2025
MILLING TOOLS

GESAC

GESAC Profile

Xiamen Golden Egret Special Alloy Co., Ltd. (GESAC), founded in 1989, is a national high-tech enterprise with Chinese-foreign joint investment. It is also a key member of Xiamen Tungsten Co., Ltd., a state-owned listed company. GESAC is committed to the research, development and production of tungsten series products such as high-quality tungsten powder materials, cemented carbide and precision cutting tools, as well as the provision of professional solutions for the industry. It is a renowned supplier of tungsten powder, cemented carbide and cutting tools.

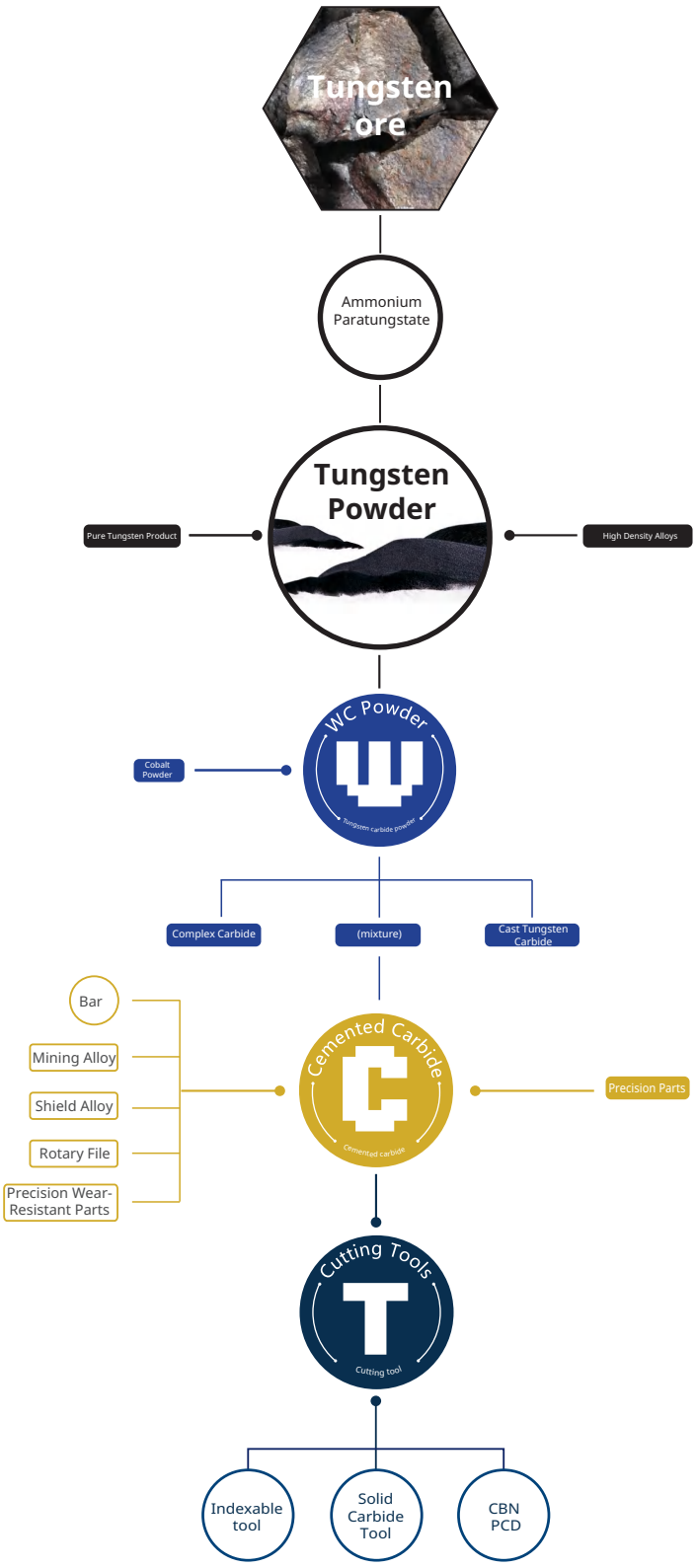
Relying on the product integration technology research and development of the complete tungsten industry chain and the practical and innovative management concepts, GESAC has always maintained a strong momentum of development. It provides global users with tungsten powder products and services with the highest cost performance, and offers excellent products and comprehensive solutions for solving the problems of high hardness, high temperature resistance and wear resistance in the modern industrial field. Its customers are distributed around the world, enjoying a high reputation both at home and abroad.

GESAC currently has more than 3,000 employees, five production bases, four overseas sales companies and one enterprise technology center. It has independently undertaken and completed a number of projects such as the "National Science and Technology Support Program Projects", the "National Science and Technology Major Projects", the "National Torch Program Projects", the "National Key New Product" development projects and key research topics at the provincial and municipal levels. It has been rated as a "Backbone Enterprise in Strategic Emerging Industries", an "Innovative Enterprise" and an "Advanced Technology Enterprise". It has won many patents and awards, including the second prize of the National Science and Technology Progress Award. Its cutting tools have obtained more than 400 patents, including invention patents, utility model patents and design patents.

GESAC Factories Distribution

Product Chain

GESAC has a complete tungsten product chain ranging from ore mining to tungsten powder, cemented carbide products and precision cutting tools.



GESAC

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A

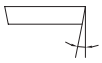
INDEXABLE MILLING TOOLS

Designation Rules of ISO Milling Insert Type

Code	Shape	Tip Angle (°)	Graphics
H	Regular Hexagon	120 °	
O	Regular Octagon	135 °	
P	Regular Pentagon	108 °	
S	Square	90 °	
T	Regular Triangle	60 °	
C	Diamond	80 °	
D		55 °	
E		75 °	
F		50 °	
M		86 °	
V		35 °	
W	Hexagon	80 °	
L	Rectangle	90 °	
A	Parallel Quadrilateral	85 °	
B		82 °	
K		55 °	
R	Circular	——	

① Shape Code

Code	Relief Angle (°)
A	3 °
B	5 °
C	7 °
D	15 °
E	20 °
F	25 °
G	30 °
N	0 °
P	11 °
O	Others



② Relief Angle Code

Code	Tolerance (mm)			Tolerance (inch)		
	Tip Height (M)	Thickness (s)	Inscribed Circle (Ød)	Tip Height (M)	Thickness (s)	Inscribed Circle (Ød)
A	±0.005	±0.025	±0.025	±0.0002	±0.001	±0.001
F	±0.005	±0.025	±0.013	±0.0002	±0.001	±0.0005
C	±0.013	±0.025	±0.025	±0.0005	±0.001	±0.001
H	±0.013	±0.025	±0.013	±0.0005	±0.001	±0.0005
E	±0.025	±0.025	±0.025	±0.001	±0.001	±0.001
G	±0.025	±0.13	±0.025	±0.001	±0.005	±0.001
J	±0.005	±0.025	±0.05~ ±0.13	±0.0002	±0.001	±0.002~ ±0.005
K	±0.013	±0.025	±0.05~ ±0.13	±0.0005	±0.001	±0.002~ ±0.005
L	±0.025	±0.025	±0.05~ ±0.13	±0.001	±0.001	±0.002~ ±0.005
M	±0.08~ ±0.18	±0.13	±0.05~ ±0.13	±0.003~ ±0.007	±0.005	±0.002~ ±0.005
N	±0.08~ ±0.18	±0.025	±0.05~ ±0.13	±0.003~ ±0.007	±0.001	±0.002~ ±0.005
U	±0.13~ ±0.38	±0.13	±0.08~ ±0.25	±0.005~ ±0.015	±0.005	±0.003~ ±0.01

③ Accuracy Code

①	②	③	④	⑤
S	N	E	U	12
R	D	E	T	12

④ Chip Breaker · Hole Code

Code	With/ without hole	Hole shape	Chip breaker	Shape
N	No	—	No	
R			Single-sided	
F			Double-sided	
A	Yes	Cylindrical hole	No	
M			Single-sided	
G			Double-sided	
W		Partial cylindrical hole, single-sided, 40°~60°	No	
T			Single-sided	
Q		Partial cylindrical hole, double-sided, 40°~60°	No	
U			Double-sided	
B		Partial cylindrical hole, single-sided, 70°~90°	No	
H			Single-sided	
C		Partial cylindrical hole, double-sided, 70°~90°	No	
J			Double-sided	
X	—	—	—	

⑤ Iso Cutting Edge Length Code (Mm)

R		S		C		W		T		D		V		K		Inscribed circle (mm)
Code	Dimensions	Code	Dimensions	Code	Dimensions	Code	Dimensions	Code	Dimensions	Code	Dimensions	Code	Dimensions	Code	Dimensions	
		03	3.97	03	4.0			06	6.9	4	4.8					3.97
		04	4.76	04	4.8			08	8.2	5	5.8					4.76
05	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5
		05	5.56	05	5.6	03	3.8	09	9.6	6	6.8					5.56
06	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6
		06	6.35	06	6.5	04	4.3	11	11	7	7.8	11	11.2			6.35
		07	7.94	08	8.1	05	5.4	13	13.8	9	9.7					7.94
08	8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8
09	9.525	09	9.525	09	9.7	06	6.5	16	16.5	11	11.6	16	16.6	16	19.7	9.525
10	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10
12	12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12
12	12.7	12	12.7	12	12.9	08	8.7	22	22	15	15.5	22	22.1			12.7
15	15.875	15	15.875	16	16.1	10	10.9	27	27.5	19	19.4					15.875
16	16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16
19	19.05	19	19.05	19	19.3	13	13	33	33	23	23.3					19.05
20	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20
		22	22.225	22	22.6			38	38.5	27	27.1					22.225
25	25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25
25	25.4	25	25.4	25	25.8			44	44	31	31					25.4
31	31.75	31	31.75	32	32.2			55	55	38	38.8					31.75
31	32	—	—	—	—	—	—	—	—	—	—	—	—	—	—	32

Applicable Insert Shape: H,O,P,S,T,C,E,M,W,R									
Standard Inscribed Circle (mm)	Tolerance of Inscribed Circle (Ød) (mm)		Tolerance of Tip Height (m) (mm)		Standard Inscribed Circle (inch)	Tolerance of Inscribed Circle (Ød) (inch)		Tolerance of Tip Height (m) (inch)	
	J,K,L, M,N (grade)	U (grade)	M,N (grade)	U (grade)		ClassJ,K, L,M,N	Class U	ClassJ,K, L,M,N	Class U
6.35	±0.05	±0.08	±0.08	±0.13	0.250	±0.002	±0.003	±0.003	±0.005
9.525					0.375				
12.7	±0.08	±0.13	±0.13	±0.2	0.500	±0.003	±0.005	±0.005	±0.008
15.875	±0.1	±0.18	±0.15	±0.27	0.625	±0.004	±0.007	±0.006	±0.011
19.05					0.750				
25.4	±0.13	±0.25	±0.18	±0.38	1.000	±0.005	±0.010	±0.007	±0.015
31.75	±0.15	±0.25	±0.2	±0.38	1.250	±0.006	±0.010	±0.008	±0.015
32					1.260				

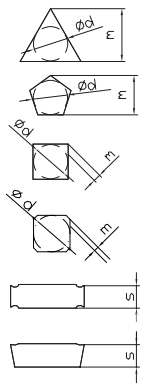
Applicable Insert Shape: D					
Inscribed Circle (Ød)		Tolerance of Inscribed Circle		Tolerance of Tip Height	
mm	inch	mm	inch	mm	inch
6.35	0.250	±0.05	±0.002	±0.11	±0.004
9.525	0.375	±0.05	±0.002	±0.11	±0.004
12.7	0.500	±0.08	±0.003	±0.15	±0.006
15.875	0.625	±0.10	±0.004	±0.18	±0.007
19.05	0.750	±0.10	±0.004	±0.18	±0.007

Applicable Insert Shape: V					
Inscribed Circle (Ød)		Tolerance of Inscribed Circle		Tolerance of Tip Height	
mm	inch	mm	inch	mm	inch
6.35	0.250	±0.05	±0.002	±0.15	±0.006
9.525	0.375	±0.05	±0.002	±0.15	±0.006
12.7	0.500	±0.08	±0.003	±0.20	±0.008
15.875	0.625	±0.10	±0.004	±0.27	±0.011
19.05	0.750	±0.10	±0.004	±0.27	±0.011

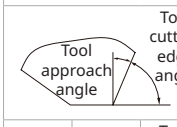
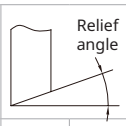
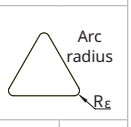
Code	Thickness (mm)
01	1.59
T1	1.98
02	2.38
T2	2.78
03	3.18
T3	3.97
04	4.76
05	5.56
06	6.35
07	7.94
09	9.52
⑥ Thickness code	

⑥	⑦	⑧	⑨	⑩
06	AN	E	N	GM
04	M0	T	–	MM

Inscribed Circle (Ød)
Tip Height (m)
Insert Thickness (s)



⑦ Tool Cutting Edge Angle, Wiper Relief Angle, and Tip Shape

I					II	
						
Code	Tool Approach Angle	Tool Cutting Edge Angle	Code	Wiper Relief Angle	Code	Tip Arc Radius (mm)
A	45 °	45 °	A	3 °	M0	Circular Insert
D	30 °	60 °	B	5 °	00	0.03
E	15 °	75 °	C	7 °	02	0.2
F	5 °	85 °	D	15 °	04	0.4
P	0 °	90 °	E	20 °	08	0.8
Z	Others		F	25 °	12	1.2
			G	30 °	16	1.6
			N	0 °	20	2.0
			P	11 °	24	2.4
			Z	Others	28	2.8
					32	3.2

⑧ Code for Major Cutting Edge

Code	Shape of Cutting Edge	Shape
F	Sharp Edge	
E	Circular Edge	
T	Negative Land Angle	
S	Composite Passivated Edge	

⑨ Code for Cutting Direction

Code	Shape of Cutting Edge	Diagram
R	Right	
L	Left	
N	No	

⑩ Code for Chip Breaker

Code	Working Condition
GL	General Light Cutting
GM	General Medium Cutting
GH	General Heavy Cutting
PL	Light Cutting of Steel
PM	Medium Cutting of Steel
PR	Heavy Cutting of Steel
KM	Medium Cutting of Cast Iron
KR	Heavy Cutting of Cast Iron
MM	Medium Cutting of Stainless Steel
W*	Wiper Cutting
NL/AL	Light Cutting of Nonferrous Metal
.....	

Model Designation Rules of Indexable Milling Cutter

MF A 1 45 – 160 R

① ② ③ ④ ⑤

① Tool Type		
Planar Milling	MF	Conventional Planar Milling
Shoul-der Milling	ME	Conventional Shoulder Milling
	MH	Long Flute Shoulder Milling
	MV	Heavy Duty Shoulder Milling
Profile Milling	MP	Conventional Profile Milling
	MB	Ball Nose Profile Milling
Fast Feed Milling	MK	Conventional Fast Feed Milling
Groov-ing	MS	Three-Edge Grooving
Cham-fer Milling	MC	Chamfer Milling
Others	MX	Special Milling

② Series Number

③ Product Generation	
1	1st Generation
2	2nd Generation

④ Tool Cutting Edge Angle	
45	45 = 45 °

⑤ Tool Diameter	
160	160 = 160 mm

⑥ Cutting Direction	
R	Right
L	Left

09 C 40 (T)– S E 13 (U) (M)

⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮

⑦ Number of Teeth	
09	9 teeth

⑪ Insert Shape	
V	35° Diamond
D	55 ° Diamond
C	80 ° Diamond
S	Square
T	Regular Triangle
R	Circular
L	Rectangle

⑧ Interface Type	
A	Type A Interface
B	Type B Interface
C	Type C Interface
D	Type D Interface
M	Threaded Interface
P	Straight Shank
W	Flattened Straight Shank
K	Disc Interface
BT	Type Bt Interface
HA	Hsk-A Interface

⑨ Interface Size	
40	40 = 40 mm

⑫ Insert Relief Angle	
N	0 °
B	5 °
C	7 °
P	11 °
D	15 °
E	20 °
F	25 °

⑩ Neck Type	
T	Tapered Neck
N	No Neck

⑬ Cutting Edge Length	
13	13 = 13 mm

⑭ Tool Holder Length	
S	Short
M	Moderate
L	Long

⑮ Tool Tooth Pitch	
U	Unequal Teeth

Model Designation Rules of Modular Extension Bars

EH – M 12 G 25 L200 T (080) C

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Product Type	
EH	Modular Extension Bar

② Thread Type	
M	Standard Thread
T	Trapezoidal Thread

③ Thread Diameter	
12	12 = 12 mm

④ Shank Type	
G	Cylindrical Shank
BT	Bt Shank

⑤ Shank Diameter	
25	25 = 25 mm

⑥ Overall Length	
L200	L200 = 200 mm

⑦ Neck Shape	
S	No Neck
P	Reduced Neck
T	Tapered Neck

⑧ Neck Length	
080	080 = 80 mm

⑨ Material	
C	Cemented carbide

Series Introduction

Face Milling Series

ODK(M)T

Positive type eight edged 43° face milling
ODK(M)T insert + MFA143 tool

- Single-sided positive type 8-edge insert, which is highly economical.
- The insert has a wiper design, which can meet the needs of finishing.
- It is mainly used for finishing to semi-finishing steel, cast iron, and aluminum alloy materials.

SEE(M)T

Positive type four edged 45° face milling
SEE(M)T insert + MFA145 tool

- Single-sided positive type 4-edge insert, with a variety of geometry designs, enabling light and smooth cutting.
- When paired with a wiper insert, it can meet the needs of finishing.
- It is mainly used for semi-finishing to finishing steel, cast iron, and stainless steel materials.

SNE(M)U

Negative type eight edged 45°/75°/88° face milling
SNE (M)U insert+
MFB145/245/275/288 Tool

- Double-sided thickened negative type 8-edge insert design, with high strength, ensuring machining stability.
- It has a variety of tool cutting edge angle designs, including 45°, 75°, 88°, and R angles, which can meet the needs of various working conditions.
- It provides three options of tooth numbers: sparse teeth, dense teeth, and ultra-dense teeth, to deal with different machining conditions.
- The MFB145 series is paired with a shim, which can protect the tool.
- It is mainly used for rough to semi-finish face milling of steel and cast iron materials.

Series Introduction

Face Milling Series

HNG(K)U

Negative type twelve-edge 15°/45°/60° face milling
HNG(K)U insert + MFC115/MFC145/MFC160 tool

- Double-sided negative type 12-edge insert design, with high economy.
- The insert has a segmented cutting edge design and can be paired with three types of cutters with different tool cutting edge angles.
- It provides two options of tooth numbers: sparse teeth and dense teeth, to deal with different machining conditions.
- It is mainly used for rough to semi-finish face milling of steel, cast iron, and stainless steel materials.

HNE(M)X

Negative type twelve-edge 60° face milling
HNE(M)X insert + MFB160/MFB260 tool

- Double-sided negative type 12-edge insert design, with high economy and high strength, and it is a proficient tool for machining cast iron materials.
- With a wedge-type installation and clamping method, the MFB160 has an adjustable mechanism, which can ensure the machining surface quality.
- It provides two options of tooth numbers: sparse teeth and dense teeth, to deal with different machining conditions.
- It is mainly used for roughing to finishing of cast iron materials.

Series Introduction

Shoulder Milling Series

APM(G)T

Positive double-edged shoulder milling
APM (G)T+MEA190 Tool

- A rich variety of geometry configurations can meet the needs of various working conditions.
- When paired with a geometry for aluminum, it can achieve the cutting of aluminum alloy materials.
- It is mainly used for roughing steel, stainless steel, cast iron, and aluminum alloy materials.

APK(E)T

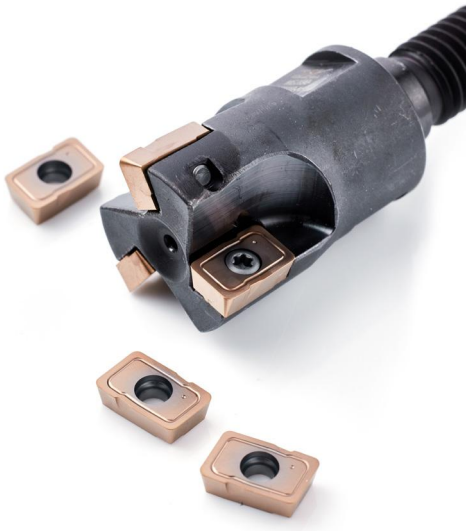
Positive double-edged shoulder milling
APK(E)T insert + MEB190/MHB190 tool

- The curved edge type structure design effectively reduces the cutting resistance.
- When paired with a helical milling tool, it can achieve high-efficiency milling processing.
- When paired with a geometry for aluminum, it can achieve the cutting of aluminum alloy materials.
- It is mainly used for roughing to semi-finishing steel, stainless steel, cast iron, and aluminum alloy materials.

APEW

Positive type two-edge precision-ground shoulder milling
APEW insert + MEJ190 tool

- The spiral edge structure design improves the machining accuracy of the side wall.
- The special cutting edge design enables reciprocating precision plunging machining.
- The precision-ground surface meets the requirements of high-precision machining.



Series Introduction

Shoulder Milling Series

ADGT NEW

Positive double-edged shoulder milling
ADGT insert + MET190 tool

- The spatial curved edge type structure design effectively reduces the cutting resistance.
- The variable edge width structure design improves the tool life.
- A special geometry for machining titanium alloy materials.
- It is mainly used for roughing to semi-finishing titanium alloy materials.

SDKT

Positive type four edged shoulder millir
SDKT insert + MES190 tool

- The curved edge type design effectively reduces the cutting resistance.
- The multi-relief angle design improves the strength and sharpness of the insert.
- It can achieve various cutting methods such as face milling, shoulder milling, and grooving.
- It is mainly used for roughing to semi-finishing steel and cast iron materials.

XDHT

Positive type two-edge shoulder milling for aluminum
XDHT insert + MEH190 tool

- The large rake angle design results in low resistance and light cutting.
- The positive type double relief angle design improves the strength of the cutting edge.
- The long cutting edge design meets the working conditions of large-cutting depth machining.
- The curved edge type design can achieve a true 90° step during shoulder milling.
- It is mainly used for roughing to semi-finishing aluminum alloy materials.

Series Introduction

Shoulder Milling Series

ANKX

Negative type four edged shoulder milling
ANKX insert + MEC190/MHC190 tool

- The negative type thickened structure design enhances the tool strength and can meet the requirements of heavy duty machining.
- The ground curved edge design can achieve good machining of vertical walls.
- When paired with a helical milling tool, it is suitable for heavy duty and high-efficiency machining.
- It is mainly used for roughing to semi-finishing steel and cast iron materials.

WNG(M)U

Negative type six-edge shoulder milling
WNG(M)U insert + MEE190 tool

- The negative type 6-edge insert has high economy.
- The negative type double-sided and large rake angle structure design ensures the sharpness of the cutting edge while improving the insert strength.
- The end edge has a wiper, which can meet the requirements of good surface quality.
- It can achieve various cutting methods such as face milling, shoulder milling, and grooving.
- It is mainly used for roughing to semi-finishing steel and cast iron materials.

LNE(M)T

Vertically-installed eight edged shoulder milling
LNE(M)T insert + MVA190/MVA290 tool

- The unique vertically-installed structure design, with high strength, is suitable for heavy duty milling and has high machining efficiency.
- The negative type 8-edge design can meet the matching use of left-handed and right-handed insert tools.
- It provides two options of tooth numbers: sparse teeth and dense teeth, to deal with different machining conditions.
- The V-shaped positioning structure design makes the clamping more stable.
- It is mainly used for roughing steel and cast iron materials.

Series Introduction

Profile Milling Series

RD/RP/RC

Positive type profile milling
RD/RP/RC insert + MPA100/MPB100/MPC100 tool

- It is economical and efficient and is most suitable for profile roughing in the mould industry.
- The geometry is comprehensive, covering light duty to heavy duty machining.
- The RC+MPC100 series products have an anti-rotation system design, making the cutting process more stable.
- It can provide two types of inserts: economical type and precision type, to meet the needs of different customers.
- It is mainly used for roughing to semi-finishing steel materials.

QTD/QTD-S-T

Precision ball nose milling
QTD/QTD-S-T insert + MBA100 tool

- The full R-shaped structure also has a corresponding cutting edge when machining a straight wall surface.
- The unique cutting edge design makes the cutting edge of the insert have higher strength.
- The QTD-S-T is paired with a curved edge type design, which can effectively reduce the cutting resistance.
- It is mainly used for finishing steel, cast iron, and hardened steel materials.

Series Introduction

Fast Feed Milling Series

UD/UP

Positive type three edged fast feed milling
UD/UP insert + MKA110 tool

- The multi-segment line edge type structure design optimizes the machining effect under different cutting depths.
- The anti-friction slot design effectively reduces the cutting temperature.
- The inserts of 3 size specifications are paired with different geometry types, which can meet the cutting machining in most fields.
- It is mainly used for roughing steel, cast iron, and stainless steel materials.

SDMT

Positive type four edged fast feed milling
SDMT insert + MKB113 tool
SDMT-SM insert + MKM113 tool

- The large arc curved edge design enhances the strength of the R angle.
- When paired with the SM geometry with variable rake angle and variable edge width, it is applied to the aerospace industry.
- It is mainly used for roughing steel, cast iron, stainless steel, and difficult-to-machine materials.

Series Introduction

Fast Feed Milling Series

SOE(M)T NEW

Positive type four edged fast feed milling for titanium alloy
SOE(M)T-SM insert + MKT113 tool
SOMT-ST insert + MKT213 tool

- The positive rake angle machining results in light cutting and stable machining.
- The two-stage cutting edge design meets the needs of different machining working conditions.
- With a wiper design, it has good machining surface quality during fast feed machining and side wall machining.
- The special surface coating process makes the cutting edge surface smooth and reduces the generation of built-up edge (BUE).
- It is mainly used for roughing difficult-to-machine materials such as titanium alloy.

LNMX NEW

Negative type four edged fast feed milling
LNMX insert + MKF115 tool

- The negative type four edged insert design achieves a higher tooth density, high efficiency, and high economy.
- The strengthened tip arc is suitable for machining the side walls of cavities.
- The rich combination of geometry and grades is suitable for roughing to semi-finishing of various materials.

Series Introduction

Grooving Series

SNEX

Narrow groove width three edged grooving
SNEX insert + MSA (104-108) tool

- The sharp edge type design effectively reduces the cutting resistance.
- It can provide 5 different slot width options from 4mm to 8mm.
- It is mainly used for roughing to semi-finishing of steel and cast iron materials.

CNEU

Medium slot width three edged grooving
CNEU insert + MSA (110-113) tool

- It is a positive type cutting tool, enabling lighter cutting.
- The ground variable rake angle design can effectively reduce the cutting resistance.
- It is mainly used for roughing to semi-finishing of steel and cast iron materials.
- It can provide 4 different slot width options from 10mm to 13mm.

Series Introduction

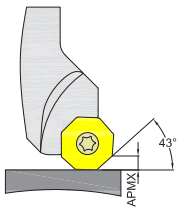
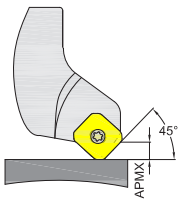
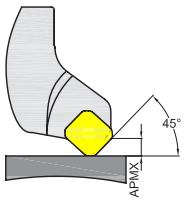
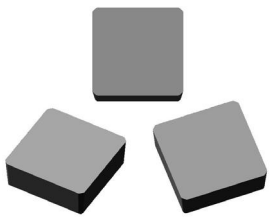
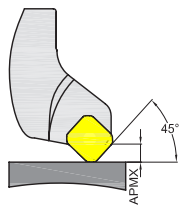
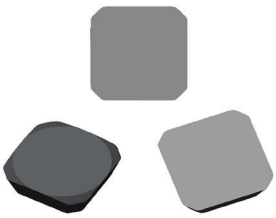
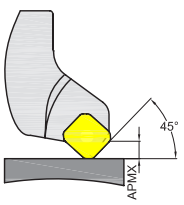
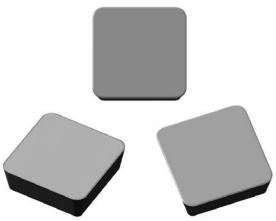
Chamfer Milling Series

SPMT

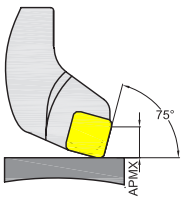
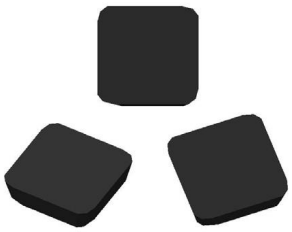
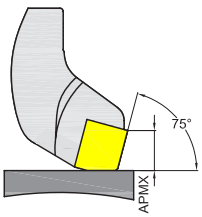
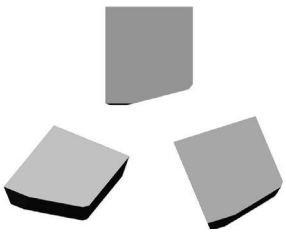
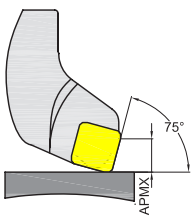
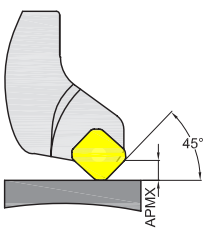
Positive type four edged chamfer milling
SPMT insert + MCA130/MCA145/MCA160 tool

- With 4 effective cutting edges, it can achieve positive and negative chamfering.
- The multi tool cutting edge angle tool design can meet the chamfer machining requirements of 30°/45°/60°.
- It is mainly used for roughing to semi-finishing of steel and cast iron materials.

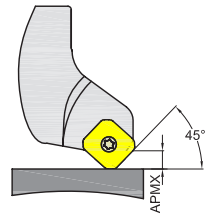
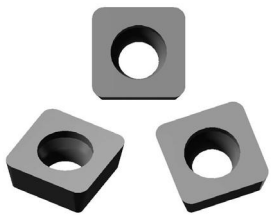
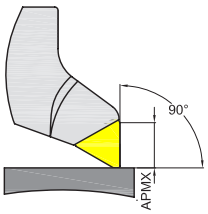
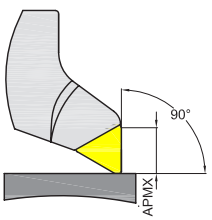
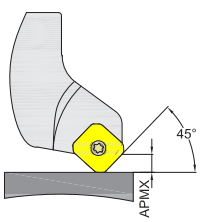
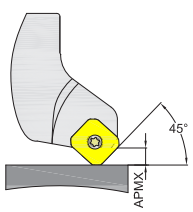
List of Indexable Milling Products

Type	Application	Insert Series	Tool Series	Diagram	Introduction
Planar Milling	 OD06: APMX =4.0mm	ODK(M)T P038	MFA143 (Φ40-Φ200)		For planar milling processing of steel, alloy steel, cast iron, and aluminum alloy materials.
	 SE13: APMX =6.0mm	SEE(M)T P042	MFA145 (Φ50-Φ200)		For planar milling processing of steel, alloy steel, cast iron, and aluminum alloy materials.
	 SB12: APMX =7.1mm	SBEX P047	—		Planar milling processing of steel, alloy steel, and cast iron materials.
	 SE12: APMX =7.5mm SE15: APMX =9.1mm	SEEN SEMN SEEX P047	—		
	 SP15: APMX =13.3mm SP19: APMX =16.3mm SP25: APMX =21.8mm	SPEN P048	—		

List of Indexable Milling Products

Type	Application	Insert Series	Tool Series	Diagram	Introduction
Planar Milling	 SP12: APMX =11.4mm SP15: APMX =13.2mm SP19: APMX =15.6mm	SPK(M)N P049	—		Planar milling processing of steel, alloy steel, and cast iron materials.
	 SP15: APMX =14.0mm	SPEN-W P050	—		
	 SP12: APMX =10.7mm	SPER P050	—		
	 SP15: APMX =9.5mm	SPNR P051	—		

List of Indexable Milling Products

Type	Application	Insert Series	Tool Series	Diagram	Introduction
Planar Milling	 SP12: APMX =7.5mm SP15: APMX =9.5mm	SPCW P051	—		Planar milling processing of steel, alloy steel, and cast iron materials.
	 TP16: APMX =13.5mm TP22: APMX =15.1mm	TPER TPKR TPKN P052	—		
	 TP22: APMX =15.1mm	TPNR P052	—		
	 SN12: APMX =3.0mm	SNE(M)U	MFB145 (Φ50-Φ315) Including uneven-tooth tool		For efficient planar milling processing of steel and cast iron materials.
	 SN12: APMX =3.0mm	P053	MFB245 (Φ50-Φ315) Including uneven-tooth tool		

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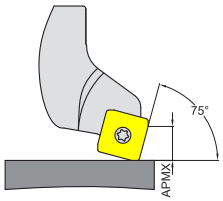
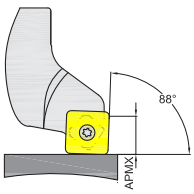
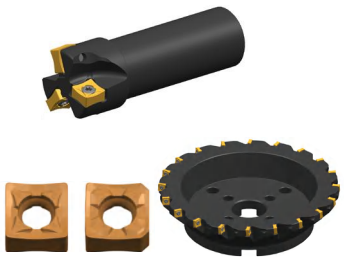
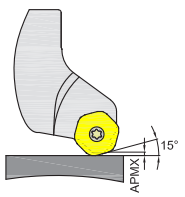
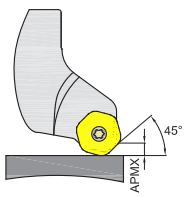
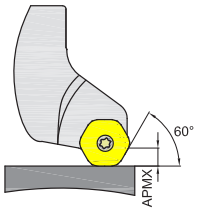
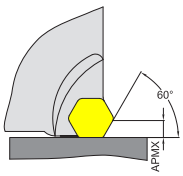
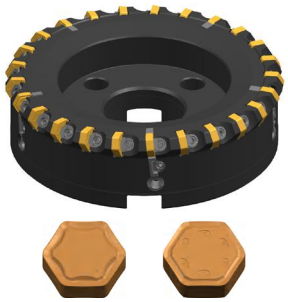
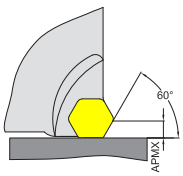
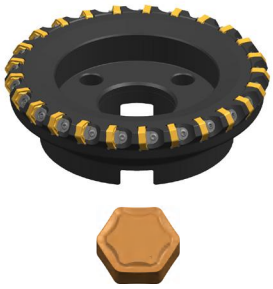
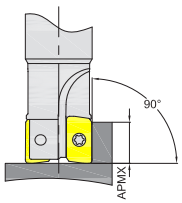
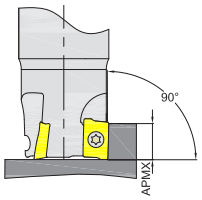
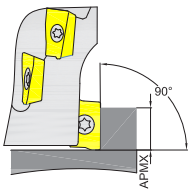
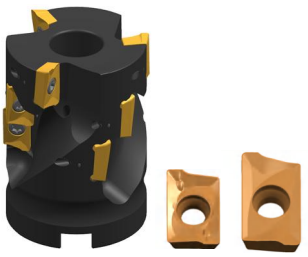
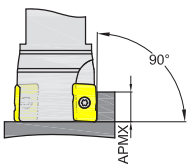
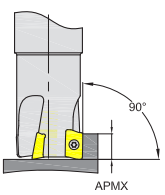
Type	Application	Insert Series	Tool Series	Diagram	Introduction
Planar Milling	 SN12: APMX =5.0mm	SNE(M)U	MFB275 (Φ50-Φ315)		For efficient planar milling processing of steel and cast iron materials.
	 SN12: APMX =7.0mm	P053	MFB288 (Φ40-Φ315)		For efficient large-cutting depth planar milling processing of steel and cast iron materials.
	 HN06: APMX =1.6mm HN09: APMX =2.2mm	HNG(K)U	MFC115 (Φ25-Φ160)		For planar milling processing of steel, cast iron, stainless steel, and other materials.
	 HN06: APMX =3.2mm HN09: APMX =4.5mm HN13: APMX =8.0mm	P066	MFC145 (Φ25-Φ315) Including uneven-tooth tool		

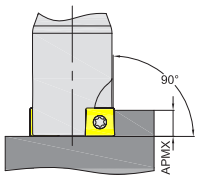
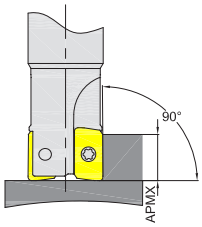
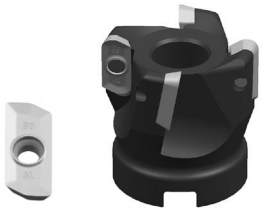
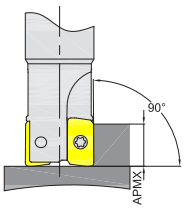
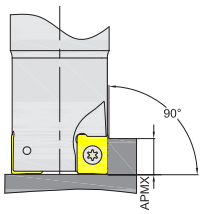
List of Indexable Milling Products

Type	Application	Insert Series	Tool Series	Diagram	Introduction
Planar Milling	 HN06: APMX =4.3mm HN09: APMX =7.4mm	HNG(K)U P066	MFC160 (Φ40-Φ250)		For planar milling processing of steel, cast iron, stainless steel, and other materials.
	 HN09: APMX =8.0mm	HNE(M)X	MFB160 (Φ125-Φ315)		For high-efficiency, high-economy adjustable planar milling processing of cast iron (special type).
	 HN09: APMX =8.0mm P079		MFB260 (Φ63-Φ315)		For dedicated dense-tooth high-efficiency and high-economy planar milling processing for cast iron.
Shoulder Profile	 AP11: APMX =9.0mm AP16: APMX =14.0mm	APM(G)T P084	MEA190 (Φ16-Φ250)		For shoulder, face, grooving, and cavity milling processing of steel, cast iron, stainless steel, and aluminum alloy materials.

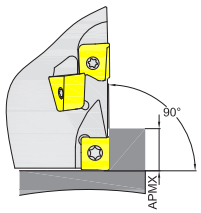
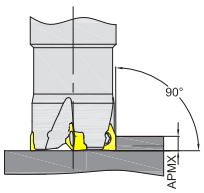
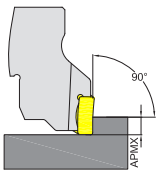
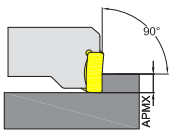
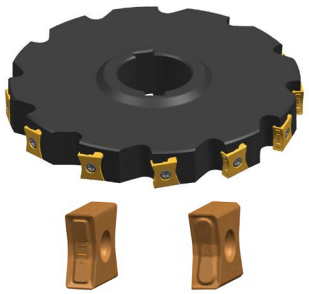
List of Indexable Milling Products

Type	Application	Insert Series	Tool Series	Diagram	Introduction
Shoulder profile	 AP11: APMX =9.0mm AP16: APMX =14.0mm	APK(E)T P089	MEB190 (ϕ16-ϕ200)		For shoulder, face, grooving, and cavity milling processing of steel, cast iron, stainless steel, and aluminum alloy materials.
	 AP11: APMX =39.9mm AP16: APMX =57.0mm	APKT P089	MHB190 (ϕ32-ϕ80)		For large-cutting depth shoulder milling processing of steel and cast iron materials.
	 AP10:APMX =2.5mm	APEW P095	MEJ190 (ϕ17-ϕ26)		For semi-finishing to finishing cavity milling, shoulder milling, grooving, and plunging of high-hardness steel materials.
	 AD10: APMX =9.0mm AD12: APMX =11.0mm AD18: APMX =16.0mm	NEW ADGT P097	MET190 (ϕ16-ϕ315)		Suitable for various machining methods such as face milling, cavity milling, shoulder milling, and grooving of titanium alloy materials like TC4, TC18, TC21, and stainless steel materials.

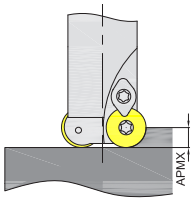
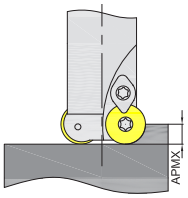
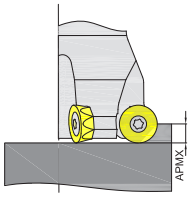
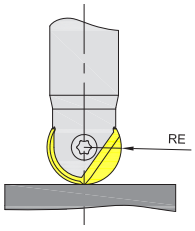
List of Indexable Milling Products

Type	Application	Insert Series	Tool Series	Diagram	Introduction
Shoulder Profile	 SD14: APMX =10.0mm	SDKT P104	MES190 (ϕ40-ϕ315)		For high-efficiency and high-economy shoulder milling processing and grooving of steel and cast iron.
	 XD19: APMX =18.0mm	XDHT P109	MEH190 (ϕ25-ϕ125)		For high-efficiency shoulder milling processing of aluminum alloy.
	 XP16: APMX =14.0mm	XPHT P113	—		For shoulder milling processing of steel and cast iron materials.
	 AN12: APMX =9.0mm AN16: APMX =14.0mm	ANKX P114	MEC190 (ϕ32-ϕ200)		For high-efficiency and high-economy shoulder milling and grooving machining of steel, cast iron, and other materials.

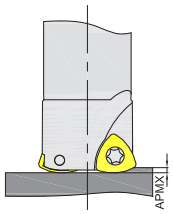
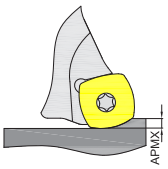
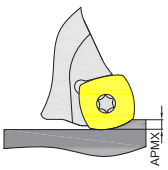
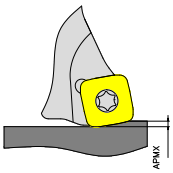
List of Indexable Milling Products

Type	Application	Insert Series	Tool Series	Diagram	Introduction
Shoulder Profile	 AN12: APMX =43.0mm AN16: APMX =57.0mm	ANKX P114	MHC190 (ϕ40-ϕ80)		For large-cutting depth shoulder milling processing of steel and cast iron materials.
	 WN04: APMX =4.0mm WN08: APMX =7.5mm	WNG(M)U P119	MEE190 (ϕ20-ϕ200) Including uneven-tooth tool		For high-efficiency and high-economy shoulder milling processing and grooving of steel and cast iron.
	 LN11: APMX =5.0mm LN15: APMX =7.0mm	LNE(M)T	MVA190 (Φ40-Φ315)		For heavy cutting shoulder and planar milling processing of steel and cast iron materials.
	 LN15: APMX =7.0mm P124		MVA290 (Φ80-Φ250)		

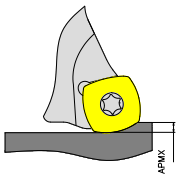
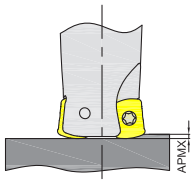
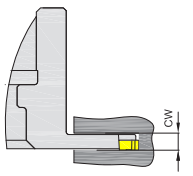
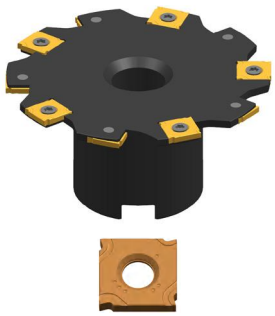
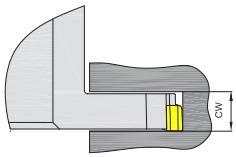
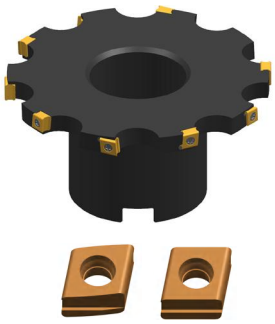
List of Indexable Milling Products

Type	Application	Insert Series	Tool Series	Diagram	Introduction
Profile Milling	 RD05: APMX =2.5 mm RD07: APMX =3.5 mm RD08: APMX =4.0 mm RD10: APMX =5.0 mm RD12: APMX =6.0 mm RD16: APMX =8.0 mm	RD P132	MPA100 (Φ10-Φ125)		For profile, face, grooving, and cavity milling processing of steel and cast iron materials.
	 RP08: APMX =4.0mm RP10: APMX =5.0 mm RP12: APMX =6.0 mm RP16: APMX =8.0 mm	RP P136	MPB100 (Φ16-Φ125)		For profile, face, grooving, and cavity milling processing of steel, cast iron, and stainless steel materials.
	 RC10: APMX =5.0 mm RC12: APMX =6.0 mm RC16: APMX =8.0 mm RC20: APMX =10.0 mm	RC P140	MPC100 (Φ20-Φ160)		For profile, face, grooving, and cavity milling processing of steel, cast iron, and stainless steel materials.
	 P147	QTD QTD-S-T	MBA100 (Φ12-Φ32)		For high-precision profile milling processing of steel, cast iron, and quenched steel materials.

List of Indexable Milling Products

Type	Application	Insert Series	Tool Series	Diagram	Introduction
Fast Feed Milling	 UD08: APMX =1.0mm UD12: APMX =1.5mm UP17: APMX =2.0mm	UD/UP P152	MKA110 (Φ20-Φ100)		For efficient face, grooving, and cavity milling processing of steel, cast iron, and stainless steel materials.
	 SD12: APMX =2.0mm SD15: APMX =3.0mm	SDMT	MKB113 (Φ32-Φ160)		For efficient face, grooving, and cavity milling processing of steel, cast iron, stainless steel, and titanium alloy materials.
	 SD09-SM: APMX =1.0mm SD12-SM: APMX =2.0mm	P157	Aerospace-specific: MKM113 (ϕ25-ϕ125)		For efficient profile, face, grooving, and cavity milling processing of stainless steel and other difficult-to-machine materials.
	 SO09-SM: APMX =1.2mm SO12-SM: APMX =1.4mm	NEW SOE(M)T -SM P165	MKT113 (ϕ25-ϕ125)		For efficient face and cavity milling processing of titanium alloy materials.

List of Indexable Milling Products

Type	Application	Insert Series	Tool Series	Diagram	Introduction
Fast Feed Milling	 SO09-ST: APMX =1.1mm SO12-ST: APMX =1.8mm	NEW SOMT-ST P165	MKT213 (ϕ25-ϕ125)		For efficient profile, grooving, and cavity milling processing of titanium alloy materials.
	 LNMX09: APMX =1.0mm LNMX12: APMX =1.5mm LNMX15: APMX =2.0mm	NEW LNMX P175	MKF115 (Φ16-Φ200)		For efficient face, grooving, and cavity milling processing of steel, cast iron, stainless steel, and titanium alloy materials.
Slot Chamfering	 CW MIN =4.0mm CW MAX =8.0 mm	SNEX P184	MSA (104~108) (Φ100)		For grooving milling processing of steel and cast iron materials.
	 CW MIN=10.0mm CW MAX=13.0mm	CNEU P186	MSA (110~113) (Φ80-Φ160)		For grooving milling processing of steel and cast iron materials.

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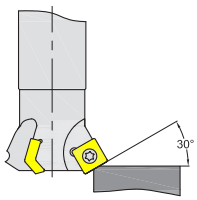
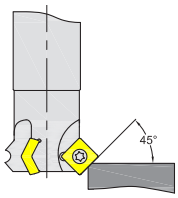
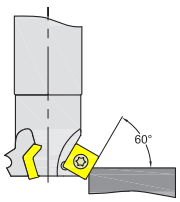
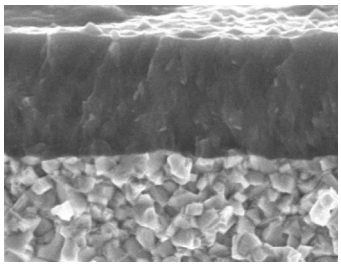
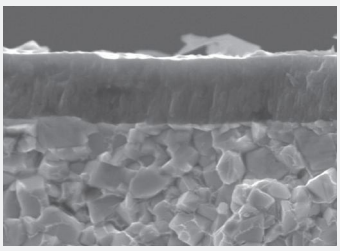
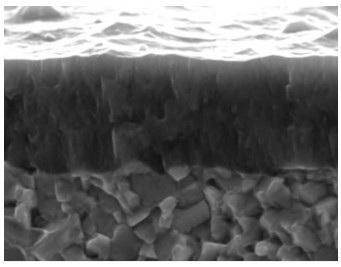
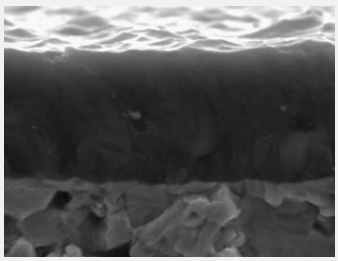
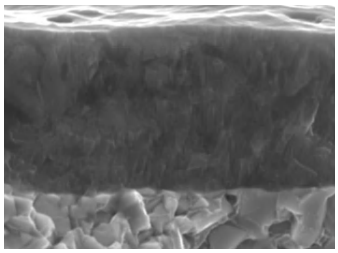
Type	Application	Insert Series	Tool Series	Diagram	Introduction
Chamfer Milling	 SP09: APMX =3.0mm SP12: APMX =4.5mm	SPMT	MCA130 (Φ25-Φ32)		For chamfer milling processing of steel and cast iron materials.
	 SP09: APMX =5.0mm SP12: APMX =7.0mm		MCA145 (Φ25-Φ32)		
	 SP09: APMX =6.0mm SP12: APMX =8.0mm	P190	MCA160 (Φ25-Φ36)		

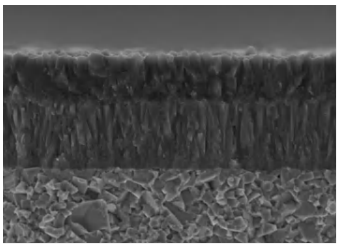
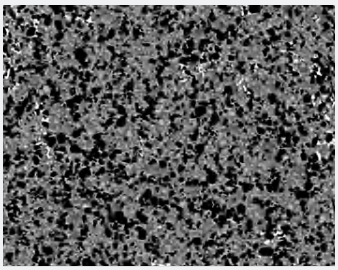
Introduction to Milling Insert Grades

Grades for Machining P-Type Materials

Machined Material	Grade	Color	Coating Type	Material Structure	Features
P	GPM7120	Blue-Gray	PVD		• A new-generation coating with a brand-new nanostructure, paired with a high-strength fine-grained cemented carbide substrate, offers excellent wear resistance. At the same time, it can largely resist the occurrence of thermal cracks and edge broken, effectively achieving a longer cutting service life and extremely high cutting stability. • It is recommended for medium- to high-speed milling processing of medium-to high-hardness steel, suitable for both dry and wet machining.
	GA4325	Golden Yellow	PVD		• A specially designed wear-resistant cemented carbide substrate, combined with a newly upgraded AlCrN coating, has excellent wear resistance and oxidation resistance. • It is suitable for medium-load machining of general steel, and is the top choice for machining soft steel.
	GA4225	Blue-Gray	PVD		• The combination of a PVD AlCrN coating and a fine-grained cemented carbide substrate. • Suitable for general machining of materials such as steel and cast iron under medium- to low-speed working conditions.
	GA4230	Purplish Red	PVD		• The PVD TiAlN coating has a high bonding strength with the cemented carbide substrate with high fracture resistance, enabling stable machining under different working conditions. • Suitable for general machining of materials such as steel and cast iron, with a wide range of applications.
	GP4225	Golden Yellow	PVD		• The combination of a nanostructured AlCrN coating and a fine-grained cemented carbide substrate offers excellent wear resistance. • Suitable for semi-finishing to light roughing of steel.

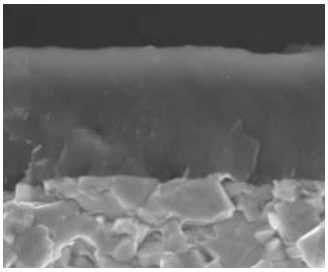
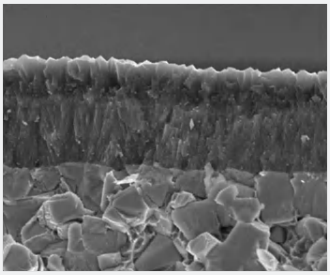
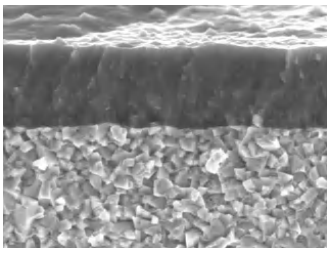
Introduction to Milling Insert Grades

Grades for Machining P-Type Materials

Machined Material	Grade	Color	Coating Type	Material Structure	Features
P	GP2115	Black	CVD		• The ultra-fine MT-TiCN and Al_2O_3 coating, paired with a high-cobalt cemented carbide substrate, ensures wear resistance while taking into account strength and toughness, achieving high efficiency and stability in insert machining. • Suitable for finishing to semi-finishing milling of steel under medium-to-high-speed conditions.
	GP01TM	—	No coating		• An uncoated cermet milling grade, after excellent process treatment, has high toughness, high wear resistance, and excellent edge-chipping resistance. • Suitable for milling processing of various materials, with steel machining being the primary recommendation.

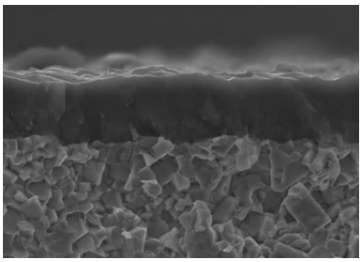
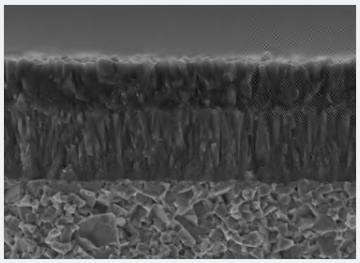
Introduction to Milling Insert Grades

Grades for Machining M-Type Materials

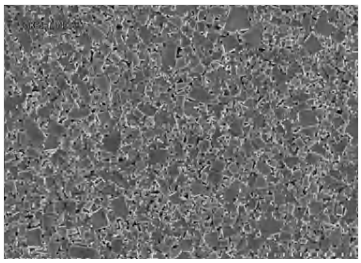
Machined Material	Grade	Color	Coating Type	Material Structure	Features
M	GM4135	Dark Yellow	PVD		• A TiAlSiN multi-layer coating, paired with a high-strength fine-grained cemented carbide substrate, has good wear resistance, toughness, and thermal stability. • Suitable for roughing and machining under unstable working conditions of difficult-to-machine materials such as stainless steel and titanium alloy.
	GM2140	Black	CVD		• The MT-TiCN+ Al_2O_3 coating, paired with a high-strength fine-grained cemented carbide substrate, combines wear resistance, toughness, and thermal stability. • Suitable for semi-finishing to roughing of stainless steel and titanium alloy.
	GM4240 NEW	Blue-Gray	PVD		• A new-generation coating with a brand-new nanostructure, paired with a tough substrate, combines excellent wear resistance and chipping resistance, resulting in a high cutting service life and cutting stability. • At low to medium cutting speeds, it is suitable for semi-finishing to roughing of austenitic stainless steel and semi-finishing and roughing of medium-to-high-hardness steel.

Introduction to Milling Insert Grades

Grades for Machining K-Type Materials

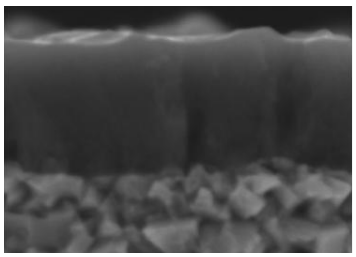
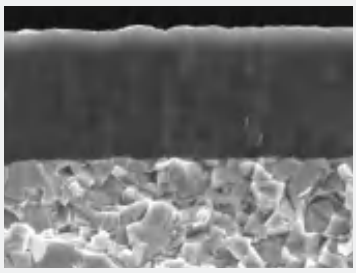
Machined Material	Grade	Color	Coating Type	Material Structure	Features
K	GK4125	Purple Grey	PVD		• A nano-TiAlN coating, paired with a fine-grained cemented carbide substrate, has excellent wear resistance and edge-chipping resistance. • Suitable for semi-finishing to roughing milling of various cast irons at medium- to low-speed, in both dry and wet working conditions.
	GK2115	Black	CVD		• The medium-thick MT-TiCN+Al_2O_3 coating for cast iron milling, paired with a special fine-grained cemented carbide substrate, combines strength, toughness, and wear resistance, ensuring the stability and efficiency of machining. • Suitable for finishing to semi-finishing milling of cast iron under medium- to high-speed conditions.

Grades for Machining N-Type Materials

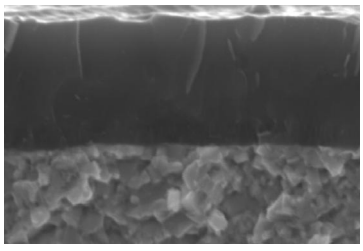
Machined Material	Grade	Color	Coating Type	Material Structure	Features
N	GN9125	—	No Coating		• An uncoated fine-grained cemented carbide grade, combining good wear resistance and toughness. • Suitable for semi-finishing to roughing of nonferrous metals such as copper and aluminum.

Introduction to Milling Insert Grades

Grades for Machining S-Type Materials

Machined Material	Grade	Color	Coating Type	Material Structure	Features
S	GS4130	Purple Grey	PVD		• A nano-TiAlN coating, paired with a high-toughness fine-grained cemented carbide substrate, combines good wear resistance and toughness. • Suitable for roughing working conditions of difficult-to-machine materials such as stainless steel and titanium alloy.
	GSM7130 NEW	Silver White	PVD		• A newly developed coating technology with extremely high hardness and excellent anti-adhesive wear resistance, paired with a high-cobalt tough substrate, ensures a long service life and high reliability in machining. • Suitable for medium- and low-speed machining of titanium alloy, with high-quality machined surfaces.

Grades for Machining H-Type Materials

Machined Material	Grade	Color	Coating Type	Material Structure	Features
H	GH4115	Bronze	PVD		• The combination of a nano-composite hard coating and an ultra-fine-grained cemented carbide substrate combines high oxidation resistance and heat resistance. • Suitable for finishing to semi-finishing milling of high-hardness steel above 55HRC.

Introduction and Application of Indexable Milling Coating Grades

Workpiece Material	ISO	Coated Cemented Carbide		Cemented Carbide	Cermet
		CVD	PVD		
P Steel	01	GP2115			GP01TM
	10		GA4325, GPM7120, GP4225, GA4225, GA4230		
	20				
	30				
	40				
	50				
M Stainless Steel	01				
	10				
	20				
	30	GM2140	GM4135, GS4130, GM4240		
	40				
	50		NEW		
K Cast Iron	01				
	10	GK2115			
	20		GK4125		
	30				
	40				
N Nonferrous Metals	01				
	10				
	20			GN9125	
	30				
	40				
S Heat-Resistant Alloys, Titanium Alloys	01				
	10				
	20		GS4130		
	30	GM2140	GM4135, GSM7130		
	40		NEW		
H High-Hardness Material	01				
	10		GH4115		
	20				
	30				

Application of Dense and Sparse Teeth of Indexable Milling Cutter

During milling processing, selecting the most appropriate number of cutting edges for the process can effectively balance machining efficiency and machining accuracy. When maintaining the same cutting speed V_C and feed per tooth f_z, increasing the number of cutting edges can effectively improve production efficiency, but it will also increase the cutting force. The power of the machine is a limiting factor for the number of cutting edges involved in cutting. GESAC offers three tooth pitches for tools to meet the applications of different working conditions.

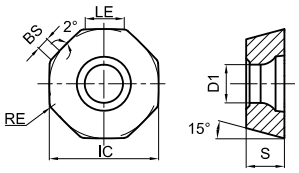
Example of Mfb145-080 Tool:

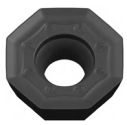
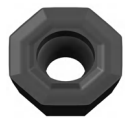
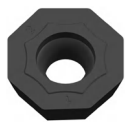
Diagram			
	Sparse-Tooth Type	Dense-Tooth Type	Ultra-Dense-Tooth Type
Number of Teeth	Z=5	Z=7	Z=8
Application	• The tool body has the best rigidity and is most suitable for unstable working conditions. • It is mainly used for high-feed, large-cutting depth machining, with large chips produced. • It is the top choice for cutting carbon steel, alloy steel, and stainless steel.	• The tool combines rigidity and machining efficiency and is the top choice for general cutting. • It is mainly used for medium-feed and cutting depth machining, with smaller chips produced. • It is also suitable for cutting high-hardness steel and heat-resistant alloys.	• It has high machining efficiency and is most suitable for stable working conditions. • It is mainly used for low-feed, small-cutting depth machining, with very small chips produced. • It is the top choice for high-efficiency cutting of workpieces such as cast iron that are prone to chip breaking.

Planar Milling

ODK(M)T

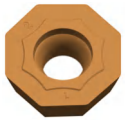
Positive-Type Eight Edged Face Milling Inserts



Order No.		Dimensions (mm)						Coated Cemented Carbide											Cemented Carbide	Cermet
		LE	IC	S	D1	RE	BS	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
	ODKT060508-GL	5	15.875	5.56	5.56	0.8	1.8		●												
	ODKT060508-GM	5	15.875	5.56	5.56	0.8	1.5		●		●	●			○	●	●				
	ODMT060508-GM	5	15.875	5.56	5.56	0.8	1.5	●	●			○			●	○	●	○			
	ODKT060508-GH	5	15.875	5.56	5.56	0.8	1.8		●			●				●		○			
	ODMT060508-GH	5	15.875	5.56	5.56	0.8	1.8		●			○			○	○					
	ODKT060508-AL	5	15.875	5.56	5.56	0.8	1.8													●	
	ODKW060508-WB	5	15.875	5.56	5.56	0.8	5.7	●													

●Stock ○Available Upon Order

Odk(M)T Series Geometry

Light Cutting of General Materials	Medium Cutting of General Materials	Heavy Cutting of General Materials	Aluminum Cutting	Wiper
				
GL	GM	GH	AL	WB
Large rake angle, narrow edge width, most suitable for light-load machining with low cutting force and low feed rate.	Large rake angle, light cutting, high-stability machining can be achieved under most general working conditions.	Large slot width, high-strength cutting edge, excellent performance in roughing.	Large rake angle, sharp edge, light cutting, polished surface, good chip removal.	Wiper design significantly improves the surface machining quality.

Planar Milling

MFA143

Mandrel Type

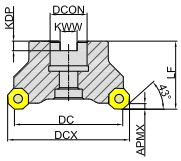


Fig1

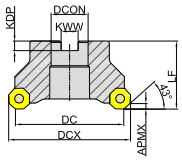


Fig2

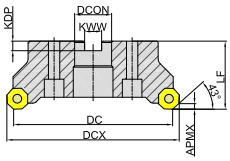


Fig3

Order No.	Diameter	Teeth	Dimensions (Mm)						Max. Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP						
MFA143-040R03A16-OD06	40	3	40	50	16	40	8.4	5.6	4	ODK(M)T0605	×	Fig1	0.20	●
MFA143-050R04A22-OD06	50	4	50	60	22	40	10.4	6.3	4	ODK(M)T0605	×	Fig1	0.31	●
MFA143-063R05A22-OD06	63	5	63	72	22	40	10.4	6.3	4	ODK(M)T0605	×	Fig1	0.50	●
MFA143-080R06B27-OD06	80	6	80	90	27	50	12.4	7	4	ODK(M)T0605	×	Fig2	0.88	●
MFA143-100R07B32-OD06	100	7	100	110	32	50	14.4	8	4	ODK(M)T0605	×	Fig2	1.43	●
MFA143-125R08B40-OD06	125	8	125	135	40	63	16.4	9	4	ODK(M)T0605	×	Fig2	3.02	●
MFA143-160R10C40-OD06	160	10	160	170	40	63	16.4	9	4	ODK(M)T0605	×	Fig3	4.12	●
MFA143-200R12C60-OD06	200	12	200	210	60	63	25.7	14	4	ODK(M)T0605	×	Fig3	6.42	●

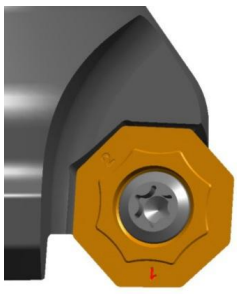
●Stock ○Available Upon Order

List of Tool Accessories

Parts Name		Insert Screw	Recommended Torque	Insert Screw Wrench
Shape / Suitable Insert				
ODK(M)T0605	Order No.	SI60M050108-07209S	5.0N·m	TT20TB

Schematic Diagram of Wiper Installation

The ODKW060508-WB has a total of 2 wipers available and can only be used on a right-handed insert cutter.
When using, place wiper 1 or 2 parallel to the workpiece surface.



Schematic Diagram of Wiper 1 Installation

Schematic Diagram of Wiper 2 Installation

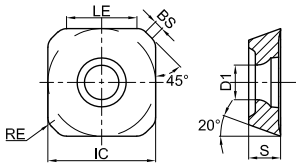
Recommended Cutting Data

Machined Material		Material Hardness	Grade	Specifications	Recommend Cutting Depth Ap(mm)	Cutting Speed Vc(m/min)	Feed/edge fz(mm)		
							Light Cutting (L)	Medium Cutting (M)	Heavy Cutting (H)
P	Soft Steel	⩽ HB180	GPM7120 GA4225 GA4230	ODK(M)T0605	2	220 (180-260)	0.2 (0.1-0.3)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
	Carbon Steel, Alloy Steel	HB180-350	GPM7120 GA4225 GA4230 GP2115	ODK(M)T0605	2	220 (180-260)	0.15 (0.1-0.2)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
	Pre-hardened Steel	HRC35-45	GPM7120 GA4230 GA4225 GP2115	ODK(M)T0605	2	150 (110-190)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
M	Stainless steel (Ferritic, Martensitic)	⩽ HB270	GM2140 GA4230	ODK(M)T0605	2	160 (120-200)	0.15 (0.1-0.2)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
	Stainless Steel (Austenitic, Duplex)	⩽ HB270	GM2140	ODK(M)T0605	2	140 (100-180)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
K	Gray Cast Iron	⩽ HB280	GK2115 GK4125	ODK(M)T0605	2	180 (140-220)	0.2 (0.1-0.3)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
	Nodular Cast Iron, Compact Graphite Iron	⩽ HB350	GK4125 GK2115	ODK(M)T0605	2	160 (120-200)	0.15 (0.1-0.2)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
N	Aluminum Products	HB60-210	GN9125	ODKT0605	2	⩾ 300	0.15 (0.1-0.2)	0.2 (0.1-0.3)	0.25 (0.2-0.4)
S	Heat-resistant Alloys, Titanium Alloys	HRC30-45	GS4130	ODK(M)T0605	2	40 (30-60)	0.15 (0.1-0.2)	0.2 (0.1-0.3)	—

Planar Milling

SEE(M)T

Positive-Type Four Edged Face Milling Inserts

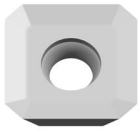


Order No.	Dimensions (mm)						Coated Cemented Carbide												Cemented Carbide	Cermet
	LE	IC	S	D1	RE	BS	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
SEET1204AFEN-PL	8.2	12.7	4.76	5.5	1.2	1.6	●	●	●	●	●			●	●		●		●	●
SEET13T3AGEN-PL	8.8	13.4	3.97	4.4	1	1.7	●	●	●	●	○			●			●			
SEET13T3AGEN-PM	8.8	13.4	3.97	4.4	1.5	1.2	●	●	●	●				●	●		●			●
SEMT13T3AGEN-PM	8.8	13.4	3.97	4.4	1.5	1.2	●	●	●		●			●	●		●			
SEET13T3AGSN-PH	8.8	13.4	3.97	4.4	1.66	1.2	○	●	○		○			○	●					
SEMT13T3AGSN-PH	8.8	13.4	3.97	4.4	1.66	1.2	○	●	○		●			○	●					
SEET13T3AGSN-KM	8.8	13.4	3.97	4.4	1.44	1.3	○		●						●	○				
SEET13T3AGSN-KH	8.8	13.4	3.97	4.4	1.6	1.3	○		○		○				●					
SEMT13T3AGSN-KH	8.8	13.4	3.97	4.4	1.6	1.3			○						○	○				
SEET13T3AGFN-AL	9.6	13.4	3.97	4.4	0.4	2.2													●	
SEET13T3AGEN-WB	9.5	13.4	3.97	4.3	1.2	7.5		●							○					

Note:
★ The SEET1204AFEN-PL insert has no corresponding tool.

●Stock ○Available Upon Order

See(M)T Series Geometry

Light Cutting of Steel Parts Materials	Medium Cutting of Steel Parts Materials	Heavy Cutting of Steel Parts Materials	Medium Cutting of Cast Iron Materials	Heavy Cutting of Cast Iron Materials	Aluminum Cutting	Wiper
						
PL	PM	PH	KM	KH	AL	WB
Large rake angle and narrow edge width design, most suitable for light-load machining with low cutting force and low feed rate.	Large rake angle design, light cutting, and high-stability machining can be achieved under most general working conditions.	High-strength cutting edge, excellent performance in interrupted cut and roughing with scale removal.	Special geometry for cast iron can handle most medium-load cutting of cast iron.	Special geometry for heavy duty cutting of cast iron, excellent performance in interrupted and roughing with scale.	Large rake angle, sharp edge, light cutting, mirror-polished surface, good chip removal.	Large-arc wiper, improving the high quality surface.

Planar Milling

MFA145

Mandrel Type

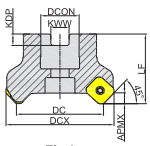


Fig1

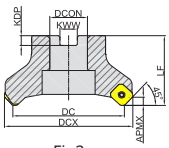


Fig2

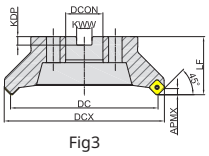


Fig3

Sparse-tooth Type

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Shim	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP							
MFA145-050R03A22-SE13	50	3	50	63	22	40	10.4	6.3	6	SEE(M)T13T3	×	×	Fig1	0.41	●
MFA145-063R04A22-SE13	63	4	63	76	22	40	10.4	6.3	6	SEE(M)T13T3	×	×	Fig1	0.62	●

● Stock ○ Available Upon Order

Dense-tooth Type

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Shim	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP							
MFA145-050R04A22-SE13	50	4	50	63	22	40	10.4	6.3	6	SEE(M)T13T3	×	×	Fig1	0.37	●
MFA145-063R05A22-SE13	63	5	63	76	22	40	10.4	6.3	6	SEE(M)T13T3	×	×	Fig1	0.58	●
MFA145-080R06B27-SE13	80	6	80	93	27	50	12.4	7	6	SEE(M)T13T3	√	×	Fig2	0.99	●
MFA145-100R07B32-SE13	100	7	100	113	32	50	14.4	8	6	SEE(M)T13T3	√	×	Fig2	1.71	●
MFA145-125R08B40-SE13	125	8	125	138	40	50	16.4	9	6	SEE(M)T13T3	√	×	Fig2	3.09	●
MFA145-125R12B40-SE13	125	12	125	138	40	50	16.4	9	6	SEE(M)T13T3	√	×	Fig2	2.98	●
MFA145-160R10C40-SE13	160	10	160	173	40	63	16.4	9	6	SEE(M)T13T3	√	×	Fig3	4.35	●
MFA145-200R12C60-SE13	200	12	200	213	60	63	25.7	14	6	SEE(M)T13T3	√	×	Fig3	5.95	○

● Stock ○ Available Upon Order

MFA145

Cylindrical Straight Shank Type

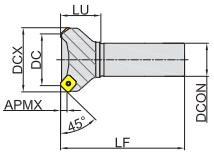


Fig4

Sparse-tooth Type

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Shim	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	LU							
MFA145-050R03P32-SE13	50	3	50	63	32	120	39	6	SEE(M)T13T3	×	×	Fig4	0.94	●
MFA145-063R04P32-SE13	63	4	63	76	32	120	39	6	SEE(M)T13T3	×	×	Fig4	1.09	●

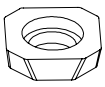
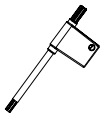
● Stock ○ Available Upon Order

Dense-tooth Type

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Shim	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	LU							
MFA145-050R04P32-SE13	50	4	50	63	32	120	39	6	SEE(M)T13T3	×	×	Fig4	0.90	●
MFA145-063R05P32-SE13	63	5	63	76	32	120	39	6	SEE(M)T13T3	×	×	Fig4	1.05	●

● Stock ○ Available Upon Order

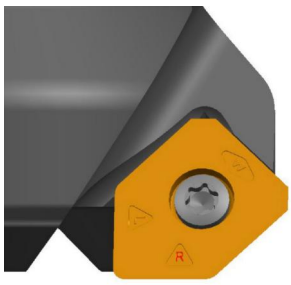
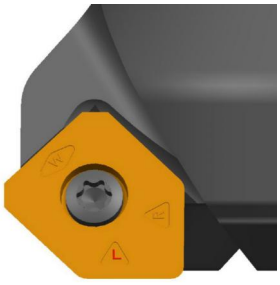
List of Tool Accessories

Parts Name		Shim	Screw for Shim	Shim Screw Wrench	Insert Screw	Recommended Torque	Insert Screw Wrench	
Suitable Insert / Shape								
See(M)T13t3 (For Tool Without Shim)	Order No.	—	—	—	SI60M035080-05410B	3.0N·m	TT15PB	—
See(M)T13t3 (For Tool with Shim)	Order No.	H0K30DSE1300S	SSAM050070B	TH35LB	SI60M035116-05410IB	3.0N·m	TI15PB	TI15TB

Note:
★ 1. For the MFA145 tool without a shim, select the accessory specification without a shim.
★ 2. For the MFA145 tool with a shim (ø ⩾ 80mm), select the accessory specification with a shim.

Schematic Diagram of Wiper Installation

The SEET13T3AGEN-WB has a total of 2 wipers available. The R-side wiper can only be used on a right-handed insert cutter, and the L-side wiper can only be used on a left-handed insert cutter.
When using, place the wiper R or L parallel to the workpiece surface.

	
Use the R-side wiper on the right-handed insert cutter.	Use the L-side wiper on the left-handed insert cutter.

