MICRO-Line

APPLITEC
CUTTING TOOLS

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TiAlN

Revêtement PVD à couche mince
Dünnschicht PVD Beschichtung
Thin PVD coating

TF **F** M E

P ★★★★★
M ★★★★☆
N ★★★☆☆
S ★★★★☆

- revêtement de dernière génération couche mince et lisse
- idéal pour tous les aciers et aciers inoxydables
- bonne condition pour les grades de titane et les alliages de nickel
- excellente variante universelle pour un fraisage en finition ou ébauche
- très bonne résistance à la température

- neuesten Generation Beschichtung, dünne und glatte Schicht
- hervorragend für alle Stähle und rostfreie Stähle
- guter Zustand für Titan- und Nickellegierungssorten
- ausgezeichnete Universalsorte zum Schlicht- oder Schruppfräsen
- sehr gute Temperaturbeständigkeit

- latest generation coating thin and smooth layer
- specially adapted for our tools Ideal for all basic steels and stainless steels
- good condition for titanium grades and nickel alloys
- excellent universal variant for finishing or rough milling
- very good temperature resistance

STF

Revêtement PVD à couche mince
Dünnschicht PVD Beschichtung
Thin PVD coating

TF F M E

P ★★★★☆
M ★★★★★
N ★★★★☆
S ★★★★★

- revêtement de haute performance
- 1er choix pour les alliages de chrome/nickel, inox, titane, zirconium
- spécialement adapté aux matières extrêmes en général

- hochleistungsbeschichtung
- erste Wahl für Chrom/Nickel, rostfreiem Stahl, Titan, Zirkoniumlegierungen
- speziell angepasst für extreme Materialien im Allgemeinen

- high performance coating
- first choice for chrome/nickel, stainless steel, titanium, zirconium alloys
- specially adapted to extreme materials in general

Nuances
Sorten
Grades

TiCN

Revêtement PVD à couche mince
Dünnschicht PVD Beschichtung
Thin PVD coating

TF **F** M E

P ★★★★★
M ★★★★☆
N ★★★☆☆
S ★★★★☆

- revêtement de dernière génération offrant une excellente adhérence, avec une couche mince et lisse
- idéal pour le fraisage en finition de tous les aciers et aciers inoxydables
- excellente nuance pour les outils de petits diamètres (0.02-0.90 mm)

- Beschichtung der neuesten Generation mit ausgezeichneter Haftung, dünner und glatter Schicht
- hervorragend für Schlichtfräsen aller Stähle und rostfreien Stähle
- ausgezeichnete Sorte für Werkzeuge mit kleinem Durchmesser (0.02-0.90 mm)

- latest generation coating with excellent adhesion, thin and smooth layer
- ideal for finish milling for all steels and stainless steels
- specially adapted for small diameters (0.02-0.90 mm)

DLC

Revêtement DLC à couche mince
Dünnschicht DLC Beschichtung
Thin DLC coating

TF F M E

P ☆☆☆☆☆
M ☆☆☆☆☆
N ★★★★★
S ★★☆☆☆

- revêtement de très haute performance et à couche extra-mince
- très faible coefficient de frottement
- 1er choix pour toutes les matières précieuses, non ferreuses et abrasives, telles que l'or, l'argent, le laiton sans plomb, le cuivre, l'aluminium, la fibre de carbone, la nacre et divers polymères...
- angles de coupe à finition poli miroir, offrant une excellente acuité d'arête
- durée de vie de l'outil considérablement prolongée

- hochleistungsbeschichtung mit extra-feiner Schicht
- sehr geringer Reibwert
- erste Wahl für alle edlen, nicht eisenhaltig und abrasiven Materialien wie Gold, Silber, bleifreies Messing, Kupfer, Aluminium, Kohlefaser, Perlmutt und diverse Polymere...
- Schneidkanten mit hochglanzpolierte Oberfläche, die eine hervorragende Schneidkantenschärfe bieten
- deutlich verlängerte Lebensdauer des Werkzeugs

- very high-performance coating with extra-thin layer
- very low friction ratio
- first choice for all precious, non-ferrous and abrasive materials, such as gold, silver, lead-free brass, copper, aluminum, carbon fiber, mother-of-pearl and various polymers...
- cutting edges with mirror-polished finish, offering excellent edge sharpness
- significantly extended tool life

N

Non revêtu
Unbeschichtet
Uncoated

P ★★☆☆☆
M ★★☆☆☆
N ★★★★☆
S ★★☆☆☆

- carbures de haute qualité, adaptés aux différents groupes de produits
- tous les carbures ont une excellente dureté et une bonne résistance à la déformation
- acuité d'arête maximale grâce à une finition super polie
- idéal pour l'usinage en super finition de matières non ferreuses ou faiblement alliées

- hochwertige und spezifische Hartmetalle gemäss den Produktgruppen
- alle Hartmetalle haben eine ausgezeichnete Härte und eine gute Verformungsbeständigkeit
- maximale Kantenschärfe durch hochpoliertes Finish
- ideal für superfinish Bearbeitung von Nichteisen- oder niedriglegierten Materialien

- high-quality and specific carbides according to the product groups in our catalog
- all carbides have excellent hardness and good resistance to deformation
- maximum edge sharpness thanks to a super polished tool finish
- ideal for super-finish machining of non-ferrous or low-alloy materials

Paramètres de coupe indicatifs
Empfohlene Schnittwerte
Standard machining data

> 16.07

Z	λ	L2	D1	D2	Type	Corner	page
Z=1	0°	2x D1	Ø0.20 - 3.00	Ø3 h4 / Ø4 h5	**3170-2**	Sharp Corner	> 16.08
		2x D1	Ø0.20 - 3.00	Ø3 h4 / Ø4 h5	**3170R-2**		> 16.09
		3x D1	Ø0.20 - 3.00	Ø3 h4 / Ø4 h5	**3170R-3**		> 16.10
		4x D1	Ø0.30 - 3.00	Ø3 h4 / Ø4 h5	**3170R-4**		> 16.11
Z=2	30°	0.75x D1	Ø0.20 - 2.00	Ø3 h4	**3271-0.75**	Sharp Corner	> 16.12
		1x D1	Ø0.30 - 2.50	Ø3 h4	**3271-1**		> 16.13
		1.5x D1	Ø0.10 - 2.00	Ø3 h4	**3271-1.5**		> 16.14
		2x D1	Ø0.10 - 2.00	Ø3 h4	**3271-2**		> 16.15
		3x D1	Ø0.10 - 2.90	Ø3 h4	**3271-3**		> 16.16
		5x D1	Ø0.30 - 2.50	Ø3 h4	**3271-5**		> 16.17
		8x D1	Ø0.40 - 2.50	Ø3 h4 / Ø4 h5	**3271-8**		> 16.18
		2x D1	Ø0.20 - 3.00	Ø3 h4 / Ø6 h5	**3270S-3X**		> 16.19
		2x D1	Ø0.30 - 3.00	Ø3 h4 / Ø6 h5	**3270S-6X**		> 16.20
		2x D1	Ø0.40 - 3.00	Ø3 h4 / Ø6 h5	**3270S-9X**		> 16.21
		2x D1	Ø0.30 - 3.00	Ø3 h4 / Ø6 h5	**3279T-3X**	Radius Corner	> 16.22
		2x D1	Ø0.30 - 3.00	Ø3 h4 / Ø6 h5	**3279T-6X**		> 16.23
		2x D1	Ø0.40 - 3.00	Ø3 h4 / Ø6 h5	**3279T-9X**		> 16.24
Z=3	30°	1.3x D1	Ø0.30 - 2.90	Ø3 h4	**3371-1.3**	Sharp Corner	> 16.25
		2x D1	Ø0.30 - 2.90	Ø3 h4	**3371-2**		> 16.26
		3x D1	Ø0.30 - 2.90	Ø3 h4	**3371-3**		> 16.27
		4x D1	Ø0.30 - 2.90	Ø3 h4	**3371-4**		> 16.28
		5x D1	Ø0.50 - 2.50	Ø3 h4	**3371-5**		> 16.29
		8x D1	Ø0.50 - 2.50	Ø3 h4 / Ø4 h5	**3371-8**		> 16.30
	45°	2.5x D1	Ø0.30 - 2.90	Ø3 h4	**3375-2.5**		> 16.31
	36°-38°-40°	1.5x D1	Ø0.30 - 2.50	Ø3 h4	**DHD3371-1.5**		> 16.32
		3x D1	Ø0.30 - 2.50	Ø3 h4	**DHD3371-3**		> 16.33
	30°	2x D1	Ø0.30 - 3.00	Ø3 h4 / Ø6 h5	**3370S-3X**		> 16.34
		2x D1	Ø0.30 - 3.00	Ø3 h4 / Ø6 h5	**3370S-6X**		> 16.35
		2x D1	Ø0.40 - 3.00	Ø3 h4 / Ø6 h5	**3370S-9X**		> 16.36
		2x D1	Ø0.30 - 3.00	Ø3 h4 / Ø6 h5	**3379T-3X**	Radius Corner	> 16.37
		2x D1	Ø0.30 - 3.00	Ø3 h4 / Ø6 h5	**3379T-6X**		> 16.38
		2x D1	Ø0.40 - 3.00	Ø3 h4 / Ø6 h5	**3379T-9X**		> 16.39
Z=4	30°	1.5x D1	Ø0.30 - 2.90	Ø3 h4	**3471-1.5**	Sharp Corner	> 16.40
		3x D1	Ø0.30 - 2.90	Ø3 h4	**3471-3**		> 16.41
	40°	2x D1	Ø0.30 - 2.90	Ø3 h4	**3472-2**		> 16.42
		4x D1	Ø0.40 - 2.90	Ø3 h4	**3472-4**		> 16.43
	35°-38°	3x D1	Ø0.50 - 2.50	Ø3 h4	**DHP3471-3**		> 16.44
Z=2	30°	0.75x D1	Ø0.20 - 2.50	Ø3 h4	**3278-0.75**	U	> 16.45
		1x D1	Ø0.20 - 2.90	Ø3 h4	**3278-1**		> 16.46
		1.5x D1	Ø0.20 - 2.90	Ø3 h4	**3278-1.5**		> 16.47
		3x D1	Ø0.20 - 2.90	Ø3 h4	**3278-3**		> 16.48
		1.5x D1	Ø0.20 - 3.00	Ø3 h4 / Ø6 h5	**3278H-3X**		> 16.49
		1.5x D1	Ø0.30 - 3.00	Ø3 h4 / Ø6 h5	**3278H-6X**		> 16.50
		1.5x D1	Ø0.40 - 3.00	Ø3 h4 / Ø6 h5	**3278H-9X**		> 16.51

Paramètres de coupe indicatifs
Empfohlene Schnittwerte
Standard machining data

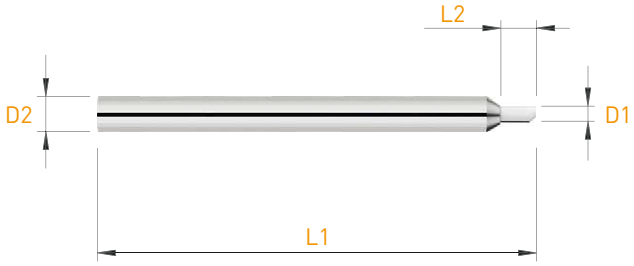
Matière Werkstoff Material	VC (m/min)	0.10 - 0.50 fz (mm)	0.60 - 1.50 fz (mm)	1.60 - 2.90 fz (mm)	N	TiAlN	STF	TiCN	DLC
Acier de décolletage Automatenstahl Free-cutting steel (P)	80 - 130	0.003 - 0.005	0.006 - 0.010	0.013 - 0.020	-	★★★	★★★	★★	-
Acier Stahl < 600 N/mm² Steel (P)	70 - 100	0.003 - 0.005	0.006 - 0.010	0.013 - 0.020	-	★★★	★★★	★★	-
Acier Stahl < 800 N/mm² Steel (P)	70 - 100	0.003 - 0.005	0.006 - 0.010	0.013 - 0.020	-	★★★	★★★	★★	-
Acier Stahl > 800 N/mm² Steel (P)	50 - 80	0.003 - 0.005	0.006 - 0.010	0.013 - 0.020	-	★★★	★★★	★★	-
Acier trempé Gehärteter Stahl -55HRC Hardened steel (H)	60 - 90	0.001 - 0.002	0.003 - 0.005	0.007 - 0.010	-	★★★	★★★	★	-
Acier trempé Gehärteter Stahl +55HRC Hardened steel (H)	40 - 70	0.001 - 0.002	0.003 - 0.005	0.007 - 0.010	-	★★★	★★★	★	-
Inox Rostfreistahl Stainless steel (M)	40 - 80	0.003 - 0.005	0.006 - 0.010	0.013 - 0.020	-	★★★	★★★	★★	-
Aluminium (N)	200 - 300	0.002 - 0.005	0.005 - 0.010	0.010 - 0.030	★★★	-	-	★★	★★★
Cuivre, laiton, bronze Kupfer, Messing, Bronze Copper, brass, bronze (N)	100 - 200	0.001 - 0.005	0.006 - 0.010	0.010 - 0.015	★★★	★★	★★	★★	★★★
Matière synthétique Synthetisches Material Synthetic material (N)	200 - 700	0.002 - 0.004	0.006 - 0.015	0.015 - 0.050	★★★	★★	★★	★★	★★★
Métaux précieux Edelmetalle Precious metals (N)	90 - 140	0.002 - 0.003	0.004 - 0.012	0.012 - 0.025	★★★	★★	★★	★	★★★
Titane Titan Titanium (S)	25 - 70	0.001 - 0.003	0.004 - 0.010	0.006 - 0.015	-	★★★	★★★	★★	-
Alliage de nickel Nickel-Legierung Nickel alloy (S)	40 - 70	0.001 - 0.003	0.004 - 0.008	0.008 - 0.012	-	★★★	★★★	★★	-
Matière exotique Exotisches material Exotic material (O)	15 - 25	0.001 - 0.002	0.003 - 0.005	0.006 - 0.010	-	★★★	★★★	★★	★★★

Avec revêtement, augmenter les valeurs de 20-30%
Mit Beschichtung, Daten um 20-30% erhöhen
With coating, increase data by 20-30%

★ Bien / Gut / Good
★★ Très bien / Sehr gut / Very good
★★★ Excellent / Ausgezeichnet / Excellent

3170-2

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills



MD
VHM
HM

λ 0°

Sharp Corner

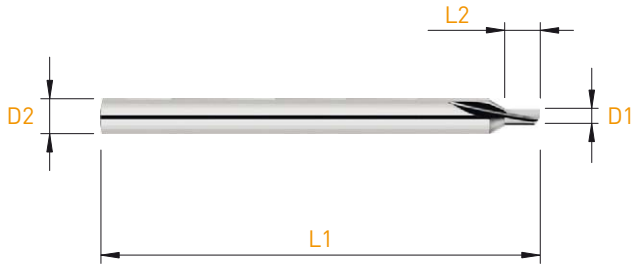
2xD1

Z=1

D1 +0.005 / -0.010	L2	D2 h4 Ø3.0 h5 Ø4.0	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.20	0.40	3.00	39	**3170-2-0.20**	●				
0.30	0.60	3.00	39	**3170-2-0.30**	●	●	●	●	●
0.40	0.80	3.00	39	**3170-2-0.40**	●	●	●	●	●
0.50	1.00	3.00	39	**3170-2-0.50**	●	●	●	●	●
0.60	1.20	3.00	39	**3170-2-0.60**	●	●	●	●	●
0.70	1.40	3.00	39	**3170-2-0.70**	●	●	●	●	●
0.80	1.60	3.00	39	**3170-2-0.80**	●	●	●	●	●
0.90	1.80	3.00	39	**3170-2-0.90**	●	●	●	●	●
1.00	2.00	3.00	39	**3170-2-1.00**	●	●	●	●	●
1.10	2.20	3.00	39	**3170-2-1.10**	●	●	●	●	●
1.20	2.40	3.00	39	**3170-2-1.20**	●	●	●	●	●
1.30	2.60	3.00	39	**3170-2-1.30**	●	●	●	●	●
1.40	2.80	3.00	39	**3170-2-1.40**	●	●	●	●	●
1.50	3.00	3.00	39	**3170-2-1.50**	●	●	●	●	●
1.60	3.20	3.00	39	**3170-2-1.60**	●	●	●	●	●
1.70	3.40	3.00	39	**3170-2-1.70**	●	●	●	●	●
1.80	3.60	3.00	39	**3170-2-1.80**	●	●	●	●	●
1.90	3.80	3.00	39	**3170-2-1.90**	●	●	●	●	●
2.00	4.00	3.00	39	**3170-2-2.00**	●	●	●	●	●
2.10	4.20	3.00	39	**3170-2-2.10**	●	●	●	●	●
2.20	4.40	3.00	39	**3170-2-2.20**	●	●	●	●	●
2.30	4.60	3.00	39	**3170-2-2.30**	●	●	●	●	●
2.40	4.80	3.00	39	**3170-2-2.40**	●	●	●	●	●
2.50	5.00	3.00	39	**3170-2-2.50**	●	●	●	●	●
2.60	5.20	3.00	39	**3170-2-2.60**	●	●	●	●	●
2.70	5.40	3.00	39	**3170-2-2.70**	●	●	●	●	●
2.80	5.60	3.00	39	**3170-2-2.80**	●	●	●	●	●
2.90	5.80	3.00	39	**3170-2-2.90**	●	●	●	●	●
3.00	6.00	4.00	40	**3170-2-3.00**	●	●	●	●	●

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

3170R-2



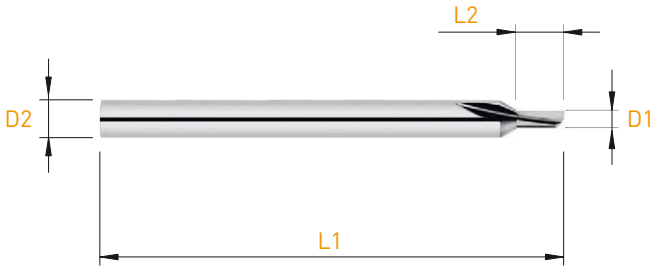
MD VHM HM | λ 0° | Sharp Corner | 2xD1 | Z=1

D1 +0.005 / -0.010	L2	D2 h4 Ø3.0 h5 Ø4.0	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.20	0.40	3.00	39	**3170R-2-0.20**	●				
0.30	0.60	3.00	39	**3170R-2-0.30**	●	●	●	●	●
0.40	0.80	3.00	39	**3170R-2-0.40**	●	●	●	●	●
0.50	1.00	3.00	39	**3170R-2-0.50**	●	●	●	●	●
0.60	1.20	3.00	39	**3170R-2-0.60**	●	●	●	●	●
0.70	1.40	3.00	39	**3170R-2-0.70**	●	●	●	●	●
0.80	1.60	3.00	39	**3170R-2-0.80**	●	●	●	●	●
0.90	1.80	3.00	39	**3170R-2-0.90**	●	●	●	●	●
1.00	2.00	3.00	39	**3170R-2-1.00**	●	●	●	●	●
1.10	2.20	3.00	39	**3170R-2-1.10**	●	●	●	●	●
1.20	2.40	3.00	39	**3170R-2-1.20**	●	●	●	●	●
1.30	2.60	3.00	39	**3170R-2-1.30**	●	●	●	●	●
1.40	2.80	3.00	39	**3170R-2-1.40**	●	●	●	●	●
1.50	3.00	3.00	39	**3170R-2-1.50**	●	●	●	●	●
1.60	3.20	3.00	39	**3170R-2-1.60**	●	●	●	●	●
1.70	3.40	3.00	39	**3170R-2-1.70**	●	●	●	●	●
1.80	3.60	3.00	39	**3170R-2-1.80**	●	●	●	●	●
1.90	3.80	3.00	39	**3170R-2-1.90**	●	●	●	●	●
2.00	4.00	3.00	39	**3170R-2-2.00**	●	●	●	●	●
2.10	4.10	3.00	39	**3170R-2-2.10**	●	●	●	●	●
2.20	4.40	3.00	39	**3170R-2-2.20**	●	●	●	●	●
2.30	4.60	3.00	39	**3170R-2-2.30**	●	●	●	●	●
2.40	4.80	3.00	39	**3170R-2-2.40**	●	●	●	●	●
2.50	5.00	3.00	39	**3170R-2-2.50**	●	●	●	●	●
2.60	5.20	3.00	39	**3170R-2-2.60**	●	●	●	●	●
2.70	5.40	3.00	39	**3170R-2-2.70**	●	●	●	●	●
2.80	5.60	3.00	39	**3170R-2-2.80**	●	●	●	●	●
2.90	5.80	3.00	39	**3170R-2-2.90**	●	●	●	●	●
3.00	6.00	4.00	40	**3170R-2-3.00**	●	●	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

3170R-3

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills



MD
VHM
HM

λ 0°

Sharp Corner

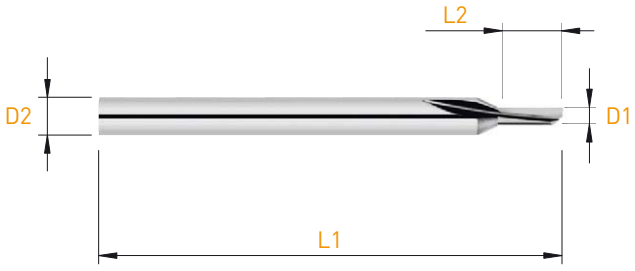
3xD1

Z=1

D1 +0.005 / -0.010	L2	D2 h4 Ø3.0 h5 Ø4.0	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.20	0.60	3.00	39	**3170R-3-0.20**	●				
0.30	0.90	3.00	39	**3170R-3-0.30**	●	●	●	●	●
0.40	1.20	3.00	39	**3170R-3-0.40**	●	●	●	●	●
0.50	1.50	3.00	39	**3170R-3-0.50**	●	●	●	●	●
0.60	1.80	3.00	39	**3170R-3-0.60**	●	●	●	●	●
0.70	2.10	3.00	39	**3170R-3-0.70**	●	●	●	●	●
0.80	2.40	3.00	39	**3170R-3-0.80**	●	●	●	●	●
0.90	2.70	3.00	39	**3170R-3-0.90**	●	●	●	●	●
1.00	3.00	3.00	39	**3170R-3-1.00**	●	●	●	●	●
1.10	3.30	3.00	39	**3170R-3-1.10**	●	●	●	●	●
1.20	3.60	3.00	39	**3170R-3-1.20**	●	●	●	●	●
1.30	3.90	3.00	39	**3170R-3-1.30**	●	●	●	●	●
1.40	4.20	3.00	39	**3170R-3-1.40**	●	●	●	●	●
1.50	4.50	3.00	39	**3170R-3-1.50**	●	●	●	●	●
2.00	6.00	3.00	39	**3170R-3-2.00**	●	●	●	●	●
2.50	7.50	3.00	39	**3170R-3-2.50**	●	●	●	●	●
3.00	9.00	4.00	40	**3170R-3-3.00**	●	●	●	●	●

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

3170R-4



MD
VHM
HM

λ 0°

Sharp Corner

4xD1

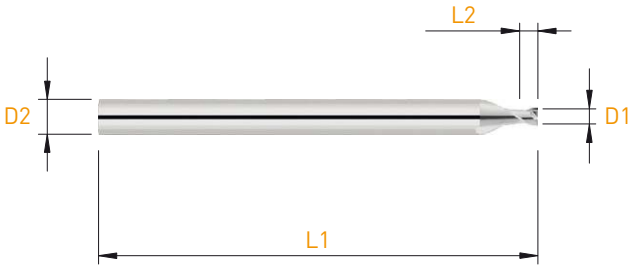
Z=1

D1 +0.005 / -0.010	L2	D2 h4 Ø3.0 h5 Ø4.0	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.30	1.20	3.00	39	**3170R-4-0.30**	●	●	●	●	●
0.40	1.60	3.00	39	**3170R-4-0.40**	●	●	●	●	●
0.50	2.00	3.00	39	**3170R-4-0.50**	●	●	●	●	●
0.60	2.40	3.00	39	**3170R-4-0.60**	●	●	●	●	●
0.70	2.80	3.00	39	**3170R-4-0.70**	●	●	●	●	●
0.80	3.20	3.00	39	**3170R-4-0.80**	●	●	●	●	●
0.90	3.60	3.00	39	**3170R-4-0.90**	●	●	●	●	●
1.00	4.00	3.00	39	**3170R-4-1.00**	●	●	●	●	●
1.10	4.40	3.00	39	**3170R-4-1.10**	●	●	●	●	●
1.20	4.80	3.00	39	**3170R-4-1.20**	●	●	●	●	●
1.30	5.20	3.00	39	**3170R-4-1.30**	●	●	●	●	●
1.40	5.60	3.00	39	**3170R-4-1.40**	●	●	●	●	●
1.50	6.00	3.00	39	**3170R-4-1.50**	●	●	●	●	●
2.00	8.00	3.00	39	**3170R-4-2.00**	●	●	●	●	●
2.50	10.00	3.00	39	**3170R-4-2.50**	●	●	●	●	●
3.00	12.00	4.00	40	**3170R-4-3.00**	●	●	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

3271-0.75

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

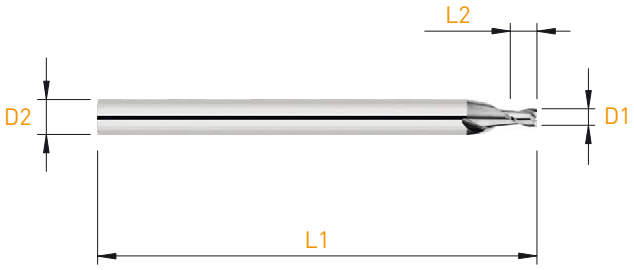


MD VHM HM | λ 30° | Sharp Corner | 0.75xD1 | Z=2

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.20	0.15	3.00	39	**3271-0.75-0.20**	●				
0.30	0.25	3.00	39	**3271-0.75-0.30**	●	●	●	●	●
0.40	0.30	3.00	39	**3271-0.75-0.40**	●	●	●	●	●
0.50	0.37	3.00	39	**3271-0.75-0.50**	●	●	●	●	●
0.60	0.45	3.00	39	**3271-0.75-0.60**	●	●	●	●	●
0.70	0.53	3.00	39	**3271-0.75-0.70**	●	●	●	●	●
0.80	0.60	3.00	39	**3271-0.75-0.80**	●	●	●	●	●
0.90	0.70	3.00	39	**3271-0.75-0.90**	●	●	●	●	●
1.00	0.75	3.00	39	**3271-0.75-1.00**	●	●	●	●	●
1.10	0.90	3.00	39	**3271-0.75-1.10**	●	●	●	●	●
1.20	0.90	3.00	39	**3271-0.75-1.20**	●	●	●	●	●
1.30	1.00	3.00	39	**3271-0.75-1.30**	●	●	●	●	●
1.40	1.10	3.00	39	**3271-0.75-1.40**	●	●	●	●	●
1.50	1.15	3.00	39	**3271-0.75-1.50**	●	●	●	●	●
1.60	1.20	3.00	39	**3271-0.75-1.60**	●	●	●	●	●
1.70	1.30	3.00	39	**3271-0.75-1.70**	●	●	●	●	●
1.80	1.40	3.00	39	**3271-0.75-1.80**	●	●	●	●	●
1.90	1.45	3.00	39	**3271-0.75-1.90**	●	●	●	●	●
2.00	1.50	3.00	39	**3271-0.75-2.00**	●	●	●	●	●

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

3271-1



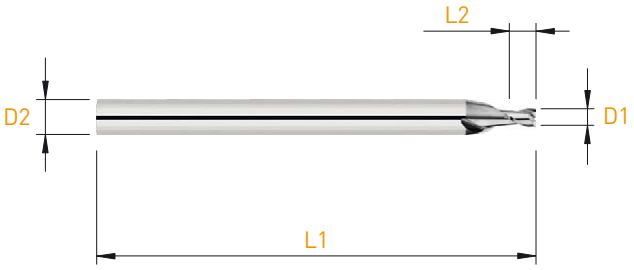
MD VHM HM | λ 30° | Sharp Corner | 1xD1 | Z=2

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.30	0.30	3.00	39	**3271-1-0.30**	●	●	●	●	●
0.40	0.40	3.00	39	**3271-1-0.40**	●	●	●	●	●
0.50	0.50	3.00	39	**3271-1-0.50**	●	●	●	●	●
0.60	0.60	3.00	39	**3271-1-0.60**	●	●	●	●	●
0.70	0.70	3.00	39	**3271-1-0.70**	●	●	●	●	●
0.80	0.80	3.00	39	**3271-1-0.80**	●	●	●	●	●
0.90	0.90	3.00	39	**3271-1-0.90**	●	●	●	●	●
1.00	1.00	3.00	39	**3271-1-1.00**	●	●	●	●	●
1.10	1.10	3.00	39	**3271-1-1.10**	●	●	●	●	●
1.20	1.20	3.00	39	**3271-1-1.20**	●	●	●	●	●
1.30	1.30	3.00	39	**3271-1-1.30**	●	●	●	●	●
1.40	1.40	3.00	39	**3271-1-1.40**	●	●	●	●	●
1.50	1.50	3.00	39	**3271-1-1.50**	●	●	●	●	●
1.60	1.60	3.00	39	**3271-1-1.60**	●	●	●	●	●
1.70	1.70	3.00	39	**3271-1-1.70**	●	●	●	●	●
1.80	1.80	3.00	39	**3271-1-1.80**	●	●	●	●	●
1.90	1.90	3.00	39	**3271-1-1.90**	●	●	●	●	●
2.00	2.00	3.00	39	**3271-1-2.00**	●	●	●	●	●
2.50	2.50	3.00	39	**3271-1-2.50**	●	●	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

3271-1.5

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills



MD
VHM
HM

λ 30°

Sharp Corner

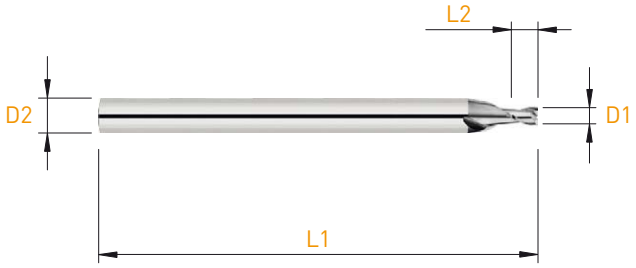
1.5xD1

Z=2

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.10	0.15	3.00	39	**3271-1.5-0.10**	●				
0.15	0.20	3.00	39	**3271-1.5-0.15**	●				
0.20	0.30	3.00	39	**3271-1.5-0.20**	●				
0.25	0.35	3.00	39	**3271-1.5-0.25**	●				
0.30	0.45	3.00	39	**3271-1.5-0.30**	●	●	●	●	●
0.40	0.60	3.00	39	**3271-1.5-0.40**	●	●	●	●	●
0.45	0.70	3.00	39	**3271-1.5-0.45**	●	●	●	●	●
0.50	0.75	3.00	39	**3271-1.5-0.50**	●	●	●	●	●
0.60	0.90	3.00	39	**3271-1.5-0.60**	●	●	●	●	●
0.70	1.05	3.00	39	**3271-1.5-0.70**	●	●	●	●	●
0.80	1.20	3.00	39	**3271-1.5-0.80**	●	●	●	●	●
0.90	1.35	3.00	39	**3271-1.5-0.90**	●	●	●	●	●
1.00	1.50	3.00	39	**3271-1.5-1.00**	●	●	●	●	●
1.10	1.65	3.00	39	**3271-1.5-1.10**	●	●	●	●	●
1.20	1.80	3.00	39	**3271-1.5-1.20**	●	●	●	●	●
1.30	1.95	3.00	39	**3271-1.5-1.30**	●	●	●	●	●
1.40	2.10	3.00	39	**3271-1.5-1.40**	●	●	●	●	●
1.50	2.25	3.00	39	**3271-1.5-1.50**	●	●	●	●	●
1.60	2.40	3.00	39	**3271-1.5-1.60**	●	●	●	●	●
1.70	2.55	3.00	39	**3271-1.5-1.70**	●	●	●	●	●
1.80	2.70	3.00	39	**3271-1.5-1.80**	●	●	●	●	●
1.90	2.85	3.00	39	**3271-1.5-1.90**	●	●	●	●	●
2.00	3.00	3.00	39	**3271-1.5-2.00**	●	●	●	●	●

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

3271-2



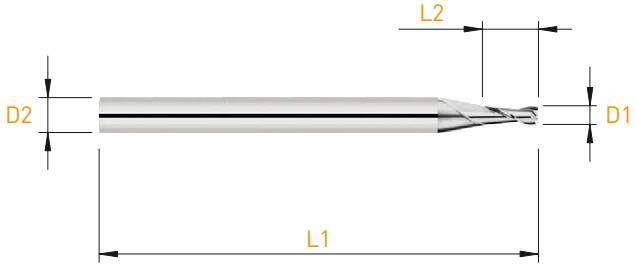
MD VHM HM | λ 30° | Sharp Corner | 2xD1 | Z=2

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.10	0.20	3.00	39	**3271-2-0.10**	●				
0.15	0.30	3.00	39	**3271-2-0.15**	●				
0.20	0.40	3.00	39	**3271-2-0.20**	●				
0.25	0.50	3.00	39	**3271-2-0.25**	●				
0.30	0.60	3.00	39	**3271-2-0.30**	●	●	●	●	●
0.40	0.80	3.00	39	**3271-2-0.40**	●	●	●	●	●
0.50	1.00	3.00	39	**3271-2-0.50**	●	●	●	●	●
0.60	1.20	3.00	39	**3271-2-0.60**	●	●	●	●	●
0.70	1.40	3.00	39	**3271-2-0.70**	●	●	●	●	●
0.80	1.60	3.00	39	**3271-2-0.80**	●	●	●	●	●
0.90	1.80	3.00	39	**3271-2-0.90**	●	●	●	●	●
1.00	2.00	3.00	39	**3271-2-1.00**	●	●	●	●	●
1.10	2.20	3.00	39	**3271-2-1.10**	●	●	●	●	●
1.20	2.40	3.00	39	**3271-2-1.20**	●	●	●	●	●
1.30	2.60	3.00	39	**3271-2-1.30**	●	●	●	●	●
1.40	2.80	3.00	39	**3271-2-1.40**	●	●	●	●	●
1.50	3.00	3.00	39	**3271-2-1.50**	●	●	●	●	●
1.60	3.20	3.00	39	**3271-2-1.60**	●	●	●	●	●
1.70	3.40	3.00	39	**3271-2-1.70**	●	●	●	●	●
1.80	3.60	3.00	39	**3271-2-1.80**	●	●	●	●	●
1.90	3.80	3.00	39	**3271-2-1.90**	●	●	●	●	●
2.00	4.00	3.00	39	**3271-2-2.00**	●	●	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

3271-3

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills



MD
VHM
HM

λ 30°

Sharp Corner

3xD1

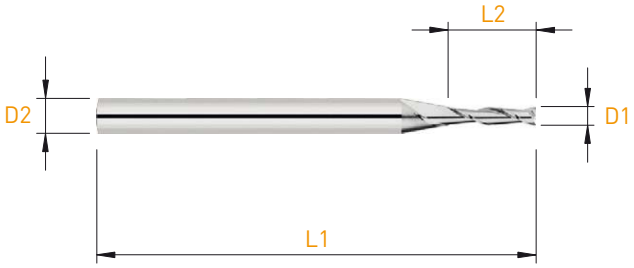
Z=2

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.10	0.25	3.00	39	**3271-3-0.10**	●				
0.15	0.45	3.00	39	**3271-3-0.15**	●				
0.20	0.50	3.00	39	**3271-3-0.20**	●				
0.25	0.75	3.00	39	**3271-3-0.25**	●				
0.30	1.00	3.00	39	**3271-3-0.30**	●	●	●	●	●
0.35	1.10	3.00	39	**3271-3-0.35**	●	●	●	●	●
0.40	1.20	3.00	39	**3271-3-0.40**	●	●	●	●	●
0.50	1.50	3.00	39	**3271-3-0.50**	●	●	●	●	●
0.60	2.00	3.00	39	**3271-3-0.60**	●	●	●	●	●
0.65	2.00	3.00	39	**3271-3-0.65**	●	●	●	●	●
0.70	2.00	3.00	39	**3271-3-0.70**	●	●	●	●	●
0.75	2.00	3.00	39	**3271-3-0.75**	●	●	●	●	●
0.80	2.50	3.00	39	**3271-3-0.80**	●	●	●	●	●
0.90	2.50	3.00	39	**3271-3-0.90**	●	●	●	●	●
0.95	3.00	3.00	39	**3271-3-0.95**	●	●	●	●	●
1.00	3.00	3.00	39	**3271-3-1.00**	●	●	●	●	●
1.05	3.00	3.00	39	**3271-3-1.05**	●	●	●	●	●
1.10	3.00	3.00	39	**3271-3-1.10**	●	●	●	●	●
1.15	3.50	3.00	39	**3271-3-1.15**	●	●	●	●	●
1.20	4.00	3.00	39	**3271-3-1.20**	●	●	●	●	●
1.30	4.00	3.00	39	**3271-3-1.30**	●	●	●	●	●
1.35	4.00	3.00	39	**3271-3-1.35**	●	●	●	●	●
1.40	4.00	3.00	39	**3271-3-1.40**	●	●	●	●	●
1.45	4.40	3.00	39	**3271-3-1.45**	●	●	●	●	●
1.50	4.50	3.00	39	**3271-3-1.50**	●	●	●	●	●
1.55	4.50	3.00	39	**3271-3-1.55**	●	●	●	●	●
1.60	4.50	3.00	39	**3271-3-1.60**	●	●	●	●	●
1.65	5.00	3.00	39	**3271-3-1.65**	●	●	●	●	●
1.70	5.00	3.00	39	**3271-3-1.70**	●	●	●	●	●
1.75	5.30	3.00	39	**3271-3-1.75**	●	●	●	●	●

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
1.80	6.00	3.00	39	**3271-3-1.80**	●	●	●	●	●
1.85	6.00	3.00	39	**3271-3-1.85**	●	●	●	●	●
1.90	6.00	3.00	39	**3271-3-1.90**	●	●	●	●	●
1.95	6.00	3.00	39	**3271-3-1.95**	●	●	●	●	●
2.00	6.00	3.00	39	**3271-3-2.00**	●	●	●	●	●
2.10	6.00	3.00	39	**3271-3-2.10**	●	●	●	●	●
2.20	6.50	3.00	39	**3271-3-2.20**	●	●	●	●	●
2.30	7.00	3.00	39	**3271-3-2.30**	●	●	●	●	●
2.40	7.00	3.00	39	**3271-3-2.40**	●	●	●	●	●
2.50	7.50	3.00	39	**3271-3-2.50**	●	●	●	●	●
2.60	7.50	3.00	39	**3271-3-2.60**	●	●	●	●	●
2.70	8.00	3.00	39	**3271-3-2.70**	●	●	●	●	●
2.80	8.00	3.00	39	**3271-3-2.80**	●	●	●	●	●
2.90	8.00	3.00	39	**3271-3-2.90**	●	●	●	●	●

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

3271-5



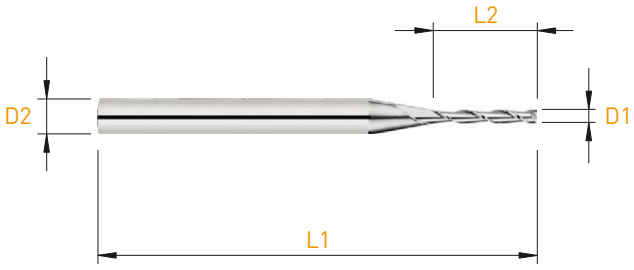
MD VHM HM | λ 30° | Sharp Corner | 5xD1 | Z=2

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.30	1.50	3.00	39	**3271-5-0.30**	●	●	●	●	●
0.35	1.80	3.00	39	**3271-5-0.35**	●	●	●	●	●
0.40	2.00	3.00	39	**3271-5-0.40**	●	●	●	●	●
0.50	2.50	3.00	39	**3271-5-0.50**	●	●	●	●	●
0.55	2.80	3.00	39	**3271-5-0.55**	●	●	●	●	●
0.60	3.00	3.00	39	**3271-5-0.60**	●	●	●	●	●
0.65	3.30	3.00	39	**3271-5-0.65**	●	●	●	●	●
0.70	3.50	3.00	39	**3271-5-0.70**	●	●	●	●	●
0.75	3.80	3.00	39	**3271-5-0.75**	●	●	●	●	●
0.80	4.00	3.00	39	**3271-5-0.80**	●	●	●	●	●
0.85	4.30	3.00	39	**3271-5-0.85**	●	●	●	●	●
0.90	4.50	3.00	39	**3271-5-0.90**	●	●	●	●	●
0.95	4.80	3.00	39	**3271-5-0.95**	●	●	●	●	●
1.00	5.00	3.00	39	**3271-5-1.00**	●	●	●	●	●
1.10	5.50	3.00	39	**3271-5-1.10**	●	●	●	●	●
1.20	6.00	3.00	39	**3271-5-1.20**	●	●	●	●	●
1.50	7.50	3.00	39	**3271-5-1.50**	●	●	●	●	●
2.00	10.00	3.00	39	**3271-5-2.00**	●	●	●	●	●
2.50	12.50	3.00	39	**3271-5-2.50**	●	●	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

3271-8

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills



MD
VHM
HM

λ 30°

Sharp Corner

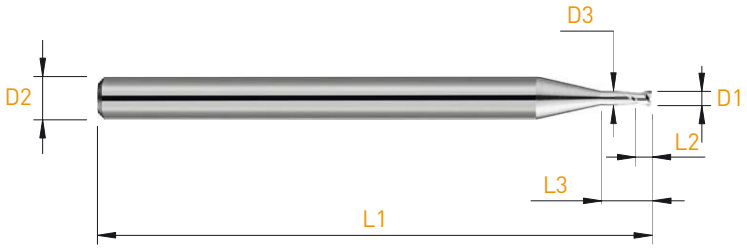
8xD1

Z=2

D1 +0.005 / -0.010	L2	D2 h4 Ø3.0 h5 Ø4.0	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.40	3.20	3.00	39	**3271-8-0.40**	●	●	●	●	●
0.50	4.00	3.00	39	**3271-8-0.50**	●	●	●	●	●
0.60	5.00	3.00	39	**3271-8-0.60**	●	●	●	●	●
0.70	5.60	3.00	39	**3271-8-0.70**	●	●	●	●	●
0.80	6.00	3.00	39	**3271-8-0.80**	●	●	●	●	●
0.90	7.20	3.00	39	**3271-8-0.90**	●	●	●	●	●
1.00	8.00	3.00	39	**3271-8-1.00**	●	●	●	●	●
1.20	9.00	3.00	39	**3271-8-1.20**	●	●	●	●	●
1.50	12.00	4.00	50	**3271-8-1.50**	●	●	●	●	●
2.00	16.00	4.00	50	**3271-8-2.00**	●	●	●	●	●
2.50	20.00	4.00	50	**3271-8-2.50**	●	●	●	●	●

