

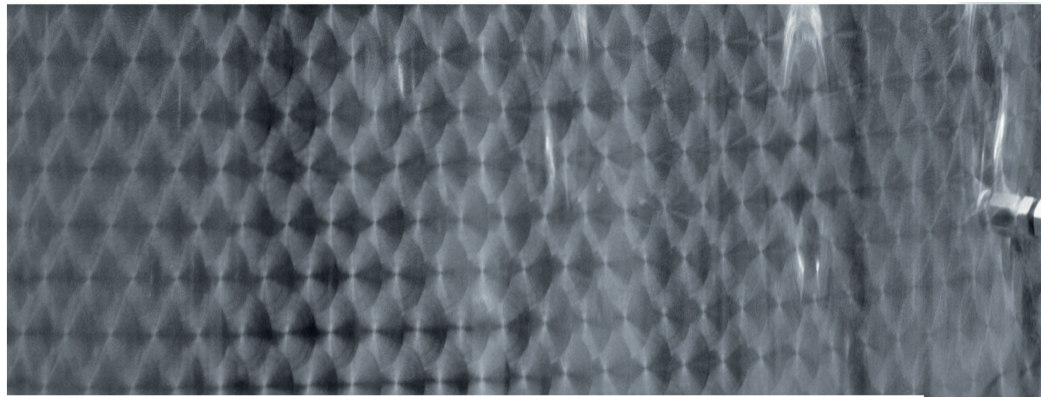
HOFMANN & VRATNY — SC MILLING CUTTERS EN