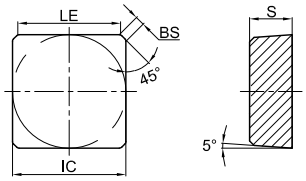
Recommended Cutting Data

Machined Material		Material Hardness	Grade	Specifications	Recommended Cutting Depth Ap(mm)	Cutting Speed Vc(m/min)	Feed/edge Fz (mm) Light Cutting (L)	Medium Cutting (M)	Heavy Cutting (H)
P	Soft Steel	⩽ HB180	GA4325 GPM7120 GA4225 GA4230 GP4225	SEE(M)T13T3	2	250 (210-290)	0.2 (0.1-0.3)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
	Carbon Steel, Alloy Steel	HB180-350	GA4325 GPM7120 GP2115 GA4225 GA4230 GP4225	SEE(M)T13T3	2	220 (180-260)	0.15 (0.1-0.2)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
	Pre-hardened Steel	HRC35-45	GPM7120 GA4325 GP2115 GA4230 GA4225	SEE(M)T13T3	2	140 (100-180)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
M	Stainless Steel (Ferritic, Martensitic)	⩽ HB270	GM2140	SEE(M)T13T3	2	180 (140-220)	0.15 (0.1-0.2)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
	Stainless Steel (Austenitic, Duplex)	⩽ HB270	GM2140	SEE(M)T13T3	2	140 (100-180)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
K	Gray Cast Iron	⩽ HB280	GK2115 GK4125	SEE(M)T13T3	2	180 (140-220)	0.15 (0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
	Nodular Cast Iron, Compact Graphite iron	⩽ HB350	GK4125 GK2115	SEE(M)T13T3	2	160 (120-200)	0.1 (0.05-0.2)	0.15 (0.1-0.2)	0.3 (0.2-0.4)
N	Aluminum Products	HB60-210	GN9125	SEET13T3	2	⩾ 300	0.15 (0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
S	Heat-resisting Alloy, Titanium Alloy	HRC30-45	GS4130	SEE(M)T13T3	2	40 (30-60)	0.15 (0.1-0.2)	0.2 (0.1-0.3)	—

Planar Milling

SBEX

ISO Face Milling Insert

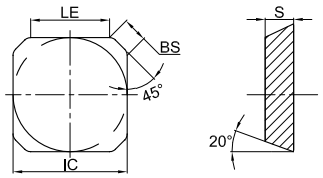


Order No.	Dimensions (mm)				Cemented carbide		Coated cemented carbide			Cermet
	LE	IC	S	BS	GA0115	GK0115	GA4225	GA4230	GP4225	GP01TM
SBEX1204ZZ-1	11.51	12.7	4.76	0.8	○					

●Stock ○Available Upon Order

SEEN/SEMN/SEEX

ISO Face Milling Insert



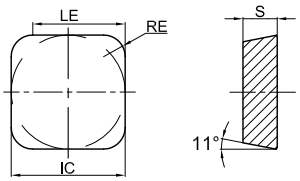
Order No.	Dimensions (mm)				Cemented Carbide		Coated Cemented Carbide			Cermet
	LE	IC	S	BS	GA0115	GK0115	GA4225	GA4230	GP4225	GP01TM
SEEN1203AFTN	8.74	12.7	3.18	1.46		○	○			●
SEEN1204AFTN	8.48	12.7	4.76	1.63		○				
SEEN1504AFTN	11.61	15.875	4.76	1.57			○	●		
SEMN1203AFTN	8.74	12.7	4.76	1.46				○		●
SEEN1203AFEN	8.76	12.7	3.18	1.46						●
SEEX1203AFTN	8.3	12.7	3.18	1.73				●		

●Stock ○Available Upon Order

Planar Milling

SPEN

ISO Face Milling Insert



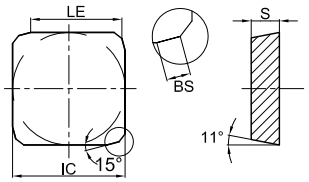
Order No.	Dimensions (mm)				Cemented Carbide		Coated Cemented Carbide			Cermet
	LE	IC	S	RE	GA0115	GK0115	GA4225	GA4230	GP4225	GP01TM
SPEN150420T	13.87	15.875	4.76	2.0	○					
SPEN150430T	12.87	15.875	4.76	3.0	○					
SPEN190424T	16.65	19.05	4.76	2.4	○					
SPEN250730T	22.4	25.4	7.94	3.0	○					
SPEN190424-WC	15.65	19.05	4.76	2.4	○					
SPEN250730-WC	21.45	25.4	7.94	3.0	○					

●Stock ○Available Upon Order

Planar Milling

SPK(M)N

ISO Face Milling Insert



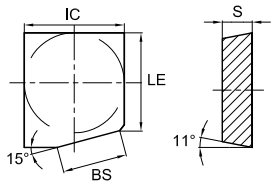
Order No.	Dimensions (mm)				Cemented Carbide		Coated Cemented Carbide			Cermet
	LE	IC	S	BS	GA0115	GK0115	GA4225	GA4230	GP4225	GP01TM
SPKN1203EDL	10.8	12.7	3.18	1.4	○	○	○	○		
SPKN1203EDR	10.8	12.7	3.18	1.4	○	○		●		
SPKN1203EDTL	10.8	12.7	3.18	1.4				○		
SPKN1203EDTR	10.8	12.7	3.18	1.4				●		
SPKN1504EDL	13.5	15.875	4.76	1.4		●				
SPKN1504EDR	13.5	15.875	4.76	1.4	●	●				
SPKN1504EDTL	13.5	15.875	4.76	1.4		○		○		
SPKN1504EDTR	13.5	15.875	4.76	1.4		○		●		
SPKN1905EDL	15.1	19.05	5.56	2.7				○		
SPKN1905EDR	15.1	19.05	5.56	2.7				○		
SPKN1905EDTL	15.1	19.05	5.56	2.7				○		
SPKN1905EDTR	15.1	19.05	5.56	2.7				○		
SPMN1504EDL	13.5	15.875	4.76	1.4		○				
SPMN1504EDR	13.5	15.875	4.76	1.4		●				
SPMN1504EDTR	13.5	15.875	4.76	1.4					○	

●Stock ○Available Upon Order

Planar Milling

SPEN-W

ISO Face Milling Insert

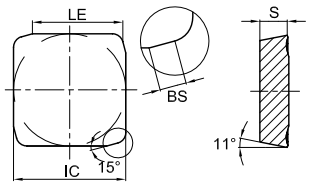


Order No.		Dimensions (mm)				Cemented Carbide		Coated Cemented Carbide			Cermet
		LE	IC	S	BS	GA0115	GK0115	GA4225	GA4230	GP4225	GP01TM
	SPEN1504EDL-W	15.5	15.875	4.76	10.27		○				
	SPEN1504EDR-W	15.5	15.875	4.76	10.27		○				

●Stock ○Available Upon Order

SPER

ISO Face Milling Insert



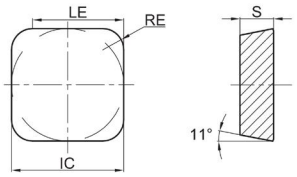
Order No.		Dimensions (mm)				Cemented Carbide		Coated Cemented Carbide			Cermet
		LE	IC	S	BS	GA0115	GK0115	GA4225	GA4230	GP4225	GP01TM
	SPER1203EDTL-MR	10.2	12.7	3.18	1.3				○		
	SPER1203EDTR-MR	10.2	12.7	3.18	1.3				○		

●Stock ○Available Upon Order

Planar Milling

SPNR

ISO Face Milling Insert

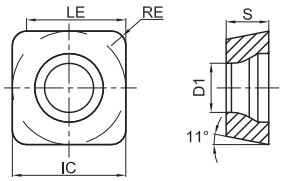


Order No.	Dimensions (mm)				Cemented Carbide		Coated Cemented Carbide			Cermet
	LE	IC	S	RE	GA0115	GK0115	GA4225	GA4230	GP4225	GP01TM
SPNR150424T	13.475	15.875	4.76	2.4		○				

●Stock ○Available Upon Order

SPCW

ISO Face Milling Insert



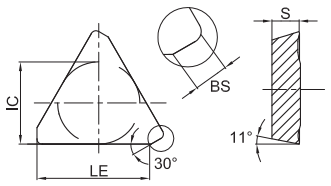
Order No.	Dimensions (mm)					Cemented Carbide		Coated Cemented Carbide			Cermet
	LE	IC	S	D1	RE	GA0115	GK0115	GA4225	GA4230	GP4225	GP01TM
SPCW120412	11.5	12.7	4.76	5.5	1.2		○		○		
SPCW120416	11.1	12.7	4.76	5.5	1.6		○				
SPCW150516	14.275	15.875	5.56	5.5	1.6				○		

●Stock ○Available Upon Order

Planar Milling

TPER/TPKR/TPKN

ISO face Milling Insert

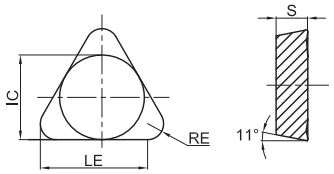


Order No.	Dimensions (mm)				Cemented Carbide		Coated Cemented Carbide			Cermet
	LE	IC	S	BS	GA0115	GK0115	GA4225	GA4230	GP4225	GP01TM
TPER1603PDTL-MR	13.2	9.525	3.18	1.3				○		
TPER1603PDTR-MR	13.2	9.525	3.18	1.3				○		
TPKR1603PPTR	13.6	9.525	3.18	1.23			●			
TPKN1603PDL	13.4	9.525	3.18	1.3		●				
TPKN1603PDR	13.4	9.525	3.18	1.3	○	●		●		
TPKN1603PDTL	13.4	9.525	3.18	1.3				○		
TPKN1603PDTR	13.4	9.525	3.18	1.3				●		
TPKN2204PDL	18.66	12.7	4.76	1.4				○		
TPKN2204PDR	18.66	12.7	4.76	1.4	●			●		
TPKN2204PDTL	18.66	12.7	4.76	1.4				○		
TPKN2204PDTR	18.66	12.7	4.76	1.4	○	○	○	●		

●Stock ○Available Upon Order

TPNR

ISO Face Milling Insert



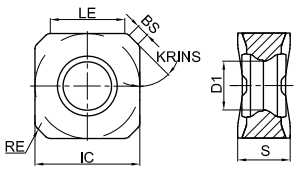
Order No.	Dimensions (mm)				Cemented Carbide		Coated Cemented Carbide			Cermet
	LE	IC	S	RE	GA0115	GK0115	GA4225	GA4230	GP4225	GP01TM
TPNR220424T	16.08	12.7	4.76	2.4				○		

●Stock ○Available Upon Order

Planar Milling

SNE(M)U

Negative-type Eight Edged Face Milling Insert



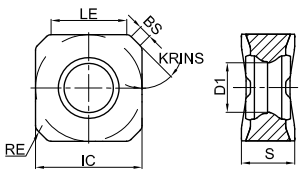
	Order No.	Dimensions (mm)							Coated Cemented Carbide											Cemented Carbide	Cermet
		LE	IC	S	BS	D1	KRINS	RE	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
	SNEU1206ANEN-GL	9.1	12.7	6.35	1.6	5.9	45 °	0.8		●		●	●	●		●	●	●	●			
	SNEU1206ANEN-GM	9.1	12.7	6.35	1.6	5.9	45 °	0.8	●	●		●		●		●	●	●	●			
	SNMU1206ANEN-GM	9.1	12.7	6.35	1.6	5.9	45 °	0.8	●	●	●	●	●	●		●	●	●	●			
	SNEU1206ANSN-GH	9.1	12.7	6.35	1.6	5.9	45 °	0.8		●			●			●	●	●				
	SNMU1206ANSN-GH	9.1	12.7	6.35	1.6	5.9	45 °	0.8	○	●			●				●	●				
	SNEU1206ANFN-NL	9.1	12.7	6.35	1.6	5.9	45 °	0.8													●	
	SNEU1206ANEN-GW	9	12.7	6.35	5.1	5.9	45 °	0.8		●							●					
	SNEU1206ENEN-GM	9.9	12.7	6.35	1.2	5.9	75 °	0.8		●			●	●		●	●	●	●			
	SNMU1206ENEN-GM	9.9	12.7	6.35	1.2	5.9	75 °	0.8		●			●	●		○	●	●	○			
	SNMU1206ZNEN-GL	10.7	12.7	6.35	1.1	5.9	88 °	0.8			○				●	●	●	●	○			

●Stock ○Available Upon Order

Planar Milling

SNE(M)U

Negative-Type Eight Edged Face Milling Insert



Order No.	Dimensions (mm)							Coated Cemented Carbide											Cemented Carbide	Cermet
	LE	IC	S	BS	D1	KRINS	RE	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
SNEU1206ZNEN-GM	10.7	12.7	6.35	1.1	5.9	88 °	0.8		●		●	●	●		●	●	●	●			
SNMU1206ZNEN-GM	10.7	12.7	6.35	1.1	5.9	88 °	0.8		●		●	●	●		●	●	●	○			
SNMU1206ZNEN-GH	10.7	12.7	6.35	1.1	5.9	88 °	0.8			○						●	●				
SNEU1206ZNEN-GW	10.1	12.7	6.35	4	5.9	88 °	0.6									●					
SNEU120612-GM	10.3	12.7	6.35	—	5.9	—	1.2	●	●				●		●	●	●	●			
SNMU120612-GM	10.3	12.7	6.35	—	5.9	—	1.2		●		●	●	●		●	●	●	○			
SNMU120616-GM	9.5	12.7	6.35	—	5.9	—	1.6									●	●				
SNMU120620-GM	8.7	12.7	6.35	—	5.9	—	2.0									●	●	○			

●Stock ○Available Upon Order

Note:
★ 1. The SNE(M)U1206AN*N insert is paired with the MFB145/245 series tools.
★ 2. The SNE(M)U1206ENEN insert is paired with the MFB275 series tools.
★ 3. The SNE(M)U1206ZNEN insert is paired with the MFB288 series tools.
★ 4. The SNEU120612-GM and SNMU120612/16/20-GM inserts are paired with the MFB145/245/275/288 series tools.

SNE(M)U Series Geometry

Light Cutting of General Materials	Medium Cutting of General Materials	Heavy Cutting of General Materials	Aluminum Cutting	Wiper
GL	GM	GH	NL	GW
Large rake angle and narrow edge width design, most suitable for light-load machining with low cutting force and low feed rate.	Large rake angle design, enabling light and smooth cutting, and high-stability machining can be achieved under most working conditions.	High-strength cutting edge, excellent performance in interrupted cut and roughing with scale removal.	Large rake angle, sharp edge, light cutting, polished surface, good chip removal.	Large-arc wiper, improving the high quality surface.

Planar Milling

MFB145

Mandrel-type (with Shim)

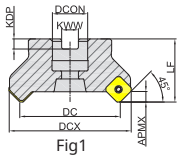


Fig1

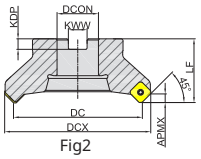


Fig2

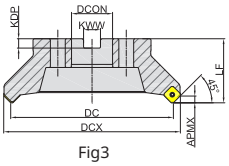


Fig3

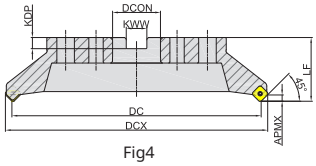


Fig4

Sparse-tooth Type

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Shim	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP							
MFB145-050R03A22-SN12	50	3	50	63.5	22	40	10.4	6.3	3	SNE(M)U1206AN*N	√	√	Fig1	0.41	●
MFB145-063R04A22-SN12	63	4	63	76.5	22	40	10.4	6.3	3	SNE(M)U1206AN*N	√	√	Fig1	0.60	●
MFB145-080R05A27-SN12	80	5	80	93.5	27	50	12.4	7	3	SNE(M)U1206AN*N	√	√	Fig1	1.11	●
MFB145-080L05A27-SN12	80	5	80	93.5	27	50	12.4	7	3	SNE(M)U1206AN*N	√	√	Fig1	1.11	●
MFB145-100R06B32-SN12	100	6	100	113.5	32	50	14.4	8	3	SNE(M)U1206AN*N	√	×	Fig2	1.51	●
MFB145-125R07B40-SN12	125	7	125	138.5	40	63	16.4	9	3	SNE(M)U1206AN*N	√	×	Fig2	2.99	●
MFB145-160R08C40-SN12	160	8	160	173.5	40	63	16.4	9	3	SNE(M)U1206AN*N	√	×	Fig3	4.39	●
MFB145-200R10C60-SN12	200	10	200	213.5	60	63	25.7	14	3	SNE(M)U1206AN*N	√	×	Fig3	6.37	●
MFB145-250R12C60-SN12	250	12	250	263.5	60	63	25.7	14	3	SNE(M)U1206AN*N	√	×	Fig3	9.50	○
MFB145-315R15D60-SN12	315	15	315	328.5	60	80	25.7	14	3	SNE(M)U1206AN*N	√	×	Fig4	18.08	○

●Stock ○Available Upon Order

Dense-tooth Type

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Shim	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP							
MFB145-050R04A22-SN12	50	4	50	63.5	22	40	10.4	6.3	3	SNE(M)U1206AN*N	√	√	Fig1	0.41	●
MFB145-050L04A22-SN12	50	4	50	63.5	22	40	10.4	6.3	3	SNE(M)U1206AN*N	√	√	Fig1	0.41	●
MFB145-063R05A22-SN12	63	5	63	76.5	22	40	10.4	6.3	3	SNE(M)U1206AN*N	√	√	Fig1	0.58	●
MFB145-080R07A27-SN12	80	7	80	93.5	27	50	12.4	7	3	SNE(M)U1206AN*N	√	√	Fig1	1.13	●
MFB145-080L08A27-SN12	80	8	80	93.5	27	50	12.4	7	3	SNE(M)U1206AN*N	√	√	Fig1	1.09	●
MFB145-100R08B32-SN12	100	8	100	113.5	32	50	14.4	8	3	SNE(M)U1206AN*N	√	×	Fig2	1.55	●
MFB145-125R10B40-SN12	125	10	125	138.5	40	63	16.4	9	3	SNE(M)U1206AN*N	√	×	Fig2	3.02	●
MFB145-160R12C40-SN12	160	12	160	173.5	40	63	16.4	9	3	SNE(M)U1206AN*N	√	×	Fig3	4.41	●
MFB145-160L12C40-SN12	160	12	160	173.5	40	63	16.4	9	3	SNE(M)U1206AN*N	√	×	Fig3	4.31	●
MFB145-200R14C60-SN12	200	14	200	213.5	60	63	25.7	14	3	SNE(M)U1206AN*N	√	×	Fig3	6.30	●
MFB145-200L14C60-SN12	200	14	200	213.5	60	63	25.7	14	3	SNE(M)U1206AN*N	√	×	Fig3	6.30	●
MFB145-250R16C60-SN12	250	16	250	263.5	60	63	25.7	14	3	SNE(M)U1206AN*N	√	×	Fig3	9.29	○
MFB145-315R20D60-SN12	315	20	315	328.5	60	80	25.7	14	3	SNE(M)U1206AN*N	√	×	Fig4	18.18	○

●Stock ○Available Upon Order

Planar Milling

MFB145

Mandrel-type (with Shim)

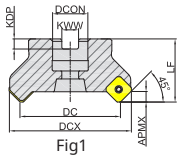


Fig1

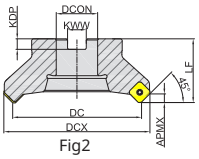


Fig2

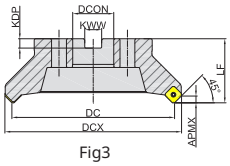


Fig3

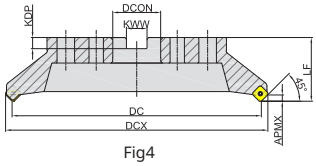


Fig4

Ultra-dense-tooth Type

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Shim	Internal Cooling	Diagram	Weight (KG)	In stock
			DC	DCX	DCON	LF	KWW	KDP							
MFB145-050R05A22-SN12	50	5	50	63.5	22	40	10.4	6.3	3	SNE(M)U1206AN*N	√	√	Fig1	0.37	●
MFB145-063R06A22-SN12	63	6	63	76.5	22	40	10.4	6.3	3	SNE(M)U1206AN*N	√	√	Fig1	0.57	●
MFB145-080R08A27-SN12	80	8	80	93.5	27	50	12.4	7	3	SNE(M)U1206AN*N	√	√	Fig1	1.09	●
MFB145-100R10B32-SN12	100	10	100	113.5	32	50	14.4	8	3	SNE(M)U1206AN*N	√	×	Fig2	1.48	●
MFB145-125R12B40-SN12	125	12	125	138.5	40	63	16.4	9	3	SNE(M)U1206AN*N	√	×	Fig2	2.93	●
MFB145-160R15C40-SN12	160	15	160	173.5	40	63	16.4	9	3	SNE(M)U1206AN*N	√	×	Fig3	4.31	●
MFB145-200R18C60-SN12	200	18	200	213.5	60	63	25.7	14	3	SNE(M)U1206AN*N	√	×	Fig3	6.25	●
MFB145-200L18C60-SN12	200	18	200	213.5	60	63	25.7	14	3	SNE(M)U1206AN*N	√	×	Fig3	6.25	●
MFB145-250R21C60-SN12	250	21	250	263.5	60	63	25.7	14	3	SNE(M)U1206AN*N	√	×	Fig3	9.39	○
MFB145-315R24D60-SN12	315	24	315	328.5	60	80	25.7	14	3	SNE(M)U1206AN*N	√	×	Fig4	18.19	○

●Stock ○Available Upon Order

Planar Milling

MFB145

Mandrel-tYpe (with Shim)-Uneven Teeth

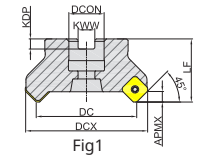


Fig1

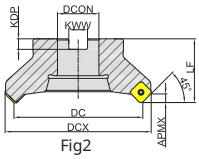


Fig2

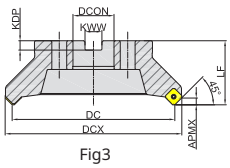


Fig3

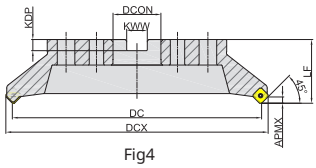
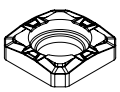
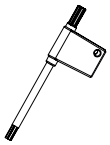
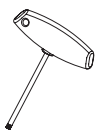


Fig4

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Shim	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP							
MFB145-050R03A22-SN12U	50	3	50	63.5	22	40	10.4	6.3	3	SNE(M)U1206AN*N	√	√	Fig1	0.41	●
MFB145-063R04A22-SN12U	63	4	63	76.5	22	40	10.4	6.3	3	SNE(M)U1206AN*N	√	√	Fig1	0.60	●
MFB145-080R05A27-SN12U	80	5	80	93.5	27	50	12.4	7.0	3	SNE(M)U1206AN*N	√	√	Fig1	1.12	●
MFB145-100R06B32-SN12U	100	6	100	113.5	32	50	14.4	8.0	3	SNE(M)U1206AN*N	√	×	Fig2	1.51	●
MFB145-125R07B40-SN12U	125	7	125	138.5	40	63	16.4	9.0	3	SNE(M)U1206AN*N	√	×	Fig2	2.99	●
MFB145-160R08C40-SN12U	160	8	160	173.5	40	63	16.4	9.0	3	SNE(M)U1206AN*N	√	×	Fig3	4.39	●
MFB145-200R10C60-SN12U	200	10	200	213.5	60	63	25.7	14	3	SNE(M)U1206AN*N	√	×	Fig3	6.37	●
MFB145-250R12C60-SN12U	250	12	250	263.5	60	63	25.7	14	3	SNE(M)U1206AN*N	√	×	Fig3	9.50	●
MFB145-315R15D60-SN12U	315	15	315	328.5	60	63	25.7	14	3	SNE(M)U1206AN*N	√	×	Fig4	18.48	●

●Stock ○Available Upon Order

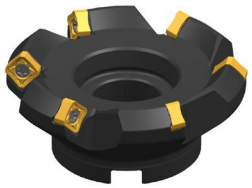
List of Tool Accessories

Parts Name		Shim	Screw for Shim	Shim Screw Wrench	Insert Screw	Recommended Torque	Insert Screw Wrench	
Shape / Suitable Insert								
SNE(M)U1206	Order No.	H0K30SSN12	SSAM060075B	TH40LB	SI60M040158-07108B	4.0N·m	TT15PB	TT15TB

Planar Milling

MFB245

Mandrel-type (without Shim)



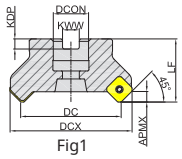


Fig1

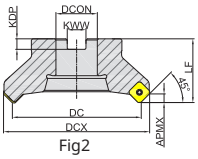


Fig2

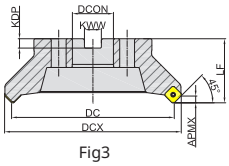


Fig3

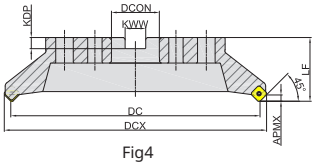


Fig4

Sparse-tooth Type

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Shim	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP							
MFB245-050R03A22-SN12	50	3	50	63.5	22	40	10.4	6.3	3	SNE(M)U1206AN*N	×	√	Fig1	0.43	●
MFB245-063R04A22-SN12	63	4	63	76.5	22	40	10.4	6.3	3	SNE(M)U1206AN*N	×	√	Fig1	0.64	●
MFB245-080R05A27-SN12	80	5	80	93.5	27	50	12.4	7	3	SNE(M)U1206AN*N	×	√	Fig1	1.16	●
MFB245-080L05A27-SN12	80	5	80	93.5	27	50	12.4	7	3	SNE(M)U1206AN*N	×	√	Fig1	1.16	●
MFB245-100R06B32-SN12	100	6	100	113.5	32	50	14.4	8	3	SNE(M)U1206AN*N	×	×	Fig2	1.56	●
MFB245-100L06B32-SN12	100	6	100	113.5	32	50	14.4	8	3	SNE(M)U1206AN*N	×	×	Fig2	1.56	●
MFB245-125R07B40-SN12	125	7	125	138.5	40	63	16.4	9	3	SNE(M)U1206AN*N	×	×	Fig2	3.12	●
MFB245-160R08C40-SN12	160	8	160	173.5	40	63	16.4	9	3	SNE(M)U1206AN*N	×	×	Fig3	4.53	●
MFB245-200R10C60-SN12	200	10	200	213.5	60	63	25.7	14	3	SNE(M)U1206AN*N	×	×	Fig3	6.56	●
MFB245-250R12C60-SN12	250	12	250	263.5	60	63	25.7	14	3	SNE(M)U1206AN*N	×	×	Fig3	9.68	○
MFB245-315R15D60-SN12	315	15	315	328.5	60	80	25.7	14	3	SNE(M)U1206AN*N	×	×	Fig4	18.65	○

●Stock ○Available Upon Order

Dense-tooth type

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Shim	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP							
MFB245-050R04A22-SN12	50	4	50	63.5	22	40	10.4	6.3	3	SNE(M)U1206AN*N	×	√	Fig1	0.40	●
MFB245-050L04A22-SN12	50	4	50	63.5	22	40	10.4	6.3	3	SNE(M)U1206AN*N	×	√	Fig1	0.40	●
MFB245-063R05A22-SN12	63	5	63	76.5	22	40	10.4	6.3	3	SNE(M)U1206AN*N	×	√	Fig1	0.60	●
MFB245-063L05A22-SN12	63	5	63	76.5	22	40	10.4	6.3	3	SNE(M)U1206AN*N	×	√	Fig1	0.60	●
MFB245-080R07A27-SN12	80	7	80	93.5	27	50	12.4	7	3	SNE(M)U1206AN*N	×	√	Fig1	1.10	●
MFB245-080L07A27-SN12	80	7	80	93.5	27	50	12.4	7	3	SNE(M)U1206AN*N	×	√	Fig1	1.10	●
MFB245-100R08B32-SN12	100	8	100	113.5	32	50	14.4	8	3	SNE(M)U1206AN*N	×	×	Fig2	1.50	●
MFB245-100L08B32-SN12	100	8	100	113.5	32	50	14.4	8	3	SNE(M)U1206AN*N	×	×	Fig2	1.50	●
MFB245-125R10B40-SN12	125	10	125	138.5	40	63	16.4	9	3	SNE(M)U1206AN*N	×	×	Fig2	2.99	●
MFB245-125L10B40-SN12	125	10	125	138.5	40	63	16.4	9	3	SNE(M)U1206AN*N	×	×	Fig2	2.99	●
MFB245-160R12C40-SN12	160	12	160	173.5	40	63	16.4	9	3	SNE(M)U1206AN*N	×	×	Fig3	4.37	●
MFB245-160L12C40-SN12	160	12	160	173.5	40	63	16.4	9	3	SNE(M)U1206AN*N	×	×	Fig3	4.37	●
MFB245-200R14C60-SN12	200	14	200	213.5	60	63	25.7	14	3	SNE(M)U1206AN*N	×	×	Fig3	6.36	●
MFB245-200L14C60-SN12	200	14	200	213.5	60	63	25.7	14	3	SNE(M)U1206AN*N	×	×	Fig3	6.36	●
MFB245-250R16C60-SN12	250	16	250	263.5	60	63	25.7	14	3	SNE(M)U1206AN*N	×	×	Fig3	9.39	○
MFB245-250L16C60-SN12	250	16	250	263.5	60	63	25.7	14	3	SNE(M)U1206AN*N	×	×	Fig3	9.39	○
MFB245-315R20D60-SN12	315	20	315	328.5	60	80	25.7	14	3	SNE(M)U1206AN*N	×	×	Fig4	18.31	○
MFB245-315L20D60-SN12	315	20	315	328.5	60	80	25.7	14	3	SNE(M)U1206AN*N	×	×	Fig4	18.31	○

●Stock ○Available Upon Order

Planar Milling

MFB245

Mandrel-type (Without Shim)

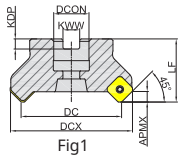


Fig1

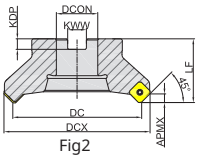


Fig2

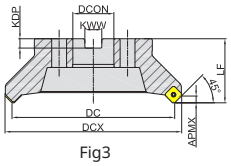


Fig3

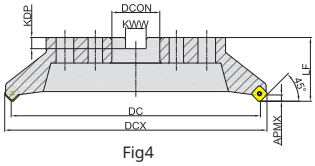


Fig4

Ultra-dense-tooth Type

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Shim	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP							
MFB245-050R05A22-SN12	50	5	50	63.5	22	40	10.4	6.3	3	SNE(M)U1206AN*N	×	√	Fig1	0.38	●
MFB245-063R06A22-SN12	63	6	63	76.5	22	40	10.4	6.3	3	SNE(M)U1206AN*N	×	√	Fig1	0.59	●
MFB245-080R08A27-SN12	80	8	80	93.5	27	50	12.4	7	3	SNE(M)U1206AN*N	×	√	Fig1	1.08	●
MFB245-100R10B32-SN12	100	10	100	113.5	32	50	14.4	8	3	SNE(M)U1206AN*N	×	×	Fig2	1.45	●
MFB245-125R12B40-SN12	125	12	125	138.5	40	63	16.4	9	3	SNE(M)U1206AN*N	×	×	Fig2	2.95	●
MFB245-160R15C40-SN12	160	15	160	173.5	40	63	16.4	9	3	SNE(M)U1206AN*N	×	×	Fig3	4.29	●
MFB245-200R18C60-SN12	200	18	200	213.5	60	63	25.7	14	3	SNE(M)U1206AN*N	×	×	Fig3	6.32	●
MFB245-200R20C60-SN12	200	20	200	213.5	60	63	25.7	14	3	SNE(M)U1206AN*N	×	×	Fig3	6.30	●
MFB245-250R21C60-SN12	250	21	250	263.5	60	63	25.7	14	3	SNE(M)U1206AN*N	×	×	Fig3	9.39	○
MFB245-315R24D60-SN12	315	24	315	328.5	60	80	25.7	14	3	SNE(M)U1206AN*N	×	×	Fig4	18.28	○

● Stock ○ Available Upon Order

MFB245

Mandrel-type (Without Shim)-uneven Teeth

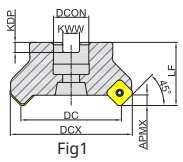


Fig1

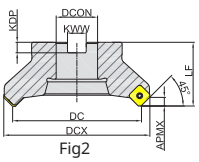


Fig2

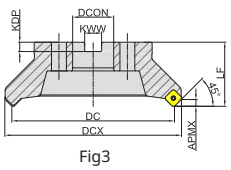


Fig3

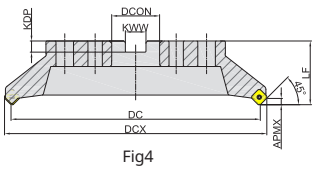
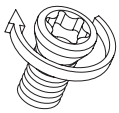
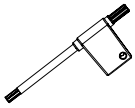
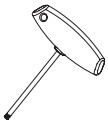


Fig4

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Shim	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP							
MFB245-050R03A22-SN12U	50	3	50	63.5	22	40	10.4	6.3	3	SNE(M)U1206AN*N	×	√	Fig1	0.43	●
MFB245-063R04A22-SN12U	63	4	63	76.5	22	40	10.4	6.3	3	SNE(M)U1206AN*N	×	√	Fig1	0.64	●
MFB245-080R05A27-SN12U	80	5	80	93.5	27	50	12.4	7.0	3	SNE(M)U1206AN*N	×	√	Fig1	1.16	●
MFB245-100R06B32-SN12U	100	6	100	113.5	32	50	14.4	8.0	3	SNE(M)U1206AN*N	×	×	Fig2	1.56	●
MFB245-125R07B40-SN12U	125	7	125	138.5	40	63	16.4	9.0	3	SNE(M)U1206AN*N	×	×	Fig2	3.12	●
MFB245-160R08C40-SN12U	160	8	160	173.5	40	63	16.4	9.0	3	SNE(M)U1206AN*N	×	×	Fig3	4.53	●
MFB245-160R12C40-SN12U	160	12	160	173.5	40	63	16.4	9.0	3	SNE(M)U1206AN*N	×	×	Fig3	4.38	●
MFB245-200R10C60-SN12U	200	10	200	213.5	60	63	25.7	14	3	SNE(M)U1206AN*N	×	×	Fig3	6.56	●
MFB245-250R12C60-SN12U	250	12	250	263.5	60	63	25.7	14	3	SNE(M)U1206AN*N	×	×	Fig3	9.68	●
MFB245-315R15D60-SN12U	315	15	315	328.5	60	80	25.7	14	3	SNE(M)U1206AN*N	×	×	Fig4	18.65	●

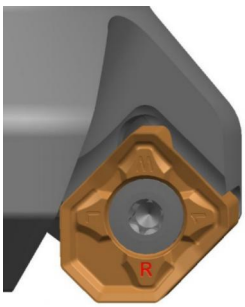
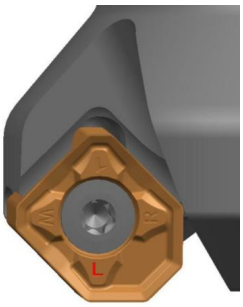
● Stock ○ Available Upon Order

List of Tool Accessories

Parts Name		Insert Screw	Recommended Torque	Insert Screw Wrench	
Shape / Suitable Insert					
SNE(M)U1206	Order No.	SI83M050140-07010IB	5.0N·m	TI20PB	TI20TB

Schematic Diagram of Wiper Installation

The SNEU1206ANEN-GW has a total of 4 wipers available. The R-side wiper can only be used on a right-handed insert cutter, and the L-side wiper can only be used on a left-handed insert cutter.
When using, place the wiper R or L parallel to the workpiece surface.

	
Use the R-side wiper on the right-handed insert cutter.	Use the L-side wiper on the left-handed insert cutter.

Planar Milling

MFB275

Mandrel-type (Without Shim)

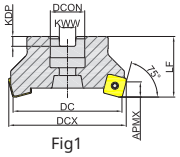


Fig1

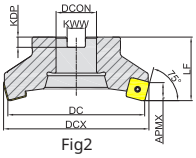


Fig2

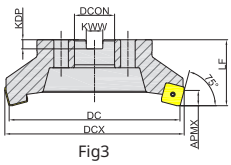


Fig3

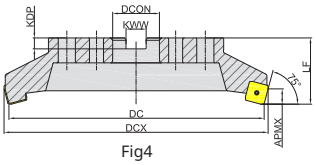
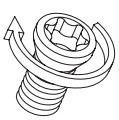
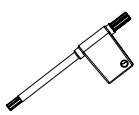


Fig4

Order No.	Diameter	Teeth	Dimensions (mm)						Max. Cutting Depth APMX	Matched Insert	Shim	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP							
MFB275-050R04A22-SN12	50	4	50	55	22	40	10.4	6.3	5	SNE(M)U1206ENEN	×	√	Fig1	0.31	●
MFB275-063R05A22-SN12	63	5	63	68	22	40	10.4	6.3	5	SNE(M)U1206ENEN	×	√	Fig1	0.53	●
MFB275-063R06A22-SN12	63	6	63	68	22	40	10.4	6.3	5	SNE(M)U1206ENEN	×	√	Fig1	0.55	●
MFB275-080R07A27-SN12	80	7	80	85	27	50	12.4	7	5	SNE(M)U1206ENEN	×	√	Fig1	1.04	●
MFB275-100R08B32-SN12	100	8	100	105	32	50	14.4	8	5	SNE(M)U1206ENEN	×	×	Fig2	1.41	●
MFB275-125R10B40-SN12	125	10	125	130	40	63	16.4	9	5	SNE(M)U1206ENEN	×	×	Fig2	2.81	●
MFB275-160R12C40-SN12	160	12	160	165	40	63	16.4	9	5	SNE(M)U1206ENEN	×	×	Fig3	3.95	●
MFB275-200R14C60-SN12	200	14	200	205	60	63	25.7	14	5	SNE(M)U1206ENEN	×	×	Fig3	6.33	●
MFB275-250R16C60-SN12	250	16	250	255	60	63	25.7	14	5	SNE(M)U1206ENEN	×	×	Fig3	10.27	○
MFB275-315R20D60-SN12	315	20	315	320	60	80	25.7	14	5	SNE(M)U1206ENEN	×	×	Fig4	18.97	○

● Stock ○ Available Upon Order

List of Tool Accessories

Parts Name		Insert Screw	Recommended Torque	Insert Screw Wrench	
Shape / Suitable Insert					
SNE(M)U1206	Order No.	SI83M050140-07010IB	5.0N·m	TI20PB	TI20TB

Planar Milling

MFB288

Mandrel-type (Without Shim)

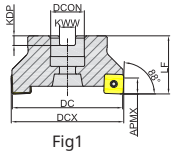


Fig1

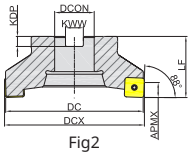


Fig2

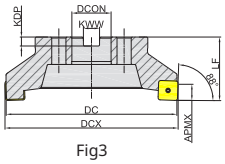


Fig3

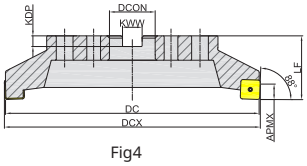


Fig4

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Shim	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP							
MFB288-050R04A22-SN12	50	4	50	51	22	40	10.4	6.3	7	SNE(M)U1206ZNEN	×	√	Fig1	0.30	●
MFB288-063R05A22-SN12	63	5	63	64	22	40	10.4	6.3	7	SNE(M)U1206ZNEN	×	√	Fig1	0.41	●
MFB288-063L05A22-SN12	63	5	63	64	22	40	10.4	6.3	7	SNE(M)U1206ZNEN	×	√	Fig1	0.50	●
MFB288-063R06A22-SN12	63	6	63	64	22	40	10.4	6.3	7	SNE(M)U1206ZNEN	×	√	Fig1	0.49	●
MFB288-080R05A27-SN12	80	5	80	81	27	50	12.4	7	7	SNE(M)U1206ZNEN	×	√	Fig1	0.99	●
MFB288-080R07A27-SN12	80	7	80	81	27	50	12.4	7	7	SNE(M)U1206ZNEN	×	√	Fig1	0.92	●
MFB288-080L07A27-SN12	80	7	80	81	27	50	12.4	7	7	SNE(M)U1206ZNEN	×	√	Fig1	0.92	●
MFB288-100R08B32-SN12	100	8	100	101	32	50	14.4	8	7	SNE(M)U1206ZNEN	×	×	Fig2	1.29	●
MFB288-125R10B40-SN12	125	10	125	126	40	63	16.4	9	7	SNE(M)U1206ZNEN	×	×	Fig2	2.88	●
MFB288-160R12C40-SN12	160	12	160	161	40	63	16.4	9	7	SNE(M)U1206ZNEN	×	×	Fig3	3.86	●
MFB288-200R14C60-SN12	200	14	200	201	60	63	25.7	14	7	SNE(M)U1206ZNEN	×	×	Fig3	6.00	●
MFB288-250R16C60-SN12	250	16	250	251	60	63	25.7	14	7	SNE(M)U1206ZNEN	×	×	Fig3	9.64	○
MFB288-315R20D60-SN12	315	20	315	316	60	80	25.7	14	7	SNE(M)U1206ZNEN	×	×	Fig4	16.96	○

● Stock ○ Available Upon Order

MFB288

Cylindrical Straight Shank Type (Without Shim)

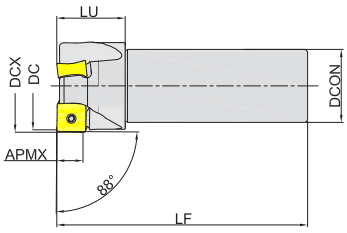
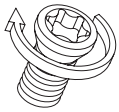
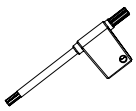
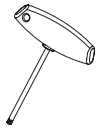


Fig5

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Shim	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	LU							
MFB288-040R03P32-SN12	40	3	40	41	32	110	30	7	SNE(M)U1206ZNEN	×	√	Fig5	0.67	●

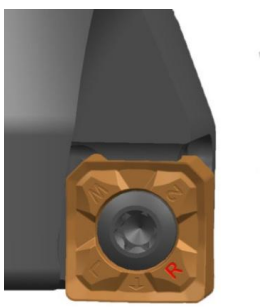
● Stock ○ Available Upon Order

List of Tool Accessories

Parts Name		Insert Screw	Recommended Torque	Insert Screw Wrench	
Shape / Suitable Insert					
SNE(M)U1206	Order No.	SI83M050140-07010IB	5.0N·m	TI20PB	TI20TB

Schematic Diagram of Wiper Installation

The SNEU1206ZNEN-GW has a total of 4 wipers available. The R-side wiper can only be used on a right-handed insert cutter, and the L-side wiper can only be used on a left-handed insert cutter.
When using, place the wiper R or L parallel to the workpiece surface.



Use the R-side wiper on the right-handed insert cutter.

Use the L-side wiper on the left-handed insert cutter.

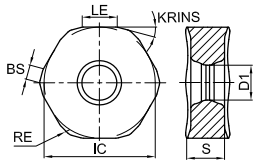
Recommended Cutting Data

Machined Material		Material Hardness	Grade	Specifications	Recommended Cutting Depth Ap(mm)	Cutting Speed Vc(m/min)	Feed/edge fz (mm)		
							Light Cutting (L)	Medium Cutting (M)	Heavy Cutting (H)
P	Soft Steel	⩽ HB180	GPM7120 GA4225 GA4230	SNE(M)U1206ANEN	1.5	250 (210-290)	0.2 (0.1-0.3)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
				SNE(M)U1206ENEN	2.5				
				SNE(M)U1206ZNEN	3.5				
	Carbon Steel, Alloy Steel	HB180-350	GPM7120 GA4225 GA4230 GP2115	SNE(M)U1206ANEN	1.5	220 (180-260)	0.15 (0.1-0.2)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
				SNE(M)U1206ENEN	2.5				
				SNE(M)U1206ZNEN	3.5				
	Pre-hardened Steel	HRC35-45	GPM7120 GA4230 GA4225 GP2115	SNE(M)U1206ANEN	1.5	140 (100-180)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
				SNE(M)U1206ENEN	2.5				
				SNE(M)U1206ZNEN	3.5				
M	Stainless Steel (Ferritic, martensitic)	⩽ HB270	GM2140 GM4135 GA4230	SNE(M)U1206ANEN	1.5	180 (140-220)	0.15 (0.1-0.2)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
				SNE(M)U1206ENEN	2.5				
				SNE(M)U1206ZNEN	3.5				
	Stainless Steel (Austenitic, Duplex)	⩽ HB270	GM2140 GM4135	SNE(M)U1206ANEN	1.5	160 (120-200)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
				SNE(M)U1206ENEN	2.5				
				SNE(M)U1206ZNEN	3.5				
K	Gray Cast Iron	⩽ HB280	GK2115 GK4125	SNE(M)U1206ANEN	1.5	180 (140-220)	0.15 (0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
				SNE(M)U1206ENEN	2.5				
				SNE(M)U1206ZNEN	3.5				
	Nodular Cast Iron, Compact Graphite Iron	⩽ HB350	GK4125 GK2115	SNE(M)U1206ANEN	1.5	160 (120-200)	0.15 (0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
				SNE(M)U1206ENEN	2.5				
				SNE(M)U1206ZNEN	3.5				
N	Aluminum Product	HB60-210	GN9125	SNEU1206ANFN	1.5	⩾ 300	0.15 (0.1-0.2)	0.2 (0.1-0.3)	—
S	Heat-resistant Alloys, Titanium Alloys	HRC30-45	GS4130	SNE(M)U1206ANEN	1.5	40 (30-60)	0.15 (0.1-0.2)	0.2 (0.1-0.3)	—
				SNE(M)U1206ENEN	2.5				
				SNE(M)U1206ZNEN	3.5				

Planar Milling

HNG(K)U

Negative-type Twelve Edged Face Milling Inserts



Order No.	Dimensions (mm)							Coated Cemented Carbide											Cemented Carbide	Cermet
	LE	IC	S	BS	D1	KRINS	RE	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
HNGU0604ANEN-GL	3.4	12	4.44	1.1	4.9	15 °	1.0				●		●	○	●	●	●	○			
HNGU0905ANEN-GL	4.6	15.88	5.52	1.35	5	15 °	2.2				●		●	●	●	●	●	●			
HNGU060432-GL	3.4	12	4.44	--	4.9	--	3.2				●		○	○	○	○	○	○			
HNGU0604ANEN-GM	3.4	12	4.48	1.1	4.9	15 °	1.0			●	●		●	●	●	●	●	●			
HNKU0604ANEN-GM	3.4	12	4.48	1.1	4.9	15 °	1.0				●				●	●	●				
HNGU0905ANEN-GM	4.6	15.88	5.56	1.35	5	15 °	2.2			●	●		●	●	●	●	●	●			
HNKU0905ANEN-GM	4.6	15.88	5.56	1.35	5	15 °	1.2				●				●	●	●				
HNGU1307ANEN-GM	7.3	22.25	7.48	1.65	7.95	15 °	1.3			○	●		○	○	●	●	●	○			
HNKU1307ANEN-GM	7.3	22.25	7.48	1.65	7.95	15 °	1.3				●				●	●	○		○		
HNGU130720-GM	10.5	22.25	7.48	--	7.95	--	2.0			○	●		○	○	○	●	○	○			
HNKU130720-GM	10.5	22.25	7.48	--	7.95	--	2.0				●					●					
HNGU0604ANEN-GH	3.4	12	4.48	1.1	4.9	15 °	1.0				●				●	●	●				
HNKU0604ANEN-GH	3.4	12	4.48	1.1	4.9	15 °	1.0				●				○	●	○				
HNGU0905ANEN-GH	4.6	15.88	5.56	1.35	5	15 °	2.2				●				●	●	●				
HNKU0905ANEN-GH	4.6	15.88	5.56	1.35	5	15 °	1.2				●				○	●	○				
HNGU1307ANEN-GH	7.3	22.25	7.48	1.65	7.95	15 °	1.3				●				●	●	●				
HNKU1307ANEN-GH	7.3	22.25	7.48	1.65	7.95	15 °	1.3				●					●					

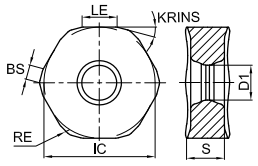
●Stock ○Available Upon Order

Note:
★ The HNGU****ANFN-GW insert is only paired with the MFC145 series tools.

Planar Milling

HNG(K)U

Negative-type Twelve Edged Face Milling Inserts



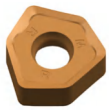
Order No.	Dimensions (mm)							Coated Cemented Carbide											Cemented Carbide	Cermet
	LE	IC	S	BS	D1	KRINS	RE	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
HNGU060432-GH	3.4	12	4.48	--	4.9	--	3.2				●					○	○				
HNKU060432-GH	3.4	12	4.48	--	4.9	--	3.2				●					○					
HNGU090543-GH	4.2	15.88	5.56	--	5	--	4.3				●					○	○				
HNKU090543-GH	4.2	15.88	5.56	--	5	--	4.3				●					○					
HNGU130720-GH	10.5	22.25	7.48	--	7.95	--	2.0				●					○	○				
HNKU130720-GH	10.5	22.25	7.48	--	7.95	--	2.0				●					○					
HNGU130735-GH	8.8	22.25	7.48	--	7.95	--	3.5				●					○	○				
HNKU130735-GH	8.8	22.25	7.48	--	7.95	--	3.5				●					○					
HNGU0604ANFN-GW	4.8	12	4.53	4.8	4.9	15 °	2.2				●					○					
HNGU0905ANFN-GW	7.8	15.88	5.54	7.8	5	15 °	1.6				●					○					

●Stock ○Available Upon Order

Note:

★ The HNGU****ANFN-GW insert is only paired with the MFC145 series tools.

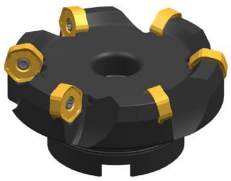
HNG(K)U Series Geometry

Light Cutting of General Materials	Medium Cutting of General Materials	Heavy Cutting of General Materials	Wiper
			
GL	GM	GH	GW
Large rake angle design, most suitable for light-load machining with low cutting force and low feed rate.	Large rake angle design, enabling light and smooth cutting, and high-stability machining can be achieved under most working conditions.	High-strength cutting edge, excellent performance in interrupted cut and roughing.	Large-arc wiper, improving the high quality surface.

Planar milling

MFC115

Mandrel Type



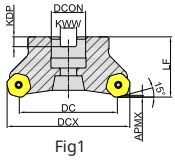


Fig1

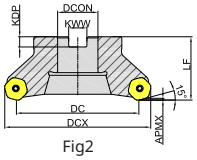


Fig2

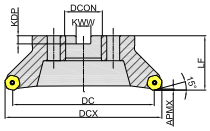


Fig3

Order No.	Diameter	Teeth	Dimensions (mm)						Max. Cutting Depth ApMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP						
MFC115-040R05A16-HN06	40	5	40	53	16	40	8.4	5.6	1.6	HNG(K)U0604	√	Fig1	0.30	●
MFC115-050R04A22-HN09	50	4	50	67.7	22	40	10.4	6.3	2.2	HNG(K)U0905	√	Fig1	0.40	●
MFC115-050R05A22-HN06	50	5	50	63	22	40	10.4	6.3	1.6	HNG(K)U0604	√	Fig1	0.40	●
MFC115-063R05A22-HN09	63	5	63	80.7	22	40	10.4	6.3	2.2	HNG(K)U0905	√	Fig1	0.65	●
MFC115-063R06A22-HN06	63	6	63	76	22	40	10.4	6.3	1.6	HNG(K)U0604	√	Fig1	0.63	●
MFC115-063R06A22-HN09	63	6	63	80.7	22	40	10.4	6.3	2.2	HNG(K)U0905	√	Fig1	0.63	●
MFC115-080R06A27-HN09	80	6	80	97.7	27	50	12.4	7	2.2	HNG(K)U0905	√	Fig1	1.33	●
MFC115-080R08A27-HN06	80	8	80	93	27	50	12.4	7	1.6	HNG(K)U0604	√	Fig1	1.34	●
MFC115-100R08B32-HN09	100	8	100	117.7	32	50	14.4	8	2.2	HNG(K)U0905	×	Fig2	1.83	●
MFC115-125R09B40-HN09	125	9	125	142.7	40	63	16.4	9	2.2	HNG(K)U0905	×	Fig2	3.39	●
MFC115-160R12C40-HN09	160	12	160	177.7	40	63	16.4	9	2.2	HNG(K)U0905	×	Fig3	4.83	●

● Stock ○ Available Upon Order

MFC115

Cylindrical Straight Shank Type

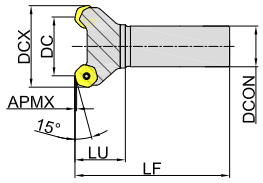


Fig4

Order No.	Diameter	Teeth	Dimensions (mm)					Max. Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	LU						
MFC115-025R03P20-HN06	25	3	25	38.2	20	120	32	1.6	HNG(K)U0604	√	Fig4	0.32	●
MFC115-032R03P25-HN06	32	3	32	45	25	130	40	1.6	HNG(K)U0604	√	Fig4	0.54	●

● Stock ○ Available Upon Order

Planar milling

MFC115

Replaceable Tool Bit

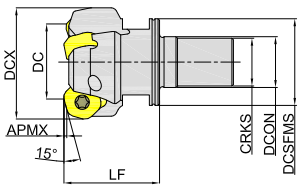
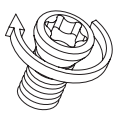
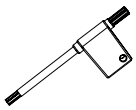
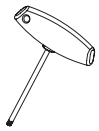


Fig5

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	DCSFMS	LF	CRKS						
MFC115-025R03M16-HN06	25	3	25	38.2	17	29	32	M16	1.6	HNG(K)U0604	√	Fig5	0.17	●
MFC115-032R03M16-HN06	32	3	32	45	17	29	40	M16	1.6	HNG(K)U0604	√	Fig5	0.26	●

● Stock ○ Available Upon Order

List Of Tool Accessories

Parts Name		Insert Screw	Recommended Torque	Insert Screw Wrench	
Shape / Suitable Insert					
HNG(K)U0604	Order No.	SR30M040100K	3.5N·m	TT15PB	TT15TB
HNG(K)U0905	Order No.	SR30M040100K	3.5N·m	TT15PB	TT15TB

Planar milling

MFC145

Mandrel Type

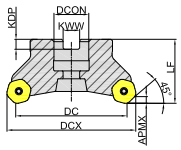


Fig1

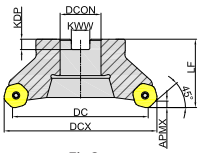


Fig2

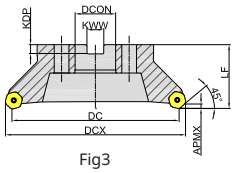


Fig3

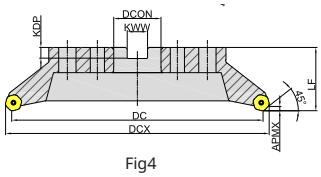


Fig4

Sparse-tooth Type

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In stock
			DC	DCX	DCON	LF	KWW	KDP						
MFC145-040R04A16-HN06	40	4	40	48	16	40	8.4	5.6	3.2	HNG(K)U0604	√	Fig1	0.24	●
MFC145-050R04A22-HN06	50	4	50	58	22	40	10.4	6.3	3.2	HNG(K)U0604	√	Fig1	0.30	●
MFC145-050R04A22-HN09	50	4	50	60.6	22	40	10.4	6.3	4.5	HNG(K)U0905	√	Fig1	0.28	●
MFC145-063R04A22-HN06	63	4	63	71	22	40	10.4	6.3	3.2	HNG(K)U0604	√	Fig1	0.51	●
MFC145-063R05A22-HN09	63	5	63	73.6	22	40	10.4	6.3	4.5	HNG(K)U0905	√	Fig1	0.50	●
MFC145-080R04A27-HN13	80	4	80	95.4	27	50	12.4	7	8.0	HNG(K)U1307	√	Fig1	1.04	●
MFC145-080R05A27-HN06	80	5	80	88	27	50	12.4	7	3.2	HNG(K)U0604	√	Fig1	1.16	●
MFC145-080R05A27-HN09	80	5	80	90.6	27	50	12.4	7	4.5	HNG(K)U0905	√	Fig1	1.13	●
MFC145-100R05B32-HN13	100	5	100	115.4	32	50	14.4	8	8.0	HNG(K)U1307	×	Fig2	1.50	●
MFC145-100R06B32-HN06	100	6	100	108	32	50	14.4	8	3.2	HNG(K)U0604	×	Fig2	1.64	●
MFC145-100R06B32-HN09	100	6	100	110.6	32	50	14.4	8	4.5	HNG(K)U0905	×	Fig2	1.66	●
MFC145-125R06B40-HN13	125	6	125	140.4	40	63	16.4	9	8.0	HNG(K)U1307	×	Fig2	2.95	●
MFC145-125R08B40-HN06	125	8	125	133	40	63	16.4	9	3.2	HNG(K)U0604	×	Fig2	3.01	●
MFC145-125R08B40-HN09	125	8	125	135.6	40	63	16.4	9	4.5	HNG(K)U0905	×	Fig2	3.10	●
MFC145-160R09C40-HN13	160	9	160	175.4	40	63	16.4	9	8.0	HNG(K)U1307	×	Fig3	4.16	●
MFC145-160R10C40-HN06	160	10	160	167.9	40	63	16.4	9	3.2	HNG(K)U0604	×	Fig3	4.72	●
MFC145-160R10C40-HN09	160	10	160	170.6	40	63	16.4	9	4.5	HNG(K)U0905	×	Fig3	4.08	●
MFC145-200R12C60-HN13	200	12	200	215.4	60	63	25.7	14	8.0	HNG(K)U1307	×	Fig3	5.89	●
MFC145-200R16C60-HN09	200	16	200	210.6	60	63	25.7	14	4.5	HNG(K)U0905	×	Fig3	5.70	●
MFC145-250R12C60-HN13	250	12	250	265.4	60	63	25.7	14	8.0	HNG(K)U1307	×	Fig3	11.71	●
MFC145-250R20C60-HN09	250	20	250	260.6	60	63	25.7	14	4.5	HNG(K)U0905	×	Fig3	11.53	●
MFC145-250L20C60-HN09	250	20	250	260.6	60	63	25.7	14	4.5	HNG(K)U0905	×	Fig3	11.53	○
MFC145-315R14D60-HN13	315	14	315	330.4	60	80	25.7	14	8.0	HNG(K)U1307	×	Fig4	17.11	●
MFC145-315R24D60-HN09	315	24	315	325.6	60	80	25.7	14	4.5	HNG(K)U0905	×	Fig4	16.81	●
MFC145-315L24D60-HN09	315	24	315	325.6	60	80	25.7	14	4.5	HNG(K)U0905	×	Fig4	16.81	○

● Stock ○ Available Upon Order

Planar milling

MFC145

Mandrel Type

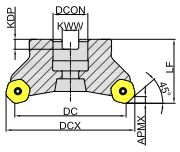


Fig1

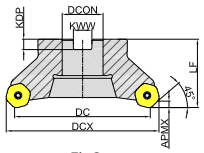


Fig2

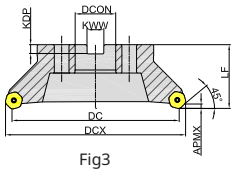


Fig3

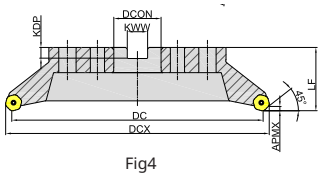


Fig4

Dense-tooth Type

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP						
MFC145-040R05A16-HN06	40	5	40	48	16	40	8.4	5.6	3.2	HNG(K)U0604	√	Fig1	0.23	●
MFC145-050R05A22-HN06	50	5	50	58	22	40	10.4	6.3	3.2	HNG(K)U0604	√	Fig1	0.28	●
MFC145-050R05A22-HN09	50	5	50	60.6	22	40	10.4	6.3	4.5	HNG(K)U0905	√	Fig1	0.27	●
MFC145-050R06A22-HN06	50	6	50	58	22	40	10.4	6.3	3.2	HNG(K)U0604	√	Fig1	0.30	●
MFC145-063R06A22-HN06	63	6	63	71	22	40	10.4	6.3	3.2	HNG(K)U0604	√	Fig1	0.48	●
MFC145-063R06A22-HN09	63	6	63	73.6	22	40	10.4	6.3	4.5	HNG(K)U0905	√	Fig1	0.47	●
MFC145-063R07A22-HN09	63	7	63	73.6	22	40	10.4	6.3	4.5	HNG(K)U0905	√	Fig1	0.47	●
MFC145-063R08A22-HN06	63	8	63	71	22	40	10.4	6.3	3.2	HNG(K)U0604	√	Fig1	0.49	●
MFC145-080R06A27-HN09	80	6	80	90.6	27	50	12.4	7	4.5	HNG(K)U0905	√	Fig1	1.10	●
MFC145-080R07A27-HN09	80	7	80	90.6	27	50	12.4	7	4.5	HNG(K)U0905	√	Fig1	1.06	●
MFC145-080R08A27-HN06	80	8	80	88	27	50	12.4	7	3.2	HNG(K)U0604	√	Fig1	1.12	●
MFC145-080R09A27-HN09	80	9	80	90.6	27	50	12.4	7	4.5	HNG(K)U0905	√	Fig1	1.05	●
MFC145-080R10A27-HN06	80	1	80	88	27	50	12.4	7	3.2	HNG(K)U0604	√	Fig1	1.11	●
MFC145-100R08B32-HN09	100	8	100	110.6	32	50	14.4	8	4.5	HNG(K)U0905	×	Fig2	1.59	●
MFC145-100R09A32-HN06	100	9	100	108	32	50	14.4	8	3.2	HNG(K)U0604	√	Fig1	1.80	●
MFC145-100R09B32-HN06	100	9	100	108	32	50	14.4	8	3.2	HNG(K)U0604	×	Fig2	1.61	●
MFC145-100R10B32-HN09	100	10	100	110.6	32	50	14.4	8	4.5	HNG(K)U0905	×	Fig2	1.58	●
MFC145-100R11B32-HN09	100	11	100	110.6	32	50	14.4	8	4.5	HNG(K)U0905	×	Fig2	1.56	●
MFC145-100R12A32-HN06	100	12	100	108	32	50	14.4	8	3.2	HNG(K)U0604	√	Fig1	1.80	●
MFC145-100R12B32-HN06	100	12	100	108	32	50	14.4	8	3.2	HNG(K)U0604	×	Fig2	1.61	●
MFC145-125R10B40-HN09	125	10	125	135.6	40	63	16.4	9	4.5	HNG(K)U0905	×	Fig2	3.06	●
MFC145-125R12B40-HN06	125	12	125	133	40	63	16.4	9	3.2	HNG(K)U0604	×	Fig2	3.01	●
MFC145-125R14B40-HN09	125	14	125	135.6	40	63	16.4	9	4.5	HNG(K)U0905	×	Fig2	3.01	●
MFC145-125R16B40-HN06	125	16	125	133	40	63	16.4	9	3.2	HNG(K)U0604	×	Fig2	3.05	●
MFC145-160R12C40-HN09	160	12	160	170.6	40	63	16.4	9	4.5	HNG(K)U0905	×	Fig3	4.20	●
MFC145-160R16C40-HN09	160	16	160	170.6	40	63	16.4	9	4.5	HNG(K)U0905	×	Fig3	4.25	●
MFC145-200R10C60-HN13	200	10	200	215.4	60	63	25.7	14	8.0	HNG(K)U1307	×	Fig3	5.81	●
MFC145-250R14C60-HN13	250	14	250	265.4	60	63	25.7	14	8.0	HNG(K)U1307	×	Fig3	11.44	●
MFC145-315R18D60-HN13	315	18	315	330.4	60	80	25.7	14	8.0	HNG(K)U1307	×	Fig4	16.97	●

● Stock ○ Available Upon Order

Planar Milling

MFC145

Unequal Teeth

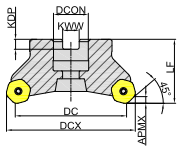


Fig1

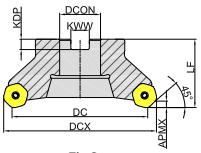


Fig2

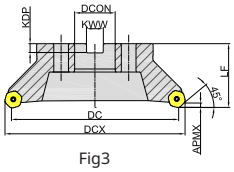


Fig3

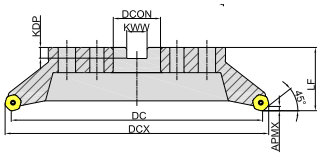


Fig4

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP						
MFC145-063R08A22-HN06U	63	8	63	71	22	40	10.4	6.3	3.2	HNG(K)U0604	√	Fig1	0.48	●
MFC145-080R07A27-HN09U	80	7	80	90.6	27	50	12.4	7	4.5	HNG(K)U0905	√	Fig1	1.12	●
MFC145-080R08A27-HN06U	80	8	80	88	27	50	12.4	7	3.2	HNG(K)U0604	√	Fig1	1.13	●
MFC145-100R08B32-HN09U	100	8	100	110.6	32	50	14.4	8	4.5	HNG(K)U0905	×	Fig2	1.59	●
MFC145-100R09B32-HN06U	100	9	100	108	32	50	14.4	8	3.2	HNG(K)U0604	×	Fig1	1.61	●
MFC145-125R10B40-HN06U	125	10	125	133	40	63	16.4	9	3.2	HNG(K)U0604	×	Fig2	2.98	●
MFC145-125R10B40-HN09U	125	10	125	135.6	40	63	16.4	9	4.5	HNG(K)U0905	×	Fig2	3.06	●
MFC145-160R10C40-HN09U	160	10	160	170.6	40	63	16.4	9	4.5	HNG(K)U0905	×	Fig3	4.08	●
MFC145-200R12C60-HN13U	200	12	200	215.4	60	63	25.7	14	8.0	HNG(K)U1307	×	Fig3	5.89	●
MFC145-200R16C60-HN09U	200	16	200	210.6	60	63	25.7	14	4.5	HNG(K)U0905	×	Fig3	5.70	●
MFC145-250R12C60-HN13U	250	12	250	265.4	60	63	25.7	14	8.0	HNG(K)U1307	×	Fig3	11.71	●
MFC145-250R20C60-HN09U	250	20	250	260.6	60	63	25.7	14	4.5	HNG(K)U0905	×	Fig3	11.53	●
MFC145-315R14D60-HN13U	315	14	315	330.4	60	80	25.7	14	8.0	HNG(K)U1307	×	Fig4	17.11	●

● Stock ○ Available Upon Order

Planar Milling

MFC145

Cylindrical Straight Shank Type

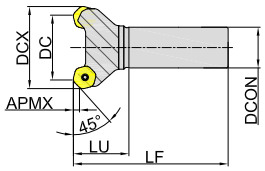


Fig5

Sparse-tooth Type

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	LU						
MFC145-025R02P20-HN06	25	2	25	33	20	120	32	3.2	HNG(K)U0604	√	Fig5	0.30	●
MFC145-025R03P25-HN06L	25	3	25	33	20	200	32	3.2	HNG(K)U0604	√	Fig5	0.73	●
MFC145-032R03P25-HN06	32	3	32	40	25	130	40	3.2	HNG(K)U0604	√	Fig5	0.51	●
MFC145-040R03P25-HN09	40	3	40	50.7	25	107	50	4.5	HNG(K)U0905	√	Fig5	0.60	●
MFC145-025R03P20-HN06	25	3	25	33	20	120	32	3.2	HNG(K)U0604	√	Fig5	0.29	●
MFC145-032R04P25-HN06	32	4	32	40	25	130	40	3.2	HNG(K)U0604	√	Fig5	0.50	●
MFC145-040R04P25-HN09	40	4	40	50.7	25	107	50	4.5	HNG(K)U0905	√	Fig5	0.57	●

● Stock ○ Available Upon Order

MFC145

Side-clamping Type

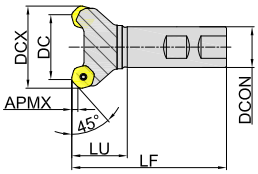


Fig6

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	LU						
MFC145-025R03W20-HN06	25	3	25	33	20	82	32	3.2	HNG(K)U0604	√	Fig6	0.21	●
MFC145-032R03W25-HN06	32	3	32	40	25	97	40	3.2	HNG(K)U0604	√	Fig6	0.41	●
MFC145-040R03W25-HN09	40	3	40	50.6	25	107	50	4.5	HNG(K)U0905	√	Fig6	0.59	●
MFC145-032R04W25-HN06	32	4	32	40	25	97	40	3.2	HNG(K)U0604	√	Fig6	0.39	●
MFC145-040R04W25-HN09	40	4	40	50.6	25	107	50	4.5	HNG(K)U0905	√	Fig6	0.57	●

● Stock ○ Available Upon Order

Planar Milling

MFC145

Replaceable Tool Bit

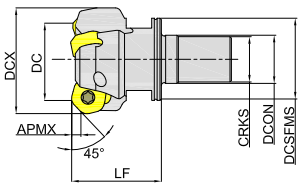
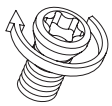
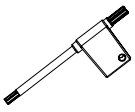
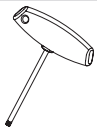


Fig7

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	DCSFMS	LF	CRKS						
MFC145-025R03M16-HN06	25	3	25	33	17	29	32	M16	3.2	HNG(K)U0604	√	Fig7	0.15	●
MFC145-032R03M16-HN06	32	3	32	40	17	29	40	M16	3.2	HNG(K)U0604	√	Fig7	0.22	●
MFC145-032R04M16-HN06	32	4	32	40	17	29	40	M16	3.2	HNG(K)U0604	√	Fig7	0.19	●

● Stock ○ Available Upon Order

List of Tool Accessories

Parts Name		Insert Screw	Recommended Torque	Insert Screw Wrench	
Shape / Suitable Insert					
HNG(K)U0604	Order No.	SR30M040100K	3.5N·m	TT15PB	TT15TB
HNG(K)U0905	Order No.	SR30M040100K	3.5N·m	TT15PB	TT15TB
HNG(K)U1307	Order No.	SR45M060160IK	8.0N·m	—	TI25TQ

Planar milling

MFC160

Mandrel Type

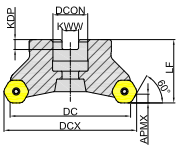


Fig1

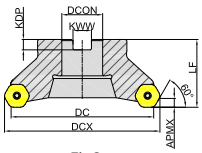


Fig2

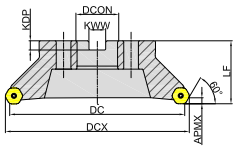


Fig3

Sparse-tooth Type

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP						
MFC160-040R04A16-HN06	40	4	40	46.1	16	40	8.4	5.6	4.3	HNG(K)U0604	√	Fig1	0.23	●
MFC160-050R04A22-HN06	50	4	50	56.1	22	40	10.4	6.3	4.3	HNG(K)U0604	√	Fig1	0.29	●
MFC160-050R05A22-HN09	50	5	50	58	22	40	10.4	6.3	7.4	HNG(K)U0905	√	Fig1	0.26	●
MFC160-063R04A22-HN06	63	4	63	69.1	22	40	10.4	6.3	4.3	HNG(K)U0604	√	Fig1	0.50	●
MFC160-063R06A22-HN09	63	6	63	71	22	40	10.4	6.3	7.4	HNG(K)U0905	√	Fig1	0.46	●
MFC160-080R05A27-HN06	80	5	80	86.1	27	50	12.4	7	4.3	HNG(K)U0604	√	Fig1	1.07	●
MFC160-080R08A27-HN09	80	8	80	88	27	50	12.4	7	7.4	HNG(K)U0905	√	Fig1	1.05	●
MFC160-100R06B32-HN06	100	6	100	106.1	32	50	14.4	8	4.3	HNG(K)U0604	×	Fig2	1.59	●
MFC160-100R10B32-HN09	100	10	100	108	32	50	14.4	8	7.4	HNG(K)U0905	×	Fig2	1.54	●
MFC160-125R08B40-HN06	125	8	125	131.1	40	63	16.4	9	4.3	HNG(K)U0604	×	Fig2	3.02	●
MFC160-125R12B40-HN09	125	12	125	133	40	63	16.4	9	7.4	HNG(K)U0905	×	Fig2	3.02	●
MFC160-160R14C40-HN09	160	14	160	168	40	63	16.4	9	7.4	HNG(K)U0905	×	Fig3	4.40	●
MFC160-200R16C60-HN09	200	16	200	208	60	63	25.7	14	7.4	HNG(K)U0905	×	Fig3	6.00	●
MFC160-250R16C60-HN09	250	16	250	258	60	63	25.7	14	7.4	HNG(K)U0905	×	Fig3	12.38	●

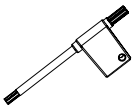
● Stock ○ Available Upon Order

Dense-tooth type

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP						
MFC160-040R05A16-HN06	40	5	40	46.1	16	40	8.4	5.6	4.3	HNG(K)U0604	√	Fig1	0.22	●
MFC160-050R05A22-HN06	50	5	50	56.1	22	40	10.4	6.3	4.3	HNG(K)U0604	√	Fig1	0.29	●
MFC160-063R06A22-HN06	63	6	63	69.1	22	40	10.4	6.3	4.3	HNG(K)U0604	√	Fig1	0.46	●
MFC160-080R08A27-HN06	80	8	80	86.1	27	50	12.4	7	4.3	HNG(K)U0604	√	Fig1	1.03	●
MFC160-100R09B32-HN06	100	9	100	106.1	32	50	14.4	8	4.3	HNG(K)U0604	×	Fig2	1.55	●
MFC160-125R12B40-HN06	125	12	125	131.1	40	63	16.4	9	4.3	HNG(K)U0604	×	Fig2	2.98	●

● Stock ○ Available Upon Order

List of Tool Accessories

Parts Name		Insert Screw	Recommended Torque	Insert Screw Wrench	
Suitable Insert \ Shape					
HNG(K)U0604	Order No.	SR30M040100K	3.5N·m	TT15PB	TT15TB
HNG(K)U0905	Order No.	SR30M040100K	3.5N·m	TT15PB	TT15TB

Schematic Diagram of Wiper Installation

The HNGU06/09*-GW has a total of 6 wipers available. The R-side wiper can only be used on a right-handed insert cutter, and the L-side wiper can only be used on a left-handed insert cutter.
When using, place the wiper R/W or L/W parallel to the workpiece surface.

Use the R-side wiper on the right-handed insert cutter.	Use the L-side wiper on the left-handed insert cutter.

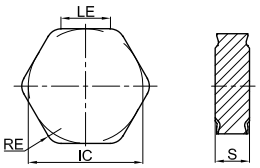
Recommended Cutting Data

Machined Material		Material Hardness	Grade	Specifications	Recommended Cutting Depth Ap (mm)			Cutting Speed Vc(m/min)	Feed/edge fz (mm)				
									Light Cutting (L)	Medium Cutting (M)		Heavy Cutting (H)	
					MFC115	MFC145	MFC160		MFC145	MFC115	MFC145/ MFC160	MFC115	MFC145/ MFC160
P	Soft Steel	⩽ HB180	GPM7120 GA4325	HNG(K)U06	0.6	1	1.6	250 (210-290)	0.1 (0.05-0.15)	0.8 (0.5-1.2)	0.15 (0.1-0.2)	1.2 (0.8-1.5)	0.2 (0.15-0.25)
				HNG(K)U09	0.8	1.6	3		0.15 (0.1-0.2)	1.2 (0.8-1.5)	0.2 (0.15-0.25)	1.5 (1-2)	0.25 (0.2-0.3)
				HNG(K)U13	—	3.2	—		—	—	0.2 (0.15-0.25)	—	0.25 (0.2-0.3)
	Carbon Steel, Alloy Steel	HB180-350	GPM7120 GA4325 GP2115	HNG(K)U06	0.6	1	1.6	220 (180-260)	0.1 (0.05-0.15)	0.8 (0.5-1.2)	0.15 (0.1-0.2)	1.2 (0.8-1.5)	0.2 (0.15-0.25)
				HNG(K)U09	0.8	1.6	3		0.15 (0.1-0.2)	1.2 (0.8-1.5)	0.2 (0.15-0.25)	1.5 (1-2)	0.25 (0.2-0.3)
				HNG(K)U13	—	3.2	—		—	—	0.2 (0.15-0.25)	—	0.25 (0.2-0.3)
	Pre-hardened Steel	HRC35-45	GPM7120 GA4325 GP2115	HNG(K)U06	0.6	1	1.6	140 (100-180)	0.1 (0.05-0.15)	0.6 (0.4-0.8)	0.12 (0.06-0.18)	1 (0.6-1.2)	0.15 (0.1-0.2)
				HNG(K)U09	0.8	1.6	3		0.1 (0.05-0.15)	1 (0.6-1.2)	0.15 (0.1-0.2)	1.2 (0.8-1.5)	0.2 (0.15-0.25)
				HNG(K)U13	—	3.2	—		—	—	0.15 (0.1-0.2)	—	0.2 (0.15-0.25)
M	Stainless Steel (Ferritic, Martensitic)	⩽ HB270	GM2140 GM4135 GPM7120	HNG(K)U06	0.6	1	1.6	180 (140-220)	0.1 (0.05-0.15)	0.8 (0.5-1.2)	0.15 (0.1-0.2)	1.2 (0.8-1.5)	0.2 (0.15-0.25)
				HNG(K)U09	0.8	1.6	3		0.15 (0.1-0.2)	1.2 (0.8-1.5)	0.2 (0.15-0.25)	1.5 (1-2)	0.25 (0.2-0.3)
				HNG(K)U13	—	3.2	—		—	—	0.2 (0.15-0.25)	—	0.25 (0.2-0.3)
	Stainless Steel (Austenitic, Duplex)	⩽ HB270	GM2140 GM4135	HNG(K)U06	0.6	1	1.6	140 (100-180)	0.1 (0.05-0.15)	0.6 (0.4-0.8)	0.12 (0.06-0.18)	1 (0.6-1.2)	0.15 (0.1-0.2)
				HNG(K)U09	0.8	1.6	3		0.1 (0.05-0.15)	1 (0.6-1.2)	0.15 (0.1-0.2)	1.2 (0.8-1.5)	0.2 (0.15-0.25)
				HNG(K)U13	—	3.2	—		—	—	0.15 (0.1-0.2)	—	0.2 (0.15-0.25)
K	Gray Cast Iron	⩽ HB280	GK2115 GK4125	HNG(K)U06	0.6	1	1.6	180 (140-220)	0.1 (0.05-0.15)	0.8 (0.5-1.2)	0.15 (0.1-0.2)	1.2 (0.8-1.5)	0.2 (0.15-0.25)
				HNG(K)U09	0.8	1.6	3		0.15 (0.1-0.2)	1.2 (0.8-1.5)	0.2 (0.15-0.25)	1.5 (1-2)	0.25 (0.2-0.3)
				HNG(K)U13	—	3.2	—		—	—	0.2 (0.15-0.25)	—	0.25 (0.2-0.3)
	Nodular Cast Iron, Compact Graphite iron	⩽ HB350	GK4125 GK2115	HNG(K)U06	0.6	1	1.6	160 (120-200)	0.1 (0.05-0.15)	0.8 (0.5-1.2)	0.15 (0.1-0.2)	1.2 (0.8-1.5)	0.2 (0.15-0.25)
				HNG(K)U09	0.8	1.6	3		0.15 (0.1-0.2)	1.2 (0.8-1.5)	0.2 (0.15-0.25)	1.5 (1-2)	0.25 (0.2-0.3)
				HNG(K)U13	—	3.2	—		—	—	0.2 (0.15-0.25)	—	0.25 (0.2-0.3)
S	Heat-resisting Alloy	HRC30-45	GS4130	HNG(K)U06	0.6	1	1.6	40 (30-60)	0.1 (0.05-0.15)	0.4 (0.3-0.7)	0.12 (0.06-0.18)	—	—
				HNG(K)U09	0.8	1.6	3		0.1 (0.05-0.15)	0.5 (0.3-0.8)	0.15 (0.1-0.2)	—	—
				HNG(K)U13	—	3.2	—		—	—	0.15 (0.1-0.2)	—	—

Planar Milling

HNE(M)X

Negative-type Twelve Edged Face Milling Inserts



Order No.		Dimensions (mm)				Coated Cemented Carbide											Cemented Carbide	Cermet
		LE	IC	S	RE	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
	HNEX090510-KF	8.2	16.2	5.56	1.0									○	○				
	HNEX090520-KF	7.0	16.2	5.56	2.0									○	●				
	HNEX090520-KM	7.2	16.2	5.56	2.0									●	●				
	HNMX090520-KM	7.2	16.2	5.56	2.0									●	●				
	HNEX090516-KR	7.8	16.2	5.56	1.6									●	●				
	HNEX090530-KR	6.2	16.2	5.56	3.0									●	●				
	HNMX090516-KR	7.8	16.2	5.56	1.6									●	○				
	★ HNEX090502-WC	6.6	15.875	5.56	0.2									○	●				

●Stock ○Available Upon Order

Note:
★ 1, HNEX090502-WC insert only corresponds to the MFB160 series tools.

HNE(M)X Series Geometry

Light Cutting of Cast Iron Materials	Medium Cutting of Cast Iron Materials	Heavy Cutting of Cast Iron Materials	Wiper
KF	KM	KR	WC
Special geometry for light duty machining with a large rake angle, small land width, small slot width, and through-slot design.	Special geometry for medium duty machining with a fan-shaped anti-chip surface design and a unique land width ratio.	Special geometry for heavy duty machining with a large slot width and a unique rake face design.	A special wiper insert is used in conjunction with an adjustable tool clamp to achieve high quality surface and stability.

