NUTEN
FRESAS MICRO POWER ESFÉRICAS - 2 LABIOS

MICROGRANA ULTRAFINE

SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

413RXT



Ø mm	d1 mm	L mm	L1 mm	L2 mm	d mm	z	413RXT €
0.3	~ 0.1	50	0.3	0.6	6	2	72,70
0.4	~ 0.1	50	0.4	0.8	6	2	72,70
0.6	~ 0.1	50	0.6	1.2	6	2	72,70
0.8	~ 0.1	50	0.8	1.6	6	2	72,70
1	0.95	50	1	2,5	6	2	59,40
1.2	1.15	50	1,2	3	6	2	59,40
1.4	1.35	50	1.4	7	6	2	69,50
1.5	1.45	50	1,6	3.8	6	2	62,10
1.6	1.55	50	1.8	4	6	2	69,50
1.8	1.75	50	2	4.5	6	2	69,50
2	1.95	50	2.5	5	6	2	62,10
2.5	2.4	50	3	5	6	2	66,30
3	2.85	50	4	6	6	2	66,30
3.5	3.35	50	5	6	6	2	73,20
4	3.85	50	6	6	6	2	66,30
5	4.85	50	5	7.5	6	2	70,70
6	5.85	50	6	9	6	2	75,00

XT

Rivestimento X-Treme
X-Treme coating
Revêtement X-Treme
X-Treme-Beschichtung
Recubrimiento X-Treme

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 0.3 mm a 3 mm	+ .000 mm - .025 mm	+ .000 mm - .013 mm
da 3.5 mm a 6 mm	+ .000 mm - .038 mm	+ .000 mm - .013 mm

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

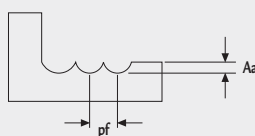
PARÁMETROS DE CORTE

PER FRESATURA DI CAVE • SLOT MILLING • POUR FRESAGE DES GORGES • BOHRNUTENFRÄSEN • FRESADO DE RANURAS

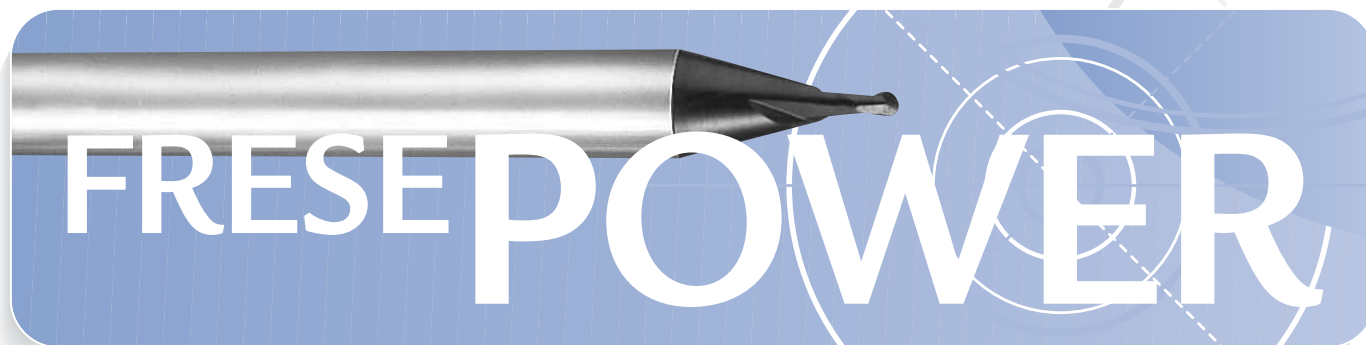
Materiale da lavorare Material to work	Acciaio debolemente legato Acciaio al carbonio - Ghisa Mild steel Carbon steel - Cast Iron	Leghe d'acciaio Acciai da utensili Steel alloys Tool steel	Acciai temprati Acciai legati Hardened steel Prehardened steel	Acciai temprati		
Matière à usiner zu bearbeitendes Material Material a trabajar	Acier faiblement lié Acier au carbone - Fonte unlegierter Stahl Stahl- und Stahlguß - Guß Acero de baja aleacion Acero al carbono - Fundición	Alliages d'acier Aciers à outils Stahllegierung Werkzeugstahl Aceros aleados Acero para herramientas	Aciers trempés Aciers liés gehärteter Stahl vorgehärteter Stahl Acero templado	Aciers trempés gehärteter Stahl Acero templado		
> 750 N/mm ²		> 30 HRC	Durezza . Hardness . Dureté . Härte . Durezza 30 - 38 HRC	38 - 45 HRC	45 - 55 HRC	55 - 60 HRC

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
0.3	50.000	930	50.000	840	50.000	840	50.000	720	32.000	440	32.000	440
0.4	50.000	1.200	50.000	1.100	50.000	1.100	50.000	960	32.000	585	32.000	585
0.6	50.000	1.650	50.000	1.650	50.000	1.650	50.000	1.400	32.000	880	32.000	880
0.8	50.000	2.200	50.000	2.200	50.000	2.000	50.000	1.900	32.000	1.150	32.000	1.150
1	50.000	2.800	50.000	2.800	50.000	2.500	50.000	2.400	38.000	1.700	26.500	1.800
1.2	50.000	3.350	50.000	3.350	48.600	2.900	48.600	2.750	32.800	1.700	26.500	1.800
1.4	50.000	3.900	50.000	3.900	47.200	3.250	47.200	3.100	27.600	1.700	26.500	1.800
1.5	50.000	4.200	50.000	4.200	46.500	3.450	46.500	3.300	25.000	1.700	26.500	1.800
1.6	48.900	4.350	48.200	4.250	44.200	3.450	44.200	3.350	25.700	1.900	25.100	1.800
1.8	46.700	4.650	44.600	4.400	39.600	3.500	39.600	3.350	27.100	2.250	22.300	1.800
2	44.500	4.950	41.000	4.550	35.000	3.500	35.000	3.350	28.500	2.600	19.500	1.800
2.5	37.000	4.950	34.300	4.550	29.000	3.500	29.000	3.350	23.800	2.600	16.300	1.800
3	29.500	4.950	27.500	4.600	23.000	3.500	23.000	3.350	19.000	2.600	13.000	1.800
3.5	25.800	4.950	24.000	4.600	20.300	3.500	20.300	3.350	16.500	2.600	11.500	1.800
4	22.000	4.900	20.500	4.600	17.500	3.500	17.500	3.350	14.000	2.600	9.900	1.800
5	17.500	4.900	16.500	4.600	14.000	3.500	14.000	3.350	11.000	2.600	8.000	1.800
6	14.500	4.850	13.500	4.500	11.500	3.450	11.500	3.300	9.500	2.600	6.600	1.800

Profondità di taglio
Cutting Depth
Profondeur de coupe
Schnitt-Tiefe
Profundidad de corte



Aa = 0.02 D
pf = 0.05D



angeloghezzi

PER ULTERIORI INFORMAZIONI CONTATTATECI

FOR ANY INFORMATION, PLEASE CONTACT US

POUR TOUT REINSEIGNEMENT CONTACTEZ-NOUS

FÜR WEITERE INFORMATIONEN BITTEN WIR UM KONTAKTAUFNAHME

PARA MÁS INFORMACIÓN LLAMENOS

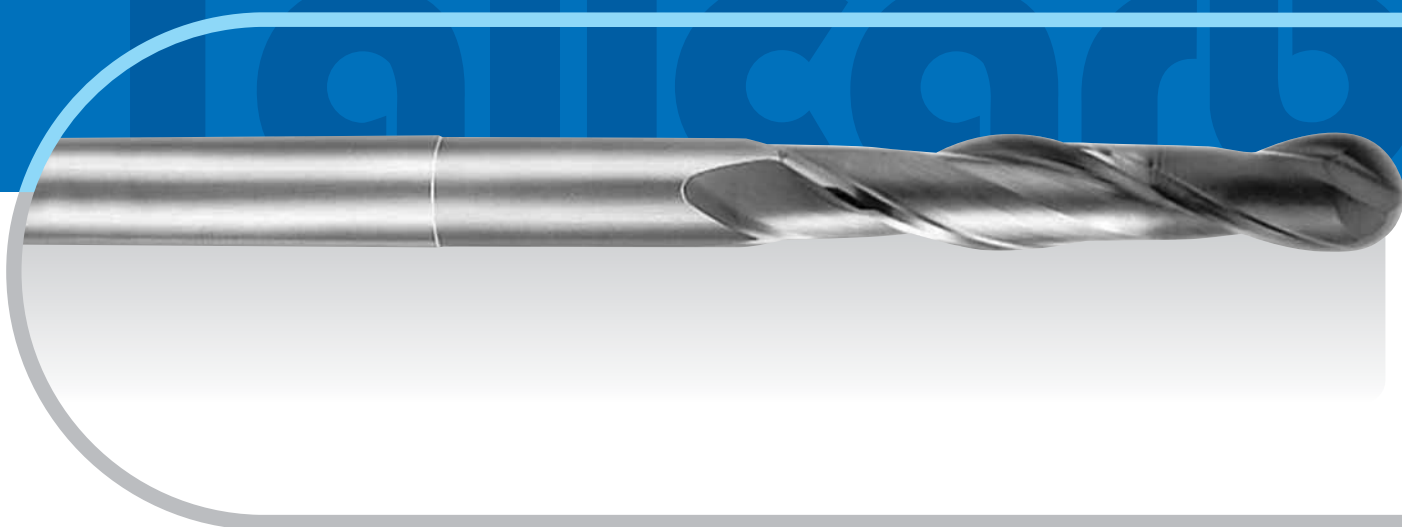


Angelo Ghezzi & C SpA

Servizio tecnico
chiamata gratuita

Numero Verde
800-018130

POWER GRAPHITE



RIVESTIMENTO DIAMOND

DIAMOND COATING

REVÊTEMENT DIAMOND

BESCHICHTUNG DIAMOND

RECUBRIMIENTO DIAMANTE

Talicarb

FRESE POWER GRAPHITE TORICHE

A 4 TAGLI

POWER GRAPHITE TORIC END MILLS - 4 FLUTES
 FRAISES POWER GRAPHITE TORIQUES À 4 DENTS
 POWER GRAPHIT TORUSFRÄSER - 4 NUTEN
 FRESAS POWER GRAFITO TÓRICAS - 4 LABIOS

MICROGRANA ULTRAFINE

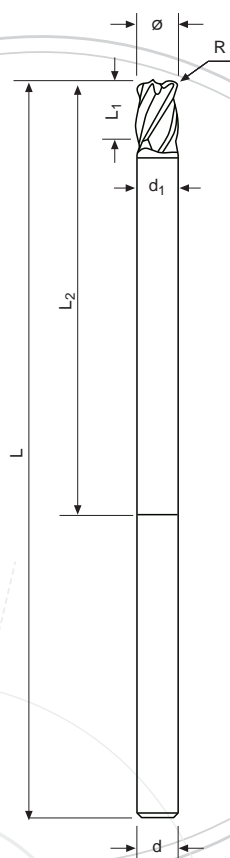
SUB-MICROGRAIN
 MICRO-GRAIN ULTRAFIN
 HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
 SUB-MICROGRANO

