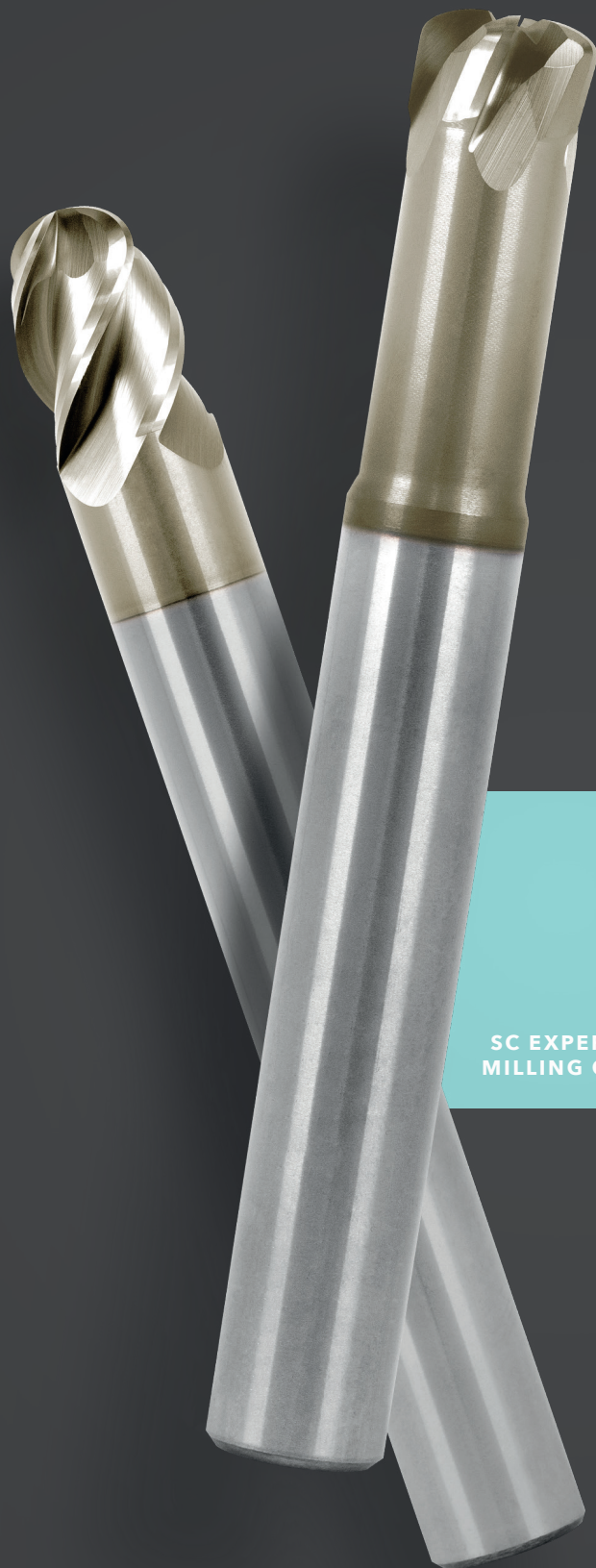


HOFMANN & VRATNY — SC MILLING CUTTERS EN

STEEL



12
SC EXPERT STEEL
MILLING CUTTERS





STEEL

3
PRODUCTION
SITES

43
YEARS OF
EXPERIENCE

120
MOTIVATED
EMPLOYEES

OUR EXPERT FOR STEEL PROCESSING.

Demands on steel milling cutters are constantly changing. Countless steel alloys have established themselves on the market over the last decades. We regularly adapt our cutting tools to the new alloys to ensure efficient results.

QUALITY PROCESS RELIABILITY ECONOMIC EFFICIENCY

The H&V Expert steel range has been specially designed and developed to meet the requirements of steel cutting. These milling cutters provide an excellent interaction of carbide, coating, dynamic helical pitch and an unequal tooth pitch. Soft cut and smooth running in all applications provide optimal performance. Efficiency in machining with the very best performance is a balance that is difficult to master. But with our Expert steel milling cutters we achieve a perfect equilibrium between those two.

Steel milling cutters are suitable for structural steels and machining steels, unalloyed tempered steels, and alloyed tempered steels, unalloyed and also alloyed case-hardened steels, nitriding steels and high-speed steels.



CORNER RADIUS

Reinforced to avoid premature breakouts.