Planar Milling

MFB160

Mandrel Type

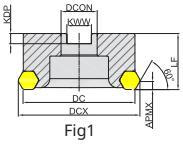


Fig1

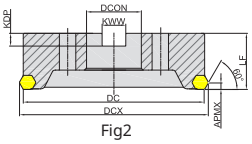


Fig2

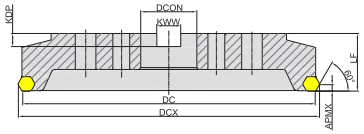
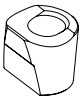
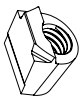
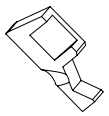


Fig3

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Tool Clamp	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP							
MFB160-125R12B40-HN09	125	12/3	125	135	40	63	16.4	9	8	HNE(M)X0905	×	√	Fig1	4.51	●
MFB160-125R15B40-HN09	125	15/3	125	135	40	63	16.4	9	8	HNE(M)X0905	×	√	Fig1	4.39	●
MFB160-160R20C40-HN09	160	20/4	160	170	40	63	16.4	9	8	HNE(M)X0905	×	√	Fig2	6.69	●
MFB160-200R25C60-HN09	200	25/5	200	210	60	63	25.7	14	8	HNE(M)X0905	×	√	Fig2	9.83	●
MFB160-250R30C60-HN09	250	30/6	250	260	60	80	25.7	14	8	HNE(M)X0905	×	√	Fig2	17.43	○
MFB160-315R40D60-HN09	315	40/8	315	325	60	80	25.7	14	8	HNE(M)X0905	×	√	Fig3	24.37	○

● Stock ○ Available Upon Order

List of tool accessories

Parts Name		Adjustment Wedge	Clamping Wedge	Clamping double-ended Screw	Adjustment double-ended Screw	Adjustable Tool Clamp	Wrench	
Shape / Suitable Insert								
HNE(M)X0905	Order No.	CWA02B	CWA01B	SDAM060200B	SDAM080245B	AMFB1601RAB	TH30LB	TH40LB

Planar Milling

MFB260

Mandrel Type

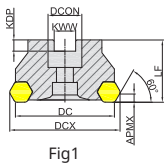


Fig1

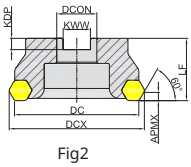


Fig2

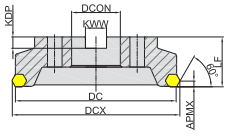


Fig3

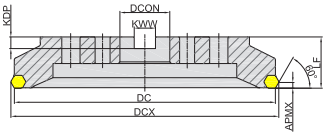


Fig4

Sparse-tooth Type

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Tool Clamp	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP							
MFB260-063R05A22-HN09	63	5	63	72	22	40	10.4	6.3	8	HNE(M)X0905	×	×	Fig1	0.62	●
MFB260-080R06A27-HN09	80	6	80	90	27	50	12.4	7	8	HNE(M)X0905	×	×	Fig1	1.31	●
MFB260-100R08B32-HN09	100	8	100	110	32	50	14.4	8	8	HNE(M)X0905	×	×	Fig2	1.92	●
MFB260-125R12B40-HN09	125	12	125	135	40	63	16.4	9	8	HNE(M)X0905	×	×	Fig2	3.60	●
MFB260-160R15C40-HN09	160	15	160	170	40	63	16.4	9	8	HNE(M)X0905	×	×	Fig3	5.31	●
MFB260-200R18C60-HN09	200	18	200	210	60	63	25.7	14	8	HNE(M)X0905	×	×	Fig3	7.53	●

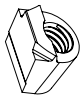
●Stock ○Available Upon Order

Dense-tooth Type

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Tool Clamp	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP							
MFB260-080R08A27-HN09	80	8	80	90	27	50	12.4	7	8	HNE(M)X0905	×	×	Fig1	1.29	●
MFB260-080R10A27-HN09	80	10	80	90	27	50	12.4	7	8	HNE(M)X0905	×	×	Fig1	1.26	●
MFB260-100R10B32-HN09	100	10	100	110	32	50	14.4	8	8	HNE(M)X0905	×	×	Fig2	1.90	●
MFB260-100R14B32-HN09	100	14	100	110	32	50	14.4	8	8	HNE(M)X0905	×	×	Fig2	1.85	●
MFB260-125R15B40-HN09	125	15	125	135	40	63	16.4	9	8	HNE(M)X0905	×	×	Fig2	3.55	●
MFB260-125R18B40-HN09	125	18	125	135	40	63	16.4	9	8	HNE(M)X0905	×	×	Fig2	3.38	●
MFB260-160R20C40-HN09	160	20	160	170	40	63	16.4	9	8	HNE(M)X0905	×	×	Fig3	5.25	●
MFB260-200R25C60-HN09	200	25	200	210	60	63	25.7	14	8	HNE(M)X0905	×	×	Fig3	7.39	●
MFB260-250R30C60-HN09	250	30	250	260	60	80	25.7	14	8	HNE(M)X0905	×	×	Fig3	16.31	○
MFB260-315R40D60-HN09	315	40	315	325	60	80	25.7	14	8	HNE(M)X0905	×	×	Fig4	24.89	○
MFB260-315L40D60-HN09	315	40	315	325	60	80	25.7	14	8	HNE(M)X0905	×	×	Fig4	24.89	○

●Stock ○Available Upon Order

List of Tool Accessories

Parts Name		Clamping Wedge	Clamping Double-ended Screw	Wrench
Shape / Suitable Insert				
HNE(M)X0905	Order No.	CWA01B	SDAM060200B	TH30LB

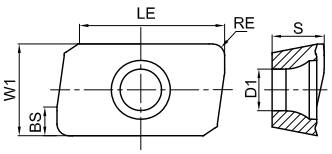
Recommended Cutting Data

Machined Material		Material Hardness	Grade	Specifications	Recommended Cutting depth Ap(mm)	Cutting Speed Vc(m/min)	Feed/edge fz (mm)		
							Light Cutting (L)	Medium Cutting (M)	Heavy Cutting (H)
K	Gray Cast Iron	⩽ HB280	GK2115 GK4125	HNE(M)X0905	4	280 (180-400)	0.15 (0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
	Nodular Cast Iron, Compact Graphite Iron	⩽ HB350	GK4125 GK2115	HNE(M)X0905	4	230 (160-350)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.15-0.3)

Shoulder Milling

APM(G)T

Positive Double-edged Shoulder Milling Inserts



Order No.	Dimensions (mm)						Coated Cemented Carbide											Cemented Carbide	Cermet
	LE	W1	S	BS	D1	RE	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
APMT1135PDER-PL	9.7	6.16	3.5	1.92	2.8	0.8	●	●	●		●			●			●			
APMT1604PDER-PL	14.9	9.26	4.76	2	4.6	0.8	●	●	●								●			
APMT1135PDER-PM	9.7	6.16	3.5	1.92	2.8	0.8	●	●	●		●			●	●	●	●			●
APMT113504R-PM	9.7	6.16	3.5	1.92	2.8	0.4		●	○											●
APMT1604PDER-PM	14.9	9.26	4.76	2	4.6	0.8	●	●	●		●			●	●	●	●			●
APMT160416R-PM	14.9	9.26	4.76	2	4.6	1.6		●	○											
APMT113508-GM	9.7	6.16	3.5	1.92	2.8	0.8			○											
APMT160410-GM	14.9	9.26	4.76	2	4.6	1.0			○				●		●					
APMT1135PDER-PR	9.7	6.16	3.5	1.87	2.8	0.8	●	●	●		●			●	●		●			
APMT1604PDER-PR	14.9	9.26	4.76	2.2	4.6	0.8	●	●	●		●			●	●	●	●			
APGT1135PDFR-AL	9.7	6.16	3.5	1.92	2.8	0.8													●	
APGT1604PDFR-AL	14.9	9.26	4.76	2.2	4.6	0.8													●	

●Stock ○Available Upon Order

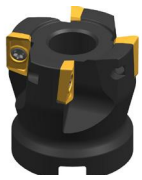
APM(G)T Series Geometry

Light Cutting of Steel Parts Materials	Medium Cutting of Steel Parts Materials	Medium Cutting of General Materials	Heavy Cutting of Steel Parts Materials	Aluminum Cutting
PL	PM	GM	PR	AL
Light duty cutting with low cutting resistance to achieve better machining quality.	Under general working conditions, to achieve high-stability machining of steel materials.	Under general working conditions, to achieve high-stability machining.	The edge has better strength, making it suitable for roughing.	The sharp edge, combined with mirror polishing, is suitable for machining aluminum alloy materials.

Shoulder Milling

MEA190

Mandrel Type



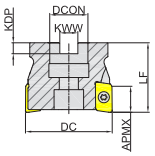


Fig1

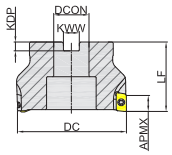


Fig2

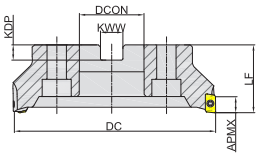


Fig3

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	KWW	KDP						
MEA190-040R05A16-AP11	40	5	40	16	40	8.4	5.6	9	APM(G)T1135	×	Fig1	0.20	●
MEA190-050R04A22-AP16	50	4	50	22	40	10.4	6.3	14	APM(G)T1604	×	Fig1	0.33	●
MEA190-050R06A22-AP11	50	6	50	22	40	10.4	6.3	9	APM(G)T1135	×	Fig1	0.37	●
MEA190-063R05A22-AP16	63	5	63	22	50	10.4	6.3	14	APM(G)T1604	×	Fig1	0.61	●
MEA190-080R06A27-AP16	80	6	80	27	50	12.4	7	14	APM(G)T1604	×	Fig1	0.96	●
MEA190-100R07B32-AP16	100	7	100	32	63	14.4	8	14	APM(G)T1604	×	Fig2	2.13	●
MEA190-125R08B40-AP16	125	8	125	40	63	16.4	9	14	APM(G)T1604	×	Fig2	2.80	●
MEA190-160R10C40-AP16	160	10	160	40	63	16.4	9	14	APM(G)T1604	×	Fig3	3.94	●
MEA190-200R12C60-AP16	200	12	200	60	63	25.7	14	14	APM(G)T1604	×	Fig3	7.25	●
MEA190-250R14C60-AP16	250	14	250	60	63	25.7	14	14	APM(G)T1604	×	Fig3	10.66	○

● Stock ○ Available Upon Order

Shoulder Milling

MEA190

Cylindrical Straight Shank Type

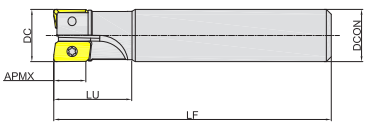
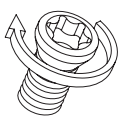
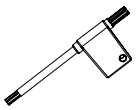
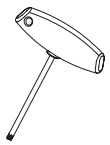


Fig4

Order No.	Diameter	Teeth	Dimensions (mm)				Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	LU						
MEA190-016R02P16-AP11	16	2	16	16	120	40	9	APM(G)T1135	×	Fig4	0.17	●
MEA190-016R02P16-AP11L	16	2	16	16	170	50	9	APM(G)T1135	×	Fig4	0.24	●
MEA190-020R02P20-AP11	20	2	20	20	160	50	9	APM(G)T1135	×	Fig4	0.36	●
MEA190-020R03P20-AP11	20	3	20	20	160	50	9	APM(G)T1135	×	Fig4	0.36	●
MEA190-025R02P25-AP16	25	2	25	25	160	50	14	APM(G)T1604	×	Fig4	0.55	●
MEA190-025R03P25-AP11	25	3	25	25	160	50	9	APM(G)T1135	×	Fig4	0.57	●
MEA190-025R04P25-AP11	25	4	25	25	160	50	9	APM(G)T1135	×	Fig4	0.56	●
MEA190-032R03P32-AP16	32	3	32	32	160	50	14	APM(G)T1604	×	Fig4	0.90	●
MEA190-032R04P32-AP11	32	4	32	32	160	80	9	APM(G)T1135	×	Fig4	0.91	●

●Stock ○Available Upon Order

List of Tool Accessories

Parts Name		Insert Screw	Recommended Torque	Insert Screw Wrench	
Shape / Suitable Insert					
APM(G)T1135	Order No.	SI60M025065-03509S	1.0N·m	TT07PQ	—
APM(G)T1604	Order No.	SI60M040089-05313S	3.5N·m	TT15PB	TT15TB

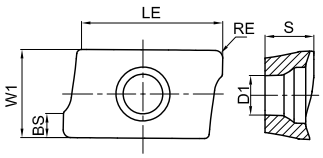
Recommended Cutting Data

Machined Material		Material Hardness	Grade	Specifications	Recommended Cutting Depth Ap(mm)	Cutting Speed Vc(m/min)	Feed/edge fz (mm)		
							Light Cutting (L)	Medium Cutting (M)	Heavy Cutting (H)
P	Soft steel	⩽ HB180	GA4325 GA4225 GA4230 GP4225	APMT1135	2.7	250 (210-290)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.20 (0.1-0.25)
				APMT1604	4.2		0.2 (0.1-0.3)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
	Carbon Steel, Alloy Steel	HB180-350	GA4325 GP2115 GA4225 GA4230 GP4225	APMT1135	2.7	220 (180-260)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
				APMT1604	4.2		0.2 (0.1-0.3)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
	Pre-hardened Steel	HRC35-45	GA4325 GP2115 GA4230 GP4225	APMT1135	2.7	140 (100-180)	0.08 (0.05-0.15)	0.1 (0.05-0.15)	0.15 (0.1-0.2)
				APMT1604	4.2		0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
M	Stainless Steel (Ferritic, Martensitic)	⩽ HB270	GM2140 GM4135 GA4230	APMT1135	2.7	180 (140-220)	0.12 (0.1-0.2)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
				APMT1604	4.2		0.15 (0.1-0.2)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
	Stainless Steel (Austenitic, Duplex)	⩽ HB270	GM2140 GM4135	APMT1135	2.7	140 (100-180)	0.1 (0.05-0.15)	0.12 (0.1-0.2)	0.15 (0.1-0.2)
				APMT1604	4.2		0.12 (0.1-0.2)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
K	Gray Cast Iron	⩽ HB280	GK2115 GK4125	APMT1135	2.7	180 (140-220)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
				APMT1604	4.2		0.2 (0.1-0.3)	0.25 (0.1-0.4)	0.3 (0.2-0.5)
	Nodular Cast Iron, Compact Graphite iron	⩽ HB350	GK4125 GK2115	APMT1135	2.7	160 (120-200)	0.08 (0.05-0.15)	0.1 (0.05-0.15)	0.15 (0.1-0.2)
				APMT1604	4.2		0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
N	Aluminum Products	HB60-210	GN9125	APGT1135	2.7	⩾ 300	0.08 (0.05-0.15)	0.1 (0.05-0.15)	0.15 (0.1-0.2)
				APGT1604	4.2		0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
S	Heat-resistant Alloys, Titanium Alloys	HRC30-45	GS4130	APMT1135	2.7	40 (30-60)	0.08 (0.05-0.15)	0.08 (0.05-0.15)	0.1 (0.05-0.15)
				APMT1604	4.2		0.1 (0.05-0.15)	0.1 (0.05-0.15)	0.15 (0.1-0.2)

Shoulder Milling

APK(E)T

Positive Double-edged Shoulder Milling Inserts



Order No.		Dimensions (mm)						Coated Cemented Carbide												Cemented Carbide	Cermet
		LE	W1	S	BS	D1	RE	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
	APKT113504R-GL	10.5	7	3.5	2	3.2	0.4		●			●		●	●			●			
	APKT113508R-GL	10.5	7	3.5	2	3.2	0.8	●	●			●	●	●	●	●	●	●			
	APKT160408R-GL	15.2	9.4	5.2	2.57	4.2	0.8			○			○	○	○	○	○	○			
	APKT113504R-GM	10.5	7	3.5	2	3.2	0.4	●	●			●	●		●	●	●	●			
	APKT113508R-GM	10.5	7	3.5	2	3.2	0.8	●	●			●	●	●	●	●	●	●			
	APKT113516R-GM	10.5	7	3.5	2	3.2	1.6		●	○			○	○	○	○	○	○			
	APKT113532R-GM	10.5	7	3.44	3.6	3.2	3.2	●	●			●	●		●	●	●	●			
	APKT160404R-GM	15.2	9.4	5.2	2.57	4.2	0.4			○			○	○	○	○	○	○			
	APKT160408R-GM	15.2	9.4	5.2	2.57	4.2	0.8	●	●			●	●		●	●	●	●			
	APKT160412R-GM	15.2	9.4	5.2	2.57	4.2	1.2		●			●			●	●	●	○			
	APKT160416R-GM	15.2	9.4	5.2	2.57	4.2	1.6	●	●				●		●	●		●			
	APKT160432R-GM	15.2	9.4	5.2	2.57	4.2	3.2	●	●				●		●	●					
	APKT113508R-GH	10.5	7	3.5	2	3.2	0.8			○						○	○				
	APKT113516R-GH	10.5	7	3.5	2	3.2	1.6	●	●							●	●				
	APKT160408R-GH	15.2	9.4	5.2	2.57	4.2	0.8			○						○	○				
	APKT160416R-GH	15.2	9.4	5.2	2.57	4.2	1.6		●			●				●	●				
	APET113504R-NL	10.5	7	3.8	1.92	3.2	0.4													●	
	APET160408R-NL	15.2	9.44	4.92	2.64	4.2	0.8													●	

●Stock ○Available Upon Order

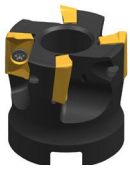
APK(E)T Series Geometry

Light Cutting of General Materials	Medium Cutting of General Materials	Heavy Cutting of General Materials	Aluminum Cutting
GL	GM	GH	NL
Light duty cutting with low cutting resistance to achieve better machining quality.	Under general working conditions, to achieve high-stability machining.	The edge has better strength, making it suitable for roughing.	Thin sharp edge type, suitable for aluminum alloy machining.

Shoulder Milling

MEB190

Mandrel Type



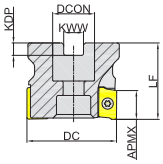


Fig1

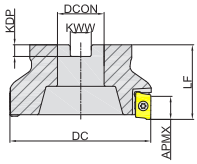


Fig2

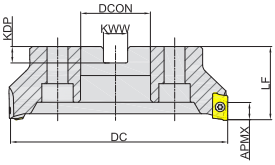


Fig3

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	KWW	KDP						
MEB190-040R05A16-AP11	40	5	40	16	40	8.4	5.6	9	APK(E)T1135	√	Fig1	0.21	●
MEB190-050R04A22-AP16	50	4	50	22	40	10.4	6.3	14	APK(E)T1604	√	Fig1	0.30	●
MEB190-050R07A22-AP11	50	7	50	22	40	10.4	6.3	9	APK(E)T1135	√	Fig1	0.29	●
MEB190-063R05A22-AP16	63	5	63	22	40	10.4	6.3	14	APK(E)T1604	√	Fig1	0.41	●
MEB190-063R07A22-AP11	63	7	63	22	40	10.4	6.3	9	APK(E)T1135	×	Fig1	0.48	●
MEB190-080R07A27-AP16	80	7	80	27	50	12.4	7	14	APK(E)T1604	√	Fig1	1.00	●
MEB190-080R08A27-AP11	80	8	80	27	50	12.4	7	9	APK(E)T1135	√	Fig1	1.02	●
MEB190-100R08A32-AP16	100	8	100	32	50	14.4	8	14	APK(E)T1604	√	Fig1	1.70	●
MEB190-100R12B32-AP11	100	12	100	32	63	14.4	8	9	APK(E)T1135	√	Fig2	1.60	●
MEB190-125R06B40-AP16	125	6	125	40	63	16.4	9	14	APK(E)T1604	×	Fig2	2.79	●
MEB190-125R09B40-AP16	125	9	125	40	63	16.4	9	14	APK(E)T1604	×	Fig2	2.76	●
MEB190-125R11B40-AP11	125	11	125	40	63	16.4	9	9	APK(E)T1135	×	Fig2	2.47	●
MEB190-160R10C40-AP16	160	10	160	40	63	16.4	9	14	APK(E)T1604	×	Fig3	4.05	●
MEB190-200R12C60-AP16	200	12	200	60	63	25.7	13	14	APK(E)T1604	×	Fig3	5.97	●

●Stock ○Available Upon Order

Shoulder Milling

MEB190

Side-clamping Type

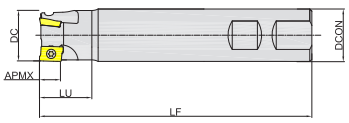


Fig4

Order No.	Diameter	Teeth	Dimensions (mm)				Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	LU						
MEB190-016R02W16-AP11	16	2	16	16	130	25	9	APKT1135	×	Fig4	0.18	●
MEB190-016R02W16-AP11L	16	2	16	16	200	50	9	APKT1135	×	Fig4	0.28	●
MEB190-020R02W20-AP11	20	2	20	20	130	25	9	APK(E)T1135	√	Fig4	0.27	●
MEB190-020R03W20-AP11	20	3	20	20	130	25	9	APK(E)T1135	√	Fig4	0.26	●
MEB190-020R03W20-AP11L	20	3	20	20	200	50	9	APK(E)T1135	√	Fig4	0.41	●
MEB190-025R02W25-AP16	25	2	25	25	130	45	14	APK(E)T1604	√	Fig4	0.41	●
MEB190-025R02W25-AP16L	25	2	25	25	200	83	14	APK(E)T1604	√	Fig4	0.65	●
MEB190-025R03W25-AP11	25	3	25	25	130	28	9	APK(E)T1135	√	Fig4	0.43	●
MEB190-025R03W25-AP11L	25	3	25	25	200	89	9	APK(E)T1135	√	Fig4	0.65	●
MEB190-025R04W25-AP11	25	4	25	25	130	28	9	APK(E)T1135	√	Fig4	0.43	●
MEB190-032R03W32-AP16	32	3	32	32	130	40	14	APK(E)T1604	√	Fig4	0.68	●
MEB190-032R03W32-AP16L	32	3	32	32	200	54	14	APK(E)T1604	√	Fig4	1.12	●
MEB190-032R04W32-AP11	32	4	32	32	130	30	9	APK(E)T1135	√	Fig4	0.72	●
MEB190-032R04W32-AP11L	32	4	32	32	200	80	9	APK(E)T1135	√	Fig4	1.13	●
MEB190-040R03W32-AP16	40	3	40	32	150	45	14	APK(E)T1604	√	Fig4	0.89	●

●Stock ○Available Upon Order

MEB190

Replaceable Tool Bit

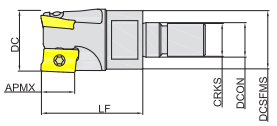


Fig5

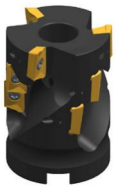
Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCSFMS	DCON	LF	CRKS						
MEB190-016R02M08-AP11	16	2	16	14.5	8.5	26	M8	9	APK(E)T1135	×	Fig5	0.03	●
MEB190-020R03M10-AP11	20	3	20	17.8	10.5	31	M10	9	APK(E)T1135	√	Fig5	0.05	●
MEB190-025R02M12-AP16	25	2	25	23	12.5	35	M12	14	APK(E)T1604	√	Fig5	0.08	●
MEB190-025R03M12-AP11	25	3	25	23	12.5	35	M12	9	APK(E)T1135	√	Fig5	0.10	●
MEB190-025R04M12-AP11	25	4	25	23	12.5	35	M12	9	APK(E)T1135	√	Fig5	0.10	●
MEB190-032R03M16-AP16	32	3	32	28.5	17	43	M16	14	APK(E)T1604	√	Fig5	0.18	●
MEB190-032R04M16-AP11	32	4	32	28.5	17	43	M16	9	APK(E)T1135	√	Fig5	0.21	●
MEB190-032R05M16-AP11	32	5	32	28.5	17	43	M16	9	APK(E)T1135	√	Fig5	0.21	●
MEB190-035R05M16-AP11	35	5	35	28.5	17	43	M16	9	APK(E)T1135	√	Fig5	0.22	●

●Stock ○Available Upon Order

Shoulder Milling

MHB190

Helical Milling Tool - Mandrel Type



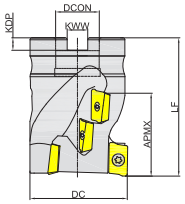


Fig6

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	KWW	KDP						
MHB190-050R03A22-AP16	50	3/9	50	22	70	10.4	6.3	43	APKT1604	√	Fig6	0.59	●
MHB190-050R04A22-AP11	50	4/16	50	22	70	10.4	6.3	39.9	APKT1135	×	Fig6	0.70	●
MHB190-063R04A27-AP16	63	4/16	63	27	85	12.4	6.3	57	APKT1604	√	Fig6	1.28	●
MHB190-063R05A27-AP11	63	5/20	63	27	70	12.4	6.3	39.9	APKT1135	√	Fig6	1.16	●
MHB190-080R05A32-AP16	80	5/20	80	32	85	14.4	7	57	APKT1604	√	Fig6	2.21	●

●Stock ○Available Upon Order

MHB190

Helical Milling Tool - Side Clamping Type

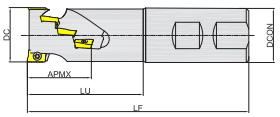
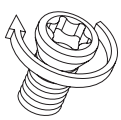
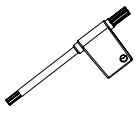
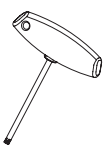


Fig7

Order No.	Diameter	Teeth	Dimensions (mm)				Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	LU						
MHB190-032R02W32-AP11	32	2/8	32	32	130	65	39.9	APKT1135	√	Fig7	0.68	●
MHB190-040R03W32-AP11	40	3/12	40	32	130	66	39.9	APKT1135	√	Fig7	0.84	●

●Stock ○Available Upon Order

List of Tool Accessories

Parts Name		Insert Screw	Recommended Torque	Insert Screw Wrench	
Suitable Insert / Shape					
APK(E)T1135	Order No.	SI60M030072-04210S	1.8N·m	TT09PQ	TT09TQ
APK(E)T1604	Order No.	SI60M035080-05314S	3.0N·m	TT15PB	TT15TB

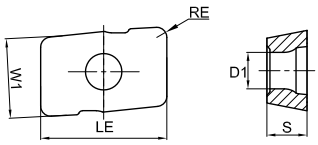
Recommended Cutting Data

Machined Material		Material Hardness	Grade	Specifications	Recommended Cutting Depth Ap(mm)	Cutting Speed Vc(m/min)	Feed/edge fz (mm)		
							Light Cutting (L)	Medium Cutting (M)	Heavy Cutting (H)
P	Soft Steel	⩽ HB180	GA4225 GA4230	APKT1135	2.7	180 (140-220)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
				APKT1604	4.2		0.2 (0.1-0.3)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
	Carbon Steel, Alloy Steel	HB180-350	GA4225 GA4230 GP2115	APKT1135	2.7	150 (110-190)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
				APKT1604	4.2		0.2 (0.1-0.3)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
	Pre-hardened Steel	HRC35-45	GA4230 GA4225 GP2115	APKT1135	2.7	130 (90-170)	0.08 (0.05-0.15)	0.1 (0.05-0.15)	0.15 (0.1-0.2)
				APKT1604	4.2		0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
M	Stainless Steel (Ferritic, Martensitic)	⩽ HB270	GM2140 GM4135 GA4230	APKT1135	2.7	160 (120-200)	0.12 (0.1-0.2)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
				APKT1604	4.2		0.15 (0.1-0.2)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
	Stainless Steel (Austenitic, Duplex)	⩽ HB270	GM2140 GM4135	APKT1135	2.7	160 (120-200)	0.1 (0.05-0.15)	0.12 (0.1-0.2)	0.15 (0.1-0.2)
				APKT1604	4.2		0.12 (0.1-0.2)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
K	Gray Cast Iron	⩽ HB280	GK2115 GK4125	APKT1135	2.7	180 (150-220)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
				APKT1604	4.2		0.2 (0.1-0.3)	0.25 (0.1-0.4)	0.3 (0.2-0.5)
	Nodular Cast Iron, Compact Graphite Iron	⩽ HB350	GK4125 GK2115	APKT1135	2.7	120 (100-180)	0.1 (0.05-0.15)	0.1 (0.05-0.15)	0.15 (0.1-0.2)
				APKT1604	4.2		0.2 (0.1-0.3)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
N	Aluminum Products	HB60-210	GN9125	APET1135	2.7	500 (200-900)	0.08 (0.05-0.15)	0.1 (0.05-0.15)	0.15 (0.1-0.2)
				APET1604	4.2		0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
S	Heat-resistant Alloys, Titanium Alloys	HRC30-45	GS4130	APKT1135	2.7	60 (50-100)	0.08 (0.05-0.15)	0.08 (0.05-0.15)	0.1 (0.05-0.15)
				APKT1604	4.2		0.1 (0.05-0.15)	0.1 (0.05-0.15)	0.15 (0.1-0.2)

Shoulder Milling

APEW

Positive Double-edged Shoulder Milling Inserts



Order No.	Dimensions (mm)					Coated Cemented Carbide										Cemented Carbide	Cermet
	LE	W1	S	D1	RE	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
APEW100308-GH	10	7	3.18	2.9	0.8												●		

●Stock ○Available Upon Order

APEW Series Geometry

Cutting of hardness steel materials
GH
High-precision ground surface, suitable for semi-finishing and finishing of various mould steel materials

Shoulder Milling

MEJ190

Replaceable Tool Bit

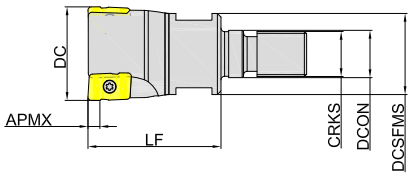
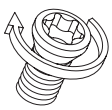
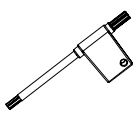


Fig1

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCSFMS	DCON	LF	CRKS						
MEJ190-017R02M08-AP10S	17	3	17	15.5	8.5	25	8	2.5	APEW1003	×	Fig1	0.03	●
MEJ190-021R02M10-AP10	21	2	21	18	10.5	30	10	2.5	APEW1003	×	Fig1	0.06	●
MEJ190-021R03M10-AP10	21	3	21	18	10.5	30	10	2.5	APEW1003	×	Fig1	0.06	●
MEJ190-025R03M12-AP10	25	3	25	23	12.5	35	12	2.5	APEW1003	×	Fig1	0.11	●
MEJ190-025R04M12-AP10	25	4	25	23	12.5	35	12	2.5	APEW1003	×	Fig1	0.11	●
MEJ190-026R03M12-AP10	26	3	26	23	12.5	35	12	2.5	APEW1003	×	Fig1	0.11	●

●Stock ○Available Upon Order

List of Tool Accessories

Parts Name		Insert Screw	Recommended Torque	Insert Screw Wrench
Suitable Insert / Shape				
APEW1003 (DC=17)	Order No.	SI60M025050-03509S	1.0N·m	TT07PQ
APEW1003 (DC ⩾ 20)	Order No.	SI60M025065-03509S	1.0N·m	TT07PQ

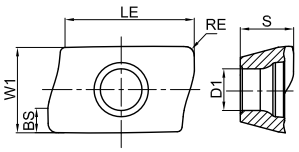
Recommended Cutting Data

Machined Material		Material Hardness	Grade	Cutting Speed Vc(m/min)	Insert Specifications	Feed/edge fz (mm)		
						Light Cutting (L)	Medium Cutting (M)	Heavy Cutting (H)
H	Quenched steel	HRC48-55	GH4115	80 (60-120)	10	0.15 (0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)

Shoulder Milling

ADGT NEW

Positive Double-edged Shoulder Milling Inserts



Order No.	Dimensions (mm)						Coated Cemented Carbide												
	LE	W1	S	BS	D1	RE	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GM4240	GK4125	GK2115	GS4130	GSM7130	GH4115
ADGT10T302R-SM	9.9	6.9	3.9	1.7	3	0.2													●	
ADGT10T304R-SM	9.9	6.9	3.9	1.9	3	0.4									○				●	
ADGT10T308R-SM	9.9	6.9	3.9	2	3	0.8									○				●	
ADGT10T312R-SM	9.8	6.9	3.9	2.3	3	1.2													●	
ADGT10T316R-SM	9.8	6.9	3.9	2.6	3	1.6									○				●	
ADGT10T320R-SM	9.7	6.9	3.9	2.9	3	2													●	
ADGT10T330R-SM	9.6	6.9	3.9	3.9	3	3									○				●	
ADGT120402R-SM	12.3	8.2	5	1.7	3.95	0.2									○				●	
ADGT120404R-SM	12.3	8.2	5	1.9	3.95	0.4									○				●	
ADGT120408R-SM	12.3	8.2	5	2.3	3.95	0.8									○				●	
ADGT120412R-SM	12.3	8.2	5	2.3	3.95	1.2									○				●	
ADGT120416R-SM	12.3	8.2	5	2.7	3.95	1.6									○				●	
ADGT120420R-SM	12.3	8.2	5	2.9	3.95	2									○				●	
ADGT120430R-SM	12.1	8.2	5	3.9	3.95	3									○				●	
ADGT180602R-SM	17.2	11.2	6.4	1.7	4.97	0.2													●	
ADGT180604R-SM	17.2	11.2	6.4	1.9	4.97	0.4													●	
ADGT180608R-SM	17.2	11.2	6.4	2.3	4.97	0.8									○				●	
ADGT180612R-SM	17.2	11.2	6.4	2.7	4.97	1.2													●	
ADGT180616R-SM	17.1	11.2	6.4	3.2	4.97	1.6													●	
ADGT180620R-SM	17.1	11.2	6.4	3.6	4.97	2									○				●	
ADGT180630R-SM	16.9	11.2	6.4	5	4.97	3									○				●	
ADGT180640R-SM	16.9	11.2	6.4	5	4.97	4													●	
ADGT180650R-SM	16.8	11.2	6.4	5.7	4.97	5									○				●	

●Stock ○Available Upon Order

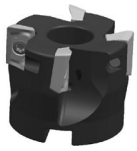
ADGT Series Geometry

Cutting of titanium alloy workpieces
SM
Cutting with low cutting resistance to obtain better machining quality.

Shoulder Milling

MET190

Mandrel Type



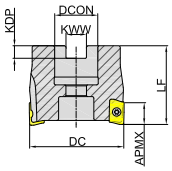


Fig1

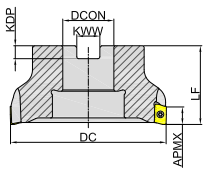


Fig2

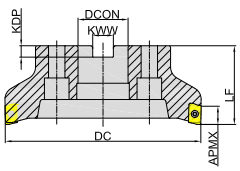


Fig3

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	KWW	KDP						
MET190-040R04A16-AD18	40	4	40	16	40	8.4	5.6	16	ADGT1806	×	Fig1	0.18	●
MET190-050R05A22-AD12	50	5	50	22	40	10.4	6.3	11	ADGT1204	√	Fig1	0.34	●
MET190-050R07A22-AD12	50	7	50	22	40	10.4	6.3	11	ADGT1204	√	Fig1	0.31	●
MET190-050R04A22-AD18	50	4	50	22	40	10.4	6.3	16	ADGT1806	√	Fig1	0.29	●
MET190-050R05A22-AD18	50	5	50	22	40	10.4	6.3	16	ADGT1806	√	Fig1	0.27	●
MET190-052R04A22-AD18	52	4	52	22	40	10.4	6.3	16	ADGT1806	√	Fig1	0.29	●
MET190-063R08A22-AD10	63	8	63	22	40	10.4	6.3	9	ADGT10T3	√	Fig1	0.53	●
MET190-063R06A22-AD12	63	6	63	22	40	10.4	6.3	11	ADGT1204	√	Fig1	0.51	●
MET190-063R08A22-AD12	63	8	63	22	40	10.4	6.3	11	ADGT1204	√	Fig1	0.48	●
MET190-063R05A22-AD18	63	5	63	22	40	10.4	6.3	16	ADGT1806	√	Fig1	0.49	●
MET190-063R06A22-AD18	63	6	63	22	40	10.4	6.3	16	ADGT1806	√	Fig1	0.46	●
MET190-066R05A22-AD18	66	5	66	22	40	10.4	6.3	16	ADGT1806	√	Fig1	0.54	●
MET190-080R07A27-AD12	80	7	80	27	50	12.4	7	11	ADGT1204	√	Fig1	1.11	●
MET190-080R10A27-AD12	80	10	80	27	50	12.4	7	11	ADGT1204	√	Fig1	1.07	●
MET190-080R06A27-AD18	80	6	80	27	50	12.4	7	16	ADGT1806	√	Fig1	1.09	●
MET190-080R08A27-AD18	80	8	80	27	50	12.4	7	16	ADGT1806	√	Fig1	1.04	●
MET190-100R08B32-AD12	100	8	100	32	50	14.4	8	11	ADGT1204	×	Fig2	1.47	●
MET190-100R12B32-AD12	100	12	100	32	50	14.4	8	11	ADGT1204	×	Fig2	1.43	●
MET190-100R07B32-AD18	100	7	100	32	50	14.4	8	16	ADGT1806	×	Fig2	1.46	●
MET190-100R09B32-AD18	100	9	100	32	50	14.4	8	16	ADGT1806	×	Fig2	1.41	●
MET190-125R08B40-AD18	125	8	125	40	63	16.4	9	16	ADGT1806	×	Fig2	2.96	●
MET190-125R11B40-AD18	125	11	125	40	63	16.4	9	16	ADGT1806	×	Fig2	2.88	●
MET190-160R09C40-AD18	160	9	160	40	63	16.4	9	16	ADGT1806	×	Fig3	4.41	●
MET190-160R12C40-AD18	160	12	160	40	63	16.4	9	16	ADGT1806	×	Fig3	4.31	●

● Stock ○ Available Upon Order

Mandrel Type-unequal Teeth

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In stock
			DC	DCON	LF	KWW	KDP						
MET190-125R08B40-AD18U	125	8	125	40	63	16.4	9	16	ADGT1806	×	Fig2	2.96	●
MET190-160R10C40-AD18U	160	10	160	40	63	16.4	9	16	ADGT1806	×	Fig3	4.37	●
MET190-200R10C60-AD18U	200	10	200	60	63	25.7	14	16	ADGT1806	×	Fig3	7.23	●
MET190-250R14C60-AD18U	250	14	250	60	63	25.7	14	16	ADGT1806	×	Fig3	10.65	○
MET190-315R18D60-AD18U	315	18	315	60	80	25.7	14	16	ADGT1806	×	Fig3	18.06	○

● Stock ○ Available Upon Order

Shoulder Milling

MET190

Cylindrical Straight Shank Type

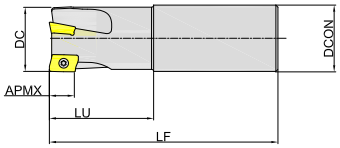


Fig4

Order No.	Diameter	Teeth	Dimensions (mm)				Maximum Cutting Depth APMX	Matched Insert	Internal cooling	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	LU						
MET190-016R02P16-AD10	16	2	16	16	100	30	9	ADGT10T3	√	Fig4	0.12	●
MET190-016R02P16-AD10L	16	2	16	16	170	50	9	ADGT10T3	√	Fig4	0.21	●
MET190-016R02P16N-AD10	16	2	16	16	100	-	9	ADGT10T3	√	Fig4	0.12	●
MET190-018R02P16-AD10	18	2	18	16	170	40	9	ADGT10T3	√	Fig4	0.22	●
MET190-020R02P20-AD10	20	2	20	20	100	30	9	ADGT10T3	√	Fig4	0.20	●
MET190-020R02P20-AD10L	20	2	20	20	150	40	9	ADGT10T3	√	Fig4	0.31	●
MET190-020R03P20-AD10S	20	3	20	20	80	25	9	ADGT10T3	√	Fig4	0.16	●
MET190-020R03P20-AD10	20	3	20	20	150	20	9	ADGT10T3	√	Fig4	0.31	●
MET190-020R03P20-AD10L	20	3	20	20	200	50	9	ADGT10T3	√	Fig4	0.41	●
MET190-020R02P20-AD12	20	2	20	20	100	40	11	ADGT1204	√	Fig4	0.19	●
MET190-020R02P20-AD12L	20	2	20	20	170	60	11	ADGT1204	√	Fig4	0.33	●
MET190-025R03P25-AD10	25	3	25	25	100	30	9	ADGT10T3	√	Fig4	0.31	●
MET190-025R03P25-AD10L	25	3	25	25	150	40	9	ADGT10T3	√	Fig4	0.48	●
MET190-025R04P25-AD10L	25	4	25	25	200	50	9	ADGT10T3	√	Fig4	0.64	●
MET190-025R02P25-AD12	25	2	25	25	100	40	11	ADGT1204	√	Fig4	0.30	●
MET190-025R02P25-AD12L	25	2	25	25	200	60	11	ADGT1204	√	Fig4	0.64	●
MET190-025R03P25-AD12	25	3	25	25	100	40	11	ADGT1204	√	Fig4	0.29	●
MET190-025R03P25-AD12L	25	3	25	25	200	60	11	ADGT1204	√	Fig4	0.62	●
MET190-032R04P32-AD10	32	4	32	32	100	30	9	ADGT10T3	√	Fig4	0.54	●
MET190-032R04P32-AD10L	32	4	32	32	150	40	9	ADGT10T3	√	Fig4	0.83	●
MET190-032R05P32-AD10L	32	5	32	32	200	50	9	ADGT10T3	√	Fig4	1.11	●
MET190-032R03P32-AD12	32	3	32	32	110	50	11	ADGT1204	√	Fig4	0.57	●
MET190-032R03P32-AD12L	32	3	32	32	210	80	11	ADGT1204	√	Fig4	1.14	●
MET190-032R04P32-AD12	32	4	32	32	110	50	11	ADGT1204	√	Fig4	0.56	●
MET190-032R04P32-AD12L	32	4	32	32	210	80	11	ADGT1204	√	Fig4	1.13	●
MET190-032R02P32-AD18	32	2	32	32	110	50	16	ADGT1806	√	Fig4	0.56	●

●Stock ○Available Upon Order

Shoulder Milling

MET190

Cylindrical Straight Shank Type

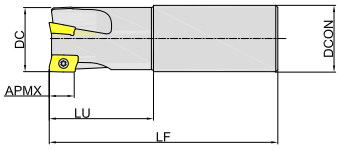


Fig4

Continued

Order No.	Diameter	Teeth	Dimensions (mm)				Maximum Cutting Depth APMX	Matched Insert	Internal cooling	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	LU						
MET190-032R02P32-AD18L	32	2	32	32	210	80	16	ADGT1806	√	Fig4	1.13	●
MET190-032R03P32-AD18	32	3	32	32	110	50	16	ADGT1806	√	Fig4	0.54	●
MET190-032R03P32-AD18L	32	3	32	32	210	80	16	ADGT1806	√	Fig4	1.10	●
MET190-035R03P32-AD12	35	3	35	32	160	-	11	ADGT1204	√	Fig4	0.91	●
MET190-035R03P32-AD12L	35	3	35	32	250	-	11	ADGT1204	√	Fig4	1.45	●
MET190-035R04P32-AD12	35	4	35	32	160	-	11	ADGT1204	√	Fig4	0.90	●
MET190-035R04P32-AD12L	35	4	35	32	250	-	11	ADGT1204	√	Fig4	1.43	●
MET190-040R03P32-AD18	40	3	40	32	160	-	16	ADGT1806	√	Fig4	0.96	●
MET190-040R03P32-AD18L	40	3	40	32	250	-	16	ADGT1806	√	Fig4	1.49	●
MET190-040R04P32-AD18	40	4	40	32	160	-	16	ADGT1806	√	Fig4	0.93	●
MET190-040R04P32-AD18L	40	4	40	32	250	-	16	ADGT1806	√	Fig4	1.46	●

● Stock ○ Available Upon Order

Shoulder Milling

MET190

Replaceable Tool Bit

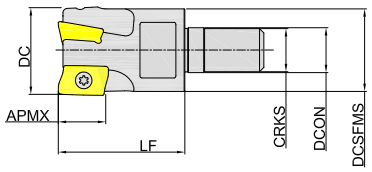
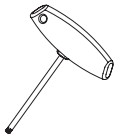


Fig5

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In stock
			DC	DCSFMS	DCON	LF	CRKS						
MET190-016R02M08-AD10	16	2	16	15	8.5	28	M08	9	ADGT10T3	×	Fig5	0.03	●
MET190-020R02M10-AD12	20	2	20	18	10.5	28	M10	11	ADGT1204	√	Fig5	0.04	●
MET190-025R03M12-AD12	25	3	25	23	12.5	35	M12	11	ADGT1204	√	Fig5	0.09	●
MET190-032R03M16-AD12	32	3	32	30	17	40	M16	11	ADGT1204	√	Fig5	0.19	●
MET190-032R04M16-AD12	32	4	32	30	17	40	M16	11	ADGT1204	√	Fig5	0.18	●
MET190-032R02M16-AD18	32	2	32	30	17	45	M16	16	ADGT1806	√	Fig5	0.21	●
MET190-032R03M16-AD18	32	3	32	30	17	45	M16	16	ADGT1806	√	Fig5	0.19	●
MET190-040R04M16-AD12	40	4	40	30	17	40	M16	11	ADGT1204	√	Fig5	0.25	●
MET190-040R04M20-AD12	40	4	40	37	21	45	M20	11	ADGT1204	√	Fig5	0.37	●
MET190-040R05M16-AD12	40	5	40	30	17	40	M16	11	ADGT1204	√	Fig5	0.24	●
MET190-040R05M20-AD12	40	5	40	37	21	45	M20	11	ADGT1204	√	Fig5	0.35	●
MET190-040R03M16-AD18	40	3	40	30	17	45	M16	16	ADGT1806	√	Fig5	0.26	●
MET190-040R03M20-AD18	40	3	40	37	21	45	M20	16	ADGT1806	√	Fig5	0.34	●
MET190-040R04M16-AD18	40	4	40	30	17	45	M16	16	ADGT1806	√	Fig5	0.23	●
MET190-040R04M20-AD18	40	4	40	37	21	45	M20	16	ADGT1806	√	Fig5	0.32	●

● Stock ○ Available Upon Order

List of Tool Accessories

Parts Name		Insert Screw	Recommended Torque	Insert Screw Wrench	
Shape / Suitable Insert			N·m		
ADGT10T3	Order No.	SI60M025065-03610IS	1.2	TI07PB	-
ADGT1204 (DC20-DC25)	Order No.	SI60M035069-04805IB	3	TI10PB	-
ADGT1204 (DC32-DC35)	Order No.	SI60M035080-04805IB	3	TI10PB	-
ADGT1204 (DC ⩾ 40)	Order No.	SI60M035090-04806IB	3	TI10PB	TI10TB
ADGT1806	Order No.	SI60M045100-06212IB	5	TI20PB	TI20TB

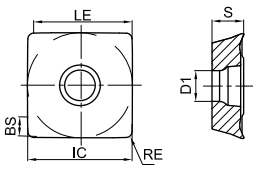
Recommended Cutting Data

Machined Material		Material Hardness	Grade	Specifications	Recommended Cutting Depth Ap(mm)	Cutting Speed Vc(m/min)	Feed/edge fz (mm)
M	Stainless Steel (Ferritic, Martensitic)	⩽ HB270	GM4240	ADGT10T3	2	160 (120-200)	0.12 (0.1-0.2)
				ADGT1204	3		
				ADGT1806	4		
	Stainless Steel (Austenitic, Duplex)	⩽ HB270	GM4240	ADGT10T3	2	160 (120-200)	0.1 (0.05-0.15)
				ADGT1204	3		
				ADGT1806	4		
S	Heat-resistant Alloys, Titanium Alloys	HRC30-45	GSM7130	ADGT10T3	2	50 (20-80)	0.1 (0.05-0.15)
				HRC30-45	GSM7130		
				ADGT1806	4		

Shoulder Milling

SDKT

Positive-type Four Edged Shoulder Milling Inserts



Order No.	Dimensions (mm)						Coated Cemented Carbide										Cemented Carbide	Cermet
	LE	IC	S	BS	D1	RE	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
SDKT14T3PEER-GL	13.12	13.92	3.96	2.5	4.1	0.8	●	●		●	●	●	●	●	●	●	●			
SDKT14T3PEER-GM	13.12	13.92	3.96	2.5	4.1	0.8	●	●		●	●	●	●	●	●	●	●			
SDKT14T3PEER-GH	13.12	13.92	3.96	2.5	4.1	0.8		●			●				●	●				

●Stock ○Available Upon Order

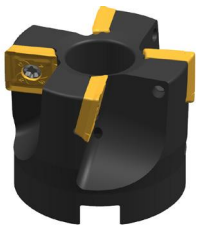
SDKT Series Geometry

Light Cutting of General Materials	Medium Cutting of General Materials	Heavy Cutting of General Materials
GL	GM	GH
Light duty cutting with low cutting resistance to achieve better machining quality.	Under general working conditions, to achieve high-stability machining.	The edge has better strength, making it suitable for roughing.

Shoulder Milling

MES190

Mandrel Type



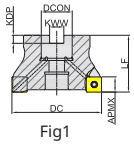


Fig1

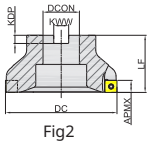


Fig2

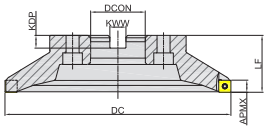


Fig3

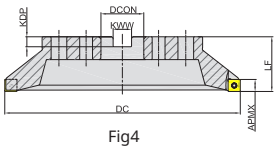


Fig4

Sparse-tooth Type

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Internal Cooling	Matched Insert	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	KWW	KDP						
MES190-050R04A22-SD14	50	4	50	22	40	10.4	6.3	10	√	SDKT14T3	Fig1	0.27	●
MES190-063R05A22-SD14	63	5	63	22	40	10.4	6.3	10	√	SDKT14T3	Fig1	0.38	●
MES190-080R06A27-SD14	80	6	80	27	50	12.4	7	10	√	SDKT14T3	Fig1	0.91	●
MES190-100R07B32-SD14	100	7	100	32	50	14.4	8	10	×	SDKT14T3	Fig2	1.29	●
MES190-125R08B40-SD14	125	8	125	40	63	16.4	9	10	×	SDKT14T3	Fig2	2.48	●
MES190-160R08C40-SD14	160	8	160	40	63	16.4	9	10	×	SDKT14T3	Fig3	4.36	○
MES190-200R10C60-SD14	200	10	200	60	63	25.7	14	10	×	SDKT14T3	Fig3	6.61	●
MES190-250R12C60-SD14	250	12	250	60	63	25.7	14	10	×	SDKT14T3	Fig3	8.76	○
MES190-315R15D60-SD14	315	15	315	60	80	25.7	14	10	×	SDKT14T3	Fig4	16.87	○

●Stock ○Available Upon Order

Dense-tooth Type

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Internal Cooling	Matched Insert	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	KWW	KDP						
MES190-050R05A22-SD14	50	5	50	22	40	10.4	6.3	10	√	SDKT14T3	Fig1	0.26	●
MES190-063R06A22-SD14	63	6	63	22	40	10.4	6.3	10	√	SDKT14T3	Fig1	0.40	●
MES190-080R08A27-SD14	80	8	80	27	50	12.4	7	10	√	SDKT14T3	Fig1	0.90	●
MES190-100R08B32-SD14	100	8	100	32	50	14.4	8	10	×	SDKT14T3	Fig2	1.23	●
MES190-125R10B40-SD14	125	10	125	40	63	16.4	9	10	×	SDKT14T3	Fig2	2.40	●
MES190-160R12C40-SD14	160	12	160	40	63	16.4	9	10	×	SDKT14T3	Fig3	4.13	●
MES190-200R16C60-SD14	200	16	200	60	63	25.7	14	10	×	SDKT14T3	Fig3	6.61	●
MES190-250R18C60-SD14	250	18	250	60	63	25.7	14	10	×	SDKT14T3	Fig3	8.53	○
MES190-315R24D60-SD14	315	24	315	60	80	25.7	14	10	×	SDKT14T3	Fig4	16.47	○

●Stock ○Available Upon Order

Shoulder Milling

MES190

Side Clamping type/cylindrical Straight Shank Type

Fig4

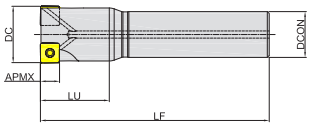
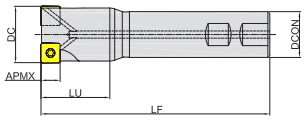


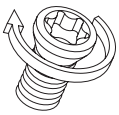
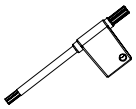
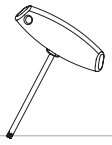
Fig5



Order No.	Diameter	Teeth	Dimensions (mm)				Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	LU						
MES190-040R03P20-SD14	40	3	40	20	120	60	10	SDKT14T3	√	Fig4	0.42	○
MES190-040R03W32-SD14	40	3	40	32	160	62	10	SDKT14T3	√	Fig5	0.96	●
MES190-040R04W32-SD14	40	4	40	32	160	62	10	SDKT14T3	√	Fig5	0.98	●
MES190-050R04W32-SD14	50	4	50	32	160	76	10	SDKT14T3	√	Fig5	1.25	●
MES190-050R05W32-SD14	50	5	50	32	160	76	10	SDKT14T3	√	Fig5	1.25	●

●Stock ○Available Upon Order

List of Tool Accessories

Parts Name		Insert Screw	Recommended Torque	Insert Screw Wrench	
Shape / Suitable Insert					
SDKT14T3	Order No.	SI60M035100-05018IS	3.0N·m	TI15PB	TI15TB

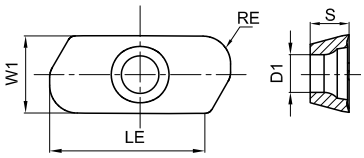
Recommended Cutting Data

Machined Material		Material Hardness	Grade	Specifications	Recommended Cutting Depth Ap(mm)	Cutting Speed Vc(m/min)	Feed/edge fz (mm)		
							Light Cutting (L)	Medium Cutting (M)	Heavy Cutting (H)
P	Soft Steel	⩽ HB180	GPM7120 GA4225 GA4230	SDKT14T3	3	180 (140-220)	0.2 (0.1-0.3)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
	Carbon Steel, Alloy Steel	HB180-350	GPM7120 GA4225 GA4230 GP2115	SDKT14T3	3	150 (110-190)	0.2 (0.1-0.3)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
	Pre-hardened steel	HRC35-45	GPM7120 GA4230 GA4225 GP2115	SDKT14T3	3	150 (110-190)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
M	Stainless Steel (Ferritic, Martensitic)	⩽ HB270	GM2140 GM4135 GA4230	SDKT14T3	3	140 (100-180)	0.12 (0.1-0.2)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
	Stainless Steel (Austenitic, Duplex)	⩽ HB270	GM2140 GM4135	SDKT14T3	3	120 (80-160)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
K	Gray Cast Iron	⩽ HB280	GK2115 GK4125	SDKT14T3	3	180 (140-220)	0.2 (0.1-0.3)	0.25 (0.1-0.4)	0.3 (0.2-0.5)
	Nodular Cast Iron, Compact Graphite Iron	⩽ HB350	GK4125 GK2115	SDKT14T3	3	140 (100-180)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
S	Heat-resistant Alloys, Titanium Alloys	HRC30-45	GS4130	SDKT14T3	3	40 (30-60)	0.1 (0.05-0.15)	0.1 (0.05-0.15)	0.15 (0.1-0.2)

Shoulder Milling

XDHT

Positive Double-edged Shoulder Milling Inserts for Aluminum



Order No.	Dimensions (mm)					Coated Cemented Carbide											Cemented Carbide	Cermet
	LE	W1	S	D1	RE	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
XDHT190402FR-AL	19	9.5	4.76	4.6	0.2													●	
XDHT190404FR-AL	19	9.50	4.76	4.6	0.4													●	
XDHT190408FR-AL	19	9.5	4.76	4.6	0.8													●	
XDHT190412FR-AL	19	9.50	4.76	4.6	1.2													●	
XDHT190420FR-AL	19	9.5	4.76	4.6	2.0													●	
XDHT190432FR-AL	19	9.5	4.76	4.6	3.2													●	
XDHT190440FR-AL	19	9.5	4.76	4.6	4.0													●	
XDHT190450FR-AL	19	9.5	4.76	4.6	5.0													●	

●Stock ○Available Upon Order

XDHT Series Geometry

General Cutting of Aluminum Materials
AL
Large rake angle, sharp edge, light cutting, polished surface, good chip removal.

Shoulder Milling

MEH190

Mandrel Type

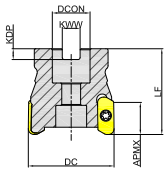


Fig1

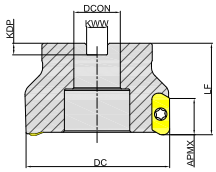


Fig2

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	KWW	KDP						
MEH190-040R03A16-XD19	40	3	40	16	50	8.4	5.6	18	XDHT1904(RE ⩽ 4)	×	Fig1	0.23	●
MEH190-050R04A22-XD19	50	4	50	22	50	10.4	6.3	18	XDHT1904(RE ⩽ 4)	×	Fig1	0.35	●
MEH190-063R04A22-XD19	63	4	63	22	50	10.4	6.3	18	XDHT1904(RE ⩽ 4)	×	Fig1	0.56	●
MEH190-063R05A22-XD19	63	5	63	22	50	10.4	6.3	18	XDHT1904(RE ⩽ 4)	×	Fig1	0.58	●
MEH190-080R04A27-XD19	80	4	80	27	50	12.4	7	18	XDHT1904(RE ⩽ 4)	×	Fig1	0.92	●
MEH190-080R05A27-XD19	80	5	80	27	50	12.4	7	18	XDHT1904(RE ⩽ 4)	×	Fig1	0.86	●
MEH190-100R05B32-XD19	100	5	100	32	50	14.4	8	18	XDHT1904(RE ⩽ 4)	×	Fig2	1.39	●
MEH190-100R08B32-XD19	100	8	100	32	50	14.4	8	18	XDHT1904(RE ⩽ 4)	×	Fig2	1.52	●
MEH190-125R05B40-XD19	125	5	125	40	63	16.4	9	18	XDHT1904(RE ⩽ 4)	×	Fig2	2.59	●
MEH190-125R06B40-XD19	125	6	125	40	63	16.4	9	18	XDHT1904(RE ⩽ 4)	×	Fig2	2.53	●

●Stock ○Available Upon Order

Shoulder Milling

MEH190

Cylindrical Straight Shank Type

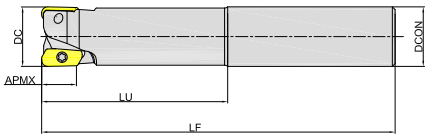


Fig3

Order No.	Diameter	Teeth	Dimensions (mm)				Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	LU						
MEH190-025R02P25-XD19	25	2	25	25	121	50	18	XDHT1904(RE ⩽ 4)	×	Fig3	0.38	●
MEH190-025R02P25-XD19L	25	2	25	25	165	63	18	XDHT1904(RE ⩽ 4)	×	Fig3	0.54	●
MEH190-032R02P32-XD19S	32	2	32	32	125	65	18	XDHT1904(RE ⩽ 4)	×	Fig3	0.64	●
MEH190-032R02P32-XD19	32	2	32	32	165	80	18	XDHT1904(RE ⩽ 4)	×	Fig3	0.88	●
MEH190-032R02P32-XD19L	32	2	32	32	190	100	18	XDHT1904(RE ⩽ 4)	×	Fig3	1.07	●
MEH190-032R03P32-XD19S	32	3	32	32	125	65	18	XDHT1904(RE ⩽ 4)	×	Fig3	0.65	●
MEH190-032R03P32-XD19	32	3	32	32	165	80	18	XDHT1904(RE ⩽ 4)	×	Fig3	0.89	●
MEH190-032R03P32-XD19L	32	3	32	32	190	100	18	XDHT1904(RE ⩽ 4)	×	Fig3	1.03	●

●Stock ○Available Upon Order

MEH190

Replaceable Tool Bit

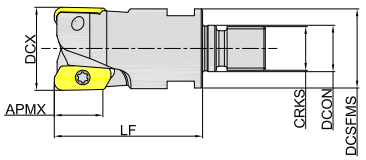


Fig4

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DCX	DCON	DCSFMS	LF	CRKS						
MEH190-025R02M12-XD19	25	2	25	12.5	24	45	M12	18	XDHT1904(RE ⩽ 4)	×	Fig4	0.20	●
MEH190-032R03M16-XD19	32	3	32	17	29	52	M16	18	XDHT1904(RE ⩽ 4)	×	Fig4	0.35	●
MEH190-040R03M16-XD19	40	3	40	17	32	52	M16	18	XDHT1904(RE ⩽ 4)	×	Fig4	0.55	●

Note: ★ RE represents the corner radius.

●Stock ○Available Upon Order

Shoulder milling

MEH190

Integrated-HSK63A

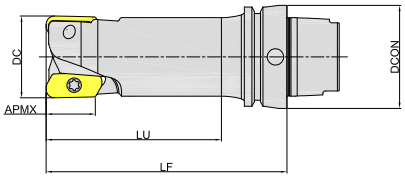
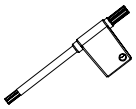
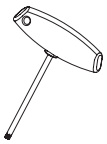


Fig5

Order No.	Diameter	Teeth	Dimensions (mm)				Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	LU						
MEH190-025R02HA63-XD19S	25	2	25	63	90	50	18	XDHT1904(RE ⩽ 4)	×	Fig5	0.85	●
MEH190-025R02HA63-XD19	25	2	25	63	100	63	18	XDHT1904(RE ⩽ 4)	×	Fig5	0.86	●
MEH190-032R02HA63-XD19S	32	2	32	63	100	63	18	XDHT1904(RE ⩽ 4)	×	Fig5	1.00	●
MEH190-032R02HA63-XD19	32	2	32	63	120	80	18	XDHT1904(RE ⩽ 4)	×	Fig5	1.10	●
MEH190-032R03HA63-XD19S	32	3	32	63	100	63	18	XDHT1904(RE ⩽ 4)	×	Fig5	1.00	●
MEH190-032R03HA63-XD19	32	3	32	63	120	80	18	XDHT1904(RE ⩽ 4)	×	Fig5	1.10	●
MEH190-040R03HA63-XD19S	40	3	40	63	100	63	18	XDHT1904(RE ⩽ 4)	×	Fig5	1.20	●
MEH190-040R03HA63-XD19	40	3	40	63	120	80	18	XDHT1904(RE ⩽ 4)	×	Fig5	1.30	●

●Stock ○Available Upon Order

List of Tool Accessories

Parts Name		Insert Screw	Recommended Torque	Insert Screw Wrench	
Shape / Suitable Insert					
XDHT1904	Order No.	SI60M040075-05505WW	3.5N·m	TT15PB	TT15TB

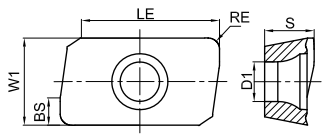
Recommended Cutting Data

Machined Material		Material Hardness	Grade	Specifications	Recommended Cutting Depth Ap(mm)	Cutting Speed Vc(m/min)	Feed/edge fz (mm)		
							Light Cutting (L)	Medium Cutting (M)	Heavy Cutting (H)
N	Aluminum Product	HB60-210	GN9125	XDHT1904	7	⩾ 300	0.15 (0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)

Shoulder Milling

XPHT

General Shoulder Milling Inserts



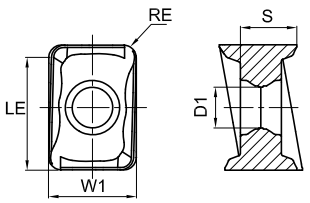
Order No.		Dimensions (mm)						Coated Cemented Carbide										Cemented Carbide	Cermet
		LE	W1	S	BS	D1	RE	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
	XPHT160408T	14.9	9.53	4.76	2	4.65	0.8									○					
	XPHT160412T	14.9	9.53	4.76	2	4.65	1.2									○					

●Stock ○Available Upon Order

Shoulder Milling

ANKX

Negative-type Four Edged Shoulder Milling Inserts



Order No.	Dimensions (mm)					Coated Cemented Carbide											Cemented Carbide	Cermet
	LE	W1	S	D1	RE	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
ANKX120704R-GL	11.6	10	8	4.3	0.4	●	●			●		○	○	○		○			
ANKX160708R-GL	15.2	11.2	7.9	5.2	0.8	○	○		●	●		○	○	○	○	○			
ANKX120708R-GM	11.2	10	8	4.3	0.8	●	●			●	○		○	●	○	○			
ANKX160708R-GM	15.2	11.2	7.9	5.2	0.8	●	●		●	●	○		●	●	●	●			
ANKX160716R-GM	14.4	11.2	7.9	5.2	1.6	●	●				○		○	○	●	○			
ANKX160716R-GH	14.4	11.2	7.9	5.2	1.6		●			○	○			●					

●Stock ○Available Upon Order

ANKX Series Geometry

Light Cutting of General Materials	Medium Cutting of General Materials	Heavy Cutting of General Materials
GL	GM	GH
Light duty cutting with low cutting resistance to achieve better machining quality.	Under general working conditions, to achieve high-stability machining.	The edge has better strength, making it suitable for roughing.

Shoulder Milling

MEC190

Mandrel Type

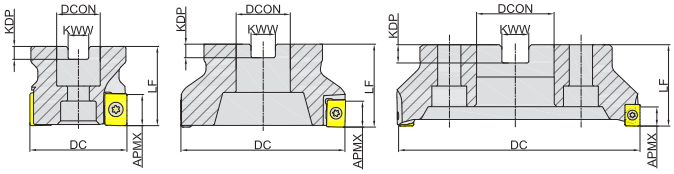


Fig1 Fig2 Fig3

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	KWW	KDP						
MEC190-050R04A22-AN12	50	4	50	22	40	10.4	6.3	9	ANKX1207	√	Fig1	0.30	●
MEC190-050R04A22-AN16	50	4	50	22	40	10.4	6.3	14	ANKX1607	√	Fig1	0.31	●
MEC190-063R05A22-AN12	63	5	63	22	40	10.4	6.3	9	ANKX1207	√	Fig1	0.49	●
MEC190-063R05A22-AN16	63	5	63	22	40	10.4	6.3	14	ANKX1607	√	Fig1	0.47	●
MEC190-080R05A27-AN16	80	5	80	27	50	12.4	7	14	ANKX1607	√	Fig1	0.88	●
MEC190-080R06A27-AN16	80	6	80	27	50	12.4	7	14	ANKX1607	√	Fig1	0.88	●
MEC190-100R07B32-AN16	100	7	100	32	50	14.4	8	14	ANKX1607	√	Fig2	1.34	●
MEC190-100R08B32-AN16	100	8	100	32	50	14.4	8	14	ANKX1607	√	Fig2	1.31	●
MEC190-125R10B40-AN16	125	10	125	40	63	16.4	9	14	ANKX1607	√	Fig2	2.83	●
MEC190-160R12C40-AN16	160	12	160	40	63	16.4	9	14	ANKX1607	×	Fig3	4.03	●
MEC190-200R14C60-AN16	200	14	200	60	63	25.7	14	14	ANKX1607	×	Fig3	5.98	●

●Stock ○Available Upon Order

MEC190

Side-clamping Type

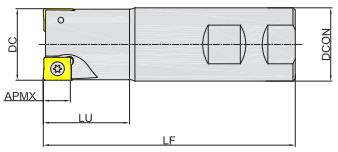


Fig4

Order No.	Diameter	Teeth	Dimensions (mm)				Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	LU						
MEC190-032R02W32-AN12	32	2	32	32	110	40	9	ANKX1207	×	Fig4	0.62	●
MEC190-032R02W32-AN16	32	2	32	32	150	40	14	ANKX1607	×	Fig4	0.85	●
MEC190-032R02W32-AN16L	32	2	32	32	200	54	14	ANKX1607	×	Fig4	1.15	●
MEC190-032R03W32-AN16	32	3	32	32	150	40	14	ANKX1607	×	Fig4	0.83	●
MEC190-032R03W32-AN16L	32	3	32	32	200	56	14	ANKX1607	×	Fig4	1.15	●
MEC190-040R03W32-AN12	40	3	43	32	130	40	9	ANKX1207	√	Fig4	0.80	●
MEC190-040R03W32-AN16	40	3	40	32	150	47	14	ANKX1607	√	Fig4	0.89	●

●Stock ○Available Upon Order

Shoulder Milling

MHC190

Helical Milling Tool-mandrel Type

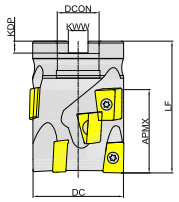


Fig5

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	KWW	KDP						
MHC190-050R03A22-AN12	50	3/12	50	22	70	10.4	6.3	43	ANKX1207	√	Fig5	0.58	●
MHC190-050R03A22-AN16	50	3/9	50	22	70	10.4	6.3	43	ANKX1607	√	Fig5	0.57	●
MHC190-063R04A27-AN12	63	4/16	63	27	70	12.4	6.3	43	ANKX1207	√	Fig5	0.96	●
MHC190-063R04A27-AN16	63	4/16	63	27	85	12.4	6.3	57	ANKX1607	√	Fig5	1.21	●
MHC190-080R05A32-AN16	80	5/20	80	32	85	14.4	7	57	ANKX1607	√	Fig5	2.15	●

●Stock ○Available Upon Order

MHC190

Helical Milling Tool-side Clamping Type

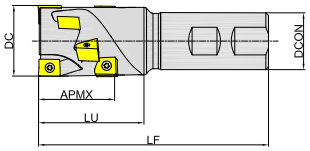
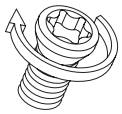
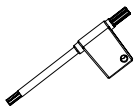
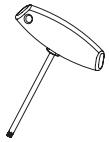


Fig6

Order No.	Diameter	Teeth	Dimensions (mm)				Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	LU						
MHC190-040R02W32-AN12	40	2/8	40	32	130	66	43	ANKX1207	√	Fig6	0.75	●

●Stock ○Available Upon Order

List of Tool Accessories

Parts Name		Insert Screw	Recommended Torque	Insert Screw Wrench	
Suitable Insert \ Shape					
ANKX1207	Order No.	SI60M035120-05314S	3.0N·m	TT15PB	—
ANKX1607	Order No.	SI60M045120-06412S	4.5N·m	TT20PQ	TT20TB

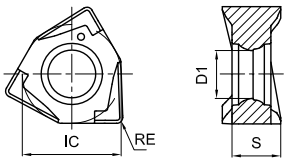
Recommended Cutting Data

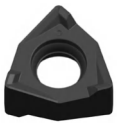
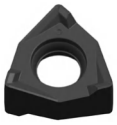
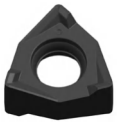
Machined Material		Material Hardness	Grade	Specifications	Recommended Cutting Depth Ap(mm)	Cutting Speed Vc(m/min)	Feed/edge fz (mm)		
							Light Cutting (L)	Medium Cutting (M)	Heavy Cutting (H)
P	Soft Steel	⩽ HB180	GA4225 GA4230	ANKX1207	2.7	180 (140-220)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
				ANKX1607	4.2		0.15 (0.1-0.2)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
	Carbon Steel, Alloy Steel	HB180-350	GA4225 GA4230 GP2115	ANKX1207	2.7	150 (110-190)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
				ANKX1607	4.2		0.15 (0.1-0.2)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
	Pre-hardened Steel	HRC35-45	GA4230 GA4225 GP2115	ANKX1207	2.7	150 (110-190)	0.08 (0.05-0.15)	0.1 (0.05-0.15)	0.15 (0.1-0.2)
				ANKX1607	4.2		0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
M	Stainless Steel (Ferritic, Martensitic)	⩽ HB270	GM2140 GM4135 GA4230	ANKX1207	2.7	140 (100-180)	0.12 (0.1-0.2)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
				ANKX1607	4.2		0.15 (0.1-0.2)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
	Stainless Steel (Austenitic, Duplex)	⩽ HB270	GM2140 GM4135	ANKX1207	2.7	120 (80-160)	0.1 (0.05-0.15)	0.12 (0.1-0.2)	0.15 (0.1-0.2)
				ANKX1607	4.2		0.12 (0.1-0.2)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
K	Gray Cast Iron	⩽ HB280	GK2115 GK4125	ANKX1207	2.7	180 (150-220)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
				ANKX1607	4.2		0.15 (0.1-0.2)	0.25 (0.1-0.4)	0.3 (0.2-0.4)
	Nodular Cast Iron, Compact Graphite Iron	⩽ HB350	GK4125 GK2115	ANKX1207	2.7	120 (100-180)	0.1 (0.05-0.15)	0.1 (0.05-0.15)	0.2 (0.1-0.25)
				ANKX1607	4.2		0.15 (0.1-0.2)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
S	Heat-resistant Alloys, Titanium Alloys	HRC30-45	GS4130	ANKX1207	2.7	60 (50-100)	0.08 (0.05-0.15)	0.08 (0.05-0.15)	0.1 (0.05-0.15)
				ANKX1607	4.2		0.1 (0.05-0.15)	0.1 (0.05-0.15)	0.15 (0.1-0.2)

Shoulder Milling

WNG(M)U

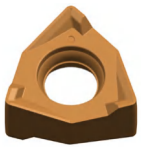
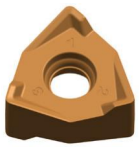
Negative Type Six Edged Shoulder Milling Inserts



Order No.	Dimensions (mm)				Coated Cemented Carbide											Cemented Carbide	Cermet
	IC	D1	S	RE	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
 WNGU080608-GL	12.48	4.7	6.45	0.8			○				○	○	○	○	○			
WNMU080608-GL	12.48	4.7	6.45	0.8								○	○					
 WNGU040304-GM	6.7	3.25	3.3	0.4	●				●	●		●	●	●	●			
WNGU040308-GM	6.7	3.25	3.3	0.8	●				●	●		●	●	●	●			
WNGU080608-GM	12.48	4.6	6.45	0.8	●			●	●	●		●	●	●	●			
WNMU080608-GM	12.48	4.7	6.45	0.8	●			●					●	●				
WNGU080616-GM	12.48	4.6	6.45	1.6	●					●		●	●	●	●			
 WNGU080608-GH	12.48	4.7	6.45	0.8	●				●				●	●				
WNMU080608-GH	12.48	4.7	6.45	0.8				○					○	○				

●Stock ○Available Upon Order

WNG(M)U Series Geometry

Light Cutting of General Materials	Medium Cutting of General Materials	Heavy Cutting of General Materials
		
GL	GM	GH
Light duty cutting with low cutting resistance to achieve better machining quality.	Under general working conditions, to achieve high-stability machining.	The edge has better strength, making it suitable for roughing.

Shoulder Milling

MEE190

Mandrel Type

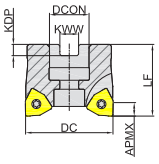


Fig1

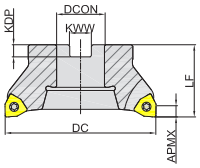


Fig2

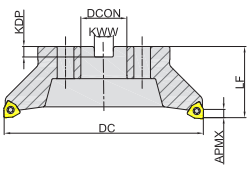


Fig3

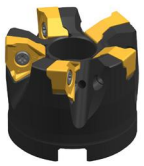
Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Internal Cooling	Matched Insert	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	KWW	KDP						
MEE190-040R06A16-WN04	40	6	40	16	40	8.4	5.6	4	√	WNGU0403	Fig1	0.23	●
MEE190-050R04A22-WN08	50	4	50	22	40	10.4	6.3	7.5	×	WNG(M)U0806	Fig1	0.32	●
MEE190-050R05A22-WN08	50	5	50	22	40	10.4	6.3	7.5	√	WNG(M)U0806	Fig1	0.33	●
MEE190-050R07A22-WN04	50	7	50	22	40	10.4	6.3	4	√	WNGU0403	Fig1	0.36	●
MEE190-063R06A22-WN08	63	6	63	22	40	10.4	6.3	7.5	×	WNG(M)U0806	Fig1	0.44	●
MEE190-080R05A27-WN08	80	5	80	27	50	12.4	7	7.5	×	WNG(M)U0806	Fig1	0.98	●
MEE190-080R07A27-WN08	80	7	80	27	50	12.4	7	7.5	×	WNG(M)U0806	Fig1	1.00	●
MEE190-100R08B32-WN08	100	8	100	32	50	14.4	8	7.5	×	WNG(M)U0806	Fig2	1.36	●
MEE190-125R07B40-WN08	125	7	125	40	63	16.4	9	7.5	×	WNG(M)U0806	Fig2	2.74	●
MEE190-125R11B40-WN08	125	11	125	40	63	16.4	9	7.5	×	WNG(M)U0806	Fig2	2.86	●
MEE190-160R08C40-WN08	160	8	160	40	63	16.4	9	7.5	×	WNG(M)U0806	Fig3	3.94	●
MEE190-160R12C40-WN08	160	12	160	40	63	16.4	9	7.5	×	WNG(M)U0806	Fig3	4.05	●
MEE190-200R08C60-WN08	200	8	200	60	63	25.7	14	7.5	×	WNG(M)U0806	Fig3	7.28	●
MEE190-200R12C60-WN08	200	12	200	60	63	25.7	14	7.5	×	WNG(M)U0806	Fig3	7.24	●
MEE190-200R16C60-WN08	200	16	200	60	63	25.7	14	7.5	×	WNG(M)U0806	Fig3	7.22	●

●Stock ○Available Upon Order

Shoulder Milling

MEE190

Mandrel Type-unequal Teeth



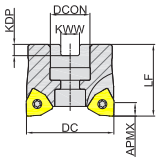


Fig1

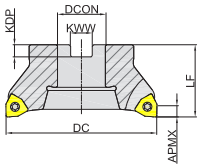


Fig2

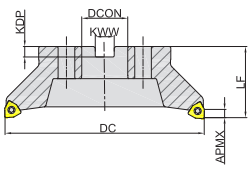


Fig3

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Internal Cooling	Matched Insert	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	KWW	KDP						
MEE190-063R06A22-WN08U	63	6	63	22	40	10.4	6.3	7.5	√	WNG(M)U0806	Fig1	0.44	●
MEE190-080R07A27-WN08U	80	7	80	27	50	12.4	7	7.5	√	WNG(M)U0806	Fig1	1.00	●
MEE190-100R08B32-WN08U	100	8	100	32	50	14.4	8	7.5	√	WNG(M)U0806	Fig2	1.36	●
MEE190-125R07B40-WN08U	125	7	125	40	63	16.4	9	7.5	×	WNG(M)U0806	Fig2	2.74	●
MEE190-160R08C40-WN08U	160	8	160	40	63	16.4	9	7.5	×	WNG(M)U0806	Fig3	3.94	●
MEE190-200R08C60-WN08U	200	8	200	60	63	25.7	14	7.5	×	WNG(M)U0806	Fig3	7.28	●

●Stock ○Available Upon Order

MEE190

Cylindrical Straight Shank Type

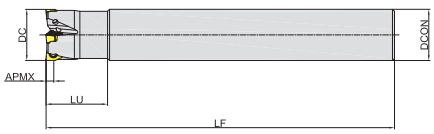
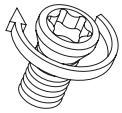
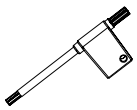
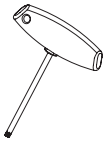


Fig4

Order No.	Diameter	Teeth	Dimensions (mm)				Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	LU						
MEE190-020R03P20-WN04	20	3	20	20	150	30	4	WNGU0403	√	Fig4	0.33	●
MEE190-025R04P25-WN04	25	4	25	25	170	30	4	WNGU0403	√	Fig4	0.60	●
MEE190-032R05P32-WN04	32	5	32	32	195	30	4	WNGU0403	√	Fig4	1.14	●
MEE190-035R05P32-WN04	35	5	35	32	195	30	4	WNGU0403	√	Fig4	1.16	●
MEE190-040R03P32-WN08	40	3	40	32	160	60.2	7.5	WNG(M)U0806	×	Fig4	1.05	●
MEE190-040R06P32-WN04	40	6	40	32	195	30	4	WNGU0403	√	Fig4	1.18	●

●Stock ○Available Upon Order

List of Tool Accessories

Parts Name		Insert Screw	Recommended Torque	Insert Screw Wrench	
Shape / Suitable Insert					
WNGU0403	Order No.	SI60M025065-03610IS	1.2N·m	TI07PB	—
WNG(M)U0806	Order No.	SI60M040100-05510IS	3.5N·m	TI15PB	TI15TB

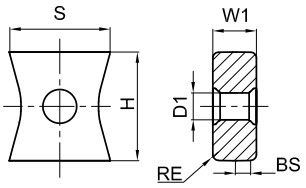
Recommended cutting data

Machined Material		Material Hardness	Grade	Specifications	Recommended Cutting Depth Ap(mm)	Cutting Speed Vc(m/min)	Feed/edge fz (mm)		
							Light Cutting (L)	Medium Cutting (M)	Heavy Cutting (H)
P	Soft Steel	⩽ HB180	GA4225 GA4230	WNGU0403	1.2	180 (140-220)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
				WNG(M)U0806	2.3		0.15 (0.1-0.2)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
	Carbon Steel, Alloy Steel	HB180-350	GA4225 GA4230 GP2115	WNGU0403	1.2	150 (110-190)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
				WNG(M)U0806	2.3		0.15 (0.1-0.2)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
	Pre-hardened Steel	HRC35-45	GA4230 GA4225 GP2115	WNGU0403	1.2	150 (110-190)	0.08 (0.05-0.15)	0.1 (0.05-0.15)	0.15 (0.1-0.2)
				WNG(M)U0806	2.3		0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
M	Stainless Steel (Ferritic, Martensitic)	⩽ HB270	GM2140 GM4135 GA4230	WNGU0403	1.2	140 (100-180)	0.12 (0.1-0.2)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
				WNG(M)U0806	2.3		0.15 (0.1-0.2)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
	Stainless Steel (Austenitic, Duplex)	⩽ HB270	GM2140 GM4135	WNGU0403	1.2	120 (80-160)	0.1 (0.05-0.15)	0.12 (0.1-0.2)	0.15 (0.1-0.2)
				WNG(M)U0806	2.3		0.12 (0.1-0.2)	0.15 (0.1-0.2)	0.2 (0.1-0.3)
K	Gray Cast Iron	⩽ HB280	GK2115 GK4125	WNGU0403	1.2	180 (150-220)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.1-0.25)
				WNG(M)U0806	2.3		0.15 (0.1-0.2)	0.25 (0.1-0.4)	0.3 (0.2-0.4)
	Nodular Cast Iron, Compact Graphite Iron	⩽ HB350	GK4125 GK2115	WNGU0403	1.2	120 (100-180)	0.1 (0.05-0.15)	0.1 (0.05-0.15)	0.2 (0.1-0.25)
				WNG(M)U0806	2.3		0.15 (0.1-0.2)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
S	Heat-resistant Alloys, Titanium Alloys	HRC30-45	GS4130	WNGU0403	1.2	40 (30-60)	0.08 (0.05-0.15)	0.08 (0.05-0.15)	0.1 (0.05-0.15)
				WNG(M)U0806	2.3		0.1 (0.05-0.15)	0.1 (0.05-0.15)	0.15 (0.1-0.2)

Shoulder Milling

LNE(M)T

Vertically-installed Eight Edged
Shoulder Milling Inserts



Order No.	Dimensions (mm)						Coated Cemented Carbide										Cemented Carbide	Cermet
	H	W1	D1	S	RE	BS	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
LNET110608-GL	11.2	6	5	11	0.8	2		●			●		●		●					
LNET150608-GL	15.0	6	7	13.9	0.8	2		●			●		●	●	●					
LNMT110608-GM	11.2	6	5	11	0.8	2		●			●	●		●	●	●				
LNMT150608-MM	15.0	6	7	13.9	0.8	2		●		●	●			●	●	●	●			
LNMT110608-GH	11.2	6	5	11	0.8	2		●			●									
LNMT150608-GH	15.0	6	7	13.9	0.8	2		●			●				●	●				
LNET1106PNEN-W	11.4	6	5	11	—	4.6									●					
LNET1506PNTN-W	15.2	6	7	13.9	—	4.8									●					

●Stock ○Available Upon Order

LNE(M)T Series Geometry

Light Cutting of General Materials	Medium Cutting of General Materials	Medium Cutting of Stainless Steel Materials	Heavy Cutting of General Materials	Wiper
GL	GM	MM	GH	W
Light duty cutting with low cutting resistance to achieve better machining quality.	Achieve high-stability machining under general working conditions.	Achieve high-stability machining of stainless steel materials under general working conditions.	High-strength cutting edge, excellent performance in interrupted cut and roughing with scale removal.	High-precision wiper to improve surface quality.