NEW
1436D



SERIE LUNGA

EXTENDED LENGTH - SÉRIE LONGUE
 ÜBERLÄNGE - SERIE LARGA



Rivestimento Diamond
 Diamond coating
 Revêtement Diamond
 Beschichtung Diamond
 Recubrimiento Diamante

Ø/R mm	d1 mm	L mm	L1 mm	L2 mm	d mm	z	1436D
							€
2/0.2	1.92	65	3	30	4	4	146,50
2/0.5	1.92	65	3	30	4	4	146,50
3/0.3	2.9	65	4	40	4	4	141,50
3/0.5	2.9	65	4	40	4	4	141,50
4/0.3	3.9	80	5	50	4	4	156,50
4/0.5	3.9	80	5	50	4	4	156,50
6/0.3	5.8	100	8	60	6	4	185,50
6/0.5	5.8	100	8	60	6	4	185,50
6/1	5.8	100	8	60	6	4	185,50
8/1	7.8	120	10	84	8	4	325,00
8/2	7.8	120	10	84	8	4	325,00
10/1	9.8	130	12	88	10	4	379,00
10/2	9.8	130	12	88	10	4	379,00
12/1	11.8	140	15	93	12	4	459,00
12/2	11.8	140	15	93	12	4	459,00
12/3	11.8	140	15	93	12	4	459,00

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 2 mm a 12 mm	+0.00 mm -0.01 mm	h6

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

PARÁMETROS DE CORTE

Materiale da lavorare Material to work Matière à usiner zu bearbeitendes Material Material a trabajar	Alluminio Aluminium Aluminium Aluminium	Alluminio > 9% Si Aluminium > 9% Si Aluminium > 9% Si Aluminium > 9% Si	Materiali non ferrosi Leghe di rame Non ferrous materials Copper alloys Matière non ferreux Alliages de cuivre Ne-Metalle Kupferlegierungen Materiales no férricos Aleaciones de cobre	Grafite Fibre artificiali Graphite Artificial fibers Graphite Fibres artificielles Grafit Faserverb Grafit Fibras artificiales
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MACCHINE TRADIZIONALI • CONVENTIONAL CNC MACHINES

LAVORAZIONI DI PROFILATURA - PROFILING - USINAGES DE PROFILAGE - PROFILFRÄSEN - FRESADO DE PERFIL

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
2	27.900	3.350	15.900	1.270	9.500	760	12.700	430
3	18.600	2.230	10.600	850	6.400	510	8.500	310
4	13.900	1.670	8.000	640	4.800	380	6.400	230
6	9.300	1.490	5.300	640	3.200	380	4.200	300
8	6.900	820	4.000	480	2.400	280	3.200	220
10	5.500	660	3.200	380	1.900	230	2.550	180
12	4.600	550	2.600	300	1.600	190	2.100	150

PER FRESATURA DI CAVE • SLOT MILLING • POUR FRESAGE DES GORGES • BOHRNUTENFRÄSEN • FRESADO DE RANURAS

2	22.300	2.680	12.700	1.020	8.000	640	10.300	410
3	14.900	1.790	8.500	680	5.300	420	6.900	280
4	11.100	1.330	6.400	510	4.000	320	5.200	210
6	8.900	1.180	4.200	500	2.700	320	3.400	270
8	5.500	440	3.200	250	1.900	150	2.500	200
10	4.400	350	2.500	200	1.600	120	2.000	160
12	3.700	290	2.100	160	1.300	100	1.700	130

MACCHINE ALTA VELOCITA' • HIGH SPEED CNC MACHINES

LAVORAZIONI DI PROFILATURA - PROFILING - USINAGES DE PROFILAGE - PROFILFRÄSEN - FRESADO DE PERFIL

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
2	55.700	6.680	31.800	2.540	19.100	1.530	25.500	1.020
3	37.100	4.450	21.200	1.700	12.700	1.020	17.000	680
4	27.900	3.350	15.900	1.270	9.500	760	12.700	510
6	18.600	2.980	10.600	1.270	6.400	770	8.500	680
8	13.900	2.200	7.900	950	4.700	560	6.300	500
10	11.100	1.700	6.300	750	3.800	450	5.000	400
12	9.300	1.500	5.300	630	3.200	380	4.200	330

PER FRESATURA DI CAVE • SLOT MILLING • POUR FRESAGE DES GORGES • BOHRNUTENFRÄSEN • FRESADO DE RANURAS

2	44.600	5.350	25.500	2.040	15.100	1.210	20.700	830
3	29.700	3.560	17.000	1.360	10.100	810	13.800	550
4	22.300	2.680	12.700	1.020	7.600	610	10.300	410
6	14.900	2.380	8.500	1.020	5.000	600	6.900	550
8	11.100	1.700	6.300	750	3.700	400	5.100	400
10	9.000	1.400	5.100	600	3.000	360	4.100	330
12	7.400	1.200	4.200	500	2.500	300	3.400	270

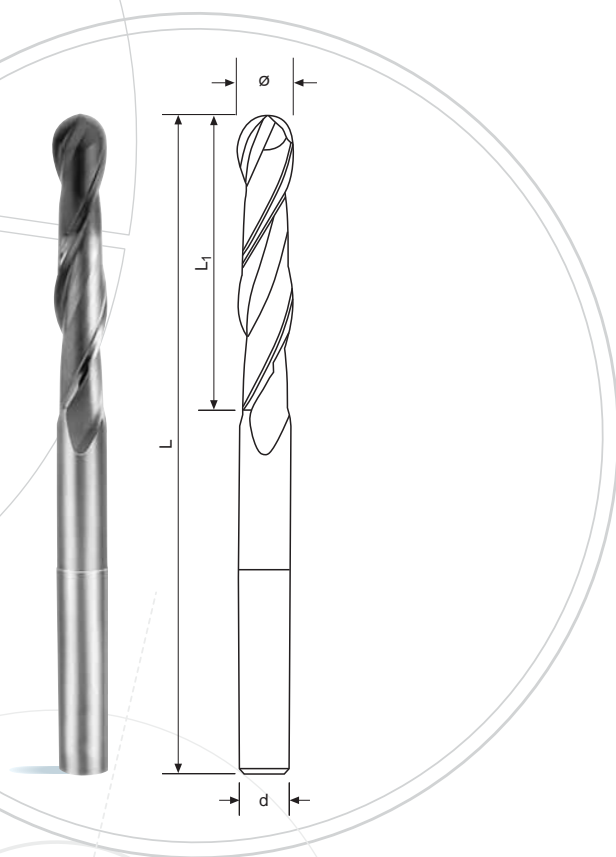
FRESE POWER GRAPHITE SEMISFERICHE A 2 TAGLI

POWER GRAPHITE BALL NOSE END MILLS - 2 FLUTES
 FRAISES POWER GRAPHITE SÉMISPHERIQUES À 2 DENTS
 POWER GRAPHIT RADIUSFRÄSER - 2 NUTEN
 FRESA POWER GRAFITO ESFERICA 2 LABIOS

MICROGRANA ULTRAFINE

SUB-MICROGRAIN
 MICRO-GRAIN ULTRAFIN
 HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
 SUB-MICROGRANO

1420RD



Ø mm	L mm	L1 mm	d mm	z	1420RD
					€
1	39	3	3	2	147,00
1.5	39	5	3	2	147,00
2	39	7	3	2	147,00
2.5	39	7	3	2	147,00
3	39	9	3	2	147,00
4	51	14	4	2	157,50
5	51	16	5	2	167,50
6	64	19	6	2	177,50
8	64	21	8	2	192,50
10	70	22	10	2	218,00
12	76	25	12	2	258,50



Rivestimento Diamond
 Diamond coating
 Revêtement Diamond
 Beschichtung Diamond
 Recubrimiento Diamante

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 1 mm a 3 mm	+0.00 mm -0.025 mm	+0.00 mm -0.013 mm
da 4 mm a 12 mm	+0.00 mm -0.038 mm	+0.00 mm -0.013 mm

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

PARÁMETROS DE CORTE

Ø mm	AVANZAMENTO AL DENTE (mm) • Feed per flute (mm)			GIRI/MIN • SPEED RPM	
	Lavorazione di cave Slot machining Usinage de gorges Nutenfräsen Fresado ranuras	Lavorazioni periferiche di profilatura Peripheral profiling Usinages périphériques de profilage seitliches Profilfräsen Fresado periferico de perfil	Lavorazioni di contornatura Cut out milling Usinages de contournage Konturfräsen Contorno	Sgrossatura Roughing Ebauchage Schruppen Desbaste	Finitura Finishing Finissage Schlichten Acabado
1	.004 - .006	.004 - .006	.006 - .007	45.000 - 80.000	76.350 - 145.000
1.5	.005 - .010	.007 - .012	.010 - .015	45.000 - 80.000	76.350 - 145.000
2	.007 - .012	.010 - .015	.012 - .018	36.600 - 64.500	61.100 - 122.200
2.5	.010 - .015	.012 - .018	.015 - .020	30.500 - 53.700	50.900 - 122.200
3	.012 - .018	.018 - .023	.020 - .025	22.900 - 40.300	38.150 - 91.000
4	.023 - .030	.025 - .035	.028 - .038	18.300 - 32.200	30.550 - 66.000
5	.030 - .038	.033 - .043	.035 - .048	15.200 - 26.800	25.450 - 60.000
6	.033 - .040	.035 - .046	.038 - .050	11.400 - 20.100	19.050 - 45.000
8	.063 - .076	.076 - .091	.076 - .102	9.100 - 16.100	15.250 - 37.000
10	.069 - .081	.078 - .095	.090 - .115	7.500 - 13.400	12.700 - 30.500
12	.095 - .108	.102 - .130	.115 - .140	5.700 - 10.000	9.500 - 23.000

RICHIEDI I NUOVI CATALOGHI TALICARB

ASK FOR OUR NEW TALICARB CATALOGUES

DEMANDEZ LES NOUVEAUX CATALOGUES TALICARB

FRAGEN SIE NACH UNSEREN NEUEN TALICARB KATALOGEN

PIDA NUESTROS NUEVOS CATALOGOS TALICARB



FRESE POWER GRAPHITE SEMISFERICHE A 2 TAGLI

POWER GRAPHITE BALL NOSE END MILLS - 2 FLUTES
FRAISES POWER GRAPHITE SÉMISPHERIQUES À 2 DENTS
POWER GRAPHIT RADIUSFRÄSER - 2 NUTEN
FRESA POWER GRAFITO ESFERICA 2 LABIOS