CHIP SPACES

Perfectly designed chip spaces ensure safe chip disposal without accumulation of chips, achieving higher feed rates.

HELICAL PITCH

Variable helical pitch for an extremely soft cut.

FACE

Adapted for reliable ramping and helical immersion.

BLADES

Special unequal tooth pitch and edge preparation for maximum smooth running.

COATING

New generation of layers especially for the requirements of steel cutting





MADE BAVARIA

Our milling cutters are used by companies all over the world. Still they all have the same origin: Our production sites in Bavaria, Germany.

As a traditional company, we are proud of our strong connection to the region. Ever since we were founded, we have been firmly tied to our homeland, and our team works on producing the best milling cutters in the world in a familial environment. Genuine quality work, the highest-quality craftsmanship and a strong promotion and retention of our talent: This is what Made in Bavaria means to us.

IN RIA



H&V EXPERTS FOR STEEL

SC END MILL CUTTERS



K201749



K201744



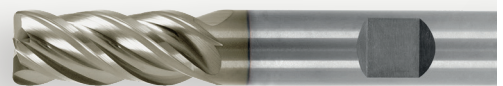
K201739



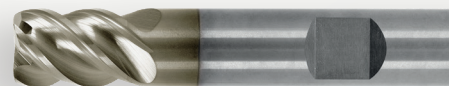
K201729



K201734



K201724

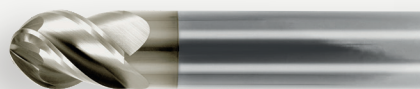


K201719

**SC
FULL RADIUS
CUTTERS**

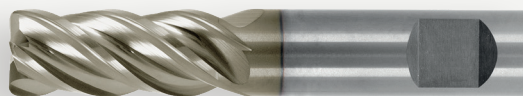


K203418



K203413

**SC
TORUS
CUTTERS**



K202509

**SC
FACE TORUS
CUTTERS**



K207008




K207003

NUMBERING SYSTEM

ARTICLEGROUP

SC milling cutter - - - - -

Catalog item - - - - -



Product group - - - - -

Product name - - - - -

K 2 03 388

MILLING CUTTERS

Articlegroup - - - - -




Cutting diameter - - - - -

K201673 - 16

MILLING CUTTERS DISTINGUISHED BY LENGTH

Articlegroup - - - - -




Cutting diameter - - - - -

Distinction by length of cut or length of undercut - - - - -

K201123 - 2 X 8

MILLING CUTTERS WITH ADDITIONAL DISTINGUISHING FEATURE

Articlegroup - - - - -



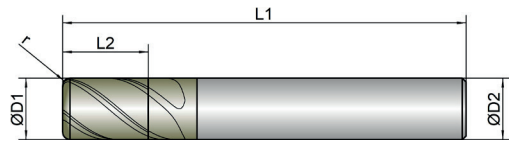
Cutting diameter - - - - -

Distinction by corner radius or shank diameter - - - - -

K202223 - 8 / 3

Cooling	
Tolerance	e8
Coating	TiSiN- α

HB	ETC	HPC	MTC	NEW	
UNI	\neq				



Steel			Hardened steel				Stainless steel (VA)	Castings	Non-ferrous materials				Inconel	Abrasive material		Titanium
< 850 N/mm	< 1100 N/mm	< 1400 N/mm	< 55 HRC	< 60 HRC	< 67 HRC	< 70 HRC			Al	Copper	Mg	Plastics		CFRP / GFRP	Graphite	
230	185	150					75	260								

K201719	D1 mm ø	L2 mm	L1 mm	D2 mm ø	z #	r mm	 °
3	3.0	6.0	54.0	6.0	4	0.10	40
4	4.0	8.0	54.0	6.0	4	0.10	40
5	5.0	9.0	54.0	6.0	4	0.20	40
6	6.0	10.0	54.0	6.0	4	0.20	40
8	8.0	12.0	58.0	8.0	4	0.20	40
10	10.0	14.0	66.0	10.0	4	0.20	40
12	12.0	16.0	73.0	12.0	4	0.20	40
16	16.0	22.0	82.0	16.0	4	0.30	40
20	20.0	26.0	92.0	20.0	4	0.30	40