Shoulder Milling

MVA190

Mandrel Type

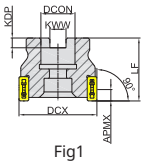


Fig1

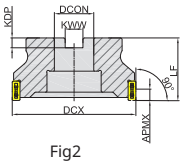


Fig2

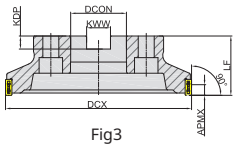


Fig3

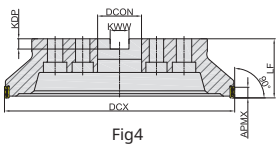
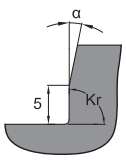


Fig4

Sparse-tooth Type

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DCX	DCON	LF	KWW	KDP						
MVA190-040R04A16-LN11	40	4	40	16	40	8.4	5.6	5	LNE(M)T1106	×	Fig1	0.21	○
MVA190-040L04A16-LN11	40	4	40	16	40	8.4	5.6	5	LNE(M)T1106	×	Fig1	0.21	○
MVA190-050R05A22-LN11	50	5	50	22	40	10.4	6.3	5	LNE(M)T1106	×	Fig1	0.29	●
MVA190-050L05A22-LN11	50	5	50	22	40	10.4	6.3	5	LNE(M)T1106	×	Fig1	0.29	●
MVA190-063R06A22-LN11	63	6	63	22	40	10.4	6.3	5	LNE(M)T1106	×	Fig1	0.50	●
MVA190-063L06A22-LN11	63	6	63	22	40	10.4	6.3	5	LNE(M)T1106	×	Fig1	0.50	●
MVA190-080R08B27-LN11	80	8	80	27	50	12.4	7	5	LNE(M)T1106	×	Fig2	0.89	●
MVA190-080L08B27-LN11	80	8	80	27	50	12.4	7	5	LNE(M)T1106	×	Fig2	0.89	○
MVA190-100R09B32-LN11	100	9	100	32	50	14.4	8	5	LNE(M)T1106	×	Fig2	1.55	●
MVA190-100L09B32-LN11	100	9	100	32	50	14.4	8	5	LNE(M)T1106	×	Fig2	1.55	○
MVA190-125R10B40-LN11	125	10	125	40	63	16.4	9	5	LNE(M)T1106	×	Fig2	2.74	●
MVA190-125L10B40-LN11	125	10	125	40	63	16.4	9	5	LNE(M)T1106	×	Fig2	2.74	○
MVA190-160R12C40-LN11	160	12	160	40	63	16.4	9	5	LNE(M)T1106	×	Fig3	3.90	●
MVA190-160L12C40-LN11	160	12	160	40	63	16.4	9	5	LNE(M)T1106	×	Fig3	3.90	○
MVA190-200R16C60-LN11	200	16	200	60	63	25.7	14	5	LNE(M)T1106	×	Fig3	5.36	●
MVA190-200L16C60-LN11	200	16	200	60	63	25.7	14	5	LNE(M)T1106	×	Fig3	5.36	○

● Stock ○ Available Upon Order



Diameter Range	Re-cutting Angle	Cutting Tool Cutting Edge Angle
DCX ⩽ 50mm	α=8.5°	Kr=91°
DCX=63mm	α=7.5°	Kr=91°
DCX=80mm	α=7.5°	Kr=91°
DCX ⩾ 100mm	α=5°	Kr=90°

Note: When the total cutting depth is > 5mm, re-cutting will occur, as shown in the above table.

Shoulder Milling

MVA190

Mandrel Type

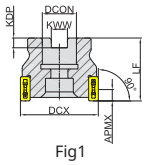


Fig1

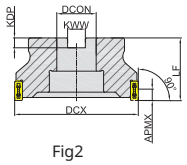


Fig2

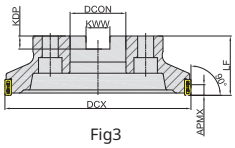


Fig3

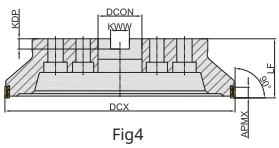
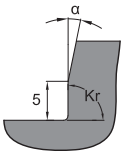


Fig4

Dense-tooth Type

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DCX	DCON	LF	KWW	KDP						
MVA190-040R05A16-LN11	40	5	40	16	40	8.4	5.6	5	LNE(M)T1106	×	Fig1	0.21	○
MVA190-040L05A16-LN11	40	5	40	16	40	8.4	5.6	5	LNE(M)T1106	×	Fig1	0.21	○
MVA190-050R07A22-LN11	50	7	50	22	40	10.4	6.3	5	LNE(M)T1106	×	Fig1	0.30	○
MVA190-050L07A22-LN11	50	7	50	22	40	10.4	6.3	5	LNE(M)T1106	×	Fig1	0.30	○
MVA190-063R09A22-LN11	63	9	63	22	40	10.4	6.3	5	LNE(M)T1106	×	Fig1	0.50	●
MVA190-063L09A22-LN11	63	9	63	22	40	10.4	6.3	5	LNE(M)T1106	×	Fig1	0.50	○
MVA190-080R11B27-LN11	80	11	80	27	50	12.4	7	5	LNE(M)T1106	×	Fig2	0.90	○
MVA190-080L11B27-LN11	80	11	80	27	50	12.4	7	5	LNE(M)T1106	×	Fig2	0.90	○
MVA190-100R14B32-LN11	100	14	100	32	50	14.4	8	5	LNE(M)T1106	×	Fig2	1.55	○
MVA190-100L14B32-LN11	100	14	100	32	50	14.4	8	5	LNE(M)T1106	×	Fig2	1.55	○
MVA190-125R18B40-LN11	125	18	125	40	63	16.4	9	5	LNE(M)T1106	×	Fig2	2.74	○
MVA190-125L18B40-LN11	125	18	125	40	63	16.4	9	5	LNE(M)T1106	×	Fig2	2.74	○
MVA190-160R23C40-LN11	160	23	160	40	63	16.4	9	5	LNE(M)T1106	×	Fig3	3.91	○
MVA190-160L23C40-LN11	160	23	160	40	63	16.4	9	5	LNE(M)T1106	×	Fig3	3.91	○
MVA190-200R28C60-LN11	200	28	200	60	63	25.7	14	5	LNE(M)T1106	×	Fig3	5.37	○
MVA190-200L28C60-LN11	200	28	200	60	63	25.7	14	5	LNE(M)T1106	×	Fig3	5.37	○

● Stock ○ Available Upon Order



Workpiece

Diameter Range	Re-cutting Angle	Cutting Tool Cutting Edge Angle
DCX ⩽ 50mm	α=8.5°	Kr=91°
DCX=63mm	α=7.5°	Kr=91°
DCX=80mm	α=7.5°	Kr=91°
DCX ⩾ 100mm	α=5°	Kr=90°

Note: When the total cutting depth is > 5mm, re-cutting will occur, as shown in the above table.

Shoulder Milling

MVA190

Mandrel Type

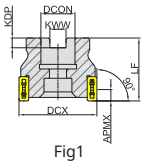


Fig1

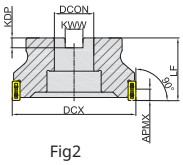


Fig2

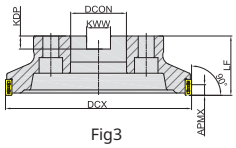


Fig3

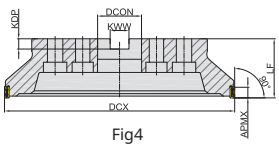
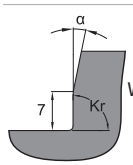


Fig4

Sparse-tooth Type

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DCX	DCON	LF	KWW	KDP						
MVA190-050R04A22-LN15	50	4	50	22	40	10.4	6.3	7	LNE(M)T1506	×	Fig1	0.30	●
MVA190-050L04A22-LN15	50	4	50	22	40	10.4	6.3	7	LNE(M)T1506	×	Fig1	0.30	○
MVA190-063R05A22-LN15	63	5	63	22	40	10.4	6.3	7	LNE(M)T1506	×	Fig1	0.52	●
MVA190-063L05A22-LN15	63	5	63	22	40	10.4	6.3	7	LNE(M)T1506	×	Fig1	0.52	●
MVA190-080R06B27-LN15	80	6	80	27	50	12.4	7	7	LNE(M)T1506	×	Fig2	0.92	●
MVA190-080L06B27-LN15	80	6	80	27	50	12.4	7	7	LNE(M)T1506	×	Fig2	0.92	○
MVA190-100R08B32-LN15	100	8	100	32	50	14.4	8	7	LNE(M)T1506	×	Fig2	1.59	●
MVA190-100L08B32-LN15	100	8	100	32	50	14.4	8	7	LNE(M)T1506	×	Fig2	1.59	○
MVA190-125R10B40-LN15	125	10	125	40	63	16.4	9	7	LNE(M)T1506	×	Fig2	2.86	●
MVA190-125L10B40-LN15	125	10	125	40	63	16.4	9	7	LNE(M)T1506	×	Fig2	2.86	○
MVA190-160R12C40-LN15	160	12	160	40	63	16.4	9	7	LNE(M)T1506	×	Fig3	4.39	●
MVA190-160L12C40-LN15	160	12	160	40	63	16.4	9	7	LNE(M)T1506	×	Fig3	4.39	○
MVA190-200R12C60-LN15	200	12	200	60	63	25.7	14	7	LNE(M)T1506	×	Fig3	5.73	●
MVA190-200L12C60-LN15	200	12	200	60	63	25.7	14	7	LNE(M)T1506	×	Fig3	5.73	○
MVA190-200R15C60-LN15	200	15	200	60	63	25.7	14	7	LNE(M)T1506	×	Fig3	5.86	○
MVA190-200L15C60-LN15	200	15	200	60	63	25.7	14	7	LNE(M)T1506	×	Fig3	5.86	○
MVA190-250R15C60-LN15	250	15	250	60	63	25.7	14	7	LNE(M)T1506	×	Fig3	11.45	○
MVA190-250L15C60-LN15	250	15	250	60	63	25.7	14	7	LNE(M)T1506	×	Fig3	11.45	○
MVA190-250R20C60-LN15	250	20	250	60	63	25.7	14	7	LNE(M)T1506	×	Fig3	11.65	○
MVA190-250L20C60-LN15	250	20	250	60	63	25.7	14	7	LNE(M)T1506	×	Fig3	11.65	○
MVA190-315R18D60-LN15	315	18	315	60	80	25.7	14	7	LNE(M)T1506	×	Fig4	22.06	○
MVA190-315L18D60-LN15	315	18	315	60	80	25.7	14	7	LNE(M)T1506	×	Fig4	22.06	○
MVA190-315R25D60-LN15	315	25	315	60	80	25.7	14	7	LNE(M)T1506	×	Fig4	22.41	○
MVA190-315L25D60-LN15	315	25	315	60	80	25.7	14	7	LNE(M)T1506	×	Fig4	22.41	○

● Stock ○ Available Upon Order



Diameter Range	Re-cutting Angle	Cutting Tool Cutting Edge Angle
DCX=50mm	α=8°	Kr=91°
DCX=63mm	α=7°	Kr=90.5°
DCX=80mm	α=7°	Kr=90.5°
DCX ⩾ 100mm	α=5°	Kr=90°

Note: When the total cutting depth is > 7mm, re-cutting will occur, as shown in the above table.

Shoulder Milling

MVA190

Mandrel Type

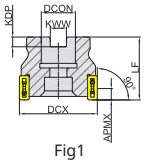


Fig1

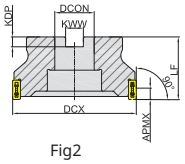


Fig2

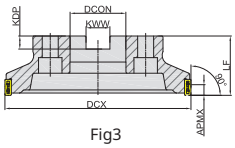


Fig3

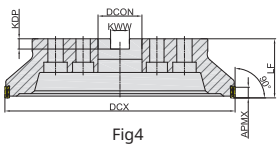
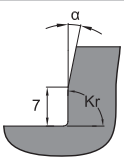


Fig4

Dense-tooth Type

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DCX	DCON	LF	KWW	KDP						
MVA190-050R05A22-LN15	50	5	50	22	40	10.4	6.3	7	LNE(M)T1506	×	Fig1	0.29	●
MVA190-050L05A22-LN15	50	5	50	22	40	10.4	6.3	7	LNE(M)T1506	×	Fig1	0.29	○
MVA190-063R06A22-LN15	63	6	63	22	40	10.4	6.3	7	LNE(M)T1506	×	Fig1	0.51	○
MVA190-063L06A22-LN15	63	6	63	22	40	10.4	6.3	7	LNE(M)T1506	×	Fig1	0.51	○
MVA190-080R08B27-LN15	80	8	80	27	50	12.4	7	7	LNE(M)T1506	×	Fig2	0.93	●
MVA190-080L08B27-LN15	80	8	80	27	50	12.4	7	7	LNE(M)T1506	×	Fig2	0.93	○
MVA190-100R10B32-LN15	100	10	100	32	50	14.4	8	7	LNE(M)T1506	×	Fig2	1.60	●
MVA190-100L10B32-LN15	100	10	100	32	50	14.4	8	7	LNE(M)T1506	×	Fig2	1.60	○
MVA190-125R12B40-LN15	125	12	125	40	63	16.4	9	7	LNE(M)T1506	×	Fig2	2.86	○
MVA190-125L12B40-LN15	125	12	125	40	63	16.4	9	7	LNE(M)T1506	×	Fig2	2.86	○
MVA190-160R15C40-LN15	160	15	160	40	63	16.4	9	7	LNE(M)T1506	×	Fig3	4.39	○
MVA190-160L15C40-LN15	160	15	160	40	63	16.4	9	7	LNE(M)T1506	×	Fig3	4.39	○
MVA190-200R20C60-LN15	200	20	200	60	63	25.7	14	7	LNE(M)T1506	×	Fig3	5.87	○
MVA190-200L20C60-LN15	200	20	200	60	63	25.7	14	7	LNE(M)T1506	×	Fig3	5.87	○
MVA190-250R25C60-LN15	250	25	250	60	63	25.7	14	7	LNE(M)T1506	×	Fig3	11.64	○
MVA190-250L25C60-LN15	250	25	250	60	63	25.7	14	7	LNE(M)T1506	×	Fig3	11.64	○
MVA190-315R30D60-LN15	315	30	315	60	80	25.7	14	7	LNE(M)T1506	×	Fig4	22.37	○
MVA190-315L30D60-LN15	315	30	315	60	80	25.7	14	7	LNE(M)T1506	×	Fig4	22.37	○

● Stock ○ Available Upon Order



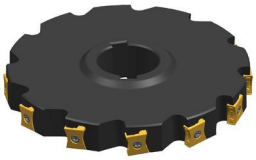
Diameter Range	Re-cutting Angle	Cutting Tool Cutting Edge Angle
DCX=50mm	α=8°	Kr=91°
DCX=63mm	α=7°	Kr=90.5°
DCX=80mm	α=7°	Kr=90.5°
DCX ⩾ 100mm	α=5°	Kr=90°

Note: When the total cutting depth is > 7mm, re-cutting will occur, as shown in the above table.

Shoulder Milling

MVA290

Disc Type



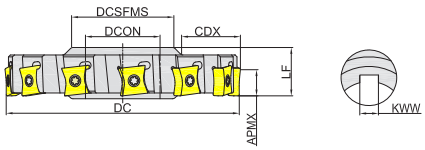
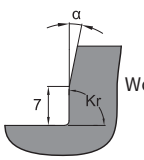


Fig5

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	CDX	DCON	DCSFMS	KWW	LF						
MVA290-080R08K27-LN15	80	8	80	18	27	41	7	24	7	LNE(M)T1506	×	Fig5	0.56	○
MVA290-080L08K27-LN15	80	8	80	18	27	41	7	24	7	LNE(M)T1506	×	Fig5	0.56	○
MVA290-100R10K32-LN15	100	10	100	23	32	47	8	26	7	LNE(M)T1506	×	Fig5	0.91	○
MVA290-100L10K32-LN15	100	10	100	23	32	47	8	26	7	LNE(M)T1506	×	Fig5	0.91	○
MVA290-125R12K40-LN15	125	12	125	32	40	55	10	26	7	LNE(M)T1506	×	Fig5	1.45	○
MVA290-125L12K40-LN15	125	12	125	32	40	55	10	26	7	LNE(M)T1506	×	Fig5	1.45	○
MVA290-160R15K40-LN15	160	15	160	49	40	55	10	26	7	LNE(M)T1506	×	Fig5	2.50	○
MVA290-160L15K40-LN15	160	15	160	49	40	55	10	26	7	LNE(M)T1506	×	Fig5	2.50	○
MVA290-200R20K50-LN15	200	20	200	63	50	68	12	28	7	LNE(M)T1506	×	Fig5	4.44	○
MVA290-200L20K50-LN15	200	20	200	63	50	68	12	28	7	LNE(M)T1506	×	Fig5	4.44	○
MVA290-250R25K60-LN15	250	25	250	80	60	84	14	28	7	LNE(M)T1506	×	Fig5	6.99	○
MVA290-250L25K60-LN15	250	25	250	80	60	84	14	28	7	LNE(M)T1506	×	Fig5	6.99	○

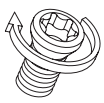
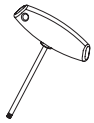
● Stock ○ Available Upon Order



Diameter Range	Re-cutting Angle	Cutting Tool Cutting Edge Angle
DCX=50mm	α=8°	Kr=91°
DCX=63mm	α=7°	Kr=90.5°
DCX=80mm	α=7°	Kr=90.5°
DCX ⩾ 100mm	α=5°	Kr=90°

Note: When the total cutting depth is > 7mm, re-cutting will occur, as shown in the above table.

List of Tool Accessories

Parts Name		Insert Screw	Recommended Torque	Insert Screw Wrench	
Suitable Insert / Shape					
LNE(M)T1106	Order No.	SI60M035094-04909IB	3.0N·m	TI10PB	TI10TB
LNE(M)T1506	Order No.	SI60M040110-05708IB	4.0N·m	TI15PB	TI15TB

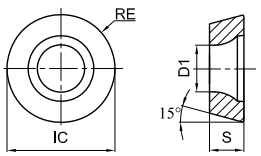
Recommended Cutting Data

Machined Material		Material Hardness	Grade	Specifications	Recommended Cutting Depth Ap(mm)	Cutting Speed Vc(m/min)	Feed/edge fz (mm)		
							Light Cutting (L)	Medium Cutting (M)	Heavy Cutting (H)
P	Soft Steel	⩽ HB180	GPM7120 GA4225 GA4230	LNE(M)T1106	2.5	220 (180-260)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.15-0.25)
				LNE(M)T1506	3.5		0.2 (0.1-0.3)	0.25 (0.1-0.4)	0.3 (0.2-0.5)
	Carbon Steel, Alloy Steel	HB180-350	GPM7120 GA4225 GA4230 GP2115	LNE(M)T1106	2.5	180 (140-220)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.15-0.25)
				LNE(M)T1506	3.5		0.2 (0.1-0.3)	0.25 (0.1-0.4)	0.3 (0.2-0.5)
	Pre-hardened Steel	HRC35-45	GPM7120 GA4230 GA4225 GP2115	LNE(M)T1106	2.5	160 (120-200)	0.06 (0.05-0.1)	0.1 (0.05-0.15)	0.15 (0.1-0.2)
				LNE(M)T1506	3.5		0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.15-0.25)
M	Stainless Steel (Ferritic, Martensitic)	⩽ HB270	GM2140 GM4135 GA4230	LNE(M)T1106	2.5	160 (120-200)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.15-0.25)
				LNE(M)T1506	3.5		0.15 (0.1-0.2)	0.25 (0.15-0.35)	0.3 (0.2-0.4)
	Stainless Steel (Austenitic, Duplex)	⩽ HB270	GM2140 GM4135	LNE(M)T1106	2.5	140 (100-180)	0.06 (0.05-0.1)	0.1 (0.05-0.15)	0.15 (0.1-0.2)
				LNE(M)T1506	3.5		0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.15-0.25)
K	Gray Cast Iron	⩽ HB280	GK2115 GK4125	LNE(M)T1106	2.5	220 (180-260)	0.2 (0.1-0.3)	0.25 (0.1-0.4)	0.3 (0.2-0.5)
				LNE(M)T1506	3.5		0.2 (0.1-0.3)	0.25 (0.1-0.4)	0.3 (0.2-0.5)
	Nodular Cast Iron, Compact Graphite Iron	⩽ HB350	GK4125 GK2115	LNE(M)T1106	2.5	140 (100-180)	0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.15-0.25)
				LNE(M)T1506	3.5		0.1 (0.05-0.15)	0.15 (0.1-0.2)	0.2 (0.15-0.25)

Profile Milling

RD

Positive Type Precision Profile Milling Inserts



Order No.	Dimensions (mm)				Coated Cemented Carbide												Cemented Carbide	Cermet
	IC	S	RE	D1	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
RDET0803M0-BL	8	3.18	4	2.9		○	○											
★ RDET1003M0-BL	10	3.18	5	4.4			○											
RDET10T3M0-BL	10	3.97	5	4.4	○	○	○											
RDET1204M0-BL	12	4.76	6	4.4		○	○											
RDET1604M0-BL	16	4.76	8	5.5		●	○											
★ RDET0802M0-GM	8	2.38	4	2.9	●	○	●		○						○			
RDET0803M0-GM	8	3.18	4	2.9		○	○											
★ RDET1003M0-GM	10	3.18	5	4.4		○	○											
RDET10T3M0-GM	10	3.97	5	4.4	●	●	●		○			○			○			
RDET1204M0-GM	12	4.76	6	4.4	○	●	○								●			
RDET1604M0-GM	16	4.76	8	5.5	○	●	○		○						○			
RDEW0501M0	5	1.51	2.5	2.2	●	●	●		●									
RDEW0702M0	7	2.38	3.5	2.8	●	●	●		●									●
★ RDEW1003M0	10	3.18	5	4.4	●		●											
RDEW0702M0T	7	2.38	3.5	2.8	●	●	●		●									
RDEW0803M0T	8	3.18	4	2.9	○	○	○		●									
★ RDEW1003M0T	10	3.18	5	4.6	●	●	●						●					
RDEW10T3M0T	10	3.97	5	4.4	●	●	●		○									
RDEW1204M0T	12	4.76	6	4.4	●	●	●		○				●					
RDEW1604M0T	16	4.76	8	5	○	○	○						○					
★ RDEW1606M0T	16	6.35	8	5.5			○											
★ RDEW12T3M0T-BM	12	3.97	6	4.4	○	●	●											
RDEW1204M0T-BM	12	4.76	6	4.4		●	○		○									
RDEW1204M0T-PM	12	4.82	6	4.4	○	○	●											
★ RDEW1605M0T-PM	16	5.66	8	5.5	○	○	○											

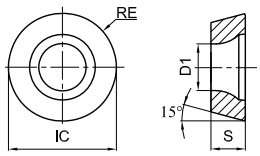
Note:
★ The model cannot be installed on the MPA100 series tool.

●Stock ○Available Upon Order

Profile Milling

RD

Positive-type Economic Profile Milling Inserts



	Order No.	Dimensions (mm)				Coated Cemented Carbide												Cemented Carbide	Cermet
		IC	S	RE	D1	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
	RDMT10T3M0-GM	10	3.97	5	4.4	●	●	●		●	○		○	●		●			
	RDMT1204M0-GM	12	4.76	6	4.4	●	●	●		●				●		●			
	RDMW1204M0T-BM	12	4.76	6	4.4	●	●	●	●	●	●			●	●				
	★ RDMW1605M0T-BM	16	5.56	8	5.5	●	●	●		●									
	RDMW10T3M0T	10	3.97	5	4.4	●	●	●	●	●					○				○
	RDMW1604M0T	16	4.76	8	5.5	●	●	●		●					○				
	RDMW1204M0T-PM	12	4.76	6	4.4	●		●		●									

●Stock ○Available Upon Order

Note:
★ The model cannot be installed on the MPA100 series tool.

RD Series Geometry

Light Cutting of General Materials	Medium Cutting of General Materials	Heavy Cutting of General Materials	Heavy Cutting cGeneral Materials
BL	GM	None	None/BM/PM
Large rake angle design makes the cutting edge sharper.	Moderate edge width and rake angle design balance the strength and sharpness of the land.	Tablet design gives the cutting edge more strength.	Tablet with chamfering design gives the cutting edge more strength.

Profile Milling

MPA100

Mandrel Type

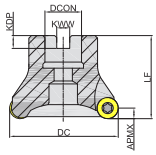


Fig1

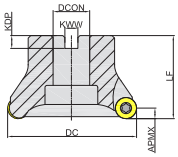


Fig2

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Clamp Plate	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	KWW	KDP							
MPA100-040R05A16-RD08	40	5	40	16	40	8.4	6.3	4	RD**0803	×	×	Fig1	0.21	●
MPA100-050R04A22-RD10	50	4	50	22	50	10.4	6.3	5	RD**10T3	×	√	Fig1	0.32	●
MPA100-050R04A22-RD12	50	4	50	22	50	10.4	6.3	6	RD**1204	×	√	Fig1	0.30	●
MPA100-050R05A22-RD12	50	5	50	22	50	10.4	6.3	6	RD**1204	×	√	Fig1	0.32	●
MPA100-063R04A22-RD16	63	4	63	22	50	10.4	6.3	8	RD**1604	×	×	Fig1	0.52	●
MPA100-063R05A22-RD12	63	5	63	22	50	10.4	6.3	6	RD**1204	×	√	Fig1	0.50	●
MPA100-080R05A27-RD16	80	5	80	27	50	12.4	7	8	RD**1604	×	×	Fig1	0.86	●
MPA100-100R06B32-RD16	100	6	100	32	50	14.4	8	8	RD**1604	×	×	Fig2	1.13	●
MPA100-125R07B40-RD16	125	7	125	40	63	16.4	9	8	RD**1604	×	×	Fig2	2.37	●

● Stock ○ Available Upon Order

MPA100

Cylindrical Straight Shank Type

Fig3

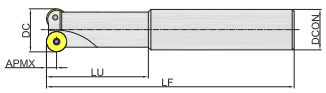


Fig4

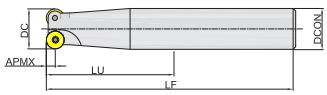
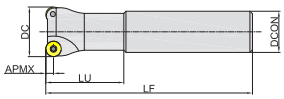


Fig5



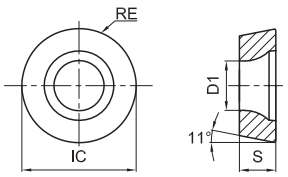
Order No.	Diameter	Teeth	Dimensions (mm)				Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Clamp Plate	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	LU							
MPA100-010R02P16-RD05	10	2	10	16	120	40	2.5	RD**0501	×	×	Fig3	0.13	●
MPA100-012R02P16-RD05	12	2	12	16	120	40	2.5	RD**0501	×	×	Fig3	0.14	●
MPA100-016R02P16-RD07	16	2	16	16	160	50	3.5	RD**0702	×	×	Fig4	0.23	●
MPA100-017R02P16-RD08	17	2	17	16	160	50	4	RD**0803	×	×	Fig5	0.23	●
MPA100-020R02P20-RD08	20	2	20	20	160	50	4	RD**0803	×	×	Fig3	0.35	●
MPA100-020R02P20-RD10	20	2	20	20	160	50	5	RD**10T3	×	√	Fig4	0.34	●
MPA100-025R02P20-RD10	25	2	25	20	160	50	5	RD**10T3	×	√	Fig5	0.37	●
MPA100-025R03P25-RD10	25	3	25	25	160	70	5	RD**10T3	×	√	Fig4	0.525	●
MPA100-032R02P32-RD12	32	2	32	32	200	60	6	RD**1204	×	√	Fig4	1.13	●
MPA100-032R02P32-RD16	32	2	32	32	200	65	8	RD**1604	×	×	Fig3	1.08	●
MPA100-032R03P32-RD12S	32	3	32	32	160	50	6	RD**1204	×	√	Fig3	0.89	●
MPA100-032R03P32-RD12	32	3	32	32	200	60	6	RD**1204	×	√	Fig4	1.13	●
MPA100-035R02P32-RD16	35	2	35	32	200	65	8	RD**1604	×	×	Fig5	1.09	●

● Stock ○ Available Upon Order

Profile Milling

RP

Positive Type Precision Profile Milling Inserts



	Order No.	Dimensions (mm)				Coated Cemented Carbide											Cemented Carbide	Cermet
		IC	S	RE	D1	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
	RPET1003M0-GL	10	3.18	5	4.4		○	○											
	RPET1204M0-GL	12	4.76	6	4.4		○	○											
	RPET1003M0T-GM	10	3.18	5	4.4		○	○											
	RPET1204M0-GM	12	4.76	6	4.4	●	○	●											
	RPET08T2M0-GM	8	2.78	4	2.9	●	●	●		●						●			
	RPET1204M0T-GM	12	4.76	6	4.4	●	●	○											
	RPET1606M0T-GM	16	6.35	8	5.5		○	○		○						●			
	RPET1606M0T-GH	16	6.35	8	5.5	○	○	○											
	RPET1606M0-SM	16	6.35	8	5.5					○			●			●			
	RPEW1003M0	10	3.18	5	4.4	○	○	○											
	★ RPEW10T3M0	10	3.97	5	4.4	○	○	○											
	RPEW08T2M0	8	2.78	4	2.9	○		○											
	RPEW1003M0T	10	3.18	5	4.4	●	●	●											
	RPEW1204M0T	12	4.76	6	4.4		○	○											

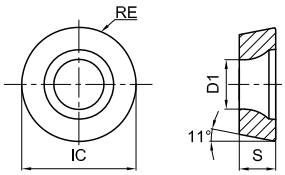
●Stock ○Available Upon Order

Note:
★ The model cannot be installed on the MPB100 series tool.

Profile Milling

RP

Positive-type Economic Profile Milling Inserts



	Order No.	Dimensions (mm)				Coated Cemented Carbide											Cemented Carbide	Cermet
		IC	S	RE	D1	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
	★ RPMT10T3M0-GM	10	3.97	5	4.4	●	●	●		●						○			
	RPMT1003M0T-GM	10	3.18	5	4.4	●	●	●		○			●	○		●			
	RPMT1204M0-GM	12	4.76	6	4.4	●	●	●		●			○	●		●			
	RPMT1204M0T-KM	12	4.76	6	4.4	○	○	○				●		●					
	RPMW1003M0T	10	3.18	5	4.4	●	●	●		●				●	●				●
	RPMW1204M0T	12	4.76	6	4.4	●	●	●		●		●		●					

●Stock ○Available Upon Order

Note:
★ The model cannot be installed on the MPB100 series tool.

RP Series Geometry

Light Cutting of General Materials	Medium Cutting of General Materials	Medium Cutting of General Materials	Medium Cutting of Difficult-to-Machine Materials
GL	GM	GM	SM
Large rake angle design makes the cutting edge sharper.	Moderate edge width and rake angle design balance the strength and sharpness of the land.	Moderate edge width and rake angle design balance the strength and sharpness of the land.	Moderate edge width and rake angle design to achieve high-stability machining of difficult-to-machine materials.

Heavy Cutting of Stainless Steel Materials	Heavy Cutting of General Materials	Heavy Cutting of General Materials	Heavy Cutting of General Materials
KM	GH	None	None
Moderate edge width and circular arc rake angle design to improve chip removal performance and sharpness.	Small rake angle design gives the cutting edge more strength.	Tablet design balances the sharpness and strength of the cutting edge.	Tablet with chamfering design gives the cutting edge more strength.

Profile Milling

MPB100

Mandrel Type

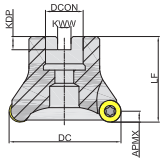


Fig1

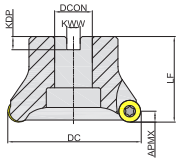


Fig2

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Clamp Plate	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	KWW	KDP							
MPB100-040R04A16-RP10	40	4	40	16	40	8.4	6.3	5	RP**1003	×	√	Fig1	0.16	●
MPB100-040R05A16-RP08	40	5	40	16	40	8.4	6.3	4	RP**08T2	×	×	Fig1	0.19	●
MPB100-050R04A22-RP10	50	4	50	22	50	10.4	6.3	5	RP**1003	×	√	Fig1	0.33	●
MPB100-050R04A22-RP12	50	4	50	22	50	10.4	6.3	6	RP**1204	×	√	Fig1	0.32	●
MPB100-063R04A22-RP16	63	4	63	22	40	10.4	6.3	8	RP**1606	×	×	Fig1	0.33	●
MPB100-063R05A22-RP12	63	5	63	22	50	10.4	6.3	6	RP**1204	×	√	Fig1	0.51	●
MPB100-063R06A22-RP12	63	6	63	22	50	10.4	6.3	6	RP**1204	×	√	Fig1	0.47	●
MPB100-080R06A27-RP16	80	6	80	27	50	12.4	7	8	RP**1606	×	×	Fig1	0.83	●
MPB100-100R07B32-RP16	100	7	100	32	50	14.4	8	8	RP**1606	×	×	Fig2	1.18	●
MPB100-125R08B40-RP16	125	8	125	40	63	16.4	9	8	RP**1606	×	×	Fig2	2.29	●

● Stock ○ Available Upon Order

MPB100

Cylindrical Straight Shank Type

Fig3

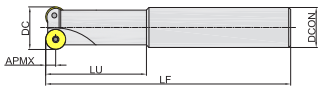


Fig4

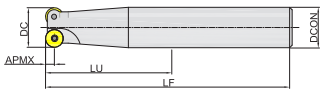
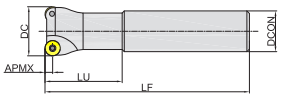


Fig5



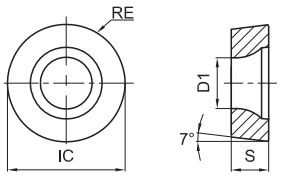
Order No.	Diameter	Teeth	Dimensions (mm)				Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Clamp Plate	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	LU							
MPB100-016R02P16-RP08S	16	2	16	16	120	40	4	RP**08T2	×	×	Fig3	0.16	●
MPB100-016R02P16-RP08	16	2	16	16	160	50	4	RP**08T2	×	×	Fig3	0.22	●
MPB100-020R02P20-RP08	20	2	20	20	160	50	4	RP**08T2	×	×	Fig3	0.35	●
MPB100-020R02P20-RP10	20	2	20	20	160	50	5	RP**1003	×	√	Fig4	0.35	●
MPB100-025R02P20-RP10	25	2	25	20	160	50	5	RP**1003	×	√	Fig5	0.37	●
MPB100-025R02P20-RP10L	25	2	25	20	200	50	5	RP**1003	×	√	Fig5	0.47	●
MPB100-025R02P25-RP12	25	2	25	25	160	50	6	RP**1204	×	√	Fig3	0.51	●
MPB100-025R03P25-RP08	25	3	25	25	160	50	4	RP**08T2	×	×	Fig3	0.55	●
MPB100-032R02P25-RP12	32	2	32	25	160	50	6	RP**1204	×	√	Fig5	0.57	●
MPB100-032R02P25-RP12L	32	2	32	25	200	60	6	RP**1204	×	√	Fig5	0.73	●
MPB100-032R03P25-RP12	32	3	32	25	160	50	6	RP**1204	×	√	Fig5	0.56	●
MPB100-040R02P32-RP16	40	2	40	32	200	65	8	RP**1606	×	×	Fig5	1.15	●

● Stock ○ Available Upon Order

Profile Milling

RC

Positive Type Precision Profile Milling Inserts



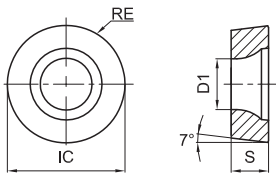
	Order No.	Dimensions (mm)				Coated Cemented Carbide												Cemented carbide	Cermet
		IC	S	RE	D1	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
	RCET10T3M0-EM	10	3.97	5	4.4	●	○	●											○
	RCET1204M0-EM	12	4.76	6	4	●	●	○					●		●				
	RCET1606M0-EM	16	6.35	8	5.5	○	●	○				○	○		○				
	RCET2006M0-EM	20	6.35	10	6.5		●	●						●					
	RCET1204M0T-EH	12	4.76	6	4		○	○											
	RCET1606M0T-EH	16	6.35	8	5.5		●	○					○	●					
	RCET2006M0T-EH	20	6.35	10	6.5		●	○											
	RCET1204M0-MM	12	4.76	6	4		●	●											○
	RCET1606M0T-KH	16	6.35	8	5.5	○	○	●					○						

●Stock ○Available Upon Order

Profile Milling

RC

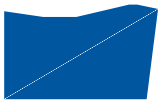
Positive-type Economic Profile Milling Inserts



Order No.	Dimensions (mm)				Coated Cemented Carbide											Cemented Carbide	Cermet
	IC	S	RE	D1	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
RCMT1606M0T-KM	16	6.35	8	5.5							●							

●Stock ○Available Upon Order

Rc Series Geometry

Medium Cutting of General Materials	Medium Cutting of General Materials	Medium Cutting of Stainless Steel Materials	Heavy Cutting of Stainless Steel Materials	Heavy Cutting of General Materials
EM	EM	MM	KM	EH
				
Under general working conditions, to achieve high-stability machining.	Under general working conditions, to achieve high-stability machining.	Twin rake angle design balances the strength and sharpness of the land.	Chamfering design gives the cutting edge more strength.	Small rake angle + chamfering design gives the cutting edge more strength.

Profile Milling

MPC100

Mandrel Type

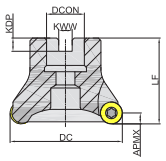


Fig1

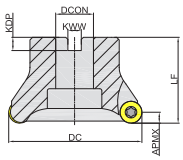


Fig2

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	KWW	KDP						
MPC100-050R04A22-RC12	50	4	50	22	50	10.4	6.3	6	RC**1204	×	Fig1	0.31	●
MPC100-050R05A22-RC12	50	5	50	22	50	10.4	6.3	6	RC**1204	×	Fig1	0.32	●
MPC100-063R04A22-RC12	63	4	63	22	50	10.4	6.3	6	RC**1204	×	Fig1	0.54	●
MPC100-063R04A22-RC16	63	4	63	22	50	10.4	6.3	8	RC**1606	×	Fig1	0.43	●
MPC100-063R05A22-RC12	63	5	63	22	50	10.4	6.3	6	RC**1204	×	Fig1	0.50	●
MPC100-063R05A22-RC16	63	5	63	22	50	10.4	6.3	8	RC**1606	×	Fig1	0.45	●
MPC100-063R06A22-RC12	63	6	63	22	50	10.4	6.3	6	RC**1204	×	Fig1	0.51	●
MPC100-080R05A27-RC16	80	5	80	27	50	12.4	7	8	RC**1606	×	Fig1	0.80	●
MPC100-080R06A27-RC12	80	6	80	27	50	12.4	7	6	RC**1204	×	Fig1	0.87	●
MPC100-080R06A27-RC16	80	6	80	27	50	12.4	7	8	RC**1606	×	Fig1	0.78	●
MPC100-100R06B32-RC16	100	6	100	32	50	14.4	8	8	RC**1606	×	Fig2	1.11	●
MPC100-100R06B32-RC20	100	6	100	32	50	14.4	8	10	RC**2006	×	Fig2	1.06	●
MPC100-125R07B40-RC20	125	7	125	40	63	16.4	9	10	RC**2006	×	Fig2	2.35	●
MPC100-160R08B40-RC20	160	8	160	40	63	16.4	9	10	RC**2006	×	Fig2	4.49	●

●Stock ○Available Upon Order

MPC100

Cylindrical Straight Shank Type

Fig3

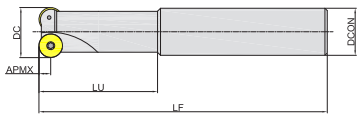
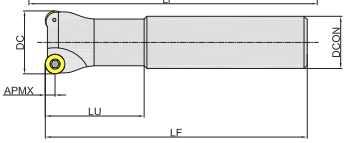


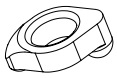
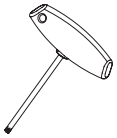
Fig4



Order No.	Diameter	Teeth	Dimensions (mm)				Maximum cutting depth APMX	Matched Insert	Internal cooling	Diagram	Weight (KG)	In stock
			DC	DCON	LF	LU						
MPC100-020R02P20-RC10	20	2	20	20	110	60	5	RC**10T3	×	Fig3	0.23	●
MPC100-025R02P20-RC10	25	2	25	20	160	50	5	RC**10T3	×	Fig4	0.36	●
MPC100-032R02P25-RC12	32	2	32	25	200	50	6	RC**1204	×	Fig4	0.72	●
MPC100-040R03P32-RC12	40	3	40	32	200	50	6	RC**1204	×	Fig4	1.18	●

● Stock ○ Available Upon Order

List of Tool Accessories

Parts Name		Clamp Plate Screw	Clamp Plate	Insert Screw	Recommended Torque	Insert Screw Wrench	
Shape / Suitable Insert							
RD**05	Order No.	—	—	SI60M020037-02806S	0.6N·m	TT06PQ	—
RD**07	Order No.	—	—	SI60M025050-03509S	1.0N·m	TT07PQ	—
RD**08 RP**08	Order No.	—	—	SI60M025065-03509S	1.0N·m	TT07PQ	—
RD**10 RP**10	Order No.	SI60M035100-05510S	CAX01RQ	SI60M040089-05313S	3.5N·m	TT15PB	—
RC**10	Order No.	—	—	SI60M040089-05313S	3.5N·m	TT15PB	—
RD**12 RP**12	Order No.	SI60M035120-05314S	CAX02RQ	SI60M040089-05313S	3.5N·m	TT15PB	—
RC**12	Order No.	—	—	SI60M035080-05314S	3.0N·m	TT15PB	—
RD**16 RP**16 RC**16	Order No.	—	—	SI60M050108-07209S	5.0N·m	TT20PQ	TT20TB
RC**20	Order No.	—	—	SI60M060160-08509S	7.5N·m	—	TT25TB

Recommended Cutting Data

Machined Material		Material Hardness	Grade	Cutting Speed Vc(m/min)	Insert Specifications	Feed/edge fz (mm)		
						Light Cutting (L)	Medium Cutting (M)	Heavy Cutting (H)
P	Mild steel	⩽ HB180	GA4325 GPM7120 GA4225 GA4230 GP4225	180 (140-220)	05	0.08 (0.05-0.15)	0.1 (0.08-0.15)	0.12 (0.08-0.2)
					07 08	0.08 (0.05-0.15)	0.12 (0.08-0.18)	0.15 (0.10-0.25)
					10 12	0.15 (0.1-0.25)	0.2 (0.15-0.3)	0.25 (0.2-0.35)
					16	0.18 (0.1-0.25)	0.25 (0.15-0.35)	0.3 (0.2-0.45)
					20	0.2 (0.12-0.25)	0.3 (0.15-0.4)	0.35 (0.2-0.45)
	Carbon steel, alloy steel	HB180-350	GPM7120 GA4325 GP2115 GA4225 GA4230 GP4225	160 (120-200)	05	0.08 (0.05-0.15)	0.1 (0.08-0.15)	0.12 (0.08-0.2)
					07 08	0.08 (0.05-0.15)	0.12 (0.08-0.18)	0.15 (0.1-0.25)
					10 12	0.15 (0.1-0.25)	0.2 (0.15-0.3)	0.25 (0.2-0.35)
					16	0.18 (0.1-0.25)	0.25 (0.15-0.35)	0.3 (0.2-0.45)
					20	0.2 (0.12-0.25)	0.3 (0.15-0.4)	0.35 (0.2-0.45)
	Pre-hardened steel	HRC35-45	GPM7120 GA4325 GP2115 GA4230 GA4225	120 (80-160)	05	0.08 (0.05-0.15)	0.1 (0.08-0.15)	0.12 (0.08-0.2)
					07 08	0.08 (0.05-0.15)	0.12 (0.08-0.18)	0.15 (0.1-0.25)
					10 12	0.15 (0.1-0.25)	0.2 (0.15-0.3)	0.25 (0.2-0.35)
					16	0.18 (0.1-0.25)	0.25 (0.15-0.35)	0.3 (0.2-0.45)
					20	0.2 (0.12-0.25)	0.3 (0.15-0.4)	0.35 (0.2-0.45)
M	Stainless steel (ferritic, martensitic)	⩽ HB270	GM2140 GM4135	140 (100-180)	05	0.08 (0.05-0.15)	0.1 (0.08-0.15)	0.12 (0.08-0.2)
					07 08	0.08 (0.05-0.15)	0.12 (0.08-0.18)	0.15 (0.1-0.25)
					10 12	0.15 (0.1-0.25)	0.2 (0.15-0.3)	0.25 (0.2-0.35)
					16	0.18 (0.1-0.25)	0.25 (0.15-0.35)	0.35 (0.2-0.45)
					20	0.2 (0.12-0.25)	0.3 (0.15-0.4)	0.35 (0.2-0.45)
	Stainless steel (austenitic, duplex)	⩽ HB270	GM2140 GM4135	120 (80-160)	05	0.08 (0.05-0.15)	0.1 (0.08-0.15)	0.12 (0.08-0.2)
					07 08	0.08 (0.05-0.15)	0.12 (0.08-0.18)	0.15 (0.1-0.25)
					10 12	0.15 (0.1-0.25)	0.2 (0.15-0.3)	0.25 (0.2-0.35)
					16	0.18 (0.1-0.25)	0.25 (0.15-0.35)	0.35 (0.2-0.45)
					20	0.2 (0.12-0.25)	0.3 (0.15-0.4)	0.35 (0.2-0.45)

Recommended Cutting Data

Machined Material		Material Hardness	Grade	Cutting Speed Vc(m/min)	Insert Specifications	Feed/edge fz (mm)		
						Light Cutting (L)	Medium Cutting (M)	Heavy Cutting (H)
K	Gray cast iron	⩽ HB280	GK2115 GK4125	180 (150-220)	05	0.08 (0.05-0.15)	0.15 (0.08-0.15)	0.12 (0.08-0.2)
					07 08	0.08 (0.05-0.15)	0.12 (0.08-0.18)	0.15 (0.1-0.25)
					10 12	0.15 (0.1-0.25)	0.2 (0.15-0.3)	0.25 (0.2-0.35)
					16	0.18 (0.1-0.25)	0.25 (0.15-0.35)	0.3 (0.2-0.45)
					20	0.2 (0.12-0.25)	0.3 (0.15-0.4)	0.35 (0.2-0.45)
	Nodular cast iron, Compact graphite iron	⩽ HB350	GK2115 GK4125	120 (100-180)	05	0.08 (0.05-0.15)	0.15 (0.08-0.15)	0.12 (0.08-0.2)
					07 08	0.08 (0.05-0.15)	0.12 (0.08-0.18)	0.15 (0.1-0.25)
					10 12	0.15 (0.1-0.25)	0.2 (0.15-0.3)	0.25 (0.2-0.35)
					16	0.18 (0.1-0.25)	0.25 (0.15-0.35)	0.3 (0.2-0.45)
					20	0.2 (0.12-0.25)	0.3 (0.15-0.4)	0.35 (0.2-0.45)
S	Heat-resistant alloys, titanium alloys	HRC30-45	GS4130	40 (30-60)	16	0.08 (0.05-0.15)	0.12 (0.08-0.15)	—

- Tool rotation speed (min^{-1})=(1000 X cutting speed)(3.14 X tool cutting edge diameter).
- Machine workbench feed (mm/min)=feed per edge X number of tool teeth X tool rotation speed.
- Recommended parameter combination for S-type materials is used with the SM geometry.

Recommended Relationship Between Feed Per Tooth and Cutting Depth for RD/RP/RC Inserts

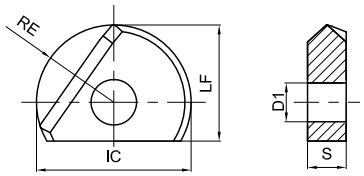
Insert Specifications	Working condition	Cutting depth ap (mm)								
		0.1	0.5	1	1.5	2	2.5	3	4	5
05	Medium Cutting (M)	0.35 (0.22-0.63)	0.17 (0.08-0.26)	0.12 (0.06-0.21)	0.1 (0.05-0.17)	—	—	—	—	—
	Heavy Cutting (H)	0.45 (0.29-0.95)	0.2 (0.12-0.38)	0.16 (0.09-0.28)	0.14 (0.07-0.25)	—	—	—	—	—
07 08	Medium Cutting (M)	0.59 (0.23-0.9)	0.27 (0.1-0.41)	0.2 (0.08-0.3)	0.17 (0.06-0.26)	0.15 (0.03-0.23)	—	—	—	—
	Heavy Cutting (H)	0.68 (0.32-1.13)	0.31 (0.14-0.52)	0.23 (0.11-0.38)	0.19 (0.09-0.32)	0.17 (0.08-0.29)	—	—	—	—
10	Light Cutting (L)	0.75 (0.25-0.9)	0.34 (0.11-0.41)	0.25 (0.08-0.3)	0.21 (0.07-0.25)	0.19 (0.06-0.23)	0.17 (0.05-0.21)	—	—	—
	Medium Cutting (M)	0.9 (0.25-1.26)	0.41 (0.11-0.57)	0.30 (0.08-0.42)	0.25 (0.07-0.35)	0.23 (0.06-0.31)	0.21 (0.05-0.28)	—	—	—
	Heavy Cutting (H)	1.01 (0.35-1.51)	0.46 (0.16-0.69)	0.33 (0.12-0.5)	0.28 (0.1-0.42)	0.25 (0.09-0.38)	0.23 (0.08-0.35)	—	—	—
12	Light Cutting (L)	0.83 (0.28-1.1)	0.38 (0.13-0.5)	0.27 (0.09-0.36)	0.23 (0.08-0.3)	0.2 (0.07-0.27)	0.18 (0.06-0.25)	0.17 (0.06-0.23)	—	—
	Medium Cutting (M)	0.99 (0.28-1.38)	0.45 (0.13-0.63)	0.33 (0.09-0.45)	0.27 (0.08-0.38)	0.24 (0.07-0.34)	0.22 (0.06-0.31)	0.21 (0.06-0.29)	—	—
	Heavy Cutting (H)	1.1 (0.39-1.65)	0.5 (0.18-0.75)	0.36 (0.13-0.54)	0.3 (0.11-0.45)	0.27 (0.09-0.4)	0.25 (0.08-0.37)	0.23 (0.08-0.35)	—	—
16	Light Cutting (L)	1.14 (0.32-1.59)	0.52 (0.14-0.72)	0.37 (0.1-0.52)	0.31 (0.09-0.43)	0.27 (0.08-0.38)	0.25 (0.07-0.35)	0.23 (0.06-0.32)	0.21 (0.06-0.29)	—
	Medium Cutting (M)	1.27 (0.32-1.9)	0.57 (0.14-0.86)	0.41 (0.1-0.62)	0.34 (0.09-0.51)	0.30 (0.08-0.45)	0.28 (0.07-0.41)	0.26 (0.06-0.38)	0.23 (0.06-0.35)	—
	Heavy Cutting (H)	1.59 (0.44-2.54)	0.72 (0.20-1.15)	0.52 (0.14-0.83)	0.43 (0.12-0.69)	0.38 (0.11-0.6)	0.35 (0.1-0.54)	0.32 (0.09-0.51)	0.29 (0.08-0.46)	—
20	Heavy Cutting (H)	2.14 (0.59-3.49)	0.97 (0.25-1.60)	0.71 (0.18-1.17)	0.58 (0.15-0.96)	0.5 (0.14-0.81)	0.46 (0.13-0.73)	0.42 (0.12-0.68)	0.38 (0.11-0.61)	0.34 (0.1-0.55)

Notes: For circular insert cutting, generally ap<25%IC. When the cutting depth exceeds this value, it is recommended to use SNEU/SEET/HNG(K)U series inserts with Kr = 45°.

Profile Milling

QTD

Ball Nose Milling Inserts

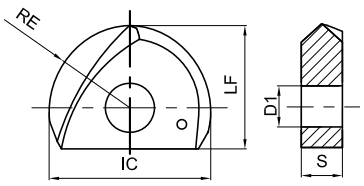


Order No.	Dimensions (mm)					Coated Cemented Carbide											Cemented Carbide	Cermet
	RE	IC	LF	D1	S	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
QTD1203	6	12	10	3.5	3	●											●		
QTD1604	8	16	12	4	4	●											●		
QTD2005	10	20	15	5	5	●											●		
QTD2506	12.5	25	18.5	6	6	●											●		
QTD3007	15	30	22.5	8	7	●											●		
QTD3207	16	32	23.5	8	7	●											●		

●Stock ○Available Upon Order

QTD-S-T

Curved Edge Ball Nose Milling Inserts



Order No.	Dimensions (mm)					Coated Cemented Carbide											Cemented Carbide	Cermet
	RE	IC	LF	D1	S	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
QTD1203-S-T	6	12	10	3.5	3												●		
QTD1604-S-T	8	16	12	4	4												●		
QTD2005-S-T	10	20	15	5	5												●		
QTD2506-S-T	12.5	25	18.5	6	6												●		
QTD3007-S-T	15	30	22.5	8	7												●		
QTD3207-S-T	16	32	23.5	8	7												●		

●Stock ○Available Upon Order

Profile Milling

MBA100

Cylindrical Straight Shank Type

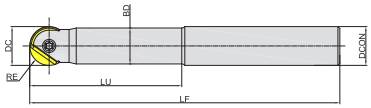


Fig1

Order No.	Diameter	Teeth	Dimensions (mm)						Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCON	BD	LF	LU	RE					
MBA100-012R01P12-QT12S	12	1	12	12	10.5	90	30	6	QTD1203	×	Fig1	0.07	●
MBA100-012R01P12-QT12	12	1	12	12	10.5	120	60	6	QTD1203	×	Fig1	0.09	●
MBA100-012R01P12-QT12L	12	1	12	12	10.5	150	90	6	QTD1203	×	Fig1	0.11	●
MBA100-016R01P16-QT16S	16	1	16	16	14.5	100	35	8	QTD1604	×	Fig1	0.14	●
MBA100-016R01P16-QT16	16	1	16	16	14.5	135	70	8	QTD1604	×	Fig1	0.18	●
MBA100-016R01P16-QT16L	16	1	16	16	14.5	170	100	8	QTD1604	×	Fig1	0.23	●
MBA100-020R01P20-QT20S	20	1	20	20	18.5	110	45	10	QTD2005	×	Fig1	0.23	●
MBA100-020R01P20-QT20	20	1	20	20	18.5	160	80	10	QTD2005	×	Fig1	0.34	●
MBA100-020R01P20-QT20L	20	1	20	20	18.5	210	135	10	QTD2005	×	Fig1	0.44	●
MBA100-025R01P25-QT25S	25	1	25	25	23	125	50	12.5	QTD2506	×	Fig1	0.41	●
MBA100-025R01P25-QT25	25	1	25	25	23	180	100	12.5	QTD2506	×	Fig1	0.59	●
MBA100-025R01P25-QT25L	25	1	25	25	23	235	150	12.5	QTD2506	×	Fig1	0.77	●
MBA100-030R01P32-QT30S	30/32	1	30/32	32	28.5	150	60	15/16	QTD3007 QTD3207	×	Fig1	0.78	●
MBA100-030R01P32-QT30	30/32	1	30/32	32	28.5	200	120	15/16	QTD3007 QTD3207	×	Fig1	1.02	●
MBA100-030R01P32-QT30L	30/32	1	30/32	32	28.5	270	180	15/16	QTD3007 QTD3207	×	Fig1	1.38	●

● Stock ○ Available Upon Order

Profile Milling

MBA100

Cylindrical Tapered Neck Type

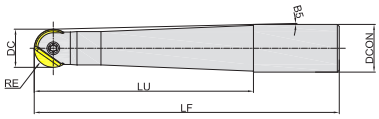


Fig2

Order No.	Diameter	Teeth	Dimensions (mm)						Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCON	LF	LU	RE	B5					
MBA100-012R01P16T-QT12L	12	1	12	16	145	85	6	1.4 °	QTD1203	×	Fig2	0.17	●
MBA100-016R01P20T-QT16L	16	1	16	20	166	100	8	1.2 °	QTD1604	×	Fig2	0.30	●
MBA100-020R01P25T-QT20L	20	1	20	25	191	115	10	1.3 °	QTD2005	×	Fig2	0.53	●
MBA100-025R01P32T-QT25L	25	1	25	32	215	135	12.5	1.6 °	QTD2506	×	Fig2	0.90	○
MBA100-030R01P32T-QT30L	30/32	1	30/32	32	240	160	15/16	0.3 °	QTD3007 QTD3207	×	Fig2	1.19	●

● Stock ○ Available Upon Order

Profile Milling

MBA100

Replaceable Tool Bit

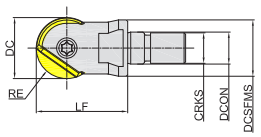
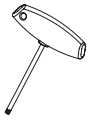


Fig3

Order No.	Diameter	Teeth	Dimensions (mm)						Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCSFMS	DCON	LF	RE	CRKS					
MBA100-012R01M06-QT12	12	1	12	11.5	6.5	20	6	M6	QTD1203	×	Fig3	0.01	●
MBA100-016R01M08-QT16	16	1	16	15	8.5	23	8	M8	QTD1604	×	Fig3	0.02	●
MBA100-020R01M10-QT20	20	1	20	18.5	10.5	30	10	M10	QTD2005	×	Fig3	0.05	●
MBA100-025R01M12-QT25	25	1	25	24	12.5	35	12.5	M12	QTD2506	×	Fig3	0.08	●
MBA100-030R01M16-QT30	30/32	1	30/32	29	17	43	15/16	M16	QTD3007 QTD3207	×	Fig3	0.15	●

● Stock ○ Available Upon Order

List of Tool Accessories

Parts Name		Insert Screw	Recommended Torque	Insert Screw Wrench	
Shape / Suitable Insert					
QTD1203	Order No.	SBM035095Q	2.0N·m	TT10KQ	—
QTD1604	Order No.	SBM040135Q	3.0N·m	TT15KQ	—
QTD2005	Order No.	SBM050165Q	4.0N·m	TT20KQ	—
QTD2506	Order No.	SBM060200Q	5.0N·m	TT20KQ	—
QTD3007	Order No.	SBM080250Q	6.0N·m	—	TT30TQ
QTD3207	Order No.	SBM080250Q	6.0N·m	—	TT30TQ

Recommended Cutting Data

Machined Material		Material Hardness	Grade	Cutting Speed Vc(m/min)	Maximum Cutting Depth Ap (mm)	Maximum Cutting Width Ae(mm)	Feed/edge fz (mm) Tool Diameter: ΦD(mm)					
							12	16	20	25	30	32
P	Soft Steel	⩽ HB180	GA4225	400 (360-440)	0.3-0.6	D/40	0.3-0.6	0.3-0.6	0.5-0.8	0.5-0.8	0.7-1.0	0.7-1.0
	Carbon Steel, Alloy Steel	HB180-350	GA4225	350 (310-390)	0.3-0.6	D/40	0.3-0.6	0.3-0.6	0.5-0.8	0.5-0.8	0.7-1.0	0.7-1.0
	Pre-hardened Steel	HRC35-45	GA4225	350 (310-390)	0.3-0.6	D/40	0.3-0.6	0.3-0.6	0.5-0.8	0.5-0.8	0.7-1.0	0.7-1.0
K	Gray Cast Iron	⩽ HB280	GH4115	450 (410-190)	0.3-0.6	D/50	0.2-0.5	0.2-0.5	0.4-0.7	0.4-0.7	0.7-1.0	0.7-1.0
	Nodular Cast Iron, Compact Graphite Iron	⩽ HB350	GH4115	350 (310-390)	0.2-0.5	D/40	0.1-0.4	0.1-0.4	0.3-0.6	0.3-0.6	0.5-0.8	0.5-0.8
H	Quenched Steel	HRC48-55	GH4115	150 (110-190)	0.1-0.3	D/50	0.1-0.4	0.1-0.4	0.2-0.5	0.2-0.5	0.2-0.5	0.2-0.5

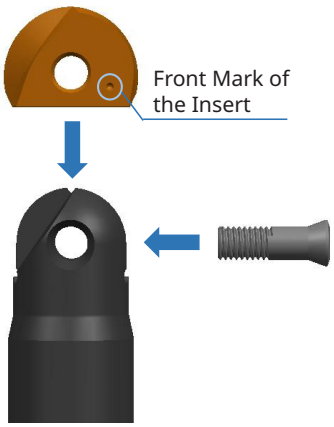
Insert Installation Steps:

① Clean the positioning surface of the insert by methods such as blowing with an air gun.

② Align the front mark of the insert with the screw tightening side of the tool, and insert the insert.

③ Tighten the screw with a wrench. Do not press the insert during the tightening process.

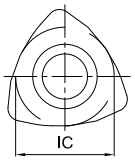
④ Installation is completed.

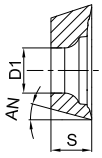


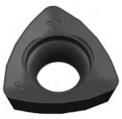
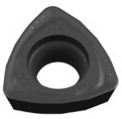
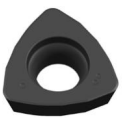
Fast Feed Milling

UD/UP

Positive-type Three Edged Fast Feed Milling Insert





Order No.	Dimensions (mm)				Coated Cemented Carbide												Cemented Carbide	Cermet
	IC	S	AN	D1	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
UPET170520-PM	13	5.56	11 °	5.5	●	●						○						
 UDET080308-MM	6.8	3.18	15 °	2.8	●	●						●			●			
UDET12T312-MM	9.6	3.97	15 °	4.4	●	●									●			
 UDMT080308T-MH	6.8	3.18	15 °	2.8	●	●												
UDMT12T312T-MH	9.6	3.97	15 °	4.4	●	●												
 UDMW12T312T	9.6	3.97	15 °	4.4	●	●						●						

●Stock ○Available Upon Order

UD/UP Series Geometry

Medium Duty Cutting of Steel Materials	Medium Duty Cutting of Stainless Steel Materials	Heavy Duty Cutting of Stainless Steel Materials	Heavy Duty Cutting of General Materials
PM	MM	MH	None
Medium rake angle with chamfering, suitable for medium duty cutting.	Larger positive rake angle makes the cutting edge sharp.	Smaller rake angle gives the cutting edge more strength.	Tablet design gives the cutting edge more strength.

Fast Feed Milling

MKA110

Mandrel Type

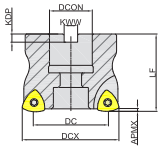


Fig1

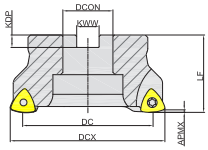


Fig2

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP						
MKA110-040R05A16-UD08	40	5	32	40	16	40	8.4	5.6	1	UD**0803	×	Fig1	0.20	●
MKA110-050R04A22-UD12	50	4	39	50	22	40	10.4	6.3	1.5	UD**12T3	×	Fig1	0.31	●
MKA110-050R06A22-UD08	50	6	42	50	22	40	10.4	6.3	1	UD**0803	×	Fig1	0.35	●
MKA110-063R04A22-UP17	63	4	43	63	22	50	10.4	6.3	2	UP**1705	×	Fig1	0.58	●
MKA110-063R05A22-UD12	63	5	52	63	22	50	10.4	6.3	1.5	UD**12T3	×	Fig1	0.59	●
MKA110-063R05A22-UP17	63	5	43	63	22	40	10.4	6.3	2	UP**1705	√	Fig1	0.45	●
MKA110-080R05A27-UP17	80	5	60	80	27	50	12.4	7	2	UP**1705	×	Fig1	0.94	●
MKA110-080R06A27-UP17	80	6	60	80	27	50	12.4	7	2	UP**1705	×	Fig1	1.02	●
MKA110-100R06B32-UP17	100	6	80	100	32	50	14.4	8	2	UP**1705	×	Fig2	1.38	●
MKA110-125R07B40-UP17	125	7	105	125	40	63	16.4	9	2.0	UP**1705	×	Fig2	2.38	●
MKA110-160R08B40-UP17	160	8	140	160	40	63	16.4	9	2.0	UP**1705	×	Fig2	4.69	●

● Stock ○ Available Upon Order

MKA110

Cylindrical Straight Shank Type

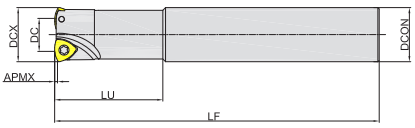


Fig3

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	LU						
MKA110-020R02P20-UD08S	20	2	12	20	20	120	40	1	UD**0803	×	Fig3	0.26	●
MKA110-020R02P20-UD08	20	2	12	20	20	160	50	1	UD**0803	×	Fig3	0.36	●
MKA110-020R02P20-UD08L	20	2	12	20	20	200	65	1	UD**0803	×	Fig3	0.45	●
MKA110-025R02P25-UD08S	25	2	17	25	25	120	40	1	UD**0803	×	Fig3	0.42	●
MKA110-025R02P25-UD08	25	2	17	25	25	160	50	1	UD**0803	×	Fig3	0.57	●
MKA110-025R02P25-UD12	25	2	14	25	25	160	50	1.5	UD**12T3	×	Fig3	0.55	●
MKA110-025R03P25-UD08	25	3	17	25	25	160	40	1	UD**0803	×	Fig3	0.56	●
MKA110-030R03P32-UD12	30	3	19	30	32	200	50	1.5	UD**12T3	×	Fig3	1.11	●
MKA110-032R03P32-UD12	32	3	21	32	32	200	50	1.5	UD**12T3	×	Fig3	1.15	●
MKA110-035R03P32-UD12	35	3	24	35	32	200	50	1.5	UD**12T3	×	Fig3	1.18	●
MKA110-035R05P32-UD08	35	5	27	35	32	200	50	1	UD**0803	×	Fig3	1.20	●

● Stock ○ Available Upon Order

Fast Feed Milling

MKA110

Replaceable Tool Bit

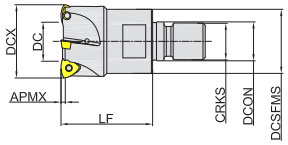
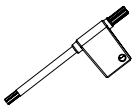
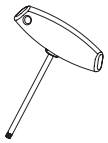


Fig4

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum cutting depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCSFMS	DCON	LF	CRKS						
MKA110-020R02M10-UD08	20	2	12	20	18	10.5	30	M10	1	UD**0803	√	Fig4	0.05	●
MKA110-025R03M12-UD08	25	3	17	25	23	12.5	35	M12	1	UD**0803	√	Fig4	0.10	●
MKA110-032R03M16-UD08	32	3	24	32	28	17	40	M16	1	UD**0803	√	Fig4	0.21	●
MKA110-032R03M16-UD12	32	3	21	32	28	17	40	M16	1.5	UD**12T3	√	Fig4	0.17	●
MKA110-032R04M16-UD08	32	4	24	32	28	17	40	M16	1	UD**0803	√	Fig4	0.20	●
MKA110-035R05M16-UD08	35	5	27	35	29	17	40	M16	1	UD**0803	√	Fig4	0.21	●

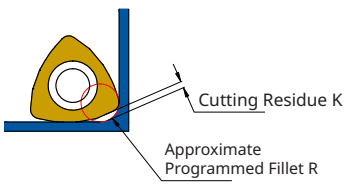
● Stock ○ Available Upon Order

List of Tool Accessories

Parts Name		Insert Screw	Recommended Torque	Insert Screw Wrench	
Shape / Suitable Insert					
UD**0803	Order No.	SI60M025065-03610IS	1.2N·m	TI07PB	—
UD**12T3	Order No.	SI60M040085-05609IB	3.5N·m	TI15PB	—
UP**1705	Order No.	SI60M050108-07214IB	5.0N·m	TI20PB	TI20TB

Machining Program Parameters

Insert Specifications	Approximate Programmed Fillet R (mm)	Cutting Residue K (mm)
UD**0803	1.8	0.6
UD**12T3	2.6	0.9
UP**1705	3.5	1.0



Recommended Relationship Between Feed and Cutting Depth for Ud/Up Inserts

Feed/edge fz (mm) / Insert Specifications	Cutting Depth Ap (mm)			
	0.5	1	1.5	2
08	0.8 (0.6-1.2)	0.5 (0.4-0.8)	—	—
12	1.5 (1.0-2.0)	1.2 (0.8-1.5)	0.8 (0.6-1.2)	—
17	2 (1.8-2.5)	1.5 (1.0-2.0)	1.2 (0.8-1.5)	0.8 (0.6-1.2)

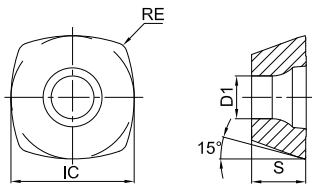
Recommended Cutting Data

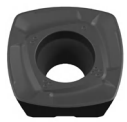
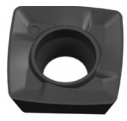
Machined Material		Material Hardness	Grade	Specifications	Recommended Cutting Depth ap(mm)	Cutting Speed Vc(m/min)	Feed/edge fz (mm)	
							Medium Cutting (M)	Heavy Cutting (H)
P	Soft Steel	⩽ HB180	GA4225 GA4230	UD**0803	0.5	180 (140-220)	1.2 (0.8-1.5)	1.5 (1.0-2.0)
				UD**12T3	0.7			
				UP**1705	1			
	Carbon Steel, Alloy Steel	HB180-350	GA4225 GA4230 GP2115	UD**0803	0.5	150 (110-190)	1.0 (0.8-1.2)	1.2 (1.0-1.4)
				UD**12T3	0.7			
				UP**1705	1			
	Pre-hardened Steel	HRC35-45	GA4230 GA4225 GP2115	UD**0803	0.5	120 (80-160)	1.0 (0.8-1.2)	1.2 (1.0-1.4)
				UD**12T3	0.7			
				UP**1705	1			
M	Stainless Steel (Ferritic, Martensitic)	⩽ HB270	GM2140 GA4230	UD**0803	0.5	120 (80-160)	0.8 (0.6-1.0)	1.0 (0.8-1.2)
				UD**12T3	0.7			
				UP**1705	1			
	Stainless Steel (Austenitic, Duplex)	⩽ HB270	GM2140	UD**0803	0.5	100 (60-140)	0.6 (0.4-0.8)	0.8 (0.6-1.0)
				UD**12T3	0.7			
				UP**1705	1			
K	Gray Cast Iron	⩽ HB280	GK2115 GK4125	UD**0803	0.5	180 (110-220)	1.2 (0.8-1.5)	1.5 (1.0-2.0)
				UD**12T3	0.7			
				UP**1705	1			
	Nodular Cast Iron Compact Graphite Iron	⩽ HB350	GK4125 GK2115	UD**0803	0.5	120 (80-160)	1.2 (0.8-1.5)	1.5 (1.0-2.0)
				UD**12T3	0.7			
				UP**1705	1			
S	Heat-Resistant Alloys, Titanium Alloys	HRC30-45	GS4130	UD**0803	0.5	40 (30-60)	0.3 (0.15-0.4)	0.4 (0.2-0.6)
				UD**12T3	0.7			
				UP**1705	1			

Fast Feed Milling

SDMT

Positive-type Four Edged Fast Feed Milling Inserts



Order No.		Dimensions (mm)				Coated Cemented Carbide												Cemented Carbide	Cermet
		IC	S	D1	RE	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
	SDMT120512-GM	12.7	5.56	4.4	1.2	●	●	●	●	●	●		●	●	●	●			
	SDMT150512-GM	15.875	5.56	5.5	1.2	●	●	●						●					
	SDMT120512-GH	12.7	5.56	4.4	1.2	●	●	●	●		●			●					
	SDMT150512-GH	15.875	5.56	5.5	1.2	●	●	●						●					
	★ SDMT09T307-SM	9	3.50	3.5	0.7							●	●			●			
	★ SDMT120512-SM	12.7	5.56	4.4	1.2							●	●			●			

●Stock ○Available Upon Order

Note:
★ 1. GM\GH slot shape inserts correspond to the MKB13 series tool.
★ 2. SM slot shape inserts correspond to the MKM113 series tool.

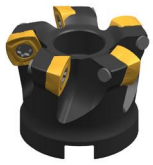
SDMT Series Geometry

Medium Cutting of General Materials	Heavy Cutting of General Materials	Medium Cutting of Difficult-to-machine Materials
GM	GH	SM
Medium rake angle with chamfering, suitable for medium duty cutting.	Large edge width and small rake angle, suitable for heavy duty cutting.	Gradual rake angle, suitable for medium duty cutting.

Fast Feed Milling

MKB113

Mandrel Type



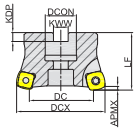


Fig1

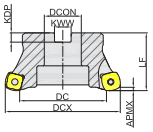


Fig2

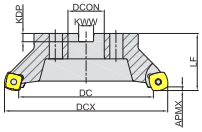


Fig3

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP						
MKB113-050R04A22-SD12	50	4	34	50	22	40	10.4	6.3	2	SDMT1205	×	Fig1	0.21	●
MKB113-052R05A22-SD12	52	4	36	52	22	40	10.4	6.3	2	SDMT1205	×	Fig1	0.23	●
MKB113-063R04A22-SD12	63	4	47	63	22	40	10.4	6.3	2	SDMT1205	×	Fig1	0.42	●
MKB113-063R04A22-SD15	63	4	42	63	22	40	10.4	6.3	3	SDMT1505	×	Fig1	0.38	●
MKB113-063R05A22-SD12	63	5	47	63	22	40	10.4	6.3	2	SDMT1205	×	Fig1	0.42	●
MKB113-080R05A27-SD12	80	5	64	80	27	50	12.4	7	2	SDMT1205	×	Fig1	1.01	●
MKB113-080R05A27-SD15	80	5	59	80	27	50	12.4	7	3	SDMT1505	×	Fig1	0.75	●
MKB113-080R06A27-SD12	80	6	64	80	27	50	12.4	7	2	SDMT1205	×	Fig1	0.98	●
MKB113-100R06B32-SD12	100	6	84	100	32	50	14.4	8	2	SDMT1205	×	Fig2	1.17	●
MKB113-100R06A32-SD15	100	6	79	100	32	50	14.4	8	3	SDMT1505	√	Fig1	1.19	●
MKB113-100R06B32-SD15	100	6	79	100	32	50	14.4	8	3	SDMT1505	×	Fig2	1.05	●
MKB113-100R07B32-SD12	100	7	84	100	32	50	14.4	8	2	SDMT1205	×	Fig2	1.17	●
MKB113-125R07B40-SD15	125	7	104	125	40	63	16.4	9	3	SDMT1505	×	Fig2	2.27	●
MKB113-160R09C40-SD12	160	9	144	160	40	63	16.4	9	2	SDMT1205	×	Fig3	3.71	●

● Stock ○ Available Upon Order

Note:
★ SDMT1205 represents the SDMT120512-GM/GH insert.

Fast Feed Milling

MKB113

Cylindrical Straight Shank Type

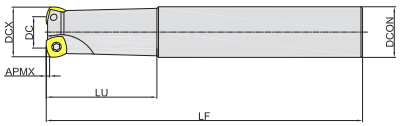


Fig4

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	LU						
MKB113-032R02P32-SD12S	32	2	16	32	32	160	70	2	SDMT1205	×	Fig4	0.86	●
MKB113-032R02P32-SD12	32	2	16	32	32	200	70	2	SDMT1205	×	Fig4	1.12	●
MKB113-035R03P32-SD12	35	3	19	35	32	200	70	2	SDMT1205	×	Fig4	1.12	●
MKB113-040R03P32-SD12	40	3	24	40	32	200	70	2	SDMT1205	×	Fig4	1.16	●

●Stock ○Available Upon Order

Note:
★ SDMT1205 represents the SDMT120512-GM/GH insert.

Fast Feed Milling

MKB113

Replaceable Tool Bit

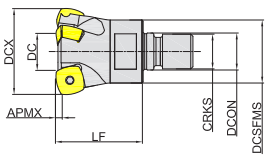


Fig5

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCSFMS	DCON	LF	CRKS						
MKB113-032R02M16-SD12	32	2	16	32	28	17	40	M16	2	SDMT1205	√	Fig5	0.16	●
MKB113-032R03M16-SD12	32	3	16	32	28	17	40	M16	2	SDMT1205	√	Fig5	0.16	●
MKB113-035R03M16-SD12	35	3	19	35	29	17	40	M16	2	SDMT1205	√	Fig5	0.17	●
MKB113-040R03M16-SD12	40	3	24	40	29	17	40	M16	2	SDMT1205	√	Fig5	0.19	●

●Stock ○Available Upon Order

Note:
★ SDMT1205 represents the SDMT120512-GM/GH insert.