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

3270S-3X



MD VHM HM | λ 30° | Sharp Corner | L3 3xD1 | Z=2

D1 +0.005 / -0.010	L2	L3	D3	D2 h4 Ø3.0 h5 Ø6.0	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.20	0.40	0.60	0.17	3.00	39	**3270S-3X-0.20**	●				
0.30	0.60	0.90	0.27	3.00	39	**3270S-3X-0.30**	●	●	●	●	●
0.40	0.80	1.20	0.37	3.00	39	**3270S-3X-0.40**	●	●	●	●	●
0.50	1.00	1.50	0.45	3.00	39	**3270S-3X-0.50**	●	●	●	●	●
0.60	1.20	1.80	0.55	3.00	39	**3270S-3X-0.60**	●	●	●	●	●
0.70	1.40	2.10	0.65	3.00	39	**3270S-3X-0.70**	●	●	●	●	●
0.80	1.60	2.40	0.75	3.00	39	**3270S-3X-0.80**	●	●	●	●	●
0.90	1.80	2.70	0.85	3.00	39	**3270S-3X-0.90**	●	●	●	●	●
1.00	2.00	3.00	0.95	3.00	39	**3270S-3X-1.00**	●	●	●	●	●
1.10	2.20	3.30	1.05	3.00	39	**3270S-3X-1.10**	●	●	●	●	●
1.20	2.40	3.60	1.15	3.00	39	**3270S-3X-1.20**	●	●	●	●	●
1.30	2.60	3.90	1.25	3.00	39	**3270S-3X-1.30**	●	●	●	●	●
1.40	2.80	4.20	1.35	3.00	39	**3270S-3X-1.40**	●	●	●	●	●
1.50	3.00	4.50	1.45	3.00	39	**3270S-3X-1.50**	●	●	●	●	●
1.60	3.20	4.80	1.55	3.00	39	**3270S-3X-1.60**	●	●	●	●	●
1.70	3.40	5.10	1.65	3.00	39	**3270S-3X-1.70**	●	●	●	●	●
1.80	3.60	5.40	1.75	3.00	39	**3270S-3X-1.80**	●	●	●	●	●
1.90	3.80	5.70	1.85	3.00	39	**3270S-3X-1.90**	●	●	●	●	●
2.00	4.00	6.00	1.95	6.00	50	**3270S-3X-2.00**	●	●	●	●	●
2.10	4.20	6.30	2.05	6.00	50	**3270S-3X-2.10**	●	●	●	●	●
2.20	4.40	6.60	2.15	6.00	50	**3270S-3X-2.20**	●	●	●	●	●
2.30	4.60	6.90	2.25	6.00	50	**3270S-3X-2.30**	●	●	●	●	●
2.40	4.80	7.20	2.35	6.00	50	**3270S-3X-2.40**	●	●	●	●	●
2.50	5.00	7.50	2.45	6.00	50	**3270S-3X-2.50**	●	●	●	●	●
3.00	6.00	9.00	2.95	6.00	50	**3270S-3X-3.00**	●	●	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

3270S-6X

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

MD VHM HM | λ 30° | Sharp Corner | L3 6xD1 | Z=2

D1 +0.005 / -0.010	L2	L3	D3	D2 h4 Ø3.0 h5 Ø6.0	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.30	0.60	1.80	0.27	3.00	39	**3270S-6X-0.30**	●	●	●	●	●
0.40	0.80	2.40	0.37	3.00	39	**3270S-6X-0.40**	●	●	●	●	●
0.50	1.00	3.00	0.45	3.00	39	**3270S-6X-0.50**	●	●	●	●	●
0.60	1.20	3.60	0.55	3.00	39	**3270S-6X-0.60**	●	●	●	●	●
0.70	1.40	4.20	0.65	3.00	39	**3270S-6X-0.70**	●	●	●	●	●
0.80	1.60	4.80	0.75	3.00	39	**3270S-6X-0.80**	●	●	●	●	●
0.90	1.80	5.40	0.85	3.00	39	**3270S-6X-0.90**	●	●	●	●	●
1.00	2.00	6.00	0.95	3.00	39	**3270S-6X-1.00**	●	●	●	●	●
1.10	2.20	6.60	1.05	3.00	39	**3270S-6X-1.10**	●	●	●	●	●
1.20	2.40	7.20	1.15	3.00	39	**3270S-6X-1.20**	●	●	●	●	●
1.30	2.60	7.80	1.25	3.00	39	**3270S-6X-1.30**	●	●	●	●	●
1.40	2.80	8.40	1.35	3.00	39	**3270S-6X-1.40**	●	●	●	●	●
1.50	3.00	9.00	1.45	3.00	39	**3270S-6X-1.50**	●	●	●	●	●
1.60	3.20	9.60	1.55	3.00	39	**3270S-6X-1.60**	●	●	●	●	●
1.70	3.40	10.20	1.65	3.00	39	**3270S-6X-1.70**	●	●	●	●	●
1.80	3.60	10.80	1.75	3.00	39	**3270S-6X-1.80**	●	●	●	●	●
1.90	3.80	11.40	1.85	3.00	39	**3270S-6X-1.90**	●	●	●	●	●
2.00	4.00	12.00	1.95	6.00	50	**3270S-6X-2.00**	●	●	●	●	●
2.10	4.20	12.60	2.05	6.00	50	**3270S-6X-2.10**	●	●	●	●	●
2.20	4.40	13.20	2.15	6.00	50	**3270S-6X-2.20**	●	●	●	●	●
2.30	4.60	13.80	2.25	6.00	50	**3270S-6X-2.30**	●	●	●	●	●
2.40	4.80	14.40	2.35	6.00	50	**3270S-6X-2.40**	●	●	●	●	●
2.50	5.00	15.00	2.45	6.00	50	**3270S-6X-2.50**	●	●	●	●	●
3.00	6.00	18.00	2.95	6.00	50	**3270S-6X-3.00**	●	●	●	●	●

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

3270S-9X

MD VHM HM | λ 30° | Sharp Corner | L3 9xD1 | Z=2

D1 +0.005 / -0.010	L2	L3	D3	D2 h4 Ø3.0 h5 Ø6.0	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.40	0.80	3.60	0.37	3.00	39	**3270S-9X-0.40**	●	●	●	●	●
0.50	1.00	4.50	0.45	3.00	39	**3270S-9X-0.50**	●	●	●	●	●
0.60	1.20	5.40	0.55	3.00	39	**3270S-9X-0.60**	●	●	●	●	●
0.70	1.40	6.30	0.65	3.00	39	**3270S-9X-0.70**	●	●	●	●	●
0.80	1.60	7.20	0.75	3.00	39	**3270S-9X-0.80**	●	●	●	●	●
0.90	1.80	8.10	0.85	3.00	39	**3270S-9X-0.90**	●	●	●	●	●
1.00	2.00	9.00	0.95	3.00	39	**3270S-9X-1.00**	●	●	●	●	●
1.10	2.20	9.90	1.05	3.00	39	**3270S-9X-1.10**	●	●	●	●	●
1.20	2.40	10.80	1.15	3.00	39	**3270S-9X-1.20**	●	●	●	●	●
1.30	2.60	11.70	1.25	3.00	39	**3270S-9X-1.30**	●	●	●	●	●
1.40	2.80	12.60	1.35	3.00	39	**3270S-9X-1.40**	●	●	●	●	●
1.50	3.00	13.50	1.45	3.00	39	**3270S-9X-1.50**	●	●	●	●	●
1.60	3.20	14.40	1.55	3.00	39	**3270S-9X-1.60**	●	●	●	●	●
1.70	3.40	15.30	1.65	3.00	39	**3270S-9X-1.70**	●	●	●	●	●
1.80	3.60	16.20	1.75	3.00	39	**3270S-9X-1.80**	●	●	●	●	●
1.90	3.80	17.10	1.85	3.00	39	**3270S-9X-1.90**	●	●	●	●	●
2.00	4.00	18.00	1.95	6.00	50	**3270S-9X-2.00**	●	●	●	●	●
2.10	4.20	18.90	2.05	6.00	50	**3270S-9X-2.10**	●	●	●	●	●
2.20	4.40	19.80	2.15	6.00	50	**3270S-9X-2.20**	●	●	●	●	●
2.30	4.60	20.70	2.25	6.00	50	**3270S-9X-2.30**	●	●	●	●	●
2.40	4.80	21.60	2.35	6.00	50	**3270S-9X-2.40**	●	●	●	●	●
2.50	5.00	22.50	2.45	6.00	50	**3270S-9X-2.50**	●	●	●	●	●
3.00	6.00	27.00	2.95	6.00	50	**3270S-9X-3.00**	●	●	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

3279T-3X

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

MD
VHM
HM

λ 30°

Radius
Corner

L3
3xD1

Z=2

D1 +0.005 / -0.010	R +/- 0.02	L2	L3	D3	D2 h4 Ø3.0 h5 Ø6.0	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.30	0.05	0.60	0.90	0.27	3.00	39	**3279T-3X-0.30**	●	●	●	●	●
0.40	0.05	0.80	1.20	0.37	3.00	39	**3279T-3X-0.40**	●	●	●	●	●
0.50	0.05	1.00	1.50	0.45	3.00	39	**3279T-3X-0.50**	●	●	●	●	●
0.60	0.05	1.20	1.80	0.55	3.00	39	**3279T-3X-0.60**	●	●	●	●	●
0.70	0.05	1.40	2.10	0.65	3.00	39	**3279T-3X-0.70**	●	●	●	●	●
0.80	0.05	1.60	2.40	0.75	3.00	39	**3279T-3X-0.80**	●	●	●	●	●
0.90	0.05	1.80	2.70	0.85	3.00	39	**3279T-3X-0.90**	●	●	●	●	●
1.00	0.10	2.00	3.00	0.95	3.00	39	**3279T-3X-1.00**	●	●	●	●	●
1.10	0.10	2.20	3.30	1.05	3.00	39	**3279T-3X-1.10**	●	●	●	●	●
1.20	0.10	2.40	3.60	1.15	3.00	39	**3279T-3X-1.20**	●	●	●	●	●
1.30	0.10	2.60	3.90	1.25	3.00	39	**3279T-3X-1.30**	●	●	●	●	●
1.40	0.10	2.80	4.20	1.35	3.00	39	**3279T-3X-1.40**	●	●	●	●	●
1.50	0.20	3.00	4.50	1.45	3.00	39	**3279T-3X-1.50**	●	●	●	●	●
1.60	0.20	3.20	4.80	1.55	3.00	39	**3279T-3X-1.60**	●	●	●	●	●
1.70	0.20	3.40	5.10	1.65	3.00	39	**3279T-3X-1.70**	●	●	●	●	●
1.80	0.20	3.60	5.40	1.75	3.00	39	**3279T-3X-1.80**	●	●	●	●	●
1.90	0.20	3.80	5.70	1.85	3.00	39	**3279T-3X-1.90**	●	●	●	●	●
2.00	0.20	4.00	6.00	1.95	6.00	50	**3279T-3X-2.00**	●	●	●	●	●
2.10	0.20	4.20	6.30	2.05	6.00	50	**3279T-3X-2.10**	●	●	●	●	●
2.20	0.20	4.40	6.60	2.15	6.00	50	**3279T-3X-2.20**	●	●	●	●	●
2.30	0.20	4.60	6.90	2.25	6.00	50	**3279T-3X-2.30**	●	●	●	●	●
2.40	0.20	4.80	7.20	2.35	6.00	50	**3279T-3X-2.40**	●	●	●	●	●
2.50	0.20	5.00	7.50	2.45	6.00	50	**3279T-3X-2.50**	●	●	●	●	●
3.00	0.20	6.00	9.00	2.95	6.00	50	**3279T-3X-3.00**	●	●	●	●	●

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

3279T-6X

MD VHM HM | λ 30° | Radius Corner | L3 6xD1 | Z=2

D1 +0.005 / -0.010	R +/- 0.02	L2	L3	D3	D2 h4 Ø3.0 h5 Ø6.0	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.30	0.05	0.60	1.80	0.27	3.00	39	**3279T-6X-0.30**	●	●	●	●	●
0.40	0.05	0.80	2.40	0.37	3.00	39	**3279T-6X-0.40**	●	●	●	●	●
0.50	0.05	1.00	3.00	0.45	3.00	39	**3279T-6X-0.50**	●	●	●	●	●
0.60	0.05	1.20	3.60	0.55	3.00	39	**3279T-6X-0.60**	●	●	●	●	●
0.70	0.05	1.40	4.20	0.65	3.00	39	**3279T-6X-0.70**	●	●	●	●	●
0.80	0.05	1.60	4.80	0.75	3.00	39	**3279T-6X-0.80**	●	●	●	●	●
0.90	0.05	1.80	5.40	0.85	3.00	39	**3279T-6X-0.90**	●	●	●	●	●
1.00	0.10	2.00	6.00	0.95	3.00	39	**3279T-6X-1.00**	●	●	●	●	●
1.10	0.10	2.20	6.60	1.05	3.00	39	**3279T-6X-1.10**	●	●	●	●	●
1.20	0.10	2.40	7.20	1.15	3.00	39	**3279T-6X-1.20**	●	●	●	●	●
1.30	0.10	2.60	7.80	1.25	3.00	39	**3279T-6X-1.30**	●	●	●	●	●
1.40	0.10	2.80	8.40	1.35	3.00	39	**3279T-6X-1.40**	●	●	●	●	●
1.50	0.20	3.00	9.00	1.45	3.00	39	**3279T-6X-1.50**	●	●	●	●	●
1.60	0.20	3.20	9.60	1.55	3.00	39	**3279T-6X-1.60**	●	●	●	●	●
1.70	0.20	3.40	10.20	1.65	3.00	39	**3279T-6X-1.70**	●	●	●	●	●
1.80	0.20	3.60	10.80	1.75	3.00	39	**3279T-6X-1.80**	●	●	●	●	●
1.90	0.20	3.80	11.40	1.85	3.00	39	**3279T-6X-1.90**	●	●	●	●	●
2.00	0.20	4.00	12.00	1.95	6.00	50	**3279T-6X-2.00**	●	●	●	●	●
2.10	0.20	4.20	12.60	2.05	6.00	50	**3279T-6X-2.10**	●	●	●	●	●
2.20	0.20	4.40	13.20	2.15	6.00	50	**3279T-6X-2.20**	●	●	●	●	●
2.30	0.20	4.60	13.80	2.25	6.00	50	**3279T-6X-2.30**	●	●	●	●	●
2.40	0.20	4.80	14.40	2.35	6.00	50	**3279T-6X-2.40**	●	●	●	●	●
2.50	0.20	5.00	15.00	2.45	6.00	50	**3279T-6X-2.50**	●	●	●	●	●
3.00	0.20	6.00	18.00	2.95	6.00	50	**3279T-6X-3.00**	●	●	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

3279T-9X

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

MD
VHM
HM

λ 30°

Radius
Corner

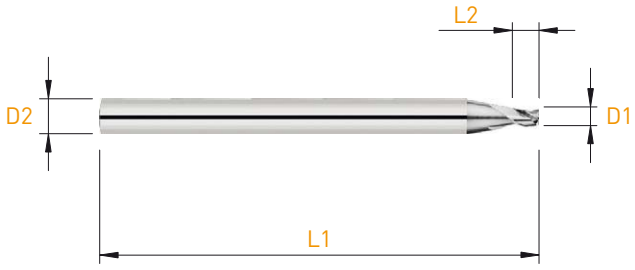
L3
9xD1

Z=2

D1 +0.005 / -0.010	R +/- 0.02	L2	L3	D3	D2 h4 Ø3.0 h5 Ø6.0	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.40	0.05	0.80	3.60	0.37	3.00	39	**3279T-9X-0.40**	●	●	●	●	●
0.50	0.05	1.00	4.50	0.45	3.00	39	**3279T-9X-0.50**	●	●	●	●	●
0.60	0.05	1.20	5.40	0.55	3.00	39	**3279T-9X-0.60**	●	●	●	●	●
0.70	0.05	1.40	6.30	0.65	3.00	39	**3279T-9X-0.70**	●	●	●	●	●
0.80	0.05	1.60	7.20	0.75	3.00	39	**3279T-9X-0.80**	●	●	●	●	●
0.90	0.05	1.80	8.10	0.85	3.00	39	**3279T-9X-0.90**	●	●	●	●	●
1.00	0.10	2.00	9.00	0.95	3.00	39	**3279T-9X-1.00**	●	●	●	●	●
1.10	0.10	2.20	9.90	1.05	3.00	39	**3279T-9X-1.10**	●	●	●	●	●
1.20	0.10	2.40	10.80	1.15	3.00	39	**3279T-9X-1.20**	●	●	●	●	●
1.30	0.10	2.60	11.70	1.25	3.00	39	**3279T-9X-1.30**	●	●	●	●	●
1.40	0.10	2.80	12.60	1.35	3.00	39	**3279T-9X-1.40**	●	●	●	●	●
1.50	0.20	3.00	13.50	1.45	3.00	39	**3279T-9X-1.50**	●	●	●	●	●
1.60	0.20	3.20	14.40	1.55	3.00	39	**3279T-9X-1.60**	●	●	●	●	●
1.70	0.20	3.40	15.30	1.65	3.00	39	**3279T-9X-1.70**	●	●	●	●	●
1.80	0.20	3.60	16.20	1.75	3.00	39	**3279T-9X-1.80**	●	●	●	●	●
1.90	0.20	3.80	17.10	1.85	3.00	39	**3279T-9X-1.90**	●	●	●	●	●
2.00	0.20	4.00	18.00	1.95	6.00	50	**3279T-9X-2.00**	●	●	●	●	●
2.10	0.20	4.20	18.90	2.05	6.00	50	**3279T-9X-2.10**	●	●	●	●	●
2.20	0.20	4.40	19.80	2.15	6.00	50	**3279T-9X-2.20**	●	●	●	●	●
2.30	0.20	4.60	20.70	2.25	6.00	50	**3279T-9X-2.30**	●	●	●	●	●
2.40	0.20	4.80	21.60	2.35	6.00	50	**3279T-9X-2.40**	●	●	●	●	●
2.50	0.20	5.00	22.50	2.45	6.00	50	**3279T-9X-2.50**	●	●	●	●	●
3.00	0.20	6.00	27.00	2.95	6.00	50	**3279T-9X-3.00**	●	●	●	●	●

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

3371-1.3



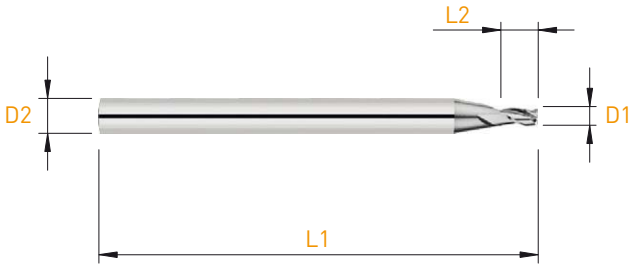
MD VHM HM | λ 30° | Sharp Corner | 1.3xD1 | Z=3

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.30	0.40	3.00	39	**3371-1.3-0.30**	●	●	●	●	●
0.35	0.50	3.00	39	**3371-1.3-0.35**	●	●	●	●	●
0.40	0.50	3.00	39	**3371-1.3-0.40**	●	●	●	●	●
0.45	0.60	3.00	39	**3371-1.3-0.45**	●	●	●	●	●
0.50	0.70	3.00	39	**3371-1.3-0.50**	●	●	●	●	●
0.60	0.80	3.00	39	**3371-1.3-0.60**	●	●	●	●	●
0.70	0.90	3.00	39	**3371-1.3-0.70**	●	●	●	●	●
0.80	1.00	3.00	39	**3371-1.3-0.80**	●	●	●	●	●
0.90	1.30	3.00	39	**3371-1.3-0.90**	●	●	●	●	●
1.00	1.30	3.00	39	**3371-1.3-1.00**	●	●	●	●	●
1.10	1.50	3.00	39	**3371-1.3-1.10**	●	●	●	●	●
1.20	1.60	3.00	39	**3371-1.3-1.20**	●	●	●	●	●
1.30	1.80	3.00	39	**3371-1.3-1.30**	●	●	●	●	●
1.40	1.80	3.00	39	**3371-1.3-1.40**	●	●	●	●	●
1.50	2.00	3.00	39	**3371-1.3-1.50**	●	●	●	●	●
1.55	2.00	3.00	39	**3371-1.3-1.55**	●	●	●	●	●
1.60	2.00	3.00	39	**3371-1.3-1.60**	●	●	●	●	●
1.65	2.00	3.00	39	**3371-1.3-1.65**	●	●	●	●	●
1.70	2.00	3.00	39	**3371-1.3-1.70**	●	●	●	●	●
1.80	2.40	3.00	39	**3371-1.3-1.80**	●	●	●	●	●
1.90	2.40	3.00	39	**3371-1.3-1.90**	●	●	●	●	●
2.00	2.60	3.00	39	**3371-1.3-2.00**	●	●	●	●	●
2.05	2.70	3.00	39	**3371-1.3-2.05**	●	●	●	●	●
2.20	3.00	3.00	39	**3371-1.3-2.20**	●	●	●	●	●
2.50	3.30	3.00	39	**3371-1.3-2.50**	●	●	●	●	●
2.80	3.50	3.00	39	**3371-1.3-2.80**	●	●	●	●	●
2.90	3.50	3.00	39	**3371-1.3-2.90**	●	●	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

3371-2

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills



MD VHM HM | λ 30° | Sharp Corner | 2xD1 | Z=3

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.30	0.60	3.00	39	**3371-2-0.30**	●	●	●	●	●
0.35	0.70	3.00	39	**3371-2-0.35**	●	●	●	●	●
0.40	0.80	3.00	39	**3371-2-0.40**	●	●	●	●	●
0.45	0.90	3.00	39	**3371-2-0.45**	●	●	●	●	●
0.50	1.00	3.00	39	**3371-2-0.50**	●	●	●	●	●
0.60	1.20	3.00	39	**3371-2-0.60**	●	●	●	●	●
0.70	1.40	3.00	39	**3371-2-0.70**	●	●	●	●	●
0.75	1.50	3.00	39	**3371-2-0.75**	●	●	●	●	●
0.80	1.60	3.00	39	**3371-2-0.80**	●	●	●	●	●
0.90	1.80	3.00	39	**3371-2-0.90**	●	●	●	●	●
0.95	1.90	3.00	39	**3371-2-0.95**	●	●	●	●	●
1.00	2.00	3.00	39	**3371-2-1.00**	●	●	●	●	●
1.10	2.20	3.00	39	**3371-2-1.10**	●	●	●	●	●
1.20	2.40	3.00	39	**3371-2-1.20**	●	●	●	●	●
1.30	2.60	3.00	39	**3371-2-1.30**	●	●	●	●	●
1.40	2.80	3.00	39	**3371-2-1.40**	●	●	●	●	●
1.50	3.00	3.00	39	**3371-2-1.50**	●	●	●	●	●
1.60	3.20	3.00	39	**3371-2-1.60**	●	●	●	●	●
1.70	3.40	3.00	39	**3371-2-1.70**	●	●	●	●	●
1.80	3.60	3.00	39	**3371-2-1.80**	●	●	●	●	●
1.90	3.80	3.00	39	**3371-2-1.90**	●	●	●	●	●
2.00	4.00	3.00	39	**3371-2-2.00**	●	●	●	●	●
2.10	4.20	3.00	39	**3371-2-2.10**	●	●	●	●	●
2.20	4.40	3.00	39	**3371-2-2.20**	●	●	●	●	●
2.30	4.60	3.00	39	**3371-2-2.30**	●	●	●	●	●
2.40	4.80	3.00	39	**3371-2-2.40**	●	●	●	●	●
2.50	5.00	3.00	39	**3371-2-2.50**	●	●	●	●	●
2.60	5.20	3.00	39	**3371-2-2.60**	●	●	●	●	●
2.70	5.40	3.00	39	**3371-2-2.70**	●	●	●	●	●
2.80	5.60	3.00	39	**3371-2-2.80**	●	●	●	●	●
2.90	5.80	3.00	39	**3371-2-2.90**	●	●	●	●	●

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

3371-3

MD
VHM
HM

λ 30°

Sharp Corner

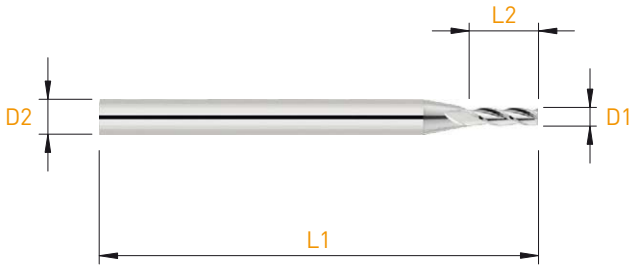
3xD1

Z=3

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.30	0.90	3.00	39	**3371-3-0.30**	●	●	●	●	●
0.40	1.20	3.00	39	**3371-3-0.40**	●	●	●	●	●
0.45	1.40	3.00	39	**3371-3-0.45**	●	●	●	●	●
0.50	1.50	3.00	39	**3371-3-0.50**	●	●	●	●	●
0.55	1.80	3.00	39	**3371-3-0.55**	●	●	●	●	●
0.60	2.00	3.00	39	**3371-3-0.60**	●	●	●	●	●
0.65	2.00	3.00	39	**3371-3-0.65**	●	●	●	●	●
0.70	2.00	3.00	39	**3371-3-0.70**	●	●	●	●	●
0.75	2.00	3.00	39	**3371-3-0.75**	●	●	●	●	●
0.80	2.50	3.00	39	**3371-3-0.80**	●	●	●	●	●
0.85	2.50	3.00	39	**3371-3-0.85**	●	●	●	●	●
0.90	2.50	3.00	39	**3371-3-0.90**	●	●	●	●	●
0.95	2.90	3.00	39	**3371-3-0.95**	●	●	●	●	●
1.00	3.00	3.00	39	**3371-3-1.00**	●	●	●	●	●
1.05	3.20	3.00	39	**3371-3-1.05**	●	●	●	●	●
1.10	3.30	3.00	39	**3371-3-1.10**	●	●	●	●	●
1.15	3.50	3.00	39	**3371-3-1.15**	●	●	●	●	●
1.20	4.00	3.00	39	**3371-3-1.20**	●	●	●	●	●
1.25	4.00	3.00	39	**3371-3-1.25**	●	●	●	●	●
1.30	4.00	3.00	39	**3371-3-1.30**	●	●	●	●	●
1.35	4.00	3.00	39	**3371-3-1.35**	●	●	●	●	●
1.40	4.00	3.00	39	**3371-3-1.40**	●	●	●	●	●
1.45	4.50	3.00	39	**3371-3-1.45**	●	●	●	●	●
1.50	4.50	3.00	39	**3371-3-1.50**	●	●	●	●	●
1.60	4.50	3.00	39	**3371-3-1.60**	●	●	●	●	●
1.65	5.00	3.00	39	**3371-3-1.65**	●	●	●	●	●
1.70	5.00	3.00	39	**3371-3-1.70**	●	●	●	●	●
1.80	6.00	3.00	39	**3371-3-1.80**	●	●	●	●	●
1.85	6.00	3.00	39	**3371-3-1.85**	●	●	●	●	●
1.90	6.00	3.00	39	**3371-3-1.90**	●	●	●	●	●
1.95	6.00	3.00	39	**3371-3-1.95**	●	●	●	●	●

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
2.00	6.00	3.00	39	**3371-3-2.00**	●	●	●	●	●
2.10	6.00	3.00	39	**3371-3-2.10**	●	●	●	●	●
2.20	6.50	3.00	39	**3371-3-2.20**	●	●	●	●	●
2.30	7.00	3.00	39	**3371-3-2.30**	●	●	●	●	●
2.40	7.00	3.00	39	**3371-3-2.40**	●	●	●	●	●
2.50	7.50	3.00	39	**3371-3-2.50**	●	●	●	●	●
2.60	7.50	3.00	39	**3371-3-2.60**	●	●	●	●	●
2.70	8.00	3.00	39	**3371-3-2.70**	●	●	●	●	●
2.80	8.00	3.00	39	**3371-3-2.80**	●	●	●	●	●
2.90	8.50	3.00	39	**3371-3-2.90**	●	●	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request



MD
VHM
HM

λ 30°

Sharp Corner

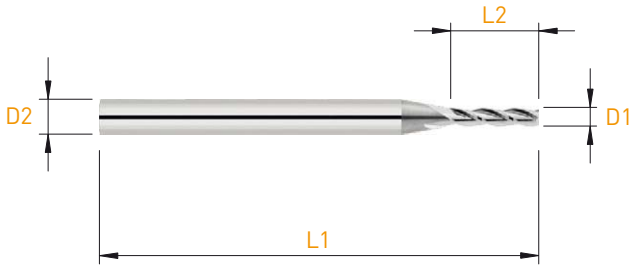
4xD1

Z=3

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.30	1.20	3.00	39	**3371-4-0.30**	●	●	●	●	●
0.40	1.60	3.00	39	**3371-4-0.40**	●	●	●	●	●
0.50	2.00	3.00	39	**3371-4-0.50**	●	●	●	●	●
0.60	2.40	3.00	39	**3371-4-0.60**	●	●	●	●	●
0.70	2.80	3.00	39	**3371-4-0.70**	●	●	●	●	●
0.80	3.20	3.00	39	**3371-4-0.80**	●	●	●	●	●
0.90	3.60	3.00	39	**3371-4-0.90**	●	●	●	●	●
1.00	4.00	3.00	39	**3371-4-1.00**	●	●	●	●	●
1.10	4.40	3.00	39	**3371-4-1.10**	●	●	●	●	●
1.20	4.80	3.00	39	**3371-4-1.20**	●	●	●	●	●
1.30	5.20	3.00	39	**3371-4-1.30**	●	●	●	●	●
1.40	5.60	3.00	39	**3371-4-1.40**	●	●	●	●	●
1.50	6.00	3.00	39	**3371-4-1.50**	●	●	●	●	●
1.60	6.40	3.00	39	**3371-4-1.60**	●	●	●	●	●
1.70	6.80	3.00	39	**3371-4-1.70**	●	●	●	●	●
1.80	7.20	3.00	39	**3371-4-1.80**	●	●	●	●	●
1.90	7.60	3.00	39	**3371-4-1.90**	●	●	●	●	●
2.00	8.00	3.00	39	**3371-4-2.00**	●	●	●	●	●
2.10	8.40	3.00	39	**3371-4-2.10**	●	●	●	●	●
2.20	8.80	3.00	39	**3371-4-2.20**	●	●	●	●	●
2.30	9.20	3.00	39	**3371-4-2.30**	●	●	●	●	●
2.40	9.60	3.00	39	**3371-4-2.40**	●	●	●	●	●
2.50	10.00	3.00	39	**3371-4-2.50**	●	●	●	●	●
2.60	10.40	3.00	39	**3371-4-2.60**	●	●	●	●	●
2.70	10.80	3.00	39	**3371-4-2.70**	●	●	●	●	●
2.80	11.20	3.00	39	**3371-4-2.80**	●	●	●	●	●
2.90	11.60	3.00	39	**3371-4-2.90**	●	●	●	●	●

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

3371-5



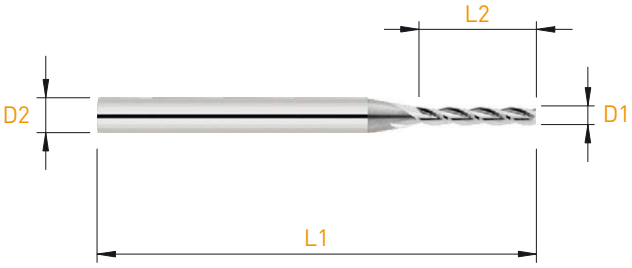
MD VHM HM | λ 30° | Sharp Corner | 5xD1 | Z=3

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.50	2.50	3.00	39	**3371-5-0.50**	●	●	●	●	●
0.60	3.00	3.00	39	**3371-5-0.60**	●	●	●	●	●
0.70	3.50	3.00	39	**3371-5-0.70**	●	●	●	●	●
0.80	4.00	3.00	39	**3371-5-0.80**	●	●	●	●	●
0.90	4.50	3.00	39	**3371-5-0.90**	●	●	●	●	●
1.00	5.00	3.00	39	**3371-5-1.00**	●	●	●	●	●
1.10	5.50	3.00	39	**3371-5-1.10**	●	●	●	●	●
1.20	6.00	3.00	39	**3371-5-1.20**	●	●	●	●	●
1.50	7.50	3.00	39	**3371-5-1.50**	●	●	●	●	●
2.00	10.00	3.00	39	**3371-5-2.00**	●	●	●	●	●
2.50	12.50	3.00	39	**3371-5-2.50**	●	●	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

3371-8

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

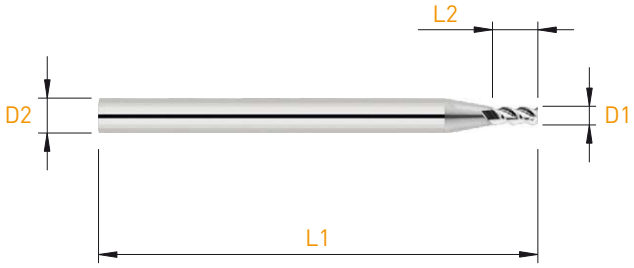


MD VHM HM | λ 30° | Sharp Corner | 8xD1 | Z=3

D1 +0.005 / -0.010	L2	D2 h4 Ø3.0 h5 Ø4.0	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.50	4.00	3.00	39	**3371-8-0.50**	●	●	●	●	●
0.60	5.00	3.00	39	**3371-8-0.60**	●	●	●	●	●
0.70	5.60	3.00	39	**3371-8-0.70**	●	●	●	●	●
0.80	6.00	3.00	39	**3371-8-0.80**	●	●	●	●	●
0.90	7.20	3.00	39	**3371-8-0.90**	●	●	●	●	●
1.00	8.00	3.00	39	**3371-8-1.00**	●	●	●	●	●
1.20	9.00	3.00	39	**3371-8-1.20**	●	●	●	●	●
1.30	11.00	3.00	39	**3371-8-1.30**	●	●	●	●	●
1.50	12.00	4.00	50	**3371-8-1.50**	●	●	●	●	●
2.00	16.00	4.00	50	**3371-8-2.00**	●	●	●	●	●
2.50	20.00	4.00	50	**3371-8-2.50**	●	●	●	●	●

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

3375-2.5



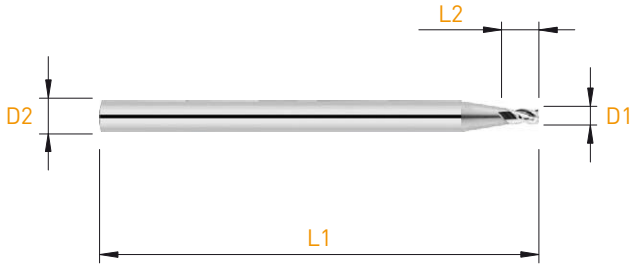
MD VHM HM | λ 45° | Sharp Corner | 2.5xD1 | Z=3

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.30	0.80	3.00	39	**3375-2.5-0.30**	●	●	●	●	●
0.40	1.00	3.00	39	**3375-2.5-0.40**	●	●	●	●	●
0.50	1.30	3.00	39	**3375-2.5-0.50**	●	●	●	●	●
0.60	1.50	3.00	39	**3375-2.5-0.60**	●	●	●	●	●
0.70	1.70	3.00	39	**3375-2.5-0.70**	●	●	●	●	●
0.80	2.00	3.00	39	**3375-2.5-0.80**	●	●	●	●	●
0.90	2.30	3.00	39	**3375-2.5-0.90**	●	●	●	●	●
1.00	2.50	3.00	39	**3375-2.5-1.00**	●	●	●	●	●
1.10	2.80	3.00	39	**3375-2.5-1.10**	●	●	●	●	●
1.20	3.00	3.00	39	**3375-2.5-1.20**	●	●	●	●	●
1.30	3.30	3.00	39	**3375-2.5-1.30**	●	●	●	●	●
1.40	3.50	3.00	39	**3375-2.5-1.40**	●	●	●	●	●
1.50	3.80	3.00	39	**3375-2.5-1.50**	●	●	●	●	●
1.60	4.00	3.00	39	**3375-2.5-1.60**	●	●	●	●	●
1.70	4.30	3.00	39	**3375-2.5-1.70**	●	●	●	●	●
1.80	4.50	3.00	39	**3375-2.5-1.80**	●	●	●	●	●
1.90	4.80	3.00	39	**3375-2.5-1.90**	●	●	●	●	●
2.00	5.00	3.00	39	**3375-2.5-2.00**	●	●	●	●	●
2.10	5.30	3.00	39	**3375-2.5-2.10**	●	●	●	●	●
2.20	5.50	3.00	39	**3375-2.5-2.20**	●	●	●	●	●
2.30	5.80	3.00	39	**3375-2.5-2.30**	●	●	●	●	●
2.40	6.00	3.00	39	**3375-2.5-2.40**	●	●	●	●	●
2.50	6.30	3.00	39	**3375-2.5-2.50**	●	●	●	●	●
2.60	6.50	3.00	39	**3375-2.5-2.60**	●	●	●	●	●
2.70	6.80	3.00	39	**3375-2.5-2.70**	●	●	●	●	●
2.80	7.00	3.00	39	**3375-2.5-2.80**	●	●	●	●	●
2.90	7.30	3.00	39	**3375-2.5-2.90**	●	●	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

DHD3371-1.5

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills



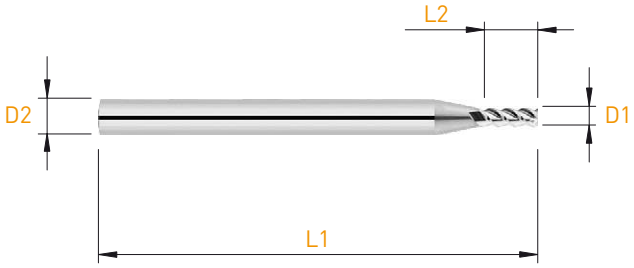
MD VHM HM	λ 36° 38° 40°	Sharp Corner		1.5xD1	Z=3

DHD — Denture à pas irrégulier, hélice différente
Ungleiche Teilung, unterschiedliche Spirale
Uneven tooth pitch, different helix

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.30	0.45	3.00	39	**DHD3371-1.5-0.30**	●	●	●	●	●
0.40	0.60	3.00	39	**DHD3371-1.5-0.40**	●	●	●	●	●
0.50	0.75	3.00	39	**DHD3371-1.5-0.50**	●	●	●	●	●
0.60	0.90	3.00	39	**DHD3371-1.5-0.60**	●	●	●	●	●
0.70	1.05	3.00	39	**DHD3371-1.5-0.70**	●	●	●	●	●
0.80	1.20	3.00	39	**DHD3371-1.5-0.80**	●	●	●	●	●
0.90	1.35	3.00	39	**DHD3371-1.5-0.90**	●	●	●	●	●
1.00	1.50	3.00	39	**DHD3371-1.5-1.00**	●	●	●	●	●
1.10	1.65	3.00	39	**DHD3371-1.5-1.10**	●	●	●	●	●
1.20	1.80	3.00	39	**DHD3371-1.5-1.20**	●	●	●	●	●
1.30	1.95	3.00	39	**DHD3371-1.5-1.30**	●	●	●	●	●
1.40	2.10	3.00	39	**DHD3371-1.5-1.40**	●	●	●	●	●
1.50	2.25	3.00	39	**DHD3371-1.5-1.50**	●	●	●	●	●
1.60	2.40	3.00	39	**DHD3371-1.5-1.60**	●	●	●	●	●
1.70	2.55	3.00	39	**DHD3371-1.5-1.70**	●	●	●	●	●
1.80	2.70	3.00	39	**DHD3371-1.5-1.80**	●	●	●	●	●
1.90	2.85	3.00	39	**DHD3371-1.5-1.90**	●	●	●	●	●
2.00	3.00	3.00	39	**DHD3371-1.5-2.00**	●	●	●	●	●
2.50	3.75	3.00	39	**DHD3371-1.5-2.50**	●	●	●	●	●

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

DHD3371-3



MD
VHM
HM

λ 36° 38° 40°

Sharp Corner

3xD1

Z=3

DHD — Denture à pas irrégulier, hélice différente
Ungleiche Teilung, unterschiedliche Spirale
Uneven tooth pitch, different helix

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.30	0.90	3.00	39	**DHD3371-3-0.30**	●	●	●	●	●
0.40	1.20	3.00	39	**DHD3371-3-0.40**	●	●	●	●	●
0.50	1.50	3.00	39	**DHD3371-3-0.50**	●	●	●	●	●
0.60	1.80	3.00	39	**DHD3371-3-0.60**	●	●	●	●	●
0.70	2.10	3.00	39	**DHD3371-3-0.70**	●	●	●	●	●
0.80	2.40	3.00	39	**DHD3371-3-0.80**	●	●	●	●	●
0.90	2.70	3.00	39	**DHD3371-3-0.90**	●	●	●	●	●
1.00	3.00	3.00	39	**DHD3371-3-1.00**	●	●	●	●	●
1.10	3.30	3.00	39	**DHD3371-3-1.10**	●	●	●	●	●
1.20	3.60	3.00	39	**DHD3371-3-1.20**	●	●	●	●	●
1.30	3.90	3.00	39	**DHD3371-3-1.30**	●	●	●	●	●
1.40	4.20	3.00	39	**DHD3371-3-1.40**	●	●	●	●	●
1.50	4.50	3.00	39	**DHD3371-3-1.50**	●	●	●	●	●
1.60	4.80	3.00	39	**DHD3371-3-1.60**	●	●	●	●	●
1.70	5.10	3.00	39	**DHD3371-3-1.70**	●	●	●	●	●
1.80	5.40	3.00	39	**DHD3371-3-1.80**	●	●	●	●	●
1.90	5.70	3.00	39	**DHD3371-3-1.90**	●	●	●	●	●
2.00	6.00	3.00	39	**DHD3371-3-2.00**	●	●	●	●	●
2.50	7.50	3.00	39	**DHD3371-3-2.50**	●	●	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