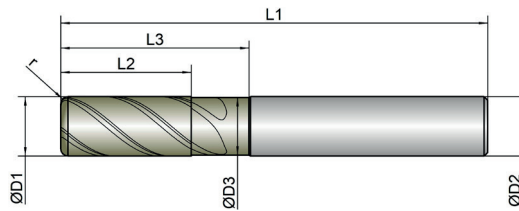
SC end mill cutter long TiSiN ETC / HPC / MTC | K201724

Cooling	
Tolerance	e8
Coating	TiSiN- α

HB	ETC	HPC	MTC	NEW	
UNI	\neq				



HB K201724



Steel			Hardened steel				Stainless steel (VA)	Castings	Non-ferrous materials				Inconel	Abrasive material		Titanium
< 850 N/mm	< 1100 N/mm	< 1400 N/mm	< 55 HRC	< 60 HRC	< 67 HRC	< 70 HRC			Al	Copper	Mg	Plastics		CFRP / GFRP	Graphite	
230	185	150					260	75								

K201724	D1 mm Ø	D3 mm Ø	L2 mm	L3 mm	L1 mm	D2 mm Ø	z #	r mm	 °
3	3.0	2.8	8.0	13.0	57.0	6.0	4	0.10	40
4	4.0	3.8	11.0	17.0	57.0	6.0	4	0.10	40
5	5.0	4.8	13.0	20.0	57.0	6.0	4	0.20	40
6	6.0	5.8	13.0	20.0	57.0	6.0	4	0.20	40
8	8.0	7.7	19.0	25.0	63.0	8.0	4	0.20	40
10	10.0	9.7	22.0	32.0	72.0	10.0	4	0.20	40
12	12.0	11.6	26.0	38.0	83.0	12.0	4	0.20	40
16	16.0	15.5	32.0	44.0	92.0	16.0	4	0.30	40
20	20.0	19.5	41.0	54.0	104.0	20.0	4	0.30	40

Cooling	
Tolerance	e8
Coating	TiSiN- α

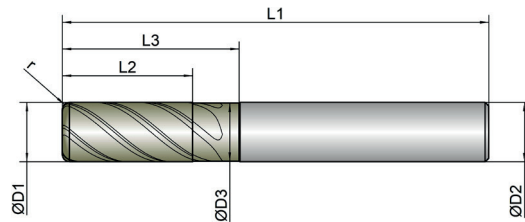
- HB
- ETC
- HPC
- MTC
- UNI
- ≠
-

NEW

Expert




HB K201729



Steel			Hardened steel				Stainless steel (VA)	Castings	Non-ferrous materials				Inconel	Abrasive material		Titanium
< 850 N/mm	< 1100 N/mm	< 1400 N/mm	< 55 HRC	< 60 HRC	< 67 HRC	< 70 HRC			Al	Copper	Mg	Plastics		CFRP / GFRP	Graphite	
230	185	150					75	260								

	D1	D3	L2	L3	L1	D2	z	r	
K201729	mm ∅	mm ∅	mm	mm	mm	mm ∅	#	mm	°
6	6.0	5.8	13.0	19.0	57.0	6.0	5	0.15	40
8	8.0	7.8	19.0	25.0	63.0	8.0	5	0.20	40
10	10.0	9.8	22.0	30.0	72.0	10.0	5	0.20	40
12	12.0	11.8	26.0	36.0	83.0	12.0	5	0.20	40
16	16.0	15.8	32.0	42.0	92.0	16.0	5	0.30	40
20	20.0	19.8	41.0	52.0	104.0	20.0	5	0.30	40

SC end mill cutter 2xD TiSiN ETC | K201734

Cooling 

Tolerance e8

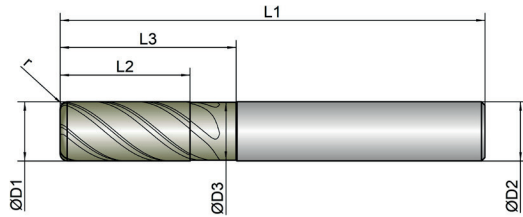
Coating TiSiN- α

HB ETC UNI \neq  2xD


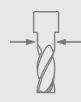



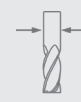

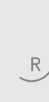

NEW 



HB K201734



Steel			Hardened steel				Stainless steel (VA)	Castings	Non-ferrous materials				Inconel	Abrasive material		Titanium
< 850 N/mm	< 1100 N/mm	< 1400 N/mm	< 55 HRC	< 60 HRC	< 67 HRC	< 70 HRC			Al	Copper	Mg	Plastics		CFRP / GFRP	Graphite	
320	240	160					190									