Fast Feed Milling

MKM113

Mandrel Type

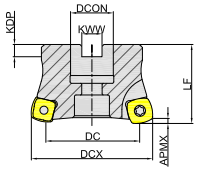


Fig1

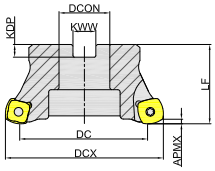


Fig2

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP						
MKM113-040R05A16-SD09	40	5	25	40	16	40	8.4	5.6	1	SDMT09T307-SM	√	Fig1	0.17	○
MKM113-042R05A22-SD09	42	5	27	42	22	40	10.4	6.3	1	SDMT09T307-SM	√	Fig1	0.16	○
MKM113-050R05A22-SD12	50	5	27	50	22	40	10.4	6.3	2	SDMT120512-SM	√	Fig1	0.28	○
MKM113-050R06A22-SD09	50	6	35	50	22	40	10.4	6.3	1	SDMT09T307-SM	√	Fig1	0.27	○
MKM113-050R07A22-SD09	50	7	35	50	22	40	10.4	6.3	1	SDMT09T307-SM	√	Fig1	0.29	○
MKM113-052R05A22-SD09	52	5	37	52	22	40	10.4	6.3	1	SDMT09T307-SM	√	Fig1	0.33	○
MKM113-052R05A22-SD12	52	5	29	52	22	40	10.4	6.3	2	SDMT120512-SM	√	Fig1	0.28	○
MKM113-052R07A22-SD09	52	7	37	52	22	40	10.4	6.3	1	SDMT09T307-SM	√	Fig1	0.33	○
MKM113-063R05A22-SD09	63	5	48	63	22	40	10.4	6.3	1	SDMT09T307-SM	√	Fig1	0.52	○
MKM113-063R06A22-SD12	63	6	40	63	22	40	10.4	6.3	2	SDMT120512-SM	√	Fig1	0.47	○
MKM113-063R08A22-SD09	63	8	48	63	22	40	10.4	6.3	1	SDMT09T307-SM	√	Fig1	0.50	○
MKM113-063R09A22-SD09	63	9	48	63	22	40	10.4	6.3	1	SDMT09T307-SM	√	Fig1	0.52	○
MKM113-080R06A27-SD12	80	6	56	80	27	50	12.4	7	2	SDMT120512-SM	√	Fig1	0.99	○
MKM113-080R08A27-SD12	80	8	56	80	27	50	12.4	7	2	SDMT120512-SM	√	Fig1	0.99	○
MKM113-100R10B32-SD12	100	10	75	100	32	50	14.4	8	2	SDMT120512-SM	√	Fig2	1.60	○
MKM113-125R11B40-SD12	125	11	100	125	40	63	16.4	9	2	SDMT120512-SM	√	Fig2	3.32	○

● Stock ○ Available Upon Order

Fast Feed Milling

MKM113

Cylindrical Straight Shank Type

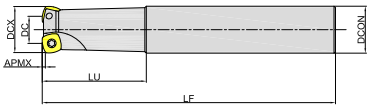


Fig3

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In stock
			DC	DCX	DCON	LF	LU						
MKM113-025R03P25-SD09	25	3	9	25	25	110	60	1	SDMT09T307-SM	√	Fig3	0.32	●
MKM113-025R03P25-SD09L	25	3	9	25	25	200	50	1	SDMT09T307-SM	√	Fig3	0.68	●
MKM113-032R02P32-SD12L	32	2	11	32	32	250	70	2	SDMT120512-SM	√	Fig3	1.40	●
MKM113-032R03P32-SD12L	32	3	11	32	32	250	70	2	SDMT120512-SM	√	Fig3	1.39	●
MKM113-032R04P32-SD09	32	4	17	32	32	190	140	1	SDMT09T307-SM	√	Fig3	0.99	●
MKM113-032R05P32-SD09	32	5	17	32	32	190	140	1	SDMT09T307-SM	√	Fig3	0.96	●
MKM113-035R05P32-SD09	35	5	20	35	32	190	140	1	SDMT09T307-SM	√	Fig3	1.01	●

●Stock ○Available Upon Order

MKM113

Replaceable Tool Bit

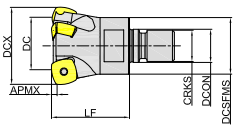
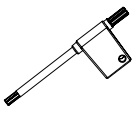


Fig4

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	DCSFMS	LF	CRKS						
MKM113-025R03M12-SD09	25	3	9	25	12.5	21	33	M12	1	SDMT09T307-SM	√	Fig4	0.08	●
MKM113-032R02M16-SD12	32	2	11	32	17	29	40	M16	2	SDMT120512-SM	√	Fig4	0.16	●
MKM113-032R03M16-SD12	32	3	11	32	17	29	40	M16	2	SDMT120512-SM	√	Fig4	0.15	●
MKM113-032R04M16-SD09	32	4	17	32	17	29	40	M16	1	SDMT09T307-SM	√	Fig4	0.18	●
MKM113-032R05M16-SD09	32	5	17	32	17	29	40	M16	1	SDMT09T307-SM	√	Fig4	0.19	●
MKM113-035R03M16-SD12	35	3	14	35	17	29	40	M16	2	SDMT120512-SM	√	Fig4	0.16	●
MKM113-035R04M16-SD09	35	4	20	35	17	29	40	M16	1	SDMT09T307-SM	√	Fig4	0.19	●
MKM113-035R05M16-SD09	35	5	20	35	17	29	40	M16	1	SDMT09T307-SM	√	Fig4	0.19	●
MKM113-042R04M16-SD12	42	4	21	42	17	29	52	M16	2	SDMT120512-SM	√	Fig4	0.27	●

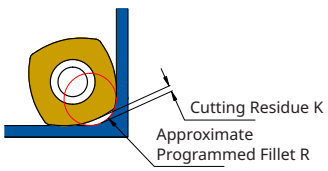
●Stock ○Available Upon Order

List of Tool Accessories

Parts Name		Insert Screw	Recommended Torque	Insert Screw Wrench		
Shape / Suitable Insert			N·m			
SDMT09T307-SM	Order No.	SI60M030072-04205WW	1.8N.m	TT09PQ	—	—
SDMT120512-SM	Order No.	SI60M040094-05311IWW	3.5N.m	TI15PB	—	TI15TB
SDMT120512-GM/GH	Order No.	SI60M040100-05510IS	3.5N.m	—	TI15KB	TI15TB
SDMT150512-GM/GH	Order No.	SI60M050108-07214IB	5.0N.m	—	TI20KB	TI20TB

Machining Program Parameters

Insert Specifications	Approximate Programmed Fillet R (mm)	Cutting Residue K (mm)
SDMT09T307-SM	1.7	0.8
SDMT120512-SM	2.1	0.7
SDMT120512-GM/GH	3.7	0.9
SDMT150512-GM/GH	5.0	1.0



Recommended Relationship Between Feed and Cutting Depth for Sdmt Inserts

Feed/edge fz (mm) / Insert Specifications	Cutting Depth Ap (mm)					
	0.5	1	1.5	2	2.5	3
SDMT09T3	1.2 (0.8-1.5)	0.8 (0.6-1.2)	—	—	—	—
SDMT1205	1.8 (1.5-2.0)	1.5 (1.0-1.8)	1.0 (0.6-1.5)	0.8 (0.4-1.0)	—	—
SDMT1505	2.0 (1.8-3.0)	1.8 (1.5-2.0)	1.5 (1.0-1.8)	1.0 (0.6-1.5)	0.8 (0.4-1.0)	0.6 (0.4-0.8)

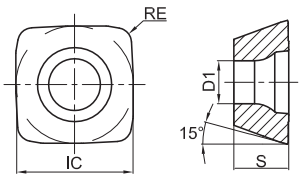
Recommended Cutting Data

Machined Material		Material Hardness	Grade	Specifications	Recommended Cutting Depth Ap (mm)	Cutting Speed Vc(m/min)	Feed/edge fz (mm)	
							Medium Cutting (M)	Heavy Cutting (H)
P	Soft Steel	⩽ HB180	GA4325 GPM7120 GA4225 GA4230	SDMT09T3	0.5	180 (140-220)	0.8 (0.6-1.2)	1.2 (0.8-1.5)
				SDMT1205	1		1.2 (0.8-1.5)	1.5 (1.0-2.0)
				SDMT1505	1.5		1.2 (0.8-1.5)	1.5 (1.0-2.0)
	Carbon Steel, Alloy Steel	HB180-350	GA4325 GPM7120 GP2115 GA4225 GA4230 GP4225	SDMT09T3	0.5	150 (110-190)	0.8 (0.6-1.2)	1.2 (0.8-1.5)
				SDMT1205	1		1.2 (0.8-1.5)	1.2 (0.8-1.5)
				SDMT1505	1.5		1.2 (0.8-1.5)	1.5 (1.0-2.0)
	Pre-hardened Steel	HRC35-45	GPM7120 GA4325 GP2115 GA4225 GA4230 GP4225	SDMT09T3	0.5	120 (80-160)	0.8 (0.6-1.2)	1.2 (0.8-1.5)
				SDMT1205	1		1.0 (0.6-1.2)	1.2 (0.8-1.5)
				SDMT1505	1.5		1.0 (0.6-1.2)	1.2 (0.8-1.5)
M	Stainless Steel (Ferritic, Martensitic)	⩽ HB270	GM2140 GM4135 GA4230	SDMT09T3	0.5	120 (80-160)	0.8 (0.6-1.2)	1.2 (0.8-1.5)
				SDMT1205	1		0.8 (0.6-1.0)	1.0 (0.8-1.2)
				SDMT1505	1.5		0.8 (0.6-1.0)	1.0 (0.8-1.2)
	Stainless Steel (Austenitic, Duplex)	⩽ HB270	GM2140 GM4135	SDMT09T3	0.5	100 (60-140)	0.8 (0.6-1.2)	1.2 (0.8-1.5)
				SDMT1205	1		0.8 (0.6-1.0)	1.0 (0.8-1.2)
				SDMT1505	1.5		0.8 (0.6-1.0)	1.0 (0.8-1.2)
K	Gray Cast Iron	⩽ HB280	GK2115 GK4125	SDMT09T3	0.5	180 (140-220)	0.8 (0.6-1.2)	1.2 (0.8-1.5)
				SDMT1205	1		1.2 (0.8-1.5)	1.5 (1.0-2.0)
				SDMT1505	1.5		1.2 (0.8-1.5)	1.5 (1.0-2.0)
	Nodular Cast Iron Compact Graphite Iron	⩽ HB350	GK4125 GK2115	SDMT09T3	0.5	120 (80-160)	0.8 (0.6-1.2)	1.2 (0.8-1.5)
				SDMT1205	1		1.2 (0.8-1.5)	1.5 (1.0-2.0)
				SDMT1505	1.5		1.2 (0.8-1.5)	1.5 (1.0-2.0)
S	Heat-resistant Alloys, Titanium Alloys	HRC30-45	GS4130	SDMT09T3	0.5	40 (30-60)	0.4 (0.3-0.7)	0.6 (0.4-1.0)
				SDMT1205	1		0.5 (0.3-0.8)	0.7 (0.4-1.1)
				SDMT1505	1.5		0.5 (0.3-0.8)	0.7 (0.4-1.1)

Fast Feed Milling

SOE (M)T NEW

Positive Four Edged Fast Feed Milling
(Fast Feed Milling for Titanium Alloy)



	Order No.	Dimensions (mm)				Coated Cemented Carbide												
		IC	S	D1	RE	GA4225	GA4230	GA4325	GA4330	GP4225	GP2115	GM4135	GM2140	GM4240	GK4125	GK2115	GS4130	GSM7130	GH4115
	SOET09T312-SM	9.525	3.97	4.2	1.2									●				●	
	SOMT09T312-SM	9.525	3.97	4.2	1.2									●				●	
	SOET120420-SM	12.7	4.76	4.4	2.0									●				●	
	SOMT120420-SM	12.7	4.76	4.4	2.0									●				●	
	SOMT090412-ST	9.525	4.76	4.0	1.2									●				●	
	SOMT120512-ST	12.7	5.56	4.4	1.2									●				●	

●Stock ○Available Upon Order

Note:
★ 1. SM slot shape inserts correspond to the MKT113 series tool.
★ 2. ST slot shape inserts correspond to the MKT213 series tool.

SOE(M)T Series Geometry

Cutting of difficult-to-machine materials such as titanium alloy	Cutting of difficult-to-machine materials such as titanium alloy
SM	ST
Positive rake angle, suitable for medium duty cutting	Gradual rake angle, suitable for medium duty cutting

Fast Feed Milling

MKT113

Mandrel Type

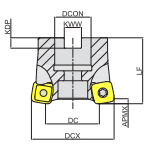


Fig1

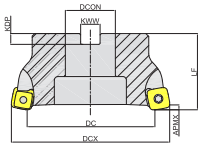


Fig2

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP						
MKT113-040R04A16-SO09	40	4	24.2	40	16	40	8.4	5.6	1.2	SOE(M)T09T3-SM	√	Fig1	0.17	●
MKT113-040R05A16-SO09	40	5	24.2	40	16	40	8.4	5.6	1.2	SOE(M)T09T3-SM	√	Fig1	0.18	●
MKT113-042R04A16-SO09	42	4	26.2	42	16	40	8.4	5.6	1.2	SOE(M)T09T3-SM	√	Fig1	0.18	●
MKT113-042R05A16-SO09	42	5	26.2	42	16	40	8.4	5.6	1.2	SOE(M)T09T3-SM	√	Fig1	0.19	●
MKT113-050R05A22-SO09	50	5	34.2	50	22	40	10.4	6.3	1.2	SOE(M)T09T3-SM	√	Fig1	0.26	●
MKT113-050R06A22-SO09	50	6	34.2	50	22	40	10.4	6.3	1.2	SOE(M)T09T3-SM	√	Fig1	0.27	●
MKT113-050R07A22-SO09	50	7	34.2	50	22	40	10.4	6.3	1.2	SOE(M)T09T3-SM	√	Fig1	0.26	●
MKT113-050R05A22-SO12	50	5	29.6	50	22	40	10.4	6.3	1.4	SOE(M)T1204-SM	√	Fig1	0.22	●
MKT113-052R06A22-SO09	52	6	36.2	52	22	40	10.4	6.3	1.2	SOE(M)T09T3-SM	√	Fig1	0.28	●
MKT113-052R07A22-SO09	52	7	36.2	52	22	40	10.4	6.3	1.2	SOE(M)T09T3-SM	√	Fig1	0.28	●
MKT113-052R05A22-SO12	52	5	31.6	52	22	40	10.4	6.3	1.4	SOE(M)T1204-SM	√	Fig1	0.24	●
MKT113-063R06A22-SO09	63	6	47.2	63	22	40	10.4	6.3	1.2	SOE(M)T09T3-SM	√	Fig1	0.48	●
MKT113-063R08A22-SO09	63	8	47.2	63	22	40	10.4	6.3	1.2	SOE(M)T09T3-SM	√	Fig1	0.48	●
MKT113-063R06A27-SO09	63	6	55.9	63	27	50	12.4	7	1.2	SOE(M)T09T3-SM	√	Fig1	0.54	●
MKT113-063R08A27-SO09	63	8	55.9	63	27	50	12.4	7	1.2	SOE(M)T09T3-SM	√	Fig1	0.56	●
MKT113-063R05A22-SO12	63	5	42.6	63	22	40	10.4	6.3	1.4	SOE(M)T1204-SM	√	Fig1	0.42	●
MKT113-063R06A22-SO12	63	6	42.6	63	22	40	10.4	6.3	1.4	SOE(M)T1204-SM	√	Fig1	0.42	●
MKT113-063R05A27-SO12	63	5	42.6	63	27	50	12.4	7	1.4	SOE(M)T1204-SM	√	Fig1	0.52	●
MKT113-063R06A27-SO12	63	6	42.6	63	27	50	12.4	7	1.4	SOE(M)T1204-SM	√	Fig1	0.52	●
MKT113-066R05A27-SO12	66	5	45.7	66	27	50	12.4	7	1.4	SOE(M)T1204-SM	√	Fig1	0.5	●
MKT113-080R06A27-SO12	80	6	60	80	27	50	12.4	7	1.4	SOE(M)T1204-SM	√	Fig1	0.83	●
MKT113-080R08A27-SO12	80	8	60	80	27	50	12.4	7	1.4	SOE(M)T1204-SM	√	Fig1	0.88	●
MKT113-100R07B32-SO12	100	7	79.7	100	32	50	14.4	8	1.4	SOE(M)T1204-SM	×	Fig2	1.39	●
MKT113-125R07B40-SO12	125	7	104.7	125	40	63	16.4	9	1.4	SOE(M)T1204-SM	×	Fig2	2.52	●

● Stock ○ Available Upon Order

Fast Feed Milling

MKT113

Cylindrical Straight Shank Type

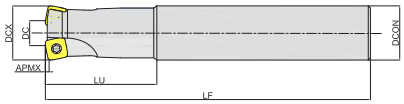


Fig3

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	LU						
MKT113-025R02P25-SO09S	25	2	9.3	25	25	110	40	1.2	SOE(M)T09T3-SM	√	Fig3	0.35	●
MKT113-025R02P25-SO09	25	2	9.3	25	25	150	50	1.2	SOE(M)T09T3-SM	√	Fig3	0.49	●
MKT113-025R02P25-SO09L	25	2	9.3	25	25	200	75	1.2	SOE(M)T09T3-SM	√	Fig3	0.67	●
MKT113-025R03P25-SO09S	25	3	9.3	25	25	110	40	1.2	SOE(M)T09T3-SM	√	Fig3	0.35	●
MKT113-025R03P25-SO09	25	3	9.3	25	25	150	50	1.2	SOE(M)T09T3-SM	√	Fig3	0.49	●
MKT113-025R03P25-SO09-DB	25	3	9.3	25	25	150	50	1.2	SOE(M)T09T3-SM	√	Fig3	0.49	●
MKT113-025R03P25-SO09L	25	3	9.3	25	25	200	75	1.2	SOE(M)T09T3-SM	√	Fig3	0.67	●
MKT113-032R03P32-SO09S	32	3	16.2	32	32	120	40	1.2	SOE(M)T09T3-SM	√	Fig3	0.63	●
MKT113-032R03P32-SO09	32	3	16.2	32	32	180	60	1.2	SOE(M)T09T3-SM	√	Fig3	0.98	●
MKT113-032R03P32-SO09L	32	3	16.2	32	32	250	100	1.2	SOE(M)T09T3-SM	√	Fig3	1.39	●
MKT113-032R04P32-SO09S	32	4	16.2	32	32	120	40	1.2	SOE(M)T09T3-SM	√	Fig3	0.63	●
MKT113-032R04P32-SO09	32	4	16.2	32	32	180	60	1.2	SOE(M)T09T3-SM	√	Fig3	0.99	●
MKT113-032R04P32-SO09L	32	4	16.2	32	32	250	100	1.2	SOE(M)T09T3-SM	√	Fig3	1.38	●
MKT113-032R02P32-SO12S	32	2	11.7	32	32	120	40	1.4	SOE(M)T1204-SM	√	Fig3	0.64	●
MKT113-032R02P32-SO12	32	2	11.7	32	32	180	60	1.4	SOE(M)T1204-SM	√	Fig3	0.99	●
MKT113-032R02P32-SO12L	32	2	11.7	32	32	250	100	1.4	SOE(M)T1204-SM	√	Fig3	1.39	●
MKT113-032R03P32-SO12S	32	3	11.7	32	32	120	40	1.4	SOE(M)T1204-SM	√	Fig3	0.62	●
MKT113-032R03P32-SO12	32	3	11.7	32	32	180	60	1.4	SOE(M)T1204-SM	√	Fig3	0.98	●
MKT113-032R03P32-SO12L	32	3	11.7	32	32	250	100	1.4	SOE(M)T1204-SM	√	Fig3	1.39	●
MKT113-035R04P32-SO09S	35	4	19.2	35	32	120	40	1.2	SOE(M)T09T3-SM	√	Fig3	0.64	●
MKT113-035R04P32-SO09	35	4	19.2	35	32	180	40	1.2	SOE(M)T09T3-SM	√	Fig3	1.03	●
MKT113-035R04P32-SO09L	35	4	19.2	35	32	250	40	1.2	SOE(M)T09T3-SM	√	Fig3	1.45	●
MKT113-035R03P32-SO12S	35	3	14.7	35	32	120	40	1.4	SOE(M)T1204-SM	√	Fig3	0.64	●
MKT113-035R03P32-SO12	35	3	14.7	35	32	180	40	1.4	SOE(M)T1204-SM	√	Fig3	1	●
MKT113-035R03P32-SO12L	35	3	14.7	35	32	250	40	1.4	SOE(M)T1204-SM	√	Fig3	1.42	●

Note: Ending with "-DB" is an electroplated tool.

● Stock ○ Available Upon Order

Fast Feed Milling

MKT113

Replaceable Tool Bit

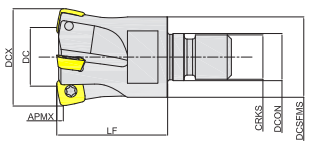


Fig4

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCSFMS	DCON	LF	CRKS						
MKT113-025R02M12-SO09	25	2	9.3	25	23	12.5	35	M12	1.2	SOE(M)T09T3-SM	√	Fig4	0.09	●
MKT113-025R03M12-SO09	25	3	9.3	25	23	12.5	35	M12	1.2	SOE(M)T09T3-SM	√	Fig4	0.09	●
MKT113-025R03M12-SO09-DB	25	3	9.3	25	23	12.5	35	M12	1.2	SOE(M)T09T3-SM	√	Fig4	0.09	●
MKT113-032R03M16-SO09	32	3	16.2	32	29	17	40	M16	1.2	SOE(M)T09T3-SM	√	Fig4	0.17	●
MKT113-032R04M16-SO09	32	4	16.2	32	29	17	40	M16	1.2	SOE(M)T09T3-SM	√	Fig4	0.17	●
MKT113-032R02M16-SO12	32	2	11.7	32	29	17	40	M16	1.4	SOE(M)T1204-SM	√	Fig4	0.17	●
MKT113-032R03M16-SO12	32	3	11.7	32	29	17	40	M16	1.4	SOE(M)T1204-SM	√	Fig4	0.16	●
MKT113-035R03M16-SO09	35	3	19.2	35	29	17	40	M16	1.2	SOE(M)T09T3-SM	√	Fig4	0.18	●
MKT113-035R04M16-SO09	35	4	19.2	35	29	17	40	M16	1.2	SOE(M)T09T3-SM	√	Fig4	0.17	●
MKT113-035R05M16-SO09	35	5	19.2	35	29	17	40	M16	1.2	SOE(M)T09T3-SM	√	Fig4	0.19	●
MKT113-035R05M16-SO09-DB	35	5	19.2	35	29	17	40	M16	1.2	SOE(M)T09T3-SM	√	Fig4	0.19	●
MKT113-035R03M16-SO12	35	3	14.7	35	29	17	40	M16	1.4	SOE(M)T1204-SM	√	Fig4	0.17	●
MKT113-040R05M16-SO09	40	5	24.2	40	29	17	40	M16	1.2	SOE(M)T09T3-SM	√	Fig4	0.2	●
MKT113-042R04M16-SO12	42	4	21.7	42	29	17	40	M16	1.4	SOE(M)T1204-SM	√	Fig4	0.2	●

● Stock ○ Available Upon Order

Note: Ending with "-DB" is an electroplated tool.

MKT113

Side-clamping Type

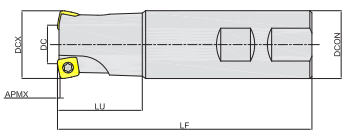


Fig5

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	LU						
MKT113-032R04W32-SO09S-DB	32	4	11.7	32	32	120	40	1.2	SOE(M)T09T3-SM	√	Fig5	0.64	●
MKT113-035R05W32-SO09S-DB	35	5	19.2	35	32	120	40	1.2	SOE(M)T09T3-SM	√	Fig5	0.66	●
MKT113-035R05W32-SO09-DB	35	5	19.2	35	32	180	40	1.2	SOE(M)T09T3-SM	√	Fig5	1.03	●
MKT113-035R05W32-SO09L-DB	35	5	19.2	35	32	250	40	1.2	SOE(M)T09T3-SM	√	Fig5	1.46	●

● Stock ○ Available Upon Order

Note: Ending with "-DB" is an electroplated tool.

Fast Feed Milling

MKT213

Mandrel Type

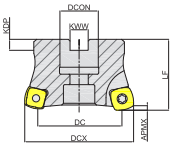


Fig1

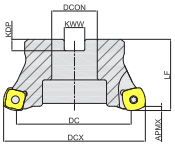


Fig2

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP						
MKT213-040R04A16-SO09	40	4	24.8	40	16	40	8.4	5.6	1.1	SOMT0904-ST	√	Fig1	0.17	○
MKT213-040R05A16-SO09	40	5	24.8	40	16	40	8.4	5.6	1.1	SOMT0904-ST	√	Fig1	0.18	○
MKT213-042R04A16-SO09	42	4	26.8	42	16	40	8.4	5.6	1.1	SOMT0904-ST	√	Fig1	0.19	○
MKT213-042R05A16-SO09	42	5	26.8	42	16	40	8.4	5.6	1.1	SOMT0904-ST	√	Fig1	0.2	○
MKT213-050R05A22-SO09	50	5	35.3	50	22	40	10.4	6.3	1.1	SOMT0904-ST	√	Fig1	0.27	○
MKT213-050R06A22-SO09	50	6	35.3	50	22	40	10.4	6.3	1.1	SOMT0904-ST	√	Fig1	0.27	○
MKT213-050R07A22-SO09	50	7	35.3	50	22	40	10.4	6.3	1.1	SOMT0904-ST	√	Fig1	0.28	○
MKT213-050R05A22-SO12	50	5	29.5	50	22	40	10.4	6.3	1.8	SOMT1205-ST	√	Fig1	0.24	●
MKT213-052R06A22-SO09	52	6	36.8	52	22	40	10.4	6.3	1.1	SOMT0904-ST	√	Fig1	0.28	○
MKT213-052R07A22-SO09	52	7	36.8	52	22	40	10.4	6.3	1.1	SOMT0904-ST	√	Fig1	0.3	○
MKT213-052R05A22-SO12	52	5	31.5	52	22	40	10.4	6.3	1.8	SOMT1205-ST	√	Fig1	0.26	○
MKT213-063R06A22-SO09	63	6	47.8	63	22	40	10.4	6.3	1.1	SOMT0904-ST	√	Fig1	0.48	○
MKT213-063R08A22-SO09	63	8	47.8	63	22	40	10.4	6.3	1.1	SOMT0904-ST	√	Fig1	0.49	○
MKT213-063R06A27-SO09	63	6	47.8	63	27	50	12.4	7	1.1	SOMT0904-ST	√	Fig1	0.56	○
MKT213-063R08A27-SO09	63	8	47.8	63	27	50	12.4	7	1.1	SOMT0904-ST	√	Fig1	0.58	○
MKT213-063R06A22-SO12	63	6	42.4	63	22	40	10.4	6.3	1.8	SOMT1205-ST	√	Fig1	0.46	●
MKT213-063R06A27-SO12	63	6	42.4	63	27	50	12.4	7	1.8	SOMT1205-ST	√	Fig1	0.54	○
MKT213-066R05A27-SO12	66	5	45.4	66	27	50	12.4	7	1.8	SOMT1205-ST	√	Fig1	0.55	○
MKT213-080R06A27-SO12	80	6	59.4	80	27	50	12.4	7	1.8	SOMT1205-ST	√	Fig1	0.89	○
MKT213-080R08A27-SO12	80	8	59.4	80	27	50	12.4	7	1.8	SOMT1205-ST	√	Fig1	0.91	○
MKT213-100R07B32-SO12	100	7	79.7	100	32	60	14.4	8	1.8	SOMT1205-ST	×	Fig2	1.35	●
MKT213-125R08B40-SO12	125	8	104.7	125	40	60	16.4	9	1.8	SOMT1205-ST	×	Fig2	2.61	○

● Stock ○ Available Upon Order

Fast Feed Milling

MKT213

Cylindrical Straight Shank Type

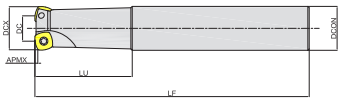


Fig3

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	LU						
MKT213-025R02P25-SO09S	25	2	9.9	25	25	110	40	1.1	SOMT0904-ST	√	Fig3	0.36	○
MKT213-025R02P25-SO09	25	2	9.9	25	25	150	50	1.1	SOMT0904-ST	√	Fig3	0.51	○
MKT213-025R02P25-SO09L	25	2	9.9	25	25	200	75	1.1	SOMT0904-ST	√	Fig3	0.68	○
MKT213-025R03P25-SO09S	25	3	9.9	25	25	110	40	1.1	SOMT0904-ST	√	Fig3	0.36	●
MKT213-025R03P25-SO09	25	3	9.9	25	25	150	50	1.1	SOMT0904-ST	√	Fig3	0.51	●
MKT213-025R03P25-SO09L	25	3	9.9	25	25	300	50	1.1	SOMT0904-ST	√	Fig3	1.07	○
MKT213-032R03P32-SO09S	32	3	16.8	32	32	120	40	1.1	SOMT0904-ST	√	Fig3	0.64	○
MKT213-032R03P32-SO09	32	3	16.8	32	32	180	60	1.1	SOMT0904-ST	√	Fig3	0.99	○
MKT213-032R03P32-SO09L	32	3	16.8	32	32	250	100	1.1	SOMT0904-ST	√	Fig3	1.39	○
MKT213-032R04P32-SO09S	32	4	16.8	32	32	120	40	1.1	SOMT0904-ST	√	Fig3	0.65	●
MKT213-032R04P32-SO09	32	4	16.8	32	32	180	60	1.1	SOMT0904-ST	√	Fig3	1	●
MKT213-032R04P32-SO09L	32	4	16.8	32	32	250	100	1.1	SOMT0904-ST	√	Fig3	1.4	○
MKT213-032R02P32-SO12S	32	2	11.5	32	32	120	40	1.8	SOMT1205-ST	√	Fig3	0.65	○
MKT213-032R02P32-SO12	32	2	11.5	32	32	180	60	1.8	SOMT1205-ST	√	Fig3	1.01	○
MKT213-032R02P32-SO12L	32	2	11.5	32	32	250	100	1.8	SOMT1205-ST	√	Fig3	1.41	○
MKT213-032R03P32-SO12S	32	3	11.5	32	32	120	40	1.8	SOMT1205-ST	√	Fig3	0.64	○
MKT213-032R03P32-SO12	32	3	11.5	32	32	180	60	1.8	SOMT1205-ST	√	Fig3	1	○
MKT213-032R03P32-SO12L	32	3	11.5	32	32	250	100	1.8	SOMT1205-ST	√	Fig3	1.41	○
MKT213-035R04P32-SO09S	35	4	19.9	35	32	120	40	1.1	SOMT0904-ST	√	Fig3	0.65	○
MKT213-035R04P32-SO09	35	4	19.9	35	32	180	40	1.1	SOMT0904-ST	√	Fig3	1.02	○
MKT213-035R04P32-SO09L	35	4	19.9	35	32	250	40	1.1	SOMT0904-ST	√	Fig3	1.45	○
MKT213-035R03P32-SO12S	35	3	14.4	35	32	120	40	1.8	SOMT1205-ST	√	Fig3	0.65	○
MKT213-035R03P32-SO12	35	3	14.4	35	32	180	40	1.8	SOMT1205-ST	√	Fig3	1.03	○
MKT213-035R03P32-SO12L	35	3	14.4	35	32	250	40	1.8	SOMT1205-ST	√	Fig3	1.47	○

● Stock ○ Available Upon Order

Fast Feed Milling

MKT213

Replaceable Tool Bit

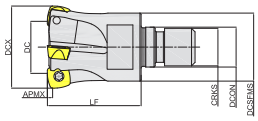
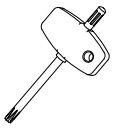


Fig4

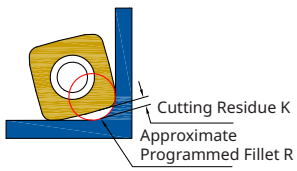
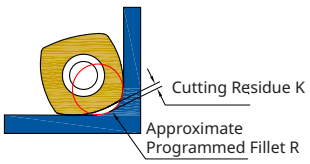
Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCSFMS	DCON	LF	CRKS						
MKT213-025R02M12-SO09	25	2	9.9	25	23	12.5	35	M12	1.1	SOMT0904-ST	√	Fig4	0.09	●
MKT213-025R03M12-SO09	25	3	9.9	25	23	12.5	35	M12	1.1	SOMT0904-ST	√	Fig4	0.09	○
MKT213-032R03M16-SO09	32	3	16.8	32	29	17	40	M16	1.1	SOMT0904-ST	√	Fig4	0.19	○
MKT213-032R04M16-SO09	32	4	16.8	32	29	17	40	M16	1.1	SOMT0904-ST	√	Fig4	0.18	●
MKT213-032R02M16-SO12	32	2	11.4	32	29	17	40	M16	1.8	SOMT1205-ST	√	Fig4	0.16	○
MKT213-032R03M16-SO12	32	3	11.4	32	29	17	40	M16	1.8	SOMT1205-ST	√	Fig4	0.16	○
MKT213-035R04M16-SO09	35	4	19.9	35	29	17	40	M16	1.1	SOMT0904-ST	√	Fig4	0.17	○
MKT213-035R03M16-SO12	35	3	14.4	35	29	17	40	M16	1.8	SOMT1205-ST	√	Fig4	0.17	○
MKT213-040R05M16-SO09	40	5	24.8	40	29	17	40	M16	1.1	SOMT0904-ST	√	Fig4	0.2	○
MKT213-042R04M16-SO12	40	4	21.4	42	29	17	40	M16	1.8	SOMT1205-ST	√	Fig4	0.2	○

● Stock ○ Available Upon Order

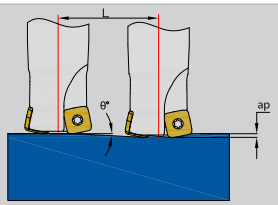
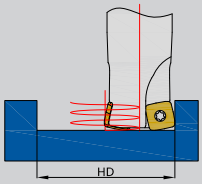
List of Tool Accessories

Parts Name		Insert Screw	Recommended Torque	Insert Screw Wrench	
Suitable Insert / Shape					
SOE(M)T09T3-SM	Order No.	SI60M035076-04808IB	3 N· m	TI10KB	-
SOE(M)T1204-SM	Order No.	SI60M040100-05510IS	3.5 N· m	TI15KB	TI15TB
SOMT0904-ST	Order No.	SI60M035076-04808IB	3 N· m	TI10KB	-
SOMT1205-ST	Order No.	SI60M040100-05510IS	3.5 N· m	TI15KB	TI15TB

Machining Program Parameters

Insert Specifications	Approximate Programmed Fillet R (mm)	Cutting Residue K (mm)	Schematic Diagram
SOET09T312-SM	2.34	0.9	
SOMT09T312-SM	2.34	0.9	
SOET120420-SM	3.29	1.0	
SOMT120420-SM	3.29	1.0	
SOMT090412-ST	2.20	0.7	
SOMT120512-ST	2.79	1.0	

Parameters for Ramp Milling and Helical Milling

Insert Specifications	Cutter Diameter D(mm)	 Ramp Milling			 Helical Interpolation Milling	
		Maximum Ramp Angle θ(°)	Maximum Cutting Depth Ap (mm)	Minimum Tool Path Length L (mm) for Machining to the Maximum Cutting Depth	Minimum Diameter HD Min (mm)	Maximum Diameter HD Max(mm)
MKT113 SO*T09-SM	25	3	1.2	22.9	33	48
	32	2.5	1.2	27.5	47	62
	35	2	1.2	34.4	53	68
	40	1.8	1.2	38.2	63	78
	42	1.8	1.2	38.2	67	82
	50	1.5	1.2	45.8	83	98
	52	1.2	1.2	57.3	87	102
	63	1	1.2	68.7	109	124
MKT113 SO*T12-SM	32	2.5	1.4	32.1	41	62
	35	2	1.4	40.1	47	68
	42	1.8	1.4	44.5	61	82
	50	1.5	1.4	53.5	77	98
	52	1	1.4	80.2	81	102
	63	0.8	1.4	100.3	103	124
	66	0.8	1.4	100.3	109	130
	80	0.6	1.4	133.7	137	158
	100	0.5	1.4	160.4	177	198
	125	0.4	1.4	200.5	227	248
MKT213 SOMT09-ST	25	3	1.1	21.0	33	48
	32	2.5	1.1	25.2	47	62
	35	2	1.1	31.5	53	68
	40	1.5	1.1	42.0	63	78
	42	1.5	1.1	42.0	67	82
	50	1.2	1.1	52.5	83	98
	52	1	1.1	63.0	87	102
	63	0.6	1.1	105.0	109	124
MKT213 SOMT12-ST	32	2.5	1.8	41.2	47	62
	35	2.5	1.8	41.2	53	68
	42	2	1.8	51.5	67	82
	50	1.5	1.8	68.7	83	98
	52	1.5	1.8	68.7	87	102
	63	1	1.8	103.1	109	124
	66	0.8	1.8	128.9	115	130
	80	0.5	1.8	206.3	143	158
	100	0.3	1.8	343.8	183	198
	125	0.2	1.8	515.7	233	248

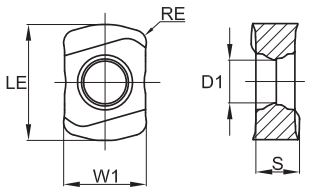
Recommended Cutting Data

Machined Material		Material Hardness	Grade	Specifications	Recommended cutting Depth Ap(mm)	Cutting Speed Vc(m/min)	Feed/edge fz (mm)	
							Medium Cutting (M)	Heavy Cutting (H)
S	Titanium Alloy	HRC30-45	GSM7130	SOE(M)T09T3-SM	1.2	40 (30-60)	0.5 (0.3-0.8)	0.7 (0.4-1.1)
				SOE(M)T1204-SM	1.4			
				SOMT0904-ST	1.1			
				SOMT1205-ST	1.8			
M	Stainless Steel (Ferritic, Martensitic)	⩽ HB270	GM4240	SOE(M)T09T3-SM	1.2	120 (80-160)	1.0 (0.6-1.4)	1.2 (0.8-1.5)
				SOE(M)T1204-SM	1.4			
				SOMT0904-ST	1.1			
				SOMT1205-ST	1.8			
	Stainless Steel (Austenitic, Duplex)	⩽ HB270	GM4240	SOE(M)T09T3-SM	1.2	100 (60-140)	0.6 (0.6-1.0)	1.0 (0.8-1.2)
				SOE(M)T1204-SM	1.4			
				SOMT0904-ST	1.1			
				SOMT1205-ST	1.8			

Fast Feed Milling

LNMX NEW

Negative Four Edged Fast Feed Milling Inserts



Order No.	Dimensions (mm)					Coated Cemented Carbide												
	LE	W1	S	D1	RE	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GM4240	GK4125	GK2115	GS4130	GSM7130	GH4115
LNMX090603-GL	9	6.3	3.4	3.3	1				●		●	●	●	●		○	○	●	
LNMX120705-GL	11.9	9.1	4.2	4	1.5				●		○	○	●			○	○	●	
LNMX090603-GM	9	6.3	3.4	3.3	1				●		●	●	●	●	●	●	●	●	
LNMX120705-GM	11.9	9.1	4.2	4	1.5				●		●	●	●		●	●	●	●	
LNMX151106-GM	14.5	11.1	5.7	5.9	1.5				●		●	○	●		●	●	○		
LNMX090603-GH	9	6.3	3.4	3.3	1				●						●	●			
LNMX120705-GH	11.9	9.1	4.2	4	1.5				●						●	●			
LNMX151106-GH	14.5	11.1	5.7	5.9	1.5				●						●	●			

●Stock ○Available Upon Order

LNMX Series Geometry

Light Duty of General Materials	Medium Duty of General Materials	Heavy Duty of General Materials
GL	GM	GH
Low cutting force, suitable for machining of stainless steel, titanium alloy, and light duty machining.	Under general working conditions, to achieve high-stability machining.	The edge has better strength, making it suitable for roughing.

Fast Feed Milling

MKF115

Mandrel Type

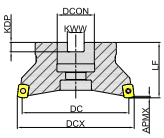


Fig1

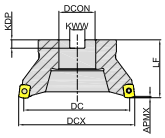


Fig2

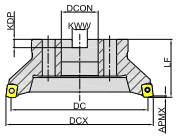


Fig3

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	KWW	KDP						
MKF115-040R04A16-LN12	40	4	30	40	16	40	8.4	5.6	1.5	LNMX12	√	Fig1	0.18	●
MKF115-040R05A16-LN09	40	5	32	40	16	40	8.4	5.6	1	LNMX09	√	Fig1	0.20	●
MKF115-040R05A16-LN12	40	5	30	40	16	40	8.4	5.6	1.5	LNMX12	√	Fig1	0.18	●
MKF115-040R06A16-LN09	40	6	32	40	16	40	8.4	5.6	1	LNMX09	√	Fig1	0.20	●
MKF115-050R04A22-LN15	50	4	36	50	22	40	10.4	6.3	2	LNMX15	√	Fig1	0.28	●
MKF115-050R06A22-LN09	50	6	42	50	22	40	10.4	6.3	1	LNMX09	√	Fig1	0.34	●
MKF115-050R06A22-LN12	50	6	40	50	22	40	10.4	6.3	1.5	LNMX12	√	Fig1	0.30	●
MKF115-050R07A22-LN12	50	7	40	50	22	40	10.4	6.3	1.5	LNMX12	√	Fig1	0.30	●
MKF115-050R08A22-LN09	50	8	42	50	22	40	10.4	6.3	1	LNMX09	√	Fig1	0.34	●
MKF115-052R06A22-LN12	52	6	42	52	22	40	10.4	6.3	1.5	LNMX12	√	Fig1	0.32	●
MKF115-052R07A22-LN09	52	7	44	52	22	40	10.4	6.3	1	LNMX09	√	Fig1	0.35	●
MKF115-052R07A22-LN12	52	7	42	52	22	40	10.4	6.3	1.5	LNMX12	√	Fig1	0.31	●
MKF115-052R08A22-LN09	52	8	44	52	22	40	10.4	6.3	1	LNMX09	√	Fig1	0.35	●
MKF115-063R05A22-LN15	63	5	49	63	22	40	10.4	6.3	2	LNMX15	√	Fig1	0.41	●
MKF115-063R06A22-LN12	63	6	53	63	22	40	10.4	6.3	1.5	LNMX12	√	Fig1	0.39	●
MKF115-063R06A22-LN15	63	6	49	63	22	40	10.4	6.3	2	LNMX15	√	Fig1	0.39	●
MKF115-063R07A22-LN09	63	7	55	63	22	40	10.4	6.3	1	LNMX09	√	Fig1	0.47	●
MKF115-063R08A22-LN12	63	8	53	63	22	40	10.4	6.3	1.5	LNMX12	√	Fig1	0.40	●
MKF115-063R09A22-LN09	63	9	55	63	22	40	10.4	6.3	1	LNMX09	√	Fig1	0.45	●
MKF115-080R06A27-LN15	80	6	66	80	27	50	12.4	7	2	LNMX15	√	Fig1	0.97	●
MKF115-080R07A27-LN15	80	7	66	80	27	50	12.4	7	2	LNMX15	√	Fig1	0.95	●
MKF115-080R08A27-LN12	80	8	70	80	27	50	12.4	7	1.5	LNMX12	√	Fig1	0.98	●
MKF115-080R10A27-LN12	80	10	70	80	27	50	12.4	7	1.5	LNMX12	√	Fig1	0.96	●
MKF115-100R06A32-LN15	100	6	86	100	32	50	14.4	8	2	LNMX15	√	Fig1	1.50	●
MKF115-100R07A32-LN15	100	7	86	100	32	50	14.4	8	2	LNMX15	√	Fig1	1.47	●
MKF115-100R09A32-LN12	100	9	90	100	32	50	14.4	8	1.5	LNMX12	√	Fig1	1.41	●
MKF115-100R11A32-LN12	100	11	90	100	32	50	14.4	8	1.5	LNMX12	√	Fig1	1.39	●
MKF115-125R10B40-LN15	125	10	111	125	40	63	16.4	9	2	LNMX15	×	Fig2	2.48	●
MKF115-125R11B40-LN12	125	11	115	125	40	63	16.4	9	1.5	LNMX12	×	Fig2	2.40	●
MKF115-125R12B40-LN12	125	12	115	125	40	63	16.4	9	1.5	LNMX12	×	Fig2	2.39	●
MKF115-125R14B40-LN12	125	14	115	125	40	63	16.4	9	1.5	LNMX12	×	Fig2	2.37	●
MKF115-160R10C40-LN15	160	10	146	160	40	63	16.4	9	2	LNMX15	×	Fig3	3.80	●
MKF115-200R12C60-LN15	200	12	186	200	60	63	25.7	14	2	LNMX15	×	Fig3	5.57	●

● Stock ○ Available Upon Order

Fast Feed Milling

MKF115

Cylindrical Straight Shank Type

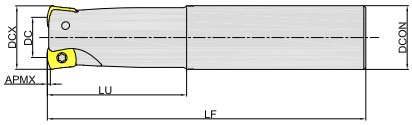


Fig4

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	LU						
MKF115-016R02P15-LN09	16	2	8	16	15	150	40	1	LNMX09	√	Fig4	0.19	○
MKF115-016R02P15-LN09-DB	16	2	8	16	15	150	40	1	LNMX09	√	Fig4	0.19	●
MKF115-016R02P15-LN09L-DB	16	2	8	16	15	200	40	1	LNMX09	√	Fig4	0.27	●
MKF115-016R02P16-LN09	16	2	8	16	16	150	40	1	LNMX09	√	Fig4	0.21	○
MKF115-016R02P16-LN09-DB	16	2	8	16	16	150	40	1	LNMX09	√	Fig4	0.21	●
MKF115-016R02P16-LN09S	16	2	8	16	16	100	30	1	LNMX09	√	Fig4	0.14	○
MKF115-016R02P16-LN09S-DB	16	2	8	16	16	100	30	1	LNMX09	√	Fig4	0.14	●
MKF115-017R02P16-LN09	17	2	9	17	16	150	40	1	LNMX09	√	Fig4	0.21	○
MKF115-017R02P16-LN09-DB	17	2	9	17	16	150	40	1	LNMX09	√	Fig4	0.21	●
MKF115-017R02P16-LN09L-DB	17	2	9	17	16	200	40	1	LNMX09	√	Fig4	0.29	●
MKF115-018R02P16-LN09	18	2	10	18	16	150	40	1	LNMX09	√	Fig4	0.21	○
MKF115-018R02P16-LN09-DB	18	2	10	18	16	150	40	1	LNMX09	√	Fig4	0.21	●
MKF115-020R02P20-LN09L	20	2	12	20	20	200	70	1	LNMX09	√	Fig4	0.43	●
MKF115-020R03P20-LN09	20	3	12	20	20	160	60	1	LNMX09	√	Fig4	0.32	○
MKF115-020R03P20-LN09-DB	20	3	12	20	20	160	60	1	LNMX09	√	Fig4	0.32	●
MKF115-020R03P20-LN09L-DB	20	3	12	20	20	200	70	1	LNMX09	√	Fig4	0.40	●
MKF115-020R03P20-LN09S	20	3	12	20	20	130	50	1	LNMX09	√	Fig4	0.26	●
MKF115-020R04P20-LN09	20	4	12	20	20	160	60	1	LNMX09	√	Fig4	0.32	○
MKF115-020R04P20-LN09-DB	20	4	12	20	20	160	60	1	LNMX09	√	Fig4	0.32	●
MKF115-020R04P20-LN09L-DB	20	4	12	20	20	200	70	1	LNMX09	√	Fig4	0.41	●
MKF115-020R04P20-LN09S-DB	20	4	12	20	20	130	50	1	LNMX09	√	Fig4	0.26	●
MKF115-021R03P20-LN09	21	3	13	21	20	160	60	1	LNMX09	√	Fig4	0.32	●
MKF115-021R03P20-LN09L-DB	21	3	13	21	20	200	60	1	LNMX09	√	Fig4	0.41	●
MKF115-025R02P25-LN12	25	2	15	25	25	150	70	1.5	LNMX12	√	Fig4	0.47	●
MKF115-025R03P25-LN09L	25	3	17	25	25	220	80	1	LNMX09	√	Fig4	0.72	●
MKF115-025R03P25-LN12	25	3	15	25	25	150	70	1.5	LNMX12	√	Fig4	0.46	●
MKF115-025R03P25-LN12L	25	3	15	25	25	200	80	1.5	LNMX12	√	Fig4	0.63	●
MKF115-025R04P24-LN09	25	4	17	25	24	180	60	1	LNMX09	√	Fig4	0.55	●

Note: Ending with "-DB" is an electroplated tool.

●Stock ○Available Upon Order

Fast Feed Milling

MKF115

Cylindrical Straight Shank Type

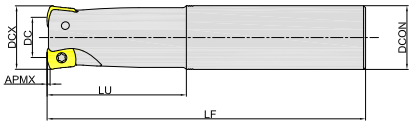


Fig4

Continued

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	LU						
MKF115-025R04P25-LN09	25	4	17	25	25	180	60	1	LNMX09	√	Fig4	0.58	●
MKF115-025R04P25-LN09-DB	25	4	17	25	25	180	60	1	LNMX09	√	Fig4	0.59	●
MKF115-025R04P25-LN09L-DB	25	4	17	25	25	200	70	1	LNMX09	√	Fig4	0.65	●
MKF115-025R04P25-LN09S	25	4	17	25	25	140	50	1	LNMX09	√	Fig4	0.45	●
MKF115-025R05P25-LN09	25	5	17	25	25	180	60	1	LNMX09	√	Fig4	0.58	○
MKF115-025R05P25-LN09-DB	25	5	17	25	25	180	60	1	LNMX09	√	Fig4	0.58	●
MKF115-025R05P25-LN09L-DB	25	5	17	25	25	220	80	1	LNMX09	√	Fig4	0.71	●
MKF115-025R05P25-LN09S-DB	25	5	17	25	25	140	50	1	LNMX09	√	Fig4	0.45	●
MKF115-026R03P25-LN12L	26	3	16	26	25	220	90	1.5	LNMX12	√	Fig4	0.72	●
MKF115-032R02P32-LN15	32	2	18	32	32	160	70	2	LNMX15	√	Fig4	0.84	●
MKF115-032R03P32-LN12	32	3	22	32	32	160	70	1.5	LNMX12	√	Fig4	0.85	●
MKF115-032R03P32-LN12L	32	3	22	32	32	220	90	1.5	LNMX12	√	Fig4	1.19	●
MKF115-032R03P32-LN15L	32	3	18	32	32	200	80	2	LNMX15	√	Fig4	1.05	●
MKF115-032R04P32-LN09S	32	4	24	32	32	150	60	1	LNMX09	√	Fig4	0.80	●
MKF115-032R04P32-LN12	32	4	22	32	32	160	70	1.5	LNMX12	√	Fig4	0.84	●
MKF115-032R04P32-LN12L	32	4	22	32	32	220	90	1.5	LNMX12	√	Fig4	1.18	●
MKF115-032R05P32-LN09	32	5	24	32	32	200	70	1	LNMX09	√	Fig4	1.08	●
MKF115-032R05P32-LN09S	32	5	24	32	32	150	60	1	LNMX09	√	Fig4	0.80	●
MKF115-033R05P32-LN09	33	5	25	33	32	200	70	1	LNMX09	√	Fig4	1.10	●
MKF115-035R04P32-LN09	35	4	27	35	32	200	50	1	LNMX09	√	Fig4	1.14	●
MKF115-035R04P32-LN12	35	4	25	35	32	160	50	1.5	LNMX12	√	Fig4	0.87	●
MKF115-035R05P32-LN09	35	5	27	35	32	200	50	1	LNMX09	√	Fig4	1.13	●
MKF115-040R03P32-LN15	40	3	26	40	32	180	50	2	LNMX15	√	Fig4	1.02	●
MKF115-040R04P32-LN12	40	4	30	40	32	180	50	1.5	LNMX12	√	Fig4	1.02	●
MKF115-040R04P32-LN12L	40	4	30	40	32	250	50	1.5	LNMX12	√	Fig4	1.44	●
MKF115-040R05P32-LN12	40	5	30	40	32	180	50	1.5	LNMX12	√	Fig4	1.02	●
MKF115-040R05P32-LN12L	40	5	30	40	32	250	50	1.5	LNMX12	√	Fig4	1.43	●
MKF115-040R06P32-LN09L	40	6	32	40	32	220	50	1	LNMX09	√	Fig4	1.26	●
MKF115-040R06P32-LN09S	40	6	32	40	32	150	50	1	LNMX09	√	Fig4	0.85	●

Note: Ending with "-DB" is an electroplated tool.

● Stock ○ Available Upon Order

Fast Feed Milling

MKF115

Replaceable Tool Bit

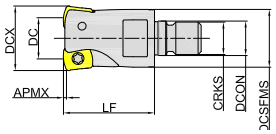


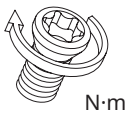
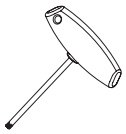
Fig5

Order No.	Diameter	Teeth	Dimensions (mm)						Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCSFMS	DCON	LF	CRKS						
MKF115-016R02M08-LN09	16	2	8	16	14.5	8.5	25.5	M08	1	LNMX09	√	Fig5	0.03	○
MKF115-016R02M08-LN09-DB	16	2	8	16	14.5	8.5	25.5	M08	1	LNMX09	√	Fig5	0.03	●
MKF115-017R02M08-LN09	16	2	8	17	14.5	8.5	25.5	M08	1	LNMX09	√	Fig5	0.03	○
MKF115-017R02M08-LN09-DB	16	2	8	17	14.5	8.5	25.5	M08	1	LNMX09	√	Fig5	0.03	●
MKF115-020R03M10-LN09	20	3	12	20	18	10.5	31	M10	1	LNMX09	√	Fig5	0.05	●
MKF115-021R03M10-LN09	21	3	13	21	18	10.5	31	M10	1	LNMX09	√	Fig5	0.05	●
MKF115-025R02M12-LN12	25	2	15	25	23	12.5	35	M12	1.5	LNMX12	√	Fig5	0.09	●
MKF115-025R03M12-LN09	25	3	17	25	21	12.5	35	M12	1	LNMX09	√	Fig5	0.09	●
MKF115-025R03M12-LN12	25	3	15	25	23	12.5	35	M12	1.5	LNMX12	√	Fig5	0.09	●
MKF115-025R04M12-LN09	25	4	17	25	21	12.5	35	M12	1	LNMX09	√	Fig5	0.09	●
MKF115-026R03M12-LN12	25	3	15	25	23	12.5	35	M12	1.5	LNMX12	√	Fig5	0.09	●
MKF115-026R04M12-LN09	26	4	18	26	21	12.5	35	M12	1	LNMX09	√	Fig5	0.09	●
MKF115-030R03M16-LN12	30	3	20	30	28.5	17	45	M16	1.5	LNMX12	√	Fig5	0.19	●
MKF115-032R02M16-LN15	32	2	18	32	28.5	17	45	M16	2	LNMX15	√	Fig5	0.19	●
MKF115-032R03M16-LN12	32	3	22	32	28.5	17	45	M16	1.5	LNMX12	√	Fig5	0.21	●
MKF115-032R03M16-LN15	32	3	18	32	28.5	17	45	M16	2	LNMX15	√	Fig5	0.18	●
MKF115-032R04M16-LN09	32	4	24	32	28.5	17	42	M16	1	LNMX09	√	Fig5	0.20	●
MKF115-032R04M16-LN12	32	4	22	32	28.5	17	45	M16	1.5	LNMX12	√	Fig5	0.19	●
MKF115-032R05M16-LN09	32	5	24	32	28.5	17	42	M16	1	LNMX09	√	Fig5	0.19	○
MKF115-032R05M16-LN09-DB	32	5	24	32	28.5	17	42	M16	1	LNMX09	√	Fig5	0.19	●
MKF115-035R03M16-LN12	35	3	25	35	28.5	17	45	M16	1.5	LNMX12	√	Fig5	0.22	●
MKF115-035R03M16-LN15	35	3	21	35	28.5	17	45	M16	2	LNMX15	√	Fig5	0.19	●
MKF115-035R04M16-LN12	35	4	25	35	28.5	17	45	M16	1.5	LNMX12	√	Fig5	0.21	●
MKF115-035R05M16-LN09	35	5	27	35	28.5	17	45	M16	1	LNMX09	√	Fig5	0.22	●
MKF115-040R03M16-LN15	40	3	26	40	28.5	17	45	M16	2	LNMX15	√	Fig5	0.23	●
MKF115-040R04M16-LN12	40	4	30	40	28.5	17	45	M16	1.5	LNMX12	√	Fig5	0.24	●
MKF115-040R05M16-LN12	40	5	30	40	28.5	17	45	M16	1.5	LNMX12	√	Fig5	0.23	●
MKF115-040R06M16-LN09	40	6	32	40	28.5	17	45	M16	1	LNMX09	√	Fig5	0.25	●
MKF115-042R05M16-LN12	42	5	32	42	28.5	17	45	M16	1.5	LNMX12	√	Fig5	0.24	●

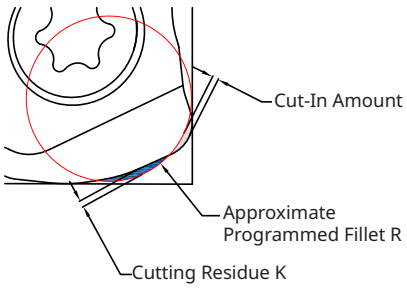
Note: Ending with "-DB" is an electroplated tool.

● Stock ○ Available Upon Order

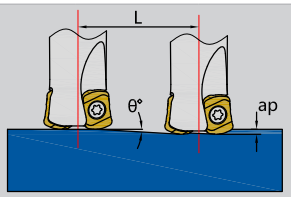
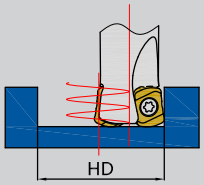
List of Tool Accessories

Parts Name		Insert Screw	Recommended Torque	Insert Screw Wrench	
Suitable Insert \ Shape			 N·m		
LNMX09	Order No.	SI60M030065-03906IB	1.2	TI08KB	--
LNMX12	Order No.	SI60M035080-04805IB	3	TI10KB	TI10TB
LNMX15	Order No.	SI60M050143-07215IB	5	TI20KB	TI20TB

Machining Program Parameters

Insert Specifications	Approximate Programmed Fillet R (mm)	Cutting Residue K (mm)	Cut-in Amount (mm)	Diagram
LNMX09	1.6	0.56	0	
	1.9 (Recommend)	0.47	0	
	2.2	0.37	0.05	
	2.5	0.28	0.14	
LNMX12	2.4	0.65	0	
	2.7 (Recommend)	0.54	0	
	3.0	0.43	0.04	
	3.3	0.32	0.12	
LNMX15	2.5	0.87	0	
	2.8 (Recommend)	0.79	0	
	3.1	0.7	0.05	
	3.4	0.62	0.11	

Parameters for Ramp Milling and Helical Milling

Insert Specifications	Cutter Diameter D(mm)	 Ramp Milling			 Helical Interpolation Milling	
		Maximum Ramp Angle θ(°)	Maximum Cutting Depth Ap (mm)	Minimum Tool Path length L (mm) for Machining to the Maximum Cutting Depth	Minimum Diameter HD Min (mm)	Maximum Diameter HD Max(mm)
LNMX09	16	2	1	29	23	30
	17	1.8	1	32	25	32
	18	1.7	1	34	27	34
	20	1.5	1	38	31	38
	21	1.4	1	41	33	40
	25	1.1	1	52	41	48
	26	1.1	1	52	43	50
	32	0.8	1	72	55	62
	33	0.8	1	72	57	64
	35	0.8	1	72	61	68
	40	0.7	1	82	71	78
	50	0.5	1	115	91	98
	52	0.5	1	115	95	102
	63	0.4	1	143	117	124
LNMX12	25	1.3	1.5	66	35	48
	26	1.3	1.5	66	37	50
	32	1.2	1.5	72	49	62
	35	1.1	1.5	78	55	68
	40	1.1	1.5	78	65	78
	50	0.9	1.5	95	85	98
	52	0.9	1.5	95	89	102
	63	0.75	1.5	115	111	124
	80	0.55	1.5	156	145	158
	100	0.45	1.5	191	185	198
	125	0.35	1.5	246	235	248
LNMX15	32	1.1	2	104	45	62
	40	0.8	2	143	61	78
	50	0.6	2	191	81	98
	63	0.45	2	255	107	124
	80	0.35	2	327	141	158
	100	0.25	2	458	181	198
	125	0.2	2	573	231	248
	160	0.15	2	764	301	318
	200	0.1	2	1146	381	398

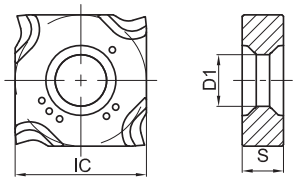
Recommended Cutting Data

Machined Material		Material Hardness	Grade	Specifications	Recommended Cutting Depth Ap (mm)	Cutting Speed Vc(m/min)	Feed/edge fz (mm)	
							Medium Cutting (M)	Heavy Cutting (H)
P	Mild Steel	⩽ HB180	GPM7120 GP2115	LNMX09	1	180 (140-220)	0.8 (0.6-1.2)	1 (0.8-1.2)
				LNMX12	1.5			
				LNMX15	2			
	Carbon Steel, Alloy Steel	HB180-350	GPM7120 GP2115	LNMX09	1	150 (110-190)	0.6 (0.4-0.8)	0.8 (0.6-1.0)
				LNMX12	1.5			
				LNMX15	2			
	Pre-hardened Steel	HRC35-45	GPM7120	LNMX09	1	120 (80-160)	0.6 (0.4-0.8)	0.8 (0.6-1.0)
				LNMX12	1.5			
				LNMX15	2			
M	Stainless Steel (Ferritic, Martensitic)	⩽ HB270	GM2140 GM4135 GM4240	LNMX09	1	120 (80-160)	0.8 (0.6-1.2)	1 (0.8-1.2)
				LNMX12	1.5			
				LNMX15	2			
	Stainless Steel (Austenitic, Duplex)	⩽ HB270	GM2140 GM4135 GM4240	LNMX09	1	100 (60-140)	0.6 (0.4-0.8)	0.8 (0.6-1.0)
				LNMX12	1.5			
				LNMX15	2			
K	Gray Cast Iron	⩽ HB280	GK2115 GK4125	LNMX09	1	180 (140-220)	0.8 (0.6-1.2)	1 (0.8-1.2)
				LNMX12	1.5			
				LNMX15	2			
	Nodular Cast Iron Compact Graphite Iron	⩽ HB350	GK4125 GK2115	LNMX09	1	120 (80-160)	0.8 (0.6-1.2)	1 (0.8-1.2)
				LNMX12	1.5			
				LNMX15	2			
S	Heat-resistant Alloys, Titanium Alloys	HRC30-45	GSM7130 GS4130	LNMX09	1	50 (30-70)	0.4 (0.2-0.6)	0.5 (0.3-0.7)
				LNMX12	1.5			
				LNMX15	2			

Slot Milling

SNEX

Narrow Groove Width Three Edged Milling Inserts

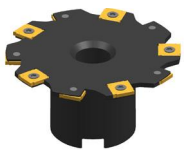


Order No.	Dimensions (mm)			Coated Cemented Carbide											Cemented Carbide	Cermet
	IC	S	D1	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
SNEX1202-GM	12.7	2.3	5.2		●							○					
SNEX1203-GM	12.7	3	5.2		●							○					
SNEX12T3-GM	12.7	3.5	5		●							○					
SNEX1204-GM	12.7	4	5		●							○					
SNEX12T4-GM	12.7	4.5	5		●												

● Stock ○ Available Upon Order

MSA (104~108)

Mandrel Type



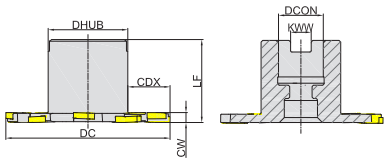
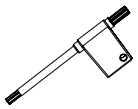


Fig1

Order No.	Diameter	Teeth	Dimensions (mm)							Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	CW	DCON	CDX	LF	DHUB	KWW					
MSA104-100R10A27-SN12	100	10	100	4	27	23	50	48	12.4	SNEX1202	×	Fig1	0.61	●
MSA105-100R10A27-SN12	100	10	100	5	27	23	50	48	12.4	SNEX1203	×	Fig1	0.64	●
MSA106-100R10A27-SN12	100	10	100	6	27	23	50	48	12.4	SNEX12T3	×	Fig1	0.68	●
MSA107-100R10A27-SN12	100	10	100	7	27	23	50	48	12.4	SNEX1204	×	Fig1	0.71	●
MSA108-100R10A27-SN12	100	10	100	8	27	23	50	48	12.4	SNEX12T4	×	Fig1	0.71	●

● Stock ○ Available Upon Order

List of Tool Accessories

Parts Name		Insert Screw	Recommended Torque	Insert Screw Wrench
Shape / Suitable Insert				
SNEX1202	Order No.	SI90M040032-06003IFQ	1.7N·m	TI08PQ
SNEX1203	Order No.	SI90M040042-06003IFQ	1.7N·m	TI08PQ
SNEX12T3	Order No.	SI90M040051-06003IFQ	1.7N·m	TI08PQ
SNEX1204	Order No.	SI90M040061-06003IFQ	1.7N·m	TI08PQ
SNEX12T4	Order No.	SI90M040071-06003IFQ	1.7N·m	TI08PQ

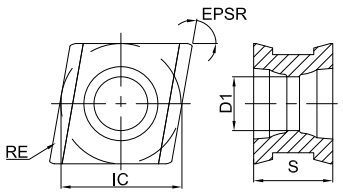
Recommended Cutting Data

Machined Material		Material Hardness	Grade	Specifications	Cutting Speed Vc(m/min)	Feed/edge fz (mm)
						Medium Cutting (M)
P	Soft Steel	⩽ HB180	GA4225 GA4230	SNEX12	180 (140-220)	0.1 (0.05-0.15)
	Carbon Steel, Alloy Steel	HB180-350	GA4225 GA4230	SNEX12	160 (120-200)	0.08 (0.05-0.12)
	Pre-hardened Steel	HRC35-45	GA4225 GA4230	SNEX12	140 (100-180)	0.06 (0.04-0.1)
M	Stainless Steel (Ferritic, Martensitic)	⩽ HB270	GM2140 GA4230	SNEX12	120 (80-160)	0.08 (0.05-0.12)
	Stainless Steel (Austenitic, Duplex)	⩽ HB270	GA4230 GM2140	SNEX12	100 (60-140)	0.06 (0.04-0.1)
K	Gray Cast Iron	⩽ HB280	GK2115 GK4125	SNEX12	200 (160-240)	0.1 (0.02-0.15)
	Nodular Cast Iron, Compact Graphite Iron	⩽ HB350	GK4125 GK2115	SNEX12	120 (80-160)	0.08 (0.05-0.12)

Slot Milling

CNEU

Three Edged Milling Insert with Medium Slot Width



Order No.		Dimensions (mm)					Coated Cemented Carbide											Cemented Carbide	Cermet
		IC	EPSR	S	D1	RE	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
	CNEU070508-PM	7.6	80 °	5	3.4	0.8	●	●							●					
	CNEU070508-KM	7.6	80°	5	3.4	0.8		●							●					
	CNEU070515-KM	7.6	80°	5	3.4	1.5									●					

● Stock ○ Available Upon Order

Slot Milling

MSA (110~113)

Mandrel Type

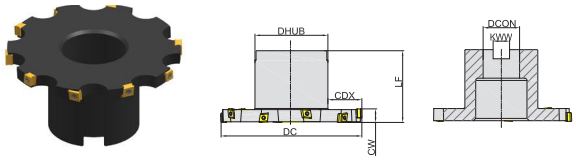


Fig1

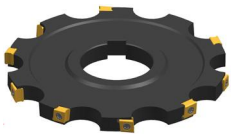
Order No.	Diameter	Teeth	Dimensions (mm)							Matched Insert	Internal Cooling	Diagram	Weight (KG)	In stock
			DC	CW	DCON	CDX	LF	DHUB	KWW					
MSA110-080R06B27-CN07	80	6	80	10	27	14	50	48	12.4	CNEU0705	×	Fig1	0.50	●
MSA110-100R08B32-CN07	100	8	100	10	32	19	50	58	14.4	CNEU0705	×	Fig1	0.78	●
MSA110-125R10B32-CN07	125	10	125	10	32	29.5	63	64	14.4	CNEU0705	×	Fig1	1.39	●
MSA110-160R12B40-CN07	160	12	160	10	40	43	63	70	16.4	CNEU0705	×	Fig1	1.80	●
MSA111-080R06B27-CN07	80	6	80	11	27	14	50	48	12.4	CNEU0705	×	Fig1	0.52	●
MSA111-100R08B32-CN07	100	8	100	11	32	19	50	58	14.4	CNEU0705	×	Fig1	0.81	●
MSA111-125R10B32-CN07	125	10	125	11	32	29.5	63	64	14.4	CNEU0705	×	Fig1	1.44	●
MSA111-160R12B40-CN07	160	12	160	11	40	43	63	70	16.4	CNEU0705	×	Fig1	1.91	●
MSA112-080R06B27-CN07	80	6	80	12	27	14	50	48	12.4	CNEU0705	×	Fig1	0.54	●
MSA112-100R08B32-CN07	100	8	100	12	32	19	50	58	14.4	CNEU0705	×	Fig1	0.84	●
MSA112-125R10B32-CN07	125	10	125	12	32	29.5	63	64	14.4	CNEU0705	×	Fig1	1.49	●
MSA112-160R12B40-CN07	160	12	160	12	40	43	63	70	16.4	CNEU0705	×	Fig1	2.01	●
MSA113-080R06B27-CN07	80	6	80	13	27	14	50	48	12.4	CNEU0705	×	Fig1	0.55	●
MSA113-100R08B32-CN07	100	8	100	13	32	19	50	58	14.4	CNEU0705	×	Fig1	0.87	●
MSA113-125R10B32-CN07	125	10	125	13	32	29.5	63	64	14.4	CNEU0705	×	Fig1	1.55	●
MSA113-160R12B40-CN07	160	12	160	13	40	43	63	70	16.4	CNEU0705	×	Fig1	2.11	●

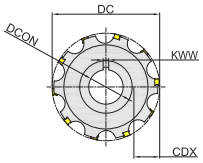
● Stock ○ Available Upon Order

Slot Milling

MSA (110~113)

Disc Type





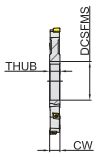
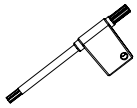


Fig2

Order No.	Diameter	Teeth	Dimensions (mm)							Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	CW	DCON	CDX	THUB	DCSFMS	KWW					
MSA110-080R06K27-CN07	80	6	80	10	27	19	10	40	7	CNEU0705	×	Fig2	0.21	●
MSA110-100R08K27-CN07	100	8	100	10	27	26	10	46	7	CNEU0705	×	Fig2	0.36	●
MSA110-125R10K40-CN07	125	10	125	10	40	34	10	55	10	CNEU0705	×	Fig2	0.52	●
MSA110-160R12K40-CN07	160	12	160	10	40	51	10	55	10	CNEU0705	×	Fig2	0.91	●
MSA111-080R06K27-CN07	80	6	80	11	27	19	11	40	7	CNEU0705	×	Fig2	0.23	●
MSA111-100R08K27-CN07	100	8	100	11	27	26	11	46	7	CNEU0705	×	Fig2	0.40	●
MSA111-125R10K40-CN07	125	10	125	11	40	34	11	55	10	CNEU0705	×	Fig2	0.59	●
MSA111-160R12K40-CN07	160	12	160	11	40	51	11	55	10	CNEU0705	×	Fig2	1.03	●
MSA112-080R06K27-CN07	80	6	80	12	27	19	12	40	7	CNEU0705	×	Fig2	0.26	●
MSA112-100R08K27-CN07	100	8	100	12	27	26	12	46	7	CNEU0705	×	Fig2	0.44	●
MSA112-125R10K40-CN07	125	10	125	12	40	34	12	55	10	CNEU0705	×	Fig2	0.65	●
MSA112-160R12K40-CN07	160	12	160	12	40	51	12	55	10	CNEU0705	×	Fig2	1.15	●
MSA113-080R06K27-CN07	80	6	80	13	27	19	13	40	7	CNEU0705	×	Fig2	0.28	●
MSA113-100R08K27-CN07	100	8	100	13	27	26	13	46	7	CNEU0705	×	Fig2	0.49	●
MSA113-125R10K40-CN07	125	10	125	13	40	34	13	55	10	CNEU0705	×	Fig2	0.72	●
MSA113-160R12K40-CN07	160	12	160	13	40	51	13	55	10	CNEU0705	×	Fig2	1.27	●

● Stock ○ Available Upon Order

List of Tool Accessories

Parts Name		Insert Screw	Recommended Torque	Insert Screw Wrench
Shape / Suitable Insert				
CNEU0705	Order No.	SI60M030090-04205S	1.8N·m	TT09PQ

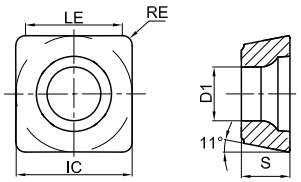
Recommended Cutting Data

Machined Material		Material Hardness	Grade	Specifications	Cutting Speed Vc(m/min)	Feed/edge fz (mm)
						Medium Cutting (M)
P	Soft Steel	⩽ HB180	GA4225 GA4230	CNEU0705	180 (140-220)	0.1 (0.05-0.15)
	Carbon Steel, Alloy Steel	HB180-350	GA4225 GA4230	CNEU0705	160 (120-200)	0.08 (0.05-0.12)
	Pre-hardened Steel	HRC35-45	GA4225 GA4230	CNEU0705	140 (120-180)	0.06 (0.04-0.1)
M	Stainless Steel (Ferritic, Martensitic)	⩽ HB270	GM2140 GA4230	CNEU0705	120 (80-160)	0.08 (0.05-0.12)
	Stainless Steel (Austenitic, Duplex)	⩽ HB270	GA4230 GM2140	CNEU0705	100 (60-140)	0.06 (0.04-0.1)
K	Gray Cast Iron	⩽ HB280	GK2115 GK4125	CNEU0705	200 (160-240)	0.1 (0.02-0.15)
	Nodular Cast Iron, Compact Graphite Iron	⩽ HB350	GK4125 GK2115	CNEU0705	120 (80-160)	0.08 (0.05-0.12)

Chamfer Milling

SPMT

Positive Four Edged Chamfer Milling Insert



Order No.		Dimensions (mm)					Coated Cemented Carbide											Cemented Carbide	Cermet
		IC	LE	RE	S	D1	GA4225	GA4230	GA4325	GPM7120	GP4225	GP2115	GM4135	GM2140	GK4125	GK2115	GS4130	GH4115	GN9125	GP01TM
	SPMT09T308-CM	9.53	7.93	0.8	3.97	4.4	●	●						●	●					
	SPMT120408-CM	12.7	11.1	0.8	4.76	5.5	●	●						●	●					

● Stock ○ Available Upon Order

Chamfer Milling

MCA130

Side-clamping Type

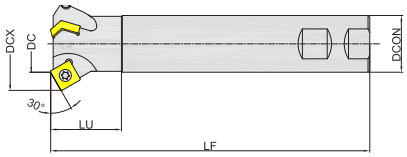


Fig1

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	LU						
MCA130-025R02W25-SP09	25	2	25	40	25	120	40	3	SPMT09T3	×	Fig1	0.44	●
MCA130-032R03W32-SP12	32	3	32	52	32	180	40	4.5	SPMT1204	×	Fig1	1.07	●

● Stock ○ Available Upon Order

MCA145

Side-clamping Type

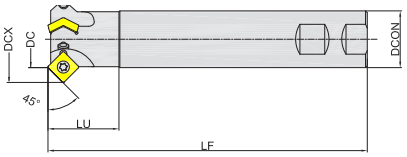


Fig2

Order No.	Diameter	Teeth	Dimensions (mm)					Maximum Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	LU						
MCA145-025R02W25-SP09	25	2	25	37	25	120	40	5	SPMT09T3	×	Fig2	0.43	●
MCA145-032R03W32-SP12	32	3	32	49	32	180	40	7	SPMT1204	×	Fig2	1.06	●

● Stock ○ Available Upon Order

MCA160

Side-clamping Type

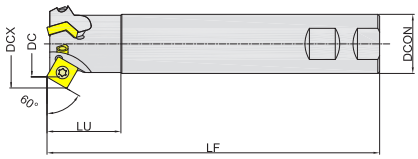
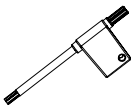


Fig3

Order No.	Diameter	Teeth	Dimensions (mm)					Max. Cutting Depth APMX	Matched Insert	Internal Cooling	Diagram	Weight (KG)	In Stock
			DC	DCX	DCON	LF	LU						
MCA160-025R02W25-SP09	25	2	25	34	25	120	40	6	SPMT09T3	×	Fig3	0.41	●
MCA160-036R03W32-SP12	36	3	36	48	32	180	40	8	SPMT1204	×	Fig3	1.06	●

● Stock ○ Available Upon Order

List of Tool Accessories

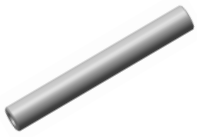
Parts Name		Insert Screw	Recommended Torque	Insert Screw Wrench
Suitable Insert / Shape				
SPMT09T3	Order No.	SI60M040089-05313S	3.5N·m	TT15PB
SPMT1204	Order No.	SI60M050108-07209S	5.0N·m	TT20PQ

Recommended Cutting Data

Machined Material		Material Hardness	Grade	Specifications	Cutting Speed Vc(m/min)	Feed/edge fz (mm)
						Medium Cutting (M)
P	Soft Steel	⩽ HB180	GA4225 GA4230	SPMT09T3	180 (140-220)	0.2 (0.15-0.25)
				SPMT1204	180 (140-220)	0.25 (0.2-0.3)
	Carbon Steel, Alloy Steel	HB180-350	GA4225 GA4230 GP2115	SPMT09T3	160 (120-200)	0.2 (0.15-0.25)
				SPMT1204	160 (120-200)	0.25 (0.2-0.3)
	Pre-Hardened Steel	HRC35-45	GA4230 GA4225 GP2115	SPMT09T3	120 (80-160)	0.15 (0.1-0.2)
				SPMT1204	120 (80-160)	0.2 (0.15-0.25)
M	Stainless Steel (Ferritic, Martensitic)	⩽ HB270	GM2140 GA4230	SPMT09T3	120 (80-160)	0.15 (0.1-0.2)
				SPMT1204	120 (80-160)	0.2 (0.15-0.25)
	Stainless Steel (Austenitic, Duplex)	⩽ HB270	GM2140	SPMT09T3	100 (60-140)	0.15 (0.1-0.2)
				SPMT1204	100 (60-140)	0.2 (0.15-0.25)
K	Gray Cast Iron	⩽ HB280	GK2115 GK4125	SPMT09T3	160 (120-200)	0.2 (0.15-0.25)
				SPMT1204	160 (120-200)	0.25 (0.15-0.3)
	Nodular Cast Iron, Compact Graphite Iron	⩽ HB350	GK4125 GK2115	SPMT09T3	140 (100-180)	0.15 (0.1-0.2)
				SPMT1204	140 (100-180)	0.2 (0.15-0.25)

Modular extension bar

EH



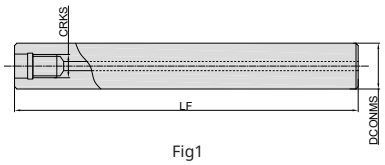


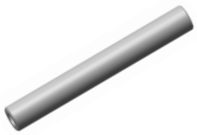
Fig1

Order No.	Dimensions (mm)			Internal Cooling	Diagram	Weight (KG)	In Stock
	DCONMS	LF	CRKS				
EH-M5G10L100SC	10	100	M5	√	Fig1	0.12	○
EH-M5G10L150SC	10	150	M5	√	Fig1	0.17	○
EH-M6G10L100SC	10	100	M6	√	Fig1	0.12	●
EH-M6G10L150SC	10	150	M6	√	Fig1	0.17	●
EH-M6G12L100SC	12	100	M6	√	Fig1	0.17	○
EH-M6G12L150SC	12	150	M6	√	Fig1	0.24	●
EH-M6G12L200SC	12	200	M6	√	Fig1	0.33	●
EH-M8G15L100SC	15	100	M8	√	Fig1	0.25	○
EH-M8G15L150SC	15	150	M8	√	Fig1	0.37	○
EH-M8G15L200SC	15	200	M8	√	Fig1	0.50	○
EH-M8G15L250SC	15	250	M8	√	Fig1	0.63	○
EH-M8G15L300SC	15	300	M8	√	Fig1	0.82	○
EH-M8G15.6L100SC	15.6	100	M8	√	Fig1	0.28	○
EH-M8G15.6L150SC	15.6	150	M8	√	Fig1	0.42	●
EH-M8G15.6L200SC	15.6	200	M8	√	Fig1	0.55	●
EH-M8G15.6L250SC	15.6	250	M8	√	Fig1	0.67	●
EH-M8G15.6L300SC	15.6	300	M8	√	Fig1	0.84	○

● Stock ○ Available Upon Order

Modular extension bar

EH



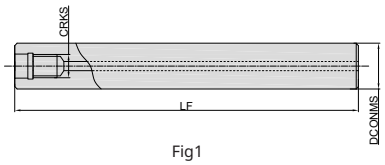


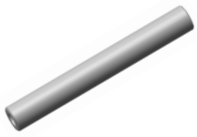
Fig1

Order No.	Dimensions (mm)			Internal Cooling	Diagram	Weight (KG)	In Stock
	DCONMS	LF	CRKS				
EH-M10G20L100SC	20	100	M10	√	Fig1	0.42	○
EH-M10G20L150SC	20	150	M10	√	Fig1	0.64	●
EH-M10G20L200SC	20	200	M10	√	Fig1	0.87	●
EH-M10G20L250SC	20	250	M10	√	Fig1	1.07	●
EH-M10G20L300SC	20	300	M10	√	Fig1	1.28	○
EH-M10G20L350SC	20	350	M10	√	Fig1	1.50	○
EH-M12G24L150SC	24	150	M12	√	Fig1	0.90	○
EH-M12G24L200SC	24	200	M12	√	Fig1	1.20	●
EH-M12G24L250SC	24	250	M12	√	Fig1	1.52	●
EH-M12G24L300SC	24	300	M12	√	Fig1	1.83	○
EH-M12G24L350SC	24	350	M12	√	Fig1	2.22	○
EH-M12G25L100SC	25	100	M12	√	Fig1	0.64	○
EH-M12G25L150SC	25	150	M12	√	Fig1	0.97	○
EH-M12G25L200SC	25	200	M12	√	Fig1	1.32	●
EH-M12G25L250SC	25	250	M12	√	Fig1	1.67	●
EH-M12G25L300SC	25	300	M12	√	Fig1	1.99	●
EH-M12G25L350SC	25	350	M12	√	Fig1	2.39	○

● Stock ○ Available Upon Order

Modular extension bar

EH



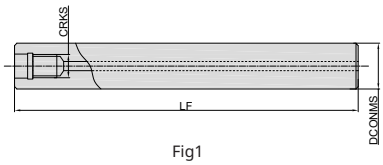


Fig1

Order No.	Dimensions (mm)			Internal Cooling	Diagram	Weight (KG)	In Stock
	DCONMS	LF	CRKS				
EH-M16G32L100SC	32	100	M16	√	Fig1	1.05	○
EH-M16G32L150SC	32	150	M16	√	Fig1	1.58	○
EH-M16G32L200SC	32	200	M16	√	Fig1	2.17	●
EH-M16G32L250SC	32	250	M16	√	Fig1	2.64	●
EH-M16G32L300SC	32	300	M16	√	Fig1	3.20	●
EH-M16G32L350SC	32	350	M16	√	Fig1	3.80	●
EH-M16G32L400SC	32	400	M16	√	Fig1	4.36	○
EH-M16G32L450SC	32	450	M16	√	Fig1	4.96	○
EH-M16G32L500SC	32	500	M16	√	Fig1	5.45	○

● Stock ○ Available Upon Order

MEMO

B

SOLID CARBIDE ENDMILLS

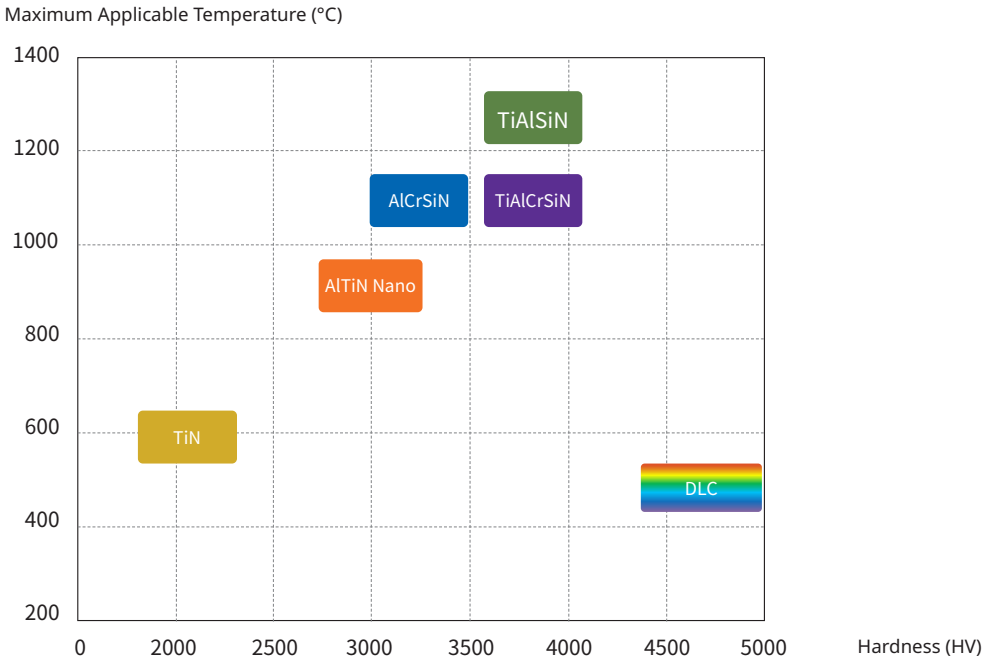
GESAC's Coatings

Coating Properties

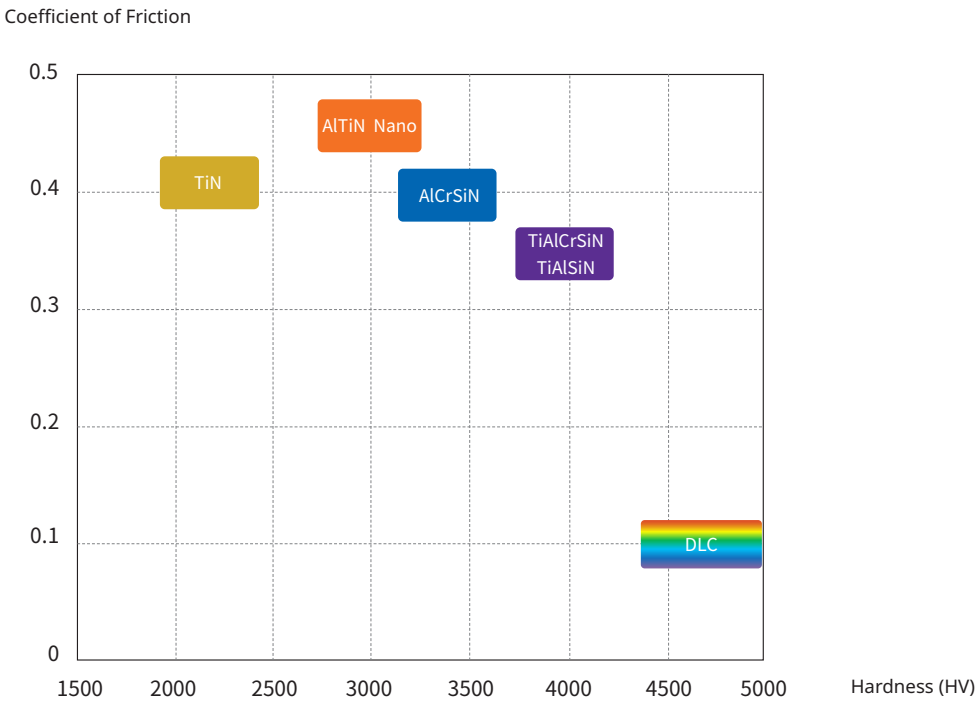
Coating Name	Vickers Hardness (HV0.05)	Coefficient of Friction	Maximum Applicable Temperature (°C)	Features and Applications
AlCrN	3200	0.45	1100	◇ Excellent high oxidation resistance and extremely outstanding wear resistance at high temperatures; ◇ Suitable for machining ordinary steels with medium and low hardness, mould steels, and titanium alloys.
AlCrSiN	3300	0.4	1100	◇ Specifically developed for milling processing, with high oxidation resistance, achieving a perfect balance between wear resistance and toughness; ◇ High versatility, suitable for milling processing of ordinary steels, mould steels, and titanium alloys with a hardness below 55HRC.
TiAlN	2900	0.35	900	◇ Good heat resistance and fine control of grain refinement; ◇ Mainly suitable for milling processing of stainless steels, dry machining of some high-hardness steels, and drilling of titanium alloys.
AlTiN Nano	3000	0.45	900	◇ Precise control of the crystal orientation, achieving a perfect balance between hardness and toughness; ◇ A general coating for drilling and milling, suitable for high-speed and fast-feed cutting of stainless steel and high-hardness steel.
AlCrN/TiSiN Multi-layer	3100	0.35	1100	◇ High oxidation resistance, high heat resistance, good toughness, and an ultra-smooth surface; ◇ Suitable for drilling of stainless steels and cast irons.
AlTiN/TiSiN Nano Multi-layer	3300	0.35	1100	◇ Ultra-high stability and ultra-high toughness; ◇ A general coating for drill bits, suitable for drilling of ordinary steels.
TiAlCrSiN	4000	0.35	1100	◇ High hardness, high oxidation resistance, and heat resistance; ◇ Particularly suitable for milling processing of high-hardness steels with a hardness of 50-60HRC.
TiAlSiN	4000	0.35	1200	◇ High hardness, high oxidation resistance, and heat resistance; ◇ Particularly suitable for milling processing of high-hardness steels with a hardness of 55-65HRC. ◇ Suitable for milling processing of high-temperature alloy.
DLC	5000	0.1	500	◇ High smooth surface, low wear coefficient, and high lubricity; ◇ Suitable for machining materials such as copper alloys, aluminum alloys, and plastics.
Ti-rich Coating	4000	0.35	900	◇ High hardness, good self-lubrication, and excellent anti-adhesive wear properties; ◇ Suitable for machining of nonferrous metals such as titanium alloys and aluminum alloys.
Coarse-grained Diamond	8500	-	700	◇ High hardness, high thermal conductivity, and high wear resistance; ◇ Suitable for machining of graphite.
Ultra-fine-grained Diamond	8000	-	700	◇ Smooth surface, good self-lubrication, high hardness, high thermal conductivity, and high wear resistance; ◇ Suitable for machining of nonferrous materials, carbon fiber composite materials, etc.