3370S-3X

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

MD
VHM
HM

λ 30°

Sharp Corner

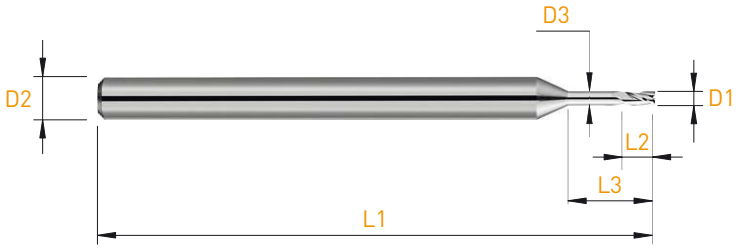
L3
3xD1

Z=3

D1 +0.005 / -0.010	L2	L3	D3	D2 h4 Ø3.0 h5 Ø6.0	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.30	0.60	0.90	0.27	3.00	39	**3370S-3X-0.30**	●	●	●	●	●
0.40	0.80	1.20	0.37	3.00	39	**3370S-3X-0.40**	●	●	●	●	●
0.50	1.00	1.50	0.45	3.00	39	**3370S-3X-0.50**	●	●	●	●	●
0.60	1.20	1.80	0.55	3.00	39	**3370S-3X-0.60**	●	●	●	●	●
0.70	1.40	2.10	0.65	3.00	39	**3370S-3X-0.70**	●	●	●	●	●
0.80	1.60	2.40	0.75	3.00	39	**3370S-3X-0.80**	●	●	●	●	●
0.90	1.80	2.70	0.85	3.00	39	**3370S-3X-0.90**	●	●	●	●	●
1.00	2.00	3.00	0.95	3.00	39	**3370S-3X-1.00**	●	●	●	●	●
1.10	2.20	3.30	1.05	3.00	39	**3370S-3X-1.10**	●	●	●	●	●
1.20	2.40	3.60	1.15	3.00	39	**3370S-3X-1.20**	●	●	●	●	●
1.30	2.60	3.90	1.25	3.00	39	**3370S-3X-1.30**	●	●	●	●	●
1.40	2.80	4.20	1.35	3.00	39	**3370S-3X-1.40**	●	●	●	●	●
1.50	3.00	4.50	1.45	3.00	39	**3370S-3X-1.50**	●	●	●	●	●
1.60	3.20	4.80	1.55	3.00	39	**3370S-3X-1.60**	●	●	●	●	●
1.70	3.40	5.10	1.65	3.00	39	**3370S-3X-1.70**	●	●	●	●	●
1.80	3.60	5.40	1.75	3.00	39	**3370S-3X-1.80**	●	●	●	●	●
1.90	3.80	5.70	1.85	3.00	39	**3370S-3X-1.90**	●	●	●	●	●
2.00	4.00	6.00	1.95	6.00	50	**3370S-3X-2.00**	●	●	●	●	●
2.10	4.20	6.30	2.05	6.00	50	**3370S-3X-2.10**	●	●	●	●	●
2.20	4.40	6.60	2.15	6.00	50	**3370S-3X-2.20**	●	●	●	●	●
2.30	4.60	6.90	2.25	6.00	50	**3370S-3X-2.30**	●	●	●	●	●
2.40	4.80	7.20	2.35	6.00	50	**3370S-3X-2.40**	●	●	●	●	●
2.50	5.00	7.50	2.45	6.00	50	**3370S-3X-2.50**	●	●	●	●	●
3.00	6.00	9.00	2.95	6.00	50	**3370S-3X-3.00**	●	●	●	●	●

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

3370S-6X



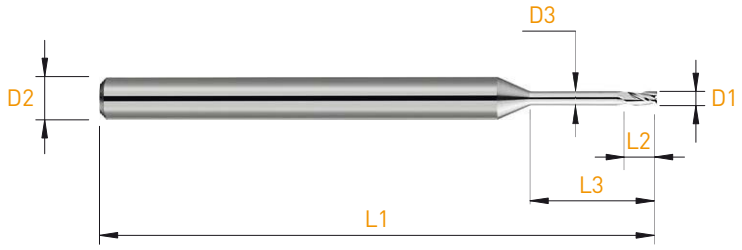
MD VHM HM | λ 30° | Sharp Corner | L3 6xD1 | Z=3

D1 +0.005 / -0.010	L2	L3	D3	D2 h4 Ø3.0 h5 Ø6.0	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.30	0.60	1.80	0.27	3.00	39	**3370S-6X-0.30**	●	●	●	●	●
0.40	0.80	2.40	0.37	3.00	39	**3370S-6X-0.40**	●	●	●	●	●
0.50	1.00	3.00	0.45	3.00	39	**3370S-6X-0.50**	●	●	●	●	●
0.60	1.20	3.60	0.55	3.00	39	**3370S-6X-0.60**	●	●	●	●	●
0.70	1.40	4.20	0.65	3.00	39	**3370S-6X-0.70**	●	●	●	●	●
0.80	1.60	4.80	0.75	3.00	39	**3370S-6X-0.80**	●	●	●	●	●
0.90	1.80	5.40	0.85	3.00	39	**3370S-6X-0.90**	●	●	●	●	●
1.00	2.00	6.00	0.95	3.00	39	**3370S-6X-1.00**	●	●	●	●	●
1.10	2.20	6.60	1.05	3.00	39	**3370S-6X-1.10**	●	●	●	●	●
1.20	2.40	7.20	1.15	3.00	39	**3370S-6X-1.20**	●	●	●	●	●
1.30	2.60	7.80	1.25	3.00	39	**3370S-6X-1.30**	●	●	●	●	●
1.40	2.80	8.40	1.35	3.00	39	**3370S-6X-1.40**	●	●	●	●	●
1.50	3.00	9.00	1.45	3.00	39	**3370S-6X-1.50**	●	●	●	●	●
1.60	3.20	9.60	1.55	3.00	39	**3370S-6X-1.60**	●	●	●	●	●
1.70	3.40	10.20	1.65	3.00	39	**3370S-6X-1.70**	●	●	●	●	●
1.80	3.60	10.80	1.75	3.00	39	**3370S-6X-1.80**	●	●	●	●	●
1.90	3.80	11.40	1.85	3.00	39	**3370S-6X-1.90**	●	●	●	●	●
2.00	4.00	12.00	1.95	6.00	50	**3370S-6X-2.00**	●	●	●	●	●
2.10	4.20	12.60	2.05	6.00	50	**3370S-6X-2.10**	●	●	●	●	●
2.20	4.40	13.20	2.15	6.00	50	**3370S-6X-2.20**	●	●	●	●	●
2.30	4.60	13.80	2.25	6.00	50	**3370S-6X-2.30**	●	●	●	●	●
2.40	4.80	14.40	2.35	6.00	50	**3370S-6X-2.40**	●	●	●	●	●
2.50	5.00	15.00	2.45	6.00	50	**3370S-6X-2.50**	●	●	●	●	●
3.00	6.00	18.00	2.95	6.00	50	**3370S-6X-3.00**	●	●	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

3370S-9X

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills



MD
VHM
HM

λ 30°

Sharp Corner

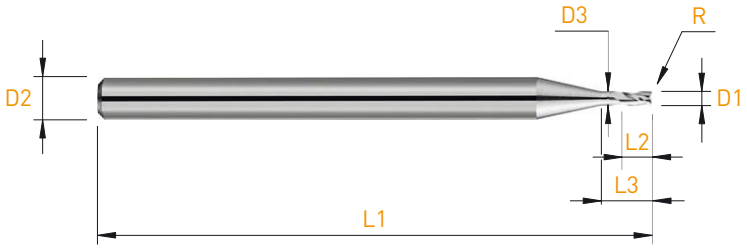
L3
9xD1

Z=3

D1 +0.005 / -0.010	L2	L3	D3	D2 h4 Ø3.0 h5 Ø6.0	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.40	0.80	3.60	0.37	3.00	39	**3370S-9X-0.40**	●	●	●	●	●
0.50	1.00	4.50	0.45	3.00	39	**3370S-9X-0.50**	●	●	●	●	●
0.60	1.20	5.40	0.55	3.00	39	**3370S-9X-0.60**	●	●	●	●	●
0.70	1.40	6.30	0.65	3.00	39	**3370S-9X-0.70**	●	●	●	●	●
0.80	1.60	7.20	0.75	3.00	39	**3370S-9X-0.80**	●	●	●	●	●
0.90	1.80	8.10	0.85	3.00	39	**3370S-9X-0.90**	●	●	●	●	●
1.00	2.00	9.00	0.95	3.00	39	**3370S-9X-1.00**	●	●	●	●	●
1.10	2.20	9.90	1.05	3.00	39	**3370S-9X-1.10**	●	●	●	●	●
1.20	2.40	10.80	1.15	3.00	39	**3370S-9X-1.20**	●	●	●	●	●
1.30	2.60	11.70	1.25	3.00	39	**3370S-9X-1.30**	●	●	●	●	●
1.40	2.80	12.60	1.35	3.00	39	**3370S-9X-1.40**	●	●	●	●	●
1.50	3.00	13.50	1.45	3.00	39	**3370S-9X-1.50**	●	●	●	●	●
1.60	3.20	14.40	1.55	3.00	39	**3370S-9X-1.60**	●	●	●	●	●
1.70	3.40	15.30	1.65	3.00	39	**3370S-9X-1.70**	●	●	●	●	●
1.80	3.60	16.20	1.75	3.00	39	**3370S-9X-1.80**	●	●	●	●	●
1.90	3.80	17.10	1.85	3.00	39	**3370S-9X-1.90**	●	●	●	●	●
2.00	4.00	18.00	1.95	6.00	50	**3370S-9X-2.00**	●	●	●	●	●
2.10	4.20	18.90	2.05	6.00	50	**3370S-9X-2.10**	●	●	●	●	●
2.20	4.40	19.80	2.15	6.00	50	**3370S-9X-2.20**	●	●	●	●	●
2.30	4.60	20.70	2.25	6.00	50	**3370S-9X-2.30**	●	●	●	●	●
2.40	4.80	21.60	2.35	6.00	50	**3370S-9X-2.40**	●	●	●	●	●
2.50	5.00	22.50	2.45	6.00	50	**3370S-9X-2.50**	●	●	●	●	●
3.00	6.00	27.00	2.95	6.00	50	**3370S-9X-3.00**	●	●	●	●	●

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

3379T-3X



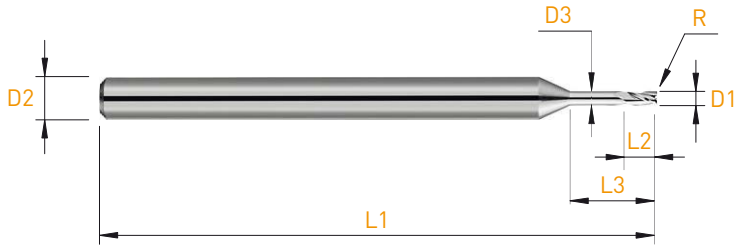
MD VHM HM | λ 30° | Radius Corner | L3 3xD1 | Z=3

D1 +0.005 / -0.010	R +/- 0.02	L2	L3	D3	D2 h4 Ø3.0 h5 Ø6.0	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.30	0.05	0.60	0.90	0.27	3.00	39	**3379T-3X-0.30**	●	●	●	●	●
0.40	0.05	0.80	1.20	0.37	3.00	39	**3379T-3X-0.40**	●	●	●	●	●
0.50	0.05	1.00	1.50	0.45	3.00	39	**3379T-3X-0.50**	●	●	●	●	●
0.60	0.05	1.20	1.80	0.55	3.00	39	**3379T-3X-0.60**	●	●	●	●	●
0.70	0.05	1.40	2.10	0.65	3.00	39	**3379T-3X-0.70**	●	●	●	●	●
0.80	0.05	1.60	2.40	0.75	3.00	39	**3379T-3X-0.80**	●	●	●	●	●
0.90	0.05	1.80	2.70	0.85	3.00	39	**3379T-3X-0.90**	●	●	●	●	●
1.00	0.10	2.00	3.00	0.95	3.00	39	**3379T-3X-1.00**	●	●	●	●	●
1.10	0.10	2.20	3.30	1.05	3.00	39	**3379T-3X-1.10**	●	●	●	●	●
1.20	0.10	2.40	3.60	1.15	3.00	39	**3379T-3X-1.20**	●	●	●	●	●
1.30	0.10	2.60	3.90	1.25	3.00	39	**3379T-3X-1.30**	●	●	●	●	●
1.40	0.10	2.80	4.20	1.35	3.00	39	**3379T-3X-1.40**	●	●	●	●	●
1.50	0.20	3.00	4.50	1.45	3.00	39	**3379T-3X-1.50**	●	●	●	●	●
1.60	0.20	3.20	4.80	1.55	3.00	39	**3379T-3X-1.60**	●	●	●	●	●
1.70	0.20	3.40	5.10	1.65	3.00	39	**3379T-3X-1.70**	●	●	●	●	●
1.80	0.20	3.60	5.40	1.75	3.00	39	**3379T-3X-1.80**	●	●	●	●	●
1.90	0.20	3.80	5.70	1.85	3.00	39	**3379T-3X-1.90**	●	●	●	●	●
2.00	0.20	4.00	6.00	1.95	6.00	50	**3379T-3X-2.00**	●	●	●	●	●
2.10	0.20	4.20	6.30	2.05	6.00	50	**3379T-3X-2.10**	●	●	●	●	●
2.20	0.20	4.40	6.60	2.15	6.00	50	**3379T-3X-2.20**	●	●	●	●	●
2.30	0.20	4.60	6.90	2.25	6.00	50	**3379T-3X-2.30**	●	●	●	●	●
2.40	0.20	4.80	7.20	2.35	6.00	50	**3379T-3X-2.40**	●	●	●	●	●
2.50	0.20	5.00	7.50	2.45	6.00	50	**3379T-3X-2.50**	●	●	●	●	●
3.00	0.20	6.00	9.00	2.95	6.00	50	**3379T-3X-3.00**	●	●	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

3379T-6X

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

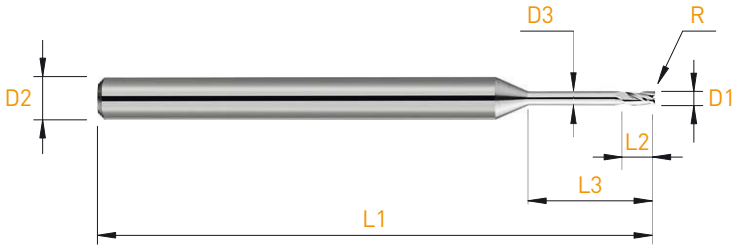


MD VHM HM | λ 30° | Radius Corner | L3 6xD1 | Z=3

D1 +0.005 / -0.010	R +/- 0.02	L2	L3	D3	D2 h4 Ø3.0 h5 Ø6.0	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.30	0.05	0.60	1.80	0.27	3.00	39	**3379T-6X-0.30**	●	●	●	●	●
0.40	0.05	0.80	2.40	0.37	3.00	39	**3379T-6X-0.40**	●	●	●	●	●
0.50	0.05	1.00	3.00	0.45	3.00	39	**3379T-6X-0.50**	●	●	●	●	●
0.60	0.05	1.20	3.60	0.55	3.00	39	**3379T-6X-0.60**	●	●	●	●	●
0.70	0.05	1.40	4.20	0.65	3.00	39	**3379T-6X-0.70**	●	●	●	●	●
0.80	0.05	1.60	4.80	0.75	3.00	39	**3379T-6X-0.80**	●	●	●	●	●
0.90	0.05	1.80	5.40	0.85	3.00	39	**3379T-6X-0.90**	●	●	●	●	●
1.00	0.10	2.00	6.00	0.95	3.00	39	**3379T-6X-1.00**	●	●	●	●	●
1.10	0.10	2.20	6.60	1.05	3.00	39	**3379T-6X-1.10**	●	●	●	●	●
1.20	0.10	2.40	7.20	1.15	3.00	39	**3379T-6X-1.20**	●	●	●	●	●
1.30	0.10	2.60	7.80	1.25	3.00	39	**3379T-6X-1.30**	●	●	●	●	●
1.40	0.10	2.80	8.40	1.35	3.00	39	**3379T-6X-1.40**	●	●	●	●	●
1.50	0.20	3.00	9.00	1.45	3.00	39	**3379T-6X-1.50**	●	●	●	●	●
1.60	0.20	3.20	9.60	1.55	3.00	39	**3379T-6X-1.60**	●	●	●	●	●
1.70	0.20	3.40	10.20	1.65	3.00	39	**3379T-6X-1.70**	●	●	●	●	●
1.80	0.20	3.60	10.80	1.75	3.00	39	**3379T-6X-1.80**	●	●	●	●	●
1.90	0.20	3.80	11.40	1.85	3.00	39	**3379T-6X-1.90**	●	●	●	●	●
2.00	0.20	4.00	12.00	1.95	6.00	50	**3379T-6X-2.00**	●	●	●	●	●
2.10	0.20	4.20	12.60	2.05	6.00	50	**3379T-6X-2.10**	●	●	●	●	●
2.20	0.20	4.40	13.20	2.15	6.00	50	**3379T-6X-2.20**	●	●	●	●	●
2.30	0.20	4.60	13.80	2.25	6.00	50	**3379T-6X-2.30**	●	●	●	●	●
2.40	0.20	4.80	14.40	2.35	6.00	50	**3379T-6X-2.40**	●	●	●	●	●
2.50	0.20	5.00	15.00	2.45	6.00	50	**3379T-6X-2.50**	●	●	●	●	●
3.00	0.20	6.00	18.00	2.95	6.00	50	**3379T-6X-3.00**	●	●	●	●	●

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

3379T-9X



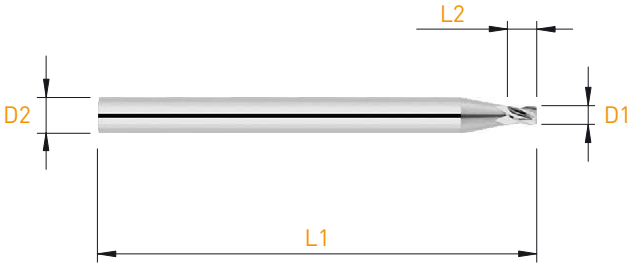
MD VHM HM | λ 30° | Radius Corner | L3 9xD1 | Z=3

D1 +0.005 / -0.010	R +/- 0.02	L2	L3	D3	D2 h4 Ø3.0 h5 Ø6.0	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.40	0.05	0.80	3.60	0.37	3.00	39	**3379T-9X-0.40**	●	●	●	●	●
0.50	0.05	1.00	4.50	0.45	3.00	39	**3379T-9X-0.50**	●	●	●	●	●
0.60	0.05	1.20	5.40	0.55	3.00	39	**3379T-9X-0.60**	●	●	●	●	●
0.70	0.05	1.40	6.30	0.65	3.00	39	**3379T-9X-0.70**	●	●	●	●	●
0.80	0.05	1.60	7.20	0.75	3.00	39	**3379T-9X-0.80**	●	●	●	●	●
0.90	0.05	1.80	8.10	0.85	3.00	39	**3379T-9X-0.90**	●	●	●	●	●
1.00	0.10	2.00	9.00	0.95	3.00	39	**3379T-9X-1.00**	●	●	●	●	●
1.10	0.10	2.20	9.90	1.05	3.00	39	**3379T-9X-1.10**	●	●	●	●	●
1.20	0.10	2.40	10.80	1.15	3.00	39	**3379T-9X-1.20**	●	●	●	●	●
1.30	0.10	2.60	11.70	1.25	3.00	39	**3379T-9X-1.30**	●	●	●	●	●
1.40	0.10	2.80	12.60	1.35	3.00	39	**3379T-9X-1.40**	●	●	●	●	●
1.50	0.20	3.00	13.50	1.45	3.00	39	**3379T-9X-1.50**	●	●	●	●	●
1.60	0.20	3.20	14.40	1.55	3.00	39	**3379T-9X-1.60**	●	●	●	●	●
1.70	0.20	3.40	15.30	1.65	3.00	39	**3379T-9X-1.70**	●	●	●	●	●
1.80	0.20	3.60	16.20	1.75	3.00	39	**3379T-9X-1.80**	●	●	●	●	●
1.90	0.20	3.80	17.10	1.85	3.00	39	**3379T-9X-1.90**	●	●	●	●	●
2.00	0.20	4.00	18.00	1.95	6.00	50	**3379T-9X-2.00**	●	●	●	●	●
2.10	0.20	4.20	18.90	2.05	6.00	50	**3379T-9X-2.10**	●	●	●	●	●
2.20	0.20	4.40	19.80	2.15	6.00	50	**3379T-9X-2.20**	●	●	●	●	●
2.30	0.20	4.60	20.70	2.25	6.00	50	**3379T-9X-2.30**	●	●	●	●	●
2.40	0.20	4.80	21.60	2.35	6.00	50	**3379T-9X-2.40**	●	●	●	●	●
2.50	0.20	5.00	22.50	2.45	6.00	50	**3379T-9X-2.50**	●	●	●	●	●
3.00	0.20	6.00	27.00	2.95	6.00	50	**3379T-9X-3.00**	●	●	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

3471-1.5

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills



MD
VHM
HM

λ 30°

Sharp Corner

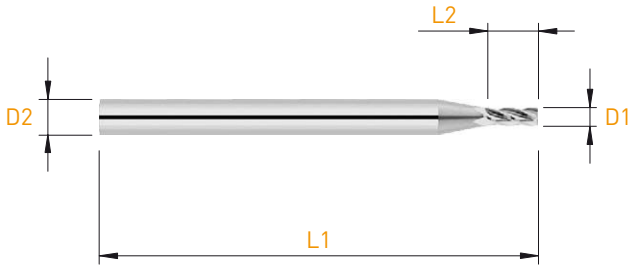
1.5xD1

Z=4

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.30	0.45	3.00	39	**3471-1.5-0.30**	●	●	●	●	●
0.40	0.60	3.00	39	**3471-1.5-0.40**	●	●	●	●	●
0.50	0.75	3.00	39	**3471-1.5-0.50**	●	●	●	●	●
0.60	0.90	3.00	39	**3471-1.5-0.60**	●	●	●	●	●
0.70	1.05	3.00	39	**3471-1.5-0.70**	●	●	●	●	●
0.80	1.20	3.00	39	**3471-1.5-0.80**	●	●	●	●	●
0.90	1.35	3.00	39	**3471-1.5-0.90**	●	●	●	●	●
1.00	1.50	3.00	39	**3471-1.5-1.00**	●	●	●	●	●
1.10	1.65	3.00	39	**3471-1.5-1.10**	●	●	●	●	●
1.20	1.80	3.00	39	**3471-1.5-1.20**	●	●	●	●	●
1.30	1.95	3.00	39	**3471-1.5-1.30**	●	●	●	●	●
1.40	2.10	3.00	39	**3471-1.5-1.40**	●	●	●	●	●
1.50	2.25	3.00	39	**3471-1.5-1.50**	●	●	●	●	●
1.60	2.40	3.00	39	**3471-1.5-1.60**	●	●	●	●	●
1.70	2.55	3.00	39	**3471-1.5-1.70**	●	●	●	●	●
1.80	2.70	3.00	39	**3471-1.5-1.80**	●	●	●	●	●
1.90	2.85	3.00	39	**3471-1.5-1.90**	●	●	●	●	●
2.00	3.00	3.00	39	**3471-1.5-2.00**	●	●	●	●	●
2.10	3.15	3.00	39	**3471-1.5-2.10**	●	●	●	●	●
2.20	3.30	3.00	39	**3471-1.5-2.20**	●	●	●	●	●
2.30	3.45	3.00	39	**3471-1.5-2.30**	●	●	●	●	●
2.40	3.60	3.00	39	**3471-1.5-2.40**	●	●	●	●	●
2.50	3.75	3.00	39	**3471-1.5-2.50**	●	●	●	●	●
2.60	3.90	3.00	39	**3471-1.5-2.60**	●	●	●	●	●
2.70	4.05	3.00	39	**3471-1.5-2.70**	●	●	●	●	●
2.80	4.20	3.00	39	**3471-1.5-2.80**	●	●	●	●	●
2.90	4.35	3.00	39	**3471-1.5-2.90**	●	●	●	●	●

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

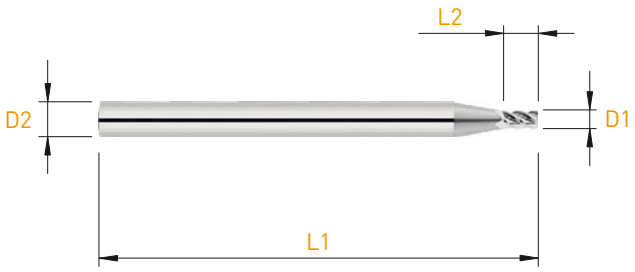
3471-3



MD VHM HM | λ 30° | Sharp Corner | 3xD1 | Z=4

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.30	0.90	3.00	39	**3471-3-0.30**	●	●	●	●	●
0.40	1.20	3.00	39	**3471-3-0.40**	●	●	●	●	●
0.50	1.50	3.00	39	**3471-3-0.50**	●	●	●	●	●
0.55	1.70	3.00	39	**3471-3-0.55**	●	●	●	●	●
0.60	1.80	3.00	39	**3471-3-0.60**	●	●	●	●	●
0.70	2.10	3.00	39	**3471-3-0.70**	●	●	●	●	●
0.75	2.30	3.00	39	**3471-3-0.75**	●	●	●	●	●
0.80	2.40	3.00	39	**3471-3-0.80**	●	●	●	●	●
0.85	2.60	3.00	39	**3471-3-0.85**	●	●	●	●	●
0.90	2.70	3.00	39	**3471-3-0.90**	●	●	●	●	●
0.95	2.90	3.00	39	**3471-3-0.95**	●	●	●	●	●
1.00	3.00	3.00	39	**3471-3-1.00**	●	●	●	●	●
1.10	3.30	3.00	39	**3471-3-1.10**	●	●	●	●	●
1.20	3.60	3.00	39	**3471-3-1.20**	●	●	●	●	●
1.30	3.90	3.00	39	**3471-3-1.30**	●	●	●	●	●
1.40	4.20	3.00	39	**3471-3-1.40**	●	●	●	●	●
1.50	4.50	3.00	39	**3471-3-1.50**	●	●	●	●	●
1.60	4.80	3.00	39	**3471-3-1.60**	●	●	●	●	●
1.70	5.10	3.00	39	**3471-3-1.70**	●	●	●	●	●
1.80	5.40	3.00	39	**3471-3-1.80**	●	●	●	●	●
1.90	5.70	3.00	39	**3471-3-1.90**	●	●	●	●	●
2.00	6.00	3.00	39	**3471-3-2.00**	●	●	●	●	●
2.10	6.30	3.00	39	**3471-3-2.10**	●	●	●	●	●
2.20	6.60	3.00	39	**3471-3-2.20**	●	●	●	●	●
2.30	6.90	3.00	39	**3471-3-2.30**	●	●	●	●	●
2.40	7.20	3.00	39	**3471-3-2.40**	●	●	●	●	●
2.50	7.50	3.00	39	**3471-3-2.50**	●	●	●	●	●
2.60	7.80	3.00	39	**3471-3-2.60**	●	●	●	●	●
2.70	8.10	3.00	39	**3471-3-2.70**	●	●	●	●	●
2.80	8.40	3.00	39	**3471-3-2.80**	●	●	●	●	●
2.90	8.70	3.00	39	**3471-3-2.90**	●	●	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request



MD
VHM
HM

λ 40°

Sharp Corner

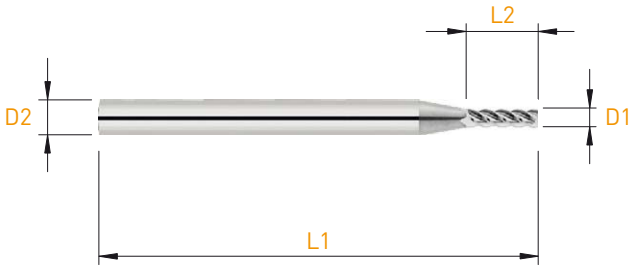
2xD1

Z=4

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.30	0.60	3.00	39	**3472-2-0.30**	●	●	●	●	●
0.40	0.80	3.00	39	**3472-2-0.40**	●	●	●	●	●
0.50	1.00	3.00	39	**3472-2-0.50**	●	●	●	●	●
0.60	1.20	3.00	39	**3472-2-0.60**	●	●	●	●	●
0.70	1.40	3.00	39	**3472-2-0.70**	●	●	●	●	●
0.80	1.60	3.00	39	**3472-2-0.80**	●	●	●	●	●
0.90	1.80	3.00	39	**3472-2-0.90**	●	●	●	●	●
1.00	2.00	3.00	39	**3472-2-1.00**	●	●	●	●	●
1.10	2.20	3.00	39	**3472-2-1.10**	●	●	●	●	●
1.20	2.40	3.00	39	**3472-2-1.20**	●	●	●	●	●
1.30	2.60	3.00	39	**3472-2-1.30**	●	●	●	●	●
1.40	2.80	3.00	39	**3472-2-1.40**	●	●	●	●	●
1.50	3.00	3.00	39	**3472-2-1.50**	●	●	●	●	●
1.60	3.20	3.00	39	**3472-2-1.60**	●	●	●	●	●
1.70	3.40	3.00	39	**3472-2-1.70**	●	●	●	●	●
1.80	3.60	3.00	39	**3472-2-1.80**	●	●	●	●	●
1.90	3.80	3.00	39	**3472-2-1.90**	●	●	●	●	●
2.00	4.00	3.00	39	**3472-2-2.00**	●	●	●	●	●
2.10	4.20	3.00	39	**3472-2-2.10**	●	●	●	●	●
2.20	4.40	3.00	39	**3472-2-2.20**	●	●	●	●	●
2.30	4.60	3.00	39	**3472-2-2.30**	●	●	●	●	●
2.40	4.80	3.00	39	**3472-2-2.40**	●	●	●	●	●
2.50	5.00	3.00	39	**3472-2-2.50**	●	●	●	●	●
2.60	5.20	3.00	39	**3472-2-2.60**	●	●	●	●	●
2.70	5.40	3.00	39	**3472-2-2.70**	●	●	●	●	●
2.80	5.60	3.00	39	**3472-2-2.80**	●	●	●	●	●
2.90	5.80	3.00	39	**3472-2-2.90**	●	●	●	●	●

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills

3472-4



MD
VHM
HM

λ 40°

Sharp Corner

4xD1

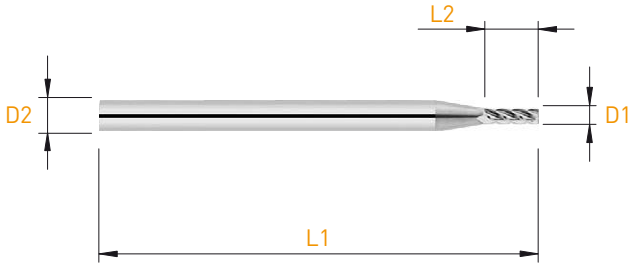
Z=4

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.40	1.60	3.00	39	**3472-4-0.40**	●	●	●	●	●
0.50	2.00	3.00	39	**3472-4-0.50**	●	●	●	●	●
0.60	2.40	3.00	39	**3472-4-0.60**	●	●	●	●	●
0.70	2.80	3.00	39	**3472-4-0.70**	●	●	●	●	●
0.80	3.20	3.00	39	**3472-4-0.80**	●	●	●	●	●
0.90	3.60	3.00	39	**3472-4-0.90**	●	●	●	●	●
1.00	4.00	3.00	39	**3472-4-1.00**	●	●	●	●	●
1.10	4.40	3.00	39	**3472-4-1.10**	●	●	●	●	●
1.20	4.80	3.00	39	**3472-4-1.20**	●	●	●	●	●
1.30	5.20	3.00	39	**3472-4-1.30**	●	●	●	●	●
1.40	5.60	3.00	39	**3472-4-1.40**	●	●	●	●	●
1.50	6.00	3.00	39	**3472-4-1.50**	●	●	●	●	●
1.60	6.40	3.00	39	**3472-4-1.60**	●	●	●	●	●
1.70	6.80	3.00	39	**3472-4-1.70**	●	●	●	●	●
1.80	7.20	3.00	39	**3472-4-1.80**	●	●	●	●	●
1.90	7.60	3.00	39	**3472-4-1.90**	●	●	●	●	●
2.00	8.00	3.00	39	**3472-4-2.00**	●	●	●	●	●
2.10	8.40	3.00	39	**3472-4-2.10**	●	●	●	●	●
2.20	8.80	3.00	39	**3472-4-2.20**	●	●	●	●	●
2.30	9.20	3.00	39	**3472-4-2.30**	●	●	●	●	●
2.40	9.60	3.00	39	**3472-4-2.40**	●	●	●	●	●
2.50	10.00	3.00	39	**3472-4-2.50**	●	●	●	●	●
2.60	10.40	3.00	39	**3472-4-2.60**	●	●	●	●	●
2.70	10.80	3.00	39	**3472-4-2.70**	●	●	●	●	●
2.80	11.20	3.00	39	**3472-4-2.80**	●	●	●	●	●
2.90	11.60	3.00	39	**3472-4-2.90**	●	●	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

DHP3471-3

Micro-fraises de précision
Mikropräzisionsfräser
Precision micro end mills



MD
VHM
HM

λ 35° ↓ 38°

Sharp Corner

3xD1

Z=4

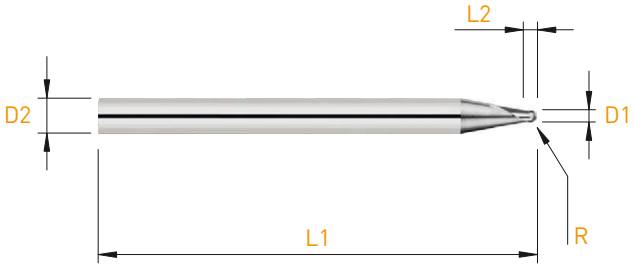
DHP

Denture à pas irrégulier, hélice progressive
Ungleiche Teilung, progressive Spirale
Uneven tooth pitch, progressive helix

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.50	1.50	3.00	39	**DHP3471-3-0.50**	●	●	●	●	●
0.60	1.80	3.00	39	**DHP3471-3-0.60**	●	●	●	●	●
0.70	2.10	3.00	39	**DHP3471-3-0.70**	●	●	●	●	●
0.80	2.40	3.00	39	**DHP3471-3-0.80**	●	●	●	●	●
0.90	2.70	3.00	39	**DHP3471-3-0.90**	●	●	●	●	●
1.00	3.00	3.00	39	**DHP3471-3-1.00**	●	●	●	●	●
1.10	3.30	3.00	39	**DHP3471-3-1.10**	●	●	●	●	●
1.20	3.60	3.00	39	**DHP3471-3-1.20**	●	●	●	●	●
1.30	3.90	3.00	39	**DHP3471-3-1.30**	●	●	●	●	●
1.40	4.20	3.00	39	**DHP3471-3-1.40**	●	●	●	●	●
1.50	4.50	3.00	39	**DHP3471-3-1.50**	●	●	●	●	●
1.60	4.80	3.00	39	**DHP3471-3-1.60**	●	●	●	●	●
1.70	5.10	3.00	39	**DHP3471-3-1.70**	●	●	●	●	●
1.80	5.40	3.00	39	**DHP3471-3-1.80**	●	●	●	●	●
1.90	5.70	3.00	39	**DHP3471-3-1.90**	●	●	●	●	●
2.00	6.00	3.00	39	**DHP3471-3-2.00**	●	●	●	●	●
2.50	7.50	3.00	39	**DHP3471-3-2.50**	●	●	●	●	●

Micro-fraises hémisphériques
Vollradius Mikrofräser
Ball nose micro end mills

3278-0.75



MD
VHM
HM

λ 30°

0.75xD1

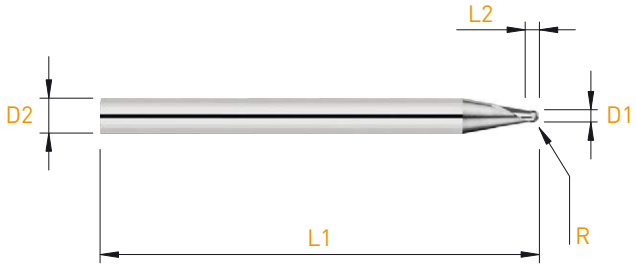
Z=2

D1 +0.005 / -0.010	R	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.20	0.10	0.15	3.00	39	**3278-0.75-0.20**	●				
0.30	0.15	0.20	3.00	39	**3278-0.75-0.30**	●	●	●	●	●
0.40	0.20	0.30	3.00	39	**3278-0.75-0.40**	●	●	●	●	●
0.50	0.25	0.35	3.00	39	**3278-0.75-0.50**	●	●	●	●	●
0.60	0.30	0.45	3.00	39	**3278-0.75-0.60**	●	●	●	●	●
0.70	0.35	0.55	3.00	39	**3278-0.75-0.70**	●	●	●	●	●
0.80	0.40	0.60	3.00	39	**3278-0.75-0.80**	●	●	●	●	●
0.90	0.45	0.70	3.00	39	**3278-0.75-0.90**	●	●	●	●	●
1.00	0.50	0.75	3.00	39	**3278-0.75-1.00**	●	●	●	●	●
1.50	0.75	1.15	3.00	39	**3278-0.75-1.50**	●	●	●	●	●
2.00	1.00	1.50	3.00	39	**3278-0.75-2.00**	●	●	●	●	●
2.50	1.25	1.90	3.00	39	**3278-0.75-2.50**	●	●	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

3278-1

Micro-fraises hémisphériques
Vollradius Mikrofräser
Ball nose micro end mills

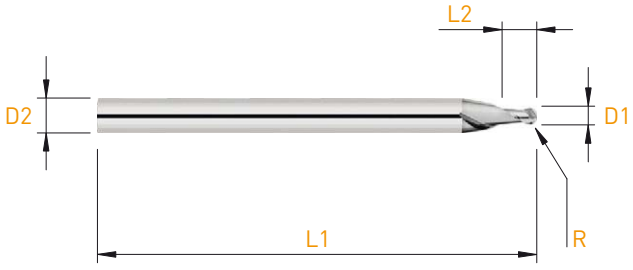


MD VHM HM | λ 30° | 1xD1 | Z=2

D1 +0.005 / -0.010	R	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.20	0.10	0.20	3.00	39	**3278-1-0.20**	●				
0.30	0.15	0.30	3.00	39	**3278-1-0.30**	●	●	●	●	●
0.40	0.20	0.40	3.00	39	**3278-1-0.40**	●	●	●	●	●
0.50	0.25	0.50	3.00	39	**3278-1-0.50**	●	●	●	●	●
0.60	0.30	0.60	3.00	39	**3278-1-0.60**	●	●	●	●	●
0.70	0.35	0.70	3.00	39	**3278-1-0.70**	●	●	●	●	●
0.80	0.40	0.80	3.00	39	**3278-1-0.80**	●	●	●	●	●
0.90	0.45	0.90	3.00	39	**3278-1-0.90**	●	●	●	●	●
1.00	0.50	1.00	3.00	39	**3278-1-1.00**	●	●	●	●	●
1.10	0.55	1.10	3.00	39	**3278-1-1.10**	●	●	●	●	●
1.20	0.60	1.20	3.00	39	**3278-1-1.20**	●	●	●	●	●
1.30	0.35	1.30	3.00	39	**3278-1-1.30**	●	●	●	●	●
1.40	0.70	1.40	3.00	39	**3278-1-1.40**	●	●	●	●	●
1.50	0.75	1.50	3.00	39	**3278-1-1.50**	●	●	●	●	●
1.60	0.80	1.60	3.00	39	**3278-1-1.60**	●	●	●	●	●
1.70	0.85	1.70	3.00	39	**3278-1-1.70**	●	●	●	●	●
1.80	0.90	1.80	3.00	39	**3278-1-1.80**	●	●	●	●	●
1.90	0.95	1.90	3.00	39	**3278-1-1.90**	●	●	●	●	●
2.00	1.00	2.00	3.00	39	**3278-1-2.00**	●	●	●	●	●
2.10	1.05	2.10	3.00	39	**3278-1-2.10**	●	●	●	●	●
2.20	1.10	2.20	3.00	39	**3278-1-2.20**	●	●	●	●	●
2.30	1.15	2.30	3.00	39	**3278-1-2.30**	●	●	●	●	●
2.40	1.20	2.40	3.00	39	**3278-1-2.40**	●	●	●	●	●
2.50	1.25	2.50	3.00	39	**3278-1-2.50**	●	●	●	●	●
2.60	1.30	2.60	3.00	39	**3278-1-2.60**	●	●	●	●	●
2.70	1.35	2.70	3.00	39	**3278-1-2.70**	●	●	●	●	●
2.80	1.40	2.80	3.00	39	**3278-1-2.80**	●	●	●	●	●
2.90	1.45	2.90	3.00	39	**3278-1-2.90**	●	●	●	●	●

Micro-fraises hémisphériques
Vollradius Mikrofräser
Ball nose micro end mills

3278-1.5



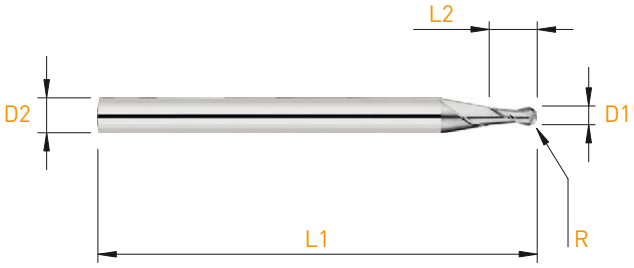
MD VHM HM | λ 30° | 1.5xD1 | Z=2

D1 +0.005 / -0.010	R	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.20	0.10	0.30	3.00	39	**3278-1.5-0.20**	●				
0.25	0.125	0.35	3.00	39	**3278-1.5-0.25**	●				
0.30	0.15	0.45	3.00	39	**3278-1.5-0.30**	●	●	●	●	●
0.40	0.20	0.60	3.00	39	**3278-1.5-0.40**	●	●	●	●	●
0.50	0.25	0.75	3.00	39	**3278-1.5-0.50**	●	●	●	●	●
0.60	0.30	0.90	3.00	39	**3278-1.5-0.60**	●	●	●	●	●
0.70	0.35	1.05	3.00	39	**3278-1.5-0.70**	●	●	●	●	●
0.80	0.40	1.20	3.00	39	**3278-1.5-0.80**	●	●	●	●	●
0.85	0.40	1.30	3.00	39	**3278-1.5-0.85**	●	●	●	●	●
0.90	0.45	1.35	3.00	39	**3278-1.5-0.90**	●	●	●	●	●
1.00	0.50	1.50	3.00	39	**3278-1.5-1.00**	●	●	●	●	●
1.10	0.55	1.65	3.00	39	**3278-1.5-1.10**	●	●	●	●	●
1.15	0.55	1.75	3.00	39	**3278-1.5-1.15**	●	●	●	●	●
1.20	0.60	1.80	3.00	39	**3278-1.5-1.20**	●	●	●	●	●
1.30	0.65	1.95	3.00	39	**3278-1.5-1.30**	●	●	●	●	●
1.40	0.70	2.10	3.00	39	**3278-1.5-1.40**	●	●	●	●	●
1.50	0.75	2.25	3.00	39	**3278-1.5-1.50**	●	●	●	●	●
1.60	0.80	2.40	3.00	39	**3278-1.5-1.60**	●	●	●	●	●
1.70	0.85	2.60	3.00	39	**3278-1.5-1.70**	●	●	●	●	●
1.80	0.90	2.70	3.00	39	**3278-1.5-1.80**	●	●	●	●	●
1.90	0.95	2.90	3.00	39	**3278-1.5-1.90**	●	●	●	●	●
2.00	1.00	3.00	3.00	39	**3278-1.5-2.00**	●	●	●	●	●
2.10	1.05	3.20	3.00	39	**3278-1.5-2.10**	●	●	●	●	●
2.20	1.10	3.30	3.00	39	**3278-1.5-2.20**	●	●	●	●	●
2.30	1.15	3.50	3.00	39	**3278-1.5-2.30**	●	●	●	●	●
2.40	1.20	3.60	3.00	39	**3278-1.5-2.40**	●	●	●	●	●
2.50	1.25	3.75	3.00	39	**3278-1.5-2.50**	●	●	●	●	●
2.60	1.30	3.90	3.00	39	**3278-1.5-2.60**	●	●	●	●	●
2.70	1.35	4.00	3.00	39	**3278-1.5-2.70**	●	●	●	●	●
2.80	1.40	4.20	3.00	39	**3278-1.5-2.80**	●	●	●	●	●
2.90	1.45	4.40	3.00	39	**3278-1.5-2.90**	●	●	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