K201734	D1  mm ∅	D3  mm ∅	L2  mm	L3  mm	L1  mm	D2  mm ∅	z  #	r  mm	 °
6	6.0	5.8	13.0	19.0	57.0	6.0	5	0.15	40
8	8.0	7.8	19.0	25.0	63.0	8.0	5	0.20	40
10	10.0	9.8	22.0	30.0	72.0	10.0	5	0.20	40
12	12.0	11.8	26.0	36.0	83.0	12.0	5	0.20	40
16	16.0	15.8	32.0	42.0	92.0	16.0	5	0.30	40
20	20.0	19.8	41.0	52.0	104.0	20.0	5	0.30	40

Cooling	
Tolerance	e8
Coating	TiSiN- α

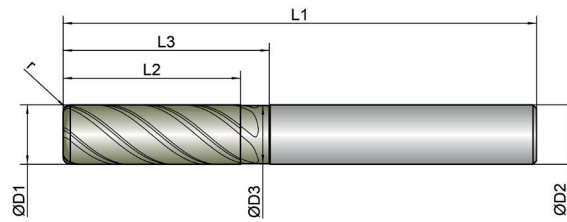
HB	ETC	UNI	\neq			3xD
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NEW

Expert



HB K201739



Steel			Hardened steel				Stainless steel (VA)	Castings	Non-ferrous materials				Inconel	Abrasive material		Titanium
< 850 N/mm	< 1100 N/mm	< 1400 N/mm	< 55 HRC	< 60 HRC	< 67 HRC	< 70 HRC			Al	Copper	Mg	Plastics		CFRP / GFRP	Graphite	
320	260	140					190									

	D1	D3	L2	L3	L1	D2	z	r	
K201739									
	mm	mm	mm	mm	mm	mm	#	mm	°
6	6.0	5.8	18.0	25.0	65.0	6.0	5	0.15	40
8	8.0	7.8	24.0	30.0	70.0	8.0	5	0.20	40
10	10.0	9.8	30.0	35.0	80.0	10.0	5	0.20	40
12	12.0	11.8	36.0	45.0	93.0	12.0	5	0.20	40
16	16.0	15.8	48.0	55.0	110.0	16.0	5	0.30	40
20	20.0	19.8	60.0	70.0	125.0	20.0	5	0.30	40

SC end mill cutter 4xD TiSiN ETC | K201744

Cooling	
Tolerance	e8
Coating	TiSiN- α

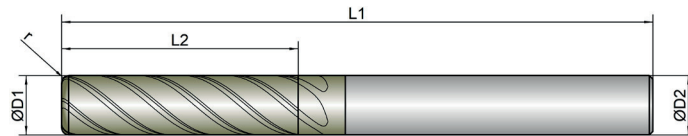
HB	ETC	UNI	\neq			4xD
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NEW

Expert



HB K201744



Steel			Hardened steel				Stainless steel (VA)	Castings	Non-ferrous materials				Inconel	Abrasive material		Titanium
< 850 N/mm	< 1100 N/mm	< 1400 N/mm	< 55 HRC	< 60 HRC	< 67 HRC	< 70 HRC			Al	Copper	Mg	Plastics		CFRP / GFRP	Graphite	
310	230	150					180									

K201744	D1 mm ø	L2 mm	L1 mm	D2 mm ø	z #	r mm	 °
6	6.0	24.0	68.0	6.0	5	0.15	40
8	8.0	32.0	75.0	8.0	5	0.20	40
10	10.0	40.0	90.0	10.0	5	0.20	40
12	12.0	48.0	100.0	12.0	5	0.20	40
16	16.0	64.0	125.0	16.0	5	0.30	40
20	20.0	80.0	150.0	20.0	5	0.30	40

Cooling	
Tolerance	e8
Coating	TiSiN- α

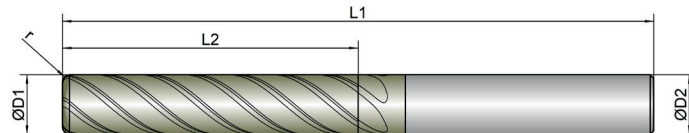
HB	ETC	UNI	≠			5xD
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NEW