Positioning of Main PVD Nano Coatings

PVD coatings precisely control the grain size (10-500nm), which can achieve high hardness, and good oxidation resistance, and effectively reduce the coefficient of friction.



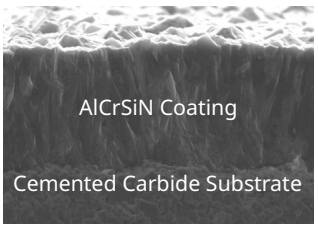
Coating Hardness and Maximum Applicable Temperature



Coating Hardness and Coefficient of Friction

General High-performance Coating AlCrSiN

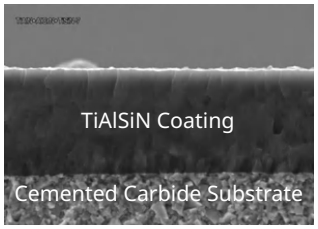
● Good versatility, significantly improving productivity through high-efficiency cutting.
● The unique structural design makes the coating achieve a perfect balance in terms of toughness, thermal shock stability, and residual stress.



Coating Cross-section Morphology

High-hardness Coating TiAlSiN

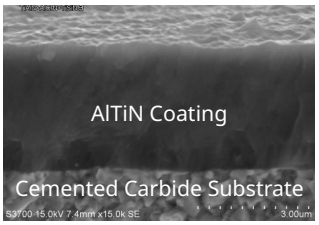
● The microhardness can reach 4,000HV, with good wear resistance.
● The special transition layer design ensures an extremely strong bonding force between the high-hardness coating and the substrate, with an adhesion force of over 100N.
● The nano-composite coating design provides extremely strong oxidation resistance, with the starting oxidation temperature as high as 1,200°C and good high-temperature stability.



Coating Cross-section Morphology

Nano-coating AlTiN

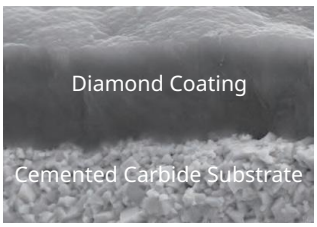
● The high aluminum content provides excellent heat resistance and oxidation resistance temperature.
● The special coating method optimizes the coating structure, improving stability and greatly reducing surface droplets.



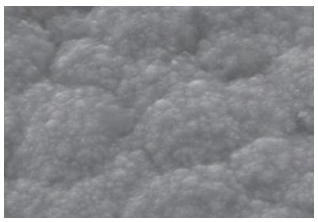
Coating Cross-section Morphology

Ultra-fine-grained Diamond Coating

● High-purity diamond coating and the coating hardness can reach over 80GPa.
● The coating surface is smooth, with a low coefficient of friction.
● Suitable for finishing nonferrous materials, such as graphite, high-silicon aluminum alloys, carbon fibers, glass fibers, ceramics, etc.

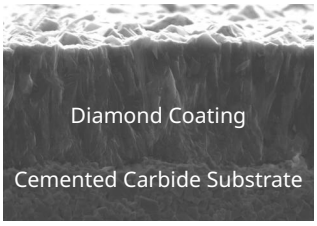


Coating Cross-section Morphology

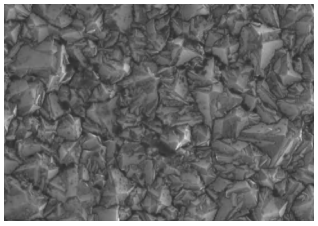

Coating Surface Morphology

Coarse-grained Diamond Coating

● High-purity diamond coating and the coating hardness can reach over 85GPa.
● High-wear-resistant diamond coating seeds, with extremely high hardness and superior wear resistance.
● Suitable for machining of graphite.



Coating Cross-section Morphology


Coating Surface Morphology

Marking Instructions

Designation		Description
Shank Shape	SHANK h5	ISO Standard Shank
	SHANK h6	ISO Standard Shank
Coating	AlCrN	AlCrN Coating
	AlCrSiN	AlCrSiN Coating
	TiAlN	TiAlN Coating
	TiAlN nano	AlTiN Nano-coating
	AlCrN/ TiSiN	AlCrN/TiSiN Multi-layer
	TiAlN/ TiSiN	TiAlN/TiSiN Nano Multi-layer
	TiAlCrSiN	TiAlCrSiN
	TiAlSiN	TiAlSiN
	Titanium-rich	Ti-rich Coating
	DLC	DLC Colorful Coating
	N-DIA	Coarse-grained Diamond Coating
	U-DIA	Ultra-fine-grained Diamond Coating
Grade	GSR7115	Titanium Alloy Milling Grade GSR7115

Designation		Description
Cutting Method		Side Milling
		Grooving
		Profile Cutting
		Helical Milling
		Trochoidal Milling
Helix Angle	35° Helix	35° Helix Angle
	35°/38° Helix	Double Helix Angle
	47°/45°/43° Helix	Unequal Helix Angle
	Notes: Different Numbers Represent Different Helix Angles	
Teeth	1	1-edge Endmill
	2	2-edge Endmill
	3	3-edge Endmill
	4	4-edge Endmill
	5	5-edge Endmill
	6	6-edge Endmill
	12	12-edge Endmill

Designation		Description
Shape of End Cutting Edge	Square	Square
	Corner-R	Filleted Corner
	Ballnose	Ball Nose
	Chamfer	Tip Chamfer
	Chamfer	Chamfer
Work-piece Material	P	Steel
	M	Stainless Steel
	K	Cast Iron
	N	Nonferrous Materials
	S	High-temperature Alloy, Titanium Alloys
	H	High-hardness Material

Model (Order No.) Designation Rules of Solid Carbide Endmills

UP210 –

①

Workpiece Material	① Series Number	Series Description
For Steel and Cast Iron Parts	UP210	General Machining Series (≤48HRC)
	SP210	Efficient Machining Series (≤48HRC)
	PP300	Efficient Machining Series (≤48HRC)
	UPN210	General Rough Machining Series (≤48HRC)
	UPR210	General Rough Machining Series (≤48HRC)
	UPR300	General Rough Machining Series (≤48HRC)
Stainless Steel	US200	General Machining Series for Stainless Steel
	US260	General Machining Series for Stainless Steel
	SS600	Efficient Machining Series for Stainless Steel
Aluminum Alloy	UA100	General Machining Series for Aluminum Alloy
	SA100	Efficient Machining Series for Aluminum Alloy
	SA160	Appearance Machining Series for Aluminum Alloy
	SA210	Rough Machining Series for Aluminum Alloy
	SA300	High-speed Machining Series for Aluminum Alloy
	DNM100	Standard PCD Filleted Corner Endmill Series
Graphite	SG200	High-speed Machining Series for Graphite
Composite Material	SD200	Endmill Series for Composite Material Machining
High-temperature Alloy	SN200	Endmill Series for High-temperature Alloy Machining
	SN300	NEW Efficient Machining Endmill Series for High-temperature Alloy Machining
Titanium Alloy	ST210	High-performance Endmill Series for Titanium Alloy Machining
	ST300	NEW Efficient Machining Endmill Series for Titanium Alloy Machining
Hardness Steel	SH160	Machining Series for High-hardness Steel (48-55HRC)
	FH200-H	High-feed Machining Series for High-hardness Steel (35-65HRC)

S	S	2	–	060	09
②	③	④		⑤	⑥

② Shape of End Cutting Edge	
S	Square
B	Ball Nose
R	Arc Angle
C	Tip Chamfer

③ Feature Item	
N	Long Neck
H	Long Shank
L	Long Flute
S	Short Flute
Empty	Standard

④ Number of Teeth
2
3
4
6

⑤ Edge Diameter	
006	0.6 mm
060	6 mm
100	10 mm

⑥ Characteristic Code	
1	Square/ball Nose a. Neck Length b. Edge Length 06—6mm 10—10mm
2	Filleted Corner 02—R0.2mm 10—R1mm
3	Tip Chamfer 03—C0.03mm 13—C0.13mm

Model (Order No.) Designation Rules of Solid Carbide Endmills

SPM200 –

①

Workpiece Material	① Series Number	Series Description
Steel and Cast Iron Parts, Copper Alloy, Hardness Steel	SPM200	High-performance Series for Small-diameter Deep Machining (≤55HRC)
Hardness Steel	SH260-H	High-hardness General Machining Series (30-60HRC)
	SH360	High-hardness Machining Series (45-65HRC)
	SHM200	High-performance Series for Small-diameter Deep Machining of High-hardness Steel (45~65HRC)

SG200 – M –

①

Workpiece Material	① Series Number	Series Description
Graphite	SG200-M	High-speed Machining Series for Graphite Moulds

R N 2 – 1 – 4 – 0.1 – V

② ③ ④ ⑤ ⑥ ⑦ ⑧

② Shape of End Cutting Edge	
S	Square
B	Ball Nose
R	Arc Angle

③ Feature Item	
N	Long Neck
H	Long Shank
L	Long Flute
S	Short Flute
Empty	Stan-dard

④ Number of Teeth
2
3
4
6

⑤ Edge Diameter	
0.6	0.6 mm
6	6 mm

⑥ Characteristic Value Neck Length/Shank Length/Edge Length	
0.5	0.5 mm
1	1 mm
10	10 mm
100	100 mm

⑦ Fillet Radius	
0.5	0.5 mm
1	1 mm
Empty	No Fillet

⑧ Coating Code

R N 4 – 1 – 4 – 0.1 – 50

② ③ ④ ⑤ ⑥ ⑦ ⑧

② Shape of End Cutting Edge	
S	Square
B	Ball Nose
R	Arc Angle

③ Feature Item	
N	Long Neck
H	Long Shank
L	Long Flute
S	Short Flute
Empty	Stan-dard

④ Number of Teeth
2
3
4
6

⑤ Edge Diameter	
0.6	0.6 mm
6	6 mm

⑥ Characteristic Value: Neck Length/Edge Length	
0.5	0.5 mm
1	1 mm
10	10 mm

⑦ Fillet Radius	
0.5	0.5 mm
1	1 mm
Empty	No Fillet

⑧ Total Length	
50	50 mm

Model (Order No.) Designation Rules of Solid Carbide Endmills

SM200 –

①

Workpiece Material	① Series Number	Series Description
For Zirconia, Titanium Alloy	SM200	Dental Prosthesis Machining Series

STB200 – C S –

① ② ③

Workpiece Material	① Series Number	Series Description
For Stainless Steel, Titanium Alloy, High-temperature Alloy	STB200	NEW Tapered Ball-nose Endmill Series

② Machining Type	
C	Trochoidal Machining
F	Finishing

③ Workpiece Material	
S	Stainless Steel
T	Titanium Alloy
N	High-temperature Alloy

RO – 2 – 0.6 – 6 – 50 – d4

② ③ ④ ⑤ ⑥ ⑦

② Compatible Device Code	
RO	Roland
VH	VHF
WI	Wieland
IM	IMES-ICORE
ZI	Cercon
AR	ARUM
XT	Xiangtong
KL	Cradle
TP	General Titanium Alloy Machining

③ Teeth
2
3

④ Edge Diameter	
0.6	0.6 mm
6	6 mm

⑤ Neck Length	
0.5	0.5 mm
1	1 mm
10	10 mm

⑥ Total Length	
50	50 mm
60	60 mm

⑦ Shank Diameter	
d4	4 mm
d6	6 mm

B 4 – 3 – 2 – 25 – d6

④ ⑤ ⑥ ⑦ ⑧ ⑨

④ Shape of End Cutting Edge	
B	Ball nose

⑤ Number of Teeth
4
6

⑥ Single-side Dimension	
3	3 °
4	4 °

⑦ Edge Diameter	
2	2 mm
10	10 mm

⑧ Characteristic Value: Edge Length	
6	6 mm
10	10 mm

⑨ Shank Diameter	
d6	6 mm
d10	10 mm

List of Integral Endmill Products

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<tr><th>Material Group</th><th colspan="2">GESAC Material Grouping</th><th>General Machining</th><th>Roughing</th><th>Efficient Machining</th><th>High-speed Machining</th><th>Micro-machining</th><th>Specialized Machining</th></tr>
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4</td><td>Carbon Steel/Alloy Steel (<35HRC)</td><td rowspan="3">UP210</td><td rowspan="3">UPN210
UPR210
UPR300</td><td rowspan="3">SP210
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<tr><td>M</td><td>1
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3</td><td>Stainless Steel</td><td>US200
US260</td><td></td><td>SS600</td><td></td><td>SPM200</td><td>STB200 NEW</td></tr>
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2</td><td>Gray Cast Iron, Nodular Cast Iron (<32HRC)</td><td rowspan="2">UP210</td><td rowspan="2">UPN210
UPR210
UPR300</td><td rowspan="2">SP210
PP300</td><td rowspan="2"></td><td rowspan="2">SPM200</td><td rowspan="2"></td></tr>
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2</td><td>Forged Aluminum Alloy, Cast Aluminum Alloy (Si⩽12%)</td><td>UA100
DNM100</td><td>SA210</td><td>SA100</td><td rowspan="2">SA300</td><td rowspan="3">SPM200</td><td>SA160</td></tr>
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DNM100</td><td></td><td></td><td></td><td></td></tr>
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DNM100</td><td></td><td></td><td colspan="2">SG200
SG200-M
SM200</td><td></td></tr>
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3</td><td>High-temperature Alloy (<450HB)</td><td>SN200</td><td></td><td>SN300 NEW</td><td></td><td rowspan="2">SPM200</td><td rowspan="2">STB200 NEW</td></tr>
<tr><td>4</td><td>Titanium Alloy (<400HB)</td><td>ST210</td><td></td><td>ST300 NEW</td><td colspan="2">SM200</td></tr>
<tr><td rowspan="3">H</td><td>1</td><td>Hardness Steel (45-55HRC)</td><td>SH160
SH260-H</td><td rowspan="3"></td><td rowspan="3">FH200-H</td><td rowspan="2">SH260-H</td><td rowspan="3">SH360</td><td rowspan="3">SHM200</td><td rowspan="3"></td></tr>
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4</td><td>High-hardness Steel (>60HRC)</td><td></td><td></td></tr>
</table>

Series Introduction

UP210 General Machining Endmill

- Suitable for the machining of ordinary steel and cast iron materials (≤48 HRC);
- High-performance AlCr-based coating, which is resistant to high temperatures and wear;
- Suitable for various cooling environments such as mist cooling, water cooling, oil cooling, and air cooling.

SP210 Efficient Machining Endmill

- Suitable for efficient machining of ordinary steel and cast iron materials (≤48 HRC);
- The design of unequal helix angles and unequal tooth pitches provides excellent anti-vibration capabilities;
- Suitable for efficient cutting with large cutting depths and widths (when the machine has good rigidity).

PP300 Efficient Machining Endmill for Ordinary Steel

- Suitable for efficient machining processing such as side milling, grooving, helical interpolation milling, and trochoidal milling of ordinary steel and cast iron materials (≤48HRC), with a high metal removal rate;
- The design of unequal tooth pitches and unequal helix angles effectively suppresses high-frequency vibrations, gives full play to excellent anti-vibration capabilities, and enables efficient and stable machining with large cutting depths and widths;
- The variable slot depth design ensures that the tool has both sufficient chip removal space and sufficient rigidity.

UPN210 Chip Breaking Tooth Roughing Endmill

- Suitable for semi-finishing and roughing of ordinary steel and cast iron materials (≤48HRC), with a high metal removal rate;
- The fine-grained substrate of the GU type combined with the high-performance AlCr-based nano-coating achieves a perfect combination of high wear resistance and high toughness;
- With a special chip breaking tooth design, short chips are generated during the machining process, and the chip removal is smooth, achieving high-quality and stable machining;
- With a unique large R geometry design, good chip removal performance is achieved.

Series Introduction

UPR210 Undulatory Tooth Roughing Endmill

- Suitable for roughing of ordinary steel and cast iron materials (≤48HRC), with a high metal removal rate;
- The fine-grained substrate of the GU type combined with the high-performance AlCr-based nano-coating achieves a perfect combination of high wear resistance and high toughness;
- A large 45° helix angle and a unique U-shaped slot design to achieve smooth cutting;
- With a standard undulatory tooth design, fine and short chips are generated during machining, the chip removal performance is excellent, and high-quality and stable machining is achieved.

UPR300 Undulatory Tooth Roughing Endmill

- Suitable for roughing with large cutting depths and widths of ordinary steel and cast iron materials (≤48HRC), with a high metal removal rate;
- A dense tooth type undulatory tooth design, generating ultra-fine and short chips during machining, with excellent chip removal performance, low cutting resistance, and low machine load;
- The special cutting edge treatment effectively improves the tool's chipping resistance and wear resistance during roughing.

US200 General Endmill for Stainless Steel

- Suitable for general machining of stainless steel (<280HB);
- The special cutting edge design effectively solves the problem of chip adhesion at the cutting edge of the tool;
- Water cooling and oil cooling are the best cooling modes.

US260 Stainless Steel General Machining Endmill

- Suitable for roughing and finishing of stainless steel (<380HB);
- Excellent tool substrate and coating process, enhancing the chipping resistance during roughing and the wear resistance during finishing, and the tool has a long service life;
- Suitable for fast feed and high-feed machining, face milling, side milling, and shallow slot grooving (ap≤0.1D);
- Oil cooling and water cooling are recommended as the cooling modes.

Series Introduction

SS600 Efficient Machining Endmill for Stainless Steel

- Suitable for machining high-strength steel, precipitation hardening stainless steel, titanium alloy, etc.;
- The special R5 filleted corner protection of SS600 can be used for trochoidal milling, efficient machining, or finishing;
- Excellent grooving performance, high cutting edge strength, and resistance to edge broken;
- The design of unequal helix and unequal indexing ensures a stable cutting process;
- The parabolic chip pocket design provides excellent chip removal ability.

UA100 General Machining Endmill for Copper and Aluminum Alloys

- Suitable for general machining of aluminum alloys (Si≤12%) and copper alloys (<200HB);
- The special edge type design effectively prevents vibrations and solves the problem of chip adhesion at the cutting edge of the tool;
- Water cooling is the best cooling mode.

SA100 Efficient Machining Endmill for Copper and Aluminum

- Suitable for high-efficiency roughing and semi-finishing of aluminum alloys (Si≤12%);
- The unique geometry design and the polishing treatment of the rake face enhance the chip removal performance and meet the requirements of efficient machining;
- Suitable for efficient machining with large cutting depths and widths, with a high metal removal rate.

SA160 Endmill for Appearance Machining of Aluminum Alloys

- Suitable for finishing (appearance machining) of aluminum alloys;
- The unique geometry design and extremely high grinding quality meet the machining requirements of high appearance quality;
- There are no defects such as tool marks or male and female faces on the machined appearance, achieving stable appearance machining.

Series Introduction

SA210 Series Roughing Endmill for Aluminum Alloys

- Suitable for high-efficiency roughing of aluminum alloy materials;
- The special undulatory tooth design ensures a high metal removal rate;
- The vibration suppression tool design ensures a stable high-speed cutting process.

DNM100 Standard PCD Filleted Corner Endmill

- A compact with good wear resistance and a unique cutting edge treatment to ensure the quality of the cutting surface and a long service life;
- Suitable for roughing, semi-finishing, and finishing of copper and aluminum alloys, graphite, composite materials, etc.

SA300 Series High-Speed Machining Endmill for Aluminum Alloys

- Suitable for high-speed machining of aerospace aluminum alloy materials;
- The combination of special design and excellent manufacturing results in excellent tool dynamic balance performance;
- Ultra-fine-grained cemented carbide, which has super wear resistance and high toughness;
- The unique sharp cutting edge design makes the cutting process light and smooth, improving the machining efficiency and the surface quality of the workpiece.

SG200 Endmill for Graphite Machining

- With a diamond coating, the strengthened bonding between the coating and the substrate has high adhesion, and the tool has high toughness;
- The high-purity diamond coating film has good wear resistance, ensuring long-service life machining;
- Suitable for semi-finishing and finishing of graphite workpieces such as graphite electrodes and graphite products, and air cooling is recommended.

Series Introduction

SG200-M Endmill for Graphite Mould Specialized Machining

- The high-purity diamond coating film is suitable for machining various graphite grades with high and low hardness and has excellent wear resistance;
- The special pre-treatment process achieves good machining surface quality;
- Suitable for high-precision and specialized machining of 3D curved glass graphite moulds in the 3C electronics industry, and air cooling is recommended.

ST210 High-Performance Endmill for Titanium Alloy Machining

- Suitable for high-performance machining of titanium alloy materials (TA7, TC4, TC18) and stainless steel materials;
- Unequal indexing and unequal helix angles effectively suppress the generation of vibrations, resulting in higher machining surface quality;
- The eccentric arc relief angle design gives high cutting edge strength, enabling stable cutting machining;
- A substrate specially designed for difficult-to-machine materials, providing a longer tool cutting service life.

ST300 High-Performance Endmill for Titanium Alloy Machining

- Suitable for high-performance machining of titanium alloy materials;
- A brand-new titanium alloy milling grade, which significantly improves wear resistance and anti-adhesive wear properties;
- The special filleted corner treatment improves the strength and sharpness of the cutting edge, effectively reducing the vibrations caused by the filleted corners;
- An enhanced large helix angle design and unequal tooth pitches, reducing the harmonics generated during cutting and eliminating abnormal vibrations;
- A professional 5-edge design has been added, aiming to achieve a productivity that exceeds that of 4-edge endmills.

STB200 Tapered Ball-Nose Endmill

- Suitable for specialized machining of impellers and blade disks made of stainless steel, titanium alloy, and high-temperature alloy;
- The taper clearance design and vibration suppression design are suitable for deep machining with large overhangs;
- The special tool design combined with a high-performance substrate and a special coating results in high machining efficiency.

Series Introduction

SM200 Endmill for Dental Prosthesis Machining

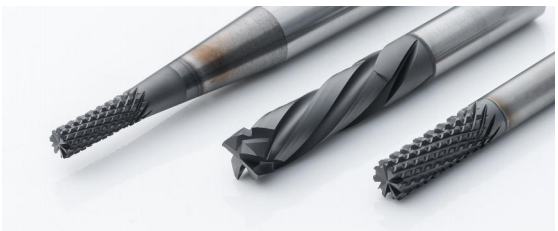
- The high-precision dimensional tolerance design ensures the machining accuracy of dental prostheses;
- The sharp cutting edge design results in excellent product surface quality;
- The advanced coating process gives the tool high wear resistance;
- Suitable for machining materials such as zirconia, titanium alloy, and cobalt-chromium alloy in the dental industry.

SN200 High-performance Endmill for High-temperature Alloy Machining

- Suitable for high-performance machining of high-temperature alloys (such as Inconel718, GH4169, etc.) and stainless steel materials;
- Unique Edge type design, ensuring high rigidity and excellent seismic performance;
- Special circumferential relief angle treatment, increasing the strength of the cutting edge and ensuring the cutting surface quality.

SN300 High-performance Endmill for High-temperature Alloy Machining

- Suitable for high-performance machining of high-temperature alloys such as high-temperature alloy engine power components in the aerospace industry and cobalt-chromium alloy parts in the medical industry;
- The optimized circumferential relief angle treatment reduces cutting heat, increases the tool's wear resistance, and ensures the quality of the cutting surface;
- The unequal tooth pitch cutting edges reduce resonance, provide excellent anti-vibration capabilities, and improve the material removal rate and the tool's service life;
- The new fine-grained substrate combined with the high-performance AlTi-based coating achieves a perfect combination of high chipping resistance and high wear resistance;
- A professional 5-edge design has been added, aiming to achieve a productivity that exceeds that of 4-edge endmills.



SD200 High-Performance Endmill for Composite Material Machining

- Suitable for edge milling and grooving machining of aerospace carbon fiber composite materials;
- A diamond coating to improve the tool's service life;
- A edge type design with left and right staggered edges, which can effectively suppress workpiece edge curling and delamination, etc.

SH160 Hardness Steel (48-55HRC) Machining Endmill

- High-hardness, high-toughness substrate material with specialized angle design for machining high-hardness steel;
- Suitable for finish machining of hardness steels (48-55HRC);
- Air cooling or oil mist cooling is recommended.

Series Introduction

SH260-H General Hardness Steel Machining Endmill

- Suitable for machining and semi-finishing of 30~60HRC hardness materials;
- High-strength and high-toughness substrate materials combining with our self-developed high-hardness coating, effectively extending the tool service life;
- Unique geometry structure, achieving excellent hardness steel material machining;
- Oil cooling or oil mist cooling is recommended.

SH360 Hardness Steel Machining Endmill

- Suitable for machining and semi-finishing of 45~65HRC hardness materials;
- High-strength and high-toughness substrate materials combining with our newly developed high-hardness coating, effectively extending the tool service life;
- Unique geometry structure, achieving excellent hardness steel material machining;
- Oil cooling or oil mist cooling is recommended.

FH200-H Hardness Steel High Feed Machining Dedicated Endmill

- Specifically designed for high-feed roughing of hardness materials (35~65HRC);
- Special dedicated tool design, perfectly realizing high-feed machining and significantly improving machining efficiency;
- The use of ultra-fine cemented carbide substrate and self-developed high-hardness coating makes the tool have extremely high wear resistance and high temperature stability, suitable for various working conditions.

SPM200 Micro Diameter Endmills for Deep Machining

- Suitable for deep notch micro-machining of carbon steel, alloy steel, hardened steel, copper, aluminum alloy and other materials (hardness ⩽ HRC55) in the precision mould industry;
- High-accuracy edge diameter accuracy, ball nose profile, R arc profile and shank accuracy (h5);
- Use high-performance AlCrSiN nano coating for heat and wear resistance;
- Special angle and clearance design.

SHM200 Micro Diameter Endmills for Deep Machining

- Use GU-type ultrafine grain substrate + TiAlSiN high-performance nano coating;
- Special angle and clearance design;
- High-accuracy edge diameter accuracy, high-accuracy ball nose profile, high-accuracy tool shank (h5);
- Suitable for high-accuracy deep cavity machining of hardened steel, pre-hardened steel and other materials (hardness ⩽ HRC65).

Tool Series Catalog (by series)

Applicable Machining Materials	Teeth	Shape of End Cutting Edge	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
	UP210							
Steel Cast Iron	2	Square	AlCrSiN	2 Flutes, Stub Length, Square	UP210-SS2	D1~D20	272	634
	2	Square	AlCrSiN	2 Flutes, Standard Length, Square	UP210-S2	D1~D20	273	634
	2	Square	AlCrSiN	2 Flutes, Long Flute Length, Square	UP210-SL2	D2~D20	275	634
	2	Square	AlCrSiN	2 Flutes, Long Shank Length	UP210-SH2	D2~D20	276	634
	3	Square	AlCrSiN	3 Flutes, Standard Length, Square	UP210-S3	D2~D25	277	634
	4	Square	AlCrSiN	4 Flutes, Stub Length, Square	UP210-SS4	D1~D20	278	635
	4	Square	AlCrSiN	4 Flutes, Standard Length, Square	UP210-S4	D1~D22	279	635
	4	Square	AlCrSiN	4 Flutes, Long Flute Length, Square	UP210-SL4	D1~D20	281	635
	4	Square	AlCrSiN	4 Flutes, Long Shank Length	UP210-SH4	D2~D20	283	635
	4	Square	AlCrSiN	4 Flutes, Standard Length, Square - Acute Angle	UP210-SC4	D4~D20	284	635
	4	Square	AlCrSiN	4 Flutes, Standard Length, Square - 45° Helix Angle	UP210-S4A	D4~D20	285	635
	6	Square	AlCrSiN	6 Flutes, Standard Length, Square	UP210-S6	D6~D20	286	635
	2	Corner-R	AlCrSiN	2 Flutes, Corner Radius	UP210-R2	D1~D20	287	634
	2	Corner-R	AlCrSiN	2 Flutes, Corner Radius, with Long Shank Length	UP210-RH2	D4~D20	290	634
	4	Corner-R	AlCrSiN	4 Flutes, Corner Radius	UP210-R4	D1~D20	292	635
	4	Corner-R	AlCrSiN	4 Flutes, Corner Radius, with Long Shank Length	UP210-RH4	D3~D20	296	635
	4	Corner-R	AlCrSiN	4 Flutes, Corner Radius - 45° Helix Angle	UP210-R4A	D4~D20	298	635
	2	Ballnose	AlCrSiN	2 Flutes, Ballnose	UP210-B2	D0.8~D20	300	637
	2	Ballnose	AlCrSiN	2 Flutes Ballnose, with Long Shank Length	UP210-BH2	D2~D20	302	637

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
	◎	◎	○	◎								
	◎	◎	○	◎								
	◎	◎	○	◎								
	◎	◎	○	◎								
	◎	◎	○	◎								
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	◎	◎	○	◎								

Tool Series Catalog (by series)

Applicable Machining Materials	Teeth	Shape of End Cutting Edge	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
	UP210							
Steel Cast Iron	4	Ballnose	AlCrSiN	4 Flutes, Ballnose	UP210-B4	D2~D20	304	637
	4	Chamfer	AlCrSiN	4 Flutes, 60° Chamfer Endmills	UP210-L60	D4~D20	305	638
	4	Chamfer	AlCrSiN	4 Flutes, 90° Chamfer Endmills	UP210-L90	D4~D20	306	638
	4	Chamfer	AlCrSiN	4 Flutes, 120° Chamfer Endmills	UP210-L120	D4~D20	307	638
	SP210							
	3	Square	AlCrSiN	3 Flutes, Square, with Variable Helix	SP210-S3	D2.5~D20	308	638
	3	Chamfer	AlCrSiN	3 Flutes, Square, with Variable Helix (Tip Chamfer)	SP210-C3	D6~D16	309	638
	4	Square	AlCrSiN	4 Flutes, Square, Double Helix	SP210-S4	D1~D20	310	639
	4	Chamfer	AlCrN	4 Flutes, Square, Double Helix (Tip Chamfer)	SP210-C4	D3~D20	311	639
	4	Chamfer	AlCrN	4 Flutes, Square, with Long Neck and Double Helix (Tip Chamfer)	SP210-CN4	D3~D20	313	639
	4	Corner-R	AlCrSiN	4 Flutes, Corner Radius, with Double Helix	SP210-R4	D1~D16	314	639
	4	Corner-R	AlCrSiN	4 Flutes, Corner Radius, with Double Helix and Long Shank	SP210-RH4	D4~D12	316	639
	2	Ballnose	AlCrSiN	2 Flutes, Ballnose	SP210-B2	D1~D12	317	640
	2	Ballnose	AlCrSiN	2 Flutes Ballnose, with Long Shank Length	SP210-BH2	D4~D12	318	640

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
	◎	◎	○	◎								
	◎	○	○	◎	○	○						
	◎	○	○	◎	○	○						
	◎	○	○	◎	○	○						
	◎	◎	○	◎								
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	◎	◎	○	◎								
	◎	◎	○	◎								
	◎	◎	○	◎								
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Tool Series Catalog (by series)

Applicable Machining Materials	Teeth	Shape of End Cutting Edge	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
Steel Parts Cast Iron	**PP300**							
	2	Chamfer	AlCrSiN	2 Flutes, Square (Tip Chamfer)	PP300-C2	D2~D12	319	641
	3	Chamfer	AlCrSiN	3 Flutes, Square, with Variable Helix (Tip Chamfer)	PP300-C3	D3~D20	320	642
	4	Chamfer	AlCrSiN	4 Flutes, Square, Double Helix (Tip Chamfer)	PP300-C4	D3~D20	321	643
	4	Corner-R	AlCrSiN	4 Flutes, Corner Radius, with Double Helix	PP300-R4	D4~D20	322	643
	4 5	Corner-R	AlCrSiN	4/5 Flutes, Square, with Variable Helix (Round Corner on Tip) (Trochoidal Milling Machining)	PP300 -SPEED-3D	D6~D20	324	644
	4 5	Corner-R	AlCrSiN	4/5 Flutes, Square, with Variable Helix (Round Corner on Tip) (Trochoidal Milling Machining)	PP300 -SPEED-3DN	D6~D20	325	644
	4 5	Corner-R	AlCrSiN	4/5 Flutes, Square, with Variable Helix (Round Corner on Tip) (Trochoidal Milling Machining)	PP300 -SPEED-5D	D6~D20	326	644
	UPN210							
	4	Chamfer	AlCrSiN	4 Flutes, Square, with Roughing Geometry	UPN210-S4	D6~D20	327	646
	UPR210							
	4	Chamfer	AlCrSiN	4 Flutes, Square, with Roughing Geometry	UPR210-S4	D6~D20	328	645
	UPR300							
	3 4	Chamfer	AlCrSiN	3/4 Flutes, Square, with Roughing Geometry	UPR300-S3/S4	D6~D20	329	647

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
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Tool Series Catalog (by series)

Applicable Machining Materials	Teeth	Shape of End Cutting Edge	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
	SPM200							
Steel Parts Cast Copper Alloy Hardness Steel	2	Square	AlCrSiN	2 Flutes, Standard Length, Micro Diameter for Deep Machining	SPM200-SN2	D0.1~D6	567	682
	2	Corner-R	AlCrSiN	2 Flutes, Corner Radius, Micro Diameter for Deep Machining	SPM200-RN2	D0.2~D6	573	692
	4	Corner-R	AlCrSiN	4 Flutes, Corner Radius, Micro Diameter for Deep Machining	SPM200-RN4	D1~D6	587	714
	2	Ballnose	AlCrSiN	2 Flutes, Ballnose, Micro Diameter for Deep Machining	SPM200-BN2	D0.1~D6	593	719
	US200							
Stainless Steel	2	Square	TiAlN	2 Flutes, Standard Length, Square	US200-S2	D0.5~D20	330	649
	4	Square	TiAlN	4 Flutes, Stub Length, Square	US200-SS4	D2~D20	331	650
	4	Square	TiAlN	4 Flutes, Standard Length, Square	US200-S4	D1~D22	332	650
	4	Square	TiAlN	4 Flutes, Square with Long Neck	US200-SN4	D2~D20	333	650
	2	Corner-R	TiAlN	2 Flutes, Corner Radius	US200-R2	D3~D16	334	649
	3	Corner-R	TiAlN	3 Flutes, Corner Radius	US200-R3	D2~D20	335	649
	4	Corner-R	TiAlN	4 Flutes, Corner Radius	US200-R4	D2~D20	336	650
	2	Ballnose	TiAlN	2 Flutes, Ballnose	US200-B2	D1~D16	337	650
	4	Ballnose	TiAlN	4 Flutes, Ballnose	US200-B4	D1~D20	338	650

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
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Tool Series Catalog (by series)

Applicable Machining Materials	Teeth	Shape of End Cutting Edge	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
	US260							
	2	Square	TiAlN	2 Flutes, Standard Length/ Stub Length, Square	US260-S2/SS2	D0.5~D0.8	339	651
	4	Square	TiAlN	4 Flutes, Standard Length, Square (General Machining)	US260-SS4A	D1~D20	340	651
	4	Square	TiAlN	4 Flutes, Stub Length, Square (Finishing)	US260-SS4B	D1~D6	341	651
	4	Square	TiAlN	4 Flutes, Standard Length, Square (General Machining)	US260-S4A	D1~D20	342	651
	4	Square	TiAlN	4 Flutes, Stub Length, Square (Finishing)	US260-S4B	D1~D6	343	651
	4	Corner-R	TiAlN	4 Short Flutes, Corner Radius	US260-RS4	D1~D20	344	652
	4	Corner-R	TiAlN	4 Flutes, Corner Radius	US260-R4	D1.5~D20	345	652
	SS600							
Stainless Steel	4	Square	TiAlN	4 Flutes, Stub Length, Square	SS600-SS4	D2~D20	347	653
	4	Square	TiAlN	4 Flutes, Standard Length, Square	SS600-S4	D1~D20	348	653
	4	Square	TiAlN	4 Flutes, Long Shank Length	SS600-SH4	D2~D20	349	653
	5	Square	TiAlN	5 Flutes, Standard Length, Square	SS600-S5	D6~D25	350	654
	4	Corner-R	TiAlN	4 Short Flutes, Corner Radius	SS600-RS4	D2~D20	351	653
	4	Corner-R	TiAlN	4 Flutes, Corner Radius	SS600-R4	D2~D20	352	653
	4	Corner-R	TiAlN	4 Flutes, Corner Radius, with Long Shank Length	SS600-RH4	D4~D20	355	653
	5	Corner-R	TiAlN	5 Flutes, Corner Radius	SS600-R5	D6~D25	357	654
	4	Ballnose	TiAlN	4 Flutes, Ballnose	SS600-B4	D1~D20	361	653
	5	Corner-R	TiAlN	5 Flutes, Standard Length (Trochoidal Milling Machining) NEW	SS600-C-R5	D6~D20	362	654

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
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Tool Series Catalog (by series)

Applicable Machining Materials	Teeth	Shape of End Cutting Edge	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
Aluminum Alloy	**UA100**							
	2	Square		2 Flutes, Standard Length, Square	UA100-S2	D1~D20	364	655
	2	Square		2 Flutes, Long Flute Length, Square	UA100-SL2	D2~D20	365	655
	2	Square		2 Flutes, Long Shank Length	UA100-SH2	D2~D20	366	655
	3	Square		3 Flutes, Standard Length, Square	UA100-S3	D1~D20	367	656
	3	Square		3 Flutes, Long Flute Length, Square	UA100-SL3	D2~D20	368	656
	3	Square		3 Flutes, Long Shank Length	UA100-SH3	D2~D20	369	656
	2	Corner-R		2 Flutes, Corner Radius	UA100-R2	D1~D20	370	655
	2	Corner-R		2 Flutes, Corner Radius, with Long Shank Length	UA100-RH2	D6~D20	373	655
	3	Corner-R		3 Flutes, Corner Radius	UA100-R3	D1~D20	375	656
	3	Corner-R		3 Flutes, Corner Radius, with Long Shank Length	UA100-RH3	D6~D20	378	656
	2	Ballnose		2 Flutes, Ballnose	UA100-B2	D1~D16	380	657
	SA100							
	3	Square		3 Flutes, Standard Length, Square	SA100-S3	D3~D12	381	657
	3	Square	DLC	3 Flutes, Standard Length, Square (DLC Colorful Coating) NEW	SA100-S3X	D1~D20	382	657
	SA160							
	3	Square		3 Flutes, Standard Length, Square	SA160-S3	D4~D20	383	657
	3	Square		3 Flutes, Long Flute Length, Square	SA160-SL3	D4~D20	384	657
	4	Square		4 Flutes, Standard Length, Square	SA160-S4	D4~D20	385	657
	4	Square		4 Flutes, Stub Length, Square	SA160-SS4	D4~D20	386	657

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
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Tool Series Catalog (by series)

Applicable Machining Materials	Teeth	Shape of End Cutting Edge	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
	SA210							
	3	Corner-R		3 Flutes, Corner Radius, with Long Neck	SA210-WR	D12~D25	387	658
	3	Corner-R	Titanium-rich	3 Flutes, Corner Radius, with Long Neck (Coating with Coolant)	SA210-WR-IC	D12~D25	390	658
	3	Corner-R		3 Flutes, Corner Radius	SA210-NR	D6~D20	393	658
	SA300							
	3	Square		3 Flutes, Standard Length, Square	SA300-S3	D6~D20	394	659
	2	Corner-R		2 Flutes, Corner Radius, with Long Neck	SA300-RN2	D6~D32	395	659
	3	Corner-R		3 Flutes, Corner Radius, with Long Neck	SA300-RN3	D6~D32	399	659
	2	Ballnose		2 Flutes, Ballnose, with Long Neck	SA300-BN2	D6~D20	403	659
	4	Square		4 Flutes, Square with Long Neck (Side Milling Finishing)	SA300-SF-SN4	D6~D20	404	660
	4	Square	Titanium-rich	4 Flutes, Square with Long Neck (Side Milling Finishing) (Coating with Coolant)	SA300-SF-IC-SN4	D12~D20	405	660
	4	Corner-R		4 Flutes, Corner Radius, with Long Neck (Side Milling Finishing)	SA300-SF-RN4	D10~D20	406	660
	4	Corner-R	Titanium-rich	4 Flutes, Corner Radius, with Long Neck (Side Milling Finishing) (Coating with Coolant)	SA300-SF-IC-RN4	D12~D20	408	660
	6	Corner-R		6 Flutes, Corner Radius, with Long Neck (Face Milling Finishing)	SA300-WF-RN6	D16~D25	410	660
	6	Corner-R	Titanium-rich	6 Flutes, Corner Radius, with Long Neck (Face Milling Finishing) (Coating with Coolant)	SA300-WF-IC-RN6	D16~D25	411	660
Copper Aluminium Graphite Composite Material	**DNM100**							
	1	Corner-R		1 Flutes, Corner Radius	DNM100-RS1	D2~D3	412	660
	2	Corner-R		2 Flutes, Corner Radius	DNM100-RS2	D4~D10	413	660
	3	Corner-R		3 Flutes, Corner Radius	DNM100-RS3	D10~D16	414	660

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
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Tool Series Catalog (by series)

Applicable Machining Materials	Teeth	Shape of End Cutting Edge	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
Graphite	**SG200**							
	2	Square	U-DIA	2 Flutes, Standard Length, Square	SG200-S2	D0.4~D12	415	661
	2	Square	U-DIA	2 Flutes, Square with Long Neck	SG200-SN2	D1~D12	416	661
	3	Square	U-DIA	3 Flutes, Standard Length, Square	SG200-S3	D1~D12	417	661
	4	Square	U-DIA	4 Flutes, Standard Length, Square	SG200-S4	D2~D12	418	661
	4	Corner-R	U-DIA	4 Flutes, Corner Radius	SG200-R4	D2~D12	419	661
	4	Corner-R	U-DIA	4 Flutes, Corner Radius, with Long Neck	SG200-RN4	D2~D12	420	661
	2	Ballnose	U-DIA	2 Flutes, Ballnose	SG200-B2	D0.5~D12	421	662
	2	Ballnose	U-DIA	2 Flutes, Ballnose, with Long Neck	SG200-BN2	D0.5~D12	422	662
	SG200-M							
	4	Corner-R	N-DIA	4 Flutes, Corner Radius, with Long Neck	SG200-M-RN4	D1~D10	424	662
	2	Ballnose	N-DIA	2 Flutes, Ballnose	SG200-M-B2	D0.4~D6	425	662
	2	Ballnose	N-DIA	2 Flutes, Ballnose, with Long Neck	SG200-M-BN2	D0.5~D6	426	662
Titanium Alloy	**ST210**							
	4	Square	AlCrN	4 Flutes, Square, with Unequal Tooth Pitch	ST210-S4	D1~D20	427	663
	4	Corner-R	AlCrN	4 Flutes, Corner Raidus, with Unequal Tooth Pitch	ST210-R4	D2~D20	428	663
	4	Corner-R	AlCrN	4 Flutes, Corner Raidus, with Unequal Tooth Pitch and Long Neck	ST210-RN4	D6~D20	430	663
	5	Corner-R	AlCrSiN	5 Flutes, Corner Raidus, with Unequal Tooth Pitch and Long Flute	ST210-RL5	D16~D25	433	663
	4	Ballnose	AlCrSiN	4 Flutes, Ballnose, with Unequal Tooth Pitch	ST210-B4	D2~D20	434	663

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
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Tool Series Catalog (by series)

Applicable Machining Materials	Teeth	Shape of End Cutting Edge	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
	ST300							
Titanium Alloy	4	Square	GSR7115	4 Flutes, Standard Length, Square NEW	ST300-S4	D1~D20	435	664
	4	Corner-R	GSR7115	4 Flutes, Corner Radius NEW	ST300-R4	D2~D20	436	664
	4	Corner-R	GSR7115	4 Flutes, Corner Radius, with Long Shank Length NEW	ST300-RH4	D6~D20	438	664
	4	Corner-R	GSR7115	4 Flutes, Corner Radius, with Long Neck NEW	ST300-RN4	D6~D25	441	664
	5	Corner-R	GSR7115	5 Flutes, Corner Radius NEW	ST300-R5	D6~D20	445	664
	5	Corner-R	GSR7115	5 Flutes, Corner Radius, with Long Shank Length NEW	ST300-RH5	D6~D25	447	664
	5	Corner-R	GSR7115	5 Flutes, Corner Radius, with Long Neck NEW	ST300-RN5	D6~D25	451	664
	5	Corner-R	GSR7115	5 Flutes, Standard Length (Trochoidal Milling Machining) NEW	ST300-C-R5	D6~D20	454	665
	STB200							
Stainless Steel Titanium Alloy High-temperature Alloy	4	Ballnose	TiAlN	4 Flutes, Taper, Ballnose (Trochoidal Milling Machining) NEW	STB200-CS	R1~R5	456	669
	4 6	Ballnose	GSR7115	4/6 Flutes, Taper, Ballnose (Trochoidal Milling Machining) NEW	STB200-CT	R1~R9.5	458	669
	4 6	Ballnose	TiAlN	4/6 Flutes, Taper, Ballnose (Trochoidal Milling Machining) NEW	STB200-CN	R1~R9.5	460	669
	4	Ballnose	TiAlN	4 Flutes, Taper, Ballnose (Finishing) NEW	STB200-FS	R1~R4	462	670
	4 6	Ballnose	GSR7115	4/6 Flutes, Taper, Ballnose (Finishing) NEW	STB200-FT	R1~R6	463	670
	4 6	Ballnose	TiAlN	4/6 Flutes, Taper, Ballnose (Finishing) NEW	STB200-FN	R1~R6	464	670

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
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Tool Series Catalog (by series)

Applicable Machining Materials	Teeth	Shape of End Cutting Edge	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
	SM200							
Zirconia and Titanium Alloys	2	Ballnose	AlCrN	2 Flutes, Ballnose, with Long Neck	SM200-TP2	R0.5~R1.5	465	665
	2 3	Ballnose	N-DIA	2/3 Flutes, Ballnose, with Long Neck	SM200-RO2/RO3	R0.3~R1.5	466	665
	2 3	Ballnose	N-DIA	2/3 Flutes, Ballnose, with Long Neck	SM200-VH2/VH3	R0.3~R1	467	665
	2 3	Ballnose	N-DIA	2/3 Flutes, Ballnose, with Long Neck	SM200-WI2/WI3	R0.3~R1.25	468	665
	2 3	Ballnose	N-DIA	2/3 Flutes, Ballnose, with Long Neck	SM200-IM2/IM3	R0.3~R1.25	469	665
	2 3	Ballnose	N-DIA AlCrN	2/3 Flutes, Ballnose, with Long Neck	SM200-ZI2/ZI3	R0.25~R1.5	471	665
	2 3	Ballnose	N-DIA AlCrN	2/3 Flutes, Ballnose, with Long Neck	SM200-AR2/AR3	R0.3~R1.5	473	666
	2	Ballnose	N-DIA	2 Flutes, Ballnose, with Long Neck	SM200-KL2	R0.3~R1	475	665
	2	Ballnose	N-DIA AlCrN	2 Flutes, Ballnose, with Long Neck	SM200-XT2	R0.3~R1.5	476	666

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
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Tool Series Catalog (by series)

Applicable Machining Materials	Teeth	Shape of End Cutting Edge	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
	SN200							
High-temperature Alloy	4	Corner-R	TiAlN	4 Flutes, Corner Raidus, with Unequal Tooth Pitch	SN200-R4	D1~D20	478	666
	4	Corner-R	TiAlN	4 Flutes, Corner Radius, with Long Shank Length	SN200-RH4	D8~D16	482	666
	4	Ballnose	TiAlN	4 Flutes, Ballnose, with Unequal Tooth Pitch	SN200-B4	D2~D12	483	667
	4	Ballnose	TiAlN	4 Flutes Ballnose, with Long Shank Length	SN200-BH4	D8~D12	484	667
	SN300							
High-temperature Alloy	4	Corner-R	TiAlSiN	4 Flutes, Standard Length, Square (Round Corner on Tip) NEW	SN300-S4	D1~D20	485	667
	4	Corner-R	TiAlSiN	4 Flutes, Long Shank Length (Round Corner on Tip) NEW	SN300-SH4	D6~D20	486	667
	5	Corner-R	TiAlSiN	5 Flutes, Standard Length, Square (Round Corner on Tip) NEW	SN300-S5	D6~D20	487	668
	5	Corner-R	TiAlSiN	5 Flutes, Long Shank Length (Round Corner on Tip) NEW	SN300-SH5	D6~D20	488	668
	4	Corner-R	TiAlSiN	4 Flutes, Corner Radius NEW	SN300-R4	D2~D20	489	667
	4	Corner-R	TiAlSiN	4 Flutes, Corner Radius, with Long Shank Length NEW	SN300-RH4	D6~D20	491	667
	5	Corner-R	TiAlSiN	5 Flutes, Corner Radius NEW	SN300-R5	D6~D20	493	668
	5	Corner-R	TiAlSiN	5 Flutes, Corner Radius, with Long Shank Length NEW	SN300-RH5	D6~D20	495	668
	5	Corner-R	TiAlN	5 Flutes, Standard Length (Trochoidal Milling Machining) NEW	SN300-C-R5	D6~D20	497	668
	SD200							
Composite Material	8 12	Square	U-DIA	8/12 Flutes, Rhombic Teeth	SD200-CN	D2~D12	499	671

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
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	○	○	○					◎	○			
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Tool Series Catalog (by series)

Applicable Machining Materials	Teeth	Shape of End Cutting Edge	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
	SH160							
Hardness Steel	2	Square	TiAlN	2 Flutes, Standard Length, Square	SH160-S2	D0.5~D20	500	672
	4	Square	TiAlN	4 Flutes, Standard Length, Square	SH160-S4	D1~D20	502	672
	4	Square	TiAlN	4 Flutes, Long Shank Length	SH160-SH4	D3~D12	504	672
	6	Square	TiAlN	6 flutes, square	SH160-S6	D6~D20	505	672
	2	Corner-R	TiAlN	2 Flutes, Corner Radius	SH160-R2	D2~D12	506	672
	4	Corner-R	TiAlN	4 Flutes, Corner Radius	SH160-R4	D1~D12	508	672
	4	Corner-R	TiAlN	4 Flutes, Corner Radius, with Long Shank Length	SH160-RH4	D4~D12	511	672
	2	Corner-R	TiAlN	2 Flutes, Ballnose	SH160-B2	D0.5~D20	512	672
	2	Ballnose	TiAlN	2 Flutes Ballnose, with Long Shank Length	SH160-BH2	D4~D12	514	672
	4	Ballnose	TiAlN	4 Flutes, Ballnose	SH160-B4	D2~D16	515	672

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
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Tool Series Catalog (by series)

Applicable Machining Materials	Teeth	Shape of End Cutting Edge	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
	SH260-H							
Hardness Steel	2	Square	TiAlCrSiN	2 Flutes, Standard Length, Square	SH260-S2-H	D1~D12	516	673
	2	Square	TiAlCrSiN	2 Flutes, Square with Long Neck	SH260-SN2-H	D1~D6	517	673
	4	Square	TiAlCrSiN	4 Flutes, Standard Length, Square	SH260-S4-H	D1~D20	519	674
	4	Square	TiAlCrSiN	4 Flutes, Standard Length, Square, 45° Helix Angle	SH260-S4A-H	D1~D20	520	674
	4	Square	TiAlCrSiN	4 Flutes, Long Shank Length	SH260-SH4-H	D1~D20	521	674
	4	Square	TiAlCrSiN	4 Flutes, Long Shank Length, 45° Helix Angle	SH260-SH4A-H	D3-D20	522	674
	4	Square	TiAlCrSiN	4 Flutes, Square with Long Neck	SH260-SN4-H	D1~D12	523	674
	4	Square	TiAlCrSiN	4 Flutes, Long Flute Length, Square	SH260-SL4-H	D1~D16	524	674
	4	Square	TiAlCrSiN	4 Flutes, with Long Flute Length, Square, 45° Helix Angle	SH260-SL4A-H	D4-D20	525	674
	6	Square	TiAlCrSiN	6 Flutes, Standard Length, Square	SH260-S6-H	D6~D20	526	674
	6	Square	TiAlCrSiN	6 Flutes, Long Shank Length	SH260-SH6-H	D6~D20	527	674
	6	Square	TiAlCrSiN	6 Flutes, Long Flute Length, Square	SH260-SL6-H	D6~D20	528	674
	2	Corner-R	TiAlCrSiN	2 Flutes, Corner Radius	SH260-R2-H	D1~D8	529	673

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
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Tool Series Catalog (by series)

Applicable Machining Materials	Teeth	Shape of End Cutting Edge	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
	SH260-H							
Hardness Steel	2	Corner-R	TiAlCrSiN	2 Flutes, Corner Radius, with Long Neck	SH260-RN2-H	D0.8~D6	530	673
	4	Corner-R	TiAlCrSiN	4 Flutes, Corner Radius	SH260-R4-H	D1~D12	532	674
	4	Corner-R	TiAlCrSiN	4 Flutes, Corner Radius, 45° Helix Angle	SH260-R4A-H	D1-D12	535	674
	4	Corner-R	TiAlCrSiN	4 Flutes, Corner Radius, with Long Shank Length	SH260-RH4-H	D2~D12	537	674
	4	Corner-R	TiAlCrSiN	4 Flutes, Corner Radius, with Long Shank Length, 45° Helix Angle	SH260-RH4A-H	D4-D12	539	674
	4	Corner-R	TiAlCrSiN	4 Flutes, Corner Raidus, with Long Flute, 45° Helix Angle	SH260-RL4A-H	D6-D12	541	674
	4	Corner-R	TiAlCrSiN	4 Flutes, Corner Radius, with Long Neck	SH260-RN4-H	D1~D12	542	674
	2	Ballnose	TiAlCrSiN	2 Flutes, Ballnose	SH260-B2-H	D1~D16	544	675
	2	Ballnose	TiAlCrSiN	2 Flutes Ballnose, with Long Shank Length	SH260-BH2-H	D2~D12	545	675
	2	Ballnose	TiAlCrSiN	2 Flutes, Ballnose, with Long Neck	SH260-BN2-H	D1~D12	547	675
	SH360							
	2	Square	TiAlSiN	2 Flutes, Standard Length, Square	SH360-S2	D1-D12	549	676
	4	Square	TiAlSiN	4 Flutes, Standard Length, Square, 45° Helix Angle	SH360-S4A	D1-D20	550	677
	4	Square	TiAlSiN	4 Flutes, Long Shank Length, 45° Helix Angle	SH360-SH4A	D1-D20	551	677
	6	Square	TiAlSiN	6 Flutes, Standard Length, Square	SH360-S6	D6-D20	552	677

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
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Tool Series Catalog (by series)

Applicable Machining Materials	Teeth	Shape of End Cutting Edge	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
	SH360							
Hardness Steel	6	Square	TiAlSiN	6 Flutes, Long Flute Length, Square	SH360-SL6	D6-D20	553	677
	4	Corner-R	TiAlSiN	4 Flutes, Corner Radius	SH360-R4	D1-D12	554	677
	4	Corner-R	TiAlSiN	4 Flutes, Corner Radius, with Long Shank Length	SH360-RH4	D4-D12	556	677
	2	Ballnose	TiAlSiN	2 Flutes, Ballnose	SH360-B2	D0.6-D20	557	678
	2	Ballnose	TiAlSiN	2 Flutes Ballnose, with Long Shank Length	SH360-BH2	D4-D20	558	678
	4	Ballnose	TiAlSiN	4 Flutes, Ballnose	SH360-B4	D3-D16	559	679
	4	Ballnose	TiAlSiN	4 Flutes Ballnose, with Long Shank Length	SH360-BH4	D3-D16	560	679
	FH200-H							
	4	Corner-R	TiAlCrSiN	4 Flutes, Corner Radius	FH200-R4-H	D1~D12	561	680
	4	Corner-R	TiAlCrSiN	4 Flutes, Corner Radius, with Long Neck	FH200-RN4-H	D8~D12	563	680
	6	Corner-R	TiAlCrSiN	6 Flutes, Corner Radius	FH200-R6-H	D6~D20	564	680
	6	Corner-R	TiAlCrSiN	6 Flutes, Corner Radius, with Long Shank Length	FH200-RH6-H	D6~D20	565	680
	6	Corner-R	TiAlCrSiN	6 Flutes, Corner Radius, with Long Neck	FH200-RN6-H	D6~D20	566	680
	SHM200							
	2	Square	TiAlSiN	2 Flutes, Standard Length, Micro Diameter for Deep Machining	SHM200-SN2	D0.1-D6.0	601	682
	2	Corner-R	TiAlSiN	2 Flutes, Corner Radius, Micro Diameter for Deep Machining	SHM200-RN2	D0.2-D6.0	607	692
	4	Corner-R	TiAlSiN	4 Flutes, Corner Radius, Micro Diameter for Deep Machining	SHM200-RN4	D1-D6.0	621	714
	2	Ballnose	TiAlSiN	2 Flutes, Ballnose, Micro Diameter for Deep Machining	SHM200-BN2	D0.1-D6.0	627	719

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
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Tool Series Catalog (by shape)

Teeth	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
Square						
2	AlCrSiN	2 Flutes, Stub Length, Square	UP210-SS2	D1~D16	272	634
2	AlCrSiN	2 Flutes, Standard Length, Square	UP210-S2	D1~D20	273	634
2	AlCrSiN	2 Flutes, Long Flute Length, Square	UP210-SL2	D2~D20	275	634
2	AlCrSiN	2 Flutes, Long Shank Length	UP210-SH2	D2~D20	276	634
3	AlCrSiN	3 Flutes, Standard Length, Square	UP210-S3	D2~D25	277	634
4	AlCrSiN	4 Flutes, Stub Length, Square	UP210-SS4	D1~D20	278	635
4	AlCrSiN	4 Flutes, Standard Length, Square	UP210-S4	D1~D22	279	635
4	AlCrSiN	4 Flutes, Long Flute Length, Square	UP210-SL4	D1~D20	281	635
4	AlCrSiN	4 Flutes, Long Shank Length	UP210-SH4	D2~D20	283	635
4	AlCrSiN	4 Flutes, Standard Length, Square - Acute Angle	UP210-SC4	D4~D20	284	635
4	AlCrSiN	4 Flutes, Standard Length, Square - 45° Helix Angle	UP210-S4A	D4~D20	285	635
6	AlCrSiN	6 Flutes, Standard Length, Square	UP210-S6	D6~D20	286	635
3	AlCrSiN	3 Flutes, Square, with Variable Helix	SP210-S3	D2.5~D20	308	638
3	AlCrSiN	3 Flutes, Square, with Variable Helix (Tip Chamfer)	SP210-C3	D6~D20	309	638
4	AlCrSiN	4 Flutes, Square, Double Helix	SP210-S4	D1~D20	310	639
4	AlCrN	4 Flutes, Square, Double Helix (Tip Chamfer)	SP210-C4	D3~D25	311	639
4	AlCrN	4 Flutes, Square, with Long Neck and Double Helix (Tip Chamfer)	SP210-CN4	D3~D20	313	639
2	AlCrSiN	2 Flutes, Square (Tip Chamfer)	PP300-C2	D2~D12	319	641
3	AlCrSiN	3 Flutes, Square, with Variable Helix (Tip Chamfer)	PP300-C3	D3~D20	320	642

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
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Tool Series Catalog (by shape)

Teeth	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
Square						
4	AlCrSiN	4 Flutes, Square, Double Helix (Tip Chamfer)	PP300-C4	D3~D20	321	643
4/5	AlCrSiN	4/5 Flutes, Square, with Variable Helix (Round Corner on Tip) (Trochoidal Milling Machining)	PP300-SPEED-3D	D6~D20	324	644
4/5	AlCrSiN	4/5 Flutes, Square, with Variable Helix (Round Corner on Tip) (Trochoidal Milling Machining)	PP300-SPEED-3DN	D6~D20	325	644
4/5	AlCrSiN	4/5 Flutes, Square, with Variable Helix (Round Corner on Tip) (Trochoidal Milling Machining)	PP300-SPEED-5D	D6~D20	326	644
4	AlCrSiN	4 Flutes, Square, with Roughing Geometry	UPN210-S4	D6~D20	327	646
4	AlCrSiN	4 Flutes, Square, with Roughing Geometry	UPR210-S4	D6~D20	328	645
3/4	AlCrSiN	3/4 Flutes, Square, with Roughing Geometry	UPR300-S3/S4	D6~D20	329	647
2	AlCrSiN	2 Flutes, Standard Length, Micro Diameter for Deep Machining	SPM200-SN2	D0.1~D6	567	682
2	TiAlSiN	2 Flutes, Standard Length, Micro Diameter for Deep Machining	SHM200-SN2	D0.1~D6	601	682
2	TiAlN	2 Flutes, Standard Length, Square	US200-S2	D0.5~D20	330	649
4	TiAlN	4 Flutes, Stub Length, Square	US200-SS4	D2~D20	331	650
4	TiAlN	4 Flutes, Standard Length, Square	US200-S4	D1~D20	332	650
4	TiAlN	4 Flutes, Square with Long Neck	US200-SN4	D2~D12	333	650
2	TiAlN	2 Flutes, Standard Length/Stub Length, Square	US260-S2/SS2	D0.5~D0.8	339	651

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
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Tool Series Catalog (by shape)

Teeth	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
Square						
4	TiAlN	4 Flutes, Standard Length, Square (General Machining)	US260-SS4A	D1~D20	340	651
4	TiAlN	4 Flutes, Stub Length, Square (finishing)	US260-SS4B	D1~D6	341	651
4	TiAlN	4 Flutes, Standard Length, Square (General Machining)	US260-S4A	D1~D20	342	651
4	TiAlN	4 Flutes, Stub Length, Square (Finishing)	US260-S4B	D1~D6	343	651
4	TiAlN	4 Flutes, Stub Length, Square	SS600-SS4	D2~D20	347	653
4	TiAlN	4 Flutes, Standard Length, Square	SS600-S4	D1~D20	348	653
4	TiAlN	4 Flutes, Long Shank Length	SS600-SH4	D2~D20	349	653
5	TiAlN	5 Flutes, Standard Length, Square	SS600-S5	D6~D25	350	654
2		2 Flutes, Standard Length, Square	UA100-S2	D1~D12	364	655
2		2 Flutes, Long Flute Length, Square	UA100-SL2	D2~D12	365	655
2		2 Flutes, Long Shank Length	UA100-SH2	D2~D12	366	655
3		3 Flutes, Standard Length, Square	UA100-S3	D2~D20	367	656
3		3 Flutes, Long Flute Length, Square	UA100-SL3	D2~D20	368	656
3		3 Flutes, Long Shank Length	UA100-SH3	D2~D20	369	656
3		3 Flutes, Standard Length, Square	SA100-S3	D3~D12	381	657
3	DLC	3 Flutes, Standard Length, Square (DLC Colorful Coating) NEW	SA100-S3X	D1~D20	382	657
3		3 Flutes, Standard Length, Square	SA160-S3	D4~D20	383	657
3		3 Flutes, Long Flute Length, Square	SA160-SL3	D4~D20	384	657
4		4 Flutes, Standard Length, Square	SA160-S4	D4~D20	385	657
4		4 Flutes, Stub Length, Square	SA160-SS4	D4~D20	386	657

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
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Tool Series Catalog (by shape)

Teeth	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
Square						
3		3 Flutes, Standard Length, Square	SA300-S3	D6~D20	394	659
4		4 Flutes, Square with Long Neck (Side Milling Finishing)	SA300-SF-SN4	D6~D20	404	660
4	Titanium-rich	4 Flutes, Square with Long Neck (Side Milling Finishing) (Coating with Coolant)	SA300-SF-IC-SN4	D12~D20	405	660
2	U-DIA	2 Flutes, Standard Length, Square	SG200-S2	D0.4~D12	415	661
2	U-DIA	2 Flutes, Square with Long Neck	SG200-SN2	D1~D12	416	661
3	U-DIA	3 Flutes, Standard Length, Square	SG200-S3	D1~D12	417	661
4	U-DIA	4 Flutes, Standard Length, Square	SG200-S4	D2~D12	418	661
4	AlCrN	4 Flutes, Square, with Unequal Tooth Pitch	ST210-S4	D1~D20	427	663
4	GSR7115	4 Flutes, Standard Length, Square NEW	ST300-S4	D1~D20	435	664
4	TiAlSiN	4 Flutes, Standard Length, Square (Round Corner on Tip) NEW	SN300-S4	D1~D20	485	667
4	TiAlSiN	4 Flutes, Long Shank Length (Round Corner on Tip) NEW	SN300-SH4	D6~D20	486	667
5	TiAlSiN	5 Flutes, Standard Length, Square (Round Corner on Tip) NEW	SN300-S5	D6~D20	487	668
5	TiAlSiN	5 Flutes, Long Shank Length (Round Corner on Tip) NEW	SN300-SH5	D6~D20	488	668
2	TiAlN	2 Flutes, Standard Length, Square	SH160-S2	D0.5~D20	500	672
4	TiAlN	4 Flutes, Standard Length, Square	SH160-S4	D1~D20	502	672
4	TiAlN	4 Flutes, Long Shank Length	SH160-SH4	D3~D12	504	672

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
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Tool Series Catalog (by shape)

Teeth	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
Square						
6	TiAlN	6 Flutes, Standard Length, Square	SH160-S6	D6~D20	505	672
2	TiAlCrSiN	2 Flutes, Standard Length, Square	SH260-S2-H	D1~D12	516	673
2	TiAlCrSiN	2 Flutes, Square with Long Neck	SH260-SN2-H	D1~D6	517	673
4	TiAlCrSiN	4 Flutes, Standard Length, Square	SH260-S4-H	D1~D20	519	674
4	TiAlCrSiN	4 Flutes, Standard Length, Square, 45° Helix Angle	SH260-S4A-H	D1~D20	520	674
4	TiAlCrSiN	4 Flutes, Long Shank Length	SH260-SH4-H	D1~D20	521	674
4	TiAlCrSiN	4 Flutes, Long Shank Length, 45° Helix Angle	SH260-SH4A-H	D3~D20	522	674
4	TiAlCrSiN	4 Flutes, Square with Long Neck	SH260-SN4-H	D1~D12	523	674
4	TiAlCrSiN	4 Flutes, Long Flute Length, Square	SH260-SL4-H	D1~D16	524	674
4	TiAlCrSiN	4 Flutes, with Long Flute Length, Square, 45° Helix Angle	SH260-SL4A-H	D4~D20	525	674
6	TiAlCrSiN	6 Flutes, Standard Length, Square	SH260-S6-H	D6~D20	526	674
6	TiAlCrSiN	6 Flutes, Long Shank Length	SH260-SH6-H	D6~D20	527	674
6	TiAlCrSiN	6 Flutes, Long Flute Length, Square	SH260-SL6-H	D6~D20	528	674
2	TiAlSiN	2 Flutes, Standard Length, Square	SH360-S2	D1-D12	549	676
4	TiAlSiN	4 Flutes, Standard Length, Square, 45° Helix Angle	SH360-S4A	D1-D20	550	677
4	TiAlSiN	4 Flutes, Long Shank Length 45° Helix Angle	SH360-SH4A	D1-D20	551	677
6	TiAlSiN	6 Flutes, Standard Length, Square	SH360-S6	D6-D20	552	677
6	TiAlSiN	6 Flutes, Long Flute Length, Square	SH360-SL6	D6-D20	553	677

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1234	56	123	123	123	4	5	123	4	1	2	34
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
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Tool Series Catalog (by shape)