3278-3

Micro-fraises hémisphériques
Vollradius Mikrofräser
Ball nose micro end mills



MD VHM HM | λ 30° | 3xD1 | Z=2

D1 +0.005 / -0.010	R	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.20	0.10	0.60	3.00	39	**3278-3-0.20**	●				
0.30	0.15	1.00	3.00	39	**3278-3-0.30**	●	●	●	●	●
0.40	0.20	1.00	3.00	39	**3278-3-0.40**	●	●	●	●	●
0.50	0.25	1.50	3.00	39	**3278-3-0.50**	●	●	●	●	●
0.60	0.30	1.50	3.00	39	**3278-3-0.60**	●	●	●	●	●
0.70	0.35	2.00	3.00	39	**3278-3-0.70**	●	●	●	●	●
0.80	0.40	2.00	3.00	39	**3278-3-0.80**	●	●	●	●	●
0.90	0.45	2.50	3.00	39	**3278-3-0.90**	●	●	●	●	●
1.00	0.50	3.00	3.00	39	**3278-3-1.00**	●	●	●	●	●
1.20	0.60	4.00	3.00	39	**3278-3-1.20**	●	●	●	●	●
1.30	0.65	4.00	3.00	39	**3278-3-1.30**	●	●	●	●	●
1.40	0.70	4.00	3.00	39	**3278-3-1.40**	●	●	●	●	●
1.50	0.75	4.50	3.00	39	**3278-3-1.50**	●	●	●	●	●
1.55	0.775	5.00	3.00	39	**3278-3-1.55**	●	●	●	●	●
1.60	0.80	5.00	3.00	39	**3278-3-1.60**	●	●	●	●	●
1.80	0.90	5.50	3.00	39	**3278-3-1.80**	●	●	●	●	●
2.00	1.00	6.00	3.00	39	**3278-3-2.00**	●	●	●	●	●
2.10	1.05	6.50	3.00	39	**3278-3-2.10**	●	●	●	●	●
2.20	1.10	7.00	3.00	39	**3278-3-2.20**	●	●	●	●	●
2.50	1.25	7.50	3.00	39	**3278-3-2.50**	●	●	●	●	●
2.60	1.30	7.80	3.00	39	**3278-3-2.60**	●	●	●	●	●
2.70	1.35	8.10	3.00	39	**3278-3-2.70**	●	●	●	●	●
2.80	1.40	8.40	3.00	39	**3278-3-2.80**	●	●	●	●	●
2.90	1.45	8.70	3.00	39	**3278-3-2.90**	●	●	●	●	●

Micro-fraises hémisphériques
Vollradius Mikrofräser
Ball nose micro end mills

3278H-3X

MD
VHM
HM

λ 30°

L3
3xD1

Z=2

D1 +0.005 / -0.010	R	L2	L3	D3	D2 h4 Ø3.0 h5 Ø6.0	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.20	0.10	0.30	0.60	0.19	3.00	39	**3278H-3X-0.20**	●				
0.30	0.15	0.45	0.90	0.27	3.00	39	**3278H-3X-0.30**	●	●	●	●	●
0.40	0.20	0.60	1.20	0.37	3.00	39	**3278H-3X-0.40**	●	●	●	●	●
0.50	0.25	0.75	1.50	0.45	3.00	39	**3278H-3X-0.50**	●	●	●	●	●
0.60	0.30	0.90	1.80	0.55	3.00	39	**3278H-3X-0.60**	●	●	●	●	●
0.70	0.35	1.05	2.10	0.65	3.00	39	**3278H-3X-0.70**	●	●	●	●	●
0.80	0.40	1.20	2.40	0.75	3.00	39	**3278H-3X-0.80**	●	●	●	●	●
0.90	0.45	1.35	2.70	0.85	3.00	39	**3278H-3X-0.90**	●	●	●	●	●
1.00	0.50	1.50	3.00	0.95	3.00	39	**3278H-3X-1.00**	●	●	●	●	●
1.10	0.55	1.65	3.30	1.05	3.00	39	**3278H-3X-1.10**	●	●	●	●	●
1.20	0.60	1.80	3.60	1.15	3.00	39	**3278H-3X-1.20**	●	●	●	●	●
1.30	0.65	1.95	3.90	1.25	3.00	39	**3278H-3X-1.30**	●	●	●	●	●
1.40	0.70	2.10	4.20	1.35	3.00	39	**3278H-3X-1.40**	●	●	●	●	●
1.50	0.75	2.25	4.50	1.45	3.00	39	**3278H-3X-1.50**	●	●	●	●	●
1.60	0.80	2.40	4.80	1.55	3.00	39	**3278H-3X-1.60**	●	●	●	●	●
1.70	0.85	2.55	5.10	1.65	3.00	39	**3278H-3X-1.70**	●	●	●	●	●
1.80	0.90	2.70	5.40	1.75	3.00	39	**3278H-3X-1.80**	●	●	●	●	●
1.90	0.95	2.85	5.70	1.85	3.00	39	**3278H-3X-1.90**	●	●	●	●	●
2.00	1.00	3.00	6.00	1.95	6.00	50	**3278H-3X-2.00**	●	●	●	●	●
2.10	1.05	3.15	6.30	2.05	6.00	50	**3278H-3X-2.10**	●	●	●	●	●
2.20	1.10	3.30	6.60	2.15	6.00	50	**3278H-3X-2.20**	●	●	●	●	●
2.30	1.15	3.45	6.90	2.25	6.00	50	**3278H-3X-2.30**	●	●	●	●	●
2.40	1.20	3.60	7.20	2.35	6.00	50	**3278H-3X-2.40**	●	●	●	●	●
2.50	1.25	3.75	7.50	2.45	6.00	50	**3278H-3X-2.50**	●	●	●	●	●
3.00	1.50	4.50	9.00	2.95	6.00	50	**3278H-3X-3.00**	●	●	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

3278H-6X

Micro-fraises hémisphériques
Vollradius Mikrofräser
Ball nose micro end mills

MD
VHM
HM

λ 30°

L3
6xD1

Z=2

D1 +0.005 / -0.010	R	L2	L3	D3	D2 h4 Ø3.0 h5 Ø6.0	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.30	0.15	0.45	1.80	0.27	3.00	39	**3278H-6X-0.30**	●	●	●	●	●
0.40	0.20	0.60	2.40	0.37	3.00	39	**3278H-6X-0.40**	●	●	●	●	●
0.50	0.25	0.75	3.00	0.45	3.00	39	**3278H-6X-0.50**	●	●	●	●	●
0.60	0.30	0.90	3.60	0.55	3.00	39	**3278H-6X-0.60**	●	●	●	●	●
0.70	0.35	1.05	4.20	0.65	3.00	39	**3278H-6X-0.70**	●	●	●	●	●
0.80	0.40	1.20	4.80	0.75	3.00	39	**3278H-6X-0.80**	●	●	●	●	●
0.90	0.45	1.35	5.40	0.85	3.00	39	**3278H-6X-0.90**	●	●	●	●	●
1.00	0.50	1.50	6.00	0.95	3.00	39	**3278H-6X-1.00**	●	●	●	●	●
1.10	0.55	1.65	6.60	1.05	3.00	39	**3278H-6X-1.10**	●	●	●	●	●
1.20	0.60	1.80	7.20	1.15	3.00	39	**3278H-6X-1.20**	●	●	●	●	●
1.30	0.65	1.95	7.80	1.25	3.00	39	**3278H-6X-1.30**	●	●	●	●	●
1.40	0.70	2.10	8.40	1.35	3.00	39	**3278H-6X-1.40**	●	●	●	●	●
1.50	0.75	2.25	9.00	1.45	3.00	39	**3278H-6X-1.50**	●	●	●	●	●
1.60	0.80	2.40	9.60	1.55	3.00	39	**3278H-6X-1.60**	●	●	●	●	●
1.70	0.85	2.55	10.20	1.65	3.00	39	**3278H-6X-1.70**	●	●	●	●	●
1.80	0.90	2.70	10.80	1.75	3.00	39	**3278H-6X-1.80**	●	●	●	●	●
1.90	0.95	2.85	11.40	1.85	3.00	39	**3278H-6X-1.90**	●	●	●	●	●
2.00	1.00	3.00	12.00	1.95	6.00	50	**3278H-6X-2.00**	●	●	●	●	●
2.10	1.05	3.15	12.60	2.05	6.00	50	**3278H-6X-2.10**	●	●	●	●	●
2.20	1.10	3.30	13.20	2.15	6.00	50	**3278H-6X-2.20**	●	●	●	●	●
2.30	1.15	3.45	13.80	2.25	6.00	50	**3278H-6X-2.30**	●	●	●	●	●
2.40	1.20	3.60	14.40	2.35	6.00	50	**3278H-6X-2.40**	●	●	●	●	●
2.50	1.25	3.75	15.00	2.45	6.00	50	**3278H-6X-2.50**	●	●	●	●	●
3.00	1.50	4.50	18.00	2.95	6.00	50	**3278H-6X-3.00**	●	●	●	●	●

Micro-fraises hémisphériques
Vollradius Mikrofräser
Ball nose micro end mills

3278H-9X

MD VHM HM | λ 30° | L3 9xD1 | Z=2

D1 +0.005 / -0.010	R	L2	L3	D3	D2 h4 Ø3.0 h5 Ø6.0	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
0.40	0.20	0.60	3.60	0.37	3.00	39	**3278H-9X-0.40**	●	●	●	●	●
0.50	0.25	0.75	4.50	0.45	3.00	39	**3278H-9X-0.50**	●	●	●	●	●
0.60	0.30	0.90	5.40	0.55	3.00	39	**3278H-9X-0.60**	●	●	●	●	●
0.70	0.35	1.05	6.30	0.65	3.00	39	**3278H-9X-0.70**	●	●	●	●	●
0.80	0.40	1.20	7.20	0.75	3.00	39	**3278H-9X-0.80**	●	●	●	●	●
0.90	0.45	1.35	8.10	0.85	3.00	39	**3278H-9X-0.90**	●	●	●	●	●
1.00	0.50	1.50	9.00	0.95	3.00	39	**3278H-9X-1.00**	●	●	●	●	●
1.10	0.55	1.65	9.90	1.05	3.00	39	**3278H-9X-1.10**	●	●	●	●	●
1.20	0.60	1.80	10.80	1.15	3.00	39	**3278H-9X-1.20**	●	●	●	●	●
1.30	0.65	1.95	11.70	1.25	3.00	39	**3278H-9X-1.30**	●	●	●	●	●
1.40	0.70	2.10	12.60	1.35	3.00	39	**3278H-9X-1.40**	●	●	●	●	●
1.50	0.75	2.25	13.50	1.45	3.00	39	**3278H-9X-1.50**	●	●	●	●	●
1.60	0.80	2.40	14.40	1.55	3.00	39	**3278H-9X-1.60**	●	●	●	●	●
1.70	0.85	2.55	15.30	1.65	3.00	39	**3278H-9X-1.70**	●	●	●	●	●
1.80	0.90	2.70	16.20	1.75	3.00	39	**3278H-9X-1.80**	●	●	●	●	●
1.90	0.95	2.85	17.10	1.85	3.00	39	**3278H-9X-1.90**	●	●	●	●	●
2.00	1.00	3.00	18.00	1.95	6.00	50	**3278H-9X-2.00**	●	●	●	●	●
2.10	1.05	3.15	18.90	2.05	6.00	50	**3278H-9X-2.10**	●	●	●	●	●
2.20	1.10	3.30	19.80	2.15	6.00	50	**3278H-9X-2.20**	●	●	●	●	●
2.30	1.15	3.45	20.70	2.25	6.00	50	**3278H-9X-2.30**	●	●	●	●	●
2.40	1.20	3.60	21.60	2.35	6.00	50	**3278H-9X-2.40**	●	●	●	●	●
2.50	1.25	3.75	22.50	2.45	6.00	50	**3278H-9X-2.50**	●	●	●	●	●
3.00	1.50	4.50	27.00	2.95	6.00	50	**3278H-9X-3.00**	●	●	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

Paramètres de coupe indicatifs
Empfohlene Schnittwerte
Standard machining data

> 16.54

Z	λ	D1	D2	Type	Corner	page
Z=3	Div.	Ø1.00 - 8.00	Ø3/6/8	**E-DHP3300-1.5**		> 16.57
Z=4	26° / 33°	Ø10.00	Ø10 h6	**E-DHP3400-1.5**		
Z=3	Div.	Ø1.00 - 8.00	Ø3/6/8	**E-DHP3300-2.5**		
Z=4	26° / 33°	Ø10.00	Ø10 h6	**E-DHP3400-2.5**		
Z=1	23°	Ø1.00 - 6.00	Ø6 h5	**3123-2**	Sharp Corner	> 16.58
		Ø1.00 - 6.00	Ø6 h5	**3123-4**		> 16.59
Z=2	60°	Ø0.50 - 6.00	Ø3/6/8	**3260MV**		> 16.60
	90°	Ø0.30 - 6.00	Ø3/6/8	**3290MV**		> 16.61
	120°	Ø0.50 - 6.00	Ø3/6/8	**32120MV**		> 16.62
Z=2	30°	Ø1.00 - 6.00	Ø6 h5	**3230**		> 16.63
		Ø3.00 - 6.00	Ø6 h5	**3230-1.5**	Sharp Corner	> 16.64
		Ø3.00 - 6.00	Ø6 h5	**3230-3**		> 16.65
		Ø2.00 - 6.00	D1 = D2	**3231**		> 16.66
		Ø3.00 - 6.00	Ø6 h5	**3239T-2.5X**	U	> 16.67
		Ø3.00 - 6.00	Ø6 h5	**3239T-4X**		> 16.68
Z=3	30°	Ø1.00 - 6.00	Ø6 h5	**3330-S**		> 16.69
		Ø3.00-12.00	D1 = D2	**3330**		> 16.70
		Ø3.00 - 6.00	Ø6 h5	**3330-4**		> 16.71
		Ø2.00 - 6.00	D1 = D2	**3331**		> 16.72
		Ø1.50 - 6.00	Ø6 h5	**3336-HA**	Sharp Corner	> 16.73
		Ø1.50 - 6.00	Ø6 h5	**3337-HA**		> 16.73
	45°	Ø2.00 - 6.00	D1 = D2	**3341**		> 16.74
		Ø0.50 - 6.00	Ø6 h5	**3345-S**		> 16.75
	60°	Ø2.00 - 6.00	D1 = D2	**3361**		> 16.76
	35° / 38°	Ø1.00 - 6.00	Ø6 h5	**DHP3336**		> 16.77
Z=4	30°	Ø3.00 - 6.00	D1 = D2	**3430**		> 16.78
		Ø2.00 - 6.00	D1 = D2	**3431**		> 16.79
	45°	Ø2.00 - 6.00	D1 = D2	**3441**	Sharp Corner	> 16.80
		Ø0.50 - 6.00	Ø6 h5	**3445-S**		> 16.81
	50°	Ø1.00 - 6.00	Ø6 h5	**3450**		> 16.82
	35° / 38°	Ø1.00 - 6.00	Ø6 h5	**DHP3436**		> 16.83
	30°	Ø3.00 - 6.00	Ø6 h5	**3439T-2.5X**	U	> 16.84
		Ø3.00 - 6.00	Ø6 h5	**3439T-4X**		> 16.85
Z=5	45°	Ø1.00 - 6.00	Ø6 h5	**3545**	Sharp Corner	> 16.86
Z=4/5/6		Ø1.00 - 6.00	Ø6 h5	**35645**		> 16.87
Z=8	10°	Ø6.00	Ø6 h5	**3810**		> 16.88

Paramètres de coupe indicatifs
Empfohlene Schnittwerte
Standard machining data

> 16.54

Z	λ	D1	D2	**Type**	Corner	page
Z=2	30°	Ø2.00 - 6.00	D1 = D2	**3238**		> 16.89
Z=3	30°	Ø2.00 - 6.00	D1 = D2	**3338**		> 16.90
Z=3	30°	Ø8.00-12.00	Ø6 h6	**3383**		> 16.91
Z=10	30°	Ø16.3 / 20.30	Ø10 h6	**3831 / 3833**		> 16.92
Z=3	0°	Ø0.50 -3.00	Ø3 h4	**3611**		> 16.93
Z=3	0°	Ø0.50 -3.00	Ø3 h4	**3911**		> 16.94
Z=4	0°	Ø3.00-8.00	Ø3 h4 Ø6 h5 Ø8 h6	**1901 / 3901**		> 16.95

Fraises ébauches
Schruppfräser
Roughing mills

Paramètres de coupe indicatifs
Empfohlene Schnittwerte
Standard machining data

Matière Werkstoff Material	VC (m/min)	1.0 - 2.0 fz (mm)	2.0 - 4.0 fz (mm)	4.0 - 6.0 fz (mm)	6.0 - 10.0 fz (mm)	N	TiAlN	STF
Acier de décolletage Automatenstahl Free-cutting steel (P)	100 - 140	0.010 - 0.015	0.015 - 0.030	0.030 - 0.040	0.040 - 0.060	-	★★★	★★★
Acier Stahl < 600 N/mm² (P) Steel	90 - 140	0.010 - 0.015	0.015 - 0.030	0.030 - 0.040	0.040 - 0.060	-	★★★	★★★
Acier Stahl < 800 N/mm² (P) Steel	90 - 140	0.010 - 0.015	0.015 - 0.030	0.030 - 0.040	0.040 - 0.060	-	★★★	★★★
Acier Stahl > 800 N/mm² (P) Steel	80 - 120	0.010 - 0.015	0.015 - 0.030	0.030 - 0.040	0.040 - 0.060	-	★★★	★★★
Acier trempé Gehärteter Stahl -55HRC (H) Hardened steel	120 - 170	0.005 - 0.008	0.008 - 0.015	0.015 - 0.020	0.020 - 0.035	-	★★★	★★★
Acier trempé Gehärteter Stahl +55HRC (H) Hardened steel	110 - 150	0.005 - 0.008	0.008 - 0.015	0.015 - 0.020	0.020 - 0.035	-	★★★	★★★
Inox Rostfreistahl (M) Stainless steel	50 - 90	0.004 - 0.008	0.008 - 0.012	0.012 - 0.020	0.020 - 0.040	-	★★★	★★★
Aluminium (N)	250 - 350	0.008 - 0.015	0.015 - 0.030	0.030 - 0.040	0.040 - 0.065	-	★★★	★★
Cuivre, laiton, bronze Kupfer, Messing, Bronze (N) Copper, brass, bronze	130 - 240	0.005 - 0.010	0.010 - 0.020	0.020 - 0.030	0.030 - 0.050	-	★★★	★★
Matière synthétique Synthetisches Material (N) Synthetic material	150 - 300	0.020 - 0.030	0.030 - 0.050	0.050 - 0.080	0.080 - 0.150	-	★★★	★★
Métaux précieux Edelmetalle (N) Precious metals	120 - 150	0.005 - 0.010	0.010 - 0.020	0.020 - 0.030	0.030 - 0.050	-	★★★	★★
Titane Titan (S) Titanium	50 - 100	0.010 - 0.015	0.015 - 0.020	0.020 - 0.030	0.030 - 0.050	-	★★★	★★★
Alliage de nickel Nickel-Legierung (S) Nickel alloy	40 - 60	0.005 - 0.007	0.007-0.012	0.012 - 0.020	0.020 - 0.030	-	★★★	★★★
Matière exotique Exotisches material (O) Exotic material	15 - 25	0.005 - 0.010	0.010 - 0.020	0.020 - 0.030	0.030 - 0.050	-	★★★	★★★

Avec revêtement, augmenter les valeurs de 20-30%
Mit Beschichtung, Daten um 20-30% erhöhen
With coating, increase data by 20-30%

★ Bien / Gut / Good
★★ Très bien / Sehr gut / Very good
★★★ Excellent / Ausgezeichnet / Excellent

Paramètres de coupe indicatifs
Empfohlene Schnittwerte
Standard machining data

Fraises en bout
Schaftfräser
End mills

Matière Werkstoff Material	VC (m/min)	0.50 - 2.0 fz (mm)	2.0 - 4.0 fz (mm)	4.0 - 6.0 fz (mm)	6.0 - 8.0 fz (mm)	8.0 - 12.0 fz (mm)	N	TiAlN	STF	DLC
Acier de décolletage Automatenstahl Free-cutting steel (P)	80 - 130	0.004-0.015	0.015 - 0.025	0.025 - 0.035	0.035 - 0.050	0.050 - 0.080	-	★★★	★★★	-
Acier Stahl Steel < 600 N/mm² (P)	70 - 100	0.004-0.015	0.015 - 0.025	0.025 - 0.035	0.035 - 0.050	0.050 - 0.080	-	★★★	★★★	-
Acier Stahl Steel < 800 N/mm² (P)	70 - 100	0.004-0.015	0.015 - 0.025	0.025 - 0.035	0.035 - 0.050	0.050 - 0.080	-	★★★	★★★	-
Acier Stahl Steel > 800 N/mm² (P)	50 - 80	0.004-0.015	0.015 - 0.025	0.025 - 0.035	0.035 - 0.050	0.050 - 0.080	-	★★★	★★★	-
Acier trempé Gehärteter Stahl -55HRC Hardened steel (H)	60 - 90	0.002 - 0.008	0.008 - 0.015	0.012 - 0.020	0.020 - 0.025	0.025 - 0.030	-	★★★	★★★	-
Acier trempé Gehärteter Stahl +55HRC Hardened steel (H)	40 - 70	0.002 - 0.008	0.008 - 0.015	0.012 - 0.020	0.020 - 0.025	0.020 - 0.030	-	★★★	★★★	-
Inox Rostfreistahl Stainless steel (M)	40 - 80	0.003 - 0.008	0.008 - 0.015	0.015 - 0.020	0.020 - 0.030	0.030 - 0.050	-	★★★	★★★	-
Aluminium (N)	230 - 320	0.003 - 0.010	0.010 - 0.025	0.025 - 0.030	0.030 - 0.050	0.050 - 0.080	★★	★	★★	★★★
Cuivre, laiton, bronze Kupfer, Messing, Bronze Copper, brass, bronze (N)	100 - 190	0.003 - 0.010	0.010 - 0.020	0.020 - 0.030	0.030 - 0.040	0.040 - 0.070	★★	★	★★	★★★
Matière synthétique Synthetisches Material Synthetic material (N)	250 - 500	0.005 - 0.030	0.030 - 0.050	0.050 - 0.080	0.080 - 0.100	0.100 - 0.200	★★★	-	★★	★★★
Métaux précieux Edelmetalle Precious metals (N)	90 - 150	0.003 - 0.015	0.015 - 0.025	0.025 - 0.030	0.030 - 0.050	0.050 - 0.080	★★★	★	★★	★★★
Titane Titan Titanium (S)	30 - 70	0.004 - 0.010	0.010 - 0.017	0.017-0.025	0.025 - 0.035	0.035 - 0.050	-	★★	★★★	-
Alliage de nickel Nickel-Legierung Nickel alloy (S)	30 - 60	0.003 - 0.008	0.008 - 0.015	0.015 - 0.020	0.020 - 0.025	0.025 - 0.040	-	★★★	★★★	-
Matière exotique Exotisches material Exotic material (O)	15 - 25	0.002 - 0.008	0.008 - 0.020	0.020 - 0.030	0.030 - 0.040	0.040 - 0.050	-	★★★	★★★	★★

Avec revêtement, augmenter les valeurs de 20-30%
Mit Beschichtung, Daten um 20-30% erhöhen
With coating, increase data by 20-30%

★ Bien / Gut / Good
★★ Très bien / Sehr gut / Very good
★★★ Excellent / Ausgezeichnet / Excellent

Fraises à angler
Kegelsenker
Chamfering tools

Paramètres de coupe indicatifs
Empfohlene Schnittwerte
Standard machining data

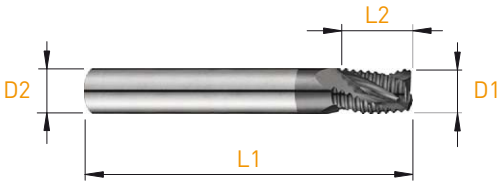
Matière Werkstoff Material	VC (m/min)	N	TiAlN	STF
Acier de décolletage Automatenstahl Free-cutting steel (P)	80 - 130	★	★★★	★★★
Acier Stahl < 600 N/mm² Steel (P)	70 - 100	★	★★★	★★★
Acier Stahl < 800 N/mm² Steel (P)	70 - 100	★	★★★	★★★
Acier Stahl > 800 N/mm² Steel (P)	50 - 80	★	★★★	★★★
Acier trempé Gehärteter Stahl -55HRC Hardened steel (H)	60 - 90	-	★★	★★★
Acier trempé Gehärteter Stahl +55HRC Hardened steel (H)	40 - 70	-	★★	★★★
Inox Rostfreistahl Stainless steel (M)	50 - 100	★	★★★	★★★
Aluminium (N)	200 - 300	★★★	★★	★★★
Cuivre, laiton, bronze Kupfer, Messing, Bronze Copper, brass, bronze (N)	100 - 200	★★★	★★	★★★
Matière synthétique Synthetisches Material Synthetic material (N)	200 - 500	★★★	★★	★★
Métaux précieux Edelmetalle Precious metals (N)	90 - 140	★★★	★★	★★★
Titane Titan Titanium (S)	30 - 80	-	★★★	★★★
Alliage de nickel Nickel-Legierung Nickel alloy (S)	30 - 60	-	★★★	★★★
Matière exotique Exotisches material Exotic material (O)	20 - 30	-	★★★	★★★

Avec revêtement, augmenter les valeurs de 20-30%
Mit Beschichtung, Daten um 20-30% erhöhen
With coating, increase data by 20-30%

★ Bien / Gut / Good
★★ Très bien / Sehr gut / Very good
★★★ Excellent / Ausgezeichnet / Excellent

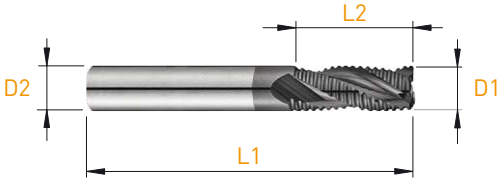
Fraises ébauches
Schruppfräser
Roughing mills

E-DHP3300 / 3400



MD VHM HM | 45° E | 1.5xD1

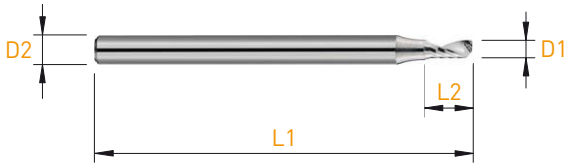
	Z	E	λ	D1 h10	L2	D2 Ø3 h4 Ø6 h5 Ø8 h6 Ø10 h6	L1	Art. N°	N	TiAlN	STF
	3	0.05	26°/30°	1.00	1.50	3.00	39	**E-DHP3300-1.5-1.00**	●	●	●
	3	0.10	26°/30°	1.50	2.25	3.00	39	**E-DHP3300-1.5-1.50**	●	●	●
	3	0.20	26°/30°	2.00	3.00	3.00	39	**E-DHP3300-1.5-2.00**	●	●	●
	3	0.20	26°/33°	2.50	3.75	6.00	50	**E-DHP3300-1.5-2.50**	●	●	●
	3	0.20	26°/33°	3.00	4.25	6.00	50	**E-DHP3300-1.5-3.00**	●	●	●
	3	0.30	26°/33°	4.00	6.00	6.00	50	**E-DHP3300-1.5-4.00**	●	●	●
	3	0.30	26°/33°	5.00	7.50	6.00	50	**E-DHP3300-1.5-5.00**	●	●	●
	3	0.40	26°/33°	6.00	9.00	6.00	50	**E-DHP3300-1.5-6.00**	●	●	●
	3	0.50	26°/33°	8.00	12.00	8.00	64	**E-DHP3300-1.5-8.00**	●	●	●
	4	0.50	26°/33°	10.00	15.00	10.00	73	**E-DHP3400-1.5-10.00**	●	●	●



MD VHM HM | 45° E | 2.5xD1

	Z	E	λ	D1 h10	L2	D2 Ø3 h4 Ø6 h5 Ø8 h6 Ø10 h6	L1	Art. N°	N	TiAlN	STF
	3	0.05	26°/30°	1.00	2.50	3.00	39	**E-DHP3300-2.5-1.00**	●	●	●
	3	0.10	26°/30°	1.50	3.75	3.00	39	**E-DHP3300-2.5-1.50**	●	●	●
	3	0.20	26°/30°	2.00	5.00	3.00	39	**E-DHP3300-2.5-2.00**	●	●	●
	3	0.20	26°/33°	2.50	6.25	6.00	57	**E-DHP3300-2.5-2.50**	●	●	●
	3	0.20	26°/33°	3.00	7.50	6.00	57	**E-DHP3300-2.5-3.00**	●	●	●
	3	0.30	26°/33°	4.00	10.00	6.00	57	**E-DHP3300-2.5-4.00**	●	●	●
	3	0.30	26°/33°	5.00	12.50	6.00	57	**E-DHP3300-2.5-5.00**	●	●	●
	3	0.40	26°/33°	6.00	15.00	6.00	57	**E-DHP3300-2.5-6.00**	●	●	●
	3	0.50	26°/33°	8.00	20.00	8.00	64	**E-DHP3300-2.5-8.00**	●	●	●
	4	0.50	26°/33°	10.00	25.00	10.00	73	**E-DHP3400-2.5-10.00**	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

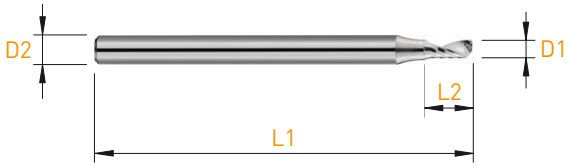


MD VHM HM	λ 23°	45°		2xD1	Z=1

D1 h10	L2	D2 h5	L1	Art. N°	N	TiAlN	STF	DLC
1.00	2.00	6.00	50	**3123-2-1.0**	●	●	●	●
2.00	4.00	6.00	50	**3123-2-2.0**	●	●	●	●
3.00	6.00	6.00	50	**3123-2-3.0**	●	●	●	●
4.00	8.00	6.00	50	**3123-2-4.0**	●	●	●	●
5.00	10.00	6.00	50	**3123-2-5.0**	●	●	●	●
6.00	12.00	6.00	50	**3123-2-6.0**	●	●	●	●

Fraises en bout de finition
Schlicht Schaftfräser
Finishing end mills

3123-4



MD VHM HM	λ 23°	45°		4xD1	Z=1

D1 h10	L2	D2 h5	L1	Art. N°	N	TiAlN	STF	DLC
1.00	4.00	6.00	50	**3123-4-1.0**	●	●	●	●
2.00	8.00	6.00	50	**3123-4-2.0**	●	●	●	●
3.00	12.00	6.00	50	**3123-4-3.0**	●	●	●	●
4.00	16.00	6.00	50	**3123-4-4.0**	●	●	●	●
5.00	20.00	6.00	50	**3123-4-5.0**	●	●	●	●
6.00	24.00	6.00	50	**3123-4-6.0**	●	●	●	●

3260MV

Fraises en bout
Schaftfräser
End mills

MD VHM HM	60°		Z=2	

D1 h10	E	L2	D2 Ø3 h4 Ø6 h5 Ø8 h6	L1	Art. N°	N	TiAlN	STF
0.50	0.05	1.00	3.00	39	**3260MV-0.5**	●	●	●
1.00	0.10	2.00	3.00	39	**3260MV-1.0**	●	●	●
1.50	0.15	3.00	3.00	39	**3260MV-1.5**	●	●	●
2.00	0.20	4.00	3.00	39	**3260MV-2.0**	●	●	●
2.50	0.25	5.00	3.00	39	**3260MV-2.5**	●	●	●
3.00	0.30	6.00	6.00	50	**3260MV-3.0**	●	●	●
4.00	0.40	8.00	6.00	50	**3260MV-4.0**	●	●	●
6.00	0.60	12.00	8.00	64	**3260MV-6.0**	●	●	●

Fraises en bout
Schaftfräser
End mills

3290MV

MD
VHM
HM

90°

Z=2

D1 h10	E	L2	D2 Ø3 h4 Ø6 h5 Ø8 h6	L1	Art. N°	N	TiAlN	STF
0.30	0.03	0.60	3.00	39	**3290MV-0.3**	●	●	●
0.40	0.04	0.80	3.00	39	**3290MV-0.4**	●	●	●
0.50	0.05	1.00	3.00	39	**3290MV-0.5**	●	●	●
0.60	0.06	1.20	3.00	39	**3290MV-0.6**	●	●	●
0.70	0.07	1.40	3.00	39	**3290MV-0.7**	●	●	●
0.80	0.08	1.60	3.00	39	**3290MV-0.8**	●	●	●
0.90	0.09	1.80	3.00	39	**3290MV-0.9**	●	●	●
1.00	0.10	2.00	3.00	39	**3290MV-1.0**	●	●	●
1.10	0.11	2.20	3.00	39	**3290MV-1.1**	●	●	●
1.20	0.12	2.40	3.00	39	**3290MV-1.2**	●	●	●
1.30	0.13	2.60	3.00	39	**3290MV-1.3**	●	●	●
1.40	0.14	2.80	3.00	39	**3290MV-1.4**	●	●	●
1.50	0.15	3.00	3.00	39	**3290MV-1.5**	●	●	●
1.60	0.16	3.20	3.00	39	**3290MV-1.6**	●	●	●
1.70	0.17	3.40	3.00	39	**3290MV-1.7**	●	●	●
1.80	0.18	3.60	3.00	39	**3290MV-1.8**	●	●	●
1.90	0.19	3.80	3.00	39	**3290MV-1.9**	●	●	●
2.00	0.20	4.00	3.00	39	**3290MV-2.0**	●	●	●
2.50	0.25	5.00	3.00	39	**3290MV-2.5**	●	●	●
3.00	0.30	6.00	6.00	50	**3290MV-3.0**	●	●	●
4.00	0.40	8.00	6.00	50	**3290MV-4.0**	●	●	●
6.00	0.60	12.00	8.00	64	**3290MV-6.0**	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

32120MV

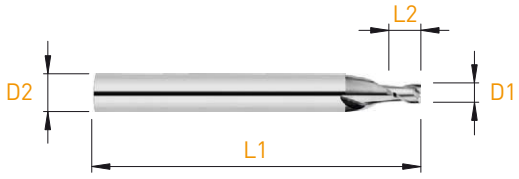
Fraises en bout
Schaftfräser
End mills

MD VHM HM	120°		Z=2	

D1 h10	E	L2	D2 Ø3 h4 Ø6 h5 Ø8 h6	L1	Art. N°	N	TiAlN	STF
0.50	0.05	1.00	3.00	39	**32120MV-0.5**	●	●	●
1.00	0.10	2.00	3.00	39	**32120MV-1.0**	●	●	●
1.50	0.15	3.00	3.00	39	**32120MV-1.5**	●	●	●
2.00	0.20	4.00	3.00	39	**32120MV-2.0**	●	●	●
2.50	0.25	5.00	3.00	39	**32120MV-2.5**	●	●	●
3.00	0.30	6.00	6.00	50	**32120MV-3.0**	●	●	●
4.00	0.40	8.00	6.00	50	**32120MV-4.0**	●	●	●
6.00	0.60	12.00	8.00	64	**32120MV-6.0**	●	●	●

Fraises en bout de finition
Schlicht Schaftfräser
Finishing end mills

3230



MD
VHM
HM

λ 30°

Sharp Corner

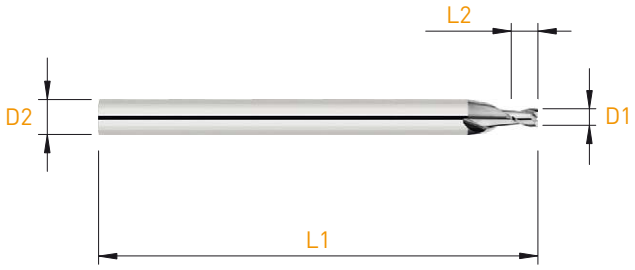
Z=2

D1 h10	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
1.00	1.00	6.00	50	**3230-1.0**	●	●	●
1.50	1.50	6.00	50	**3230-1.5**	●	●	●
2.00	2.00	6.00	50	**3230-2.0**	●	●	●
2.50	2.50	6.00	50	**3230-2.5**	●	●	●
3.00	3.00	6.00	50	**3230-3.0**	●	●	●
4.00	4.00	6.00	50	**3230-4.0**	●	●	●
5.00	5.00	6.00	50	**3230-5.0**	●	●	●
6.00	6.00	6.00	50	**3230-6.0**	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

3230-1.5

Fraises en bout de finition
Schlicht Schaftfräser
Finishing end mills

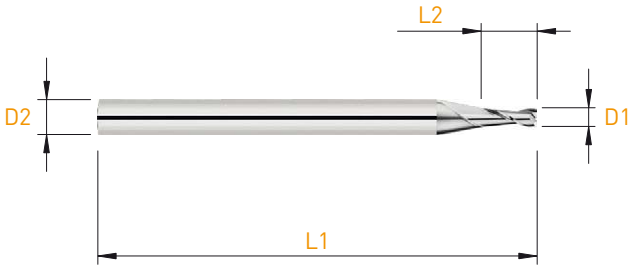


MD VHM HM	λ 30°	Sharp Corner		1.5xD1	Z=2	

D1 h10	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
3.00	4.50	6.00	50	**3230-1.5-3.0**	●	●	●
3.50	5.00	6.00	50	**3230-1.5-3.5**	●	●	●
4.00	6.00	6.00	50	**3230-1.5-4.0**	●	●	●
4.50	7.00	6.00	50	**3230-1.5-4.5**	●	●	●
5.00	8.00	6.00	50	**3230-1.5-5.0**	●	●	●
6.00	9.00	6.00	50	**3230-1.5-6.0**	●	●	●

Fraises en bout de finition
Schlicht Schaftfräser
Finishing end mills

3230-3



MD
VHM
HM

λ 30°

Sharp Corner

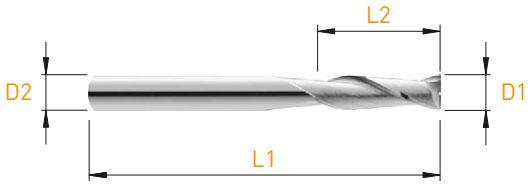
3xD1

Z=2

D1 h10	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
3.00	9.00	6.00	50	**3230-3-3.0**	●	●	●
3.50	10.00	6.00	50	**3230-3-3.5**	●	●	●
4.00	12.00	6.00	50	**3230-3-4.0**	●	●	●
4.50	13.00	6.00	50	**3230-3-4.5**	●	●	●
5.00	15.00	6.00	50	**3230-3-5.0**	●	●	●
6.00	18.00	6.00	50	**3230-3-6.0**	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

Fraises en bout de finition
Schlicht Schaftfräser
Finishing end mills



MD
VHM
HM

λ 30°

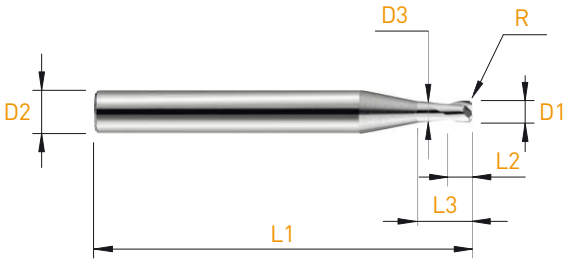
Sharp Corner

Z=2

D1 e9	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
2.00	8.00	2.00	32	**3231-2.0**	●	●	●
2.50	8.00	2.50	32	**3231-2.5**	●	●	●
3.00	12.00	3.00	32	**3231-3.0**	●	●	●
3.50	12.00	3.50	32	**3231-3.5**	●	●	●
4.00	12.00	4.00	40	**3231-4.0**	●	●	●
4.50	14.00	4.50	50	**3231-4.5**	●	●	●
5.00	14.00	5.00	50	**3231-5.0**	●	●	●
6.00	16.00	6.00	50	**3231-6.0**	●	●	●

Fraises en bout de finition
Schlicht Schaftfräser
Finishing end mills

3239T-2.5X



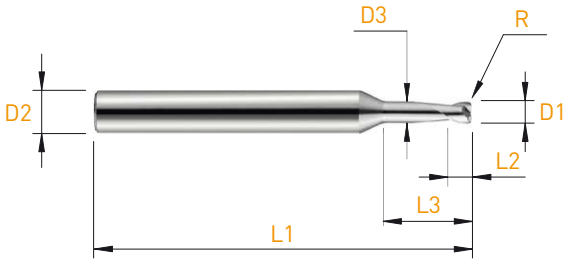
MD VHM HM | λ 30° | Radius Corner | L3 2.5xD1 | Z=2

D1 h10	R +/- 0.02	L2	L3	D3	D2 h5	L1	Art. N°	N	TiAlN	STF
3.00	0.50	3.00	7.50	2.95	6.00	57	**3239T-2.5X-3.0**	●	●	●
3.50	0.50	3.50	8.75	3.45	6.00	57	**3239T-2.5X-3.5**	●	●	●
4.00	0.50	4.00	10.00	3.95	6.00	57	**3239T-2.5X-4.0**	●	●	●
4.50	0.50	4.50	11.25	4.45	6.00	57	**3239T-2.5X-4.5**	●	●	●
5.00	0.50	5.00	12.50	4.95	6.00	57	**3239T-2.5X-5.0**	●	●	●
5.50	0.50	5.50	13.75	5.45	6.00	57	**3239T-2.5X-5.5**	●	●	●
6.00	0.50	6.00	15.00	5.95	6.00	57	**3239T-2.5X-6.0**	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

3239T-4X

Fraises en bout de finition
Schlicht Schaftfräser
Finishing end mills

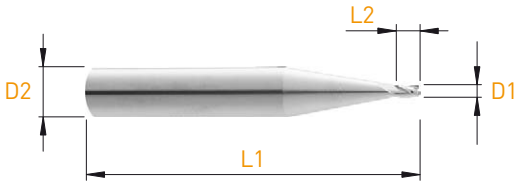


MD VHM HM | λ 30° | Radius Corner | L3 4xD1 | Z=2

D1 h10	R +/- 0.02	L2	L3	D3	D2 h5	L1	Art. N°	N	TiAlN	STF
3.00	0.50	3.00	12.00	2.95	6.00	57	**3239T-4X-3.0**	●	●	●
3.50	0.50	3.50	14.00	3.45	6.00	57	**3239T-4X-3.5**	●	●	●
4.00	0.50	4.00	16.00	3.95	6.00	57	**3239T-4X-4.0**	●	●	●
4.50	0.50	4.50	18.00	4.45	6.00	57	**3239T-4X-4.5**	●	●	●
5.00	0.50	5.00	20.00	4.95	6.00	57	**3239T-4X-5.0**	●	●	●
5.50	0.50	5.50	22.00	5.45	6.00	57	**3239T-4X-5.5**	●	●	●
6.00	0.50	6.00	24.00	5.95	6.00	57	**3239T-4X-6.0**	●	●	●