Expert



HB K201749



Steel			Hardened steel				Stainless steel (VA)	Castings	Non-ferrous materials				Inconel	Abrasive material		Titanium
< 850 N/mm	< 1100 N/mm	< 1400 N/mm	< 55 HRC	< 60 HRC	< 67 HRC	< 70 HRC			Al	Copper	Mg	Plastics		CFRP / GFRP	Graphite	
290	210	120					150									

K201749	D1 mm ∅	L2 mm	L1 mm	D2 mm ∅	z #	r mm	 °
8	8.0	40.0	90.0	8.0	5	0.20	40
10	10.0	50.0	100.0	10.0	5	0.20	40
12	12.0	60.0	119.0	12.0	5	0.20	40
16	16.0	80.0	136.0	16.0	5	0.30	40
20	20.0	100.0	160.0	20.0	5	0.30	40

SC torus cutter long TiSiN ETC / HPC / HSC / MTC | K202509

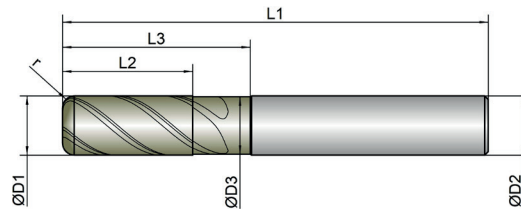
Cooling	
Tolerance	e8
Coating	TiSiN- α

HB	ETC	HSC	HPC	MTC
UNI	\neq			

NEW












HB K202509



Steel			Hardened steel				Stainless steel (VA)	Castings	Non-ferrous materials				Inconel	Abrasive material		Titanium
< 850 N/mm	< 1100 N/mm	< 1400 N/mm	< 55 HRC	< 60 HRC	< 67 HRC	< 70 HRC			Al	Copper	Mg	Plastics		CFRP / GFRP	Graphite	
230	185	150					75	260								

K202509	D1 mm ø	D3 mm ø	L2 mm	L3 mm	L1 mm	D2 mm ø	z #	r mm	 °
6/0,5	6.0	5.8	13.0	20.0	57.0	6.0	4	0.50	40
6/1	6.0	5.8	13.0	20.0	57.0	6.0	4	1.00	40
6/1,5	6.0	5.8	13.0	20.0	57.0	6.0	4	1.50	40
8/0,5	8.0	7.7	19.0	25.0	63.0	8.0	4	0.50	40
8/1	8.0	7.7	19.0	25.0	63.0	8.0	4	1.00	40
8/2	8.0	7.7	19.0	25.0	63.0	8.0	4	2.00	40
8/3	8.0	7.7	19.0	25.0	63.0	8.0	4	3.00	40
10/0,5	10.0	9.7	22.0	32.0	72.0	10.0	4	0.50	40
10/1	10.0	9.7	22.0	32.0	72.0	10.0	4	1.00	40
10/2	10.0	9.7	22.0	32.0	72.0	10.0	4	2.00	40
10/3	10.0	9.7	22.0	32.0	72.0	10.0	4	3.00	40
12/0,5	12.0	11.6	26.0	38.0	83.0	12.0	4	0.50	40

K202509	 mm ∅	 mm ∅	 mm	 mm	 mm	 mm ∅	 #	 mm	 °
12/1	12.0	11.6	26.0	38.0	83.0	12.0	4	1.00	40
12/2	12.0	11.6	26.0	38.0	83.0	12.0	4	2.00	40
12/3	12.0	11.6	26.0	38.0	83.0	12.0	4	3.00	40
16/0,5	16.0	15.5	32.0	44.0	92.0	16.0	4	0.50	40
16/1	16.0	15.5	32.0	44.0	92.0	16.0	4	1.00	40
16/2	16.0	15.5	32.0	44.0	92.0	16.0	4	2.00	40
16/3	16.0	15.5	32.0	44.0	92.0	16.0	4	3.00	40
20/1	20.0	19.5	41.0	54.0	104.0	20.0	4	1.00	40
20/2	20.0	19.5	41.0	54.0	104.0	20.0	4	2.00	40
20/3	20.0	19.5	41.0	54.0	104.0	20.0	4	3.00	40
20/4	20.0	19.5	41.0	54.0	104.0	20.0	4	4.00	40