Teeth	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
Filleted Corner						
2	AlCrSiN	2 Flutes, Corner Radius	UP210-R2	D1~D20	287	634
2	AlCrSiN	2 Flutes, Corner Radius, with Long Shank Length	UP210-RH2	D4~D20	290	634
4	AlCrSiN	4 Flutes, Corner Radius	UP210-R4	D1~D20	292	635
4	AlCrSiN	4 Flutes, Corner Radius, with Long Shank Length	UP210-RH4	D3~D20	296	635
4	AlCrSiN	4 Flutes, Corner Radius, 45° Helix Angle	UP210-R4A	D4~D20	298	635
4	AlCrSiN	4 Flutes, Corner Radius, with Double Helix	SP210-R4	D1~D16	314	639
4	AlCrSiN	4 Flutes, Corner Radius, with Double Helix and Long Shank	SP210-RH4	D4~D12	316	639
4	AlCrSiN	4 Flutes, Corner Radius, with Double Helix	PP300-R4	D4~D20	322	643
2	AlCrSiN	2 Flutes, Corner Radius, Micro Diameter for Deep Machining	SPM200-RN2	D0.2~D6	573	692
4	AlCrSiN	4 Flutes, Corner Radius, Micro Diameter for Deep Machining	SPM200-RN4	D1~D6	587	714
2	TiAlSiN	2 Flutes, Corner Radius, Micro Diameter for Deep Machining	SHM200-RN2	D0.2~D6.0	607	692
4	TiAlSiN	4 Flutes, Corner Radius, Micro Diameter for Deep Machining	SHM200-RN4	D1~D6.0	621	714
2	TiAlN	2 Flutes, Corner Radius	US200-R2	D3~D16	334	649
3	TiAlN	3 Flutes, Corner Radius	US200-R3	D2~D20	335	649
4	TiAlN	4 Flutes, Corner Radius	US200-R4	D2~D20	336	650
4	TiAlN	4 Short Flutes, Corner Radius	US260-RS4	D1~D20	344	652
4	TiAlN	4 Flutes, Corner Radius	US260-R4	D1.5~D20	345	652
4	TiAlN	4 Short Flutes, Corner Radius	SS600-RS4	D2~D20	351	653

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
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Tool Series Catalog (by shape)

Teeth	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
Filleted Corner						
4	TiAlN	4 Flutes, Corner Radius	SS600-R4	D2~D20	352	653
4	TiAlN	4 Flutes, Corner Radius, with Long Shank Length	SS600-RH4	D4~D20	355	653
5	TiAlN	5 Flutes, Corner Radius	SS600-R5	D6~D25	357	654
5	TiAlN	5 Flutes, Corner Radius (Trochoidal Milling Machining) NEW	SS600-C-R5	D6~D20	362	654
2		2 Flutes, Corner Radius	UA100-R2	D6~D20	370	655
2		2 Flutes, Corner Radius, with Long Shank Length	UA100-RH2	D1~D20	373	655
3		3 Flutes, Corner Radius	UA100-R3	D1~D20	375	656
3		3 Flutes, Corner Radius, with Long Shank Length	UA100-RH3	D1~D20	378	656
3		3 Flutes, Corner Radius, with Long Neck	SA210-WR	D12~D25	387	658
3	Titanium-rich	3 Flutes, Corner Radius, with Long Neck (Coating with Coolant)	SA210-WR-IC	D12~D25	390	658
3		3 Flutes, Corner Radius	SA210-NR	D6~D20	393	658
2		2 Flutes, Corner Radius, with Long Neck	SA300-RN2	D6~D32	395	659
3		3 Flutes, Corner Radius, with Long Neck	SA300-RN3	D6~D32	399	659
4		4 Flutes, Corner Radius, with Long Neck (Side Milling Finishing)	SA300-SF-RN4	D10~D20	406	660
4	Titanium-rich	4 Flutes, Corner Radius, with Long Neck (Side Milling Finishing) (Coating with Coolant)	SA300-SF-IC-RN4	D12~D20	408	660
6		6 Flutes, Corner Radius, with Long Neck (Face Milling Finishing)	SA300-WF-RN6	D16~D25	410	660
6	Titanium-rich	6 Flutes, Corner Radius, with Long Neck (Face Milling Finishing) (Coating with Coolant)	SA300-WF-IC-RN6	D16~D25	411	660
1		1 Flutes, Corner Radius	DNM100-RS1	D2~D3	412	660

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
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Tool Series Catalog (by shape)

Teeth	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
Filleted Corner						
2		2 Flutes, Corner Radius	DNM100-RS2	D4~D10	413	660
3		3 Flutes, Corner Radius	DNM100-RS3	D10~D16	414	660
4	U-DIA	4 Flutes, Corner Radius	SG200-R4	D2~D12	419	661
4	U-DIA	4 Flutes, Corner Radius, with Long Neck	SG200-RN4	D2~D12	420	661
4	N-DIA	4 Flutes, Corner Radius, with Long Neck	SG200-M-RN4	D1~D10	424	662
4	TiAlN	4 Flutes, Corner Raidus, with Unequal Tooth Pitch	SN200-R4	D1~D20	478	666
4	TiAlSiN	4 Flutes, Corner Radius NEW	SN300-R4	D2~D20	489	667
4	TiAlSiN	4 Flutes, Corner Radius, with Long Shank Length NEW	SN300-RH4	D6~D20	491	667
5	TiAlSiN	5 Flutes, Corner Radius NEW	SN300-R5	D6~D20	493	668
5	TiAlSiN	5 Flutes, Corner Radius, with Long Shank Length NEW	SN300-RH5	D6~D20	495	668
5	TiAlN	5 Flutes, Standard Length (Trochoidal Milling Machining) NEW	SN300-C-R5	D6~D20	497	668
4	TiAlN	4 Flutes, Corner Radius, with Long Shank Length	SN200-RH4	D8~D16	482	666
4	AlCrN	4 Flutes, Corner Raidus, with Unequal Tooth Pitch	ST210-R4	D2~D20	428	663
4	AlCrN	4 Flutes, Corner Raidus, with Unequal Tooth Pitch and Long Neck	ST210-RN4	D6~D20	430	663
5	AlCrSiN	5 Flutes, Corner Raidus, with Unequal Tooth Pitch and Long Flute	ST210-RL5	D16~D25	433	663

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
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Tool Series Catalog (by shape)

Teeth	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
Filleted Corner						
4	GSR7115	4 Flutes, Corner Radius NEW	ST300-R4	D2~D20	436	664
4	GSR7115	4 Flutes, Corner Radius, with Long Shank Length NEW	ST300-RH4	D6~D20	438	664
4	GSR7115	4 Flutes, Corner Radius, with Long Neck NEW	ST300-RN4	D6~D25	441	664
5	GSR7115	5 Flutes, Corner Radius NEW	ST300-R5	D6~D20	445	664
5	GSR7115	5 Flutes, Corner Radius, with Long Shank Length NEW	ST300-RH5	D6~D25	447	664
5	GSR7115	5 Flutes, Corner Radius, with Long Neck NEW	ST300-RN5	D6~D25	451	664
5	GSR7115	5 Flutes, Corner Radius (Trochoidal Milling Machining) NEW	ST300-C-R5	D6~D20	454	665
2	TiAlN	2 Flutes, Corner Radius	SH160-R2	D2~D12	506	672
4	TiAlN	4 Flutes, Corner Radius	SH160-R4	D1~D12	508	672
4	TiAlN	4 Flutes, Corner Radius, with Long Shank Length	SH160-RH4	D4~D12	511	672
2	TiAlCrSiN	2 Flutes, Corner Radius	SH260-R2-H	D1~D8	529	673
2	TiAlCrSiN	2 Flutes, Corner Radius, with Long Neck	SH260-RN2-H	D0.8~D6	530	673
4	TiAlCrSiN	4 Flutes, Corner Radius	SH260-R4-H	D1~D12	532	674
4	TiAlCrSiN	4 Flutes, Corner Radius, 45° Helix Angle	SH260-R4A-H	D1~D12	535	674

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
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Tool Series Catalog (by shape)

Teeth	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
Filleted Corner						
4	TiAlCrSiN	4 Flutes, Corner Radius, with Long Shank Length	SH260-RH4-H	D2~D12	537	674
4	TiAlCrSiN	4 Flutes, Corner Raidus, with Long Flute, 45° Helix Angle	SH260-RL4A-H	D6-D12	541	674
4	TiAlCrSiN	4 Flutes, Corner Radius, with Long Shank Length, 45° Helix Angle	SH260-RH4A-H	D4~D12	539	674
4	TiAlCrSiN	4 Flutes, Corner Radius, with Long Neck	SH260-RN4-H	D1~D12	542	674
4	TiAlSiN	4 Flutes, Corner Radius	SH360-R4	D1~D12	554	677
4	TiAlSiN	4 Flutes, Corner Radius, with Long Shank Length	SH360-RH4	D4~D12	556	677
4	TiAlCrSiN	4 Flutes, Corner Radius	FH200-R4-H	D1~D12	561	680
4	TiAlCrSiN	4 Flutes, Corner Radius, with Long Neck	FH200-RN4-H	D8~D12	563	680
6	TiAlCrSiN	6 Flutes, Corner Radius	FH200-R6-H	D6~D20	564	680
6	TiAlCrSiN	6 Flutes, Corner Radius, with Long Shank Length	FH200-RH6-H	D6~D20	565	680
6	TiAlCrSiN	6 Flutes, Corner Radius, with Long Neck	FH200-RN6-H	D6~D20	566	680
Ballnose						
2	AlCrSiN	2 Flutes, Ballnose	UP210-B2	D0.8~D20	300	637
2	AlCrSiN	2 Flutes Ballnose, with Long Shank Length	UP210-BH2	D2~D20	302	637
4	AlCrSiN	4 Flutes, Ballnose	UP210-B4	D2~D20	304	637
2	AlCrSiN	2 Flutes, Ballnose	SP210-B2	D1~D12	317	640
2	AlCrSiN	2 Flutes Ballnose, with Long Shank Length	SP210-BH2	D4~D12	318	640
2	AlCrSiN	2 Flutes, Ballnose, Micro Diameter for Deep Machining	SPM200-BN2	D0.1~D6	593	719
2	TiAlSiN	4 Flutes, Ballnose, Micro Diameter for Deep Machining	SHM200-BN2	D0.1~D6	627	719

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
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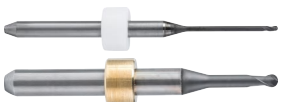
		○								○	◎	◎

Tool Series Catalog (by shape)

Teeth	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
Ballnose						
2	TiAlN	2 Flutes, Ballnose	US200-B2	D1~D20	337	650
4	TiAlN	4 Flutes, Ballnose	US200-B4	D1~D20	338	650
4	TiAlN	4 Flutes, Ballnose	SS600-B4	D1~D20	361	653
2		2 Flutes, Ballnose	UA100-B2	D1~D12	380	657
2		2 Flutes, Ballnose, with Long Neck	SA300-BN2	D6~D20	403	659
2	U-DIA	2 Flutes, Ballnose	SG200-B2	D0.5~D12	421	662
2	U-DIA	2 Flutes, Ballnose, with Long Neck	SG200-BN2	D0.5~D12	422	662
2	N-DIA	2 Flutes, Ballnose	SG200-M-B2	D0.4~D6	425	662
2	N-DIA	2 Flutes, Ballnose, with Long Neck	SG200-M-BN2	D0.5~D6	426	662
2	AlCrN	2 Flutes, Ballnose, with Long Neck	SM200-TP2	R0.5~R1.5	465	665
2 3	N-DIA	2/3 Flutes, Ballnose, with Long Neck	SM200-RO2/RO3	R0.3~R1.5	466	665
2 3	N-DIA	2/3 Flutes, Ballnose, with Long Neck	SM200-VH2/VH3	R0.3~R1	467	665
2 3	N-DIA	2/3 Flutes, Ballnose, with Long Neck	SM200-WI2/WI3	R0.3~R1.25	468	665
2 3	N-DIA	2/3 Flutes, Ballnose, with Long Neck 	SM200-IM2/IM3	R0.3~R1.25	469	665
2 3	N-DIA AlCrN	2/3 Flutes, Ballnose, with Long Neck	SM200-ZI2/ZI3	R0.25~R1.5	471	665

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
	○	○	◎	○				○	○			
	○	○	◎	○				○	○			
	◎	◎	◎	○				○	◎			
					◎	◎						
					◎							
					○	○	◎					
					○	○	◎					
							◎					
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							◎					
							◎					
							◎					
							◎		◎			

Tool Series Catalog (by shape)

Teeth	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
Ballnose						
2 / 3	N-DIA / AlCrN	2/3 Flutes, Ballnose, with Long Neck	SM200-AR2/AR3	R0.3~R1.5	473	666
2	N-DIA	2 Flutes, Ballnose, with Long Neck	SM200-KL2	R0.3~R1	475	665
2	AlCrN / N-DIA	2 Flutes, Ballnose, with Long Neck	SM200-XT2	R0.3~R1.5	476	666
4	TiAlN	4 Flutes, Ballnose, with Unequal Tooth Pitch	SN200-B4	D2~D12	483	667
4	TiAlN	4 Flutes, Ballnose, with Unequal Tooth Pitch and Long Flute	SN200-BH4	D8~D12	484	667
4	AlCrSiN	4 Flutes, Ballnose, with Unequal Tooth Pitch	ST210-B4	D2~D20	434	663
4	TiAlN	4 Flutes, Taper, Ballnose (Trochoidal Milling Machining) NEW	STB200-CS	R1~R5	456	669
4 / 6	GSR7115	4/6 Flutes, Taper, Ballnose (Trochoidal Milling Machining) NEW	STB200-CT	R1~R9.5	458	669
4 / 6	TiAlN	4/6 Flutes, Taper, Ballnose (Trochoidal Milling Machining) NEW	STB200-CN	R1~R9.5	460	669
4	TiAlN	4 Flutes, Taper, Ballnose (Finishing) NEW	STB200-FS	R1~R4	462	670
4 / 6	GSR7115	4/6 Flutes, Taper, Ballnose (Finishing) NEW	STB200-FT	R1~R6	463	670
4 / 6	TiAlN	4/6 Flutes, Taper, Ballnose (Finishing) NEW	STB200-FN	R1~R6	464	670

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
							◎		◎			
							◎					
							◎		◎			
	○	○	◎					◎	○			
	○	○	◎					◎	○			
	○	○	◎						◎			
	◎	◎	◎	○				○	◎			
									◎			
	○	○	○					◎	○			
	◎	◎	◎	○				○	◎			
									◎			
	○	○	○					◎	○			

Tool Series Catalog (by shape)

Teeth	Coating	Tool Name and Outline	Series Model	Range of Sizes	Size Table Page	Cutting Data Page
Other						
2	TiAlN	2 Flutes, Ballnose	SH160-B2	D0.5~D20	512	672
2	TiAlN	2 Flutes Ballnose, with Long Shank Length	SH160-BH2	D4~D12	514	672
4	TiAlN	4 Flutes, Ballnose	SH160-B4	D2~D16	515	672
2	TiAlCrSiN	2 Flutes, Ballnose	SH260-B2-H	D1~D16	544	675
2	TiAlCrSiN	2 Flutes Ballnose, with Long Shank Length	SH260-BH2-H	D2~D12	545	675
2	TiAlCrSiN	2 Flutes, Ballnose, with Long Neck	SH260-BN2-H	D1~D12	547	675
2	TiAlSiN	2 Flutes, Ballnose	SH360-B2	D0.6~D20	557	678
2	TiAlSiN	2 Flutes Ballnose, with Long Shank Length	SH360-BH2	D4~D20	558	678
4	TiAlSiN	4 Flutes, Ballnose	SH360-B4	D3~D16	559	679
4	TiAlSiN	4 Flutes Ballnose, with Long Shank Length	SH360-BH4	D3~D16	560	679
4	AlCrSiN	4 Flutes, 60° Chamfer Endmills	UP210-L60	D4~D20	305	638
4	AlCrSiN	4 Flutes, 90° Chamfer Endmills	UP210-L90	D4~D20	306	638
4	AlCrSiN	4 Flutes, 120° Chamfer Endmills	UP210-L120	D4~D20	307	638
8 / 12	U-DIA	8/12 Flutes, Rhombic Teeth	SD200-CN	D2~D12	499	671

◎ Most Suitable ○ Suitable

	Workpiece Material											
	P		M	K	N			S		H		
	1 2 3 4	5 6	1 2 3	1 2 3	1 2 3	4	5	1 2 3	4	1	2	3 4
	Carbon Steel, Alloy Steel	Alloy Steel	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite and Composite Material	High-temperature Alloy	Titanium Alloy	Hardness Steel	Hardness Steel	Hardness Steel
	< 35HRC	⩽ 48HRC								45-55HRC	55-60HRC	> 60HRC
										◎		
										◎		
										◎		
	○	◎								◎	◎	○
	○	◎								◎	◎	○
	○	◎								◎	◎	○
		○								○	◎	◎
		○								○	◎	◎
		○								○	◎	◎
		○								○	◎	◎
	◎	○	○	◎	○	○						
	◎	○	○	◎	○	○						
	◎	○	○	◎	○	○						
							◎					

UP210-SS2

2 Flutes, Stub Length, Square

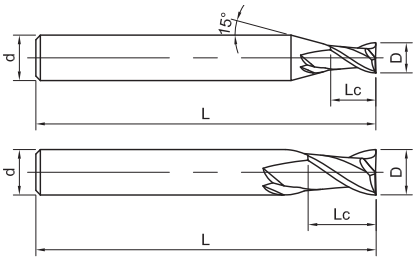


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
UP210-SS2-01002	1	2	50	4	1	●
UP210-SS2-01502	1.5	2	50	4	1	●
UP210-SS2-02003	2	3	50	4	1	●
UP210-SS2-02504	2.5	4	50	4	1	●
UP210-SS2-03005	3	5	50	4	1	●
UP210-SS2-04006	4	6	50	4	2	●
UP210-SS2-05008	5	8	50	6	1	●
UP210-SS2-06009	6	9	50	6	2	●
UP210-SS2-07010	7	10	60	8	1	●
UP210-SS2-08012	8	12	60	8	2	●
UP210-SS2-10015	10	15	75	10	2	●
UP210-SS2-12018	12	18	75	12	2	●
UP210- SS2-14021	14	21	100	14	2	●
UP210-SS2-16024	16	24	100	16	2	○
UP210- SS2-18027	18	27	100	18	2	○
UP210- SS2-20030	20	30	100	20	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P634

UP210-S2

2 Flutes, Standard Length, Square

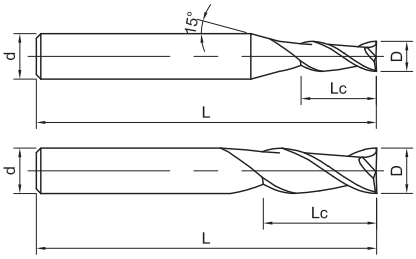
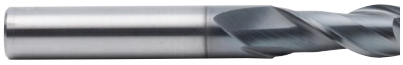


Fig1

Fig2



Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
UP210-S2-01003	1	3	50	4	1	●
UP210-S2-01504	1.5	4	50	4	1	●
UP210-S2-02006	2	6	50	4	1	●
UP210-S2-02506	2.5	6	50	4	1	●
UP210-S2-02508	2.5	8	50	4	1	●
UP210-S2-03009	3	9	50	4	1	●
UP210-S2-63009	3	9	50	6	1	●
UP210-S2-03509	3.5	9	50	4	1	●
UP210-S2-63509	3.5	9	50	6	1	●
UP210-S2-04011	4	11	50	4	2	●
UP210-S2-64011	4	11	50	6	1	●
UP210-S2-04511	4.5	11	50	6	1	●
UP210-S2-04513	4.5	13	50	6	1	●
UP210-S2-05013	5	13	50	6	1	●
UP210-S2-05516	5.5	16	50	6	1	●
UP210-S2-06016	6	16	50	6	2	●
UP210-S2-06516	6.5	16	60	8	1	●
UP210-S2-07020	7	20	60	8	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P634

UP210-S2

2 Flutes, Standard Length, Square

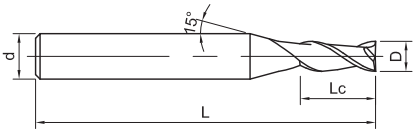


Fig1

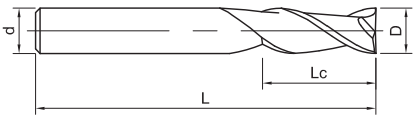
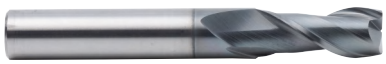


Fig2



Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	L	d	Drawing No.	In Stock
UP210-S2-07520	7.5	20	60	8	1	●
UP210-S2-08020	8	20	60	8	2	●
UP210-S2-08523	8.5	23	75	10	1	●
UP210-S2-09023	9	23	75	10	1	●
UP210-S2-09525	9.5	25	75	10	1	●
UP210-S2-10025	10	25	75	10	2	●
UP210-S2-10526	10.5	26	75	12	1	○
UP210-S2-11028	11	28	75	12	1	●
UP210-S2-12030	12	30	75	12	2	●
UP210-S2-13032	13	32	100	14	1	●
UP210-S2-14034	14	34	100	14	2	●
UP210-S2-15036	15	36	100	16	1	●
UP210-S2-16036	16	36	100	16	2	●
UP210-S2-17040	17	40	100	20	1	●
UP210-S2-18040	18	40	100	18	2	●
UP210-S2-19040	19	40	100	20	1	●
UP210-S2-20045	20	45	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P634

UP210-SL2

2 Flutes, Long Flute Length, Square

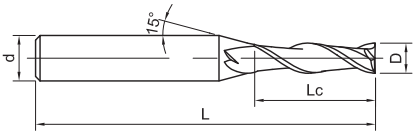


Fig1

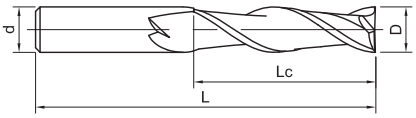


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
UP210-SL2-02015	2	15	75	4	1	●
UP210-SL2-03025	3	25	75	4	1	●
UP210-SL2-04030	4	30	75	4	2	●
UP210-SL2-05030	5	30	75	6	1	●
UP210-SL2-06035	6	35	75	6	2	●
UP210-SL2-08040	8	40	100	8	2	●
UP210-SL2-10045	10	45	100	10	2	●
UP210-SL2-12050	12	50	100	12	2	●
UP210-SL2-14055	14	55	100	14	2	●
UP210-SL2-16050	16	50	150	16	2	●
UP210-SL2-16060	16	60	150	16	2	●
UP210-SL2-18065	18	65	150	18	2	●
UP210-SL2-20070	20	70	150	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P634

UP210-SH2

2 Flutes, Long Shank Length

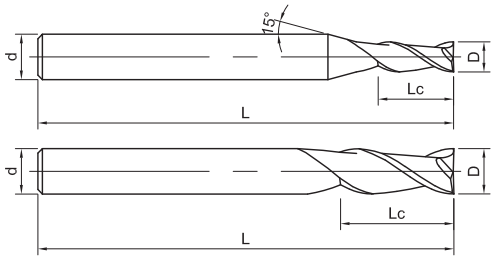


Fig1

Fig2

SHANK h6 | 2 | AlCrSiN | 35° Helix | Square

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
UP210-SH2-02006	2	6	75	4	1	●
UP210-SH2-03009	3	9	75	4	1	●
UP210-SH2-63012	3	12	75	6	1	●
UP210-SH2-04011	4	11	75	4	2	●
UP210-SH2-64011	4	11	75	6	1	○
UP210-SH2-05020	5	20	75	6	1	●
UP210-SH2-06016	6	16	100	6	2	●
UP210-SH2-06020	6	20	100	6	2	●
UP210-SH2-08020	8	20	100	8	2	○
UP210-SH2-08025	8	25	100	8	2	●
UP210-SH2-10030	10	30	100	10	2	●
UP210-SH2-12035	12	35	100	12	2	●
UP210- SH2-14036	14	36	150	14	2	○
UP210-SH2-15035	15	35	150	16	1	○
UP210-SH2-16036	16	36	150	16	2	●
UP210- SH2-18045	18	45	150	18	2	○
UP210-SH2-20045	20	45	150	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P634

UP210-S3

3 Flutes, Standard Length, Square

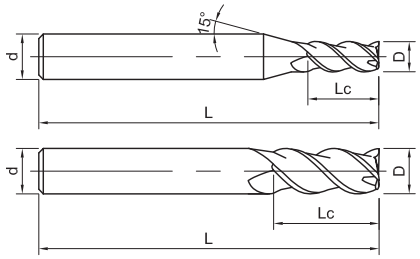


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
UP210-S3-02006	2	6	50	4	1	●
UP210-S3-03009	3	9	50	4	1	●
UP210-S3-04011	4	11	50	4	2	●
UP210-S3-05013	5	13	50	6	1	●
UP210-S3-06016	6	16	50	6	2	●
UP210-S3-06516	6.5	16	60	8	1	●
UP210-S3-08020	8	20	60	8	2	●
UP210-S3-09524	9.5	24	75	10	1	○
UP210-S3-10025	10	25	75	10	2	●
UP210-S3-12030	12	30	75	12	2	●
UP210- S3-14032	14	32	100	14	2	●
UP210-S3-16036	16	36	100	16	2	●
UP210-S3-18040	18	40	100	18	2	●
UP210-S3-20045	20	45	100	20	2	●
UP210-S3-25050	25	50	100	25	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P634

UP210-SS4

4 Flutes, Stub Length, Square

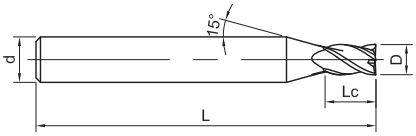


Fig1

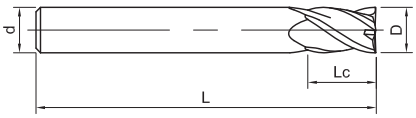


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
UP210-SS4-01002	1	2	50	4	1	●
UP210-SS4-01502	1.5	2	50	4	1	●
UP210-SS4-02003	2	3	50	4	1	●
UP210-SS4-02504	2.5	4	50	4	1	●
UP210-SS4-03005	3	5	50	4	1	●
UP210-SS4-04006	4	6	50	4	2	●
UP210-SS4-05008	5	8	50	6	1	●
UP210-SS4-06009	6	9	50	6	2	●
UP210-SS4-07010	7	10	60	8	1	●
UP210-SS4-08012	8	12	60	8	2	●
UP210-SS4-10015	10	15	75	10	2	●
UP210-SS4-12018	12	18	75	12	2	●
UP210- SS4-14021	14	21	100	14	2	●
UP210-SS4-16024	16	24	100	16	2	●
UP210- SS4-18027	18	27	100	18	2	●
UP210- SS4-20030	20	30	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P635

UP210-S4

4 Flutes, Standard Length, Square

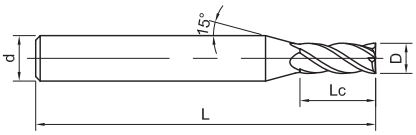


Fig1

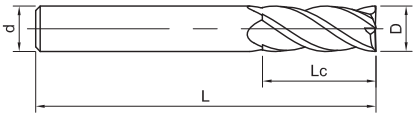


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
UP210-S4-01003	1	3	50	4	1	●
UP210-S4-61003	1	3	50	6	1	●
UP210-S4-01505	1.5	5	50	4	1	●
UP210-S4-61505	1.5	5	50	6	1	●
UP210-S4-02006	2	6	50	4	1	●
UP210-S4-62006	2	6	50	6	1	●
UP210-S4-02508	2.5	8	50	4	1	●
UP210-S4-62508	2.5	8	50	6	1	●
UP210-S4-03009	3	9	50	4	1	●
UP210-S4-63006	3	6	50	6	1	●
UP210-S4-63009	3	9	50	6	1	●
UP210-S4-03511	3.5	11	50	4	1	●
UP210-S4-63509	3.5	9	50	6	1	●
UP210-S4-04011	4	11	50	4	2	●
UP210-S4-64011	4	11	50	6	1	●
UP210-S4-04511	4.5	11	50	6	1	●
UP210-S4-05013	5	13	50	6	1	●
UP210-S4-05516	5.5	16	50	6	1	●
UP210-S4-06016	6	16	50	6	2	●
UP210-S4-06516	6.5	16	60	8	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P635

UP210-S4

4 Flutes, Standard Length, Square

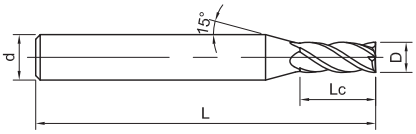


Fig1

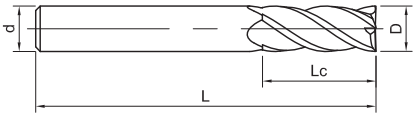


Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	L	d	Drawing No.	In Stock
UP210-S4-07020	7	20	60	8	1	●
UP210-S4-07520	7.5	20	60	8	1	●
UP210-S4-08020	8	20	60	8	2	●
UP210-S4-08523	8.5	23	75	10	1	●
UP210-S4-09023	9	23	75	10	1	●
UP210-S4-09525	9.5	25	75	10	1	●
UP210-S4-10025	10	25	75	10	2	●
UP210-S4-10528	10.5	28	75	12	1	○
UP210-S4-11028	11	28	75	12	1	●
UP210-S4-12030	12	30	75	12	2	●
UP210-S4-13032	13	32	100	14	1	●
UP210-S4-14032	14	32	75	14	2	●
UP210-S4-14034	14	34	100	14	2	●
UP210-S4-15036	15	36	100	16	1	●
UP210-S4-16036	16	36	100	16	2	●
UP210-S4-16040	16	40	100	16	2	●
UP210-S4-16045	16	45	100	16	2	●
UP210-S4-17038	17	38	100	18	1	●
UP210-S4-18045	18	45	100	18	2	●
UP210-S4-20045	20	45	100	20	2	●
UP210-S4-22045	22	45	100	25	1	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P635

UP210-SL4

4 Flutes, Long Flute Length, Square

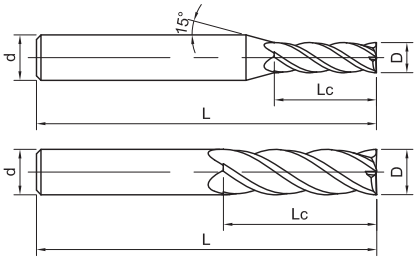


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
UP210-SL4-01004	1	4	50	4	1	●
UP210-SL4-02010	2	10	50	4	1	●
UP210-SL4-03015	3	15	60	4	1	●
UP210-SL4-63015	3	15	60	6	1	●
UP210-SL4-04020	4	20	60	4	2	●
UP210-SL4-64020	4	20	75	6	1	●
UP210-SL4-04030	4	30	75	4	2	●
UP210-SL4-05025	5	25	75	6	1	●
UP210-SL4-05030	5	30	75	6	1	●
UP210-SL4-06020	6	20	50	6	2	●
UP210-SL4-06030	6	30	75	6	2	●
UP210-SL4-06035	6	35	75	6	2	●
UP210-SL4-06035A	6	35	100	6	2	●
UP210-SL4-08025	8	25	75	8	2	●
UP210-SL4-08035	8	35	100	8	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P635

UP210-SL4

4 Flutes, Long Flute Length, Square

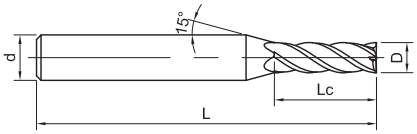


Fig1

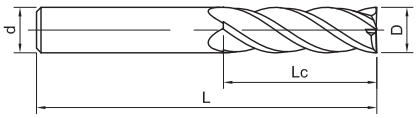


Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	L	d	Drawing No.	In Stock
UP210-SL4-08040	8	40	100	8	2	●
UP210-SL4-10035	10	35	75	10	2	●
UP210-SL4-10045	10	45	100	10	2	●
UP210-SL4-10050	10	50	100	10	2	●
UP210-SL4-12045	12	45	100	12	2	●
UP210-SL4-12050	12	50	100	12	2	●
UP210-SL4-14045	14	45	100	14	2	●
UP210-SL4-16050	16	50	150	16	2	●
UP210-SL4-16060	16	60	150	16	2	●
UP210-SL4-16065	16	65	120	16	2	●
UP210-SL4-16070	16	70	150	16	2	●
UP210-SL4-18070	18	70	150	18	2	●
UP210-SL4-20070	20	70	150	20	2	●
UP210-SL4-20080	20	80	150	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P635

UP210-SH4

4 Flutes, Long Shank Length

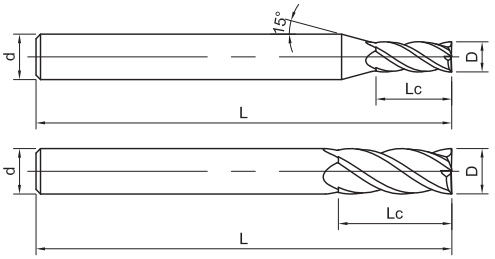


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
UP210-SH4-02010	2	10	75	4	1	●
UP210-SH4-03012	3	12	75	4	1	●
UP210-SH4-03012A	3	12	100	4	1	●
UP210-SH4-04011	4	11	75	4	2	●
UP210-SH4-04011A	4	11	100	4	2	●
UP210-SH4-04015	4	15	75	4	2	●
UP210-SH4-05020	5	20	75	6	1	●
UP210-SH4-06016	6	16	75	6	2	●
UP210-SH4-06020	6	20	75	6	2	●
UP210-SH4-06020A	6	20	100	6	2	●
UP210-SH4-08020	8	20	100	8	2	●
UP210-SH4-08025	8	25	100	8	2	●
UP210-SH4-08025A	8	25	75	8	2	●
UP210-SH4-10030	10	30	100	10	2	●
UP210-SH4-10035	10	35	100	10	2	●
UP210-SH4-12035	12	35	100	12	2	●
UP210- SH4-14036	14	36	150	14	2	●
UP210-SH4-16036	16	36	150	16	2	●
UP210- SH4-18045	18	45	150	18	2	●
UP210-SH4-20045	20	45	150	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P635

UP210-SC4

4 Flutes, Standard Length, Square - Acute Angle

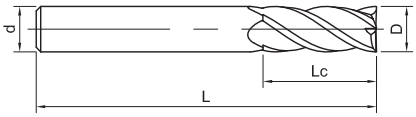


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
UP210-SC4-04011	4	11	50	4	1	●
UP210-SC4-06016	6	16	50	6	1	○
UP210-SC4-08020	8	20	60	8	1	○
UP210-SC4-10025	10	25	75	10	1	●
UP210-SC4-12030	12	30	75	12	1	○
UP210-SC4-16036	16	36	100	16	1	●
UP210-SC4-20045	20	45	100	20	1	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P635

UP210-S4A

4 Flutes, Standard Length, Square - 45° Helix Angle

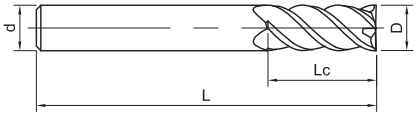


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
UP210-S4A-04011	4	11	50	4	1	●
UP210-S4A-06016	6	16	50	6	1	●
UP210-S4A-08020	8	20	60	8	1	●
UP210-S4A-10025	10	25	75	10	1	●
UP210-S4A-12030	12	30	75	12	1	●
UP210-S4A-16036	16	36	100	16	1	●
UP210-S4A-20045	20	45	100	20	1	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P635

UP210-S6

6 Flutes, Standard Length, Square

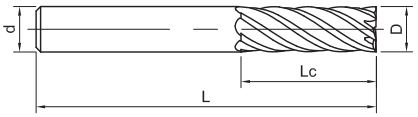


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
UP210-S6-06015	6	15	50	6	1	●
UP210-S6-08020	8	20	60	8	1	●
UP210-S6-10025	10	25	75	10	1	●
UP210-S6-12030	12	30	75	12	1	●
UP210- S6-14032	14	32	100	14	1	●
UP210-S6-16036	16	36	100	16	1	●
UP210- S6-18040	18	40	100	18	1	●
UP210-S6-20045	20	45	100	20	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P635

UP210-R2

2 Flutes, Corner Radius

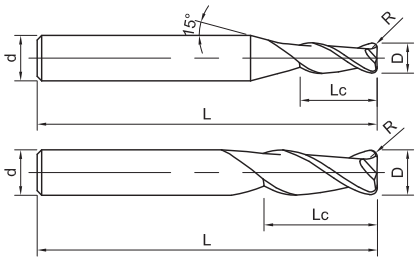
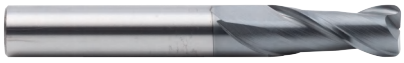


Fig1

Fig2



Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
UP210-R2-01002	1	3	0.2	50	4	1	●
UP210-R2-01502	1.5	5	0.2	50	4	1	●
UP210-R2-02002	2	6	0.2	50	4	1	●
UP210-R2-03002	3	9	0.2	50	4	1	●
UP210-R2-63002	3	9	0.2	50	6	1	○
UP210-R2-03003	3	9	0.3	50	4	1	●
UP210-R2-63003	3	9	0.3	50	6	1	●
UP210-R2-03005	3	9	0.5	50	4	1	●
UP210-R2-63005	3	9	0.5	50	6	1	●
UP210-R2-04002	4	11	0.2	50	4	2	●
UP210-R2-64002	4	11	0.2	50	6	1	○
UP210-R2-04003	4	11	0.3	50	4	2	●
UP210-R2-64003	4	11	0.3	50	6	1	●
UP210-R2-04005	4	11	0.5	50	4	2	●
UP210-R2-64005	4	11	0.5	50	6	1	●
UP210-R2-04010	4	11	1	50	4	2	●
UP210-R2-05002	5	13	0.2	50	6	1	●
UP210-R2-05003	5	13	0.3	50	6	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P634

UP210-R2

2 Flutes, Corner Radius

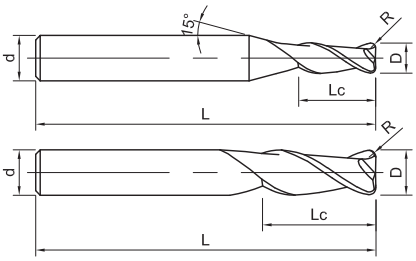


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
UP210-R2-05005	5	13	0.5	50	6	1	●
UP210-R2-05010	5	13	1	50	6	1	●
UP210-R2-06005	6	16	0.5	50	6	2	●
UP210-R2-06010	6	16	1	50	6	2	○
UP210-R2-06015	6	16	1.5	50	6	2	●
UP210-R2-06020	6	16	2	50	6	2	●
UP210-R2-08003	8	20	0.3	60	8	2	●
UP210-R2-08005	8	20	0.5	60	8	2	●
UP210-R2-08005A	8	20	0.5	75	8	2	●
UP210-R2-08010	8	20	1	60	8	2	○
UP210-R2-08015	8	20	1.5	60	8	2	○
UP210-R2-08020	8	20	2	60	8	2	●
UP210-R2-10003	10	25	0.3	75	10	2	○
UP210-R2-10005	10	25	0.5	75	10	2	●
UP210-R2-10010	10	25	1	75	10	2	●
UP210-R2-10015	10	25	1.5	75	10	2	○
UP210-R2-10020	10	25	2	75	10	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P634

UP210-R2

2 Flutes, Corner Radius

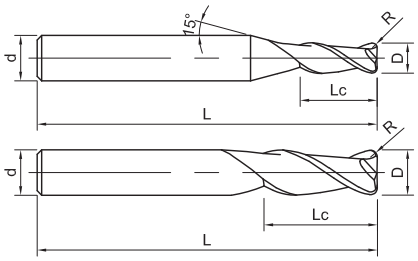


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
UP210-R2-10030	10	30	3	75	10	2	●
UP210-R2-12005	12	30	0.5	75	12	2	●
UP210-R2-12010	12	30	1	75	12	2	●
UP210-R2-12015	12	30	1.5	75	12	2	●
UP210-R2-12020	12	30	2	75	12	2	●
UP210-R2-12030	12	30	3	75	12	2	○
UP210-R2-14010	14	32	1	100	14	2	●
UP210-R2-14020	14	32	2	100	14	2	●
UP210-R2-16005	16	36	0.5	100	16	2	○
UP210-R2-16010	16	36	1	100	16	2	●
UP210-R2-16020	16	36	2	100	16	2	○
UP210-R2-16030	16	36	3	100	16	2	●
UP210-R2-18010	18	40	1	100	18	2	●
UP210-R2-18020	18	40	2	100	18	2	●
UP210-R2-20010	20	45	1	100	20	2	●
UP210-R2-20020	20	45	2	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P634

UP210-RH2

2 Flutes, Corner Radius, with Long Shank Length

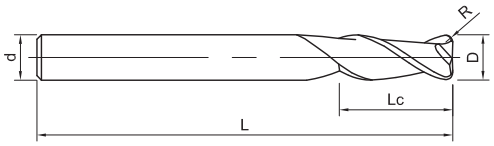


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
UP210-RH2-04005	4	11	0.5	75	4	1	●
UP210-RH2-06005	6	16	0.5	75	6	2	●
UP210-RH2-06010	6	16	1	75	6	2	○
UP210-RH2-06015	6	16	1.5	75	6	2	○
UP210-RH2-08005	8	20	0.5	100	8	2	○
UP210-RH2-08010	8	20	1	100	8	2	○
UP210-RH2-08015	8	20	1.5	100	8	2	○
UP210-RH2-10005	10	25	0.5	100	10	2	●
UP210-RH2-10010	10	25	1	100	10	2	●
UP210-RH2-10015	10	25	1.5	100	10	2	○
UP210-RH2-10020	10	25	2	100	10	2	○
UP210-RH2-12005	12	30	0.5	100	12	2	○
UP210-RH2-12010	12	30	1	100	12	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P634

UP210-RH2

2 Flutes, Corner Radius, with Long Shank Length

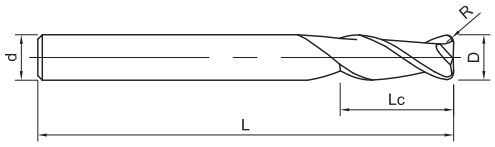


Fig1

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
UP210-RH2-12015	12	30	1.5	100	12	2	○
UP210-RH2-12020	12	30	2	100	12	2	○
UP210-RH2-14010	14	36	1	150	14	2	●
UP210-RH2-14020	14	36	2	150	14	2	○
UP210-RH2-16005	16	36	0.5	150	16	2	○
UP210-RH2-16010	16	36	1	150	16	2	●
UP210-RH2-16015	16	36	1.5	150	16	2	○
UP210-RH2-16020	16	36	2	150	16	2	○
UP210-RH2-18010	18	45	1	150	18	2	●
UP210-RH2-18020	18	45	2	150	18	2	○
UP210-RH2-20010	20	45	1	150	20	2	●
UP210-RH2-20020	20	45	2	150	20	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P634

UP210-R4

4 Flutes, Corner Radius

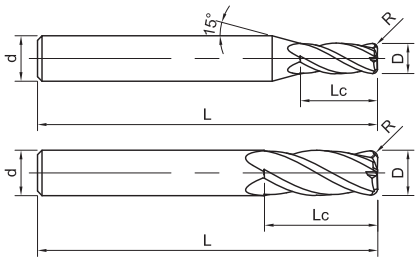


Fig1

Fig2

SHANK h6 | 4 | AlCrSiN | 35° Helix | Corner-R | L

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
UP210-R4-01002	1	3	0.2	50	4	1	●
UP210-R4-01003	1	3	0.3	50	4	1	○
UP210-R4-01502	1.5	5	0.2	50	4	1	●
UP210-R4-02002	2	6	0.2	50	4	1	●
UP210-R4-02005	2	6	0.5	50	4	1	●
UP210-R4-02505	2.5	8	0.5	50	4	1	○
UP210-R4-03002	3	9	0.2	50	4	1	●
UP210-R4-03003	3	9	0.3	50	4	1	●
UP210-R4-03005	3	9	0.5	50	4	1	●
UP210-R4-04002	4	11	0.2	50	4	2	●
UP210-R4-64002	4	11	0.2	50	6	1	○
UP210-R4-04003	4	11	0.3	50	4	2	●
UP210-R4-04005	4	11	0.5	50	4	2	●
UP210-R4-04010	4	11	1	50	4	2	●
UP210-R4-04510	4.5	12	1	50	6	1	○
UP210-R4-05002	5	13	0.2	50	6	1	●
UP210-R4-05005	5	13	0.5	50	6	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P635

UP210-R4

4 Flutes, Corner Radius

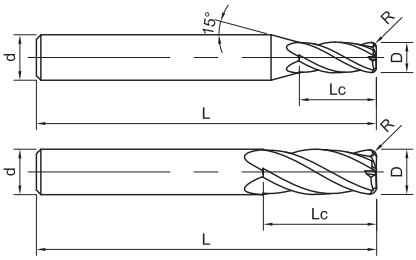


Fig1

Fig2

SHANK h6 | 4 | AlCrSiN | 35° Helix | Corner-R | L

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
UP210-R4-05010	5	13	1	50	6	1	●
UP210-R4-05015	5	13	1.5	50	6	1	●
UP210-R4-06002	6	16	0.2	50	6	2	●
UP210-R4-06005	6	16	0.5	50	6	2	●
UP210-R4-06005A	6	16	0.5	60	6	2	●
UP210-R4-06010	6	16	1	50	6	2	●
UP210-R4-06015	6	16	1.5	50	6	2	●
UP210-R4-08002	8	20	0.2	60	8	2	○
UP210-R4-08003	8	20	0.3	60	8	2	●
UP210-R4-08005	8	20	0.5	60	8	2	●
UP210-R4-08005A	8	20	0.5	75	8	2	●
UP210-R4-08010	8	20	1	60	8	2	●
UP210-R4-08010A	8	20	1	75	8	2	●
UP210-R4-08015	8	20	1.5	60	8	2	●
UP210-R4-08020	8	20	2	60	8	2	●
UP210-R4-10002	10	25	0.2	75	10	2	●
UP210-R4-10003	10	25	0.3	75	10	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P635

UP210-R4

4 Flutes, Corner Radius

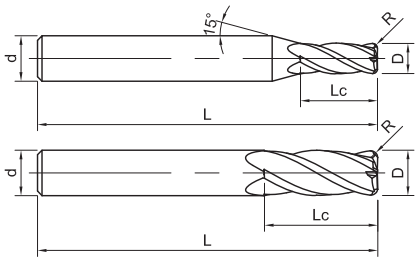


Fig1

Fig2

SHANK h6 | 4 | AlCrSiN | 35° Helix | Corner-R | L

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
UP210-R4-10005	10	25	0.5	75	10	2	●
UP210-R4-10010	10	25	1	75	10	2	●
UP210-R4-10015	10	25	1.5	75	10	2	●
UP210-R4-10020	10	25	2	75	10	2	●
UP210-R4-10025	10	25	2.5	75	10	2	●
UP210-R4-10030	10	25	3	75	10	2	●
UP210-R4-12003	12	30	0.3	75	12	2	○
UP210-R4-12010	12	30	1	75	12	2	●
UP210-R4-12015	12	30	1.5	75	12	2	●
UP210-R4-12020	12	30	2	75	12	2	●
UP210-R4-12025	12	30	2.5	75	12	2	●
UP210-R4-12030	12	30	3	75	12	2	●
UP210-R4-14005	14	32	0.5	100	14	2	○
UP210-R4-14010	14	32	1	100	14	2	●
UP210-R4-14020	14	32	2	100	14	2	●
UP210-R4-16005	16	36	0.5	100	16	2	●
UP210-R4-16010	16	36	1	100	16	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P635

UP210-R4

4 Flutes, Corner Radius

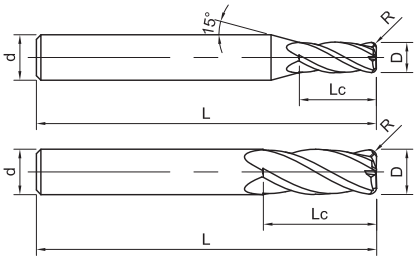


Fig1

Fig2

SHANK h6 | 4 | AlCrSiN | 35° Helix | Corner-R | L

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
UP210-R4-16020	16	36	2	100	16	2	●
UP210-R4-16030	16	36	3	100	16	2	●
UP210-R4-18010	18	40	1	100	18	2	●
UP210-R4-18020	18	40	2	100	18	2	●
UP210-R4-20004	20	45	0.4	100	20	2	○
UP210-R4-20010	20	45	1	100	20	2	●
UP210-R4-20020	20	45	2	100	20	2	●
UP210-R4-20030	20	45	3	100	20	2	●
UP210-R4-20040	20	45	4	100	20	2	●
UP210-R4-20050	20	45	5	100	20	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P635

UP210-RH4

4 Flutes, Corner Radius, with Long Shank Length

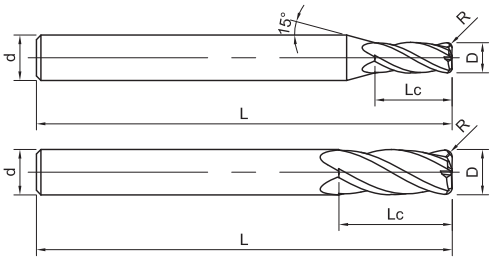


Fig1

Fig2

SHANK h6 | 4 | AlCrSiN | 35° Helix | Corner-R | L

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
UP210-RH4-03005	3	9	0.5	75	4	1	●
UP210-RH4-04005	4	11	0.5	75	4	2	●
UP210-RH4-06003	6	20	0.3	100	6	2	●
UP210-RH4-06003	6	20	0.3	100	6	2	●
UP210-RH4-06005	6	16	0.5	75	6	2	●
UP210-RH4-06005A	6	20	0.5	100	6	2	●
UP210-RH4-06010	6	16	1	75	6	2	●
UP210-RH4-06010A	6	16	1	100	6	2	●
UP210-RH4-06015	6	16	1.5	75	6	2	●
UP210-RH4-08005	8	20	0.5	100	8	2	●
UP210-RH4-08010	8	20	1	100	8	2	●
UP210-RH4-08015	8	20	1.5	100	8	2	○
UP210-RH4-08020	8	20	2	100	8	2	●
UP210-RH4-10005	10	25	0.5	100	10	2	●
UP210-RH4-10010	10	25	1	100	10	2	●
UP210-RH4-10015	10	25	1.5	100	10	2	○
UP210-RH4-10020	10	25	2	100	10	2	●
UP210-RH4-12005	12	30	0.5	100	12	2	●
UP210-RH4-12010	12	30	1	100	12	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P635

UP210-RH4

4 Flutes, Corner Radius, with Long Shank Length

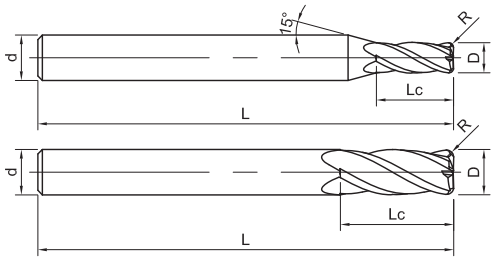


Fig1

Fig2

SHANK h6 | 4 | AlCrSiN | 35° Helix | Corner-R | L

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
UP210-RH4-12015	12	30	1.5	100	12	2	●
UP210-RH4-12020	12	30	2	100	12	2	●
UP210-RH4-12030	12	30	3	100	12	2	●
UP210-RH4-14010	14	36	1	150	14	2	○
UP210-RH4-14020	14	36	2	150	14	2	○
UP210-RH4-16005	16	36	0.5	150	16	2	●
UP210-RH4-16010	16	36	1	150	16	2	●
UP210-RH4-16015	16	36	1.5	150	16	2	●
UP210-RH4-16020	16	36	2	150	16	2	●
UP210-RH4-16030	16	36	3	150	16	2	●
UP210-RH4-18010	18	45	1	150	18	2	○
UP210-RH4-18020	18	45	2	150	18	2	●
UP210-RH4-20010	20	45	1	150	20	2	○
UP210-RH4-20020	20	45	2	150	20	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P635

UP210-R4A

4 Flutes, Corner Radius - 45° Helix Angle

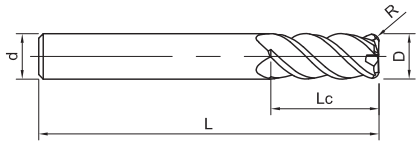


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
UP210-R4A-04005	4	11	0.5	50	4	1	●
UP210-R4A-04010	4	11	1	50	4	1	●
UP210-R4A-06005	6	16	0.5	50	6	1	●
UP210-R4A-06010	6	16	1	50	6	1	●
UP210-R4A-06015	6	16	1.5	50	6	1	○
UP210-R4A-08003	8	20	0.3	60	8	1	○
UP210-R4A-08005	8	20	0.5	60	8	1	○
UP210-R4A-08010	8	20	1	60	8	1	○
UP210-R4A-08015	8	20	1.5	60	8	1	●
UP210-R4A-08020	8	20	2	60	8	1	○
UP210-R4A-10002	10	25	0.2	75	10	1	○
UP210-R4A-10005	10	25	0.5	75	10	1	●
UP210-R4A-10010	10	25	1	75	10	1	●
UP210-R4A-10015	10	25	1.5	75	10	1	●
UP210-R4A-10020	10	25	2	75	10	1	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P635

UP210-R4A

4 Flutes, Corner Radius - 45° Helix Angle

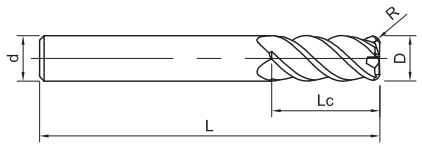


Fig1

SHANK h6 | 4 | AlCrSiN | 45° Helix | Corner-R | L

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
UP210-R4A-10025	10	25	2.5	75	10	2	○
UP210-R4A-10030	10	25	3	75	10	2	○
UP210-R4A-12005	12	30	0.5	75	12	2	○
UP210-R4A-12010	12	30	1	75	12	2	○
UP210-R4A-12015	12	30	1.5	75	12	2	○
UP210-R4A-12020	12	30	2	75	12	2	○
UP210-R4A-12025	12	30	2.5	75	12	2	○
UP210-R4A-12030	12	30	3	75	12	2	○
UP210-R4A-16005	16	36	0.5	100	16	2	○
UP210-R4A-16010	16	36	1	100	16	2	○
UP210-R4A-16020	16	36	2	100	16	2	○
UP210-R4A-16030	16	36	3	100	16	2	○
UP210-R4A-20010	20	45	1	100	20	2	●
UP210-R4A-20020	20	45	2	100	20	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P635

UP210-B2

2 Flutes, Ballnose

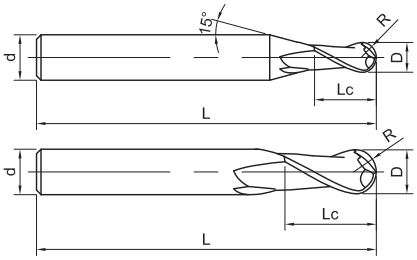


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
UP210-B2-00801	0.8	0.4	1.6	50	4	1	●
UP210-B2-00901	0.9	0.45	1.8	50	4	1	●
UP210-B2-01002	1	0.5	2	50	4	1	●
UP210-B2-61002	1	0.5	2	50	6	1	●
UP210-B2-01503	1.5	0.75	3	50	4	1	●
UP210-B2-61503	1.5	0.75	3	50	6	1	●
UP210-B2-02004	2	1	4	50	4	1	●
UP210-B2-62004	2	1	4	50	6	1	●
UP210-B2-02505	2.5	1.25	5	50	4	1	●
UP210-B2-03006	3	1.5	6	50	4	1	●
UP210-B2-63006	3	1.5	6	50	6	1	●
UP210-B2-03506	3.5	1.75	6	50	4	1	●
UP210-B2-04008	4	2	8	50	4	2	●
UP210-B2-64008	4	2	8	50	6	1	●
UP210-B2-05010	5	2.5	10	50	6	1	●

●Stock ○Available Upon Order

R	Tolerance
R≤1.5	0 -0.01
1.5<R<3	0 -0.015
R≥12	0 -0.02

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P637

UP210-B2

2 Flutes, Ballnose

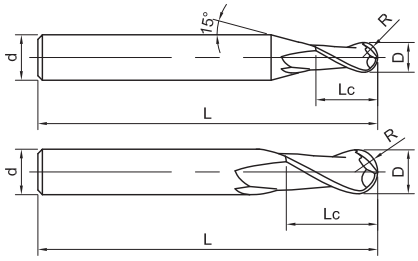


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
UP210-B2-05510	5.5	2.75	10	50	6	1	●
UP210-B2-06012	6	3	12	50	6	2	●
UP210-B2-06012A	6	3	12	60	6	2	●
UP210-B2-07014	7	3.5	14	60	8	1	●
UP210-B2-08014	8	4	14	60	8	2	●
UP210-B2-09016	9	4.5	16	75	10	1	●
UP210-B2-10018	10	5	18	75	10	2	●
UP210-B2-11020	11	5.5	20	75	12	1	○
UP210-B2-12022	12	6	22	75	12	2	●
UP210-B2-13026	13	6.5	26	90	14	1	○
UP210-B2-14026	14	7	26	90	16	2	●
UP210-B2-15030	15	7.5	30	100	16	1	●
UP210-B2-16030	16	8	30	100	16	2	●
UP210-B2-18034	18	9	34	100	18	2	●
UP210-B2-20038	20	10	38	100	20	2	●

●Stock ○Available Upon Order

R	Tolerance
R≤1.5	0 -0.01
1.5<R<3	0 -0.015
R≥3	0 -0.02

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P637

UP210-BH2

2 Flutes Ballnose, with Long Shank Length

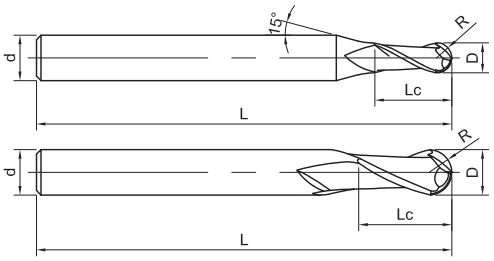


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
UP210-BH2-61002	1	0.5	2	75	6	1	●
UP210-BH2-61503	1.5	0.75	3	75	6	1	●
UP210-BH2-02004	2	1	4	75	4	1	●
UP210-BH2-62004	2	1	4	75	6	1	●
UP210-BH2-03006	3	1.5	6	75	4	1	●
UP210-BH2-63006	3	1.5	6	75	6	1	●
UP210-BH2-04008	4	2	8	75	4	2	●
UP210-BH2-64008	4	2	8	75	6	1	●
UP210-BH2-05010	5	2.5	10	75	6	1	●
UP210-BH2-06012	6	3	12	75	6	2	●
UP210-BH2-06012A	6	3	12	100	6	2	●
UP210-BH2-07014	7	3.5	14	100	8	1	●
UP210-BH2-08014A	8	4	14	75	8	2	●
UP210-BH2-08014	8	4	14	100	8	2	●
UP210-BH2-09016	9	4.5	16	100	10	1	●
UP210-BH2-10018	10	5	18	100	10	2	●

●Stock ○Available Upon Order

R	Tolerance
R≤1.5	0 -0.01
1.5<R<3	0 -0.015
R≥3	0 -0.02

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P637

UP210-BH2

2 Flutes Ballnose, with Long Shank Length

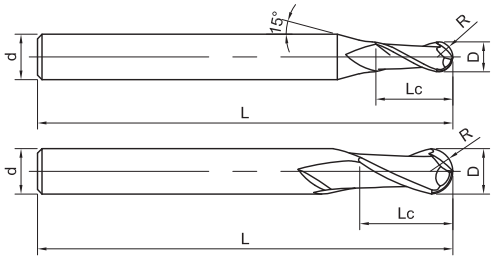


Fig1

Fig2

SHANK h6 | 2 | AlCrSiN | 30° Helix | Ballnose

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
UP210-BH2-10018A	10	5	18	150	10	2	●
UP210-BH2-11020	11	5.5	20	100	12	1	●
UP210-BH2-10018A	10	5	18	150	10	2	●
UP210-BH2-12022	12	6	22	100	12	2	●
UP210-BH2-12022A	12	6	22	150	12	2	●
UP210-BH2-14026	14	7	26	150	14	2	●
UP210-BH2-16030	16	8	30	150	16	2	●
UP210-BH2-18034	18	9	34	150	18	2	●
UP210-BH2-20038	20	10	38	150	20	2	●

●Stock ○Available Upon Order

R	Tolerance
R≤1.5	0 -0.01
1.5<R<3	0 -0.015
R≥3	0 -0.02

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P637

UP210-B4

4 Flutes, Ballnose

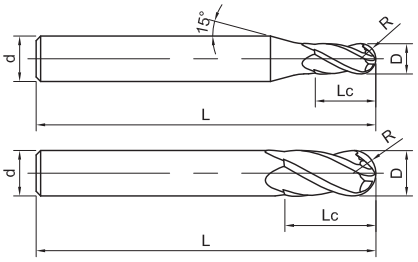


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
UP210-B4-02004	2	1	4	50	4	1	●
UP210-B4-62004	2	1	4	50	6	1	○
UP210-B4-02505	2.5	1.25	5	50	4	1	●
UP210-B4-03006	3	1.5	6	50	4	1	●
UP210-B4-63006	3	1.5	6	50	6	1	●
UP210-B4-04008	4	2	8	50	4	2	●
UP210-B4-64008	4	2	8	50	6	1	●
UP210-B4-05010	5	2.5	10	50	6	1	●
UP210-B4-06012	6	3	12	50	6	2	●
UP210-B4-07014	7	3.5	14	60	8	1	●
UP210-B4-08014	8	4	14	60	8	2	●
UP210-B4-09016	9	4.5	16	75	10	1	●
UP210-B4-10018	10	5	18	75	10	2	●
UP210-B4-11020	11	5.5	20	75	12	1	●
UP210-B4-12022	12	6	22	75	12	2	●
UP210-B4-14024	14	7	24	75	14	2	●
UP210-B4-16030	16	8	30	100	16	2	●
UP210-B4-18034	18	9	34	100	18	2	○
UP210-B4-20038	20	10	38	100	20	2	●

●Stock ○Available Upon Order

R	Tolerance
R≤1.5	0 -0.01
1.5<R<3	0 -0.015
R≥3	0 -0.02

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P637

UP210-L60

4 Flutes, 60° Chamfer Endmills

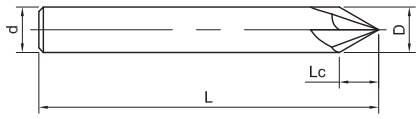


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
UP210-L60-04060	4	3.5	50	4	1	●
UP210-L60-06060	6	5.2	50	6	1	●
UP210-L60-08060	8	7	60	8	1	●
UP210-L60-10060	10	8.7	75	10	1	●
UP210-L60-12060	12	10.4	75	12	1	●
UP210-L60-16060	16	13.9	100	16	1	●
UP210-L60-20060	20	17.4	100	20	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎	○	○	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P638

UP210-L90

4 Flutes, 90° Chamfer Endmills

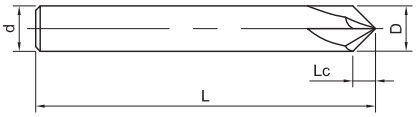


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
UP210-L90-04090	4	2	50	4	1	●
UP210-L90-06090	6	3	50	6	1	●
UP210-L90-08090	8	4	60	8	1	●
UP210-L90-10090	10	5	75	10	1	●
UP210-L90-12090	12	6	75	12	1	●
UP210-L90-16090	16	8	100	16	1	●
UP210-L90-20090	20	10	100	20	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎	○	○	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P638

UP210-L120

4 Flutes, 120° Chamfer Endmills

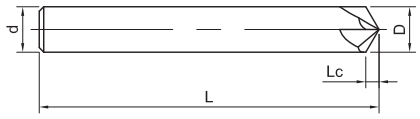


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
UP210-L120-04120	4	1.2	50	4	1	●
UP210-L120-06120	6	1.8	50	6	1	●
UP210-L120-08120	8	2.4	60	8	1	●
UP210-L120-10120	10	2.9	75	10	1	●
UP210-L120-12120	12	3.5	75	12	1	●
UP210-L120-16120	16	4.6	100	16	1	○
UP210-L120-18120	18	5.2	100	18	1	○
UP210-L120-20120	20	5.8	100	20	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎	○	○	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P638

SP210-S3

3 Flutes, Square, with Variable Helix

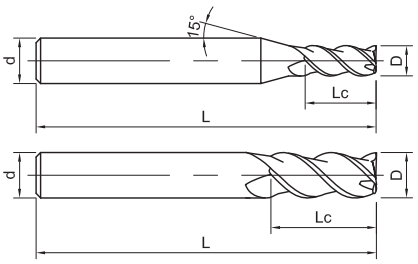


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SP210-S3-02508	2.5	8	50	4	1	●
SP210-S3-03009	3	9	50	4	1	●
SP210-S3-04011	4	11	50	4	2	●
SP210-S3-05013	5	13	50	6	1	●
SP210-S3-06016	6	16	50	6	2	●
SP210-S3-08020	8	20	60	8	2	●
SP210-S3-09025	9	25	75	10	1	●
SP210-S3-10025	10	25	75	10	2	●
SP210-S3-12030	12	30	75	12	2	●
SP210-S3-16036	16	36	100	16	2	●
SP210-S3-20045	20	45	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P638

SP210-C3

3 Flutes, Square, with Variable Helix (Tip Chamfer)

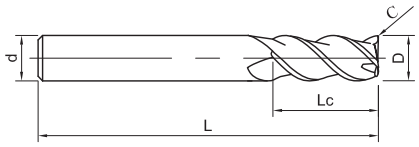


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	C	L	d	Drawing No.	In Stock
SP210-C3-06020	6	16	0.2	50	6	1	●
SP210-C3-08020	8	20	0.2	60	8	1	●
SP210-C3-10030	10	25	0.3	75	10	1	●
SP210-C3-12030	12	30	0.3	75	12	1	●
SP210-C3-16030	16	36	0.3	100	16	1	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P638

SP210-S4

4 Flutes, Square, Double Helix

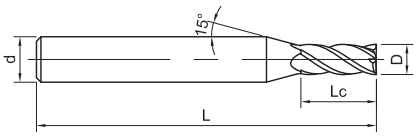


Fig1

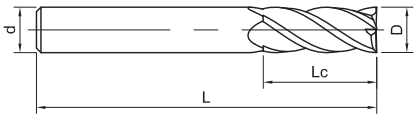


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SP210-S4-01003	1	3	50	4	1	●
SP210-S4-01505	1.5	5	50	4	1	○
SP210-S4-02006	2	6	50	4	1	●
SP210-S4-62006	2	6	50	6	1	●
SP210-S4-02508	2.5	8	50	4	1	●
SP210-S4-03009	3	9	50	4	1	●
SP210-S4-63009	3	9	50	6	1	●
SP210-S4-03511	3.5	11	50	4	1	○
SP210-S4-04011	4	11	50	4	2	●
SP210-S4-64011	4	11	50	6	1	●
SP210-S4-05013	5	13	50	6	1	●
SP210-S4-05516	5.5	16	50	6	1	●
SP210-S4-06016	6	16	50	6	2	●
SP210-S4-07020	7	20	60	8	1	●
SP210-S4-08020	8	20	60	8	2	●
SP210-S4-08025	8	25	60	8	2	●
SP210-S4-10025	10	25	75	10	2	●
SP210-S4-12030	12	30	75	12	2	●
SP210-S4-14034	14	34	100	14	2	●
SP210-S4-16036	16	36	100	16	2	●
SP210-S4-20045	20	45	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P639

SP210-C4

4 Flutes, Square, Double Helix (Tip Chamfer)

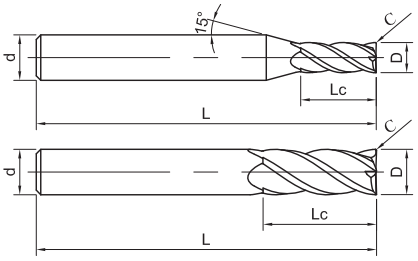


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	C	L	d	Drawing No.	In Stock
SP210-C4-03003	3	9	0.03	50	4	1	●
SP210-C4-03013	3	9	0.13	50	4	1	●
SP210-C4-63008	3	8	0.15	57	6	1	●
SP210-C4-64011	4	11	0.18	57	6	1	●
SP210-C4-04004	4	11	0.04	50	4	2	○
SP210-C4-04018	4	11	0.18	50	4	2	●
SP210-C4-05005	5	13	0.05	50	6	1	●
SP210-C4-05013	5	13	0.15	57	6	1	●
SP210-C4-05020	5	13	0.2	50	6	1	●
SP210-C4-06006	6	16	0.06	50	6	2	●
SP210-C4-06013	6	13	0.2	57	6	2	●
SP210-C4-06020	6	16	0.2	50	6	2	●
SP210-C4-06040	6	16	0.4	50	6	2	●
SP210-C4-08008	8	20	0.08	60	8	2	●
SP210-C4-08019	8	19	0.2	63	8	2	●
SP210-C4-08020	8	20	0.2	60	8	2	●
SP210-C4-10010	10	25	0.1	75	10	2	●
SP210-C4-10022	10	22	0.3	72	10	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P639

SP210-C4

4 Flutes, Square, Double Helix (Tip Chamfer)

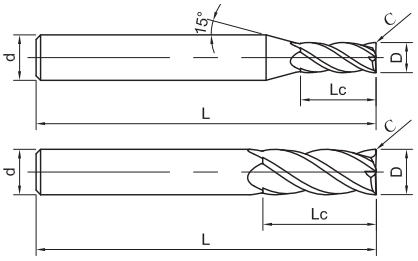


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	C	L	d	Drawing No.	In Stock
SP210-C4-10030	10	25	0.3	75	10	2	●
SP210-C4-12012	12	30	0.12	75	12	2	●
SP210-C4-12026	12	26	0.3	83	12	2	●
SP210-C4-12030	12	30	0.3	75	12	2	●
SP210-C4-16015	16	36	0.15	100	16	2	●
SP210-C4-16040	16	36	0.4	100	16	2	●
SP210-C4-18015	18	45	0.15	100	18	2	●
SP210-C4-20015	20	45	0.15	100	20	2	●
SP210-C4-20050	20	45	0.5	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P639

SP210-CN4

4 Flutes, Square, with Long Neck and Double Helix (Tip Chamfer)

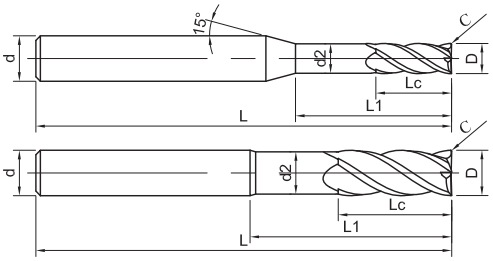


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	C	d2	L1	L	d	Drawing No.	In Stock
SP210-CN4-03013	3	10	0.13	2.9	18	75	4	1	●
SP210-CN4-04018	4	12	0.18	3.8	20	75	4	2	●
SP210-CN4-05020	5	15	0.2	4.8	35	75	6	1	●
SP210-CN4-06020	6	16	0.2	5.8	24	100	6	2	●
SP210-CN4-08020	8	20	0.2	7.5	30	100	8	2	●
SP210-CN4-10030	10	25	0.3	9.5	40	150	10	2	●
SP210-CN4-12030	12	30	0.3	11	40	150	12	2	●
SP210-CN4-16040	16	36	0.4	15	50	150	16	2	●
SP210-CN4-20050	20	45	0.5	19	60	150	20	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P639

SP210-R4

4 Flutes, Corner Radius, with Double Helix

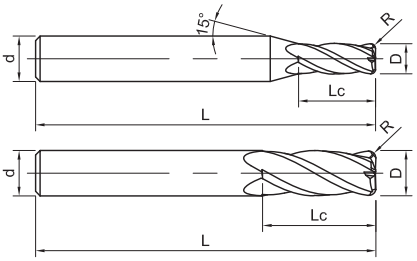


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SP210-R4-01002	1	3	0.2	50	4	1	○
SP210-R4-02002	2	6	0.2	50	4	1	○
SP210-R4-02005	2	6	0.5	50	4	1	●
SP210-R4-03002	3	9	0.2	50	4	1	●
SP210-R4-03003	3	9	0.3	50	4	1	●
SP210-R4-03005	3	9	0.5	50	4	1	●
SP210-R4-04002	4	11	0.2	50	4	2	○
SP210-R4-04003	4	11	0.3	50	4	2	●
SP210-R4-04005	4	11	0.5	50	4	2	●
SP210-R4-04010	4	11	1	50	4	2	●
SP210-R4-05003	5	13	0.3	50	6	1	●
SP210-R4-05005	5	13	0.5	50	6	1	●
SP210-R4-05010	5	13	1	50	6	1	●
SP210-R4-06002	6	16	0.2	50	6	2	○
SP210-R4-06003	6	16	0.3	50	6	2	●
SP210-R4-06005	6	16	0.5	50	6	2	●
SP210-R4-06010	6	16	1	50	6	2	●
SP210-R4-06015	6	16	1.5	50	6	2	○
SP210-R4-06020	6	16	2	50	6	2	●
SP210-R4-08005	8	20	0.5	60	8	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P639

SP210-R4

4 Flutes, Corner Radius, with Double Helix

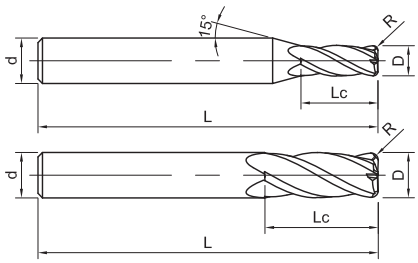


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SP210-R4-08010	8	20	1.0	60	8	2	●
SP210-R4-08015	8	20	1.5	60	8	2	●
SP210-R4-08020	8	20	2	60	8	2	●
SP210-R4-10005	10	25	0.5	75	10	2	●
SP210-R4-10010	10	25	1	75	10	2	●
SP210-R4-10015	10	25	1.5	75	10	2	●
SP210-R4-10020	10	25	2	75	10	2	●
SP210-R4-10030	10	25	3	75	10	2	●
SP210-R4-12005	12	30	0.5	75	12	2	●
SP210-R4-12010	12	30	1	75	12	2	●
SP210-R4-12015	12	30	1.5	75	12	2	●
SP210-R4-12020	12	30	2	75	12	2	●
SP210-R4-12030	12	30	3	75	12	2	●
SP210-R4-14020	14	32	2	75	14	2	●
SP210-R4-16005	16	36	0.5	100	16	2	○
SP210-R4-16010	16	36	1	100	16	2	○
SP210-R4-16020	16	36	2	100	16	2	●
SP210-R4-16030	16	36	3	100	16	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P639

SP210-RH4

4 Flutes, Corner Radius, with Double Helix and Long Shank

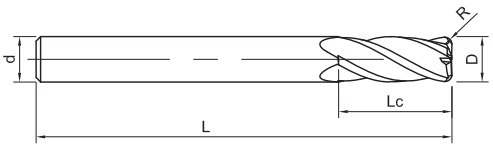


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SP210-RH4-04005	4	11	0.5	75	4	1	●
SP210-RH4-06005	6	16	0.5	75	6	1	●
SP210-RH4-06010	6	16	1	75	6	1	○
SP210-RH4-08005	8	20	0.5	100	8	1	●
SP210-RH4-08005A	8	20	0.5	75	8	1	●
SP210-RH4-08010	8	20	1	100	8	1	○
SP210-RH4-08010A	8	20	1	75	8	1	●
SP210-RH4-10005	10	25	0.5	100	10	1	●
SP210-RH4-10010	10	25	1	100	10	1	●
SP210-RH4-10020	10	25	2	100	10	1	○
SP210-RH4-12005	12	30	0.5	100	12	1	●
SP210-RH4-12010	12	30	1	100	12	1	●
SP210-RH4-12030	12	30	3	100	12	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P639

SP210-B2

2 Flutes, Ballnose

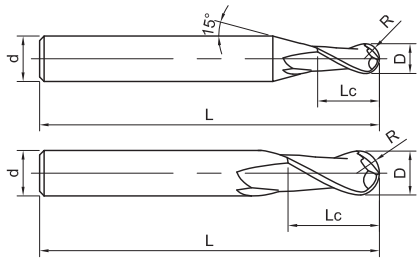


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SP210-B2-01002	1	0.5	2	50	4	1	●
SP210-B2-61002	1	0.5	2	50	6	1	●
SP210-B2-01503	1.5	0.75	3	50	4	1	●
SP210-B2-61503	1.5	0.75	3	50	6	1	○
SP210-B2-02004	2	1	4	50	4	1	●
SP210-B2-62004	2	1	4	50	6	1	●
SP210-B2-02505	2.5	1.25	5	50	4	1	●
SP210-B2-03006	3	1.5	6	50	4	1	●
SP210-B2-63006	3	1.5	6	50	6	1	○
SP210-B2-03506	3.5	1.75	6	50	4	1	●
SP210-B2-04008	4	2	8	50	4	2	●
SP210-B2-64008	4	2	8	50	6	1	○
SP210-B2-05010	5	2.5	10	50	6	1	●
SP210-B2-06012	6	3	12	50	6	2	●
SP210-B2-06012A	6	3	12	60	6	2	●
SP210-B2-08014	8	4	14	60	8	2	●
SP210-B2-10018	10	5	18	75	10	2	●
SP210-B2-11020	11	5.5	20	75	12	1	●
SP210-B2-12022	12	6	22	75	12	2	●

●Stock ○Available Upon Order

R	Tolerance
R≤1.5	0 -0.01
1.5<R<3	0 -0.015
R≥3	0 -0.02

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P640

SP210-BH2

2 Flutes Ballnose, with Long Shank Length

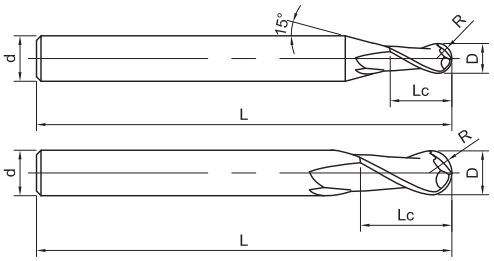


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SP210-BH2-61002	1	0.5	2	75	6	1	○
SP210-BH2-61503	1.5	0.75	3	75	6	1	●
SP210-BH2-02004	2	1	4	75	4	1	○
SP210-BH2-62004	2	1	4	75	6	1	●
SP210-BH2-63006	3	1.5	6	75	6	1	●
SP210-BH2-04008	4	2	8	75	4	2	●
SP210-BH2-04008A	4	2	8	100	4	2	○
SP210-BH2-64008	4	2	8	75	6	1	●
SP210-BH2-06012	6	3	12	75	6	2	●
SP210-BH2-06012A	6	3	12	100	6	2	●
SP210-BH2-08014	8	4	14	75	8	2	●
SP210-BH2-08014A	8	4	14	100	8	2	●
SP210-BH2-10018	10	5	18	100	10	2	●
SP210-BH2-12022	12	6	22	100	12	2	●

●Stock ○Available Upon Order

R	Tolerance
R≤1.5	0 -0.01
1.5<R<3	0 -0.015
R≥3	0 -0.02

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P640

PP300-C2

2 Flutes, Standard Length, Square (Tip Chamfer)

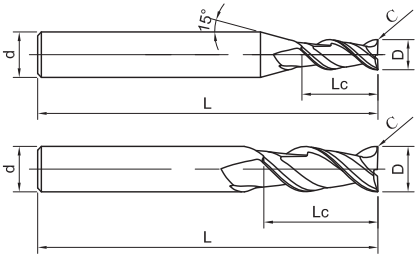


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	C	L	d	Drawing No.	In Stock
PP300-C2-02002	2	6	0.02	50	4	1	●
PP300-C2-02503	2.5	8	0.03	50	4	1	○
PP300-C2-03003	3	9	0.03	50	4	1	●
PP300-C2-04004	4	11	0.04	50	4	2	●
PP300-C2-05005	5	13	0.05	50	6	1	●
PP300-C2-06006	6	16	0.06	50	6	2	○
PP300-C2-08008	8	20	0.08	60	8	2	●
PP300-C2-10010	10	25	0.1	75	10	2	○
PP300-C2-12012	12	30	0.12	75	12	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P641