MICROGRANA ULTRAFINE

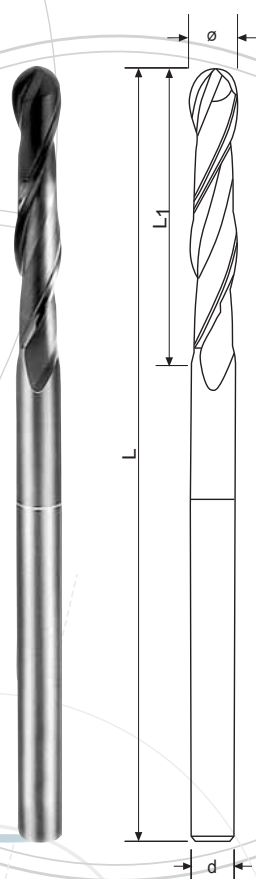
SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

1421RD



SERIE LUNGA

EXTENDED LENGTH - SÉRIE LONGUE
ÜBERLÄNGE - SERIE LARGA



Rivestimento Diamond
Diamond coating
Revêtement Diamond
Beschichtung Diamond
Recubrimiento Diamante

Ø mm	L mm	L1 mm	d mm	Z	1421RD
					€
2	75	10	4	2	156,00
3	75	15	4	2	156,00
4	75	20	4	2	167,50
5	100	25	6	2	169,00
6	100	30	6	2	184,00
7	110	35	6	2	206,50
8	110	40	8	2	221,50
9	120	45	8	2	251,00
10	120	50	10	2	276,00
11	130	55	10	2	294,00
12	130	65	12	2	322,00

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 2 mm a 3 mm	+0.00 mm -0.025 mm	+0.00 mm -0.013 mm
da 4 mm a 12 mm	+0.00 mm -0.038 mm	+0.00 mm -0.013 mm

PARAMETRI DI TAGLIO

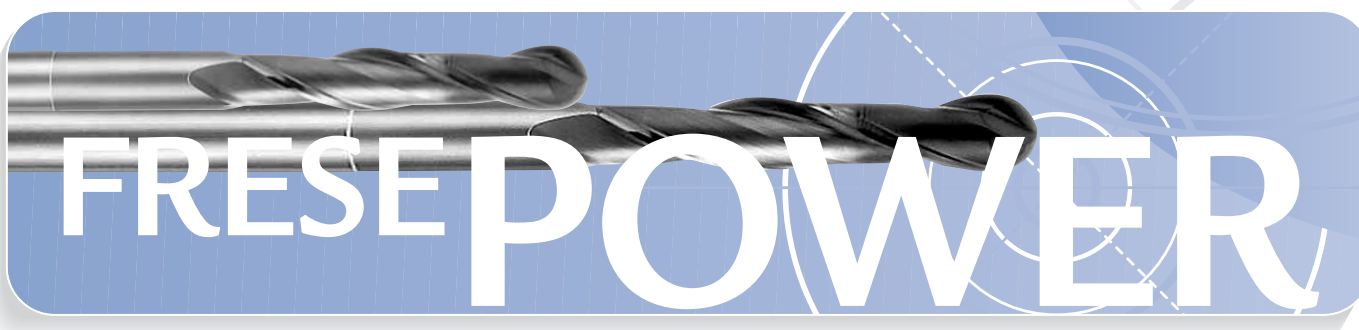
SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

PARÁMETROS DE CORTE

Ø mm	AVANZAMENTO AL DENTE (mm) • Feed per flute (mm)			GIRI/MIN • SPEED RPM	
	Lavorazione di cave Slot machining Usinage de gorges Nutenfräsen Fresado ranuras	Lavorazioni periferiche di profilatura Peripheral profiling Usinages périphériques de profilage seitliches Profilfräsen Fresado periferico de perfil	Lavorazioni di contornatura Cut out milling Usinages de contournage Konturfräsen Contorno	Sgrossatura Roughing Ebauchage Schruppen Desbaste	Finitura Finishing Finissage Schlichten Acabado
2	.007 - .012	.010 - .015	.012 - .018	36.600 - 64.500	61.100 - 122.200
3	.012 - .018	.018 - .023	.020 - .025	22.900 - 40.300	38.150 - 91.000
4	.023 - .030	.025 - .035	.028 - .038	18.300 - 32.200	30.550 - 66.000
5	.030 - .038	.033 - .043	.035 - .048	15.200 - 26.800	25.450 - 60.000
6	.033 - .040	.035 - .046	.038 - .050	11.400 - 20.100	19.050 - 45.000
7	.040 - .052	.042 - .056	.044 - .058	10.000 - 18.100	17.000 - 40.000
8	.063 - .076	.076 - .091	.076 - .102	9.100 - 16.100	15.250 - 37.000
9	.066 - .078	.078 - .080	.080 - 108	8.300 - 14.200	14.100 - 33.000
10	.069 - .081	.078 - .095	.090 - .115	7.500 - 13.400	12.700 - 30.500
11	.081 - .094	.085 - .110	.095 - .119	6.700 - 12.100	10.700 - 26.000
12	.095 - .108	.102 - .130	.115 - .140	5.700 - 10.000	9.500 - 23.000



FRESE POWER GRAPHITE SEMISFERICHE 220° A 4 TAGLI

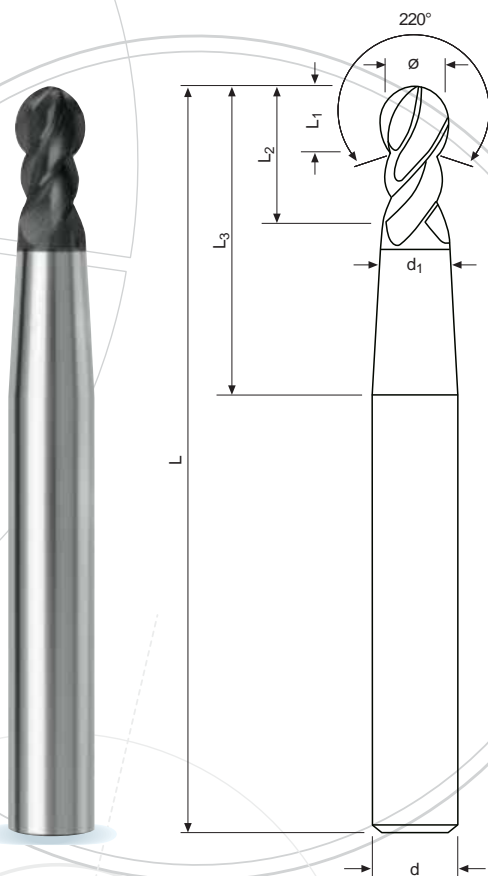
POWER GRAPHITE BALL NOSE 220° - 4 FLUTES
 FRAISES POWER GRAPHITE SÉMISPHERIQUES 220° À 4 DENTS
 POWER GRAPHIT RADIUSFRÄSER 220° - 4 NUTEN
 FRESAS POWER GRAFIT ESFÉRICAS 220° - 4 LABIOS

MICROGRANA ULTRAFINE

SUB-MICROGRAIN
 MICRO-GRAIN ULTRAFIN
 HARTMETALLQUALITÄT:
 ULTRA-FEINSTKORN
 SUB-MICROGRANO

NEW

1425RD



Ø mm	d1 mm	L mm	L1 mm	L2 mm	L3 mm	d mm	z	1425RD	
								€	
3	2.5	80	2	20	40	4	4	163,50	
4	3.3	80	2.7	25	50	4	4	176,00	
5	4.1	90	3.4	30	60	6	4	200,00	
6	4.7	100	4.05	30	60	6	4	207,50	
8	6.6	130	5.37	30	60	8	4	330,00	
10	8.2	150	6.71	30	60	10	4	391,00	



Rivestimento Diamond
 Diamond coating
 Revêtement Diamond
 Beschichtung Diamond
 Recubrimiento Diamante

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 3 mm a 10 mm	+ .000 mm - .01 mm	h6

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA

PARAMÈTRES DE COUPE

EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE

PARÁMETROS DE CORTE

Materiale da lavorare	Alluminio	Alluminio > 9% Si	Materiali non ferrosi Leghe di rame	Grafite Fibre artificiali
Material to work	Aluminium	Aluminium > 9% Si	Non ferrous materials Copper alloys	Graphite Artificial fibers
Matière à usiner	Aluminium	Aluminium > 9% Si	Matière non ferreuse Alliages de cuivre	Graphite Fibres artificielles
zu bearbeitendes Material	Aluminium	Aluminium > 9% Si	Ne-Metalle Kupferlegierungen	Graphit Faserverb
Material a trabajar	Aluminio	Aluminio > 9% Si	Materiales no férricos Aleaciones de cobre	Grafit Fibras artificiales

MACCHINE TRADIZIONALI • CONVENTIONAL CNC MACHINES

LAVORAZIONI DI PROFILATURA • HIGH-SPEED LIGHT MILLING • USINAGES DE PROFILAGE • PROFILFRÄSEN • FRESADO DE PERFIL

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
3	37.100	4.450	21.200	1.700	12.700	1.020	17.000	680
4	27.900	3.350	15.900	1.270	9.500	760	12.700	510
5	22.300	3.570	12.700	1.520	7.600	910	10.200	820
6	18.600	2.980	10.600	1.270	6.400	770	8.500	680
8	16.200	2.500	9.000	1.100	5.500	600	7.500	580
10	14.000	1.980	7.700	1.000	4.300	480	6.100	400

PER FRESATURA DI CAVE • SLOT MILLING • POUR FRESAGE DES GORGES • BOHRNUTENFRÄSEN • FRESADO DE RANURAS

3	29.700	3.560	17.000	1.360	10.100	810	13.800	550
4	22.300	2.680	12.700	1.020	7.600	610	10.300	410
5	17.800	2.850	10.200	1.220	6.000	720	8.300	660
6	14.900	2.380	8.500	1.020	5.000	600	6.900	550
8	12.300	2.000	7.300	940	4.000	540	6.000	500
10	10.400	1.880	6.800	800	3.500	480	5.200	480

FRESE POWER

FRESE POWER GRAPHITE TORICHE A 2 TAGLI

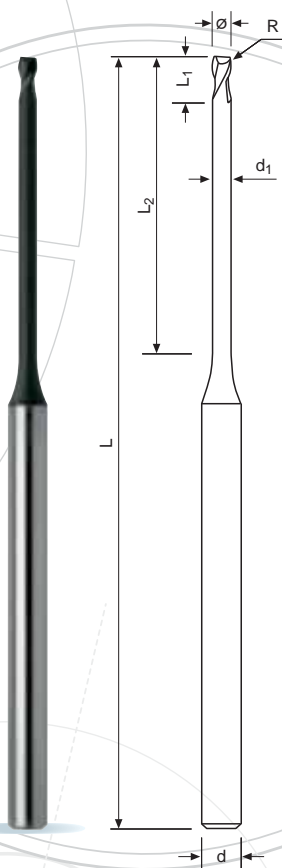
POWER GRAPHITE TORIC END MILLS - 2 FLUTES
FRAISES POWER GRAPHITE TORIQUES À 2 DENTS
POWER GRAPHIT TORUSFRÄSER - 2 NUTEN
FRESAS POWER GRAFITO TÓRICAS - 2 LABIOS