Fraises en bout de finition
Schlicht Schaftfräser
Finishing end mills

3330-S



MD
VHM
HM

λ 30°

Sharp Corner

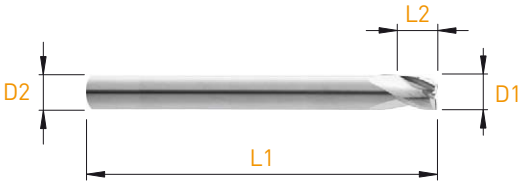
Z=3

D1 h10	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
1.00	3.00	6.00	40	**3330-S-1.0**	●	●	●
1.50	3.00	6.00	40	**3330-S-1.5**	●	●	●
2.00	3.00	6.00	40	**3330-S-2.0**	●	●	●
2.50	3.00	6.00	40	**3330-S-2.5**	●	●	●
3.00	4.00	6.00	40	**3330-S-3.0**	●	●	●
3.50	4.00	6.00	40	**3330-S-3.5**	●	●	●
4.00	5.00	6.00	40	**3330-S-4.0**	●	●	●
4.50	5.00	6.00	40	**3330-S-4.5**	●	●	●
5.00	6.00	6.00	40	**3330-S-5.0**	●	●	●
6.00	7.00	6.00	40	**3330-S-6.0**	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

3330

Fraises en bout de finition
Schlicht Schaftfräser
Finishing end mills



MD
VHM
HM

λ 30°

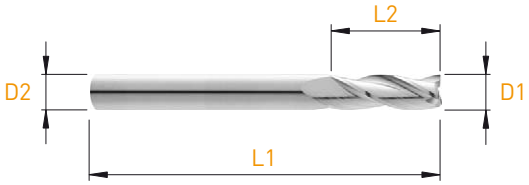
Sharp Corner

Z=3

D1 e9	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
3.00	3.00	3.00	39	**3330-3.0**	●	●	●
4.00	4.00	4.00	50	**3330-4.0**	●	●	●
5.00	5.00	5.00	50	**3330-5.0**	●	●	●
6.00	6.00	6.00	50	**3330-6.0**	●	●	●
8.00	8.00	8.00	58	**3330-8.0**	●		
10.00	10.00	10.00	66	**3330-10.0**	●		
12.00	12.00	12.00	73	**3330-12.0**	●		

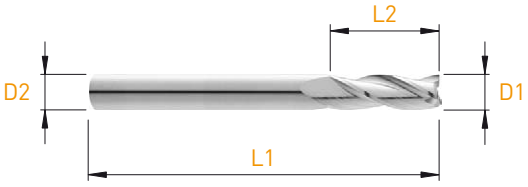
Fraises en bout de finition
Schlicht Schaftfräser
Finishing end mills

3330-4



MD VHM HM	λ 30°	Sharp Corner		4xD1	Z=3	

D1 h10	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
3.00	12.00	6.00	50	**3330-4-3.0**	●	●	●
4.00	16.00	6.00	50	**3330-4-4.0**	●	●	●
5.00	20.00	6.00	50	**3330-4-5.0**	●	●	●
6.00	24.00	6.00	57	**3330-4-6.0**	●	●	●



MD
VHM
HM

λ 30°

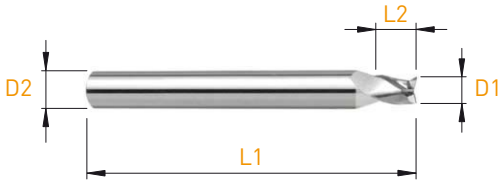
Sharp Corner

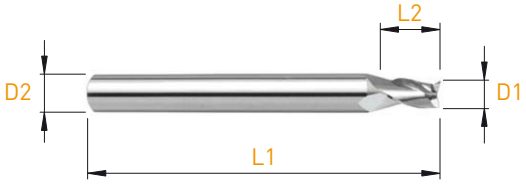
Z=3

D1 e9	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
2.00	8.00	2.00	32	**3331-2.0**	●	●	●
2.50	8.00	2.50	32	**3331-2.5**	●	●	●
3.00	12.00	3.00	32	**3331-3.0**	●	●	●
3.50	12.00	3.50	32	**3331-3.5**	●	●	●
4.00	12.00	4.00	40	**3331-4.0**	●	●	●
4.50	14.00	4.50	50	**3331-4.5**	●	●	●
5.00	14.00	5.00	50	**3331-5.0**	●	●	●
6.00	16.00	6.00	50	**3331-6.0**	●	●	●

Fraises en bout de finition
Schlicht Schaftfräser
Finishing end mills

3336-HA / 3337-HA





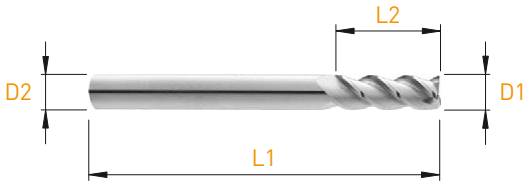
MD VHM HM | λ 30° | Sharp Corner | DIN 6527K | Z=3

D1 h10	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
1.50	3.00	6.00	50	**3336-HA-1.5**	●	●	●
1.80	3.00	6.00	50	**3336-HA-1.8**	●	●	●
2.00	3.00	6.00	50	**3336-HA-2.0**	●	●	●
2.50	3.00	6.00	50	**3336-HA-2.5**	●	●	●
2.80	4.00	6.00	50	**3336-HA-2.8**	●	●	●
3.00	4.00	6.00	50	**3336-HA-3.0**	●	●	●
3.50	4.00	6.00	50	**3336-HA-3.5**	●	●	●
3.80	5.00	6.00	54	**3336-HA-3.8**	●	●	●
4.00	5.00	6.00	54	**3336-HA-4.0**	●	●	●
4.50	5.00	6.00	54	**3336-HA-4.5**	●	●	●
4.80	6.00	6.00	54	**3336-HA-4.8**	●	●	●
5.00	6.00	6.00	54	**3336-HA-5.0**	●	●	●
5.50	7.00	6.00	54	**3336-HA-5.5**	●	●	●
5.80	7.00	6.00	54	**3336-HA-5.8**	●	●	●
6.00	7.00	6.00	54	**3336-HA-6.0**	●	●	●

MD VHM HM | λ 30° | Sharp Corner | DIN 6527L | Z=3

D1 h10	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
1.50	6.00	6.00	57	**3337-HA-1.5**	●	●	●
1.80	6.00	6.00	57	**3337-HA-1.8**	●	●	●
2.00	6.00	6.00	57	**3337-HA-2.0**	●	●	●
2.50	6.00	6.00	57	**3337-HA-2.5**	●	●	●
2.80	7.00	6.00	57	**3337-HA-2.8**	●	●	●
3.00	7.00	6.00	57	**3337-HA-3.0**	●	●	●
3.50	7.00	6.00	57	**3337-HA-3.5**	●	●	●
3.80	8.00	6.00	57	**3337-HA-3.8**	●	●	●
4.00	8.00	6.00	57	**3337-HA-4.0**	●	●	●
4.50	8.00	6.00	57	**3337-HA-4.5**	●	●	●
4.80	10.00	6.00	57	**3337-HA-4.8**	●	●	●
5.00	10.00	6.00	57	**3337-HA-5.0**	●	●	●
5.50	10.00	6.00	57	**3337-HA-5.5**	●	●	●
5.80	10.00	6.00	57	**3337-HA-5.8**	●	●	●
6.00	10.00	6.00	57	**3337-HA-6.0**	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request



MD
VHM
HM

λ 45°

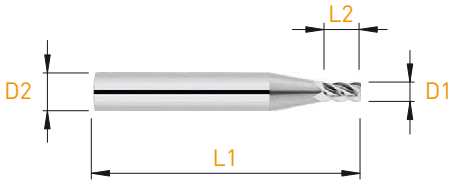
Sharp Corner

Z=3

D1 e9	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
2.00	8.00	2.00	32	**3341-2.0**	●	●	●
2.50	8.00	2.50	32	**3341-2.5**	●	●	●
3.00	12.00	3.00	32	**3341-3.0**	●	●	●
3.50	12.00	3.50	32	**3341-3.5**	●	●	●
4.00	12.00	4.00	40	**3341-4.0**	●	●	●
4.50	14.00	4.50	50	**3341-4.5**	●	●	●
5.00	14.00	5.00	50	**3341-5.0**	●	●	●
6.00	16.00	6.00	50	**3341-6.0**	●	●	●

Fraises en bout de finition
Schlicht Schaftfräser
Finishing end mills

3345-S



MD
VHM
HM

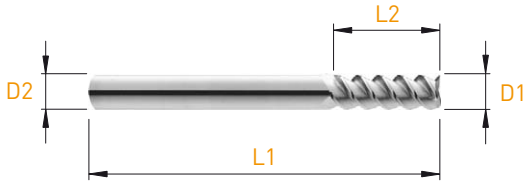
λ 45°

Sharp Corner

Z=3

D1 h10	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
0.50	1.00	6.00	40	**3345-S-0.5**	●	●	●
0.60	1.20	6.00	40	**3345-S-0.6**	●	●	●
0.70	1.40	6.00	40	**3345-S-0.7**	●	●	●
0.80	1.60	6.00	40	**3345-S-0.8**	●	●	●
0.90	1.80	6.00	40	**3345-S-0.9**	●	●	●
1.00	2.00	6.00	40	**3345-S-1.0**	●	●	●
1.10	2.20	6.00	40	**3345-S-1.1**	●	●	●
1.20	2.40	6.00	40	**3345-S-1.2**	●	●	●
1.30	2.60	6.00	40	**3345-S-1.3**	●	●	●
1.40	2.80	6.00	40	**3345-S-1.4**	●	●	●
1.50	3.00	6.00	40	**3345-S-1.5**	●	●	●
1.60	3.20	6.00	40	**3345-S-1.6**	●	●	●
1.70	3.40	6.00	40	**3345-S-1.7**	●	●	●
1.80	3.60	6.00	40	**3345-S-1.8**	●	●	●
1.90	3.80	6.00	40	**3345-S-1.9**	●	●	●
2.00	4.00	6.00	40	**3345-S-2.0**	●	●	●
2.10	4.20	6.00	40	**3345-S-2.1**	●	●	●
2.20	4.40	6.00	40	**3345-S-2.2**	●	●	●
2.30	4.60	6.00	40	**3345-S-2.3**	●	●	●
2.40	4.80	6.00	40	**3345-S-2.4**	●	●	●
2.50	5.00	6.00	40	**3345-S-2.5**	●	●	●
2.60	5.20	6.00	40	**3345-S-2.6**	●	●	●
2.70	5.40	6.00	40	**3345-S-2.7**	●	●	●
2.80	5.60	6.00	40	**3345-S-2.8**	●	●	●
2.90	5.80	6.00	40	**3345-S-2.9**	●	●	●
3.00	6.00	6.00	40	**3345-S-3.0**	●	●	●
3.50	7.00	6.00	40	**3345-S-3.5**	●	●	●
4.00	8.00	6.00	40	**3345-S-4.0**	●	●	●
4.50	9.00	6.00	40	**3345-S-4.5**	●	●	●
5.00	10.00	6.00	40	**3345-S-5.0**	●	●	●
6.00	12.00	6.00	40	**3345-S-6.0**	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request



MD
VHM
HM

λ 60°

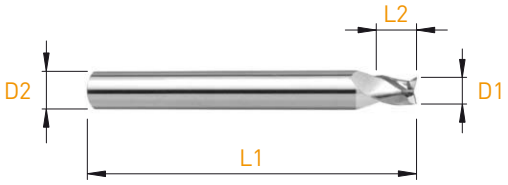
Sharp Corner

Z=3

D1 e9	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
2.00	8.00	2.00	32	**3361-2.0**	●	●	●
2.50	8.00	2.50	32	**3361-2.5**	●	●	●
3.00	12.00	3.00	32	**3361-3.0**	●	●	●
3.50	12.00	3.50	32	**3361-3.5**	●	●	●
4.00	12.00	4.00	40	**3361-4.0**	●	●	●
4.50	14.00	4.50	50	**3361-4.5**	●	●	●
5.00	14.00	5.00	50	**3361-5.0**	●	●	●
6.00	16.00	6.00	50	**3361-6.0**	●	●	●

Fraises en bout de finition
Schlicht Schaftfräser
Finishing end mills

DHP3336



MD
VHM
HM

λ 35° ↓ 38°

Sharp Corner

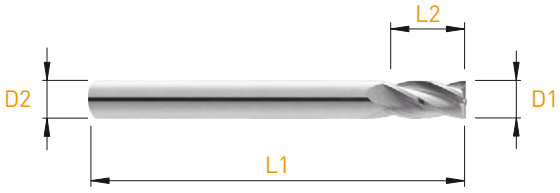
Z=3

DHP

Denture à pas irrégulier, hélice progressive
Ungleiche Teilung, progressive Spirale
Uneven tooth pitch, progressive helix

D1 h10	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
1.00	4.00	6.00	40	**DHP3336-1.0**	●	●	●
1.50	4.00	6.00	40	**DHP3336-1.5**	●	●	●
2.00	4.00	6.00	40	**DHP3336-2.0**	●	●	●
2.50	4.00	6.00	40	**DHP3336-2.5**	●	●	●
3.00	5.00	6.00	40	**DHP3336-3.0**	●	●	●
3.50	5.00	6.00	40	**DHP3336-3.5**	●	●	●
4.00	6.00	6.00	40	**DHP3336-4.0**	●	●	●
5.00	7.00	6.00	40	**DHP3336-5.0**	●	●	●
6.00	8.00	6.00	40	**DHP3336-6.0**	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request



MD
VHM
HM

λ 30°

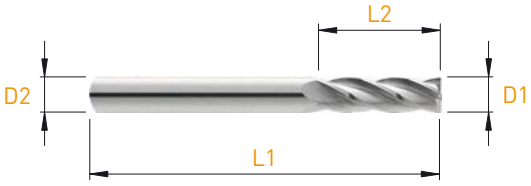
Sharp Corner

Z=4

D1 e9	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
3.00	3.00	3.00	39	**3430-3.0**	●	●	●
4.00	4.00	4.00	50	**3430-4.0**	●	●	●
5.00	5.00	5.00	50	**3430-5.0**	●	●	●
6.00	6.00	6.00	50	**3430-6.0**	●	●	●

Fraises en bout de finition
Schlicht Schaftfräser
Finishing end mills

3431



MD
VHM
HM

λ 30°

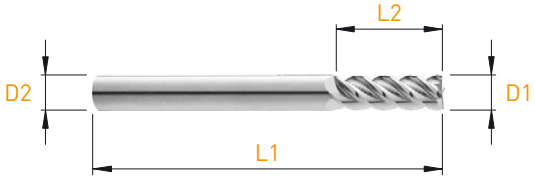
Sharp Corner

Z=4

D1 e9	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
2.00	8.00	2.00	32	**3431-2.0**	●	●	●
2.50	8.00	2.50	32	**3431-2.5**	●	●	●
3.00	12.00	3.00	32	**3431-3.0**	●	●	●
3.50	12.00	3.50	32	**3431-3.5**	●	●	●
4.00	12.00	4.00	40	**3431-4.0**	●	●	●
4.50	14.00	4.50	50	**3431-4.5**	●	●	●
5.00	14.00	5.00	50	**3431-5.0**	●	●	●
6.00	16.00	6.00	50	**3431-6.0**	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

Fraises en bout de finition
Schlicht Schaftfräser
Finishing end mills



MD
VHM
HM

λ 45°

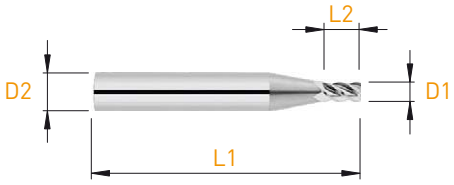
Sharp Corner

Z=4

D1 e9	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
2.00	8.00	2.00	32	**3441-2.0**	●	●	●
2.50	8.00	2.50	32	**3441-2.5**	●	●	●
3.00	12.00	3.00	32	**3441-3.0**	●	●	●
3.50	12.00	3.50	32	**3441-3.5**	●	●	●
4.00	12.00	4.00	40	**3441-4.0**	●	●	●
4.50	14.00	4.50	50	**3441-4.5**	●	●	●
5.00	14.00	5.00	50	**3441-5.0**	●	●	●
6.00	16.00	6.00	50	**3441-6.0**	●	●	●

Fraises en bout de finition
Schlicht Schaftfräser
Finishing end mills

3445-S



MD
VHM
HM

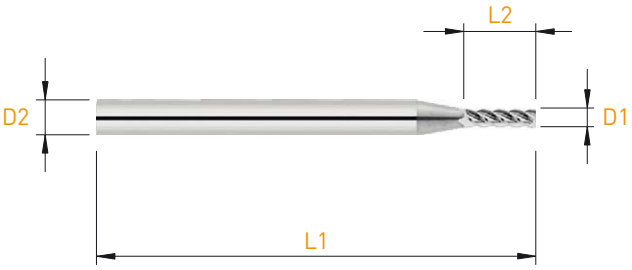
λ 45°

Sharp Corner

Z=4

D1 h10	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
0.50	1.00	6.00	40	**3445-S-0.5**	●	●	●
0.60	1.20	6.00	40	**3445-S-0.6**	●	●	●
0.70	1.40	6.00	40	**3445-S-0.7**	●	●	●
0.80	1.60	6.00	40	**3445-S-0.8**	●	●	●
0.90	1.80	6.00	40	**3445-S-0.9**	●	●	●
1.00	2.00	6.00	40	**3445-S-1.0**	●	●	●
1.10	2.20	6.00	40	**3445-S-1.1**	●	●	●
1.20	2.40	6.00	40	**3445-S-1.2**	●	●	●
1.30	2.60	6.00	40	**3445-S-1.3**	●	●	●
1.40	2.80	6.00	40	**3445-S-1.4**	●	●	●
1.50	3.00	6.00	40	**3445-S-1.5**	●	●	●
1.60	3.20	6.00	40	**3445-S-1.6**	●	●	●
1.70	3.40	6.00	40	**3445-S-1.7**	●	●	●
1.80	3.60	6.00	40	**3445-S-1.8**	●	●	●
1.90	3.80	6.00	40	**3445-S-1.9**	●	●	●
2.00	4.00	6.00	40	**3445-S-2.0**	●	●	●
2.10	4.20	6.00	40	**3445-S-2.1**	●	●	●
2.20	4.40	6.00	40	**3445-S-2.2**	●	●	●
2.30	4.60	6.00	40	**3445-S-2.3**	●	●	●
2.40	4.80	6.00	40	**3445-S-2.4**	●	●	●
2.50	5.00	6.00	40	**3445-S-2.5**	●	●	●
2.60	5.20	6.00	40	**3445-S-2.6**	●	●	●
2.70	5.40	6.00	40	**3445-S-2.7**	●	●	●
2.80	5.60	6.00	40	**3445-S-2.8**	●	●	●
2.90	5.80	6.00	40	**3445-S-2.9**	●	●	●
3.00	6.00	6.00	40	**3445-S-3.0**	●	●	●
3.50	7.00	6.00	40	**3445-S-3.5**	●	●	●
4.00	8.00	6.00	40	**3445-S-4.0**	●	●	●
4.50	9.00	6.00	40	**3445-S-4.5**	●	●	●
5.00	10.00	6.00	40	**3445-S-5.0**	●	●	●
6.00	12.00	6.00	40	**3445-S-6.0**	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request



MD
VHM
HM

λ 50°

Sharp Corner

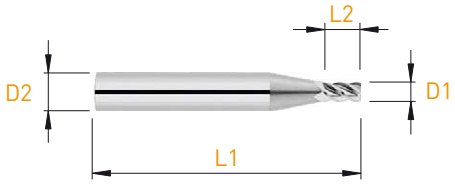
1.5xD1

Z=4

D1 h10	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
1.00	1.50	6.00	50	**3450-1.0**	●	●	●
1.50	2.25	6.00	50	**3450-1.5**	●	●	●
2.00	3.00	6.00	50	**3450-2.0**	●	●	●
2.50	3.75	6.00	50	**3450-2.5**	●	●	●
3.00	4.50	6.00	50	**3450-3.0**	●	●	●
3.50	5.25	6.00	50	**3450-3.5**	●	●	●
4.00	6.00	6.00	50	**3450-4.0**	●	●	●
5.00	7.50	6.00	50	**3450-5.0**	●	●	●
6.00	9.00	6.00	50	**3450-6.0**	●	●	●

Fraises en bout de finition
Schlicht Schaftfräser
Finishing end mills

DHP3436



MD
VHM
HM

λ 35° ↓ 38°

Sharp Corner

Z=4

DHP

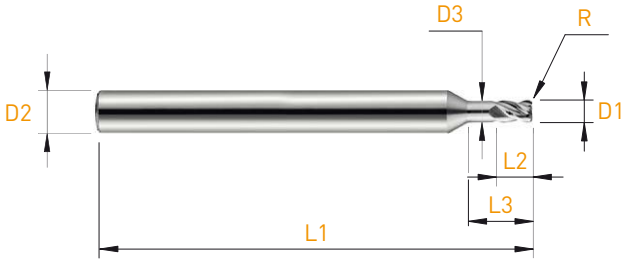
Denture à pas irrégulier, hélice progressive
Ungleiche Teilung, progressive Spirale
Uneven tooth pitch, progressive helix

D1 h10	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
1.00	4.00	6.00	40	**DHP3436-1.0**	●	●	●
1.50	4.00	6.00	40	**DHP3436-1.5**	●	●	●
2.00	4.00	6.00	40	**DHP3436-2.0**	●	●	●
2.50	4.00	6.00	40	**DHP3436-2.5**	●	●	●
3.00	5.00	6.00	40	**DHP3436-3.0**	●	●	●
3.50	5.00	6.00	40	**DHP3436-3.5**	●	●	●
4.00	6.00	6.00	40	**DHP3436-4.0**	●	●	●
5.00	7.00	6.00	40	**DHP3436-5.0**	●	●	●
6.00	8.00	6.00	40	**DHP3436-6.0**	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

3439T-2.5X

Fraises en bout toriques
Torische Schaftfräser
Toric end mills



MD
VHM
HM

λ 30°

Radius Corner

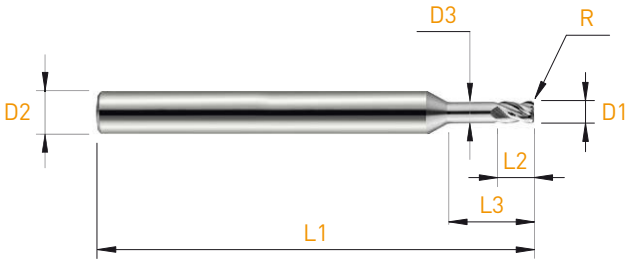
L3
2.5xD1

Z=4

D1 h10	R +/- 0.02	L2	L3	D3	D2 h5	L1	Art. N°	N	TiAlN	STF
3.00	0.50	3.00	7.50	2.95	6.00	57	**3439T-2.5X-3.0**	●	●	●
3.50	0.50	3.50	8.75	3.45	6.00	57	**3439T-2.5X-3.5**	●	●	●
4.00	0.50	4.00	10.00	3.95	6.00	57	**3439T-2.5X-4.0**	●	●	●
4.50	0.50	4.50	11.25	4.45	6.00	57	**3439T-2.5X-4.5**	●	●	●
5.00	0.50	5.00	12.50	4.95	6.00	57	**3439T-2.5X-5.0**	●	●	●
5.50	0.50	5.50	13.75	5.45	6.00	57	**3439T-2.5X-5.5**	●	●	●
6.00	0.50	6.00	15.00	5.95	6.00	57	**3439T-2.5X-6.0**	●	●	●

Fraises en bout toriques
Torische Schaftfräser
Toric end mills

3439T-4X



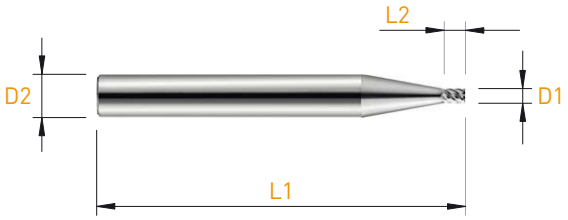
MD VHM HM | λ 30° | Radius Corner | L3 4xD1 | Z=4

D1 h10	R +/- 0.02	L2	L3	D3	D2 h5	L1	Art. N°	N	TiAlN	STF
3.00	0.50	3.00	12.00	2.95	6.00	57	**3439T-4X-3.0**	●	●	●
3.50	0.50	3.50	14.00	3.45	6.00	57	**3439T-4X-3.5**	●	●	●
4.00	0.50	4.00	16.00	3.95	6.00	57	**3439T-4X-4.0**	●	●	●
4.50	0.50	4.50	18.00	4.45	6.00	57	**3439T-4X-4.5**	●	●	●
5.00	0.50	5.00	20.00	4.95	6.00	57	**3439T-4X-5.0**	●	●	●
5.50	0.50	5.50	22.00	5.45	6.00	57	**3439T-4X-5.5**	●	●	●
6.00	0.50	6.00	24.00	5.95	6.00	57	**3439T-4X-6.0**	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

3545

Fraises en bout de finition
Schlicht Schaftfräser
Finishing end mills



MD
VHM
HM

λ 45°

Sharp Corner

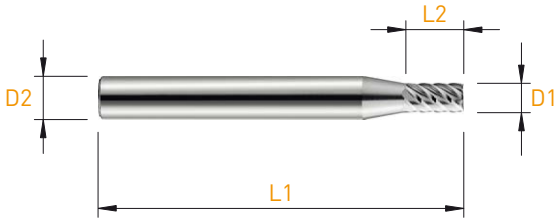
1.5xD1

Z=5

D1 h10	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
1.00	1.50	6.00	50	**3545-1.0**	●	●	●
2.00	3.00	6.00	50	**3545-2.0**	●	●	●
3.00	4.50	6.00	50	**3545-3.0**	●	●	●
4.00	6.00	6.00	50	**3545-4.0**	●	●	●
5.00	7.50	6.00	50	**3545-5.0**	●	●	●
6.00	9.00	6.00	50	**3545-6.0**	●	●	●

Fraises en bout de finition
Schlicht Schaftfräser
Finishing end mills

35645



MD
VHM
HM

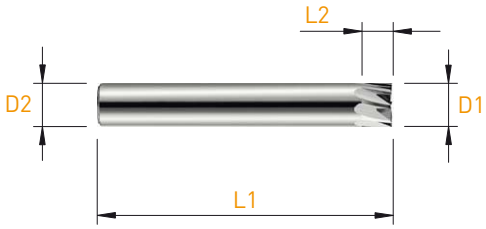
λ 45°

Sharp Corner

Z=4
Z=5
Z=6

D1 h10	L2	Z	D2 h5	L1	Art. N°	N	TiAlN	STF
1.00	2.00	4	6.00	50	**35645-1.0**	●	●	●
1.50	3.00	5	6.00	50	**35645-1.5**	●	●	●
2.00	4.00	5	6.00	50	**35645-2.0**	●	●	●
2.50	5.00	5	6.00	50	**35645-2.5**	●	●	●
3.00	6.00	5	6.00	50	**35645-3.0**	●	●	●
3.50	7.00	5	6.00	50	**35645-3.5**	●	●	●
4.00	8.00	6	6.00	50	**35645-4.0**	●	●	●
4.50	9.00	6	6.00	50	**35645-4.5**	●	●	●
5.00	10.00	6	6.00	50	**35645-5.0**	●	●	●
6.00	12.00	6	6.00	50	**35645-6.0**	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request



MD
VHM
HM

λ 10°

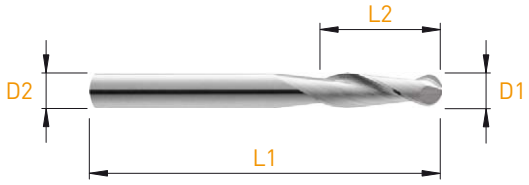
Sharp Corner

Z=8

D1 e9	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
6.00	4.00	6.00	50	**3810-0.65-6.0**	●	●	●
6.00	6.00	6.00	57	**3810-1.0-6.0**	●	●	●
6.00	9.00	6.00	57	**3810-1.5-6.0**	●	●	●

Fraises en bout hémisphériques
Vollradius Schaftfräser
Ball nose end mills

3238



MD
VHM
HM

λ 30°

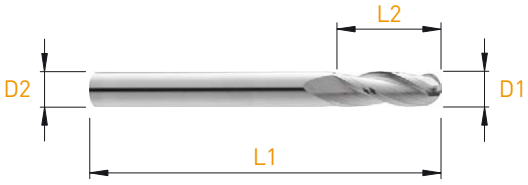
Z=2

D1 e9	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
2.00	8.00	2.00	32	**3238-2.0**	●	●	●
2.50	8.00	2.50	32	**3238-2.5**	●	●	●
3.00	12.00	3.00	32	**3238-3.0**	●	●	●
3.50	12.00	3.50	32	**3238-3.5**	●	●	●
4.00	12.00	4.00	40	**3238-4.0**	●	●	●
4.50	14.00	4.50	50	**3238-4.5**	●	●	●
5.00	14.00	5.00	50	**3238-5.0**	●	●	●
6.00	16.00	6.00	50	**3238-6.0**	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

3338

Fraises en bout hémisphériques
Vollradius Schaftfräser
Ball nose end mills



MD
VHM
HM

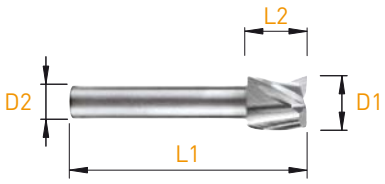
λ 30°

Z=3

D1 e9	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
2.00	8.00	2.00	32	**3338-2.0**	●	●	●
2.50	8.00	2.50	32	**3338-2.5**	●	●	●
3.00	12.00	3.00	32	**3338-3.0**	●	●	●
3.50	12.00	3.50	32	**3338-3.5**	●	●	●
4.00	12.00	4.00	40	**3338-4.0**	●	●	●
4.50	14.00	4.50	50	**3338-4.5**	●	●	●
5.00	14.00	5.00	50	**3338-5.0**	●	●	●
6.00	16.00	6.00	50	**3338-6.0**	●	●	●

Fraises en bout pour usinage en bout plat
Schaftfräser für flache Frontbearbeitung
End mills for flat front machining

3383



MD
VHM
HM

λ 30°

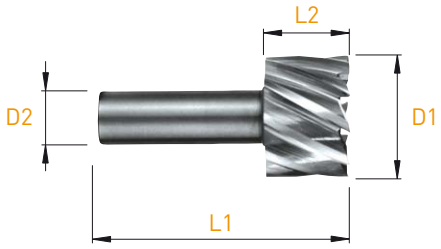
Sharp Corner

Z=3

D1 h10	L2	D2 h6	L1	Art. N°	z
8.00	8.00	6.00	40	**3383-8.0**	●
10.00	10.00	6.00	40	**3383-10.0**	●
12.00	12.00	6.00	40	**3383-12.0**	●

3831 / 3833

Fraises en bout avec queue réduite
Schaftfräser mit reduziertem Schaft
End mills with reduced shank



MD
VHM
HM

λ 30°

Sharp Corner

Z=10

D1 h10	L2	D2 h6	L1	Art. N°	Z
16.30	15.00	10.00	45	**3831**	●
20.30	15.00	10.00	45	**3833**	●

Fraises à angler
Kegelsenker
Chamfering tools

3611

MD VHM HM	λ 0°		Z=3	60°

D1 +0.005 / -0.010	L2	D2 h4	L1	d	Art. N°	N	TiAlN	STF
0.50	3.00	3.00	39	0.10	**3611-0.5**	●	●	●
0.60	3.00	3.00	39	0.10	**3611-0.6**	●	●	●
0.70	3.00	3.00	39	0.10	**3611-0.7**	●	●	●
0.80	3.00	3.00	39	0.10	**3611-0.8**	●	●	●
0.90	3.00	3.00	39	0.10	**3611-0.9**	●	●	●
1.00	3.00	3.00	39	0.10	**3611-1.0**	●	●	●
1.50	4.50	3.00	39	0.10	**3611-1.5**	●	●	●
2.00	6.00	3.00	39	0.10	**3611-2.0**	●	●	●
2.50	7.50	3.00	39	0.10	**3611-2.5**	●	●	●
3.00	-	3.00	39	0.10	**3611-3.0**	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

MD
VHM
HM

λ 0°

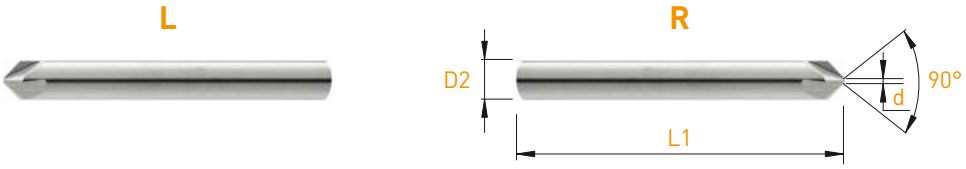
Z=3

90°

D1 +0.010 / -0.010	L2	D2 h4	L1	d	Art. N°	N	TiAlN	STF
0.30	2.00	3.00	39	0.05	**3911-0.30**	●	●	●
0.40	2.00	3.00	39	0.05	**3911-0.40**	●	●	●
0.50	3.00	3.00	39	0.10	**3911-0.50**	●	●	●
0.60	3.00	3.00	39	0.10	**3911-0.60**	●	●	●
0.70	3.00	3.00	39	0.10	**3911-0.70**	●	●	●
0.80	3.00	3.00	39	0.10	**3911-0.80**	●	●	●
0.90	3.00	3.00	39	0.10	**3911-0.90**	●	●	●
1.00	3.00	3.00	39	0.10	**3911-1.00**	●	●	●
1.10	3.00	3.00	39	0.10	**3911-1.10**	●	●	●
1.20	3.00	3.00	39	0.10	**3911-1.20**	●	●	●
1.30	3.00	3.00	39	0.10	**3911-1.30**	●	●	●
1.40	3.00	3.00	39	0.10	**3911-1.40**	●	●	●
1.50	4.50	3.00	39	0.10	**3911-1.50**	●	●	●
2.00	6.00	3.00	39	0.10	**3911-2.00**	●	●	●
2.50	7.50	3.00	39	0.10	**3911-2.50**	●	●	●
3.00	-	3.00	39	0.10	**3911-3.00**	●	●	●

Fraises à angler
Kegelsenker
Chamfering tools

1901 / 3901



MD VHM HM	λ 0°		Z=4	90°	L		R			
D2 Ø3 h4 Ø6 h5 Ø8 h6	d	L1	Art. N°	N	Art. N°	N	TiAlN	STF
3.00	0.30	39	**1901-3.0**	●	**3901-3.0**	●	●	●
6.00	0.70	50	**1901-6.0**	●	**3901-6.0**	●	●	●
8.00	1.20	59	**1901-8.0**	●	**3901-8.0**	●	●	●

Paramètres de coupe indicatifs
Empfohlene Schnittwerte
Standard machining data

> 16.98

Z	λ	D1	D2	**Type**	Corner	page
			Ø6 h4	**701SE330-P**		> 16.99
			Ø6 h4	**701SE330-R**		> 16.100
Z=1	0°	Ø0.50 -3.00	Ø6 h4	**701S3170R-2**		> 16.101
Z=2	0°	Ø0.30 -3.00	Ø6 h4	**701S3279T-3X**		> 16.102
Z=3		Ø0.30 - 3.50	Ø6 h5	**701S3371-1**		> 16.103
		Ø0.30 - 3.00	Ø6 h5	**701S3371-2**		> 16.104
		Ø0.30 - 2.50	Ø6 h5	**701S3371-3**		> 16.105
Z=3	30°	Ø1.00 -2.00	Ø6 h4	**701S3379T-3X**		> 16.106
Z=3	0°	Ø0.40 -2.00	Ø6 h4	**701S3911**		> 16.107

Fraises pour machine WM 701S
Werkzeuge für Maschine WM 701S
Executions for machine WM 701S

Tous les outils de la gamme MICRO-Line sont réalisables pour la machine WM 701S sur demande.

Alle Werkzeuge aus der MICRO-Line sind machbar für die Maschine WM 701S auf Anfrage.

All tools of MICRO-Line can be produced for the machine WM 701S on request.

Fraises pour machine WM 701S
Werkzeuge für Maschine WM 701S
Executions for machine WM 701S

Paramètres de coupe indicatifs
Empfohlene Schnittwerte
Standard machining data

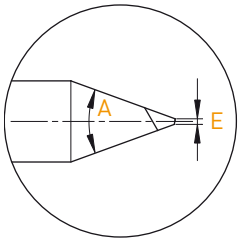
Matière Werkstoff Material		VC (m/min)	N	TiAlN	STF	DLC
Acier de décolletage Automatenstahl Free-cutting steel	P	120 - 180	-	★★★	★★★	-
Acier Stahl Steel < 600 N/mm²	P	100 - 150	-	★★★	★★★	-
Acier Stahl Steel < 800 N/mm²	P	100 - 130	-	★★★	★★★	-
Acier Stahl Steel > 800 N/mm²	P	80 - 100	-	★★★	★★★	-
Acier trempé Gehärteter Stahl -55HRC Hardened steel	H	-	-	★★★	★★★	-
Acier trempé Gehärteter Stahl +55HRC Hardened steel	H	-	-	★★★	★★★	-
Inox Rostfreistahl Stainless steel	M	60 - 90	-	★★★	★★★	-
Aluminium	N	250 - 400	★★	★★★	★★★	★★★
Cuivre, laiton, bronze Kupfer, Messing, Bronze Copper, brass, bronze	N	150 - 200	★★★	★★	★★	★★★
Matière synthétique Synthetisches Material Synthetic material	N	100 - 150	★★★	★★	★★	★★★
Métaux précieux Edelmetalle Precious metals	N	140 - 200	★★★	★★	★★	★★★
Titane Titan Titanium	S	40 - 70	-	★★★	★★★	-
Alliage de nickel Nickel-Legierung Nickel alloy	S	30 - 60	-	★★★	★★★	-
Matière exotique Exotisches material Exotic material	O	30 - 60	-	★★★	★★★	★★★

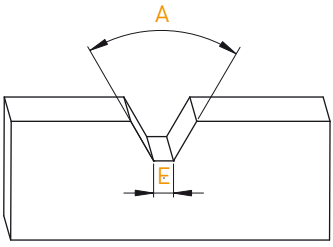
Avec revêtement, augmenter les valeurs de 20-30%
Mit Beschichtung, Daten um 20-30% erhöhen
With coating, increase data by 20-30%

★ Bien / Gut / Good
★★ Très bien / Sehr gut / Very good
★★★ Excellent / Ausgezeichnet / Excellent

Fraises à graver avec plat - WM 701S
Gravierfräser mit Fläche - WM 701S
Engraving mills with flat - WM 701S

701SE330-P





MD
VHM
HM

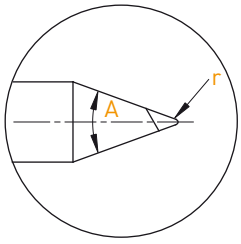
A	E	D2 h4	L1	Art. N°	N	TiAlN	STF	DLC
30°	0.02-0.10* / 0.10-0.30**	6.00	33	**701SE330-P-_(E)**	●	●	●	●
35°	0.02-0.10* / 0.10-0.30**	6.00	33	**701SE335-P-_(E)**	●	●	●	●
40°	0.02-0.10* / 0.10-0.30**	6.00	33	**701SE340-P-_(E)**	●	●	●	●
50°	0.02-0.10* / 0.10-0.30**	6.00	33	**701SE350-P-_(E)**	●	●	●	●
60°	0.02-0.10* / 0.10-0.30**	6.00	33	**701SE360-P-_(E)**	●	●	●	●

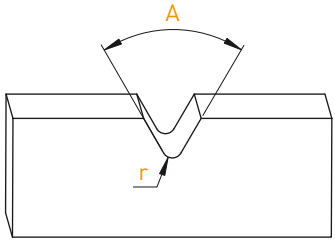
* tous les 0.01 mm
alle 0.01 mm
every 0.01 mm

** tous les 0.05 mm
alle 0.05 mm
every 0.05 mm

701SE330-R

Fraises à graver à rayon - WM 701S
Gravierfräser mit Radius - WM 701S
Engraving mills with radius - WM 701S





MD
VHM
HM

A	r	D2 h4	L1	Art. N°	N	TiAlN	STF	DLC
30°	0.04-0.10* / 0.10-0.30**	6.00	33	**701SE330-R-_(r)**	●	●	●	●
35°	0.04-0.10* / 0.10-0.30**	6.00	33	**701SE335-R-_(r)**	●	●	●	●
40°	0.04-0.10* / 0.10-0.30**	6.00	33	**701SE340-R-_(r)**	●	●	●	●
50°	0.04-0.10* / 0.10-0.30**	6.00	33	**701SE350-R-_(r)**	●	●	●	●
60°	0.04-0.10* / 0.10-0.30**	6.00	33	**701SE360-R-_(r)**	●	●	●	●

* tous les 0.01 mm
alle 0.01 mm
every 0.01 mm

** tous les 0.05 mm
alle 0.05 mm
every 0.05 mm

Fraises en bout - WM 701S
Schaftfräser - WM 701S
End mills - WM 701S

701S3170R-2

MD
VHM
HM

λ 0°

Sharp Corner

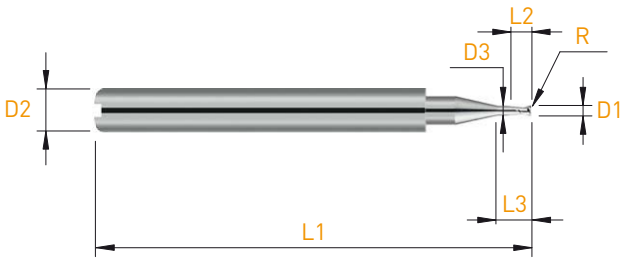
2xD1

Z=1

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	DLC
0.50	1.00	6.00	33	**701S3170R-2-0.50**	●	●	●	●
1.00	2.00	6.00	33	**701S3170R-2-1.00**	●	●	●	●
1.50	3.00	6.00	33	**701S3170R-2-1.50**	●	●	●	●
2.00	4.00	6.00	33	**701S3170R-2-2.00**	●	●	●	●
2.50	5.00	6.00	33	**701S3170R-2-2.50**	●	●	●	●
3.00	6.00	6.00	33	**701S3170R-2-3.00**	●	●	●	●

701S3279T-3X

Fraises en bout toriques - WM 701S
Torische Schaftfräser - WM 701S
Toric end mills - WM 701S



MD
VHM
HM

Radius Corner

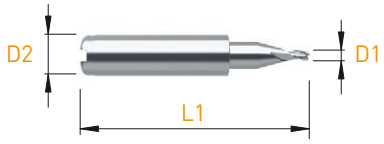
L3
3xD1

Z=2

D1 +0.005 / -0.010	R +/- 0.02	L2	L3	D3	D2 h4	L1	Art. N°	N	TiAlN	STF	DLC
0.30	0.05	0.30	0.90	0.27	6.00	33	**701S3279T-3X-0.30**	●	●	●	●
0.40	0.05	0.40	1.20	0.45	6.00	33	**701S3279T-3X-0.40**	●	●	●	●
0.50	0.05	0.50	1.50	0.45	6.00	33	**701S3279T-3X-0.50**	●	●	●	●
0.60	0.05	0.60	1.80	0.55	6.00	33	**701S3279T-3X-0.60**	●	●	●	●
0.80	0.05	0.80	2.40	0.75	6.00	33	**701S3279T-3X-0.80**	●	●	●	●
1.00	0.10	1.00	3.00	0.95	6.00	33	**701S3279T-3X-1.00**	●	●	●	●
1.20	0.10	1.20	3.60	1.15	6.00	33	**701S3279T-3X-1.20**	●	●	●	●
1.50	0.20	1.50	4.50	1.45	6.00	33	**701S3279T-3X-1.50**	●	●	●	●
1.80	0.20	1.80	5.40	1.75	6.00	33	**701S3279T-3X-1.80**	●	●	●	●
2.00	0.20	2.00	6.00	1.95	6.00	33	**701S3279T-3X-2.00**	●	●	●	●
2.50	0.20	2.50	7.50	2.45	6.00	33	**701S3279T-3X-2.50**	●	●	●	●
3.00	0.20	3.00	9.00	2.95	6.00	33	**701S3279T-3X-3.00**	●	●	●	●