SC full radius cutter short TiSiN HPC / HSC | K203413

Cooling	
Tolerance	f8
Coating	TiSiN- α

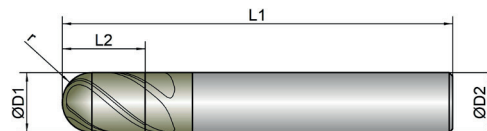
HA HSC HPC

NEW

Expert



HA K203413



Steel			Hardened steel				Stainless steel (VA)	Castings	Non-ferrous materials				Inconel	Abrasive material		Titanium
< 850 N/mm	< 1100 N/mm	< 1400 N/mm	< 55 HRC	< 60 HRC	< 67 HRC	< 70 HRC			Al	Copper	Mg	Plastics		CFRP / GFRP	Graphite	
200	160	150					100	350								

K203413	D1 mm ø	L2 mm	L1 mm	D2 mm ø	z #	r mm	 °
3	3.0	5.0	54.0	6.0	4	1.50	40
4	4.0	8.0	54.0	6.0	4	2.00	40
5	5.0	9.0	54.0	6.0	4	2.50	40
6	6.0	10.0	54.0	6.0	4	3.00	40
8	8.0	12.0	58.0	8.0	4	4.00	40
10	10.0	14.0	66.0	10.0	4	5.00	40
12	12.0	16.0	73.0	12.0	4	6.00	40
16	16.0	22.0	82.0	16.0	4	8.00	40

Cooling	
Tolerance	f8
Coating	TiSiN- α

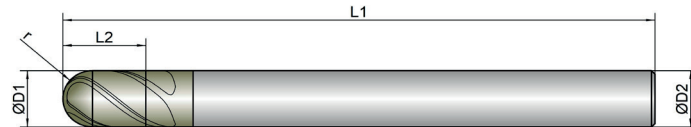
HA HSC HPC

NEW

Expert



HA K203418



Steel			Hardened steel				Stainless steel (VA)	Castings	Non-ferrous materials				Inconel	Abrasive material		Titanium
< 850 N/mm	< 1100 N/mm	< 1400 N/mm	< 55 HRC	< 60 HRC	< 67 HRC	< 70 HRC			Al	Copper	Mg	Plastics		CFRP / GFRP	Graphite	
190	150	140					90	340								

K203418	D1 mm Ø	L2 mm	L1 mm	D2 mm Ø	z #	r mm	 °
3	3.0	5.0	83.0	6.0	4	1.50	40
4	4.0	8.0	83.0	6.0	4	2.00	40
5	5.0	9.0	83.0	6.0	4	2.50	40
6	6.0	10.0	83.0	6.0	4	3.00	40
8	8.0	12.0	100.0	8.0	4	4.00	40
10	10.0	14.0	100.0	10.0	4	5.00	40
12	12.0	16.0	100.0	12.0	4	6.00	40
16	16.0	22.0	150.0	16.0	4	8.00	40

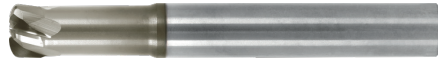
SC face torus cutter TiSiN HSC | K207003

Cooling	
Tolerance	h9
Coating	TiSiN- α

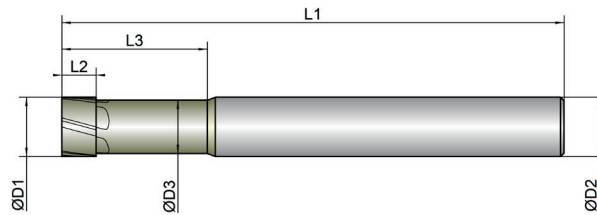
HA HSC UNI

NEW

Expert



HA K207003



Steel			Hardened steel				Stainless steel (VA)	Castings	Non-ferrous materials				Inconel	Abrasive material		Titanium
< 850 N/mm	< 1100 N/mm	< 1400 N/mm	< 55 HRC	< 60 HRC	< 67 HRC	< 70 HRC			Al	Copper	Mg	Plastics		CFRP / GFRP	Graphite	
150	145	135					100									