MICROGRANA ULTRAFINE

SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO



NEW
1437D



Ø/R mm	d1 mm	L mm	L1 mm	L2 mm	d mm	Z	1437D
							€
0.2/0.05	0.18	55	0.3	0.5	4	2	150,00
0.2/0.05	0.18	55	0.3	1	4	2	150,00
0.2/0.05	0.18	55	0.3	1.5	4	2	150,00
0.3/0.05	0.28	55	0.45	1	4	2	150,00
0.3/0.05	0.28	55	0.45	2	4	2	150,00
0.3/0.05	0.28	55	0.45	3	4	2	150,00
0.4/0.05	0.37	55	0.6	2	4	2	150,00
0.4/0.05	0.37	55	0.6	3	4	2	150,00
0.4/0.05	0.37	55	0.6	4	4	2	150,00
0.5/0.05	0.47	55	0.7	3	4	2	150,00
0.5/0.05	0.47	55	0.7	5	4	2	150,00
0.5/0.05	0.47	55	0.7	8	4	2	150,00
0.6/0.06	0.57	55	0.9	3	4	2	150,00
0.6/0.06	0.57	55	0.9	5	4	2	150,00
0.6/0.06	0.57	55	0.9	8	4	2	150,00
0.8/0.08	0.76	55	1.1	4	4	2	150,00
0.8/0.08	0.76	55	1.1	6	4	2	150,00
0.8/0.08	0.76	55	1.1	8	4	2	150,00
0.8/0.08	0.76	55	1.1	10	4	2	150,00
1.0/0.1	0.95	55	1.5	6	4	2	150,00
1.0/0.1	0.95	55	1.5	10	4	2	150,00
1.0/0.1	0.95	55	1.5	14	4	2	150,00
1.0/0.1	0.95	55	1.5	18	4	2	150,00
1.0/0.1	0.95	60	1.5	24	4	2	150,00
1.2/0.12	1.15	55	1.6	6	4	2	150,00
1.2/0.12	1.15	55	1.6	10	4	2	150,00
1.2/0.12	1.15	55	1.6	14	4	2	150,00
1.2/0.12	1.15	55	1.6	18	4	2	150,00
1.2/0.12	1.15	60	1.6	24	4	2	150,00
1.5/0.15	1.44	55	2	6	4	2	150,00
1.5/0.15	1.44	55	2	10	4	2	150,00
1.5/0.15	1.44	55	2	14	4	2	150,00
1.5/0.15	1.44	55	2	18	4	2	150,00
1.5/0.15	1.44	60	2	24	4	2	150,00
2.0/0.2	1.92	65	2.5	6	4	2	150,00
2.0/0.2	1.92	65	2.5	10	4	2	150,00
2.0/0.2	1.92	65	2.5	14	4	2	150,00
2.0/0.2	1.92	65	2.5	18	4	2	150,00
2.0/0.2	1.92	75	2.5	24	4	2	150,00
2.0/0.2	1.92	75	2.5	30	4	2	150,00

NEW

Ø mm	d1 mm	L mm	L1 mm	L2 mm	d mm	Z	1437D
							€
2.5/0.25	2.4	65	3.5	10	4	2	150,00
2.5/0.25	2.4	65	3.5	20	4	2	150,00
2.5/0.25	2.4	75	3.5	30	4	2	150,00
3.0/0.3	2.9	65	5	6	4	2	150,00
3.0/0.3	2.9	65	5	10	4	2	150,00
3.0/0.3	2.9	65	5	14	4	2	150,00
3.0/0.3	2.9	65	5	18	4	2	150,00
3.0/0.3	2.9	75	5	24	4	2	150,00
3.0/0.3	2.9	75	5	30	4	2	150,00
4.0/0.4	3.9	65	6	10	6	2	161,00
4.0/0.4	3.9	65	6	14	6	2	161,00
4.0/0.4	3.9	65	6	18	6	2	161,00
4.0/0.4	3.9	75	6	24	6	2	161,00
4.0/0.4	3.9	75	6	30	6	2	161,00
5.0/0.5	4.9	65	7.5	10	6	2	177,00
5.0/0.5	4.9	65	7.5	20	6	2	177,00
5.0/0.5	4.9	75	7.5	30	6	2	177,00
5.0/0.5	4.9	90	7.5	40	6	2	177,00
6.0/0.6	5.9	65	10	10	6	2	183,50
6.0/0.6	5.9	65	10	20	6	2	183,50
6.0/0.6	5.9	75	10	30	6	2	183,50
6.0/0.6	5.9	90	10	40	6	2	183,50
6.0/0.6	5.9	90	10	50	6	2	183,50

2-2



Rivestimento Diamond
Diamond coating
Revêtement Diamond
Beschichtung Diamond
Recubrimiento Diamante

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA		
Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 0.2 mm a 6.0 mm	+0.000 mm -0.01 mm	h6



1437D

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA . PARAMÈTRES DE COUPE
EMPFOLHENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE
PARÁMETROS DE CORTE

Materiale da lavorare	Alluminio	Alluminio > 9% Si	Materiali non ferrosi Leghe di rame	Grafite Fibre artificiali
Material to work	Aluminium	Aluminium > 9% Si	Non ferrous materials Copper alloys	Graphite Artificial fibers
Matière à usiner	Aluminium	Aluminium > 9% Si	Matière non ferreuse Alliages de cuivre	Graphite Fibres artificielles
zu bearbeitendes Material	Aluminium	Aluminium > 9% Si	Ne-Metalle Kupferlegierungen	Graphit Faserverb
Material a trabajar	Aluminio	Aluminio > 9% Si	Materiales no férricos Aleaciones de cobre	Grafit Fibras artificiales

MACCHINE TRADIZIONALI • CONVENTIONAL CNC MACHINES

FRESATURA PER COPIATURA • COPY MILLING • POUR COPIAGE • KOPIERFRÄSER • FRESA DE COPIAR

Ø mm	L3 mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
0.2	0.5	23.900	190	15.900	160	8.000	70	15.900	60
	1.0	23.900	190	15.900	160	8.000	70	15.900	50
	1.5	23.900	190	15.900	160	8.000	70	15.900	50
0.3	1.0	26.500	320	21.200	320	10.600	130	15.900	100
	2.0	21.200	260	21.200	320	5.300	70	15.900	80
	3.0	21.200	260	21.200	320	5.300	70	10.600	40
0.4	2.0	23.900	380	19.900	400	8.300	140	11.900	100
	3.0	23.900	380	19.900	400	8.300	140	11.900	100
	4.0	19.500	310	19.900	400	8.000	130	11.700	80
0.5	3.0	19.100	310	19.100	380	6.400	110	12.700	130
	5.0	19.100	310	19.100	380	6.200	110	12.700	120
	8.0	12.700	210	19.100	380	6.400	110	9.500	100
0.6	3.0	21.200	340	18.600	380	8.000	140	13.300	170
	5.0	18.600	290	18.600	380	5.300	90	10.600	120
	8.0	13.300	210	18.600	380	5.300	90	8.000	100
0.8	4.0	21.900	400	17.900	410	8.000	150	13.900	220
	6.0	21.900	400	17.900	410	8.000	150	13.900	220
	8.0	19.900	360	17.900	410	8.000	150	11.900	190
1	10.0	13.900	250	17.900	410	8.000	150	8.000	130
	6.0	22.300	390	19.100	440	23.900	440	12.700	240
	10.0	19.100	340	19.100	440	27.100	500	11.100	210
1.2	14.0	14.300	250	19.100	440	19.100	350	23.900	460
	18.0	14.300	250	19.100	440	19.100	350	23.900	460
	24.0	14.300	250	19.100	440	19.100	350	23.900	460
1.5	6.0	21.200	400	18.600	450	25.200	490	31.800	700
	10.0	18.600	350	18.600	450	22.500	440	27.900	610
	14.0	18.600	350	18.600	450	22.500	440	27.900	610
1.8	18.0	13.300	250	18.600	450	15.900	310	19.900	440
	24.0	13.300	250	18.600	450	15.900	310	19.900	440
	30.0	26.500	500	18.000	440	25.500	500	31.800	700
2	10.0	21.200	400	18.000	440	20.200	400	25.500	560
	14.0	19.100	360	18.000	440	18.000	350	22.300	490
	18.0	19.100	360	18.000	440	18.000	350	22.300	490
2.5	24.0	13.800	260	18.000	440	12.700	250	15.900	350
	6.0	27.900	600	26.300	700	19.100	430	23.900	620
	10.0	19.900	430	20.700	550	15.120	340	19.100	500
3	14.0	22.300	480	20.700	550	15.120	340	19.100	500
	18.0	27.900	600	18.300	490	13.530	300	16.700	430
	24.0	27.900	600	18.300	490	13.530	300	16.700	430
3.5	30.0	19.900	430	13.500	360	9.550	220	11.900	310
	10.0	28.000	590	21.000	600	15.280	300	19.100	610
	20.0	25.500	540	16.600	470	12.100	240	15.300	490
4	30.0	22.300	470	14.600	420	10.820	210	13.400	430
	6.0	26.500	640	17.500	500	12.730	350	15.900	600
	10.0	26.500	640	17.500	500	12.730	350	15.900	600
4.5	14.0	21.200	510	13.800	390	10.080	280	12.700	480
	18.0	21.200	510	13.800	390	10.080	280	12.700	480
	24.0	21.200	510	13.800	390	10.080	280	12.700	480
5	30.0	18.600	450	12.200	350	9.020	250	11.100	420
	10.0	19.900	600	13.100	450	9.550	350	11.900	710
	14.0	19.900	600	13.100	450	9.550	350	11.900	710
5.5	18.0	15.900	480	10.300	350	7.600	280	9.550	670
	24.0	15.900	480	10.300	350	7.600	280	9.550	670
	30.0	15.900	480	10.300	350	7.600	280	9.550	670
6	10.0	15.900	700	10.500	400	7.600	380	9.550	760
	20.0	15.900	700	10.500	400	7.600	380	9.550	760
	30.0	12.700	560	8.300	320	6.000	300	7.640	610
6.5	40.0	12.700	560	8.300	320	6.000	300	7.640	610
	10.0	13.300	800	8.800	350	6.400	420	7.960	800
	20.0	13.300	800	8.800	350	6.400	420	7.960	800
7	30.0	10.600	640	6.900	280	5.000	330	6.370	640
	40.0	10.600	640	6.900	280	5.000	330	6.370	640
	50.0	9.300	560	6.100	240	4.500	300	5.570	560

1437D

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA . PARAMÈTRES DE COUPE
EMPFÖHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE
PARÁMETROS DE CORTE