Fraises en bout - WM 701S
Schaftfräser - WM 701S
End mills - WM 701S

701S3371-1



MD
VHM
HM

λ 36° ↓ 38°

Sharp Corner

1xD1

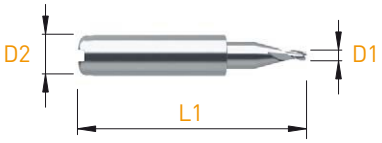
Z=3

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	DLC
0.30	0.30	6.00	33	**701S3371-1-0.30**	●	●	●	●
0.40	0.40	6.00	33	**701S3371-1-0.40**	●	●	●	●
0.50	0.50	6.00	33	**701S3371-1-0.50**	●	●	●	●
0.60	0.60	6.00	33	**701S3371-1-0.60**	●	●	●	●
0.80	0.80	6.00	33	**701S3371-1-0.80**	●	●	●	●
1.00	1.00	6.00	33	**701S3371-1-1.00**	●	●	●	●
1.20	1.20	6.00	33	**701S3371-1-1.20**	●	●	●	●
1.50	1.50	6.00	33	**701S3371-1-1.50**	●	●	●	●
1.80	1.80	6.00	33	**701S3371-1-1.80**	●	●	●	●
2.00	2.00	6.00	33	**701S3371-1-2.00**	●	●	●	●
2.50	2.50	6.00	33	**701S3371-1-2.50**	●	●	●	●
3.00	3.00	6.00	33	**701S3371-1-3.00**	●	●	●	●
3.20	3.20	6.00	33	**701S3371-1-3.20**	●	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

701S3371-2

Fraises en bout - WM 701S
Schaftfräser - WM 701S
End mills - WM 701S



MD
VHM
HM

λ 36° ↓ 38°

Sharp Corner

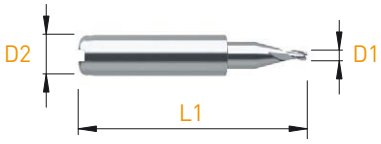
2xD1

Z=3

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	DLC
0.30	0.60	6.00	33	**701S3371-2-0.30**	●	●	●	●
0.40	0.80	6.00	33	**701S3371-2-0.40**	●	●	●	●
0.50	1.00	6.00	33	**701S3371-2-0.50**	●	●	●	●
0.60	1.20	6.00	33	**701S3371-2-0.60**	●	●	●	●
0.80	1.60	6.00	33	**701S3371-2-0.80**	●	●	●	●
1.00	2.00	6.00	33	**701S3371-2-1.00**	●	●	●	●
1.20	2.40	6.00	33	**701S3371-2-1.20**	●	●	●	●
1.50	3.00	6.00	33	**701S3371-2-1.50**	●	●	●	●
1.80	3.60	6.00	33	**701S3371-2-1.80**	●	●	●	●
2.00	4.00	6.00	33	**701S3371-2-2.00**	●	●	●	●
2.50	5.00	6.00	33	**701S3371-2-2.50**	●	●	●	●
3.00	6.00	6.00	33	**701S3371-2-3.00**	●	●	●	●

Fraises en bout - WM 701S
Schaftfräser - WM 701S
End mills - WM 701S

701S3371-3



MD
VHM
HM

λ 36° ↓ 38°

Sharp Corner

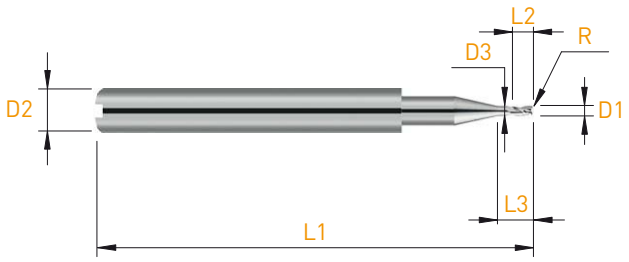
3xD1

Z=3

D1 +0.005 / -0.010	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	DLC
0.30	0.90	6.00	33	**701S3371-3-0.30**	●	●	●	●
0.40	1.20	6.00	33	**701S3371-3-0.40**	●	●	●	●
0.50	1.50	6.00	33	**701S3371-3-0.50**	●	●	●	●
0.60	1.80	6.00	33	**701S3371-3-0.60**	●	●	●	●
0.80	2.40	6.00	33	**701S3371-3-0.80**	●	●	●	●
1.00	3.00	6.00	33	**701S3371-3-1.00**	●	●	●	●
1.20	3.60	6.00	33	**701S3371-3-1.20**	●	●	●	●
1.50	4.50	6.00	33	**701S3371-3-1.50**	●	●	●	●
1.80	5.40	6.00	33	**701S3371-3-1.80**	●	●	●	●
2.00	6.00	6.00	33	**701S3371-3-2.00**	●	●	●	●
2.50	7.50	6.00	33	**701S3371-3-2.50**	●	●	●	●

701S3379T-3X

Fraises en bout toriques - WM 701S
Torische Schaftfräser - WM 701S
Toric end mills - WM 701S



MD
VHM
HM

λ 30°

Radius Corner

L3
3xD1

Z=3

D1 +0.005 / -0.010	R +/- 0.02	L2	L3	D3	D2 h4	L1	Art. N°	N	TiAlN	STF	DLC
1.00	0.10	2.00	3.00	0.95	6.00	33	**701S3379T-3X-1.00**	●	●	●	●
1.50	0.20	3.00	4.50	1.45	6.00	33	**701S3379T-3X-1.50**	●	●	●	●
2.00	0.20	4.00	6.00	1.95	6.00	33	**701S3379T-3X-2.00**	●	●	●	●

Fraises à angler - WM 701S
Kegelsenker - WM 701S
Chamfering tools - WM 701S

701S3911

MD
VHM
HM

λ 0°

Z=3

90°

D1 +0.010 / -0.010	L2	D2 h4	L1	d +/- 0.02	Art. N°	N	TiAlN	STF	DLC
0.40	2.00	6.00	33	0.05	**701S3911-0.40**	●	●	●	●
0.50	2.50	6.00	33	0.05	**701S3911-0.50**	●	●	●	●
0.60	2.50	6.00	33	0.05	**701S3911-0.60**	●	●	●	●
1.00	3.00	6.00	33	0.05	**701S3911-1.00**	●	●	●	●
1.50	4.50	6.00	33	0.05	**701S3911-1.50**	●	●	●	●
2.00	4.50	6.00	33	0.05	**701S3911-2.00**	●	●	●	●

Paramètres de coupe indicatifs
Empfohlene Schnittwerte
Standard machining data

> 16.109

A	Plat [E] / Rayon [r] Fläche [E] / Radius [r] Flat [E] / Radius [r]	D2	**Type**	Page
20° / 30° / 35° / 40° 45° / 50° / 55° / 60° 65° / 70° / 90° / 120°	0.05-0.30 0.05-0.10 / every 0.01 0.10-0.30 / every 0.05	Ø3 h4 Ø6 h5	**E100-P**	> 16.110
20° / 30° / 35° / 40° 45° / 50° / 55° / 60° 65° / 70° / 90°	0.02-0.30 0.02-0.10 / every 0.01 0.10-0.30 / every 0.05	Ø3 h4	**E300-P**	> 16.111
20° / 30° / 35° / 40° 45° / 50° / 55° / 60° 65° / 70° / 90°	0.04-0.30 0.04-0.10 / every 0.01 0.10-0.30 / every 0.05	Ø3 h4	**E300-R**	> 16.112
20° / 30° / 35° / 40° 45° / 50° / 55° / 60° 65° / 70° / 90°	0.04-0.30 0.04-0.10 / every 0.01 0.10-0.30 / every 0.05	Ø3 h4	**E900-P**	> 16.113
20° / 30° / 35° / 40° 45° / 50° / 55° / 60° 65° / 70° / 90°	0.04-0.30 0.04-0.10 / every 0.01 0.10-0.30 / every 0.05	Ø3 h4	**E900-R**	> 16.114

Paramètres de coupe indicatifs
Empfohlene Schnittwerte
Standard machining data

Fraises à graver
Gravierfräser
Engraving mills

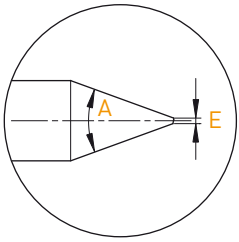
Matière Werkstoff Material	n (tr/min)	Vf (mm/min)	N	TiAlN	STF	TiCN	DLC
Acier de décolletage Automatenstahl Free-cutting steel (P)	20 - 50'000	100 - 180	-	★★★	★★★	★★	-
Acier Stahl < 600 N/mm² Steel (P)	20 - 50'000	100 - 180	-	★★★	★★★	★★	-
Acier Stahl < 800 N/mm² Steel (P)	20 - 50'000	100 - 180	-	★★★	★★★	★★	-
Acier Stahl > 800 N/mm² Steel (P)	20 - 50'000	100 - 150	-	★★★	★★★	★★	-
Acier trempé Gehärteter Stahl -55HRC Hardened steel (H)	20 - 50'000	-	-	★★★	★★★	★	-
Acier trempé Gehärteter Stahl +55HRC Hardened steel (H)	20 - 50'00	-	-	★★★	★★★	★	-
Inox Rostfreistahl Stainless steel (M)	20 - 50'000	100 - 170	-	★★★	★★★	★★	-
Aluminium (N)	20 - 50'000	100 - 250	★★★	★★	★★	★	★★★
Cuivre, laiton, bronze Kupfer, Messing, Bronze Copper, brass, bronze (N)	20 - 50'000	70 - 150	★★★	★★	★★	★★	★★★
Matière synthétique Synthetisches Material Synthetic material (N)	20 - 50'000	100 - 200	★★★	★★	★★	★★	★★★
Métaux précieux Edelmetalle Precious metals (N)	20 - 50'000	100 - 200	★★★	★★	★★	★★	★★★
Titane Titan Titanium (S)	20 - 50'000	70 - 150	-	★★★	★★★	★★	-
Alliage de nickel Nickel-Legierung Nickel alloy (S)	20 - 50'000	80 - 180	-	★★★	★★★	★★	-
Matière exotique Exotisches material Exotic material (O)	20 - 50'000	80 - 180	★	★★★	★★★	★★	★★★

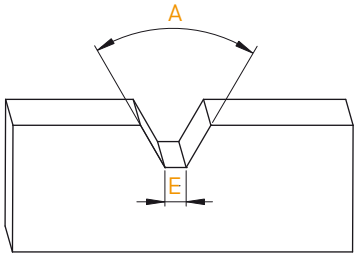
Avec revêtement, augmenter les valeurs de 20-30%
Mit Beschichtung, Daten um 20-30% erhöhen
With coating, increase data by 20-30%

★ Bien / Gut / Good
★★ Très bien / Sehr gut / Very good
★★★ Excellent / Ausgezeichnet / Excellent

E100-P

Fraises à graver avec plat
Gravierfräser mit Fläche
Engraving mills with flat





MD
VHM
HM

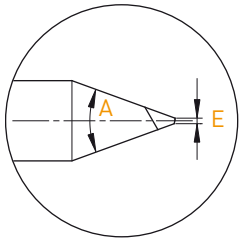
A	E	L2	D2 h4 Ø3.0 h5 Ø6.0	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
20°	0.05-0.10* / 0.10-0.30 **	5.20	3.00	33	**E120-P-_(E)**	●	●	●	●	●
30°	0.05-0.10* / 0.10-0.30 **	5.20	3.00	33	**E130-P-_(E)**	●	●	●	●	●
35°	0.05-0.10* / 0.10-0.30 **	5.20	3.00	33	**E135P-_(E)**	●	●	●	●	●
40°	0.05-0.10* / 0.10-0.30 **	6.00	3.00	33	**E140-P-_(E)**	●	●	●	●	●
45°	0.05-0.10* / 0.10-0.30 **	6.00	3.00	33	**E145-P-_(E)**	●	●	●	●	●
50°	0.05-0.10* / 0.10-0.30 **	6.00	3.00	33	**E150-P-_(E)**	●	●	●	●	●
55°	0.05-0.10* / 0.10-0.30 **	6.00	3.00	33	**E155-P-_(E)**	●	●	●	●	●
60°	0.05-0.10* / 0.10-0.30 **	8.00	3.00	33	**E160-P-_(E)**	●	●	●	●	●
65°	0.05-0.10* / 0.10-0.30 **	8.00	3.00	33	**E165-P-_(E)**	●	●	●	●	●
70°	0.05-0.10* / 0.10-0.30 **	8.00	3.00	33	**E170-P-_(E)**	●	●	●	●	●
90°	0.05-0.10* / 0.10-0.30 **	8.00	3.00	33	**E190-P-_(E)**	●	●	●	●	●
120°	0.05-0.10* / 0.10-0.30 **	8.00	3.00	33	**E1120-P-_(E)**	●	●	●	●	●
30°	0.05-0.10* / 0.10-0.30 **	12.00	6.00	40	**E130-6-P-_(E)**	●	●	●	●	●
40°	0.05-0.10* / 0.10-0.30 **	12.00	6.00	40	**E140-6-P-_(E)**	●	●	●	●	●

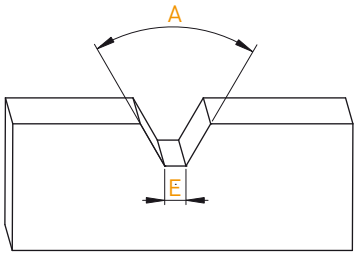
* tous les 0.01 mm
alle 0.01 mm
every 0.01 mm

** tous les 0.05 mm
alle 0.05 mm
every 0.05 mm

Fraises à graver avec plat
Gravierfräser mit Fläche
Engraving mills with flat

E300-P





MD
VHM
HM

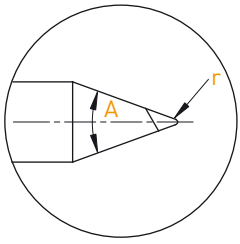
A	E	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
20°	0.02-0.10* / 0.10-0.30**	3.00	33	**E320-P-_(E)**	●	●	●	●	●
30°	0.02-0.10* / 0.10-0.30**	3.00	33	**E330-P-_(E)**	●	●	●	●	●
35°	0.02-0.10* / 0.10-0.30**	3.00	33	**E335-P-_(E)**	●	●	●	●	●
40°	0.02-0.10* / 0.10-0.30**	3.00	33	**E340-P-_(E)**	●	●	●	●	●
45°	0.02-0.10* / 0.10-0.30**	3.00	33	**E345-P-_(E)**	●	●	●	●	●
50°	0.02-0.10* / 0.10-0.30**	3.00	33	**E350-P-_(E)**	●	●	●	●	●
55°	0.02-0.10* / 0.10-0.30**	3.00	33	**E355-P-_(E)**	●	●	●	●	●
60°	0.02-0.10* / 0.10-0.30**	3.00	33	**E360-P-_(E)**	●	●	●	●	●
65°	0.02-0.10* / 0.10-0.30**	3.00	33	**E365-P-_(E)**	●	●	●	●	●
70°	0.02-0.10* / 0.10-0.30**	3.00	33	**E370-P-_(E)**	●	●	●	●	●
90°	0.02-0.10* / 0.10-0.30**	3.00	33	**E390-P-_(E)**	●	●	●	●	●

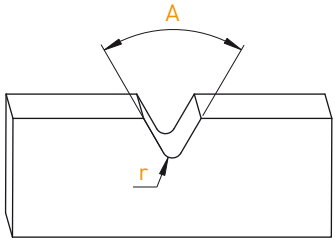
* tous les 0.01 mm
alle 0.01 mm
every 0.01 mm

** tous les 0.05 mm
alle 0.05 mm
every 0.05 mm

E300-R

Fraises à graver à rayon
Gravierfräser mit Radius
Engraving mills with radius





MD
VHM
HM

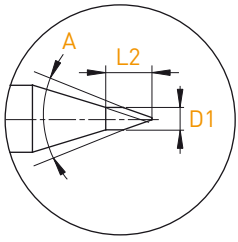
A	r	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
20°	0.04-0.10* / 0.10-0.30**	3.00	33	**E320-R-_(r)**	●	●	●	●	●
30°	0.04-0.10* / 0.10-0.30**	3.00	33	**E330-R-_(r)**	●	●	●	●	●
35°	0.04-0.10* / 0.10-0.30**	3.00	33	**E335-R-_(r)**	●	●	●	●	●
40°	0.04-0.10* / 0.10-0.30**	3.00	33	**E340-R-_(r)**	●	●	●	●	●
45°	0.04-0.10* / 0.10-0.30**	3.00	33	**E345-R-_(r)**	●	●	●	●	●
50°	0.04-0.10* / 0.10-0.30**	3.00	33	**E350-R-_(r)**	●	●	●	●	●
55°	0.04-0.10* / 0.10-0.30**	3.00	33	**E355-R-_(r)**	●	●	●	●	●
60°	0.04-0.10* / 0.10-0.30**	3.00	33	**E360-R-_(r)**	●	●	●	●	●
65°	0.04-0.10* / 0.10-0.30**	3.00	33	**E365-R-_(r)**	●	●	●	●	●
70°	0.04-0.10* / 0.10-0.30**	3.00	33	**E370-R-_(r)**	●	●	●	●	●
90°	0.04-0.10* / 0.10-0.30**	3.00	33	**E390-R-_(r)**	●	●	●	●	●

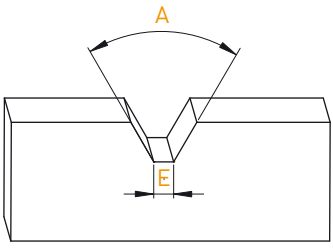
* tous les 0.01 mm
alle 0.01 mm
every 0.01 mm

** tous les 0.05 mm
alle 0.05 mm
every 0.05 mm

Fraises à graver renforcées
Verstärkte Gravierfräser
Reinforced engraving mills

E900-P





MD
VHM
HM

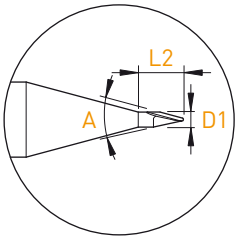
A	E	D1	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
20°	0.04-0.10* / 0.10-0.30**	0.60	1.80	3.00	33	**E920-P-_(E)**	●	●	●	●	●
30°	0.04-0.10* / 0.10-0.30**	0.60	1.80	3.00	33	**E930-P-_(E)**	●	●	●	●	●
35°	0.04-0.10* / 0.10-0.30**	0.60	1.80	3.00	33	**E935-P-_(E)**	●	●	●	●	●
40°	0.04-0.10* / 0.10-0.30**	0.60	1.80	3.00	33	**E940-P-_(E)**	●	●	●	●	●
45°	0.04-0.10* / 0.10-0.30**	1.00	1.80	3.00	33	**E945-P-_(E)**	●	●	●	●	●
50°	0.04-0.10* / 0.10-0.30**	1.00	2.00	3.00	33	**E950-P-_(E)**	●	●	●	●	●
55°	0.04-0.10* / 0.10-0.30**	1.00	2.00	3.00	33	**E955-P-_(E)**	●	●	●	●	●
60°	0.04-0.10* / 0.10-0.30**	1.20	2.00	3.00	33	**E960-P-_(E)**	●	●	●	●	●
65°	0.04-0.10* / 0.10-0.30**	1.20	2.00	3.00	33	**E965-P-_(E)**	●	●	●	●	●
70°	0.04-0.10* / 0.10-0.30**	1.20	2.00	3.00	33	**E970-P-_(E)**	●	●	●	●	●
90°	0.04-0.10* / 0.10-0.30**	1.20	2.00	3.00	33	**E990-P-_(E)**	●	●	●	●	●

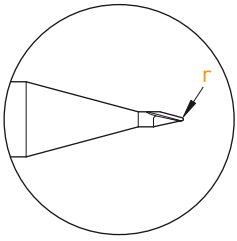
* tous les 0.01 mm
alle 0.01 mm
every 0.01 mm

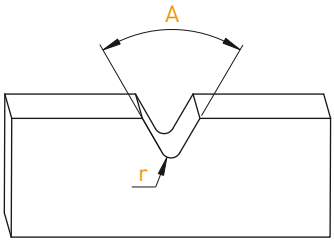
** tous les 0.05 mm
alle 0.05 mm
every 0.05 mm

E900-R

Fraises à graver renforcées à rayon
Verstärkte Gravierfräser mit Radius
Reinforced engraving mills with radius







MD
VHM
HM

A	r	D1	L2	D2 h4	L1	Art. N°	N	TiAlN	STF	TiCN	DLC
20°	0.04-0.10* / 0.10-0.20**	0.60	1.80	3.00	33	**E920-R-_(E)**	●	●	●	●	●
30°	0.04-0.10* / 0.10-0.20**	0.60	1.80	3.00	33	**E930-R-_(E)**	●	●	●	●	●
35°	0.04-0.10* / 0.10-0.20**	0.60	1.80	3.00	33	**E935-R-_(E)**	●	●	●	●	●
40°	0.04-0.10* / 0.10-0.20**	0.60	1.80	3.00	33	**E940-R-_(E)**	●	●	●	●	●
45°	0.04-0.10* / 0.10-0.30**	1.00	1.80	3.00	33	**E945-R-_(E)**	●	●	●	●	●
50°	0.04-0.10* / 0.10-0.30**	1.00	2.00	3.00	33	**E950-R-_(E)**	●	●	●	●	●
55°	0.04-0.10* / 0.10-0.30**	1.00	2.00	3.00	33	**E955-R-_(E)**	●	●	●	●	●
60°	0.04-0.10* / 0.10-0.30**	1.20	2.00	3.00	33	**E960-R-_(E)**	●	●	●	●	●
65°	0.04-0.10* / 0.10-0.30**	1.20	2.00	3.00	33	**E965-R-_(E)**	●	●	●	●	●
70°	0.04-0.10* / 0.10-0.30**	1.20	2.00	3.00	33	**E970-R-_(E)**	●	●	●	●	●
90°	0.04-0.10* / 0.10-0.30**	1.20	2.00	3.00	33	**E990-R-_(E)**	●	●	●	●	●

* tous les 0.01 mm
alle 0.01 mm
every 0.01 mm

** tous les 0.05 mm
alle 0.05 mm
every 0.05 mm

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

Paramètres de coupe indicatifs
Empfohlene Schnittwerte
Standard machining data
> 16.116

Micro-forets et forets à centrer
Mikrobohrer und Zentrierbohrer
Micro drills and centering drills

Point angle	λ	L2	D1	D2	Type	Page
60°	25°	Div.	Ø 2.00 - 6.00	D1 = D2	**2680-60**	> 16.118
90°	25°	Div.	Ø 0.50 - 20.00	Ø 2.0 - 20.0 h5	**2680-90**	> 16.119
90°	25°	Div.	Ø 2.00 - 16.00	D1 = D2	**1680-90**	> 16.119
120°	25°	Div.	Ø 0.50 - 20.00	Ø 2.0 - 20.0 h5	**2680-120**	> 16.120
120°	25°	Div.	Ø 2.00 - 12.00	D1 = D2	**1680-120**	> 16.120

Micro-forets de préperçage
Mikro Pilotbohrer
Micro pilot drill

Z	Point angle	λ	L2	D1	D2	Type	Page
Z2	90°	25° - 32°	Div.	Ø 0.50 - 3.00	Ø2 h5 Ø3 h4	**2690**	> 16.121
Z2	130°	30°	~ 2 x D1	Ø 0.10 - 2.00	Ø3 h6	**2020**	> 16.126

Micro-forets avec affûtage à facettes
Mikrobohrer mit Facettenschliff
Micro drills with faceted drill point

Z	Point angle	λ	L2	D1	D2	Type	Page
Z2	118°	25°	~ 5-10 x D1	Ø 0.50 - 6.00	D1 = D2	**1010**	> 16.122
Z2	118°	25°/35°	~ 5-10 x D1	Ø 0.50 - 6.00	D1 = D2	**2010**	> 16.123
Z2	120°	30°	~ 2 x D1	Ø 0.80 - 2.00	Ø2 h6	**2011**	> 16.124
Z2	120°	24°	~ 3 x D1	Ø 0.50 - 2.40	Ø1.5 - 3.0 h6	**2012**	> 16.124
Z2	120°	35°	~ 8 x D1	Ø 0.40 - 1.90	Ø1.0 - 2.0 h6	**2013**	> 16.125
Z2	120°	30°	~ 12 x D1	Ø 0.50 - 1.95	Ø1.5 - 2.0 h6	**2014**	> 16.125
Z2	130°	35°	6 x D1	Ø 0.10 - 3.00	Ø3 h6	**2023**	> 16.128
Z2	130°	35°	12 x D1	Ø 0.20 - 2.00	Ø3 h6	**2026**	> 16.131
Z3	140°	35°	5 x D1	Ø 0.20 - 2.99	Ø3 h6	**2030**	> 16.133

Forets à centrer
Zentrierbohrer
Centering drills

Paramètres de coupe indicatifs
Empfohlene Schnittwerte
Standard machining data

Matière Werkstoff Material	VC (m/min)	f (mm)	N	TiAlN	STF
Acier de décolletage Automatenstahl Free-cutting steel (P)	60	D1/55	★★	★★★	★★★
Acier Stahl < 600 N/mm² Steel (P)	55	D1/55	★★	★★★	★★★
Acier Stahl < 800 N/mm² Steel (P)	55	D1/55	★★	★★★	★★★
Acier Stahl > 800 N/mm² Steel (P)	55	D1/55	★★	★★★	★★★
Acier trempé Gehärteter Stahl -55HRC Hardened steel (H)	10	D1/100	-	★★★	★★★
Acier trempé Gehärteter Stahl +55HRC Hardened steel (H)	-	-	-	-	-
Inox Rostfreistahl Stainless steel (M)	30	D1/85	★★	★★★	★★★
Aluminium (N)	100 - 180	D1/50	★★★	★★	★★
Cuivre, laiton, bronze Kupfer, Messing, Bronze Copper, brass, bronze (N)	60 - 90	D1/60	★★★	★★	★★
Matière synthétique Synthetisches Material Synthetic material (N)	350 - 700	D1/60	★★★	★★	★★
Métaux précieux Edelmetalle Precious metals (N)	50 - 80	D1/100	★★★	★★	★★
Titane Titan Titanium (S)	30	D1/115	★★	★★★	★★★
Alliage de nickel Nickel-Legierung Nickel alloy (S)	15 - 20	D1/120	★★	★★★	★★★
Matière exotique Exotisches material Exotic material (O)	10	D1/100	★★	★★★	★★★

Avec revêtement, augmenter les valeurs de 20-30%
Mit Beschichtung, Daten um 20-30% erhöhen
With coating, increase data by 20-30%

★ Bien / Gut / Good
★★ Très bien / Sehr gut / Very good
★★★ Excellent / Ausgezeichnet / Excellent

Paramètres de coupe indicatifs
Empfohlene Schnittwerte
Standard machining data

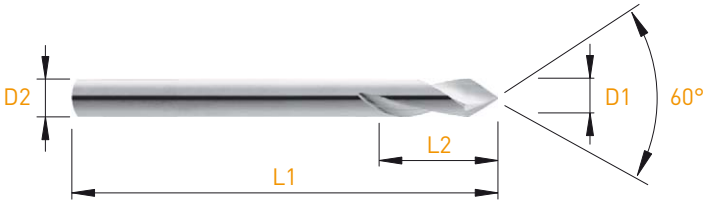
Forets
Bohrer
Drills

Matière Werkstoff Material		VC (m/min)	f (mm)	Débourrage Entspannvorgang Pecking
Acier de décolletage Automatenstahl Free-cutting steel	P	60 - 90	D1/70	1.5xØ
Acier Stahl Steel < 600 N/mm²	P	50 - 80	D1/70	1.5xØ
Acier Stahl Steel < 800 N/mm²	P	50 - 80	D1/70	1.5xØ
Acier Stahl Steel > 800 N/mm²	P	50 - 80	D1/70	1.5xØ
Acier trempé Gehärteter Stahl Hardened steel -55HRC	H	-	-	-
Acier trempé Gehärteter Stahl Hardened steel +55HRC	H	-	-	-
Inox Rostfreistahl Stainless steel	M	20 - 30	D1/70	3xØ
Aluminium	N	100 - 180	D1/40	2xØ
Cuivre, laiton, bronze Kupfer, Messing, Bronze Copper, brass, bronze	N	50 - 85	D1/120	1xØ
Matière synthétique Synthetisches Material Synthetic material	N	350 - 750	D1/40	2xØ
Métaux précieux Edelmetalle Precious metals	N	60 - 90	D1/100	0.85xØ
Titane Titan Titanium	S	20 - 40	D1/120	1.3xØ
Alliage de nickel Nickel-Legierung Nickel alloy	S	20	D1/120	1xØ
Matière exotique Exotisches material Exotic material	O	5 - 10	D1/100	1xØ

Avec revêtement, augmenter les valeurs de 20-30%
Mit Beschichtung, Daten um 20-30% erhöhen
With coating, increase data by 20-30%

2680-60

Forets à centrer
Zentrierbohrer
Centering drills

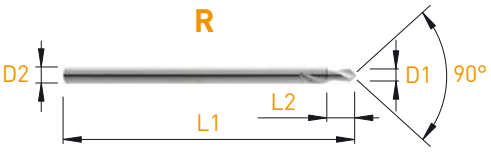


MD VHM HM	λ 25°	60°

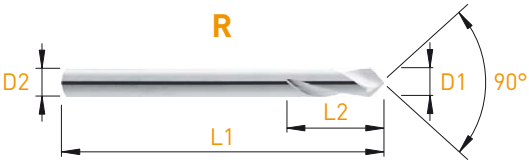
D1 h6	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
2.00	8.00	2.00	39	**2680-2.00-60**	●	●	●
3.00	10.00	3.00	39	**2680-3.00-60**	●	●	●
4.00	12.00	4.00	50	**2680-4.00-60**	●	●	●
5.00	14.00	5.00	50	**2680-5.00-60**	●	●	●
6.00	16.00	6.00	50	**2680-6.00-60**	●	●	●

Forets à centrer
Zentrierbohrer
Centering drills

1680-90° / 2680-90°

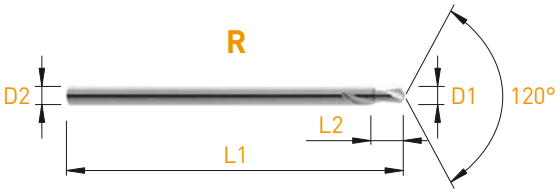


MD VHM HM	λ 25°	90°			R
D1 h6	L2	D2 h5	L1	Art. N°	N
0.50	1.50	2.00	39	**2680-0.50-90**	●
0.60	1.50	2.00	39	**2680-0.60-90**	●
0.70	1.50	2.00	39	**2680-0.70-90**	●
0.80	1.50	2.00	39	**2680-0.80-90**	●
0.90	1.50	2.00	39	**2680-0.90-90**	●
1.00	3.00	2.00	39	**2680-1.00-90**	●
1.10	3.00	2.00	39	**2680-1.10-90**	●
1.20	3.00	2.00	39	**2680-1.20-90**	●
1.30	3.00	2.00	39	**2680-1.30-90**	●
1.40	3.00	2.00	39	**2680-1.40-90**	●
1.50	4.00	2.00	39	**2680-1.50-90**	●
1.60	4.00	2.00	39	**2680-1.60-90**	●
1.70	4.00	2.00	39	**2680-1.70-90**	●
1.80	4.00	2.00	39	**2680-1.80-90**	●
1.90	4.00	2.00	39	**2680-1.90-90**	●



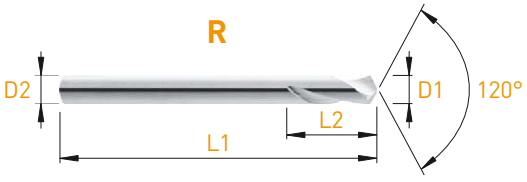
MD VHM HM	λ 25°	90°		L		R				HSS	R	
D1 h6	L2	D2 h5	L1	Art. N°	N	Art. N°	N	TiAlN	STF		Art. N°	N
2.00	8.00	2.00	39	**1680-2.00-90**	●	**2680-2.00-90**	●	●	●		-	
2.50	8.00	2.50	39	**1680-2.50-90**	●	**2680-2.50-90**	●	●	●		-	
3.00	10.00	3.00	39	**1680-3.00-90**	●	**2680-3.00-90**	●	●	●		**2680-3.00-90-HSS**	●
4.00	12.00	4.00	50	**1680-4.00-90**	●	**2680-4.00-90**	●	●	●		**2680-4.00-90-HSS**	●
5.00	15.00	5.00	50	**1680-5.00-90**	●	**2680-5.00-90**	●	●	●		**2680-5.00-90-HSS**	●
6.00	16.00	6.00	57	**1680-6.00-90**	●	**2680-6.00-90**	●	●	●		**2680-6.00-90-HSS**	●
8.00	20.00	8.00	63	**1680-8.00-90**	●	**2680-8.00-90**	●				**2680-8.00-90-HSS**	●
10.00	22.00	10.00	72	**1680-10.00-90**	●	**2680-10.00-90**	●				**2680-10.00-90-HSS**	●
12.00	24.00	12.00	73	**1680-12.00-90**	●	**2680-12.00-90**	●				**2680-12.00-90-HSS**	●
16.00	26.00	16.00	82	**1680-16.00-90**	●	**2680-16.00-90**	●				-	
20.00	30.00	20.00	92	-		**2680-20.00-90**	●				-	

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request



MD VHM HM | λ 25° | 120°

R					
D1 h6	L2	D2 h5	L1	Art. N°	N
0.50	1.50	2.00	39	**2680-0.50-120**	●
0.60	1.50	2.00	39	**2680-0.60-120**	●
0.70	1.50	2.00	39	**2680-0.70-120**	●
0.80	1.50	2.00	39	**2680-0.80-120**	●
0.90	1.50	2.00	39	**2680-0.90-120**	●
1.00	3.00	2.00	39	**2680-1.00-120**	●
1.10	3.00	2.00	39	**2680-1.10-120**	●
1.20	3.00	2.00	39	**2680-1.20-120**	●
1.30	3.00	2.00	39	**2680-1.30-120**	●
1.40	3.00	2.00	39	**2680-1.40-120**	●
1.50	4.00	2.00	39	**2680-1.50-120**	●
1.60	4.00	2.00	39	**2680-1.60-120**	●
1.70	4.00	2.00	39	**2680-1.70-120**	●
1.80	4.00	2.00	39	**2680-1.80-120**	●
1.90	4.00	2.00	39	**2680-1.90-120**	●

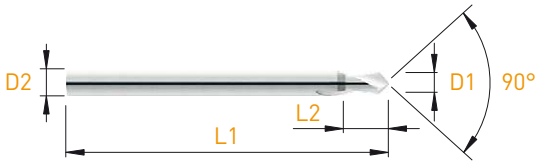


MD VHM HM | λ 25° | 120°

L		R			
D1 h6	L2	D2 h5	L1	Art. N°	N	Art. N°	N	TiAlN	STF
2.00	8.00	2.00	39	**1680-2.00-120**	●	**2680-2.00-120**	●	●	●
2.50	8.00	2.50	39	**1680-2.50-120**	●	**2680-2.50-120**	●	●	●
3.00	10.00	3.00	39	**1680-3.00-120**	●	**2680-3.00-120**	●	●	●
4.00	12.00	4.00	50	**1680-4.00-120**	●	**2680-4.00-120**	●	●	●
5.00	15.00	5.00	50	**1680-5.00-120**	●	**2680-5.00-120**	●	●	●
6.00	16.00	6.00	57	**1680-6.00-120**	●	**2680-6.00-120**	●	●	●
8.00	20.00	8.00	63	**1680-8.00-120**	●	**2680-8.00-120**	●		
10.00	22.00	10.00	72	**1680-10.00-120**	●	**2680-10.00-120**	●		
12.00	24.00	12.00	73	**1680-12.00-120**	●	**2680-12.00-120**	●		
16.00	26.00	16.00	82	-		**2680-16.00-120**	●		
20.00	30.00	20.00	92	-		**2680-20.00-120**	●		

Micro-forets de préperçage
Mikro Pilotbohrer
Micro pilot drills

2690



MD
VHM
HM
$\lambda^{32°}$ * $\lambda^{25°}$ 90°

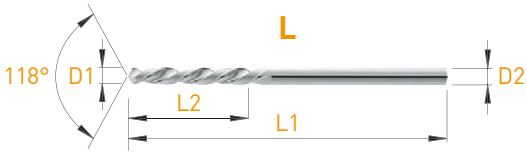
D1 h5	L2	D2 h5	L1	Art. N°	N	TiAlN	STF
0.50*	2.50	2.00	39	**2690-0.50**	●		
0.60*	2.50	2.00	39	**2690-0.60**	●		
0.70*	2.50	2.00	39	**2690-0.70**	●		
0.80*	2.50	2.00	39	**2690-0.80**	●		
0.90*	2.50	2.00	39	**2690-0.90**	●		
1.00	3.00	2.00	39	**2690-1.00**	●		
1.10	3.00	2.00	39	**2690-1.10**	●		
1.20	3.00	2.00	39	**2690-1.20**	●		
1.30	3.00	2.00	39	**2690-1.30**	●		
1.40	3.00	2.00	39	**2690-1.40**	●		
1.50	3.50	2.00	39	**2690-1.50**	●		
1.60	3.50	2.00	39	**2690-1.60**	●		
1.70	3.50	2.00	39	**2690-1.70**	●		
1.80	3.50	2.00	39	**2690-1.80**	●		
1.90	3.50	2.00	39	**2690-1.90**	●		
2.00	-	2.00	39	**2690-2.00**	●	●	●
2.10	4.00	3.00	39	**2690-2.10**	●	●	●
2.20	4.00	3.00	39	**2690-2.20**	●	●	●
2.30	4.00	3.00	39	**2690-2.30**	●	●	●
2.40	4.00	3.00	39	**2690-2.40**	●	●	●
2.50	4.00	3.00	39	**2690-2.50**	●	●	●
2.60	4.00	3.00	39	**2690-2.60**	●	●	●
2.70	4.00	3.00	39	**2690-2.70**	●	●	●
2.80	4.00	3.00	39	**2690-2.80**	●	●	●
2.90	4.00	3.00	39	**2690-2.90**	●	●	●
3.00	-	3.00	50	**2690-3.00**	●	●	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

1010

Coupe à gauche
Linksschneidend
Left hand cut

Forets cylindriques
Zylindrische Bohrer
Cylindrical drills



MD
VHM
HM

λ 25°

Z=2

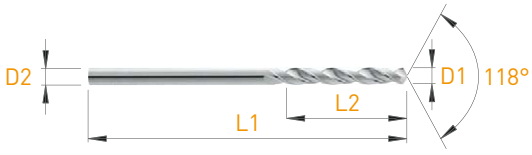
118°

D1 h6 D2 h6	L1	L2	Art. N°	z
0.50	30	5.00	**1010-0.50**	●
0.55	30	5.00	**1010-0.55**	●
0.60	30	5.00	**1010-0.60**	●
0.65	30	6.00	**1010-0.65**	●
0.70	30	6.00	**1010-0.70**	●
0.75	30	8.00	**1010-0.75**	●
0.80	30	8.00	**1010-0.80**	●
0.85	30	9.00	**1010-0.85**	●
0.90	30	9.00	**1010-0.90**	●
0.95	30	10.00	**1010-0.95**	●
1.00	30	10.00	**1010-1.00**	●
1.05	30	10.00	**1010-1.05**	●
1.10	30	10.00	**1010-1.10**	●
1.15	30	12.00	**1010-1.15**	●
1.20	30	12.00	**1010-1.20**	●
1.25	30	12.00	**1010-1.25**	●
1.30	30	12.00	**1010-1.30**	●
1.35	30	12.00	**1010-1.35**	●
1.40	30	12.00	**1010-1.40**	●
1.45	30	12.00	**1010-1.45**	●
1.50	30	12.00	**1010-1.50**	●
1.55	40	16.00	**1010-1.55**	●
1.60	40	16.00	**1010-1.60**	●
1.65	40	16.00	**1010-1.65**	●
1.70	40	16.00	**1010-1.70**	●
1.75	40	16.00	**1010-1.75**	●
1.80	40	16.00	**1010-1.80**	●
1.85	40	16.00	**1010-1.85**	●
1.90	40	16.00	**1010-1.90**	●
1.95	40	16.00	**1010-1.95**	●
2.00	40	16.00	**1010-2.00**	●
2.05	40	18.00	**1010-2.05**	●
2.10	40	18.00	**1010-2.10**	●
2.15	40	18.00	**1010-2.15**	●
2.20	40	18.00	**1010-2.20**	●
2.25	40	18.00	**1010-2.25**	●
2.30	40	18.00	**1010-2.30**	●
2.35	40	18.00	**1010-2.35**	●
2.40	40	18.00	**1010-2.40**	●
2.45	40	18.00	**1010-2.45**	●
2.50	40	18.00	**1010-2.50**	●

D1 h6 D2 h6	L1	L2	Art. N°	z
2.55	45	18.00	**1010-2.55**	●
2.60	45	18.00	**1010-2.60**	●
2.65	45	18.00	**1010-2.65**	●
2.70	45	18.00	**1010-2.70**	●
2.75	45	18.00	**1010-2.75**	●
2.80	45	18.00	**1010-2.80**	●
2.85	45	18.00	**1010-2.85**	●
2.90	45	18.00	**1010-2.90**	●
2.95	45	18.00	**1010-2.95**	●
3.00	45	18.00	**1010-3.00**	●
3.10	50	20.00	**1010-3.10**	●
3.20	50	20.00	**1010-3.20**	●
3.30	50	20.00	**1010-3.30**	●
3.40	50	20.00	**1010-3.40**	●
3.50	50	20.00	**1010-3.50**	●
3.60	50	20.00	**1010-3.60**	●
3.70	50	20.00	**1010-3.70**	●
3.80	50	20.00	**1010-3.80**	●
3.90	50	20.00	**1010-3.90**	●
4.00	50	20.00	**1010-4.00**	●
4.10	50	25.00	**1010-4.10**	●
4.20	50	25.00	**1010-4.20**	●
4.30	50	25.00	**1010-4.30**	●
4.40	50	25.00	**1010-4.40**	●
4.50	50	25.00	**1010-4.50**	●
4.60	50	25.00	**1010-4.60**	●
4.70	50	25.00	**1010-4.70**	●
4.80	50	25.00	**1010-4.80**	●
4.90	50	25.00	**1010-4.90**	●
5.00	50	25.00	**1010-5.00**	●
5.10	50	25.00	**1010-5.10**	●
5.20	50	25.00	**1010-5.20**	●
5.30	50	25.00	**1010-5.30**	●
5.40	50	25.00	**1010-5.40**	●
5.50	50	25.00	**1010-5.50**	●
5.60	50	25.00	**1010-5.60**	●
5.70	50	25.00	**1010-5.70**	●
5.80	50	25.00	**1010-5.80**	●
5.90	50	25.00	**1010-5.90**	●
6.00	50	25.00	**1010-6.00**	●