# STAINLESS STEEL



11  
SC EXPERT  
STAINLESS STEEL  
MILLING CUTTERS





# STAINLESS STEEL

3

PRODUCTION  
SITES

43

YEARS OF  
EXPERIENCE

120

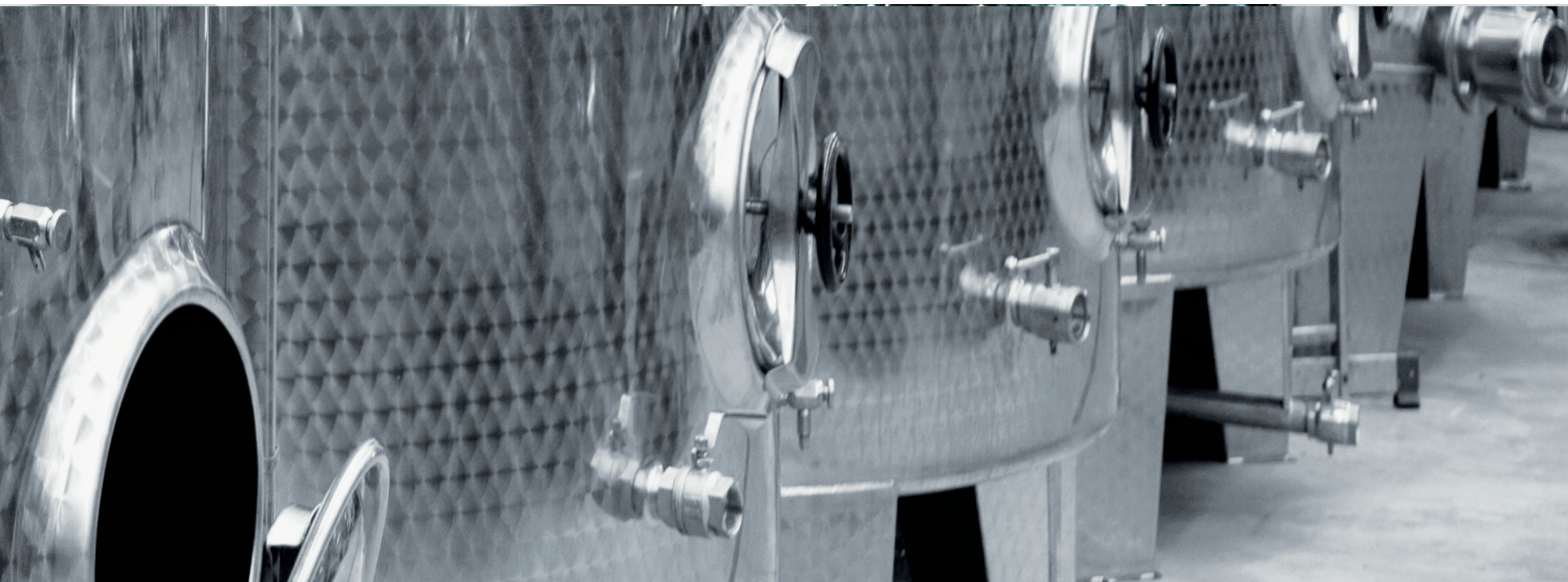
MOTIVATED  
EMPLOYEES

## OUR EXPERT-LINE MILLING CUTTERS FOR STAINLESS STEEL.

**Stainless** steel is extremely popular in the industry due to its special properties. Stainless steel is attractive because of its corrosion and acid resistance. However, it is also tough and tends to “seize up”. We have developed the H&V Expert-line stainless steels specifically to meet the difficult requirements placed on the cutting process, as well as the high cutting forces, when milling stainless steels.

## QUALITY PROCESS RELIABILITY ECONOMIC EFFICIENCY

**This** milling cutter is designed for high performance during full slot milling, trimming and especially when used with Solidcam iMachining. The symbiosis of special ultra submicron grain carbide and the TiSiN coating resulted in above-average performance in various tool life tests. Due to the specially developed variable helical pitch and the unequal tooth pitch, we can guarantee a smooth operation and thus optimum surface quality.



## HELIX

**Face** for dipping, ramping and retracting in the helix. Specifically designed for high loads.

## BLADES

**Unequal** tooth pitch of the cutting edges for particularly smooth running when trimming and in the full slot.



## CORNER RADIUS

**Optimised** corner radius to increase tool life.

## HELICAL PITCH

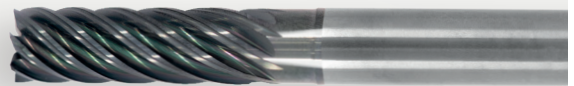
**Dynamic** helical pitch for exceptional performance.

## CHIP SPACES

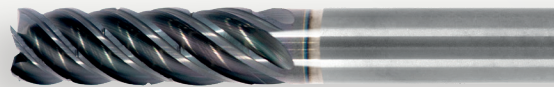
**Specially** developed chip spaces to ensure a smooth chip removal, even during full slot milling.

# H&V EXPERTS FOR STAINLESS STEEL

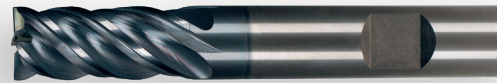
## SC END MILL CUTTERS



K201809



K201799



K201784



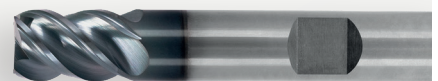
K201804



K201789



K201794



K201754

**SC  
FULL RADIUS  
CUTTERS**

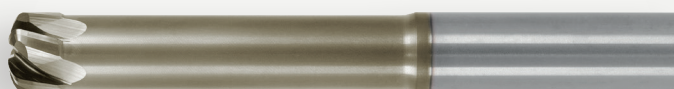


K203418



K203413

**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 - - - - -

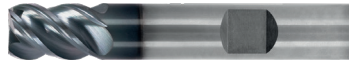


Cutting diameter - - - - -

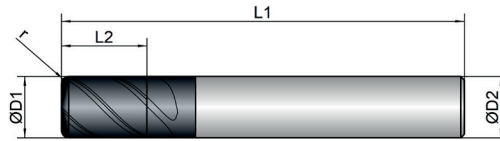
Distinction by corner radius or shank diameter - - - - -

K202223 - 8 / 3




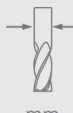



Cooling	 
Tolerance	e8
Coating	TiSiN- $\alpha$



HB K201754



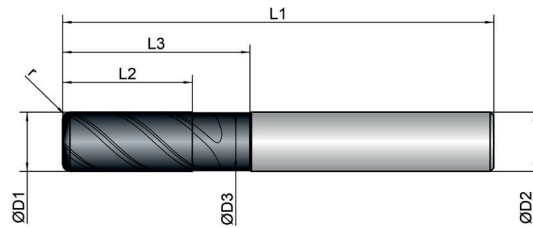
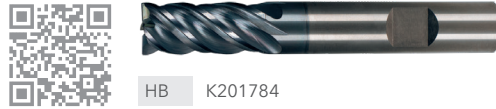
Steel			Hardened steel				Stainless steel (VA)	Castings	Non-ferrous materials				Inconel	Abrasive material		Titanium
< 850 N/mm	< 1100 N/mm	< 1400 N/mm	< 55 HRC	< 60 HRC	< 67 HRC	< 70 HRC			Al	Copper	Mg	Plastics		CFRP / GFRP	Graphite	
	185	175					100									