Materiale da lavorare Material to work Matière à usiner zu bearbeitendes Material Material a trabajar	Alluminio Aluminium Aluminium Aluminium Aluminio	Alluminio > 9% Si Aluminium > 9% Si Aluminium > 9% Si Aluminium > 9% Si Aluminio > 9% Si	Materiali non ferrosi Leghe di rame Non ferrous materials Copper alloys Matière non ferreuse Alliages de cuivre Ne-Metalle Kupferlegierung Materiales no férricos Aleaciones de cobre	Grafite Fibre artificiali Graphite Artificial fibers Graphite Fibres artificielles Graphit Faserverb Grafit Fibras artificiales
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MACCHINE ALTA VELOCITA' • HIGH SPEED CNC MACHINES

FRESATURA PER COPIATURA • COPY MILLING • POUR COPIAGE • KOPIERFRÄSER • FRESA DE COPIAR

Ø mm	L3 mm	Speed RPM (giri/min)		Feed mm/min		Speed RPM (giri/min)		Feed mm/min		Speed RPM (giri/min)		Feed mm/min	
0.2	0.5	47.700	380	32.000	320	24.000	200	47.700	190				
	1.0	31.800	260	16.000	160	16.000	130	31.800	100				
	1.5	31.800	260	16.000	160	16.000	130	31.800	100				
0.3	1.0	42.400	510	27.000	410	27.000	340	42.400	250				
	2.0	37.100	450	21.000	320	16.000	200	37.100	180				
	3.0	31.800	380	16.000	240	11.000	140	31.800	130				
0.4	2.0	35.800	580	20.000	400	16.000	270	27.900	220				
	3.0	35.800	580	20.000	400	16.000	270	28.600	230				
	4.0	31.800	510	16.000	320	12.000	200	25.500	180				
0.5	3.0	35.000	570	19.000	380	16.000	270	22.300	220				
	5.0	31.800	520	16.000	320	13.000	220	19.100	190				
	8.0	22.300	360	6.000	120	6.000	100	9.500	100				
0.6	3.0	34.500	550	19.000	390	16.000	280	15.900	200				
	5.0	29.200	460	13.000	270	11.000	190	13.300	150				
	8.0	21.200	340	8.000	160	5.000	90	8.000	100				
0.8	4.0	33.000	610	18.000	410	16.000	300	15.900	250				
	6.0	33.800	610	18.000	410	16.000	300	15.900	250				
	8.0	29.800	540	14.000	320	12.000	230	11.900	190				
	10.0	21.900	400	8.000	180	6.000	110	6.400	100				
1	6.0	31.800	560	16.000	370	14.000	260	11.800	230				
	10.0	27.100	480	11.000	250	11.000	200	8.000	150				
	14.0	19.100	340	6.000	140	5.000	90	4.800	90				
	18.0	14.300	250	14.000	320	14.000	260	14.300	270				
	24.0	14.300	250	14.000	320	14.000	260	14.300	270				
1.2	6.0	31.800	590	16.000	390	15.000	290	10.600	230				
	10.0	26.500	500	12.000	290	11.000	210	8.000	180				
	14.0	26.500	500	12.000	290	11.000	210	8.000	180				
	18.0	19.900	370	7.000	170	5.000	100	4.000	90				
	24.0	19.900	370	7.000	170	5.000	100	4.000	90				
1.5	6.0	39.300	740	25.000	610	22.000	430	17.000	370				
	10.0	30.800	580	16.000	390	14.000	270	10.600	230				
	14.0	19.100	360	19.000	460	44.600	880	5.300	120				
	18.0	19.100	360	19.000	460	44.600	880	5.300	120				
	24.0	13.800	260	14.000	340	31.800	620	3.200	70				
2	6.0	35.000	750	23.000	610	47.700	1.070	14.300	370				
	10.0	27.900	600	14.000	370	38.200	860	48.500	1.260				
	14.0	27.900	600	14.000	370	38.200	860	48.500	1.260				
	18.0	24.700	530	11.000	290	33.400	750	42.200	1.100				
	24.0	24.700	530	11.000	290	33.400	750	42.200	1.100				
2.5	30.0	17.500	370	6.000	160	23.900	540	30.200	790				
	10.0	35.000	740	21.000	600	38.200	750	48.400	1.550				
	20.0	28.000	590	42.000	1.200	30.600	600	38.800	1.240				
	30.0	24.800	530	36.900	1.050	26.700	520	33.700	1.080				
	6.0	31.800	760	43.500	1.240	31.800	870	40.300	1.530				
3	10.0	31.800	760	43.500	1.240	31.800	870	40.300	1.530				
	14.0	42.400	1.020	35.000	1.000	25.500	700	32.400	1.230				
	18.0	42.400	1.020	35.000	1.000	25.500	700	32.400	1.230				
	24.0	42.400	1.020	35.000	1.000	25.500	700	32.400	1.230				
	30.0	37.100	890	30.800	880	22.300	610	28.100	1.070				
4	10.0	39.800	1.200	32.600	1.120	23.900	880	30.200	1.810				
	14.0	39.800	1.200	32.600	1.120	23.900	880	30.200	1.810				
	18.0	31.800	959	26.300	900	19.100	700	24.300	1.700				
	24.0	31.800	959	26.300	900	19.100	700	24.300	1.700				
5	30.0	31.800	959	26.300	900	19.100	700	24.300	1.700				
	10.0	31.800	1.398	26.100	990	19.100	950	24.200	1.940				
	20.0	31.800	1.398	26.100	990	19.100	950	24.200	1.940				
	30.0	25.500	1.122	21.000	800	15.300	760	19.400	1.550				
6	40.0	25.500	1.122	21.000	800	15.300	760	19.400	1.550				
	10.0	26.500	1.599	21.800	870	15.900	1.050	20.200	2.020				
	20.0	26.500	1.599	21.800	870	15.900	1.050	20.200	2.020				
	30.0	21.200	1.279	17.500	700	12.700	840	16.200	1.620				
50.0	40.0	21.200	1.279	17.500	700	12.700	840	16.200	1.620				
	50.0	18.600	1.122	15.400	620	11.100	730	14.100	1.410				

FRESE POWER GRAPHITE SEMISFERICHE A 2 TAGLI

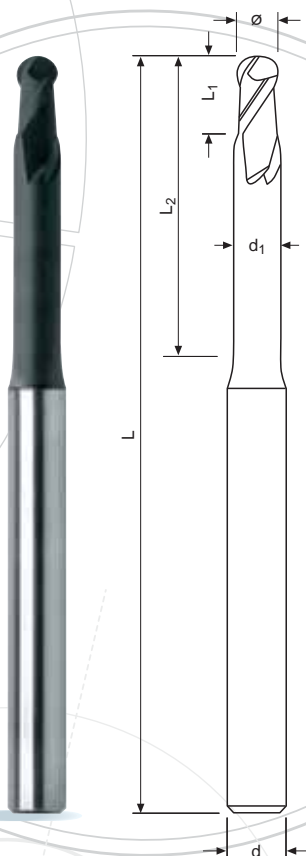
POWER GRAPHITE BALL NOSE END MILLS - 2 FLUTES
FRAISES POWER GRAPHITE SÉMISPHERIQUES À 2 DENTS
POWER GRAPHIT RADIUSFRÄSER - 2 NUTEN
FRESA POWER GRAFITO ESFERICA 2 LABIOS

MICROGRANA ULTRAFINE

SUB-MICROGRAIN
MICRO-GRAIN ULTRAFIN
HARTMETALLQUALITÄT: ULTRA-FEINSTKORN
SUB-MICROGRANO

NEW

1434RD



Ø mm	d1 mm	L mm	L1 mm	L2 mm	d mm	z	1434RD
							€
0.2	0.18	55	0.3	0.5	4	2	180,00
0.2	0.18	55	0.3	1	4	2	180,00
0.2	0.18	55	0.3	1.5	4	2	180,00
0.3	0.28	55	0.45	1	4	2	180,00
0.3	0.28	55	0.45	2	4	2	180,00
0.3	0.28	55	0.45	3	4	2	180,00
0.4	0.37	55	0.6	2	4	2	180,00
0.4	0.37	55	0.6	3	4	2	180,00
0.4	0.37	55	0.6	4	4	2	180,00
0.5	0.47	55	0.7	3	4	2	180,00
0.5	0.47	55	0.7	5	4	2	180,00
0.5	0.47	55	0.7	8	4	2	180,00
0.6	0.57	55	0.9	3	4	2	180,00
0.6	0.57	55	0.9	5	4	2	180,00
0.6	0.57	55	0.9	8	4	2	180,00
0.8	0.76	55	1.1	4	4	2	180,00
0.8	0.76	55	1.1	6	4	2	180,00
0.8	0.76	55	1.1	8	4	2	180,00
0.8	0.76	55	1.1	10	4	2	180,00
1	0.95	55	1.5	6	4	2	180,00
1	0.95	55	1.5	10	4	2	180,00
1	0.95	55	1.5	14	4	2	180,00
1	0.95	55	1.5	18	4	2	180,00
1	0.95	60	1.5	24	4	2	180,00
1.2	1.15	55	1.6	6	4	2	180,00
1.2	1.15	55	1.6	10	4	2	180,00
1.2	1.15	55	1.6	14	4	2	180,00
1.2	1.15	55	1.6	18	4	2	180,00
1.2	1.15	60	1.6	24	4	2	180,00
1.5	1.44	55	2	6	4	2	180,00
1.5	1.44	55	2	10	4	2	180,00
1.5	1.44	55	2	14	4	2	180,00
1.5	1.44	55	2	18	4	2	180,00
1.5	1.44	60	2	24	4	2	180,00
2	1.92	65	2.5	6	4	2	180,00
2	1.92	65	2.5	10	4	2	180,00
2	1.92	65	2.5	14	4	2	180,00
2	1.92	65	2.5	18	4	2	180,00
2	1.92	75	2.5	24	4	2	180,00
2	1.92	75	2.5	30	4	2	180,00

1-2 >>

NEW

Ø mm	d1 mm	L mm	L1 mm	L2 mm	d mm	z	1434RD
							€
2.5	2.4	65	3.5	10	4	2	180,00
2.5	2.4	65	3.5	20	4	2	180,00
2.5	2.4	75	3.5	30	4	2	180,00
3	2.9	65	5	6	4	2	180,00
3	2.9	65	5	10	4	2	180,00
3	2.9	65	5	14	4	2	180,00
3	2.9	65	5	18	4	2	180,00
3	2.9	75	5	24	4	2	180,00
3	2.9	75	5	30	4	2	180,00
4	3.9	65	6	10	6	2	193,50
4	3.9	65	6	14	6	2	193,50
4	3.9	65	6	18	6	2	193,50
4	3.9	75	6	24	6	2	193,50
4	3.9	75	6	30	6	2	193,50
5	4.9	65	7.5	10	6	2	212,00
5	4.9	65	7.5	20	6	2	212,00
5	4.9	75	7.5	30	6	2	212,00
5	4.9	90	7.5	40	6	2	212,00
6	5.9	65	10	10	6	2	220,00
6	5.9	65	10	20	6	2	220,00
6	5.9	75	10	30	6	2	220,00
6	5.9	90	10	40	6	2	220,00
6	5.9	90	10	50	6	2	220,00