Forets cylindriques
Zylindrische Bohrer
Cylindrical drills

2010



MD
VHM
HM

λ 25°/35°

Z=2

118°

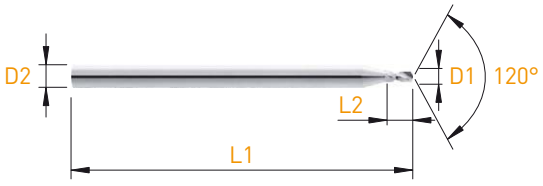
D1 h6 D2 h6	L1	L2	Art. N°	Z
0.50	30	5.00	**2010-0.50**	●
0.55	30	5.00	**2010-0.55**	●
0.60	30	5.00	**2010-0.60**	●
0.65	30	6.00	**2010-0.65**	●
0.70	30	6.00	**2010-0.70**	●
0.75	30	8.00	**2010-0.75**	●
0.80	30	8.00	**2010-0.80**	●
0.85	30	9.00	**2010-0.85**	●
0.90	30	9.00	**2010-0.90**	●
0.95	30	10.00	**2010-0.95**	●
1.00	30	10.00	**2010-1.00**	●
1.05	30	10.00	**2010-1.05**	●
1.10	30	10.00	**2010-1.10**	●
1.15	30	12.00	**2010-1.15**	●
1.20	30	12.00	**2010-1.20**	●
1.25	30	12.00	**2010-1.25**	●
1.30	30	12.00	**2010-1.30**	●
1.35	30	12.00	**2010-1.35**	●
1.40	30	12.00	**2010-1.40**	●
1.45	30	12.00	**2010-1.45**	●
1.50	30	12.00	**2010-1.50**	●
1.55	40	16.00	**2010-1.55**	●
1.60	40	16.00	**2010-1.60**	●
1.65	40	16.00	**2010-1.65**	●
1.70	40	16.00	**2010-1.70**	●
1.75	40	16.00	**2010-1.75**	●
1.80	40	16.00	**2010-1.80**	●
1.85	40	16.00	**2010-1.85**	●
1.90	40	16.00	**2010-1.90**	●
1.95	40	16.00	**2010-1.95**	●
2.00	40	16.00	**2010-2.00**	●
2.05	40	18.00	**2010-2.05**	●
2.10	40	18.00	**2010-2.10**	●
2.15	40	18.00	**2010-2.15**	●
2.20	40	18.00	**2010-2.20**	●
2.25	40	18.00	**2010-2.25**	●
2.30	40	18.00	**2010-2.30**	●
2.35	40	18.00	**2010-2.35**	●
2.40	40	18.00	**2010-2.40**	●
2.45	40	18.00	**2010-2.45**	●
2.50	40	18.00	**2010-2.50**	●

D1 h6 D2 h6	L1	L2	Art. N°	Z
2.55	45	18.00	**2010-2.55**	●
2.60	45	18.00	**2010-2.60**	●
2.65	45	18.00	**2010-2.65**	●
2.70	45	18.00	**2010-2.70**	●
2.75	45	18.00	**2010-2.75**	●
2.80	45	18.00	**2010-2.80**	●
2.85	45	18.00	**2010-2.85**	●
2.90	45	18.00	**2010-2.90**	●
2.95	45	18.00	**2010-2.95**	●
3.00	45	18.00	**2010-3.00**	●
3.10	50	20.00	**2010-3.10**	●
3.20	50	20.00	**2010-3.20**	●
3.30	50	20.00	**2010-3.30**	●
3.40	50	20.00	**2010-3.40**	●
3.50	50	20.00	**2010-3.50**	●
3.60	50	20.00	**2010-3.60**	●
3.70	50	20.00	**2010-3.70**	●
3.80	50	20.00	**2010-3.80**	●
3.90	50	20.00	**2010-3.90**	●
4.00	50	20.00	**2010-4.00**	●
4.10	50	25.00	**2010-4.10**	●
4.20	50	25.00	**2010-4.20**	●
4.30	50	25.00	**2010-4.30**	●
4.40	50	25.00	**2010-4.40**	●
4.50	50	25.00	**2010-4.50**	●
4.60	50	25.00	**2010-4.60**	●
4.70	50	25.00	**2010-4.70**	●
4.80	50	25.00	**2010-4.80**	●
4.90	50	25.00	**2010-4.90**	●
5.00	50	25.00	**2010-5.00**	●
5.10	50	25.00	**2010-5.10**	●
5.20	50	25.00	**2010-5.20**	●
5.30	50	25.00	**2010-5.30**	●
5.40	50	25.00	**2010-5.40**	●
5.50	50	25.00	**2010-5.50**	●
5.60	50	25.00	**2010-5.60**	●
5.70	50	25.00	**2010-5.70**	●
5.80	50	25.00	**2010-5.80**	●
5.90	50	25.00	**2010-5.90**	●
6.00	50	25.00	**2010-6.00**	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

2011 / 2012

Micro-forets
Mikrobohrer
Micro drills



MD
VHM
HM

λ 30°

Z=2

120°

D1 h6	L2	D2 h6	L1	Art. N°	N
0.80	2.50	2.00	30	**2011-0.80**	●
0.90	2.50	2.00	30	**2011-0.90**	●
1.00	2.50	2.00	30	**2011-1.00**	●
1.10	2.50	2.00	30	**2011-1.10**	●
1.20	2.50	2.00	30	**2011-1.20**	●
1.30	2.50	2.00	30	**2011-1.30**	●
1.40	2.50	2.00	30	**2011-1.40**	●
1.50	2.50	2.00	30	**2011-1.50**	●
2.00	2.50	2.00	30	**2011-2.00**	●

MD
VHM
HM

λ 24°

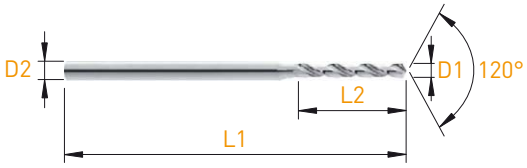
Z=2

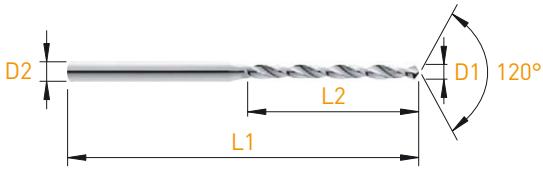
120°

D1 h6	L2	D2 Ø1.5h6 Ø2h6 Ø3h5	L1	Art. N°	N
0.50	1.70	1.50	30	**2012-0.50**	●
0.55	1.90	1.50	30	**2012-0.55**	●
0.60	1.90	1.50	30	**2012-0.60**	●
0.65	1.90	1.50	30	**2012-0.65**	●
0.70	2.40	1.50	30	**2012-0.70**	●
0.75	2.40	1.50	30	**2012-0.75**	●
0.80	2.60	1.50	30	**2012-0.80**	●
0.85	2.60	1.50	30	**2012-0.85**	●
0.90	3.00	1.50	30	**2012-0.90**	●
0.95	3.00	1.50	30	**2012-0.95**	●
1.00	3.40	1.50	30	**2012-1.00**	●
1.10	3.80	1.50	30	**2012-1.10**	●
1.20	4.20	1.50	30	**2012-1.20**	●
1.30	4.20	1.50	30	**2012-1.30**	●
1.40	4.70	1.50	30	**2012-1.40**	●
1.50	4.70	2.00	38	**2012-1.50**	●
1.60	5.40	2.00	38	**2012-1.60**	●
1.70	5.40	2.00	38	**2012-1.70**	●
1.80	6.50	2.00	38	**2012-1.80**	●
1.90	6.50	2.00	38	**2012-1.90**	●
2.00	6.50	3.00	38	**2012-2.00**	●
2.10	6.50	3.00	38	**2012-2.10**	●
2.20	6.50	3.00	38	**2012-2.20**	●
2.30	6.50	3.00	38	**2012-2.30**	●
2.40	6.50	3.00	38	**2012-2.40**	●

Micro-forets
Mikrobohrer
Micro drills

2013 / 2014





MD VHM HM | λ 35° | Z=2 | 120°

D1 h6	L2	D2 h6	L1	Art. N°	N
0.40	3.60	1.00	25	**2013-0.40**	●
0.45	3.60	1.00	25	**2013-0.45**	●
0.50	4.00	1.00	25	**2013-0.50**	●
0.55	4.50	1.00	25	**2013-0.55**	●
0.60	4.50	1.50	30	**2013-0.60**	●
0.65	5.00	1.50	30	**2013-0.65**	●
0.70	5.60	1.50	30	**2013-0.70**	●
0.75	5.60	1.50	30	**2013-0.75**	●
0.80	6.30	1.50	30	**2013-0.80**	●
0.85	6.30	1.50	30	**2013-0.85**	●
0.90	7.10	1.50	30	**2013-0.90**	●
0.95	7.10	1.50	30	**2013-0.95**	●
1.00	8.00	1.50	30	**2013-1.00**	●
1.05	8.00	1.50	30	**2013-1.05**	●
1.10	9.00	1.50	30	**2013-1.10**	●
1.15	9.00	1.50	30	**2013-1.15**	●
1.20	10.00	1.50	30	**2013-1.20**	●
1.25	10.00	1.50	30	**2013-1.25**	●
1.30	10.00	1.50	30	**2013-1.30**	●
1.35	11.20	1.50	30	**2013-1.35**	●
1.40	11.20	1.50	30	**2013-1.40**	●
1.45	11.20	1.50	30	**2013-1.45**	●
1.50	12.00	2.00	38	**2013-1.50**	●
1.60	12.00	2.00	38	**2013-1.60**	●
1.70	12.00	2.00	38	**2013-1.70**	●
1.80	12.00	2.00	38	**2013-1.80**	●
1.90	12.00	2.00	38	**2013-1.90**	●

MD VHM HM | λ 30° | Z=2 | 120°

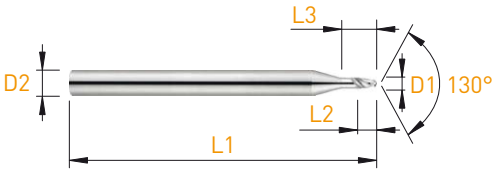
D1 h6	L2	D2 h6	L1	Art. N°	N
0.50	6.00	1.50	30	**2014-0.50**	●
0.55	6.50	1.50	30	**2014-0.55**	●
0.60	6.50	1.50	30	**2014-0.60**	●
0.65	7.50	1.50	30	**2014-0.65**	●
0.70	8.50	1.50	30	**2014-0.70**	●
0.75	8.50	1.50	30	**2014-0.75**	●
0.80	9.50	1.50	30	**2014-0.80**	●
0.85	9.50	1.50	30	**2014-0.85**	●
0.90	10.50	1.50	30	**2014-0.90**	●
0.95	10.50	1.50	30	**2014-0.95**	●
1.00	12.00	1.50	38	**2014-1.00**	●
1.05	12.00	1.50	38	**2014-1.05**	●
1.10	13.50	1.50	38	**2014-1.10**	●
1.15	13.50	1.50	38	**2014-1.15**	●
1.20	15.00	1.50	38	**2014-1.20**	●
1.25	15.00	1.50	38	**2014-1.25**	●
1.30	17.00	1.50	38	**2014-1.30**	●
1.35	17.00	1.50	38	**2014-1.35**	●
1.40	17.00	1.50	38	**2014-1.40**	●
1.45	17.00	1.50	38	**2014-1.45**	●
1.50	18.00	2.00	38	**2014-1.50**	●
1.55	18.00	2.00	38	**2014-1.55**	●
1.60	18.00	2.00	38	**2014-1.60**	●
1.65	18.00	2.00	38	**2014-1.65**	●
1.70	18.00	2.00	38	**2014-1.70**	●
1.75	18.00	2.00	38	**2014-1.75**	●
1.80	18.00	2.00	38	**2014-1.80**	●
1.85	18.00	2.00	38	**2014-1.85**	●
1.90	18.00	2.00	38	**2014-1.90**	●
1.95	18.00	2.00	38	**2014-1.95**	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

2020

Ø 0.10 - Ø 0.99 mm

Micro-forets de préperçage
Mikro Pilotbohrer
Micro pilot drills



MD VHM HM	λ 30°	2xD1	Z=2	130°	

D1 +0.005 / 0	L2	L3	D2 h6	L1	Art. N°	z
0.10	0.35	0.55	3.00	38	**2020-0.10**	●
0.11	0.35	0.55	3.00	38	**2020-0.11**	●
0.12	0.35	0.55	3.00	38	**2020-0.12**	●
0.13	0.40	0.60	3.00	38	**2020-0.13**	●
0.14	0.40	0.60	3.00	38	**2020-0.14**	●
0.15	0.40	0.60	3.00	38	**2020-0.15**	●
0.16	0.40	0.60	3.00	38	**2020-0.16**	●
0.17	0.50	0.70	3.00	38	**2020-0.17**	●
0.18	0.50	0.70	3.00	38	**2020-0.18**	●
0.19	0.50	0.70	3.00	38	**2020-0.19**	●
0.20	0.55	0.75	3.00	38	**2020-0.20**	●
0.21	0.55	0.75	3.00	38	**2020-0.21**	●
0.22	0.60	0.80	3.00	38	**2020-0.22**	●
0.23	0.60	0.80	3.00	38	**2020-0.23**	●
0.24	0.60	0.80	3.00	38	**2020-0.24**	●
0.25	0.70	0.90	3.00	38	**2020-0.25**	●
0.26	0.70	0.90	3.00	38	**2020-0.26**	●
0.27	0.70	0.90	3.00	38	**2020-0.27**	●
0.28	0.80	1.00	3.00	38	**2020-0.28**	●
0.29	0.80	1.00	3.00	38	**2020-0.29**	●
0.30	0.90	1.20	3.00	38	**2020-0.30**	●
0.31	0.90	1.20	3.00	38	**2020-0.31**	●
0.32	0.90	1.20	3.00	38	**2020-0.32**	●
0.33	0.90	1.20	3.00	38	**2020-0.33**	●
0.34	0.90	1.35	3.00	38	**2020-0.34**	●
0.35	0.90	1.35	3.00	38	**2020-0.35**	●
0.36	0.95	1.35	3.00	38	**2020-0.36**	●
0.37	0.95	1.35	3.00	38	**2020-0.37**	●
0.38	0.95	1.50	3.00	38	**2020-0.38**	●
0.39	0.95	1.50	3.00	38	**2020-0.39**	●
0.40	0.80	1.60	3.00	38	**2020-0.40**	●
0.41	0.82	1.60	3.00	38	**2020-0.41**	●
0.42	0.84	1.60	3.00	38	**2020-0.42**	●
0.43	0.86	1.60	3.00	38	**2020-0.43**	●
0.44	0.88	1.60	3.00	38	**2020-0.44**	●
0.45	0.90	1.60	3.00	38	**2020-0.45**	●
0.46	0.92	1.70	3.00	38	**2020-0.46**	●
0.47	0.94	1.70	3.00	38	**2020-0.47**	●
0.48	0.96	1.70	3.00	38	**2020-0.48**	●
0.49	0.98	1.70	3.00	38	**2020-0.49**	●
0.50	1.00	1.70	3.00	38	**2020-0.50**	●
0.51	1.02	1.80	3.00	38	**2020-0.51**	●
0.52	1.04	1.80	3.00	38	**2020-0.52**	●
0.53	1.06	1.80	3.00	38	**2020-0.53**	●
0.54	1.08	1.80	3.00	38	**2020-0.54**	●
0.55	1.10	1.80	3.00	38	**2020-0.55**	●
0.56	1.12	1.90	3.00	38	**2020-0.56**	●
0.57	1.14	1.90	3.00	38	**2020-0.57**	●
0.58	1.16	1.90	3.00	38	**2020-0.58**	●
0.59	1.18	1.90	3.00	38	**2020-0.59**	●
0.60	1.20	1.90	3.00	38	**2020-0.60**	●
0.61	1.22	2.00	3.00	38	**2020-0.61**	●
0.62	1.24	2.00	3.00	38	**2020-0.62**	●
0.63	1.26	2.00	3.00	38	**2020-0.63**	●
0.64	1.28	2.00	3.00	38	**2020-0.64**	●
0.65	1.30	2.00	3.00	38	**2020-0.65**	●
0.66	1.32	2.10	3.00	38	**2020-0.66**	●
0.67	1.34	2.10	3.00	38	**2020-0.67**	●
0.68	1.36	2.10	3.00	38	**2020-0.68**	●
0.69	1.38	2.10	3.00	38	**2020-0.69**	●
0.70	1.40	2.10	3.00	38	**2020-0.70**	●
0.71	1.42	2.20	3.00	38	**2020-0.71**	●
0.72	1.44	2.20	3.00	38	**2020-0.72**	●
0.73	1.46	2.20	3.00	38	**2020-0.73**	●
0.74	1.48	2.20	3.00	38	**2020-0.74**	●
0.75	1.50	2.20	3.00	38	**2020-0.75**	●
0.76	1.52	2.30	3.00	38	**2020-0.76**	●
0.77	1.54	2.30	3.00	38	**2020-0.77**	●
0.78	1.56	2.30	3.00	38	**2020-0.78**	●
0.79	1.58	2.30	3.00	38	**2020-0.79**	●
0.80	1.60	2.30	3.00	38	**2020-0.80**	●
0.81	1.62	2.40	3.00	38	**2020-0.81**	●
0.82	1.64	2.40	3.00	38	**2020-0.82**	●
0.83	1.66	2.40	3.00	38	**2020-0.83**	●
0.84	1.68	2.40	3.00	38	**2020-0.84**	●
0.85	1.70	2.40	3.00	38	**2020-0.85**	●
0.86	1.72	2.50	3.00	38	**2020-0.86**	●
0.87	1.74	2.50	3.00	38	**2020-0.87**	●
0.88	1.76	2.50	3.00	38	**2020-0.88**	●
0.89	1.78	2.50	3.00	38	**2020-0.89**	●
0.90	1.80	2.50	3.00	38	**2020-0.90**	●
0.91	1.82	2.60	3.00	38	**2020-0.91**	●
0.92	1.84	2.60	3.00	38	**2020-0.92**	●
0.93	1.86	2.60	3.00	38	**2020-0.93**	●
0.94	1.88	2.60	3.00	38	**2020-0.94**	●
0.95	1.90	2.60	3.00	38	**2020-0.95**	●
0.96	1.92	2.70	3.00	38	**2020-0.96**	●
0.97	1.94	2.70	3.00	38	**2020-0.97**	●
0.98	1.96	2.70	3.00	38	**2020-0.98**	●
0.99	1.98	2.70	3.00	38	**2020-0.99**	●

Micro-forets de préperçage
Mikro Pilotbohrer
Micro pilot drills

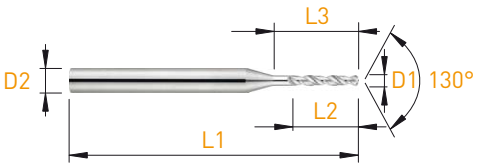
Ø 1.00 - Ø 2.00 mm

2020

D1 +0.005 / 0	L2	L3	D2 h6	L1	Art. N°	Z
1.00	2.00	2.70	3.00	38	**2020-1.00**	●
1.01	2.02	3.50	3.00	38	**2020-1.01**	●
1.02	2.04	3.50	3.00	38	**2020-1.02**	●
1.03	2.06	3.50	3.00	38	**2020-1.03**	●
1.04	2.08	3.50	3.00	38	**2020-1.04**	●
1.05	2.10	3.50	3.00	38	**2020-1.05**	●
1.06	2.12	3.60	3.00	38	**2020-1.06**	●
1.07	2.14	3.60	3.00	38	**2020-1.07**	●
1.08	2.16	3.60	3.00	38	**2020-1.08**	●
1.09	2.18	3.60	3.00	38	**2020-1.09**	●
1.10	2.20	3.60	3.00	38	**2020-1.10**	●
1.11	2.22	3.70	3.00	38	**2020-1.11**	●
1.12	2.24	3.70	3.00	38	**2020-1.12**	●
1.13	2.26	3.70	3.00	38	**2020-1.13**	●
1.14	2.28	3.70	3.00	38	**2020-1.14**	●
1.15	2.30	3.70	3.00	38	**2020-1.15**	●
1.16	2.32	3.80	3.00	38	**2020-1.16**	●
1.17	2.34	3.80	3.00	38	**2020-1.17**	●
1.18	2.36	3.80	3.00	38	**2020-1.18**	●
1.19	2.38	3.80	3.00	38	**2020-1.19**	●
1.20	2.40	3.80	3.00	38	**2020-1.20**	●
1.21	2.42	4.20	3.00	38	**2020-1.21**	●
1.22	2.44	4.20	3.00	38	**2020-1.22**	●
1.23	2.46	4.20	3.00	38	**2020-1.23**	●
1.24	2.48	4.20	3.00	38	**2020-1.24**	●
1.25	2.50	4.20	3.00	38	**2020-1.25**	●
1.26	2.52	4.30	3.00	38	**2020-1.26**	●
1.27	2.54	4.30	3.00	38	**2020-1.27**	●
1.28	2.56	4.30	3.00	38	**2020-1.28**	●
1.29	2.58	4.30	3.00	38	**2020-1.29**	●
1.30	2.60	4.30	3.00	38	**2020-1.30**	●
1.31	2.62	4.40	3.00	38	**2020-1.31**	●
1.32	2.64	4.40	3.00	38	**2020-1.32**	●
1.33	2.66	4.40	3.00	38	**2020-1.33**	●
1.34	2.68	4.40	3.00	38	**2020-1.34**	●
1.35	2.70	4.40	3.00	38	**2020-1.35**	●
1.36	2.72	4.50	3.00	38	**2020-1.36**	●
1.37	2.74	4.50	3.00	38	**2020-1.37**	●
1.38	2.76	4.50	3.00	38	**2020-1.38**	●
1.39	2.78	4.50	3.00	38	**2020-1.39**	●
1.40	2.80	4.50	3.00	38	**2020-1.40**	●
1.41	2.82	4.60	3.00	38	**2020-1.41**	●
1.42	2.84	4.60	3.00	38	**2020-1.42**	●
1.43	2.86	4.60	3.00	38	**2020-1.43**	●
1.44	2.88	4.60	3.00	38	**2020-1.44**	●
1.45	2.90	4.60	3.00	38	**2020-1.45**	●
1.46	2.92	4.70	3.00	38	**2020-1.46**	●
1.47	2.94	4.70	3.00	38	**2020-1.47**	●
1.48	2.96	4.70	3.00	38	**2020-1.48**	●
1.49	2.98	4.70	3.00	38	**2020-1.49**	●
1.50	3.00	4.70	3.00	38	**2020-1.50**	●

D1 +0.005 / 0	L2	L3	D2 h6	L1	Art. N°	Z
1.51	3.02	5.10	3.00	38	**2020-1.51**	●
1.52	3.04	5.10	3.00	38	**2020-1.52**	●
1.53	3.06	5.10	3.00	38	**2020-1.53**	●
1.54	3.08	5.10	3.00	38	**2020-1.54**	●
1.55	3.10	5.10	3.00	38	**2020-1.55**	●
1.56	3.12	5.20	3.00	38	**2020-1.56**	●
1.57	3.14	5.20	3.00	38	**2020-1.57**	●
1.58	3.16	5.20	3.00	38	**2020-1.58**	●
1.59	3.18	5.20	3.00	38	**2020-1.59**	●
1.60	3.20	5.20	3.00	38	**2020-1.60**	●
1.61	3.22	5.30	3.00	38	**2020-1.61**	●
1.62	3.24	5.30	3.00	38	**2020-1.62**	●
1.63	3.26	5.30	3.00	38	**2020-1.63**	●
1.64	3.28	5.30	3.00	38	**2020-1.64**	●
1.65	3.30	5.30	3.00	38	**2020-1.65**	●
1.66	3.32	5.40	3.00	38	**2020-1.66**	●
1.67	3.34	5.40	3.00	38	**2020-1.67**	●
1.68	3.36	5.40	3.00	38	**2020-1.68**	●
1.69	3.38	5.40	3.00	38	**2020-1.69**	●
1.70	3.40	5.40	3.00	38	**2020-1.70**	●
1.71	3.42	5.50	3.00	38	**2020-1.71**	●
1.72	3.44	5.50	3.00	38	**2020-1.72**	●
1.73	3.46	5.50	3.00	38	**2020-1.73**	●
1.74	3.48	5.50	3.00	38	**2020-1.74**	●
1.75	3.50	5.50	3.00	38	**2020-1.75**	●
1.76	3.52	5.60	3.00	38	**2020-1.76**	●
1.77	3.54	5.60	3.00	38	**2020-1.77**	●
1.78	3.56	5.60	3.00	38	**2020-1.78**	●
1.79	3.58	5.60	3.00	38	**2020-1.79**	●
1.80	3.60	5.60	3.00	38	**2020-1.80**	●
1.81	3.62	5.70	3.00	38	**2020-1.81**	●
1.82	3.64	5.70	3.00	38	**2020-1.82**	●
1.83	3.66	5.70	3.00	38	**2020-1.83**	●
1.84	3.68	5.70	3.00	38	**2020-1.84**	●
1.85	3.70	5.70	3.00	38	**2020-1.85**	●
1.86	3.72	5.80	3.00	38	**2020-1.86**	●
1.87	3.74	5.80	3.00	38	**2020-1.87**	●
1.88	3.76	5.80	3.00	38	**2020-1.88**	●
1.89	3.78	5.80	3.00	38	**2020-1.89**	●
1.90	3.80	5.80	3.00	38	**2020-1.90**	●
1.91	3.82	5.90	3.00	38	**2020-1.91**	●
1.92	3.84	5.90	3.00	38	**2020-1.92**	●
1.93	3.86	5.90	3.00	38	**2020-1.93**	●
1.94	3.88	5.90	3.00	38	**2020-1.94**	●
1.95	3.90	5.90	3.00	38	**2020-1.95**	●
1.96	3.92	6.00	3.00	38	**2020-1.96**	●
1.97	3.94	6.00	3.00	38	**2020-1.97**	●
1.98	3.96	6.00	3.00	38	**2020-1.98**	●
1.99	3.98	6.00	3.00	38	**2020-1.99**	●
2.00	4.00	6.00	3.00	38	**2020-2.00**	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request



MD VHM HM	λ 35°	6xD1	Z=2	130°	

D1 0 / -0.004	L2	L3	D2 h6	L1	Art. N°	z
0.10	0.50	0.70	3.00	38	**2023-0.10**	●
0.11	0.50	0.70	3.00	38	**2023-0.11**	●
0.12	0.50	0.70	3.00	38	**2023-0.12**	●
0.13	0.80	1.00	3.00	38	**2023-0.13**	●
0.14	0.80	1.00	3.00	38	**2023-0.14**	●
0.15	0.80	1.00	3.00	38	**2023-0.15**	●
0.16	1.10	1.40	3.00	38	**2023-0.16**	●
0.17	1.10	1.40	3.00	38	**2023-0.17**	●
0.18	1.10	1.40	3.00	38	**2023-0.18**	●
0.19	1.10	1.40	3.00	38	**2023-0.19**	●
0.20	1.50	1.80	3.00	38	**2023-0.20**	●
0.21	1.50	1.80	3.00	38	**2023-0.21**	●
0.22	1.50	1.80	3.00	38	**2023-0.22**	●
0.23	1.50	1.80	3.00	38	**2023-0.23**	●
0.24	1.50	1.80	3.00	38	**2023-0.24**	●
0.25	1.90	2.20	3.00	38	**2023-0.25**	●
0.26	1.90	2.20	3.00	38	**2023-0.26**	●
0.27	1.90	2.20	3.00	38	**2023-0.27**	●
0.28	1.90	2.20	3.00	38	**2023-0.28**	●
0.29	1.90	2.20	3.00	38	**2023-0.29**	●
0.30	1.80	2.40	3.00	38	**2023-0.30**	●
0.31	1.80	2.40	3.00	38	**2023-0.31**	●
0.32	1.80	2.40	3.00	38	**2023-0.32**	●
0.33	1.80	2.40	3.00	38	**2023-0.33**	●
0.34	1.80	2.40	3.00	38	**2023-0.34**	●
0.35	2.20	2.80	3.00	38	**2023-0.35**	●
0.36	2.20	2.80	3.00	38	**2023-0.36**	●
0.37	2.20	2.80	3.00	38	**2023-0.37**	●
0.38	2.20	2.80	3.00	38	**2023-0.38**	●
0.39	2.70	3.60	3.00	38	**2023-0.39**	●
0.40	2.70	3.60	3.00	38	**2023-0.40**	●
0.41	2.70	3.60	3.00	38	**2023-0.41**	●
0.42	2.70	3.60	3.00	38	**2023-0.42**	●
0.43	2.70	3.60	3.00	38	**2023-0.43**	●
0.44	2.70	3.60	3.00	38	**2023-0.44**	●
0.45	2.70	3.60	3.00	38	**2023-0.45**	●
0.46	2.70	3.60	3.00	38	**2023-0.46**	●
0.47	2.70	3.60	3.00	38	**2023-0.47**	●
0.48	2.70	3.60	3.00	38	**2023-0.48**	●

D1 0 / -0.004	L2	L3	D2 h6	L1	Art. N°	z
0.49	3.20	4.00	3.00	38	**2023-0.49**	●
0.50	3.20	4.00	3.00	38	**2023-0.50**	●
0.51	3.20	4.00	3.00	38	**2023-0.51**	●
0.52	3.20	4.00	3.00	38	**2023-0.52**	●
0.53	3.20	4.00	3.00	38	**2023-0.53**	●
0.54	3.60	4.50	3.00	38	**2023-0.54**	●
0.55	3.60	4.50	3.00	38	**2023-0.55**	●
0.56	3.60	4.50	3.00	38	**2023-0.56**	●
0.57	3.60	4.50	3.00	38	**2023-0.57**	●
0.58	3.60	4.50	3.00	38	**2023-0.58**	●
0.59	3.60	4.50	3.00	38	**2023-0.59**	●
0.60	3.60	4.50	3.00	38	**2023-0.60**	●
0.61	3.90	5.00	3.00	38	**2023-0.61**	●
0.62	3.90	5.00	3.00	38	**2023-0.62**	●
0.63	3.90	5.00	3.00	38	**2023-0.63**	●
0.64	3.90	5.00	3.00	38	**2023-0.64**	●
0.65	3.90	5.00	3.00	38	**2023-0.65**	●
0.66	3.90	5.00	3.00	38	**2023-0.66**	●
0.67	3.90	5.00	3.00	38	**2023-0.67**	●
0.68	4.50	5.60	3.00	38	**2023-0.68**	●
0.69	4.50	5.60	3.00	38	**2023-0.69**	●
0.70	4.50	5.60	3.00	38	**2023-0.70**	●
0.71	4.50	5.60	3.00	38	**2023-0.71**	●
0.72	4.50	5.60	3.00	38	**2023-0.72**	●
0.73	4.50	5.60	3.00	38	**2023-0.73**	●
0.74	4.50	5.60	3.00	38	**2023-0.74**	●
0.75	4.50	5.60	3.00	38	**2023-0.75**	●
0.76	5.00	6.30	3.00	38	**2023-0.76**	●
0.77	5.00	6.30	3.00	38	**2023-0.77**	●
0.78	5.00	6.30	3.00	38	**2023-0.78**	●
0.79	5.00	6.30	3.00	38	**2023-0.79**	●
0.80	5.00	6.30	3.00	38	**2023-0.80**	●
0.81	5.00	6.30	3.00	38	**2023-0.81**	●
0.82	5.00	6.30	3.00	38	**2023-0.82**	●
0.83	5.00	6.30	3.00	38	**2023-0.83**	●
0.84	5.00	6.30	3.00	38	**2023-0.84**	●
0.85	5.00	6.30	3.00	38	**2023-0.85**	●
0.86	5.70	7.10	3.00	38	**2023-0.86**	●
0.87	5.70	7.10	3.00	38	**2023-0.87**	●
0.88	5.70	7.10	3.00	38	**2023-0.88**	●
0.89	5.70	7.10	3.00	38	**2023-0.89**	●
0.90	5.70	7.10	3.00	38	**2023-0.90**	●
0.91	5.70	7.10	3.00	38	**2023-0.91**	●
0.92	5.70	7.10	3.00	38	**2023-0.92**	●
0.93	5.70	7.10	3.00	38	**2023-0.93**	●
0.94	5.70	7.10	3.00	38	**2023-0.94**	●
0.95	5.70	7.10	3.00	38	**2023-0.95**	●
0.96	6.50	8.00	3.00	38	**2023-0.96**	●
0.97	6.50	8.00	3.00	38	**2023-0.97**	●
0.98	6.50	8.00	3.00	38	**2023-0.98**	●
0.99	6.50	8.00	3.00	38	**2023-0.99**	●

Micro-forets
Mikrobohrer
Micro drills

Ø 1.00 - Ø 2.00 mm

2023

D1 0 / -0.004	L2	L3	D2 h6	L1	Art. N°	z
1.00	6.50	8.00	3.00	38	**2023-1.00**	●
1.01	6.50	8.00	3.00	38	**2023-1.01**	●
1.02	6.50	8.00	3.00	38	**2023-1.02**	●
1.03	6.50	8.00	3.00	38	**2023-1.03**	●
1.04	6.50	8.00	3.00	38	**2023-1.04**	●
1.05	6.50	8.00	3.00	38	**2023-1.05**	●
1.06	7.30	9.00	3.00	38	**2023-1.06**	●
1.07	7.30	9.00	3.00	38	**2023-1.07**	●
1.08	7.30	9.00	3.00	38	**2023-1.08**	●
1.09	7.30	9.00	3.00	38	**2023-1.09**	●
1.10	7.30	9.00	3.00	38	**2023-1.10**	●
1.11	7.30	9.00	3.00	38	**2023-1.11**	●
1.12	7.30	9.00	3.00	38	**2023-1.12**	●
1.13	7.30	9.00	3.00	38	**2023-1.13**	●
1.14	7.30	9.00	3.00	38	**2023-1.14**	●
1.15	7.30	9.00	3.00	38	**2023-1.15**	●
1.16	8.20	10.00	3.00	38	**2023-1.16**	●
1.17	8.20	10.00	3.00	38	**2023-1.17**	●
1.18	8.20	10.00	3.00	38	**2023-1.18**	●
1.19	8.20	10.00	3.00	38	**2023-1.19**	●
1.20	8.20	10.00	3.00	38	**2023-1.20**	●
1.21	8.20	10.00	3.00	38	**2023-1.21**	●
1.22	8.20	10.00	3.00	38	**2023-1.22**	●
1.23	8.20	10.00	3.00	38	**2023-1.23**	●
1.24	8.20	10.00	3.00	38	**2023-1.24**	●
1.25	8.20	10.00	3.00	38	**2023-1.25**	●
1.26	8.20	10.00	3.00	38	**2023-1.26**	●
1.27	8.20	10.00	3.00	38	**2023-1.27**	●
1.28	8.20	10.00	3.00	38	**2023-1.28**	●
1.29	8.20	10.00	3.00	38	**2023-1.29**	●
1.30	8.20	10.00	3.00	38	**2023-1.30**	●
1.31	9.20	11.20	3.00	38	**2023-1.31**	●
1.32	9.20	11.20	3.00	38	**2023-1.32**	●
1.33	9.20	11.20	3.00	38	**2023-1.33**	●
1.34	9.20	11.20	3.00	38	**2023-1.34**	●
1.35	9.20	11.20	3.00	38	**2023-1.35**	●
1.36	9.20	11.20	3.00	38	**2023-1.36**	●
1.37	9.20	11.20	3.00	38	**2023-1.37**	●
1.38	9.20	11.20	3.00	38	**2023-1.38**	●
1.39	9.20	11.20	3.00	38	**2023-1.39**	●
1.40	9.20	11.20	3.00	38	**2023-1.40**	●
1.41	9.20	11.20	3.00	38	**2023-1.41**	●
1.42	9.20	11.20	3.00	38	**2023-1.42**	●
1.43	9.20	11.20	3.00	38	**2023-1.43**	●
1.44	9.20	11.20	3.00	38	**2023-1.44**	●
1.45	9.20	11.20	3.00	38	**2023-1.45**	●
1.46	9.20	11.20	3.00	38	**2023-1.46**	●
1.47	9.20	11.20	3.00	38	**2023-1.47**	●
1.48	9.20	11.20	3.00	38	**2023-1.48**	●
1.49	9.20	11.20	3.00	38	**2023-1.49**	●
1.50	9.20	11.20	3.00	38	**2023-1.50**	●

D1 0 / -0.004	L2	L3	D2 h6	L1	Art. N°	z
1.51	11.20	13.40	3.00	38	**2023-1.51**	●
1.52	11.20	13.40	3.00	38	**2023-1.52**	●
1.53	11.20	13.40	3.00	38	**2023-1.53**	●
1.54	11.20	13.40	3.00	38	**2023-1.54**	●
1.55	11.20	13.40	3.00	38	**2023-1.55**	●
1.56	11.20	13.40	3.00	38	**2023-1.56**	●
1.57	11.20	13.40	3.00	38	**2023-1.57**	●
1.58	11.20	13.40	3.00	38	**2023-1.58**	●
1.59	11.20	13.40	3.00	38	**2023-1.59**	●
1.60	11.20	13.40	3.00	38	**2023-1.60**	●
1.61	11.20	13.40	3.00	38	**2023-1.61**	●
1.62	11.20	13.40	3.00	38	**2023-1.62**	●
1.63	11.20	13.40	3.00	38	**2023-1.63**	●
1.64	11.20	13.40	3.00	38	**2023-1.64**	●
1.65	11.20	13.40	3.00	38	**2023-1.65**	●
1.66	11.20	13.40	3.00	38	**2023-1.66**	●
1.67	11.20	13.40	3.00	38	**2023-1.67**	●
1.68	11.20	13.40	3.00	38	**2023-1.68**	●
1.69	11.20	13.40	3.00	38	**2023-1.69**	●
1.70	11.20	13.40	3.00	38	**2023-1.70**	●
1.71	11.20	13.40	3.00	38	**2023-1.71**	●
1.72	11.20	13.40	3.00	38	**2023-1.72**	●
1.73	11.20	13.40	3.00	38	**2023-1.73**	●
1.74	11.20	13.40	3.00	38	**2023-1.74**	●
1.75	11.20	13.40	3.00	38	**2023-1.75**	●
1.76	11.20	13.40	3.00	38	**2023-1.76**	●
1.77	11.20	13.40	3.00	38	**2023-1.77**	●
1.78	11.20	13.40	3.00	38	**2023-1.78**	●
1.79	11.20	13.40	3.00	38	**2023-1.79**	●
1.80	11.20	13.40	3.00	38	**2023-1.80**	●
1.81	11.20	13.40	3.00	38	**2023-1.81**	●
1.82	11.20	13.40	3.00	38	**2023-1.82**	●
1.83	11.20	13.40	3.00	38	**2023-1.83**	●
1.84	11.20	13.40	3.00	38	**2023-1.84**	●
1.85	11.20	13.40	3.00	38	**2023-1.85**	●
1.86	11.20	13.40	3.00	38	**2023-1.86**	●
1.87	11.20	13.40	3.00	38	**2023-1.87**	●
1.88	11.20	13.40	3.00	38	**2023-1.88**	●
1.89	11.20	13.40	3.00	38	**2023-1.89**	●
1.90	11.20	13.40	3.00	38	**2023-1.90**	●
1.91	11.20	13.40	3.00	38	**2023-1.91**	●
1.92	11.20	13.40	3.00	38	**2023-1.92**	●
1.93	11.20	13.40	3.00	38	**2023-1.93**	●
1.94	11.20	13.40	3.00	38	**2023-1.94**	●
1.95	11.20	13.40	3.00	38	**2023-1.95**	●
1.96	11.20	13.40	3.00	38	**2023-1.96**	●
1.97	11.20	13.40	3.00	38	**2023-1.97**	●
1.98	11.20	13.40	3.00	38	**2023-1.98**	●
1.99	11.20	13.40	3.00	38	**2023-1.99**	●
2.00	11.20	13.40	3.00	38	**2023-2.00**	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

2023

Ø 2.01 - Ø 3.00 mm

Micro-forets
Mikrobohrer
Micro drills

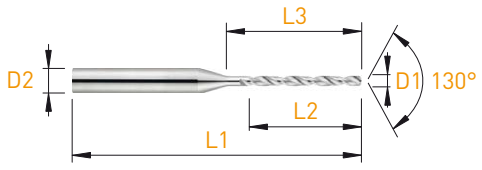
D1 0 / -0.004	L2	L3	D2 h6	L1	Art. N°	z
2.01	12.50	14.00	3.00	38	**2023-2.01**	●
2.02	12.50	14.00	3.00	38	**2023-2.02**	●
2.03	12.50	14.00	3.00	38	**2023-2.03**	●
2.04	12.50	14.00	3.00	38	**2023-2.04**	●
2.05	12.50	14.00	3.00	38	**2023-2.05**	●
2.06	12.50	14.00	3.00	38	**2023-2.06**	●
2.07	12.50	14.00	3.00	38	**2023-2.07**	●
2.08	12.50	14.00	3.00	38	**2023-2.08**	●
2.09	12.50	14.00	3.00	38	**2023-2.09**	●
2.10	12.50	14.00	3.00	38	**2023-2.10**	●
2.11	12.50	14.00	3.00	38	**2023-2.11**	●
2.12	12.50	14.00	3.00	38	**2023-2.12**	●
2.13	12.50	14.00	3.00	38	**2023-2.13**	●
2.14	12.50	14.00	3.00	38	**2023-2.14**	●
2.15	12.50	14.00	3.00	38	**2023-2.15**	●
2.16	12.50	14.00	3.00	38	**2023-2.16**	●
2.17	12.50	14.00	3.00	38	**2023-2.17**	●
2.18	12.50	14.00	3.00	38	**2023-2.18**	●
2.19	12.50	14.00	3.00	38	**2023-2.19**	●
2.20	12.50	14.00	3.00	38	**2023-2.20**	●
2.21	12.50	14.00	3.00	38	**2023-2.21**	●
2.22	12.50	14.00	3.00	38	**2023-2.22**	●
2.23	12.50	14.00	3.00	38	**2023-2.23**	●
2.24	12.50	14.00	3.00	38	**2023-2.24**	●
2.25	12.50	14.00	3.00	38	**2023-2.25**	●
2.26	12.50	14.00	3.00	38	**2023-2.26**	●
2.27	12.50	14.00	3.00	38	**2023-2.27**	●
2.28	12.50	14.00	3.00	38	**2023-2.28**	●
2.29	12.50	14.00	3.00	38	**2023-2.29**	●
2.30	12.50	14.00	3.00	38	**2023-2.30**	●
2.31	12.50	14.00	3.00	38	**2023-2.31**	●
2.32	12.50	14.00	3.00	38	**2023-2.32**	●
2.33	12.50	14.00	3.00	38	**2023-2.33**	●
2.34	12.50	14.00	3.00	38	**2023-2.34**	●
2.35	12.50	14.00	3.00	38	**2023-2.35**	●
2.36	12.50	14.00	3.00	38	**2023-2.36**	●
2.37	12.50	14.00	3.00	38	**2023-2.37**	●
2.38	12.50	14.00	3.00	38	**2023-2.38**	●
2.39	12.50	14.00	3.00	38	**2023-2.39**	●
2.40	12.50	14.00	3.00	38	**2023-2.40**	●
2.41	12.50	14.00	3.00	38	**2023-2.41**	●
2.42	12.50	14.00	3.00	38	**2023-2.42**	●
2.43	12.50	14.00	3.00	38	**2023-2.43**	●
2.44	12.50	14.00	3.00	38	**2023-2.44**	●
2.45	12.50	14.00	3.00	38	**2023-2.45**	●
2.46	12.50	14.00	3.00	38	**2023-2.46**	●
2.47	12.50	14.00	3.00	38	**2023-2.47**	●
2.48	12.50	14.00	3.00	38	**2023-2.48**	●
2.49	12.50	14.00	3.00	38	**2023-2.49**	●
2.50	14.00	17.00	3.00	38	**2023-2.50**	●