K201754	D1  mm ∅	L2  mm	L1  mm	D2  mm ∅	z  #	r  mm	 °
3	3.0	6.0	54.0	6.0	4	0.10	45
4	4.0	8.0	54.0	6.0	4	0.10	45
5	5.0	9.0	54.0	6.0	4	0.20	45
6	6.0	10.0	54.0	6.0	4	0.20	45
8	8.0	12.0	58.0	8.0	4	0.20	45
10	10.0	14.0	66.0	10.0	4	0.20	45
12	12.0	16.0	73.0	12.0	4	0.20	45
16	16.0	22.0	82.0	16.0	4	0.30	45
20	20.0	26.0	92.0	20.0	4	0.30	45

SC end mill cutter long TiSiN ETC / HPC / MTC | K201784

Cooling	
Tolerance	e8
Coating	TiSiN- $\alpha$

HB	ETC	HPC	MTC	



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	
	185	175					100									

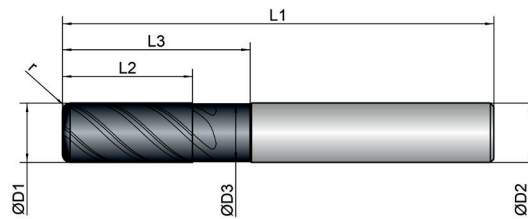
K201784	D1  mm ∅	D3  mm ∅	L2  mm	L3  mm	L1  mm	D2  mm ∅	z  #	r  mm	 °
3/0,1	3.0	2.8	8.0	20.0	58.0	6.0	4	0.10	42.5
4/0,2	4.0	3.8	11.0	20.0	58.0	6.0	4	0.20	42.5
5/0,2	5.0	4.8	13.0	20.0	58.0	6.0	4	0.20	42.5
6/0,2	6.0	5.8	13.0	20.0	58.0	6.0	4	0.20	42.5
8/0,3	8.0	7.7	19.0	25.0	63.0	8.0	4	0.30	42.5
10/0,3	10.0	9.7	22.0	32.0	73.0	10.0	4	0.30	42.5
12/0,3	12.0	11.6	26.0	38.0	84.0	12.0	4	0.30	42.5
16/0,5	16.0	15.5	32.0	44.0	92.0	16.0	4	0.50	42.5
20/0,5	20.0	19.5	38.0	54.0	104.0	20.0	4	0.50	42.5
25/0,5	25.0	24.5	45.0	65.0	125.0	25.0	4	0.50	42.5



Cooling	
Tolerance	e8
Coating	TiSiN- $\alpha$



HB K201789



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	
	185	175					115									

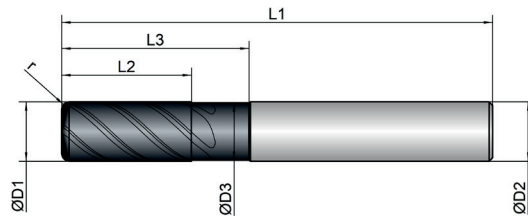
	D1	D3	L2	L3	L1	D2	z	r	
K201789									
	mm	mm	mm	mm	mm	mm	#	mm	°
6/0,2	6.0	5.8	13.0	20.0	58.0	6.0	5	0.20	42.5
8/0,3	8.0	7.7	19.0	25.0	63.0	8.0	5	0.30	42.5
10/0,3	10.0	9.7	22.0	32.0	73.0	10.0	5	0.30	42.5
12/0,3	12.0	11.6	26.0	38.0	84.0	12.0	5	0.30	42.5
16/0,5	16.0	15.5	32.0	44.0	92.0	16.0	5	0.50	42.5
20/0,5	20.0	19.5	38.0	54.0	104.0	20.0	5	0.50	42.5
25/0,5	25.0	24.5	45.0	65.0	125.0	25.0	5	0.50	42.5

SC end mill cutter 2xD TiSiN ETC | K201794

Cooling	
Tolerance	e8
Coating	TiSiN- $\alpha$



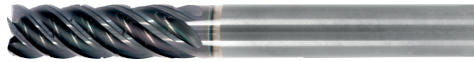
HB K201794



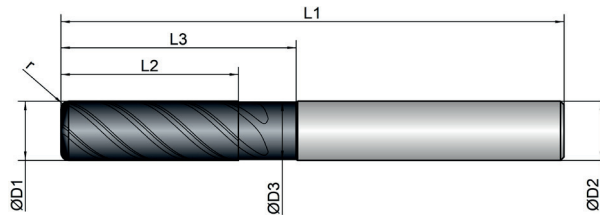
Steel			Hardened steel				Stainless steel (VA)	Castings	Non-ferrous materials				Inconel	Abrasive material		Titanium
< 850 N/mm	< 1100 N/mm	< 1400 N/mm	< 55 HRC	< 60 HRC	< 67 HRC	< 70 HRC			Al	Copper	Mg	Plastics		CFRP / GFRP	Graphite	
	230	180					200									