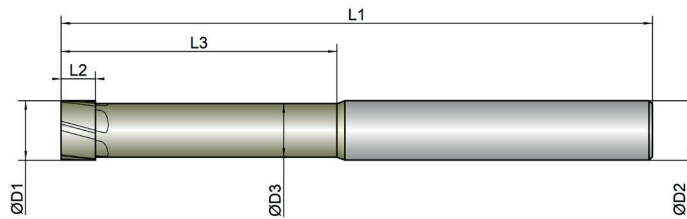
K207003	D1 mm ø	D3 mm ø	L2 mm	L3 mm	L1 mm	D2 mm ø	z #	 mm	 mm max	 °
2	2.0	1.7	1.5	13.0	54.0	6.0	2	0.3	0.15	15
3	3.0	2.7	1.5	15.0	54.0	6.0	2	0.3	0.20	15
4	4.0	3.6	2.5	16.0	57.0	6.0	2	0.5	0.25	15
5	5.0	4.6	3.5	18.0	65.0	6.0	4	0.5	0.35	15
6	6.0	5.2	3.5	20.0	65.0	6.0	4	1.0	0.40	15
8	8.0	7.0	4.8	24.0	70.0	8.0	5	1.5	0.50	15
10	10.0	9.0	5.8	26.0	85.0	10.0	5	2.0	0.75	15
12	12.0	11.0	6.8	30.0	93.0	12.0	5	2.0	0.80	15
16	16.0	14.5	8.8	35.0	100.0	16.0	5	2.5	1.00	15

Cooling	
Tolerance	h9
Coating	TiSiN- α

HA	HSC	UNI	
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HA K207008
















Steel			Hardened steel				Stainless steel (VA)	Castings	Non-ferrous materials				Inconel	Abrasive material		Titanium
< 850 N/mm	< 1100 N/mm	< 1400 N/mm	< 55 HRC	< 60 HRC	< 67 HRC	< 70 HRC			Al	Copper	Mg	Plastics		CFRP / GFRP	Graphite	
130	125	115					80									













K207008	D1 mm Ø	D3 mm Ø	L2 mm	L3 mm	L1 mm	D2 mm Ø	z #	mm	mm max	°
2	2.0	1.7	1.5	18.0	75.0	6.0	2	0.3	0.15	15
3	3.0	2.7	1.5	20.0	75.0	6.0	2	0.3	0.20	15
4	4.0	3.6	2.5	24.0	83.0	6.0	2	0.5	0.25	15
5	5.0	4.6	2.5	28.0	100.0	6.0	4	0.5	0.35	15
6	6.0	5.2	3.5	28.0	100.0	6.0	4	1.0	0.40	15
8	8.0	7.0	4.8	40.0	100.0	8.0	5	1.5	0.50	15
10	10.0	9.0	5.8	48.0	100.0	10.0	5	2.0	0.75	15
12	12.0	11.0	6.8	56.0	119.0	12.0	5	2.0	0.80	15
16	16.0	14.5	8.8	65.0	150.0	16.0	5	2.5	1.00	15

LEGEND






PROPERTIES

 Cutting diameter	 Small cutting diameter	 Large cutting diameter
 Undercut diameter	 Length of cut	 Tool bezel length
 Length of undercut	 Total length	 Shank diameter
 Number of cutting edges	 Corner radius	 Corner bezel
 Programming radius	 Maximum cutting depth	 Helical pitch

SPECIAL FEATURES

HA No Weldon	HB Weldon HB	ETC Extended Trochoidal Cutting
HSC High Speed Cutting	HPC High Performance Cutting	MTC Multi-Task Cutting
UNI Universal machining	 Engraving	 Unequal tooth pitch
 Coolant duct system	 Multipass milling	 Trimming
 Chip breaking	 Full slot	 Forward and backward deburring
 Serrated edge	 Deburring	 Corner rounding
2xD 2xD	3xD 3xD	4xD 4xD
5xD 5xD	 Dynamic helical pitch	

COOLING

 Air-cooled	 Dry	 Oil
 Water ^{max}	 Water ^{min}	

COATINGS

Our coatings are optimised in unison with the cutters' geometry by testing in both an extensive internal procedure and under the customer's real application conditions. The selection is perfectly matched to the respective field of application.

TiN- α	TiN Alpha	TiSiN- α	TiSiN Alpha	TiAlN- α	TiAlN Alpha
Diamond- α	Diamond Alpha	TAC- α	TAC Alpha	ZrCn- α	ZrCrN Alpha
TiCn- α	TiCN Alpha				

PRODUCT GROUPS

01	End mill cutter	02	Torus cutter	03	Full radius cutter
04	Form cutter	05	Chamfer cutter	06	Roughing cutter
07	Face torus cutter				

APPLICATION TABLE

The values given in the application table are only guidelines. These values depend largely on the individual application parameters.

ILLUSTRATIONS

All illustrated technical drawings and photographs are exemplary. Deviations from the original product in color and dimensions are possible.



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