D1 0 / -0.004	L2	L3	D2 h6	L1	Art. N°	z
2.51	14.00	17.00	3.00	38	**2023-2.51**	●
2.52	14.00	17.00	3.00	38	**2023-2.52**	●
2.53	14.00	17.00	3.00	38	**2023-2.53**	●
2.54	14.00	17.00	3.00	38	**2023-2.54**	●
2.55	14.00	17.00	3.00	38	**2023-2.55**	●
2.56	14.00	17.00	3.00	38	**2023-2.56**	●
2.57	14.00	17.00	3.00	38	**2023-2.57**	●
2.58	14.00	17.00	3.00	38	**2023-2.58**	●
2.59	14.00	17.00	3.00	38	**2023-2.59**	●
2.60	14.00	17.00	3.00	38	**2023-2.60**	●
2.61	14.00	17.00	3.00	38	**2023-2.61**	●
2.62	14.00	17.00	3.00	38	**2023-2.62**	●
2.63	14.00	17.00	3.00	38	**2023-2.63**	●
2.64	14.00	17.00	3.00	38	**2023-2.64**	●
2.65	14.00	17.00	3.00	38	**2023-2.65**	●
2.66	14.00	17.00	3.00	38	**2023-2.66**	●
2.67	14.00	17.00	3.00	38	**2023-2.67**	●
2.68	14.00	17.00	3.00	38	**2023-2.68**	●
2.69	14.00	17.00	3.00	38	**2023-2.69**	●
2.70	14.00	17.00	3.00	38	**2023-2.70**	●
2.71	14.00	17.00	3.00	38	**2023-2.71**	●
2.72	14.00	17.00	3.00	38	**2023-2.72**	●
2.73	14.00	17.00	3.00	38	**2023-2.73**	●
2.74	14.00	17.00	3.00	38	**2023-2.74**	●
2.75	14.00	17.00	3.00	38	**2023-2.75**	●
2.76	14.00	17.00	3.00	38	**2023-2.76**	●
2.77	14.00	17.00	3.00	38	**2023-2.77**	●
2.78	14.00	17.00	3.00	38	**2023-2.78**	●
2.79	14.00	17.00	3.00	38	**2023-2.79**	●
2.80	14.00	17.00	3.00	38	**2023-2.80**	●
2.81	14.00	17.00	3.00	38	**2023-2.81**	●
2.82	14.00	17.00	3.00	38	**2023-2.82**	●
2.83	14.00	17.00	3.00	38	**2023-2.83**	●
2.84	14.00	17.00	3.00	38	**2023-2.84**	●
2.85	14.00	17.00	3.00	38	**2023-2.85**	●
2.86	14.00	17.00	3.00	38	**2023-2.86**	●
2.87	14.00	17.00	3.00	38	**2023-2.87**	●
2.88	14.00	17.00	3.00	38	**2023-2.88**	●
2.89	14.00	17.00	3.00	38	**2023-2.89**	●
2.90	14.00	17.00	3.00	38	**2023-2.90**	●
2.91	14.00	17.00	3.00	38	**2023-2.91**	●
2.92	14.00	17.00	3.00	38	**2023-2.92**	●
2.93	14.00	17.00	3.00	38	**2023-2.93**	●
2.94	14.00	17.00	3.00	38	**2023-2.94**	●
2.95	14.00	17.00	3.00	38	**2023-2.95**	●
2.96	14.00	17.00	3.00	38	**2023-2.96**	●
2.97	14.00	17.00	3.00	38	**2023-2.97**	●
2.98	14.00	17.00	3.00	38	**2023-2.98**	●
2.99	14.00	17.00	3.00	38	**2023-2.99**	●
3.00	14.00	17.00	3.00	38	**2023-3.00**	●

Micro-forets
Mikrobohrer
Micro drills

Ø 0.20 - Ø 1.09 mm

2026



MD VHM HM	λ 25°	Z=2	12xD1	130°	

D1 h6	L2	L3	D2 h6	L1	Art. N°	Z
0.20	2.40	3.50	3.00	38	**2026-0.20**	●
0.21	2.50	3.50	3.00	38	**2026-0.21**	●
0.22	2.70	3.50	3.00	38	**2026-0.22**	●
0.23	2.80	3.50	3.00	38	**2026-0.23**	●
0.24	2.90	4.00	3.00	38	**2026-0.24**	●
0.25	3.00	4.00	3.00	38	**2026-0.25**	●
0.26	3.10	4.00	3.00	38	**2026-0.26**	●
0.27	3.30	4.00	3.00	38	**2026-0.27**	●
0.28	3.40	4.50	3.00	38	**2026-0.28**	●
0.29	3.50	4.50	3.00	38	**2026-0.29**	●
0.30	3.60	4.50	3.00	38	**2026-0.30**	●
0.31	3.70	4.50	3.00	38	**2026-0.31**	●
0.32	3.90	5.00	3.00	38	**2026-0.32**	●
0.33	4.00	5.00	3.00	38	**2026-0.33**	●
0.34	4.10	5.00	3.00	38	**2026-0.34**	●
0.35	4.20	5.00	3.00	38	**2026-0.35**	●
0.36	4.30	5.50	3.00	38	**2026-0.36**	●
0.37	4.50	5.50	3.00	38	**2026-0.37**	●
0.38	4.60	5.50	3.00	38	**2026-0.38**	●
0.39	4.70	5.50	3.00	38	**2026-0.39**	●
0.40	4.80	6.00	3.00	38	**2026-0.40**	●
0.41	4.90	6.00	3.00	38	**2026-0.41**	●
0.42	5.10	6.00	3.00	38	**2026-0.42**	●
0.43	5.20	6.00	3.00	38	**2026-0.43**	●
0.44	5.30	6.50	3.00	38	**2026-0.44**	●
0.45	5.40	6.50	3.00	38	**2026-0.45**	●
0.46	5.50	6.50	3.00	38	**2026-0.46**	●
0.47	5.70	6.50	3.00	38	**2026-0.47**	●
0.48	5.80	7.00	3.00	38	**2026-0.48**	●
0.49	5.90	7.00	3.00	38	**2026-0.49**	●
0.50	6.00	7.00	3.00	38	**2026-0.50**	●
0.51	6.10	7.00	3.00	38	**2026-0.51**	●
0.52	6.30	7.50	3.00	38	**2026-0.52**	●
0.53	6.40	7.50	3.00	38	**2026-0.53**	●
0.54	6.50	7.50	3.00	38	**2026-0.54**	●
0.55	6.60	7.50	3.00	38	**2026-0.55**	●
0.56	6.70	8.00	3.00	38	**2026-0.56**	●
0.57	6.90	8.00	3.00	38	**2026-0.57**	●
0.58	7.00	8.00	3.00	38	**2026-0.58**	●
0.59	7.10	8.00	3.00	38	**2026-0.59**	●
0.60	7.20	9.00	3.00	38	**2026-0.60**	●
0.61	7.30	9.00	3.00	38	**2026-0.61**	●
0.62	7.50	9.00	3.00	38	**2026-0.62**	●
0.63	7.60	9.00	3.00	38	**2026-0.63**	●
0.64	7.70	9.50	3.00	38	**2026-0.64**	●
0.65	7.80	9.50	3.00	38	**2026-0.65**	●
0.66	7.90	9.50	3.00	38	**2026-0.66**	●
0.67	8.10	9.50	3.00	38	**2026-0.67**	●
0.68	8.20	10.00	3.00	38	**2026-0.68**	●
0.69	8.30	10.00	3.00	38	**2026-0.69**	●
0.70	8.40	10.00	3.00	38	**2026-0.70**	●
0.71	8.50	10.00	3.00	38	**2026-0.71**	●
0.72	8.70	10.50	3.00	38	**2026-0.72**	●
0.73	8.80	10.50	3.00	38	**2026-0.73**	●
0.74	8.90	10.50	3.00	38	**2026-0.74**	●
0.75	9.00	10.50	3.00	38	**2026-0.75**	●
0.76	9.10	11.00	3.00	38	**2026-0.76**	●
0.77	9.30	11.00	3.00	38	**2026-0.77**	●
0.78	9.40	11.00	3.00	38	**2026-0.78**	●
0.79	9.50	11.00	3.00	38	**2026-0.79**	●
0.80	9.60	11.50	3.00	38	**2026-0.80**	●
0.81	9.70	11.50	3.00	38	**2026-0.81**	●
0.82	9.90	11.50	3.00	38	**2026-0.82**	●
0.83	10.00	11.50	3.00	38	**2026-0.83**	●
0.84	10.10	12.00	3.00	38	**2026-0.84**	●
0.85	10.20	12.00	3.00	38	**2026-0.85**	●
0.86	10.30	12.00	3.00	38	**2026-0.86**	●
0.87	10.50	12.00	3.00	38	**2026-0.87**	●
0.88	10.60	12.50	3.00	38	**2026-0.88**	●
0.89	10.70	12.50	3.00	38	**2026-0.89**	●
0.90	10.80	12.50	3.00	38	**2026-0.90**	●
0.91	10.90	12.50	3.00	38	**2026-0.91**	●
0.92	11.10	13.00	3.00	38	**2026-0.92**	●
0.93	11.20	13.00	3.00	38	**2026-0.93**	●
0.94	11.30	13.00	3.00	38	**2026-0.94**	●
0.95	11.40	13.00	3.00	38	**2026-0.95**	●
0.96	11.50	13.50	3.00	38	**2026-0.96**	●
0.97	11.70	13.50	3.00	38	**2026-0.97**	●
0.98	11.80	13.50	3.00	38	**2026-0.98**	●
0.99	11.90	13.50	3.00	38	**2026-0.99**	●
1.00	12.00	14.50	3.00	38	**2026-1.00**	●
1.01	12.10	14.50	3.00	38	**2026-1.01**	●
1.02	12.30	14.50	3.00	38	**2026-1.02**	●
1.03	12.40	14.50	3.00	38	**2026-1.03**	●
1.04	12.50	15.00	3.00	38	**2026-1.04**	●
1.05	12.60	15.00	3.00	38	**2026-1.05**	●
1.06	12.70	15.00	3.00	38	**2026-1.06**	●
1.07	12.90	15.00	3.00	38	**2026-1.07**	●
1.08	13.00	15.50	3.00	38	**2026-1.08**	●
1.09	13.10	15.50	3.00	38	**2026-1.09**	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

2026

Ø 1.10 - Ø 2.00 mm

Micro-forets
Mikrobohrer
Micro drills

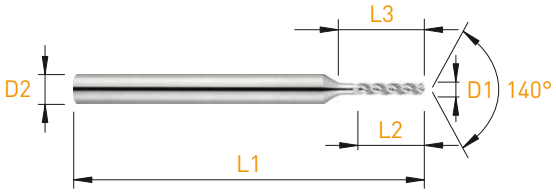
D1 h6	L2	L3	D2 h6	L1	Art. N°	z
1.10	13.20	15.50	3.00	38	**2026-1.10**	●
1.11	13.30	15.50	3.00	38	**2026-1.11**	●
1.12	13.50	16.00	3.00	38	**2026-1.12**	●
1.13	13.60	16.00	3.00	38	**2026-1.13**	●
1.14	13.70	16.00	3.00	38	**2026-1.14**	●
1.15	13.80	16.00	3.00	38	**2026-1.15**	●
1.16	13.90	16.50	3.00	38	**2026-1.16**	●
1.17	14.10	16.50	3.00	38	**2026-1.17**	●
1.18	14.20	16.50	3.00	38	**2026-1.18**	●
1.19	14.30	16.50	3.00	38	**2026-1.19**	●
1.20	14.40	17.00	3.00	38	**2026-1.20**	●
1.21	14.50	17.00	3.00	38	**2026-1.21**	●
1.22	14.70	17.00	3.00	38	**2026-1.22**	●
1.23	14.80	17.00	3.00	38	**2026-1.23**	●
1.24	14.90	17.50	3.00	38	**2026-1.24**	●
1.25	15.00	17.50	3.00	38	**2026-1.25**	●
1.26	15.10	17.50	3.00	50	**2026-1.26**	●
1.27	15.30	17.50	3.00	50	**2026-1.27**	●
1.28	15.40	18.00	3.00	50	**2026-1.28**	●
1.29	15.50	18.00	3.00	50	**2026-1.29**	●
1.30	15.60	18.00	3.00	50	**2026-1.30**	●
1.31	15.70	18.00	3.00	50	**2026-1.31**	●
1.32	15.90	18.50	3.00	50	**2026-1.32**	●
1.33	16.00	18.50	3.00	50	**2026-1.33**	●
1.34	16.10	18.50	3.00	50	**2026-1.34**	●
1.35	16.20	18.50	3.00	50	**2026-1.35**	●
1.36	16.30	19.00	3.00	50	**2026-1.36**	●
1.37	16.50	19.00	3.00	50	**2026-1.37**	●
1.38	16.60	19.00	3.00	50	**2026-1.38**	●
1.39	16.70	19.00	3.00	50	**2026-1.39**	●
1.40	16.80	19.50	3.00	50	**2026-1.40**	●
1.41	16.90	19.50	3.00	50	**2026-1.41**	●
1.42	17.10	19.50	3.00	50	**2026-1.42**	●
1.43	17.20	19.50	3.00	50	**2026-1.43**	●
1.44	17.30	20.00	3.00	50	**2026-1.44**	●
1.45	17.40	20.00	3.00	50	**2026-1.45**	●
1.46	17.50	20.00	3.00	50	**2026-1.46**	●
1.47	17.70	20.00	3.00	50	**2026-1.47**	●
1.48	17.80	20.50	3.00	50	**2026-1.48**	●
1.49	17.90	20.50	3.00	50	**2026-1.49**	●
1.50	18.00	21.00	3.00	50	**2026-1.50**	●
1.51	18.10	21.00	3.00	50	**2026-1.51**	●
1.52	18.30	21.00	3.00	50	**2026-1.52**	●
1.53	18.40	21.00	3.00	50	**2026-1.53**	●
1.54	18.50	21.50	3.00	50	**2026-1.54**	●
1.55	18.60	21.50	3.00	50	**2026-1.55**	●
1.56	18.70	21.50	3.00	50	**2026-1.56**	●
1.57	18.90	21.50	3.00	50	**2026-1.57**	●
1.58	19.00	22.00	3.00	50	**2026-1.58**	●
1.59	19.10	22.00	3.00	50	**2026-1.59**	●
1.60	19.20	22.00	3.00	50	**2026-1.60**	●

D1 h6	L2	L3	D2 h6	L1	Art. N°	z
1.61	19.30	22.00	3.00	50	**2026-1.61**	●
1.62	19.40	22.50	3.00	50	**2026-1.62**	●
1.63	19.60	22.50	3.00	50	**2026-1.63**	●
1.64	19.70	22.50	3.00	50	**2026-1.64**	●
1.65	19.80	22.50	3.00	50	**2026-1.65**	●
1.66	19.90	23.00	3.00	50	**2026-1.66**	●
1.67	20.10	23.00	3.00	50	**2026-1.67**	●
1.68	20.20	23.00	3.00	50	**2026-1.68**	●
1.69	20.30	23.00	3.00	50	**2026-1.69**	●
1.70	20.40	23.50	3.00	50	**2026-1.70**	●
1.71	20.50	23.50	3.00	50	**2026-1.71**	●
1.72	20.70	23.50	3.00	50	**2026-1.72**	●
1.73	20.80	23.50	3.00	50	**2026-1.73**	●
1.74	20.90	24.00	3.00	50	**2026-1.74**	●
1.75	21.00	24.00	3.00	50	**2026-1.75**	●
1.76	21.10	24.00	3.00	50	**2026-1.76**	●
1.77	21.30	24.00	3.00	50	**2026-1.77**	●
1.78	21.40	24.50	3.00	50	**2026-1.78**	●
1.79	21.50	24.50	3.00	50	**2026-1.79**	●
1.80	21.60	25.00	3.00	50	**2026-1.80**	●
1.81	21.70	25.00	3.00	50	**2026-1.81**	●
1.82	21.90	25.00	3.00	50	**2026-1.82**	●
1.83	22.00	25.00	3.00	50	**2026-1.83**	●
1.84	22.10	25.50	3.00	50	**2026-1.84**	●
1.85	22.20	25.50	3.00	50	**2026-1.85**	●
1.86	22.30	25.50	3.00	50	**2026-1.86**	●
1.87	22.50	25.50	3.00	50	**2026-1.87**	●
1.88	22.60	26.00	3.00	50	**2026-1.88**	●
1.89	22.70	26.00	3.00	50	**2026-1.89**	●
1.90	22.80	26.00	3.00	50	**2026-1.90**	●
1.91	22.90	26.00	3.00	50	**2026-1.91**	●
1.92	23.10	26.50	3.00	50	**2026-1.92**	●
1.93	23.20	26.50	3.00	50	**2026-1.93**	●
1.94	23.30	26.50	3.00	50	**2026-1.94**	●
1.95	23.40	26.50	3.00	50	**2026-1.95**	●
1.96	23.50	27.00	3.00	50	**2026-1.96**	●
1.97	23.70	27.00	3.00	50	**2026-1.97**	●
1.98	23.80	27.00	3.00	50	**2026-1.98**	●
1.99	23.90	27.00	3.00	50	**2026-1.99**	●
2.00	24.00	27.00	3.00	50	**2026-2.00**	●

Micro-forets
Mikrobohrer
Micro drills

Ø 0.20 - Ø 1.09 mm

2030



MD VHM HM	λ 35°	5xD1	Z=3	140°

D1 h6	L2	L3	D2 h6	L1	Art. N°	z
0.20	1.00	1.50	3.00	38	**2030-0.20**	●
0.21	1.05	1.50	3.00	38	**2030-0.21**	●
0.22	1.10	1.60	3.00	38	**2030-0.22**	●
0.23	1.15	1.60	3.00	38	**2030-0.23**	●
0.24	1.20	1.70	3.00	38	**2030-0.24**	●
0.25	1.25	1.70	3.00	38	**2030-0.25**	●
0.26	1.30	1.80	3.00	38	**2030-0.26**	●
0.27	1.35	1.80	3.00	38	**2030-0.27**	●
0.28	1.40	1.90	3.00	38	**2030-0.28**	●
0.29	1.45	1.90	3.00	38	**2030-0.29**	●
0.30	1.50	2.00	3.00	38	**2030-0.30**	●
0.31	1.55	2.00	3.00	38	**2030-0.31**	●
0.32	1.60	2.10	3.00	38	**2030-0.32**	●
0.33	1.65	2.10	3.00	38	**2030-0.33**	●
0.34	1.70	2.20	3.00	38	**2030-0.34**	●
0.35	1.75	2.20	3.00	38	**2030-0.35**	●
0.36	1.80	2.30	3.00	38	**2030-0.36**	●
0.37	1.85	2.30	3.00	38	**2030-0.37**	●
0.38	1.90	2.40	3.00	38	**2030-0.38**	●
0.39	1.95	2.40	3.00	38	**2030-0.39**	●
0.40	2.00	2.50	3.00	38	**2030-0.40**	●
0.41	2.05	2.50	3.00	38	**2030-0.41**	●
0.42	2.10	2.60	3.00	38	**2030-0.42**	●
0.43	2.15	2.60	3.00	38	**2030-0.43**	●
0.44	2.20	2.70	3.00	38	**2030-0.44**	●
0.45	2.25	2.70	3.00	38	**2030-0.45**	●
0.46	2.30	2.80	3.00	38	**2030-0.46**	●
0.47	2.35	2.80	3.00	38	**2030-0.47**	●
0.48	2.40	2.90	3.00	38	**2030-0.48**	●
0.49	2.45	2.90	3.00	38	**2030-0.49**	●
0.50	2.50	3.00	3.00	38	**2030-0.50**	●
0.51	2.55	3.00	3.00	38	**2030-0.51**	●
0.52	2.60	3.10	3.00	38	**2030-0.52**	●
0.53	2.65	3.10	3.00	38	**2030-0.53**	●
0.54	2.70	3.20	3.00	38	**2030-0.54**	●
0.55	2.75	3.20	3.00	38	**2030-0.55**	●
0.56	2.80	3.30	3.00	38	**2030-0.56**	●
0.57	2.85	3.30	3.00	38	**2030-0.57**	●
0.58	2.90	3.40	3.00	38	**2030-0.58**	●
0.59	2.95	3.40	3.00	38	**2030-0.59**	●
0.60	3.00	3.50	3.00	38	**2030-0.60**	●
0.61	3.05	3.50	3.00	38	**2030-0.61**	●
0.62	3.10	3.60	3.00	38	**2030-0.62**	●
0.63	3.15	3.60	3.00	38	**2030-0.63**	●
0.64	3.20	3.70	3.00	38	**2030-0.64**	●
0.65	3.25	3.70	3.00	38	**2030-0.65**	●
0.66	3.30	3.80	3.00	38	**2030-0.66**	●
0.67	3.35	3.80	3.00	38	**2030-0.67**	●
0.68	3.40	3.90	3.00	38	**2030-0.68**	●
0.69	3.45	3.90	3.00	38	**2030-0.69**	●
0.70	3.50	4.00	3.00	38	**2030-0.70**	●
0.71	3.55	4.00	3.00	38	**2030-0.71**	●
0.72	3.60	4.10	3.00	38	**2030-0.72**	●
0.73	3.65	4.10	3.00	38	**2030-0.73**	●
0.74	3.70	4.20	3.00	38	**2030-0.74**	●
0.75	3.75	4.20	3.00	38	**2030-0.75**	●
0.76	3.80	4.30	3.00	38	**2030-0.76**	●
0.77	3.85	4.30	3.00	38	**2030-0.77**	●
0.78	3.90	4.40	3.00	38	**2030-0.78**	●
0.79	3.95	4.40	3.00	38	**2030-0.79**	●
0.80	4.00	4.50	3.00	38	**2030-0.80**	●
0.81	4.05	4.50	3.00	38	**2030-0.81**	●
0.82	4.10	4.60	3.00	38	**2030-0.82**	●
0.83	4.15	4.60	3.00	38	**2030-0.83**	●
0.84	4.20	4.70	3.00	38	**2030-0.84**	●
0.85	4.25	4.70	3.00	38	**2030-0.85**	●
0.86	4.30	4.80	3.00	38	**2030-0.86**	●
0.87	4.35	4.80	3.00	38	**2030-0.87**	●
0.88	4.40	4.90	3.00	38	**2030-0.88**	●
0.89	4.45	4.90	3.00	38	**2030-0.89**	●
0.90	4.50	5.00	3.00	38	**2030-0.90**	●
0.91	4.55	5.00	3.00	38	**2030-0.91**	●
0.92	4.60	5.10	3.00	38	**2030-0.92**	●
0.93	4.65	5.10	3.00	38	**2030-0.93**	●
0.94	4.70	5.20	3.00	38	**2030-0.94**	●
0.95	4.75	5.20	3.00	38	**2030-0.95**	●
0.96	4.80	5.30	3.00	38	**2030-0.96**	●
0.97	4.85	5.30	3.00	38	**2030-0.97**	●
0.98	4.90	5.40	3.00	38	**2030-0.98**	●
0.99	4.95	5.40	3.00	38	**2030-0.99**	●
1.00	5.00	6.50	3.00	38	**2030-1.00**	●
1.01	5.05	6.50	3.00	38	**2030-1.01**	●
1.02	5.10	6.50	3.00	38	**2030-1.02**	●
1.03	5.15	6.50	3.00	38	**2030-1.03**	●
1.04	5.20	6.50	3.00	38	**2030-1.04**	●
1.05	5.25	6.50	3.00	38	**2030-1.05**	●
1.06	5.30	6.50	3.00	38	**2030-1.06**	●
1.07	5.35	7.50	3.00	38	**2030-1.07**	●
1.08	5.40	7.50	3.00	38	**2030-1.08**	●
1.09	5.45	7.50	3.00	38	**2030-1.09**	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

2030

Ø 1.10 - Ø 2.11 mm

Micro-forets
Mikrobohrer
Micro drills

D1 h6	L2	L3	D2 h6	L1	Art. N°	z
1.10	5.50	7.50	3.00	38	**2030-1.10**	●
1.11	5.55	7.50	3.00	38	**2030-1.11**	●
1.12	5.60	7.50	3.00	38	**2030-1.12**	●
1.13	5.65	7.50	3.00	38	**2030-1.13**	●
1.14	5.70	7.50	3.00	38	**2030-1.14**	●
1.15	5.75	7.50	3.00	38	**2030-1.15**	●
1.16	5.80	7.50	3.00	38	**2030-1.16**	●
1.17	5.85	7.50	3.00	38	**2030-1.17**	●
1.18	5.90	8.50	3.00	38	**2030-1.18**	●
1.19	5.95	8.50	3.00	38	**2030-1.19**	●
1.20	6.00	8.50	3.00	38	**2030-1.20**	●
1.21	6.05	8.50	3.00	38	**2030-1.21**	●
1.22	6.10	8.50	3.00	38	**2030-1.22**	●
1.23	6.15	8.50	3.00	38	**2030-1.23**	●
1.24	6.20	8.50	3.00	38	**2030-1.24**	●
1.25	6.25	8.50	3.00	38	**2030-1.25**	●
1.26	6.30	8.50	3.00	38	**2030-1.26**	●
1.27	6.35	8.50	3.00	38	**2030-1.27**	●
1.28	6.40	8.50	3.00	38	**2030-1.28**	●
1.29	6.45	8.50	3.00	38	**2030-1.29**	●
1.30	6.50	8.50	3.00	38	**2030-1.30**	●
1.31	6.55	8.50	3.00	38	**2030-1.31**	●
1.32	6.60	8.50	3.00	38	**2030-1.32**	●
1.33	6.65	9.50	3.00	38	**2030-1.33**	●
1.34	6.70	9.50	3.00	38	**2030-1.34**	●
1.35	6.75	9.50	3.00	38	**2030-1.35**	●
1.36	6.80	9.50	3.00	38	**2030-1.36**	●
1.37	6.85	9.50	3.00	38	**2030-1.37**	●
1.38	6.90	9.50	3.00	38	**2030-1.38**	●
1.39	6.95	9.50	3.00	38	**2030-1.39**	●
1.40	7.00	9.50	3.00	38	**2030-1.40**	●
1.41	7.05	9.50	3.00	38	**2030-1.41**	●
1.42	7.10	9.50	3.00	38	**2030-1.42**	●
1.43	7.15	9.50	3.00	38	**2030-1.43**	●
1.44	7.20	9.50	3.00	38	**2030-1.44**	●
1.45	7.25	9.50	3.00	38	**2030-1.45**	●
1.46	7.30	9.50	3.00	38	**2030-1.46**	●
1.47	7.35	9.50	3.00	38	**2030-1.47**	●
1.48	7.40	9.50	3.00	38	**2030-1.48**	●
1.49	7.45	9.50	3.00	38	**2030-1.49**	●
1.50	7.50	9.50	3.00	38	**2030-1.50**	●
1.51	7.55	10.50	3.00	38	**2030-1.51**	●
1.52	7.60	10.50	3.00	38	**2030-1.52**	●
1.53	7.65	10.50	3.00	38	**2030-1.53**	●
1.54	7.70	10.50	3.00	38	**2030-1.54**	●
1.55	7.75	10.50	3.00	38	**2030-1.55**	●
1.56	7.80	10.50	3.00	38	**2030-1.56**	●
1.57	7.85	10.50	3.00	38	**2030-1.57**	●
1.58	7.90	10.50	3.00	38	**2030-1.58**	●
1.59	7.95	10.50	3.00	38	**2030-1.59**	●
1.60	8.00	10.50	3.00	38	**2030-1.60**	●

D1 h6	L2	L3	D2 h6	L1	Art. N°	z
1.61	8.05	10.50	3.00	38	**2030-1.61**	●
1.62	8.10	10.50	3.00	38	**2030-1.62**	●
1.63	8.15	10.50	3.00	38	**2030-1.63**	●
1.64	8.20	10.50	3.00	38	**2030-1.64**	●
1.65	8.25	10.50	3.00	38	**2030-1.65**	●
1.66	8.30	10.50	3.00	38	**2030-1.66**	●
1.67	8.35	10.50	3.00	38	**2030-1.67**	●
1.68	8.40	10.50	3.00	38	**2030-1.68**	●
1.69	8.45	10.50	3.00	38	**2030-1.69**	●
1.70	8.50	10.50	3.00	38	**2030-1.70**	●
1.71	8.55	11.50	3.00	38	**2030-1.71**	●
1.72	8.60	11.50	3.00	38	**2030-1.72**	●
1.73	8.65	11.50	3.00	38	**2030-1.73**	●
1.74	8.70	11.50	3.00	38	**2030-1.74**	●
1.75	8.75	11.50	3.00	38	**2030-1.75**	●
1.76	8.80	11.50	3.00	38	**2030-1.76**	●
1.77	8.85	11.50	3.00	38	**2030-1.77**	●
1.78	8.90	11.50	3.00	38	**2030-1.78**	●
1.79	8.95	11.50	3.00	38	**2030-1.79**	●
1.80	9.00	11.50	3.00	38	**2030-1.80**	●
1.81	9.05	11.50	3.00	38	**2030-1.81**	●
1.82	9.10	11.50	3.00	38	**2030-1.82**	●
1.83	9.15	11.50	3.00	38	**2030-1.83**	●
1.84	9.20	11.50	3.00	38	**2030-1.84**	●
1.85	9.25	11.50	3.00	38	**2030-1.85**	●
1.86	9.30	11.50	3.00	38	**2030-1.86**	●
1.87	9.35	11.50	3.00	38	**2030-1.87**	●
1.88	9.40	11.50	3.00	38	**2030-1.88**	●
1.89	9.45	11.50	3.00	38	**2030-1.89**	●
1.90	9.50	11.50	3.00	38	**2030-1.90**	●
1.91	9.55	12.50	3.00	38	**2030-1.91**	●
1.92	9.60	12.50	3.00	38	**2030-1.92**	●
1.93	9.65	12.50	3.00	38	**2030-1.93**	●
1.94	9.70	12.50	3.00	38	**2030-1.94**	●
1.95	9.75	12.50	3.00	38	**2030-1.95**	●
1.96	9.80	12.50	3.00	38	**2030-1.96**	●
1.97	9.85	12.50	3.00	38	**2030-1.97**	●
1.98	9.90	12.50	3.00	38	**2030-1.98**	●
1.99	9.95	12.50	3.00	38	**2030-1.99**	●
2.00	10.00	12.50	3.00	38	**2030-2.00**	●
2.01	10.05	12.50	3.00	38	**2030-2.01**	●
2.02	10.10	12.50	3.00	38	**2030-2.02**	●
2.03	10.15	12.50	3.00	38	**2030-2.03**	●
2.04	10.20	12.50	3.00	38	**2030-2.04**	●
2.05	10.25	12.50	3.00	38	**2030-2.05**	●
2.06	10.30	12.50	3.00	38	**2030-2.06**	●
2.07	10.35	12.50	3.00	38	**2030-2.07**	●
2.08	10.40	12.50	3.00	38	**2030-2.08**	●
2.09	10.45	12.50	3.00	38	**2030-2.09**	●
2.10	10.50	12.50	3.00	38	**2030-2.10**	●
2.11	10.55	12.50	3.00	38	**2030-2.11**	●

Micro-forets
Mikrobohrer
Micro drills

Ø 2.12 - Ø 2.99 mm

2030

D1 h6	L2	L3	D2 h6	L1	Art. N°	z
2.12	10.60	12.50	3.00	38	**2030-2.12**	●
2.13	10.65	13.50	3.00	38	**2030-2.13**	●
2.14	10.70	13.50	3.00	38	**2030-2.14**	●
2.15	10.75	13.50	3.00	38	**2030-2.15**	●
2.16	10.80	13.50	3.00	38	**2030-2.16**	●
2.17	10.85	13.50	3.00	38	**2030-2.17**	●
2.18	10.90	13.50	3.00	38	**2030-2.18**	●
2.19	10.95	13.50	3.00	38	**2030-2.19**	●
2.20	11.00	13.50	3.00	38	**2030-2.20**	●
2.21	11.05	13.50	3.00	38	**2030-2.21**	●
2.22	11.10	13.50	3.00	38	**2030-2.22**	●
2.23	11.15	13.50	3.00	38	**2030-2.23**	●
2.24	11.20	13.50	3.00	38	**2030-2.24**	●
2.25	11.25	13.50	3.00	38	**2030-2.25**	●
2.26	11.30	13.50	3.00	38	**2030-2.26**	●
2.27	11.35	13.50	3.00	38	**2030-2.27**	●
2.28	11.40	13.50	3.00	38	**2030-2.28**	●
2.29	11.45	13.50	3.00	38	**2030-2.29**	●
2.30	11.50	13.50	3.00	38	**2030-2.30**	●
2.31	11.55	13.50	3.00	38	**2030-2.31**	●
2.32	11.60	13.50	3.00	38	**2030-2.32**	●
2.33	11.65	13.50	3.00	38	**2030-2.33**	●
2.34	11.70	13.50	3.00	38	**2030-2.34**	●
2.35	11.75	13.50	3.00	38	**2030-2.35**	●
2.36	11.80	13.50	3.00	38	**2030-2.36**	●
2.37	11.85	14.50	3.00	38	**2030-2.37**	●
2.38	11.90	14.50	3.00	38	**2030-2.38**	●
2.39	11.95	14.50	3.00	38	**2030-2.39**	●
2.40	12.00	14.50	3.00	38	**2030-2.40**	●
2.41	12.05	14.50	3.00	38	**2030-2.41**	●
2.42	12.10	14.50	3.00	38	**2030-2.42**	●
2.43	12.15	14.50	3.00	38	**2030-2.43**	●
2.44	12.20	14.50	3.00	38	**2030-2.44**	●
2.45	12.25	14.50	3.00	38	**2030-2.45**	●
2.46	12.30	14.50	3.00	38	**2030-2.46**	●
2.47	12.35	14.50	3.00	38	**2030-2.47**	●
2.48	12.40	14.50	3.00	38	**2030-2.48**	●
2.49	12.45	14.50	3.00	38	**2030-2.49**	●
2.50	12.50	14.50	3.00	38	**2030-2.50**	●
2.51	12.55	14.50	3.00	38	**2030-2.51**	●
2.52	12.60	14.50	3.00	38	**2030-2.52**	●
2.53	12.65	14.50	3.00	38	**2030-2.53**	●
2.54	12.70	14.50	3.00	38	**2030-2.54**	●
2.55	12.75	14.50	3.00	38	**2030-2.55**	●
2.56	12.80	14.50	3.00	38	**2030-2.56**	●
2.57	12.85	14.50	3.00	38	**2030-2.57**	●
2.58	12.90	14.50	3.00	38	**2030-2.58**	●
2.59	12.95	14.50	3.00	38	**2030-2.59**	●
2.60	13.00	14.50	3.00	38	**2030-2.60**	●
2.61	13.05	14.50	3.00	38	**2030-2.61**	●
2.62	13.10	14.50	3.00	38	**2030-2.62**	●

D1 h6	L2	L3	D2 h6	L1	Art. N°	z
2.63	13.15	14.50	3.00	38	**2030-2.63**	●
2.64	13.20	14.50	3.00	38	**2030-2.64**	●
2.65	13.25	14.50	3.00	38	**2030-2.65**	●
2.66	13.30	16.50	3.00	38	**2030-2.66**	●
2.67	13.35	16.50	3.00	38	**2030-2.67**	●
2.68	13.40	16.50	3.00	38	**2030-2.68**	●
2.69	13.45	16.50	3.00	38	**2030-2.69**	●
2.70	13.50	16.50	3.00	38	**2030-2.70**	●
2.71	13.55	16.55	3.00	38	**2030-2.71**	●
2.72	13.60	16.50	3.00	38	**2030-2.72**	●
2.73	13.65	16.50	3.00	38	**2030-2.73**	●
2.74	13.70	16.50	3.00	38	**2030-2.74**	●
2.75	13.75	16.50	3.00	38	**2030-2.75**	●
2.76	13.80	16.50	3.00	38	**2030-2.76**	●
2.77	13.85	16.50	3.00	38	**2030-2.77**	●
2.78	13.90	16.50	3.00	38	**2030-2.78**	●
2.79	13.95	16.50	3.00	38	**2030-2.79**	●
2.80	14.00	16.50	3.00	38	**2030-2.80**	●
2.81	14.05	16.50	3.00	38	**2030-2.81**	●
2.82	14.10	16.50	3.00	38	**2030-2.82**	●
2.83	14.15	16.50	3.00	38	**2030-2.83**	●
2.84	14.20	16.50	3.00	38	**2030-2.84**	●
2.85	14.25	16.50	3.00	38	**2030-2.85**	●
2.86	14.30	16.50	3.00	38	**2030-2.86**	●
2.87	14.35	16.50	3.00	38	**2030-2.87**	●
2.88	14.40	16.50	3.00	38	**2030-2.88**	●
2.89	14.45	16.50	3.00	38	**2030-2.89**	●
2.90	14.50	16.50	3.00	38	**2030-2.90**	●
2.91	14.55	16.50	3.00	38	**2030-2.91**	●
2.92	14.60	16.50	3.00	38	**2030-2.92**	●
2.93	14.65	16.50	3.00	38	**2030-2.93**	●
2.94	14.70	16.50	3.00	38	**2030-2.94**	●
2.95	14.75	16.50	3.00	38	**2030-2.95**	●
2.96	14.80	16.50	3.00	38	**2030-2.96**	●
2.97	14.85	16.50	3.00	38	**2030-2.97**	●
2.98	14.90	16.50	3.00	38	**2030-2.98**	●
2.99	14.95	16.50	3.00	38	**2030-2.99**	●

Autre revêtement sur demande / Andere Beschichtung auf Anfrage / Other coating on request

Informations techniques et symboles
Technische Informationen und Symbole
Technical information and symbols

60°
90°
120°
Angle
Winkel
Angle

λ 25°
Angle d'hélice
Spiralwinkel
Helix angle

λ 36°
λ 38°
λ 40°
Hélice différente
Unterschiedliche Spirale
Different helix

λ 35°/38°
Hélice progressive
Progressive Spirale
Progressive helix

Z
Nombre de dents
Anzahl der Zähne
Number of teeth

2xD1
Rapport longueur-diamètre
Länge-Durchmesser Verhältnis
Length to diameter ratio

Lèvres, affûtage à facettes
Schneiden, Facettenschärfen
Flutes, sharpening with facets

Taillage demi-lune
Kanonenbohrer Spitze
Gundrills tip

Taillage renforcé 3/4
3/4 genuteter Fräser
3/4 straight fluted

Usinage radial, diagonal et axial
Radiale, diagonale und axiale Bearbeitung
Radial, diagonal and axial machining

Usinage radial et axial
Radiale und axiale Bearbeitung
Radial and axial machining

Chanfrein
Fase
Chamfer

Coin vif
Scharfkantige Ecke
Sharp corner

Fraises hémisphériques
Radiusfräser
End mills with ball nose

Rayon de coin
Eckradius
Corner radius

Dents avec coupe centrale
Zähne Zentrumschnitt
Teeth center cutting

Denture décalée
Versetzte Verzahnung
Alterned teeth

DHD
Denture à pas irrégulier, hélice différente
Ungleiche Teilung, unterschiedliche Spirale
Uneven tooth pitch, different helix

DHP
Denture à pas irrégulier, hélice progressive
Ungleiche Teilung, progressive Spirale
Uneven tooth pitch, progressive helix

Usinage torique
Torusbearbeitung
Toroidal machining

MD
VHM
HM
Métal dur
Vollhartmetall
Hard metal

Diamètre outil Werkzeugdurchmesser Tool diametre	D (mm)		
Nombre de dents Zähnezahl Number of teeth	Z		
Profondeur de coupe Schnitttiefe Cutting depth	ap (mm)		
Largeur de coupe Schnittbreite Cutting width	ae (mm)		
Vitesse de coupe Schnittgeschwindigkeit Cutting speed	(m/min)	**Vc =**	$\frac{D \times \pi \times n}{1000}$
Nombre de tours Umdrehungen Rotations	(U/min)	**n =**	$\frac{Vc \times 1000}{\pi \times D}$
Avance par dent Vorschub pro Zahn Cutting feed per teeth	(mm/tooth)	**fz =**	$\frac{Vf}{n \times Z}$
Vitesse d'avance Vorschubgeschwindigkeit Feed rate	(mm/min)	**Vf =**	**fz x Z x n**
Débit d'enlèvement de copeaux Spanvolumen Chip flow rate	(mm^3/min)	**Q =**	**ap x ae x Vf**
Avance par tour Vorschub pro Umdrehung Cutting feed per rotation	(mm/U)	**f =**	$\frac{Vf}{n}$

Nos propositions techniques s'appliquent à la plupart des utilisations courantes.
N'hésitez pas à nous contacter pour des conseils plus précis.

Diese technische Empfehlungen gelten für die Mehrzahl der Standardanwendungen.
Unsere Techniker beraten Sie gerne für spezifische Anliegen.

These technical propositions apply to the majority of standard usages.
Do not hesitate to contact us for more specific advices.

Légende des symboles
Symbollegende
Symbol Legend

E	L	Art. N°	TiAlN	TiN	N (µk20)	HTA	HTiN	HN (µk10)
1.0	5	**731RU-1.0**	●		●			
1.2	5	**731RU-1.2**	●		●			
1.5	7	**731RU-1.5**	●		●	●		●
2.0	7	**731RU-2.0**	●		●			

● Article standard
Standardartikel
Standard item

P Acier
Stahl
Steel

M Inox
Rostfreistahl
Stainless steel

N Alliages d'aluminium et non ferreux
Aluminium- und Nichteisenlegierungen
Aluminium and non-ferrous alloys

S Titane et superalliages
Titan und Superlegierungen
Titanium and superalloys

H Acier trempé
Gehärteter Stahl
Hardened steel

K Fonte
Gusseisen
Cast iron

O Matière exotique
Exotisches material
Exotic material

Carbure
Hartmetall
Carbide

TiAlN

K20

µK20 + revêtement PVD
µK20 + PVD Beschichtung
µK20 + PVD coating

P	★★★★★
M	★★★★★
N	★★★★☆
S	★★★★☆

TF — F — M — E

Épaisseur du revêtement
Dicken der Beschichtung
Thickness of the coating

TF Très fin
Sehr dünn
Very thin

F Fin
Dünn
Thin

M Moyen
Mittel
Medium

E Épais
Dick
Thick