	D1	D3	L2	L3	L1	D2	z	r	
K201794	mm Ø	mm Ø	mm	mm	mm	mm Ø	#	mm	°
6/0,2	6.0	5.8	13.0	20.0	58.0	6.0	5	0.20	42.5
8/0,3	8.0	7.7	19.0	25.0	63.0	8.0	5	0.30	42.5
10/0,3	10.0	9.7	22.0	32.0	73.0	10.0	5	0.30	42.5
12/0,3	12.0	11.6	26.0	38.0	84.0	12.0	5	0.30	42.5
16/0,5	16.0	15.5	32.0	44.0	92.0	16.0	5	0.50	42.5
20/0,5	20.0	19.5	38.0	54.0	104.0	20.0	5	0.50	42.5

Cooling	
Tolerance	e8
Coating	TiSiN- $\alpha$



HB K201799



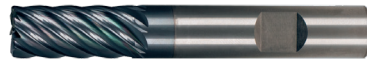
Steel			Hardened steel				Stainless steel (VA)	Castings	Non-ferrous materials				Inconel	Abrasive material		Titanium
< 850 N/mm	< 1100 N/mm	< 1400 N/mm	< 55 HRC	< 60 HRC	< 67 HRC	< 70 HRC			Al	Copper	Mg	Plastics		CFRP / GFRP	Graphite	
	230	180					200									

	D1	D3	L2	L3	L1	D2	z	r	
K201799	mm Ø	mm Ø	mm	mm	mm	mm Ø	#	mm	°
6/0,2	6.0	5.8	18.0	25.0	65.0	6.0	5	0.20	42.5
8/0,3	8.0	7.7	24.0	32.0	70.0	8.0	5	0.30	42.5
10/0,3	10.0	9.7	30.0	40.0	85.0	10.0	5	0.30	42.5
12/0,3	12.0	11.6	36.0	46.0	100.0	12.0	5	0.30	42.5
16/0,5	16.0	15.5	48.0	58.0	110.0	16.0	5	0.50	42.5
20/0,5	20.0	19.5	60.0	70.0	126.0	20.0	5	0.50	42.5

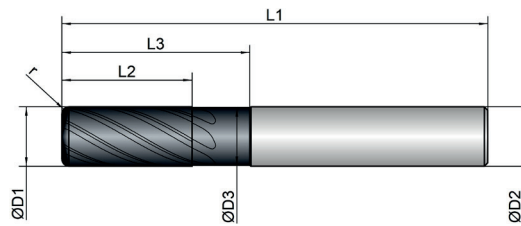
SC end mill cutter 2xD TiSiN ETC | K201804

Cooling	
Tolerance	e8
Coating	TiSiN- $\alpha$

HB	ETC	$\neq$		2xD
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HB K201804

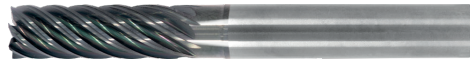


Steel			Hardened steel				Stainless steel (VA)	Castings	Non-ferrous materials				Inconel	Abrasive material		Titanium
< 850 N/mm	< 1100 N/mm	< 1400 N/mm	< 55 HRC	< 60 HRC	< 67 HRC	< 70 HRC			Al	Copper	Mg	Plastics		CFRP / GFRP	Graphite	
	240	210					220									

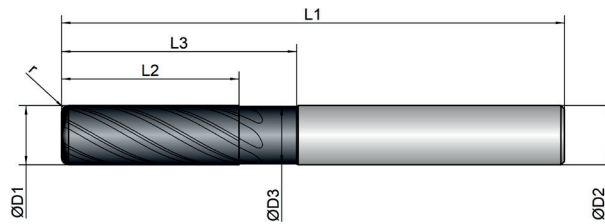
	D1	D3	L2	L3	L1	D2	z	r	
K201804									
	mm Ø	mm Ø	mm	mm	mm	mm Ø	#	mm	°
6/0,15	6.0	5.8	13.0	20.0	57.0	6.0	7	0.15	42.5
8/0,15	8.0	7.7	19.0	25.0	63.0	8.0	7	0.15	42.5
10/0,2	10.0	9.7	22.0	32.0	72.0	10.0	7	0.20	42.5
12/0,2	12.0	11.6	26.0	38.0	83.0	12.0	7	0.20	42.5
16/0,3	16.0	15.5	32.0	44.0	92.0	16.0	7	0.30	42.5
20/0,3	20.0	19.5	38.0	54.0	104.0	20.0	7	0.30	42.5