2-2



Rivestimento Diamond
Diamond coating
Revêtement Diamond
Beschichtung Diamond
Recubrimiento Diamante

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 0.2 mm a 6.0 mm	+0.00 mm -0.10 mm	h6



1434RD

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA . PARAMÈTRES DE COUPE
EMPFOLHENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE
PARÁMETROS DE CORTE

Materiale da lavorare	Alluminio	Alluminio > 9% Si	Materiali non ferrosi Leghe di rame	Grafite Fibre artificiali
Material to work	Aluminium	Aluminium > 9% Si	Non ferrous materials Copper alloys	Graphite Artificial fibers
Matériau à usiner	Aluminium	Aluminium > 9% Si	Matière non ferreuse Alliages de cuivre	Graphite Fibres artificielles
zu bearbeitendes Material	Aluminium	Aluminium > 9% Si	Ne-Metalle Kupferlegierungen	Graphit Faserverb
Material a trabajar	Aluminio	Aluminio > 9% Si	Materiales no férricos Aleaciones de cobre	Grafit Fibras artificiales

MACCHINE TRADIZIONALI • CONVENTIONAL CNC MACHINES

FRESATURA PER COPIATURA • COPY MILLING • POUR COPIAGE • KOPIERFRÄSER • FRESA DE COPIAR

Ø mm	L3 mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
0.2	0.5	23.900	190	15.900	160	8.000	70	15.900	60
	1.0	23.900	190	15.900	160	8.000	70	15.900	50
	1.5	23.900	190	15.900	160	8.000	70	15.900	50
0.3	1.0	26.500	320	21.200	320	10.600	130	15.900	100
	2.0	21.200	260	21.200	320	5.300	70	15.900	80
	3.0	21.200	260	21.200	320	5.300	70	10.600	40
0.4	2.0	23.900	380	19.900	400	8.300	140	11.900	100
	3.0	23.900	380	19.900	400	8.300	140	11.900	100
	4.0	19.500	310	19.900	400	8.000	130	11.700	80
0.5	3.0	19.100	310	19.100	380	6.400	110	12.700	130
	5.0	19.100	310	19.100	380	6.200	110	12.700	120
	8.0	12.700	210	19.100	380	6.400	110	9.500	100
0.6	3.0	21.200	340	18.600	380	8.000	140	13.300	170
	5.0	18.600	290	18.600	380	5.300	90	10.600	120
	8.0	13.300	210	18.600	380	5.300	90	8.000	100
0.8	4.0	21.900	400	17.900	410	8.000	150	13.900	220
	6.0	21.900	400	17.900	410	8.000	150	13.900	220
	8.0	19.900	360	17.900	410	8.000	150	11.900	190
1	10.0	13.900	250	17.900	410	8.000	150	8.000	130
	6.0	22.300	390	19.100	440	23.900	440	12.700	240
	10.0	19.100	340	19.100	440	27.100	500	11.100	210
	14.0	14.300	250	19.100	440	19.100	350	23.900	460
1.2	18.0	14.300	250	19.100	440	19.100	350	23.900	460
	24.0	14.300	250	19.100	440	19.100	350	23.900	460
	6.0	21.200	400	18.600	450	25.200	490	31.800	700
	10.0	18.600	350	18.600	450	22.500	440	27.900	610
1.5	14.0	18.600	350	18.600	450	22.500	440	27.900	610
	18.0	13.300	250	18.600	450	15.900	310	19.900	440
	24.0	13.300	250	18.600	450	15.900	310	19.900	440
	6.0	26.500	500	18.000	440	25.500	500	31.800	700
2	10.0	21.200	400	18.000	440	20.200	400	25.500	560
	14.0	19.100	360	18.000	440	18.000	350	22.300	490
	18.0	19.100	360	18.000	440	18.000	350	22.300	490
	24.0	13.800	260	18.000	440	12.700	250	15.900	350
2.5	6.0	27.900	600	26.300	700	19.100	430	23.900	620
	10.0	19.900	430	20.700	550	15.120	340	19.100	500
	14.0	22.300	480	20.700	550	15.120	340	19.100	500
	18.0	27.900	600	18.300	490	13.530	300	16.700	430
3	24.0	27.900	600	18.300	490	13.530	300	16.700	430
	30.0	19.900	430	13.500	360	9.550	220	11.900	310
	10.0	28.000	590	21.000	600	15.280	300	19.100	610
	20.0	25.500	540	16.600	470	12.100	240	15.300	490
4	30.0	22.300	470	14.600	420	10.820	210	13.400	430
	6.0	26.500	640	17.500	500	12.730	350	15.900	600
	10.0	26.500	640	17.500	500	12.730	350	15.900	600
	14.0	21.200	510	13.800	390	10.080	280	12.700	480
5	18.0	21.200	510	13.800	390	10.080	280	12.700	480
	24.0	21.200	510	13.800	390	10.080	280	12.700	480
	30.0	18.600	450	12.200	350	9.020	250	11.100	420
	10.0	19.900	600	13.100	450	9.550	350	11.900	710
6	14.0	19.900	600	13.100	450	9.550	350	11.900	710
	18.0	15.900	480	10.300	350	7.600	280	9.550	670
	24.0	15.900	480	10.300	350	7.600	280	9.550	670
	30.0	15.900	480	10.300	350	7.600	280	9.550	670
7	10.0	15.900	700	10.500	400	7.600	380	9.550	760
	20.0	15.900	700	10.500	400	7.600	380	9.550	760
	30.0	12.700	560	8.300	320	6.000	300	7.640	610
	40.0	12.700	560	8.300	320	6.000	300	7.640	610
8	10.0	13.300	800	8.800	350	6.400	420	7.960	800
	20.0	13.300	800	8.800	350	6.400	420	7.960	800
	30.0	10.600	640	6.900	280	5.000	330	6.370	640
	40.0	10.600	640	6.900	280	5.000	330	6.370	640
9	50.0	9.300	560	6.100	240	4.500	300	5.570	560

1434RD

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA . PARAMÈTRES DE COUPE
EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE
PARÁMETROS DE CORTE

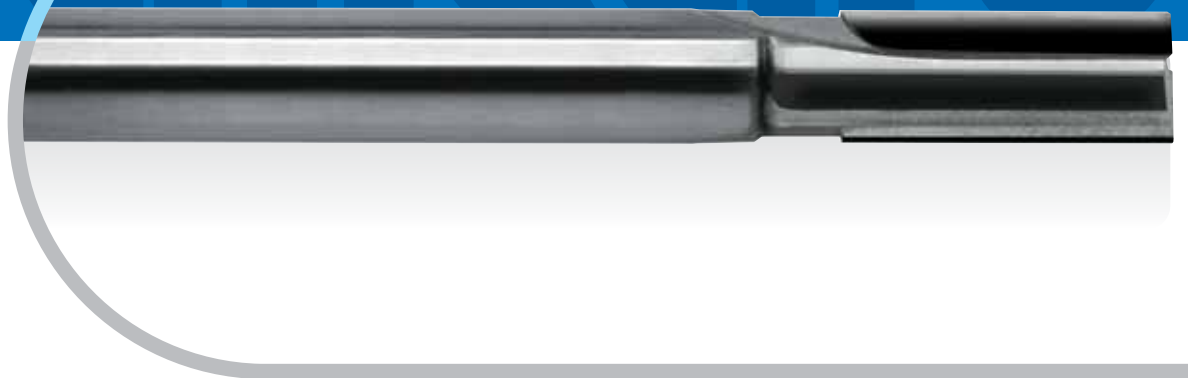
Materiale da lavorare Material to work Matière à usiner zu bearbeitendes Material Material a trabajar	Alluminio Aluminium Aluminium Aluminium Aluminio	Alluminio > 9% Si Aluminium > 9% Si Aluminium > 9% Si Aluminium > 9% Si Aluminio > 9% Si	Materiali non ferrosi Leghe di rame Non ferrous materials Copper alloys Matière non ferreux Alliages de cuivre Ne-Metalle Kupferlegierung Materiales no férricos Aleaciones de cobre	Grafite Fibre artificiali Graphite Artificial fibers Graphite Fibres artificielles Graphit Faserverb Grafit Fibras artificiales
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MACCHINE ALTA VELOCITA' • HIGH SPEED CNC MACHINES