Cooling	
Tolerance	e8
Coating	TiSiN- $\alpha$

HB ETC ≠ 3xD



HB K201809



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	
	240	210					220									

	D1	D3	L2	L3	L1	D2	z	r	
K201809	mm Ø	mm Ø	mm	mm	mm	mm Ø	#	mm	°
6/0,15	6.0	5.8	18.0	25.0	65.0	6.0	7	0.15	42.5
8/0,15	8.0	7.7	24.0	32.0	70.0	8.0	7	0.15	42.5
10/0,2	10.0	9.7	30.0	40.0	85.0	10.0	7	0.20	42.5
12/0,2	12.0	11.6	36.0	46.0	100.0	12.0	7	0.20	42.5
16/0,3	16.0	15.5	48.0	58.0	110.0	16.0	7	0.30	42.5
20/0,3	20.0	19.5	60.0	70.0	125.0	20.0	7	0.30	42.5

SC full radius cutter short TiSiN HPC / HSC | K203413

Cooling	
Tolerance	f8
Coating	TiSiN- $\alpha$

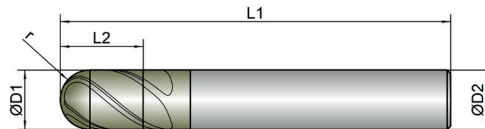
HA HSC HPC

**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 ∅	L2  mm	L1  mm	D2  mm ∅	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- $\alpha$

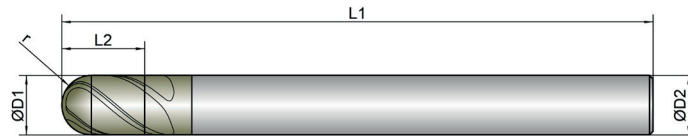
HA HSC HPC

**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

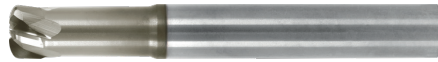
SC face torus cutter TiSiN HSC | K207003

Cooling	
Tolerance	h9
Coating	TiSiN- $\alpha$

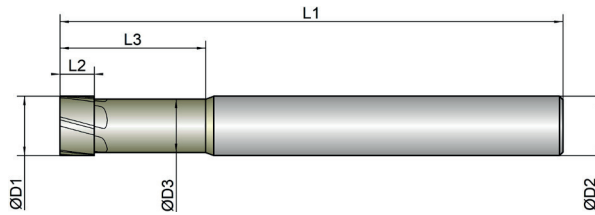
HA HSC UNI

**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

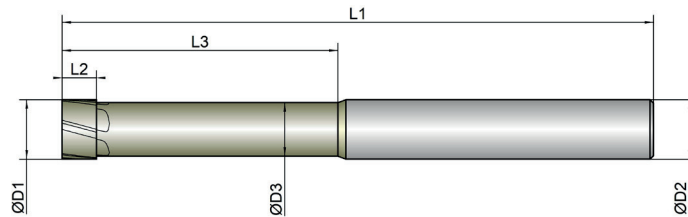


Cooling	
Tolerance	h9
Coating	TiSiN- $\alpha$

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 ∅	D3 mm ∅	L2 mm	L3 mm	L1 mm	D2 mm ∅	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

 No Weldon	 Weldon HB	 Extended Trochoidal Cutting
 High Speed Cutting	 High Performance Cutting	 Multi-Task Cutting
 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	 3xD	 4xD
 5xD	 Dynamic helical pitch	

## COOLING

 Air-cooled	 Dry	 Oil
 Water <sup>max</sup>	 Water <sup>min</sup>	

## 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- $\alpha$	TiN Alpha	TiSiN- $\alpha$	TiSiN Alpha	TiAlN- $\alpha$	TiAlN Alpha
Diamond- $\alpha$	Diamond Alpha	TAC- $\alpha$	TAC Alpha	ZrCn- $\alpha$	ZrCrN Alpha
TiCn- $\alpha$	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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