FRESATURA PER COPIATURA • COPY MILLING • POUR COPIAGE • KOPIERFRÄSER • FRESA DE COPIAR

Ø mm	L3 mm	Speed RPM (giri/min)		Feed mm/min		Speed RPM (giri/min)		Feed mm/min		Speed RPM (giri/min)		Feed mm/min	
0.2	0.5	47.700	380	32.000	320	24.000	200	47.700	190				
	1.0	31.800	260	16.000	160	16.000	130	31.800	100				
	1.5	31.800	260	16.000	160	16.000	130	31.800	100				
0.3	1.0	42.400	510	27.000	410	27.000	340	42.400	250				
	2.0	37.100	450	21.000	320	16.000	200	37.100	180				
	3.0	31.800	380	16.000	240	11.000	140	31.800	130				
0.4	2.0	35.800	580	20.000	400	16.000	270	27.900	220				
	3.0	35.800	580	20.000	400	16.000	270	28.600	230				
	4.0	31.800	510	16.000	320	12.000	200	25.500	180				
0.5	3.0	35.000	570	19.000	380	16.000	270	22.300	220				
	5.0	31.800	520	16.000	320	13.000	220	19.100	190				
	8.0	22.300	360	6.000	120	6.000	100	9.500	100				
0.6	3.0	34.500	550	19.000	390	16.000	280	15.900	200				
	5.0	29.200	460	13.000	270	11.000	190	13.300	150				
	8.0	21.200	340	8.000	160	5.000	90	8.000	100				
0.8	4.0	33.000	610	18.000	410	16.000	300	15.900	250				
	6.0	33.800	610	18.000	410	16.000	300	15.900	250				
	8.0	29.800	540	14.000	320	12.000	230	11.900	190				
1	10.0	21.900	400	8.000	180	6.000	110	6.400	100				
	6.0	31.800	560	16.000	370	14.000	260	11.800	230				
	10.0	27.100	480	11.000	250	11.000	200	8.000	150				
1.2	14.0	19.100	340	6.000	140	5.000	90	4.800	90				
	18.0	14.300	250	14.000	320	14.000	260	14.300	270				
	24.0	14.300	250	14.000	320	14.000	260	14.300	270				
	6.0	31.800	590	16.000	390	15.000	290	10.600	230				
	10.0	26.500	500	12.000	290	11.000	210	8.000	180				
1.5	14.0	26.500	500	12.000	290	11.000	210	8.000	180				
	18.0	19.900	370	7.000	170	5.000	100	4.000	90				
	24.0	19.900	370	7.000	170	5.000	100	4.000	90				
	6.0	39.300	740	25.000	610	22.000	430	17.000	370				
	10.0	30.800	580	16.000	390	14.000	270	10.600	230				
2	14.0	19.100	360	19.000	460	44.600	880	5.300	120				
	18.0	19.100	360	19.000	460	44.600	880	5.300	120				
	24.0	13.800	260	14.000	340	31.800	620	3.200	70				
	6.0	35.000	750	23.000	610	47.700	1.070	14.300	370				
	10.0	27.900	600	14.000	370	38.200	860	48.500	1.260				
2.5	14.0	27.900	600	14.000	370	38.200	860	48.500	1.260				
	18.0	24.700	530	11.000	290	33.400	750	42.200	1.100				
	24.0	24.700	530	11.000	290	33.400	750	42.200	1.100				
	30.0	17.500	370	6.000	160	23.900	540	30.200	790				
	10.0	35.000	740	21.000	600	38.200	750	48.400	1.550				
3	20.0	28.000	590	42.000	1.200	30.600	600	38.800	1.240				
	30.0	24.800	530	36.900	1.050	26.700	520	33.700	1.080				
	6.0	31.800	760	43.500	1.240	31.800	870	40.300	1.530				
	10.0	31.800	760	43.500	1.240	31.800	870	40.300	1.530				
	14.0	42.400	1.020	35.000	1.000	25.500	700	32.400	1.230				
4	18.0	42.400	1.020	35.000	1.000	25.500	700	32.400	1.230				
	24.0	42.400	1.020	35.000	1.000	25.500	700	32.400	1.230				
	30.0	37.100	890	30.800	880	22.300	610	28.100	1.070				
	10.0	39.800	1.200	32.600	1.120	23.900	880	30.200	1.810				
	14.0	39.800	1.200	32.600	1.120	23.900	880	30.200	1.810				
5	18.0	31.800	959	26.300	900	19.100	700	24.300	1.700				
	24.0	31.800	959	26.300	900	19.100	700	24.300	1.700				
	30.0	31.800	959	26.300	900	19.100	700	24.300	1.700				
	10.0	31.800	1.398	26.100	990	19.100	950	24.200	1.940				
	20.0	31.800	1.398	26.100	990	19.100	950	24.200	1.940				
6	30.0	25.500	1.122	21.000	800	15.300	760	19.400	1.550				
	40.0	25.500	1.122	21.000	800	15.300	760	19.400	1.550				
	10.0	26.500	1.599	21.800	870	15.900	1.050	20.200	2.020				
	20.0	26.500	1.599	21.800	870	15.900	1.050	20.200	2.020				
	30.0	21.200	1.279	17.500	700	12.700	840	16.200	1.620				
50.0	21.200	1.279	17.500	700	12.700	840	16.200	1.620					
	18.600	1.122	15.400	620	11.100	730	14.100	1.410					

**POWER
PKD - PCD**



POWER PKD-PCD CON RIPORTO IN POLICRISTALLINO

SOLID CARBIDE WITH POLYCRYSTALLINE DIAMOND

POWER PKD-PCD AVEC RECHARGEMENT EN POLYCRISTALLIN

POWER PKD-PCD MIT VOLLHARTMETALL PCD

POWER PKD-PCD METAL DURO PCD

Talicarb

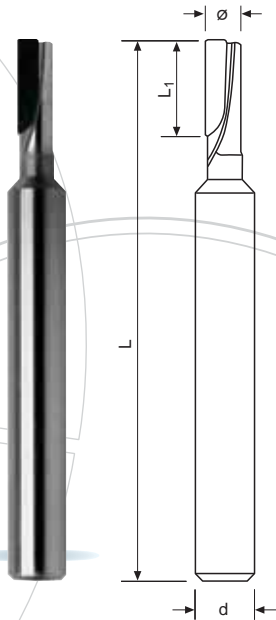
FRESE POWER PKD - PCD MONO TAGLIO E 2 TAGLI

POWER PKD - PCD END MILLS 1 AND 2 FLUTES
 FRAISES POWER PKD - PCD MONO-COUPPE ET 2 DENTS
 POWER PKD - PCD FRÄSER MIT 1 UND 2 NUTEN
 FRESAS POWER PKD - PCD 1 Y 2 LABIOS

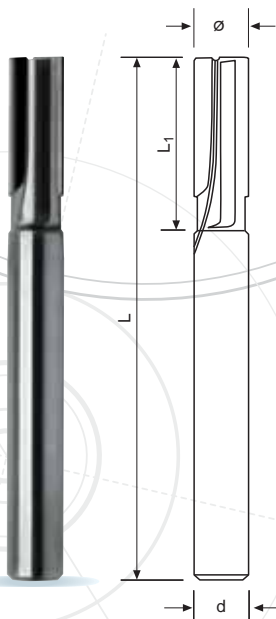
CON RIPORTO IN POLICRISTALLINO

SOLID CARBIDE WITH POLYCRYSTALLINE DIAMOND
 AVEC RECHARGEMENT EN POLYCRISTALLIN
 VOLLHARTMETALL PCD
 METAL DURO PCD

NEW 1601DT



NEW 1602DT



Ø mm	L mm	L1 mm	d mm	Z	1601DT
					€
4	54	5	6	1	454,00
4	54	10	6	1	526,00
5	54	5	6	1	457,00
5	54	10	6	1	530,00
6	54	7	6	1	483,00
6	54	15	6	1	602,00
8	58	7	8	1	488,00
8	58	15	8	1	604,00
10	66	7	10	1	524,00
10	66	15	10	1	653,00



Ø mm	L mm	L1 mm	d mm	Z	1602DT
					€
6	54	7	6	2	629,00
6	54	15	6	2	868,00
6	54	20	6	2	1.016,00
8	58	7	8	2	653,00
8	58	15	8	2	893,00
8	58	20	8	2	1.051,00
10	66	7	10	2	714,00
10	66	15	10	2	969,00
10	66	20	10	2	1.136,00
12	73	7	12	2	752,00
12	73	15	12	2	1.000,00
12	73	20	12	2	1.183,00
14	75	15	14	2	1.085,00
14	75	20	14	2	1.284,00
16	82	15	16	2	1.125,00
16	82	20	16	2	1.333,00
18	88	15	18	2	1.215,00
18	88	20	18	2	1.420,00
20	92	15	20	2	1.255,00
20	92	20	20	2	1.478,00

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 4 mm a 20 mm	h10	h6

CORPO IN MICROGRANA ULTRAFINE

SUB-MICROGRAIN BODY - CORPS EN MICRO-GRAIN ULTRAFIN
 ULTRA FEINSTKORN KÖRPER - CUERPO DE SUB-MICROGRANO

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA - PARAMÈTRES DE COUPE - EMPFOHLENE SCHNITTGESCHWINDIGKEITS UND VORSCHUBWERTE - PARÁMETROS DE CORTE

1601DT

MACCHINE TRADIZIONALI • CONVENTIONAL CNC MACHINE
LAVORAZIONI DI PROFILATURA • PROFILING • USINAGES DE PROFILAGE • PROFILFRÄSEN • FRESADO DE PERFIL

Materiale da lavorare	Alluminio	Alluminio > 9% Si	Titanio	Materiali non ferrosi	Grafite
Material to work	Aluminium	Aluminium > 9% Si	Titanium	Non ferrous materials	Graphite
Matière à usiner	Aluminium	Aluminium > 9% Si	Titane	Matière non ferreux	Graphite
zu bearbeitendes Material	Aluminium	Aluminium > 9% Si	Titan	Ne-Metalle	Graphit
Material a trabajar	Aluminio	Aluminio > 9% Si	Titanio	Materiales no férricos	Grafit

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
4	35800	2510	23900	1200	4000	100	19900	1790	9500	670
5	28600	2290	19100	1150	3200	100	15900	1750	7600	610
6	31800	2860	21200	1480	2700	110	15900	2070	8000	720
8	23900	2630	15900	1430	2000	100	11900	1900	6000	660
10	19100	3060	12700	1400	1600	100	9500	2000	4800	620

PER FRESATURA DI CAVE • SLOT MILLING • POUR FRESAGE DES GORGES • BOHRNUTENFRÄSEN • FRESADO DE RANURAS

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
4	35800	2150	23900	960	4000	60	19900	1590	9500	570
5	28600	2000	19100	960	3200	60	15900	1590	7600	530
6	23900	1910	15900	950	2700	80	13300	1600	6400	510
8	17900	1790	11900	950	2000	80	9900	1490	4800	480
10	14300	2150	9500	950	1600	100	8000	1600	3800	460

1602DT

MACCHINE TRADIZIONALI • CONVENTIONAL CNC MACHINE
LAVORAZIONI DI PROFILATURA • PROFILING • USINAGES DE PROFILAGE • PROFILFRÄSEN • FRESADO DE PERFIL

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
6	31800	5090	21200	2120	2700	110	15900	3820	8000	1280
8	23900	4780	15900	2540	2000	160	11900	3570	6000	1200
10	19100	5730	12700	2540	1600	190	9500	3800	4800	1150
12	15900	6360	10600	2540	1300	210	8000	4000	4000	1200
14	13600	6800	9100	2730	1100	220	6800	4080	3400	1360
16	11900	7140	8000	3200	1000	240	6000	4200	3000	1500
18	10600	7420	7100	3550	900	270	5300	4240	2700	1620
20	9500	7600	6400	3840	800	290	4800	4320	2400	1680

PER FRESATURA DI CAVE • SLOT MILLING • POUR FRESAGE DES GORGES • BOHRNUTENFRÄSEN • FRESADO DE RANURAS

Ø mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
6	23900	3820	15900	1590	2700	110	13300	3190	6400	1020
8	17900	3580	11900	1900	2000	160	9900	2970	4800	960
10	14300	4290	9500	1900	1600	190	8000	3200	3800	910
12	11900	4760	8000	1920	1300	210	6600	3300	3200	960
14	10200	5100	6800	2040	1100	220	5700	3420	2700	1080
16	9000	5400	6000	2400	1000	240	5000	3500	2400	1200
18	8000	5600	5300	2650	900	270	4400	3520	2100	1260
20	7200	5760	4800	2880	800	290	4000	3600	1900	1330

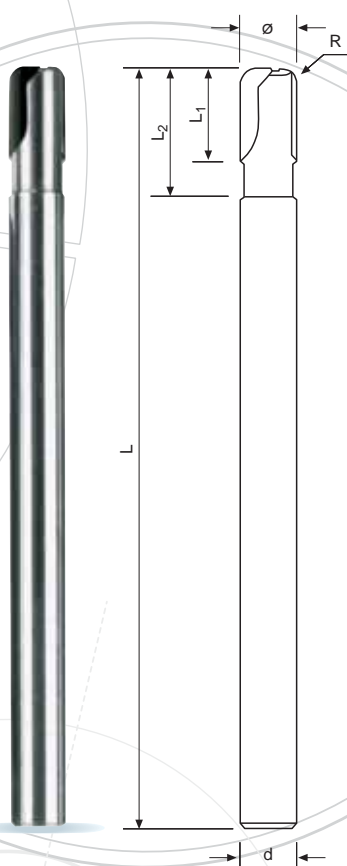
FRESE POWER PKD - PCD TORICHE A 2 TAGLI

POWER TORIC PDK - PCD END MILLS 2 FLUTES
FRAISES POWER PDK - PCD TORIQUES À 2 DENTS
POWER PKD - PDC TORUSFRÄSER - 2 NUTEN
FRESAS POWER TÓRICAS PDK - PCD - 2 LABIOS

CON RIPORTO IN POLICRISTALLINO

SOLID CARBIDE WITH POLYCRYSTALLINE DIAMOND
AVEC RECHARGEMENT EN POLYCRISTALLIN
VOLLHARTMETALL PCD
METAL DURO PCD

NEW
602RDT



CORPO IN MICROGRANA ULTRAFINE
SUB-MICROGRAIN BODY
CORPS EN MICRO-GRAIN ULTRAFIN
ULTRA FEINSTKORN KÖRPER
CUERPO DE SUB-MICROGRANO



Ø/R mm	L mm	L1 mm	L2 mm	d mm	z	602RDT
						€
4/0.3	75	2.5	12	6	2	640,00
4/0.3	75	2.5	20	6	2	640,00
4/0.3	75	2.5	28	6	2	640,00
4/0.3	75	2.5	35	6	2	640,00
4/0.5	75	2.5	20	6	2	640,00
5/0.3	75	3	15	6	2	640,00
5/0.3	75	3	25	6	2	640,00
5/0.3	75	3	35	6	2	640,00
5/0.5	75	3	25	6	2	640,00
6/0.5	100	6	18	6	2	640,00
6/0.5	100	6	30	6	2	640,00
6/0.5	100	6	42	6	2	640,00
6/1	100	6	18	6	2	640,00
8/0.5	100	7	24	8	2	714,00
8/0.5	100	7	40	8	2	714,00
8/1	100	7	24	8	2	714,00
8/1	100	7	40	8	2	714,00
8/2	100	7	40	8	2	714,00
10/0.5	100	8	30	10	2	803,00
10/0.5	100	8	50	10	2	803,00
10/1	100	8	30	10	2	803,00
10/1	100	8	50	10	2	803,00
10/1.5	100	8	30	10	2	803,00
10/1.5	100	8	50	10	2	803,00
10/2	100	8	30	10	2	803,00
10/2	100	8	50	10	2	803,00
12/0.5	105	9	36	12	2	902,00
12/0.5	105	9	60	12	2	902,00
12/1	105	9	36	12	2	902,00
12/1	105	9	60	12	2	902,00
12/1.5	105	9	36	12	2	902,00
12/1.5	105	9	60	12	2	902,00
12/2	105	9	36	12	2	902,00
12/3	105	9	60	12	2	902,00
16/5	130	11	50	16	2	1.105,00
20/6	160	13	60	20	2	1.371,00

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 4 mm a 20 mm	f8	h6

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA . PARAMÈTRES DE COUPE . EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE . PARÁMETROS DE CORTE

Materiale da lavorare	Alluminio	Alluminio > 9% Si	Materiali non ferrosi Leghe di rame	Grafite Fibre artificiali
Material to work	Aluminium	Aluminium > 9% Si	Non ferrous materials Copper alloys	Graphite Artificial fibers
Matière à usiner	Aluminium	Aluminium > 9% Si	Matière non ferreuse Alliages de cuivre	Graphite Fibres artificielles
zu bearbeitendes Material	Aluminium	Aluminium > 9% Si	Ne-Metalle Kupferlegierungen	Graphit Faserverb
Material a trabajar	Aluminio	Aluminio > 9% Si	Materiales no férricos Aleaciones de cobre	Grafit Fibras artificiales

MACCHINE ALTA VELOCITA' • HIGH SPEED CNC MACHINES

LAVORAZIONI DI PROFILATURA • PROFILING • USINAGES DE PROFILAGE • PROFILFRÄSEN • FRESADO DE PERFIL

Ø mm	L3 mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
4	12.0	35.800	8.600	28.600	4.600	27.100	5.400	14.300	1.400
	20.0	28.600	6.900	23.100	3.700	21.500	4.300	11.100	1.100
	28.0	28.600	6.900	23.100	3.700	21.500	4.300	11.100	1.100
5	15.0	28.600	8.600	22.900	4.600	21.600	6.500	11.500	1.400
	25.0	22.900	6.900	18.500	3.700	17.200	5.200	8.900	1.100
	35.0	22.900	6.900	18.500	3.700	17.200	5.200	8.900	1.100
6	18.0	23.900	7.200	19.100	3.800	18.000	5.400	9.500	1.500
	30.0	19.100	5.700	15.400	3.100	14.300	4.300	7.400	1.200
	42.0	19.100	5.700	15.400	3.100	14.300	4.300	7.400	1.200
8	24.0	14.300	4.300	14.300	3.400	13.500	4.100	7.200	1.400
	40.0	11.500	3.500	11.500	2.800	10.700	3.200	5.600	1.100
10	30.0	11.500	3.500	11.500	2.800	10.800	3.200	5.700	1.100
	50.0	9.200	2.800	9.200	2.200	8.600	2.600	4.500	900
12	36.0	9.500	3.000	9.500	2.900	9.000	2.700	4.800	1.200
	60.0	7.700	2.500	7.700	2.300	7.200	2.200	3.700	900
16	50.0	7.200	2.600	7.200	2.300	6.800	2.000	3.600	1.100
20	60.0	5.700	2.300	5.700	2.100	5.400	1.600	2.900	900

FRESE POWER

POWER PKD - PCD

FRESE POWER PKD - PCD SEMISFERICHE A 2 TAGLI

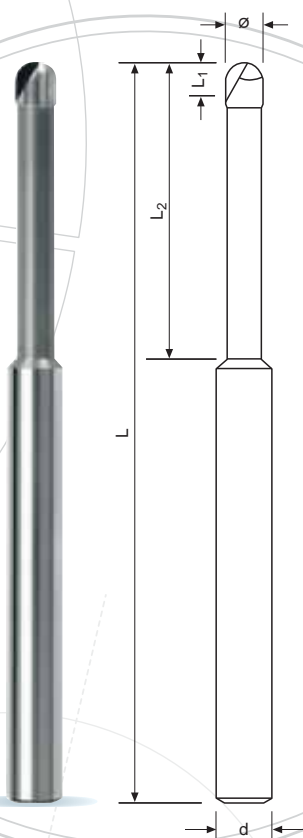
POWER BALL NOSE PKD - PCD END MILLS - 2 FLUTES
FRAISES POWER PDK - PCD SÉMISPHERIQUES À 2 DENTS
POWER PKD PCD RADIUSFRÄSER - 2 NUTEN
FRESAS POWER ESFÉRICAS PKD - PCD - 2 LABIOS

CON RIPORTO IN POLICRISTALLINO

SOLID CARBIDE WITH POLYCRYSTALLINE DIAMOND
AVEC RECHARGEMENT EN POLYCRISTALLIN
VOLLHARTMETALL PCD
METAL DURO PCD

NEW

603RDT



Ø mm	L mm	L1 mm	L2 mm	d mm	z	603RDT
						€
4	75	2.5	12	6	2	640,00
4	75	2.5	20	6	2	640,00
4	75	2.5	28	6	2	640,00
4	75	2.5	35	6	2	640,00
5	75	3	15	6	2	640,00
5	75	3	25	6	2	640,00
5	75	3	35	6	2	640,00
6	100	6	18	6	2	640,00
6	100	6	30	6	2	640,00
6	100	6	42	6	2	640,00
8	100	7	24	8	2	714,00
8	100	7	40	8	2	714,00
10	100	8	30	10	2	803,00
10	100	8	50	10	2	803,00
12	105	9	36	12	2	902,00
12	105	9	60	12	2	902,00
16	130	11	50	16	2	1.105,00
20	160	13	60	20	2	1.371,00

CORPO IN MICROGRANA ULTRAFINE
SUB-MICROGRAIN BODY
CORPS EN MICRO-GRAIN ULTRAFIN
ULTRA FEINSTKORN KÖRPER
CUERPO DE SUB-MICROGRANO

TOLLERANZA - TOLERANCE - TOLÉRANCE - TOLERANZ - TOLERANCIA

Diametri Diameters	Tolleranza del diametro Diameter tolerance	Tolleranza del gambo Shank tolerance
da 4 mm a 20 mm	f8	h6

PARAMETRI DI TAGLIO

SUGGESTED SPEED AND FEED DATA . PARAMÈTRES DE COUPE . EMPFOHLENE SCHNITTGESCHWINDIGKEITS- UND VORSCHUBWERTE . PARÁMETROS DE CORTE

Materiale da lavorare	Alluminio	Alluminio > 9% Si	Materiali non ferrosi Leghe di rame	Grafite Fibre artificiali
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zu bearbeitendes Material	Aluminium	Aluminium > 9% Si	Ne-Metalle Kupferlegierungen	Graphit Faserverb
Material a trabajar	Aluminio	Aluminio > 9% Si	Materiales no férricos Aleaciones de cobre	Grafit Fibras artificiales

MACCHINE ALTA VELOCITA' • HIGH SPEED CNC MACHINES

LAVORAZIONI DI PROFILATURA • HIGH-SPEED LIGHT MILLING • USINAGES DE PROFILAGE • PROFILFRÄSEN • FRESADO DE PERFIL

Ø mm	L3 mm	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min	Speed RPM (giri/min)	Feed mm/min
4	12.0	35.800	8.600	28.600	4.600	27.100	5.400	14.300	1.400
	20.0	28.600	6.900	23.100	3.700	21.500	4.300	11.100	1.100
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6	18.0	23.900	7.200	19.100	3.800	18.000	5.400	9.500	1.500
	30.0	19.100	5.700	15.400	3.100	14.300	4.300	7.400	1.200
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	40.0	11.500	3.500	11.500	2.800	10.700	3.200	5.600	1.100
10	30.0	11.500	3.500	11.500	2.800	10.800	3.200	5.700	1.100
	50.0	9.200	2.800	9.200	2.200	8.600	2.600	4.500	900
12	36.0	9.500	3.000	9.500	2.900	9.000	2.700	4.800	1.200
	60.0	7.700	2.500	7.700	2.300	7.200	2.200	3.700	900
16	50.0	7.200	2.600	7.200	2.300	6.800	2.000	3.600	1.100
20	60.0	5.700	2.300	5.700	2.100	5.400	1.600	2.900	900