PP300-C3

3 Flutes, Square, with Variable Helix (Tip Chamfer)

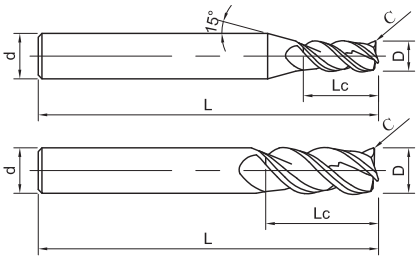


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	C	L	d	Drawing No.	In Stock
PP300-C3-63003	3	9	0.03	50	6	1	●
PP300-C3-04004	4	11	0.04	50	4	2	○
PP300-C3-64004	4	11	0.04	50	6	1	●
PP300-C3-05005	5	13	0.05	50	6	1	○
PP300-C3-06006	6	16	0.06	50	6	2	●
PP300-C3-06020	6	16	0.2	50	6	2	○
PP300-C3-08008	8	20	0.08	60	8	2	●
PP300-C3-08020	8	20	0.2	60	8	2	○
PP300-C3-10010	10	25	0.1	75	10	2	●
PP300-C3-10030	10	25	0.3	75	10	2	○
PP300-C3-12012	12	30	0.12	75	12	2	○
PP300-C3-12030	12	30	0.3	75	12	2	○
PP300-C3-16015	16	36	0.15	100	16	2	●
PP300-C3-16040	16	36	0.4	100	16	2	○
PP300-C3-20015	20	45	0.15	100	20	2	○
PP300-C3-20050	20	45	0.5	100	20	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P642

PP300-C4

4 Flutes, Square, Double Helix (Tip Chamfer)

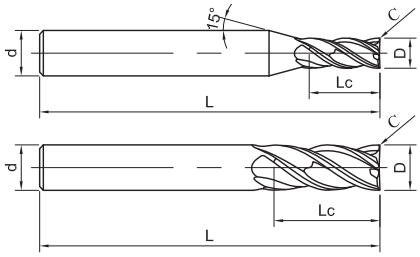


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	C	L	d	Drawing No.	In Stock
PP300-C4-03003	3	9	0.03	50	4	1	○
PP300-C4-63003	3	9	0.03	50	6	1	●
PP300-C4-03013	3	9	0.13	50	4	1	○
PP300-C4-04004	4	11	0.04	50	4	2	●
PP300-C4-64004	4	11	0.04	50	6	1	●
PP300-C4-04018	4	11	0.18	50	4	2	●
PP300-C4-05005	5	13	0.05	50	6	1	●
PP300-C4-05020	5	13	0.2	50	6	1	○
PP300-C4-06006	6	16	0.06	50	6	2	●
PP300-C4-06020	6	16	0.2	50	6	2	●
PP300-C4-08008	8	20	0.08	60	8	2	●
PP300-C4-08020	8	20	0.2	60	8	2	●
PP300-C4-10010	10	25	0.1	75	10	2	●
PP300-C4-10030	10	25	0.3	75	10	2	●
PP300-C4-12012	12	30	0.12	75	12	2	●
PP300-C4-12030	12	30	0.3	75	12	2	●
PP300-C4-16015	16	36	0.15	100	16	2	●
PP300-C4-16040	16	36	0.4	100	16	2	○
PP300-C4-18040	18	45	0.4	100	18	2	○
PP300-C4-20015	20	45	0.15	100	20	2	●
PP300-C4-20050	20	45	0.5	100	20	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P643

PP300-R4

4 Flutes, Corner Radius, with Double Helix

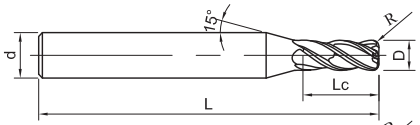


Fig1

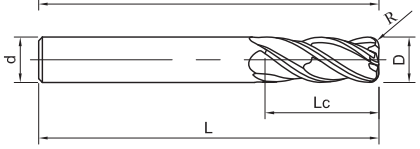


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
PP300-R4-03005	3	9	0.5	50	4	1	○
PP300-R4-04003	4	11	0.3	50	4	2	○
PP300-R4-04005	4	11	0.5	50	4	2	●
PP300-R4-04010	4	11	1	50	4	2	○
PP300-R4-05005	5	13	0.5	50	6	1	●
PP300-R4-06005	6	16	0.5	50	6	2	●
PP300-R4-06010	6	16	1	50	6	2	●
PP300-R4-06020	6	16	2	50	6	2	○
PP300-R4-08005	8	20	0.5	60	8	2	●
PP300-R4-08010	8	20	1	60	8	2	●
PP300-R4-10005	10	25	0.5	75	10	2	●
PP300-R4-10010	10	25	1	75	10	2	●
PP300-R4-10015	10	25	1.5	75	10	2	○
PP300-R4-10020	10	25	2	75	10	2	○
PP300-R4-10030	10	25	3	75	10	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P643

PP300-R4

4 Flutes, Corner Radius, with Double Helix

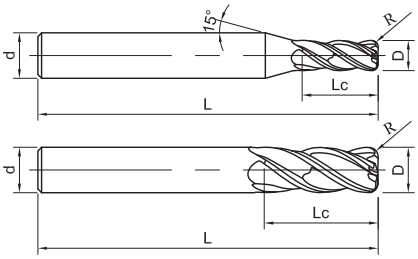


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
PP300-R4-12005	12	30	0.5	75	12	2	●
PP300-R4-12010	12	30	1	75	12	2	●
PP300-R4-12015	12	30	1.5	75	12	2	●
PP300-R4-12020	12	30	2	75	12	2	●
PP300-R4-12030	12	30	3	75	12	2	●
PP300-R4-16010	16	36	1	100	16	2	●
PP300-R4-16020	16	36	2	100	16	2	●
PP300-R4-16030	16	36	3	100	16	2	●
PP300-R4-20010	20	45	1	100	20	2	●
PP300-R4-20020	20	45	2	100	20	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P643

PP300-SPEED-3D

4/5 Flutes, Square, with Variable Helix (Round Corner on Tip) (Trochoidal Milling Machining)

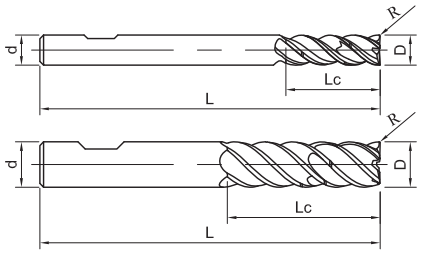


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Z	Lc	R	L	d	Drawing No.	In Stock
PP300-SPEED-3D-06020	6	4	20	0.1	57	6	1	●
PP300-SPEED-3D-08026	8	4	26	0.1	63	8	1	●
PP300-SPEED-3D-10032	10	5	32	0.1	72	10	2	●
PP300-SPEED-3D-12038	12	5	38	0.12	83	12	2	●
PP300-SPEED-3D-14044	14	5	44	0.15	100	14	2	○
PP300-SPEED-3D-16052	16	5	52	0.15	115	16	2	●
PP300-SPEED-3D-20062	20	5	62	0.2	131	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤10	0 -0.04
D>10	0 -0.05

Unit (mm)

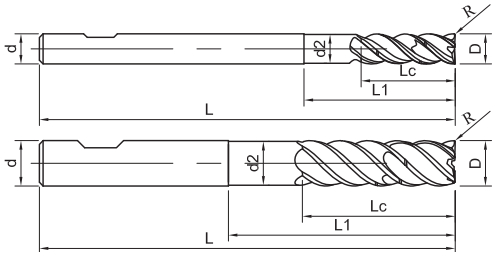
Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P644

PP300-SPEED-3DN

4/5 Flutes, Square, with Variable Helix (Round Corner on Tip) (Trochoidal Milling Machining)



Please refer to P201 for guidelines to icons

Order No.	D	Z	Lc	R	L1	d2	L	d	Drawing No.	In Stock
PP300-SPEED-3DN-06020	6	4	20	0.1	32	5.8	75	6	1	●
PP300-SPEED-3DN-08026	8	4	26	0.1	42	7.8	85	8	1	●
PP300-SPEED-3DN-10032	10	5	32	0.1	52	9.8	100	10	2	●
PP300-SPEED-3DN-12038	12	5	38	0.12	62	11.8	110	12	2	●
PP300-SPEED-3DN-14044	14	5	44	0.15	72	13.8	125	14	2	○
PP300-SPEED-3DN-16052	16	5	52	0.15	82	15.7	140	16	2	●
PP300-SPEED-3DN-20062	20	5	62	0.2	102	19.7	165	20	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤10	0 -0.04
D>10	0 -0.05

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P644

PP300-SPEED-5D

4/5 Flutes, Square, with Variable Helix (Round Corner on Tip) (Trochoidal Milling Machining)

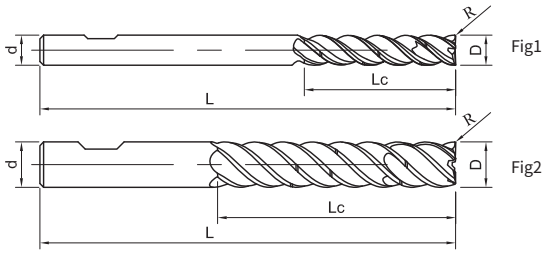


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Z	Lc	R	L	d	Drawing No.	In Stock
PP300-SPEED-5D-06032	6	4	32	0.1	75	6	1	●
PP300-SPEED-5D-08042	8	4	42	0.1	85	8	1	●
PP300-SPEED-5D-10052	10	5	52	0.1	100	10	2	●
PP300-SPEED-5D-12062	12	5	62	0.12	110	12	2	●
PP300-SPEED-5D-14072	14	5	72	0.15	125	14	2	●
PP300-SPEED-5D-16082	16	5	82	0.15	140	16	2	●
PP300-SPEED-5D-200102	20	5	102	0.2	165	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤10	0 -0.04
D>10	0 -0.05

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	◎	○	◎			

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P644

UPN210-S4

4 Flutes, Square, with Roughing Geometry

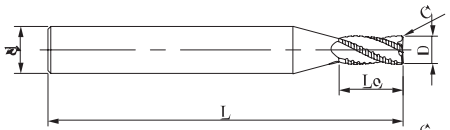


Fig1

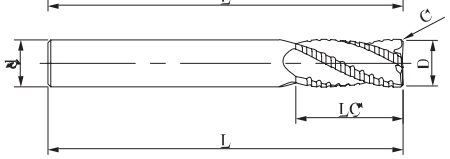


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	C	L	d	Drawing No.	In Stock
UPN210-S4-06016	6	16	0.2	50	6	2	●
UPN210-S4-08020	8	20	0.2	60	8	2	●
UPN210-S4-10025	10	25	0.3	75	10	2	●
UPN210-S4-12030	12	30	0.3	75	12	2	●
UPN210-S4-16036	16	36	0.4	100	16	2	●
UPN210-S4-20045	20	45	0.5	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.03
6＜D≤10	0 -0.04
D＞10	0 -0.05

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	○	○	◎	○	○	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P646

UPR210-S4

4 Flutes, Square, with Roughing Geometry

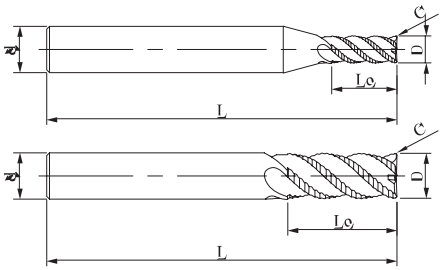


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	C	L	d	Drawing No.	In Stock
UPR210-S4-06016	6	16	0.2	50	6	2	●
UPR210-S4-08020	8	20	0.2	60	8	2	●
UPR210-S4-10025	10	25	0.3	75	10	2	●
UPR210-S4-12030	12	30	0.3	75	12	2	●
UPR210-S4-14034	14	34	0.3	100	14	2	○
UPR210-S4-16036	16	36	0.4	100	16	2	●
UPR210-S4-20045	20	45	0.5	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.03
6＜D≤10	0 -0.04
D＞10	0 -0.05

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
◎	○	○	◎	○	○	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P645

UPR300-S3/S4

3/4 Flutes, Square, with Roughing Geometry

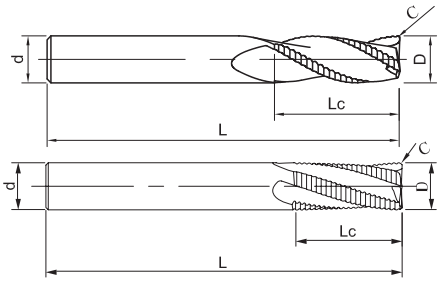


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Z	Lc	C	L	d	Drawing No.	In Stock
UPR300-S3-06016	6	3	16	0.2	50	6	1	●
UPR300-S3-08020	8	3	20	0.2	60	8	1	●
UPR300-S4-10025	10	4	25	0.3	75	10	2	●
UPR300-S4-12030	12	4	30	0.3	75	12	2	●
UPR300-S4-16036	16	4	36	0.4	100	16	2	○
UPR300-S4-20045	20	4	45	0.5	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.03
6 < D≤10	0 -0.04
D>10	0 -0.05

Unit (mm)

Workpiece Material					
P		M	K	H	
1234	5	123	123	1	23
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Hardness Steel (45-55HRC)	Hardness Steel (>55HRC)
◎	◎	○	◎	○	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P647

US200-S2

2 Flutes, Standard Length, Square

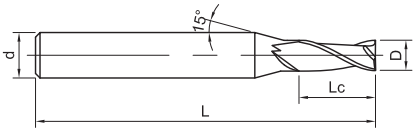


Fig1

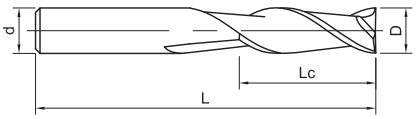


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
US200-S2-00501	0.5	1	50	4	1	●
US200-S2-00802	0.8	2	50	4	1	●
US200-S2-01003	1	3	50	4	1	●
US200-S2-01504	1.5	4	50	4	1	●
US200-S2-02006	2	6	50	4	1	●
US200-S2-02508	2.5	8	50	4	1	●
US200-S2-63008	3	8	50	6	1	●
US200-S2-03009	3	9	50	4	1	●
US200-S2-03510	3.5	10	50	4	1	●
US200-S2-04011	4	11	50	4	2	●
US200-S2-64011	4	11	50	6	1	●
US200-S2-05013	5	13	50	6	1	●
US200-S2-06016	6	16	50	6	2	●
US200-S2-08020	8	20	60	8	2	●
US200-S2-10025	10	25	75	10	2	●
US200-S2-12030	12	30	75	12	2	●
US200-S2-16036	16	36	100	16	2	●
US200-S2-20045	20	45	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
○	○	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P649

US200-SS4

4 Flutes, Stub Length, Square

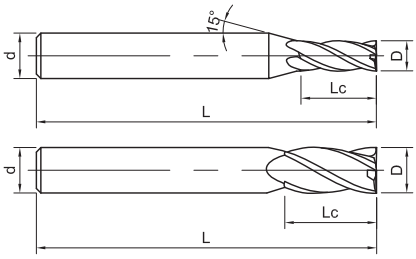


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
US200-SS4-02004	2	4	50	4	1	●
US200-SS4-03004	3	4	50	4	1	●
US200-SS4-04006	4	6	50	4	2	●
US200-SS4-06009	6	9	50	6	2	●
US200-SS4-08010	8	10	60	8	2	●
US200-SS4-10012	10	12	75	10	2	●
US200-SS4-12016	12	16	75	12	2	●
US200-SS4-14020	14	20	75	14	2	●
US200-SS4-16024	16	24	100	16	2	●
US200-SS4-18027	18	27	100	18	2	●
US200-SS4-20030	20	30	100	20	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
○	○	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P650

US200-S4

4 Flutes, Standard Length, Square

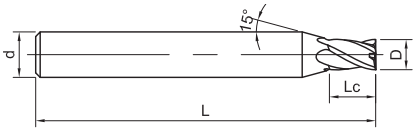


Fig1

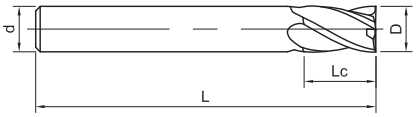


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
US200-S4-01003	1	3	50	4	1	●
US200-S4-01504	1.5	4	50	4	1	●
US200-S4-01505	1.5	5	50	4	1	●
US200-S4-02006	2	6	50	4	1	●
US200-S4-02508	2.5	8	50	4	1	●
US200-S4-63008	3	8	50	6	1	●
US200-S4-03009	3	9	50	4	1	●
US200-S4-03510	3.5	10	50	4	1	●
US200-S4-04011	4	11	50	4	2	●
US200-S4-64011	4	11	50	6	1	●
US200-S4-05013	5	13	50	6	1	●
US200-S4-06016	6	16	50	6	2	●
US200-S4-08020	8	20	60	8	2	●
US200-S4-10025	10	25	75	10	2	●
US200-S4-12030	12	30	75	12	2	●
US200-S4-13032	13	32	100	14	1	○
US200-S4-14040	14	40	100	14	2	●
US200-S4-16036	16	36	100	16	2	●
US200-S4-20045	20	45	100	20	2	●
US200-S4-22050	22	50	119	22	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
○	○	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P650

US200-SN4

4 Flutes, Square with Long Neck

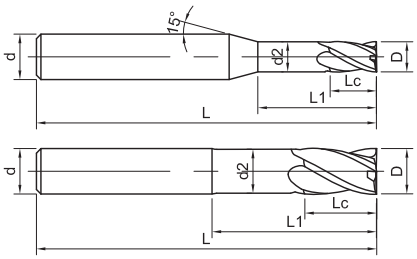


Fig1

Fig2

SHANK h6 | 4 | TiAlN | 35° Helix | Square

Please refer to P201 for guidelines to icons

Order No.	D	Lc	d2	L1	L	d	Drawing No.	In Stock
US200-SN4-02008	2	4	1.95	8	50	4	1	●
US200-SN4-04012	4	8	3.85	12	50	4	2	●
US200-SN4-06018	6	13	5.8	18	50	6	2	●
US200-SN4-08025	8	19	7.5	25	60	8	2	●
US200-SN4-10032	10	22	9.5	32	75	10	2	●
US200-SN4-12034	12	24	11	34	75	12	2	●
US200-SN4-16036	16	26	15	36	100	16	2	○
US200-SN4-20040	20	28	19	40	100	20	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
○	○	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P650

US200-R2

2 Flutes, Corner Radius

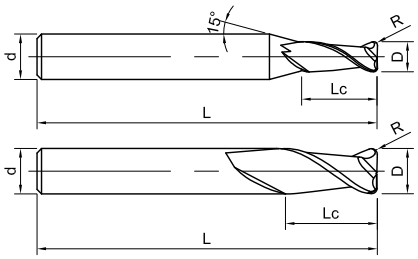


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
US200-R2-03003	3	9	0.3	50	4	1	●
US200-R2-03005	3	9	0.5	50	4	1	○
US200-R2-04002	4	11	0.2	50	4	2	●
US200-R2-04003	4	11	0.3	50	4	2	●
US200-R2-64005	4	11	0.5	50	6	1	●
US200-R2-05003	5	13	0.3	50	6	1	●
US200-R2-05005	5	13	0.5	50	6	1	●
US200-R2-06002	6	16	0.2	50	6	2	●
US200-R2-06003	6	16	0.3	50	6	2	●
US200-R2-08005	8	20	0.5	60	8	2	●
US200-R2-10005	10	25	0.5	75	10	2	○
US200-R2-10010	10	25	1	75	10	2	○
US200-R2-10015	10	25	1.5	75	10	2	●
US200-R2-16005	16	36	0.5	100	16	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
○	○	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P649

US200-R3

3 Flutes, Corner Radius

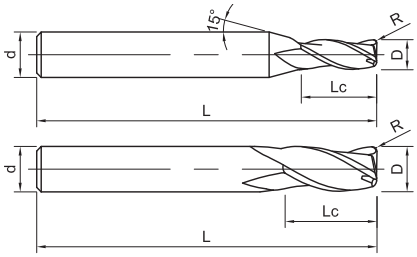
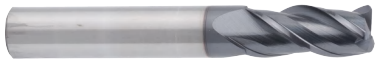


Fig1

Fig2



Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
US200-R3-02002	2	6	0.2	50	4	1	●
US200-R3-04002	4	11	0.2	50	4	2	●
US200-R3-04005	4	11	0.5	50	4	2	●
US200-R3-06002	6	16	0.2	50	6	2	●
US200-R3-06005	6	16	0.5	50	6	2	●
US200-R3-08005	8	20	0.5	60	8	2	●
US200-R3-08010	8	20	1	60	8	2	●
US200-R3-10010	10	25	1	75	10	2	●
US200-R3-10020	10	25	2	75	10	2	○
US200-R3-12005	12	30	0.5	75	12	2	●
US200-R3-12010	12	30	1	75	12	2	●
US200-R3-12015	12	30	1.5	75	12	2	○
US200-R3-16005	16	36	0.5	100	16	2	●
US200-R3-16010	16	36	1	100	16	2	○
US200-R3-16020	16	36	2	100	16	2	○
US200-R3-20005	20	45	0.5	100	20	2	●
US200-R3-20040	20	45	4	100	20	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
○	○	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P649

US200-R4

4 Flutes, Corner Radius

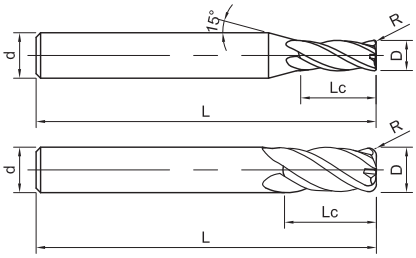


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
US200-R4-02002	2	6	0.2	50	4	1	●
US200-R4-03003	3	9	0.3	50	4	1	●
US200-R4-03005	3	9	0.5	50	4	1	●
US200-R4-64002	4	11	0.2	50	6	1	●
US200-R4-64003	4	11	0.3	50	6	1	●
US200-R4-04003	4	11	0.3	50	4	2	●
US200-R4-04005	4	11	0.5	50	4	2	●
US200-R4-04010	4	11	1	50	4	2	○
US200-R4-05005	5	13	0.5	50	6	1	●
US200-R4-06005	6	16	0.5	50	6	2	●
US200-R4-08002	8	20	0.2	60	8	2	●
US200-R4-08005	8	20	0.5	60	8	2	●
US200-R4-08010	8	20	1	60	8	2	●
US200-R4-10005	10	25	0.5	75	10	2	●
US200-R4-10010	10	25	1	75	10	2	●
US200-R4-12005	12	30	0.5	75	12	2	●
US200-R4-12010	12	30	1	75	12	2	●
US200-R4-12020	12	30	2	75	12	2	●
US200-R4-16010	16	36	1	100	16	2	●
US200-R4-20010	20	45	1	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
○	○	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P650

US200-B2

2 Flutes, Ballnose

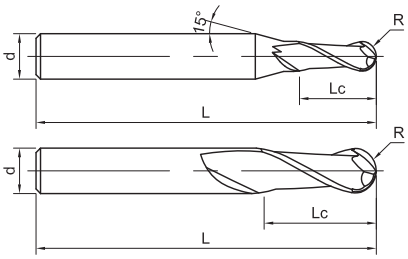


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
US200-B2-01002	1	2	0.5	50	4	1	●
US200-B2-01503	1.5	3	0.75	50	4	1	●
US200-B2-02004	2	4	1	50	4	1	●
US200-B2-03006	3	6	1.5	50	4	1	●
US200-B2-63006	3	6	1.5	50	6	1	●
US200-B2-04008	4	8	2	50	4	2	●
US200-B2-64008	4	8	2	50	6	1	●
US200-B2-05010	5	10	2.5	50	6	1	●
US200-B2-06012	6	12	3	50	6	2	●
US200-B2-08014	8	14	4	60	8	2	●
US200-B2-10018	10	18	5	75	10	2	●
US200-B2-12022	12	22	6	75	12	2	●
US200-B2-16026	16	26	8	100	16	2	○

●Stock ○Available Upon Order

R	Tolerance
R<3	±0.015
R≥3	±0.02

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
○	○	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P650

US200-B4

4 Flutes, Ballnose

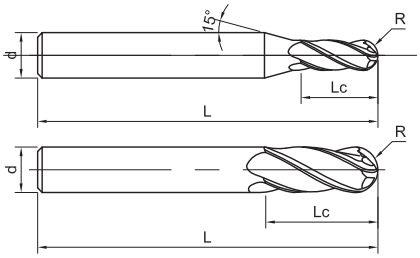


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
US200-B4-01002	1	2	0.5	50	4	1	●
US200-B4-01503	1.5	3	0.75	50	4	1	●
US200-B4-02004	2	4	1	50	4	1	●
US200-B4-03006	3	6	1.5	50	4	1	●
US200-B4-63006	3	6	1.5	50	6	1	○
US200-B4-04008	4	8	2	50	4	2	●
US200-B4-05010	5	10	2.5	50	6	1	●
US200-B4-06012	6	12	3	50	6	2	●
US200-B4-08014	8	14	4	60	8	2	●
US200-B4-10018	10	18	5	75	10	2	●
US200-B4-12022	12	22	6	75	12	2	●
US200-B4-16026	16	26	8	100	16	2	●
US200-B4-20038	20	38	10	100	20	2	●

●Stock ○Available Upon Order

R	Tolerance
R<3	±0.015
R⩾3	±0.02

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (⩽48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
○	○	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P650

US260-S2/SS2

2 Flutes, Standard Length/Stub Length, Square

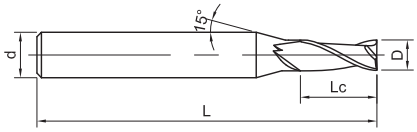


Fig1

SHANK h6 | 2 | TiAlN | 35° Helix | Square

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
US260-S2-00501	0.5	1	50	4	1	●
US260-S2-00802	0.8	2	50	4	1	●
US260-S2-00801	0.8	1	50	4	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
○	○	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P651

US260-SS4A

4 Flutes, Stub Length, Square (General Machining)

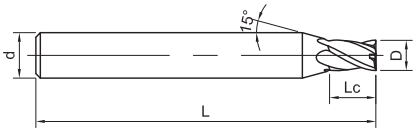


Fig1

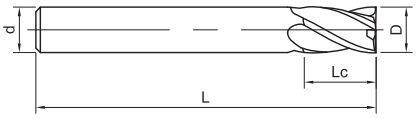


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
US260-SS4A-01002	1	2	50	4	1	●
US260-SS4A-01502	1.5	2.5	50	4	1	●
US260-SS4A-01503	1.5	3	50	4	1	●
US260-SS4A-02004	2	4	50	4	1	●
US260-SS4A-03003	3	3	50	4	1	●
US260-SS4A-03006	3	6	50	4	1	●
US260-SS4A-04006	4	6	50	4	2	●
US260-SS4A-06006	6	6	50	6	2	●
US260-SS4A-06010	6	10	50	6	2	●
US260-SS4A-08015	8	15	60	8	2	●
US260-SS4A-10015	10	15	50	10	2	●
US260-SS4A-12015	12	15	50	12	2	●
US260-SS4A-16024	16	24	100	16	2	●
US260-SS4A-20030	20	30	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
○	○	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P651

US260-SS4B

4 Flutes, Stub Length, Square (Finishing)

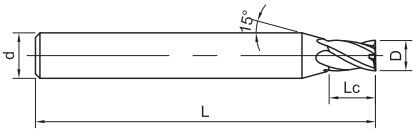


Fig1

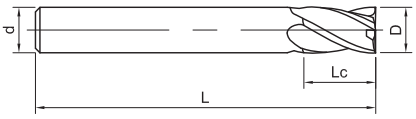


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
US260-SS4B-01002	1	2	50	4	1	●
US260-SS4B -01503	1.5	3	50	4	1	●
US260-SS4B -02004	2	4	50	4	1	●
US260-SS4B -03003	3	3	50	4	1	●
US260-SS4B -04006	4	6	50	4	2	●
US260-SS4B -05006	5	6	50	6	1	●
US260-SS4B -06006	6	6	50	6	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
○	○	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P651

US260-S4A

4 Flutes, Standard Length, Square (General Machining)

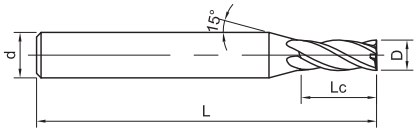


Fig1

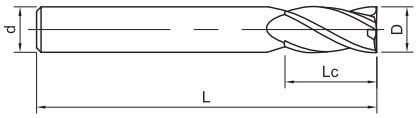


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
US260-S4A-01003	1	3	50	4	1	●
US260-S4A-01504	1.5	4	50	4	1	●
US260-S4A-01505	1.5	5	50	4	1	●
US260-S4A-01506	1.5	6	50	4	1	●
US260-S4A-02006	2	6	50	4	1	●
US260-S4A-02508	2.5	8	50	4	1	●
US260-S4A-03009	3	9	50	4	1	●
US260-S4A-04011	4	11	50	4	2	●
US260-S4A-05013	5	13	50	6	1	●
US260-S4A-06016	6	16	50	6	2	●
US260-S4A-08020	8	20	60	8	2	●
US260-S4A-10025	10	25	75	10	2	●
US260-S4A-10030	10	30	75	10	2	●
US260-S4A-12030	12	30	75	12	2	●
US260-S4A-16036	16	36	100	16	2	●
US260-S4A-20045	20	45	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
○	○	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P651

US260-S4B

4 Flutes, Standard Length (Finishing)

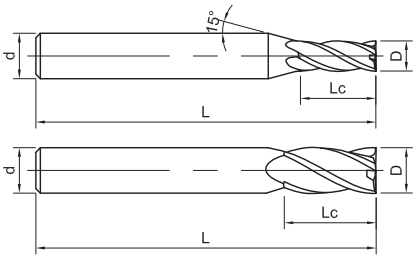


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
US260-S4B-01003	1	3	50	4	1	●
US260-S4B -01203	1.2	3	50	4	1	●
US260-S4B -01503	1.5	3.5	50	4	1	●
US260-S4B -01504	1.5	4	50	4	1	●
US260-S4B -02006	2	6	50	4	1	●
US260-S4B -03009	3	9	50	4	1	●
US260-S4B -04011	4	11	50	4	2	●
US260-S4B -06016	6	16	50	6	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
○	○	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P651

US260-RS4

4 Short Flutes, Corner Radius

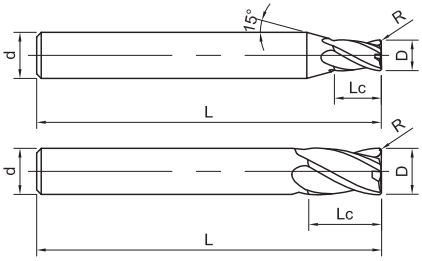


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
US260-RS4-01001	1	2	0.1	50	4	1	●
US260-RS4-04001	4	5	0.1	50	4	2	●
US260-RS4-04002	4	5	0.2	50	4	2	●
US260-RS4-05001	5	6	0.1	50	6	1	●
US260-RS4-06001	6	8	0.1	50	6	2	●
US260-RS4-06002	6	8	0.2	50	6	2	●
US260-RS4-06003	6	8	0.3	50	6	2	○
US260-RS4-06005	6	8	0.5	50	6	2	●
US260-RS4-08002	8	15	0.2	60	8	2	●
US260-RS4-08005	8	15	0.5	60	8	2	●
US260-RS4-10002	10	15	0.2	50	10	2	●
US260-RS4-10005	10	15	0.5	50	10	2	●
US260-RS4-12010	12	15	1	75	12	2	●
US260-RS4-16010	16	24	1	100	16	2	●
US260-RS4-20010	20	30	1	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
○	○	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P652

US260-R4

4 Flutes, Corner Radius

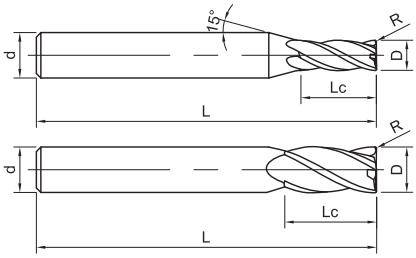


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
US260-R4-01501	1.5	5	0.1	50	4	1	●
US260-R4-02001	2	6	0.1	50	4	1	●
US260-R4-02002	2	6	0.2	50	4	1	●
US260-R4-03001	3	9	0.1	50	4	1	●
US260-R4-63001	3	9	0.1	50	6	1	●
US260-R4-03002	3	9	0.2	50	4	1	●
US260-R4-63002	3	9	0.2	50	6	1	●
US260-R4-03003	3	9	0.3	50	4	1	●
US260-R4-63003	3	9	0.3	50	6	1	●
US260-R4-04001	4	11	0.1	50	4	2	●
US260-R4-04002	4	11	0.2	50	4	2	●
US260-R4-04010	4	11	1	50	4	2	○
US260-R4-06001	6	16	0.1	50	6	2	●
US260-R4-06002	6	12	0.2	50	6	2	●
US260-R4-06005	6	16	0.5	50	6	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
○	○	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P652

US260-R4

4 Flutes, Corner Radius

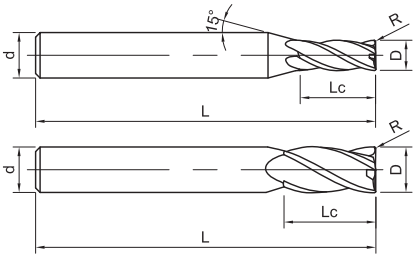


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
US260-R4-06010	6	16	1	50	6	2	○
US260-R4-08005	8	20	0.5	60	8	2	●
US260-R4-08010	8	20	1	60	8	2	●
US260-R4-10005	10	25	0.5	75	10	2	●
US260-R4-10010	10	25	1	75	10	2	●
US260-R4-12005	12	30	0.5	75	12	2	●
US260-R4-12010	12	30	1	75	12	2	●
US260-R4-12020	12	30	2	75	12	2	○
US260-R4-12030	12	30	3	75	12	2	●
US260-R4-16010	16	36	1	100	16	2	○
US260-R4-16020	16	36	2	100	16	2	●
US260-R4-16030	16	36	3	100	16	2	●
US260-R4-20010	20	45	1	100	20	2	●
US260-R4-20020	20	45	2	100	20	2	○
US260-R4-20030	20	45	3	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
○	○	◎	○	○	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P652

SS600-SS4

4 Flutes, Stub Length, Square

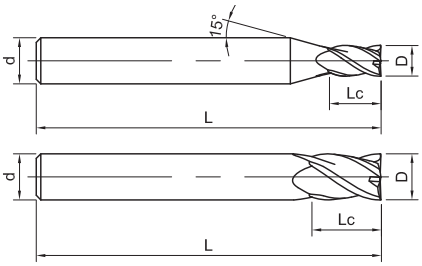


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SS600-SS4-02003	2	3	38	3	1	○
SS600-SS4-02004	2	4	50	4	1	●
SS600-SS4-03006	3	6	50	4	1	●
SS600-SS4-04006	4	6	50	4	2	●
SS600-SS4-06006	6	6	50	6	2	●
SS600-SS4-06010	6	10	50	6	2	●
SS600-SS4-08015	8	15	60	8	2	●
SS600-SS4-10015	10	15	60	10	2	●
SS600-SS4-12016	12	16	75	12	2	●
SS600-SS4-16022	16	22	92	16	2	●
SS600-SS4-20026	20	26	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D＜6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
◎	◎	◎	○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P653

SS600-S4

4 Flutes, Standard Length, Square

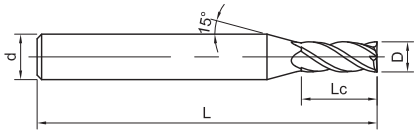


Fig1

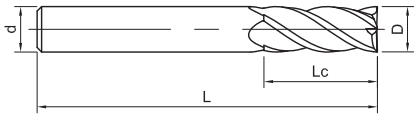


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SS600-S4-01003	1	3	38	3	1	○
SS600-S4-01003A	1	3	50	4	1	●
SS600-S4-01506	1.5	6	38	3	1	○
SS600-S4-01506A	1.5	6	50	4	1	●
SS600-S4-02006	2	6	50	4	1	●
SS600-S4-02506	2.5	6	50	4	1	●
SS600-S4-03009	3	9	50	4	1	●
SS600-S4-63009	3	9	50	6	1	●
SS600-S4-04011	4	11	50	4	2	●
SS600-S4-64011	4	11	50	6	1	●
SS600-S4-04014	4	14	50	4	2	○
SS600-S4-04511	4.5	11	50	6	1	○
SS600-S4-05013	5	13	50	6	1	●
SS600-S4-05513	5.5	13	50	6	1	○
SS600-S4-06016	6	16	50	6	2	●
SS600-S4-08020	8	20	60	8	2	●
SS600-S4-10025	10	25	75	10	2	●
SS600-S4-12026	12	26	83	12	2	●
SS600-S4-14026	14	26	83	14	2	○
SS600-S4-16032	16	32	92	16	2	●
SS600-S4-20038	20	38	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
◎	◎	◎	○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P653

SS600-SH4

4 Flutes, Long Shank Length

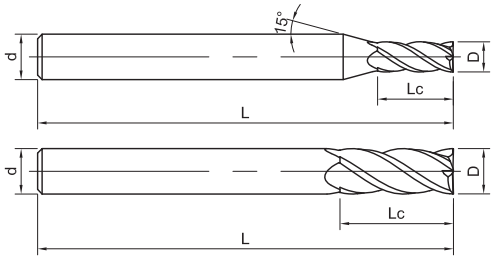


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SS600-SH4-62007	2	7	60	6	1	○
SS600-SH4-63008	3	8	60	6	1	○
SS600-SH4-04011	4	11	75	4	2	○
SS600-SH4-05013	5	13	75	6	1	○
SS600-SH4-05016	5	16	60	6	1	○
SS600-SH4-06016	6	16	75	6	2	●
SS600-SH4-08020	8	20	75	8	2	○
SS600-SH4-08020A	8	20	100	8	2	○
SS600-SH4-10025	10	25	100	10	2	○
SS600-SH4-12026	12	26	100	12	2	○
SS600-SH4-12040	12	40	150	12	2	○
SS600-SH4-16050	16	50	120	16	2	○
SS600-SH4-16050A	16	50	150	16	2	○
SS600-SH4-20050	20	50	150	20	2	○

●Stock ○Available Upon Order

D	Tolerance
D＜6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
◎	◎	◎	○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P653

SS600-S5

5 Flutes, Standard Length, Square

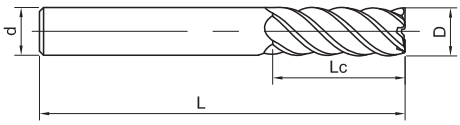


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SS600-S5-06016	6	16	50	6	1	●
SS600-S5-06016A	6	16	75	6	1	○
SS600-S5-08020	8	20	60	8	1	●
SS600-S5-08020A	8	20	75	8	1	○
SS600-S5-10025	10	25	75	10	1	●
SS600-S5-10025A	10	25	100	10	1	○
SS600-S5-12026	12	26	83	12	1	●
SS600-S5-12026A	12	26	100	12	1	○
SS600-S5-16032	16	32	92	16	1	●
SS600-S5-16050	16	50	150	16	1	○
SS600-S5-20038	20	38	100	20	1	●
SS600-S5-20050	20	50	150	20	1	○
SS600-S5-25050	25	50	125	25	1	●
SS600-S5-25050A	25	50	150	25	1	○

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
◎	◎	◎	○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P654

SS600-RS4

4 Short Flutes, Corner Radius

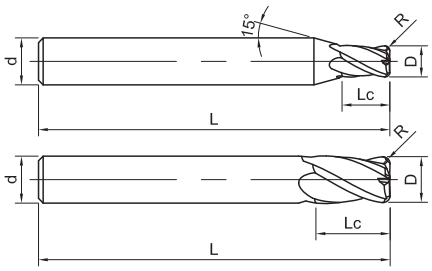


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SS600-RS4-02001	2	0.1	4	50	4	1	●
SS600-RS4-04002	4	0.2	6	50	4	2	●
SS600-RS4-06005	6	0.5	10	50	6	2	●
SS600-RS4-08005	8	0.5	12	60	8	2	●
SS600-RS4-10005	10	0.5	14	60	10	2	○
SS600-RS4-12010	12	1	16	75	12	2	●
SS600-RS4-16010	16	1	22	92	16	2	○
SS600-RS4-20010	20	1	26	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
◎	◎	◎	○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P653

SS600-R4

4 Flutes, Corner Radius

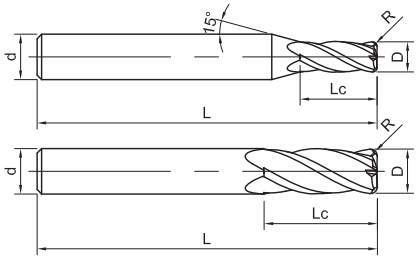


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SS600-R4-02002	2	0.2	6	50	4	1	●
SS600-R4-02005	2	0.5	6	50	4	1	○
SS600-R4-03002	3	0.2	8	50	4	1	○
SS600-R4-03003	3	0.3	8	50	4	1	●
SS600-R4-03005	3	0.5	8	50	4	1	●
SS600-R4-04002	4	0.2	11	50	4	2	○
SS600-R4-04003	4	0.3	11	50	4	2	○
SS600-R4-04005	4	0.5	11	50	4	2	●
SS600-R4-04010	4	1	11	50	4	2	○
SS600-R4-64005	4	0.5	11	50	6	1	●
SS600-R4-05005	5	0.5	13	50	6	1	●
SS600-R4-06002	6	0.2	16	50	6	2	○
SS600-R4-06005	6	0.5	16	50	6	2	●
SS600-R4-06010	6	1	16	50	6	2	●
SS600-R4-06015	6	1.5	16	50	6	2	●
SS600-R4-06020	6	2	16	50	6	2	○
SS600-R4-08002	8	0.2	20	60	8	2	○

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
◎	◎	◎	○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P653

SS600-R4

4 Flutes, Corner Radius

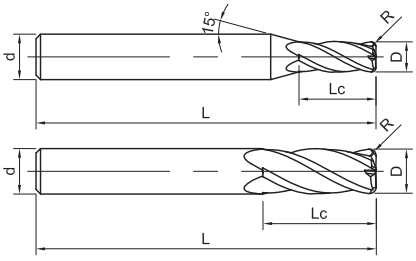


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SS600-R4-08003	8	0.3	20	60	8	2	○
SS600-R4-08005	8	0.5	20	60	8	2	●
SS600-R4-08010	8	1	20	60	8	2	●
SS600-R4-08020	8	2	20	60	8	2	○
SS600-R4-08030	8	3	20	60	8	2	○
SS600-R4-10002	10	0.2	25	75	10	2	○
SS600-R4-10003	10	0.3	25	75	10	2	○
SS600-R4-10005	10	0.5	25	75	10	2	●
SS600-R4-10010	10	1	25	75	10	2	●
SS600-R4-10015	10	1.5	25	75	10	2	○
SS600-R4-10020	10	2	25	75	10	2	●
SS600-R4-10025	10	2.5	25	75	10	2	○
SS600-R4-10030	10	3	25	75	10	2	○

●Stock ○Available Upon Order

D	Tolerance
D＜6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
◎	◎	◎	○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P653

SS600-R4

4 Flutes, Corner Radius

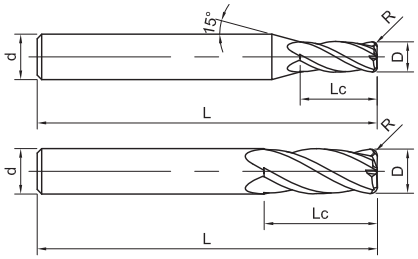


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SS600-R4-12010	12	1	26	83	12	2	●
SS600-R4-12020	12	2	26	83	12	2	●
SS600-R4-12030	12	3	26	83	12	2	●
SS600-R4-14005	14	0.5	26	83	14	2	○
SS600-R4-16005	16	0.5	32	92	16	2	●
SS600-R4-16010	16	1	32	92	16	2	●
SS600-R4-16015	16	1.5	32	92	16	2	●
SS600-R4-16020	16	2	32	92	16	2	●
SS600-R4-16030	16	3	32	92	16	2	●
SS600-R4-16040	16	4	32	92	16	2	○
SS600-R4-16050	16	5	32	92	16	2	○
SS600-R4-20005	20	0.5	38	100	20	2	●
SS600-R4-20010	20	1	38	100	20	2	○
SS600-R4-20020	20	2	38	100	20	2	●
SS600-R4-20030	20	3	38	100	20	2	●
SS600-R4-20040	20	4	38	100	20	2	○
SS600-R4-20050	20	5	38	100	20	2	○

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
◎	◎	◎	○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P653

SS600-RH4

4 Flutes, Corner Radius, with Long Shank Length

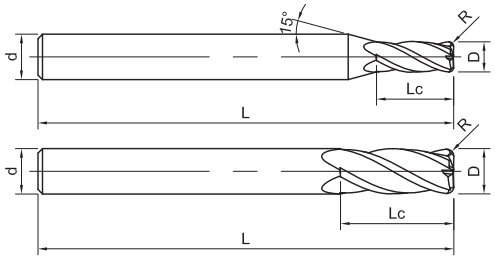


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SS600-RH4-64005	4	0.5	11	75	6	1	○
SS600-RH4-05010	5	1	13	60	6	1	○
SS600-RH4-06005	6	0.5	16	75	6	2	○
SS600-RH4-06010	6	1	16	75	6	2	○
SS600-RH4-06020	6	2	16	75	6	2	○
SS600-RH4-08005	8	0.5	20	75	8	2	○
SS600-RH4-08010	8	1	20	75	8	2	○
SS600-RH4-08020	8	2	20	75	8	2	○
SS600-RH4-08030	8	3	20	75	8	2	○
SS600-RH4-10005	10	0.5	25	100	10	2	○
SS600-RH4-10010	10	1	25	100	10	2	○
SS600-RH4-10020	10	2	25	100	10	2	○
SS600-RH4-10030	10	3	25	100	10	2	○
SS600-RH4-12005	12	0.5	26	100	12	2	○
SS600-RH4-12005A	12	0.5	40	150	12	2	○
SS600-RH4-12010	12	1	26	100	12	2	○
SS600-RH4-12010A	12	1	40	150	12	2	○

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
◎	◎	◎	○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P653

SS600-RH4

4 Flutes, Corner Radius, with Long Shank Length

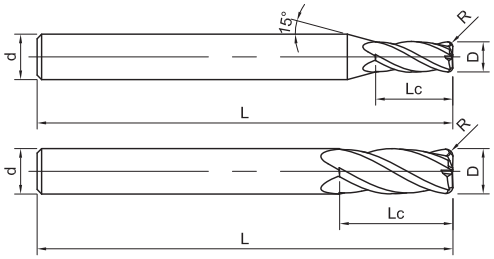


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SS600-RH4-12020	12	2	26	100	12	2	○
SS600-RH4-12020A	12	2	40	150	12	2	○
SS600-RH4-12030	12	3	26	100	12	2	○
SS600-RH4-12030A	12	3	40	150	12	2	○
SS600-RH4-16005	16	0.5	50	150	16	2	○
SS600-RH4-16010	16	1	50	150	16	2	●
SS600-RH4-16015	16	1.5	50	150	16	2	○
SS600-RH4-16020	16	2	50	150	16	2	○
SS600-RH4-16030	16	3	50	150	16	2	○
SS600-RH4-16040	16	4	50	150	16	2	○
SS600-RH4-16050	16	5	50	150	16	2	○
SS600-RH4-20005	20	0.5	38	150	20	2	○
SS600-RH4-20010	20	1	50	150	20	2	○
SS600-RH4-20020	20	2	50	150	20	2	○
SS600-RH4-20030	20	3	50	150	20	2	○
SS600-RH4-20040	20	4	50	150	20	2	○
SS600-RH4-20050	20	5	50	150	20	2	○

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
◎	◎	◎	○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P653

SS600-R5

5 Flutes, Corner Radius

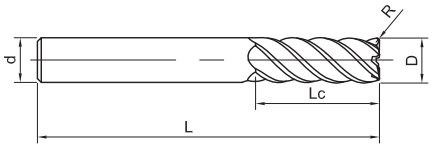


Fig1

SHANK h6 | 5 | TiAlN | 38° Helix | Corner-R

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SS600-R5-06005	6	0.5	16	50	6	1	●
SS600-R5-06005A	6	0.5	16	60	6	1	●
SS600-R5-06005B	6	0.5	16	75	6	1	●
SS600-R5-06010	6	1	16	50	6	1	●
SS600-R5-06010A	6	1	16	75	6	1	○
SS600-R5-06020	6	2	16	50	6	1	○
SS600-R5-06020A	6	2	16	75	6	1	○
SS600-R5-08005	8	0.5	20	60	8	1	●
SS600-R5-08005A	8	0.5	20	75	8	1	●
SS600-R5-08010	8	1	20	60	8	1	●
SS600-R5-08010A	8	1	20	75	8	1	●
SS600-R5-08020	8	2	20	60	8	1	○
SS600-R5-08020A	8	2	20	75	8	1	○
SS600-R5-08030	8	3	20	60	8	1	○
SS600-R5-08030A	8	3	20	75	8	1	○
SS600-R5-10005	10	0.5	25	75	10	1	●

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
◎	◎	◎	○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P654

SS600-R5

5 Flutes, Corner Radius

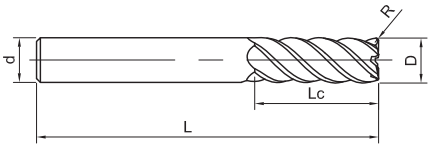


Fig1

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SS600-R5-10010	10	1	25	75	10	1	●
SS600-R5-10010A	10	1	25	100	10	1	●
SS600-R5-10020	10	2	25	75	10	1	○
SS600-R5-10020A	10	2	25	100	10	1	○
SS600-R5-10030	10	3	25	75	10	1	○
SS600-R5-10030A	10	3	25	100	10	1	○
SS600-R5-12005	12	0.5	26	83	12	1	●
SS600-R5-12005A	12	0.5	26	100	12	1	○
SS600-R5-12005B	12	0.5	40	150	12	1	○
SS600-R5-12010	12	1	26	83	12	1	●
SS600-R5-12010A	12	1	26	100	12	1	○
SS600-R5-12010B	12	1	40	150	12	1	○
SS600-R5-12020	12	2	26	83	12	1	●
SS600-R5-12020A	12	2	26	100	12	1	○
SS600-R5-12020B	12	2	40	150	12	1	○
SS600-R5-12030	12	3	26	83	12	1	●

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
◎	◎	◎	○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P654

SS600-R5

5 Flutes, Corner Radius

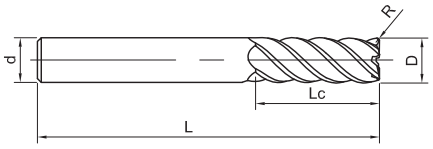


Fig1

SHANK h6 | 5 | TiAlN | 38° Helix | Corner-R

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SS600-R5-12030A	12	3	26	100	12	1	○
SS600-R5-12030B	12	3	40	150	12	1	○
SS600-R5-16005	16	0.5	32	92	16	1	○
SS600-R5-16005A	16	0.5	50	150	16	1	○
SS600-R5-16010	16	1	32	92	16	1	●
SS600-R5-16010A	16	1	50	150	16	1	○
SS600-R5-16020	16	2	32	92	16	1	●
SS600-R5-16020A	16	2	50	150	16	1	○
SS600-R5-16030	16	3	32	92	16	1	●
SS600-R5-16030A	16	3	50	150	16	1	○
SS600-R5-16040	16	4	32	92	16	1	○
SS600-R5-16040A	16	4	50	150	16	1	○
SS600-R5-16050	16	5	32	92	16	1	○
SS600-R5-16050A	16	5	50	150	16	1	○
SS600-R5-20005	20	0.5	38	100	20	1	○
SS600-R5-20005A	20	0.5	50	150	20	1	○

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
◎	◎	◎	○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P654

SS600-R5

5 Flutes, Corner Radius

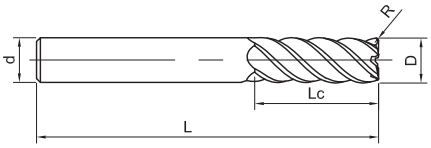


Fig1

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SS600-R5-20010	20	1	38	100	20	1	●
SS600-R5-20010A	20	1	50	150	20	1	○
SS600-R5-20020	20	2	38	100	20	1	●
SS600-R5-20020A	20	2	50	150	20	1	○
SS600-R5-20030	20	3	38	100	20	1	●
SS600-R5-20030A	20	3	50	150	20	1	○
SS600-R5-20040	20	4	38	100	20	1	○
SS600-R5-20040A	20	4	50	150	20	1	○
SS600-R5-20050	20	5	38	100	20	1	○
SS600-R5-20050A	20	5	50	150	20	1	○
SS600-R5-25010	25	1	50	125	25	1	○
SS600-R5-25020	25	2	50	125	25	1	○
SS600-R5-25030	25	3	50	125	25	1	●
SS600-R5-25040	25	4	50	125	25	1	○
SS600-R5-25050	25	5	50	125	25	1	○

●Stock ○Available Upon Order

D	Tolerance
D＜6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
◎	◎	◎	○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P654

SS600-B4

4 Flutes, Ballnose

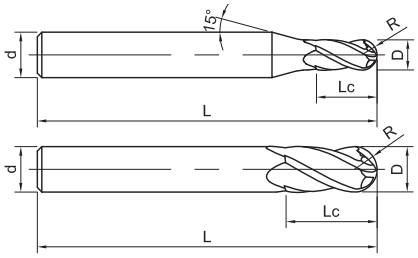


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SS600-B4-01002	1	0.5	2	50	4	1	○
SS600-B4-02004	2	1	4	50	4	1	●
SS600-B4-03006	3	1.5	6	50	4	1	●
SS600-B4-04008	4	2	8	50	4	2	●
SS600-B4-06012	6	3	12	50	6	2	●
SS600-B4-08014	8	4	14	60	8	2	●
SS600-B4-10018	10	5	18	75	10	2	●
SS600-B4-12022	12	6	22	75	12	2	●
SS600-B4-16030	16	8	30	100	16	2	●
SS600-B4-20038	20	10	38	100	20	2	●

●Stock ○Available Upon Order

R	Tolerance
R⩾1	±0.02

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (⩽48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
◎	◎	◎	○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P653

SS600-C-R5

NEW

5 Flutes, Corner Radius (Trochoidal Milling Machining)

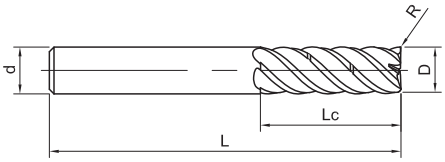


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SS600-C-R5-06005	6	0.5	24	75	6	1	●
SS600-C-R5-06010	6	1	24	75	6	1	●
SS600-C-R5-06020	6	2	24	75	6	1	○
SS600-C-R5-08005	8	0.5	32	75	8	1	●
SS600-C-R5-08010	8	1	32	75	8	1	●
SS600-C-R5-08020	8	2	32	75	8	1	○
SS600-C-R5-10005	10	0.5	40	100	10	1	●
SS600-C-R5-10010	10	1	40	100	10	1	●
SS600-C-R5-10020	10	2	40	100	10	1	○
SS600-C-R5-10030	10	3	40	100	10	1	●
SS600-C-R5-12005	12	0.5	48	110	12	1	●
SS600-C-R5-12010	12	1	48	110	12	1	●

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
◎	◎	◎	○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P654

SS600-C-R5

NEW

5 Flutes, Corner Radius (Trochoidal Milling Machining)

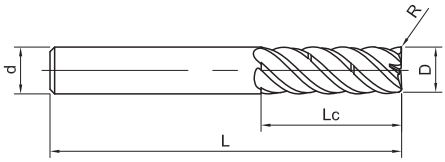


Fig1

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SS600-C-R5-12020	12	2	48	110	12	1	○
SS600-C-R5-12030	12	3	48	110	12	1	●
SS600-C-R5-16005	16	0.5	64	130	16	1	○
SS600-C-R5-16010	16	1	64	130	16	1	●
SS600-C-R5-16020	16	2	64	130	16	1	○
SS600-C-R5-16030	16	3	64	130	16	1	●
SS600-C-R5-16040	16	4	64	130	16	1	○
SS600-C-R5-20005	20	0.5	80	140	20	1	○
SS600-C-R5-20010	20	1	80	140	20	1	●
SS600-C-R5-20020	20	2	80	140	20	1	○
SS600-C-R5-20030	20	3	80	140	20	1	●
SS600-C-R5-20040	20	4	80	140	20	1	○

●Stock ○Available Upon Order

D	Tolerance
D＜6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
◎	◎	◎	○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P662

UA100-S2

2 Flutes, Standard Length, Square

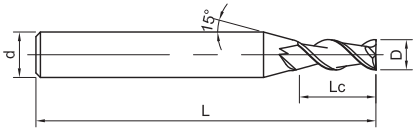


Fig1

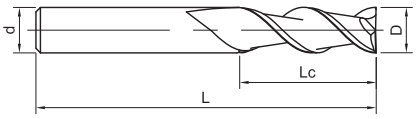


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
UA100-S2-01003	1	3	50	4	1	●
UA100-S2-01504	1.5	4	50	4	1	●
UA100-S2-02006	2	6	50	4	1	●
UA100-S2-03009	3	9	50	4	1	●
UA100-S2-63009	3	9	50	6	1	●
UA100-S2-04006	4	6	50	4	2	●
UA100-S2-04011	4	11	50	4	2	●
UA100-S2-64011	4	11	50	6	1	●
UA100-S2-04512	4.5	12	50	6	1	●
UA100-S2-05013	5	13	50	6	1	●
UA100-S2-05516	5.5	16	50	6	1	●
UA100-S2-06006	6	6	50	6	2	●
UA100-S2-06012	6	12	50	6	2	●
UA100-S2-06016	6	16	50	6	2	●
UA100-S2-07020	7	20	60	8	1	●
UA100-S2-08020	8	20	60	8	2	●
UA100-S2-09023	9	23	75	10	1	●
UA100-S2-10025	10	25	75	10	2	●
UA100-S2-12030	12	30	75	12	2	●
UA100-S2-16036	16	36	100	16	2	●
UA100-S2-20045	20	45	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎	◎	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P655

UA100-SL2

2 Flutes, Long Flute Length, Square

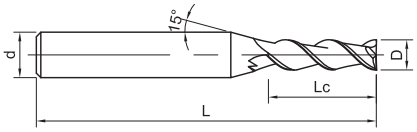


Fig1

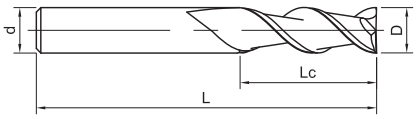


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
UA100-SL2-02020	2	20	75	4	1	●
UA100-SL2-03025	3	25	75	4	1	●
UA100-SL2-04030	4	30	75	4	2	●
UA100-SL2-05030	5	30	75	6	1	●
UA100-SL2-06035	6	35	75	6	2	●
UA100-SL2-08040	8	40	100	8	2	●
UA100-SL2-10045	10	45	100	10	2	●
UA100-SL2-12050	12	50	100	12	2	●
UA100-SL2-16060	16	60	150	16	2	●
UA100-SL2-20070	20	70	150	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎	◎	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P655

UA100-SH2

2 Flutes, Long Shank Length

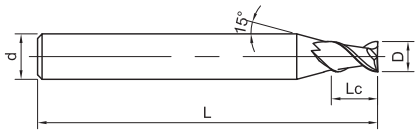


Fig1

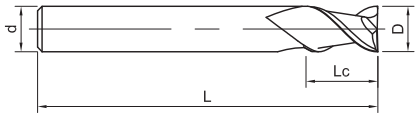


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
UA100-SH2-02006	2	6	75	4	1	●
UA100-SH2-03009	3	9	75	4	1	●
UA100-SH2-04010	4	10	75	4	2	●
UA100-SH2-04011	4	11	75	4	2	●
UA100-SH2-06015	6	15	75	6	2	●
UA100-SH2-06016	6	16	75	6	2	●
UA100-SH2-08020	8	20	100	8	2	●
UA100-SH2-10025	10	25	100	10	2	●
UA100-SH2-12030	12	30	100	12	2	●
UA100-SH2-16036	16	36	150	16	2	●
UA100-SH2-20045	20	45	150	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎	◎	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P655

UA100-S3

3 Flutes, Standard Length, Square

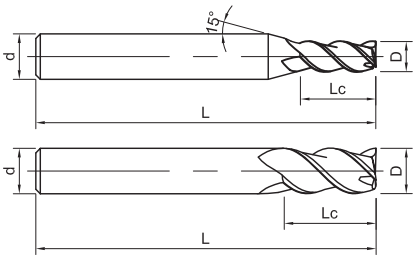


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
UA100-S3-01003	1	3	50	4	1	●
UA100-S3-01504	1.5	4	50	4	1	●
UA100-S3-02006	2	6	50	4	1	●
UA100-S3-02508	2.5	8	50	4	1	●
UA100-S3-03009	3	9	50	4	1	●
UA100-S3-63009	3	9	50	6	2	●
UA100-S3-04011	4	11	50	4	2	●
UA100-S3-64011	4	11	50	6	1	●
UA100-S3-05013	5	13	50	6	1	●
UA100-S3-06012	6	12	50	6	2	●
UA100-S3-06016	6	16	50	6	2	●
UA100-S3-07020	7	20	60	8	1	●
UA100-S3-08020	8	20	60	8	2	●
UA100-S3-09023	9	23	75	10	1	●
UA100-S3-10025	10	25	75	10	2	●
UA100-S3-12030	12	30	75	12	2	●
UA100-S3-16036	16	36	100	16	2	●
UA100-S3-18038	18	38	100	18	2	●
UA100-S3-20045	20	45	100	20	2	●

● Standard Inventory ○ To be Booked

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎	◎	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P656

UA100-SL3

3 Flutes, Long Flute Length, Square

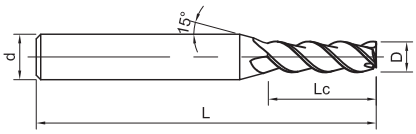


Fig1

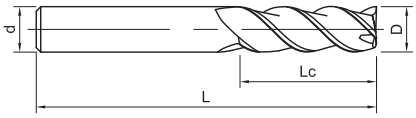


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
UA100-SL3-02020	2	20	75	4	1	●
UA100-SL3-03025	3	25	75	4	1	●
UA100-SL3-04030	4	30	75	4	2	●
UA100-SL3-05030	5	30	75	6	1	●
UA100-SL3-06035	6	35	75	6	2	●
UA100-SL3-08040	8	40	100	8	2	●
UA100-SL3-10045	10	45	100	10	2	●
UA100-SL3-12050	12	50	100	12	2	●
UA100-SL3-16060	16	60	150	16	2	●
UA100-SL3-20070	20	70	150	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎	◎	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P656

UA100-SH3

3 Flutes, Long Shank Length

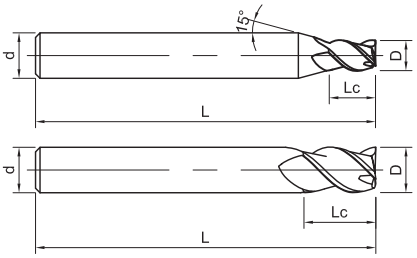


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
UA100-SH3-02008	2	8	75	4	1	●
UA100-SH3-03010	3	10	75	4	1	●
UA100-SH3-04012	4	12	75	4	2	●
UA100-SH3-06016	6	16	75	6	2	●
UA100-SH3-08020	8	20	100	8	2	●
UA100-SH3-10025	10	25	100	10	2	●
UA100-SH3-12030	12	30	100	12	2	●
UA100-SH3-16036	16	36	150	16	2	●
UA100-SH3-20045	20	45	150	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎	◎	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P656

UA100-R2

2 Flutes, Corner Radius

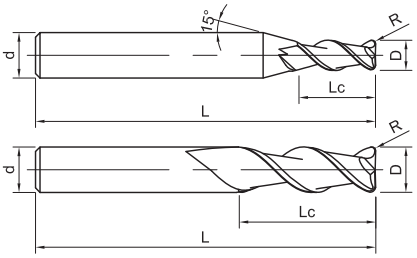


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
UA100-R2-01001	1	3	0.1	50	4	1	●
UA100-R2-02002	2	6	0.2	50	4	1	●
UA100-R2-03002	3	9	0.2	50	4	1	○
UA100-R2-03003	3	9	0.3	50	4	1	●
UA100-R2-63003	3	9	0.3	50	6	1	●
UA100-R2-03005	3	9	0.5	50	4	1	○
UA100-R2-63005	3	9	0.5	50	6	1	●
UA100-R2-04002	4	11	0.2	50	4	2	●
UA100-R2-04003	4	11	0.3	50	4	2	●
UA100-R2-64003	4	11	0.3	50	6	1	●
UA100-R2-04005	4	11	0.5	50	4	2	○
UA100-R2-64005	4	11	0.5	50	6	1	●
UA100-R2-04010	4	11	1	50	4	2	●
UA100-R2-05002	5	13	0.2	50	6	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎	◎	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P655

UA100-R2

2 Flutes, Corner Radius

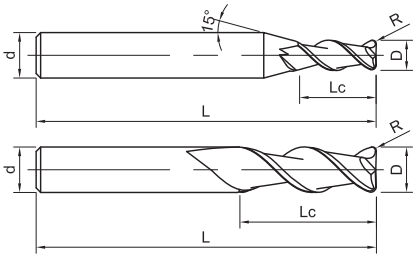


Fig1

Fig2

SHANK h6 | 2 | 45° Helix | Corner-R

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
UA100-R2-05003	5	13	0.3	50	6	1	●
UA100-R2-05005	5	13	0.5	50	6	1	●
UA100-R2-05010	5	13	1	50	6	1	●
UA100-R2-05015	5	13	1.5	50	6	1	●
UA100-R2-06005	6	16	0.5	50	6	2	●
UA100-R2-06010	6	16	1	50	6	2	●
UA100-R2-06015	6	16	1.5	50	6	2	●
UA100-R2-06020	6	16	2	50	6	2	●
UA100-R2-08005	8	20	0.5	60	8	2	●
UA100-R2-08010	8	20	1	60	8	2	●
UA100-R2-08015	8	20	1.5	60	8	2	○
UA100-R2-08020	8	20	2	60	8	2	●
UA100-R2-10005	10	25	0.5	75	10	2	●
UA100-R2-10010	10	25	1	75	10	2	●
UA100-R2-10015	10	25	1.5	75	10	2	●
UA100-R2-10020	10	25	2	75	10	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎	◎	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P655

UA100-R2

2 Flutes, Corner Radius

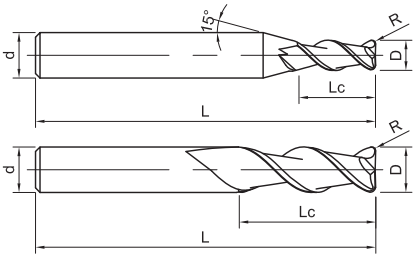


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
UA100-R2-10025	10	25	2.5	75	10	2	○
UA100-R2-12005	12	30	0.5	75	12	2	●
UA100-R2-12010	12	30	1	75	12	2	●
UA100-R2-12015	12	30	1.5	75	12	2	●
UA100-R2-12020	12	30	2	75	12	2	●
UA100-R2-12025	12	30	2.5	75	12	2	●
UA100-R2-16005	16	36	0.5	100	16	2	●
UA100-R2-16010	16	36	1	100	16	2	○
UA100-R2-16015	16	36	1.5	100	16	2	○
UA100-R2-16020	16	36	2	100	16	2	●
UA100-R2-16025	16	36	2.5	100	16	2	●
UA100-R2-20005	20	45	0.5	100	20	2	●
UA100-R2-20010	20	45	1	100	20	2	●
UA100-R2-20015	20	45	1.5	100	20	2	●
UA100-R2-20020	20	45	2	100	20	2	○
UA100-R2-20030	20	45	3	100	20	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎	◎	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P655

UA100-RH2

2 Flutes, Corner Radius, with Long Shank Length

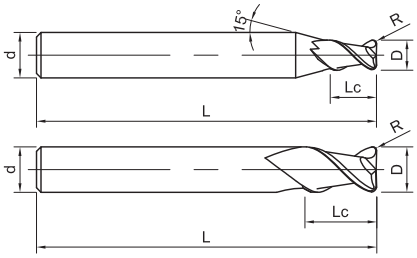


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
UA100-RH2-06005	6	16	0.5	75	6	2	●
UA100-RH2-06010	6	16	1	75	6	2	●
UA100-RH2-06015	6	16	1.5	75	6	2	●
UA100-RH2-06020	6	16	2	75	6	2	○
UA100-RH2-08005	8	20	0.5	100	8	2	○
UA100-RH2-08010	8	20	1	100	8	2	●
UA100-RH2-08015	8	20	1.5	100	8	2	○
UA100-RH2-08020	8	20	2	100	8	2	●
UA100-RH2-10005	10	25	0.5	100	10	2	●
UA100-RH2-10010	10	25	1	100	10	2	●
UA100-RH2-10015	10	25	1.5	100	10	2	●
UA100-RH2-10020	10	25	2	100	10	2	●
UA100-RH2-10025	10	25	2.5	100	10	2	○
UA100-RH2-12005	12	30	0.5	100	12	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎	◎	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P655

UA100-RH2

2 Flutes, Corner Radius, with Long Shank Length

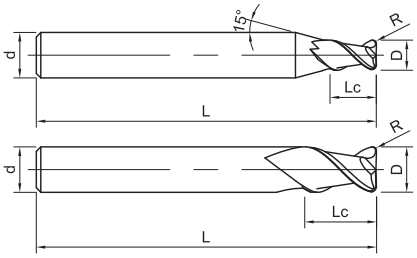


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
UA100-RH2-12010	12	30	1	100	12	2	○
UA100-RH2-12015	12	30	1.5	100	12	2	○
UA100-RH2-12020	12	30	2	100	12	2	○
UA100-RH2-12025	12	30	2.5	100	12	2	○
UA100-RH2-16005	16	36	0.5	150	16	2	●
UA100-RH2-16010	16	36	1	150	16	2	○
UA100-RH2-16015	16	36	1.5	150	16	2	○
UA100-RH2-16020	16	36	2	150	16	2	○
UA100-RH2-16025	16	36	2.5	150	16	2	○
UA100-RH2-20005	20	45	0.5	150	20	2	●
UA100-RH2-20010	20	45	1	150	20	2	●
UA100-RH2-20015	20	45	1.5	150	20	2	●
UA100-RH2-20020	20	45	2	150	20	2	○
UA100-RH2-20030	20	45	3	150	20	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎	◎	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P655

UA100-R3

3 Flutes, Corner Radius

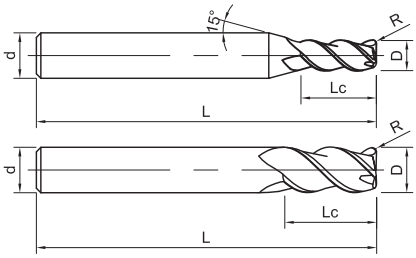


Fig1

Fig2

SHANK h6 | 3 | 45° Helix | Corner-R

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
UA100-R3-01001	1	3	0.1	50	4	1	●
UA100-R3- 02002	2	6	0.2	50	4	1	●
UA100-R3- 03002	3	9	0.2	50	4	1	●
UA100-R3- 03003	3	9	0.3	50	4	1	●
UA100-R3- 03005	3	9	0.5	50	4	1	●
UA100-R3- 04002	4	11	0.2	50	4	2	●
UA100-R3- 04003	4	11	0.3	50	4	2	●
UA100-R3- 04005	4	11	0.5	50	4	2	●
UA100-R3- 04010	4	11	1	50	4	2	●
UA100-R3- 05002	5	13	0.2	50	6	1	○
UA100-R3- 05003	5	13	0.3	50	6	1	●
UA100-R3- 05005	5	13	0.5	50	6	1	●
UA100-R3- 05010	5	13	1	50	6	1	●
UA100-R3-05015	5	13	1.5	50	6	1	●
UA100-R3-06002	6	16	0.2	50	6	2	○
UA100-R3-06003	6	16	0.3	50	6	2	○
UA100-R3-06005	6	16	0.5	50	6	2	●
UA100-R3-06010	6	16	1	50	6	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎	◎	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P656

UA100-R3

3 Flutes, Corner Radius

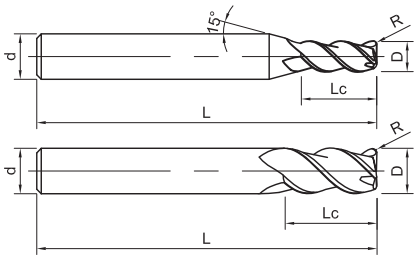


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
UA100-R3-06015	6	16	1.5	50	6	2	●
UA100-R3-06020	6	16	2	50	6	2	●
UA100-R3-08005	8	20	0.5	60	8	2	●
UA100-R3-08010	8	20	1	60	8	2	●
UA100-R3-08015	8	20	1.5	60	8	2	●
UA100-R3-08020	8	20	2	60	8	2	●
UA100-R3-08030	8	20	3	60	8	2	●
UA100-R3-10002	10	25	0.2	75	10	2	○
UA100-R3-10003	10	25	0.3	75	10	2	○
UA100-R3-10005	10	25	0.5	75	10	2	●
UA100-R3-10010	10	25	1	75	10	2	●
UA100-R3-10015	10	25	1.5	75	10	2	●
UA100-R3-10020	10	25	2	75	10	2	●
UA100-R3-10025	10	25	2.5	75	10	2	●
UA100-R3-10030	10	25	3	75	10	2	●
UA100-R3-12005	12	30	0.5	75	12	2	●
UA100-R3- 12010	12	30	1	75	12	2	●
UA100-R3-12015	12	30	1.5	75	12	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎	◎	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P656

UA100-R3

3 Flutes, Corner Radius

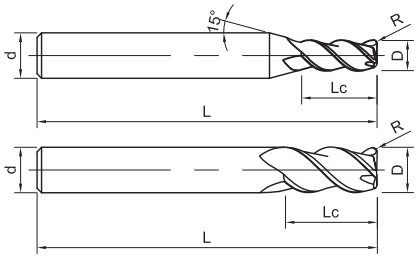


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
UA100-R3-12020	12	30	2	75	12	2	●
UA100-R3-12025	12	30	2.5	75	12	2	●
UA100-R3-12030	12	30	3	75	12	2	●
UA100-R3-16005	16	36	0.5	100	16	2	●
UA100-R3-16010	16	36	1	100	16	2	●
UA100-R3-16015	16	36	1.5	100	16	2	○
UA100-R3-16020	16	36	2	100	16	2	●
UA100-R3-16025	16	36	2.5	100	16	2	●
UA100-R3-16030	16	36	3	100	16	2	●
UA100-R3-20005	20	45	0.5	100	20	2	○
UA100-R3-20010	20	45	1	100	20	2	●
UA100-R3- 20015	20	45	1.5	100	20	2	○
UA100-R3-20020	20	45	2	100	20	2	●
UA100-R3- 20030	20	45	3	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎	◎	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P656

UA100-RH3

3 Flutes, Corner Radius, with Long Shank Length

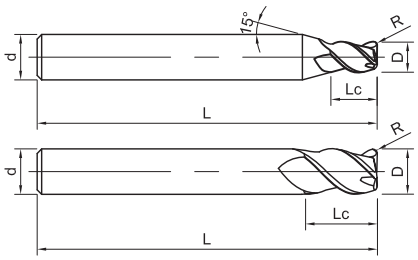


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
UA100-RH3-06005	6	16	0.5	75	6	2	●
UA100-RH3-06010	6	16	1	75	6	2	●
UA100-RH3-06015	6	16	1.5	75	6	2	●
UA100-RH3-06020	6	16	2	75	6	2	●
UA100-RH3-08005	8	20	0.5	100	8	2	●
UA100-RH3-08010	8	20	1	100	8	2	●
UA100-RH3-08015	8	20	1.5	100	8	2	○
UA100-RH3-08020	8	20	2	100	8	2	●
UA100-RH3-10005	10	25	0.5	100	10	2	●
UA100-RH3-10010	10	25	1	100	10	2	●
UA100-RH3-10015	10	25	1.5	100	10	2	●
UA100-RH3-10020	10	25	2	100	10	2	●
UA100-RH3-10025	10	25	2.5	100	10	2	○
UA100-RH3-12005	12	30	0.5	100	12	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎	◎	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P656

UA100-RH3

3 Flutes, Corner Radius, with Long Shank Length

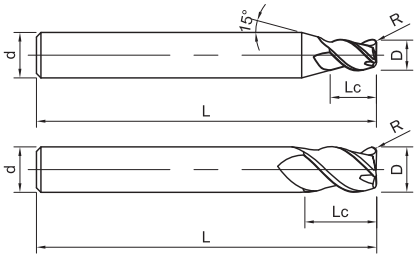


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
UA100-RH3-12010	12	30	1	100	12	2	●
UA100-RH3-12015	12	30	1.5	100	12	2	○
UA100-RH3-12020	12	30	2	100	12	2	●
UA100-RH3-12025	12	30	2.5	100	12	2	○
UA100-RH3-16005	16	36	0.5	150	16	2	○
UA100-RH3-16010	16	36	1	150	16	2	○
UA100-RH3-16015	16	36	1.5	150	16	2	●
UA100-RH3-16020	16	36	2	150	16	2	●
UA100-RH3-16025	16	36	2.5	150	16	2	●
UA100-RH3-20005	20	45	0.5	150	20	2	○
UA100-RH3-20010	20	45	1	150	20	2	●
UA100-RH3-20015	20	45	1.5	150	20	2	●
UA100-RH3-20020	20	45	2	150	20	2	○
UA100-RH3-20030	20	45	3	150	20	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎	◎	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P656

UA100-B2

2 Flutes, Ballnose

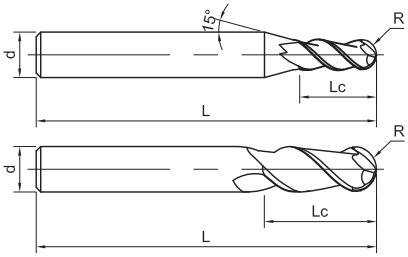


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
UA100-B2-01002	1	2	0.5	50	4	1	●
UA100-B2-02004	2	4	1	50	4	1	●
UA100-B2-03006	3	6	1.5	50	4	1	●
UA100-B2-63006	3	6	1.5	50	6	1	●
UA100-B2-04008	4	8	2	50	4	2	●
UA100-B2-64008	4	8	2	50	6	1	●
UA100-B2-05010	5	10	2.5	50	6	1	●
UA100-B2-06012	6	12	3	50	6	2	●
UA100-B2-07014	7	14	3.5	60	8	1	●
UA100-B2-08014	8	14	4	60	8	2	●
UA100-B2-09016	9	16	4.5	75	10	1	●
UA100-B2-10018	10	18	5	75	10	2	●
UA100-B2-12022	12	22	6	75	12	2	●
UA100-B2-16026	16	26	8	100	16	2	●

●Stock ○Available Upon Order

R	Tolerance
R<3	±0.015
R≥3	±0.02

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎	◎	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P657

SA100-S3

3 Flutes, Standard Length, Square

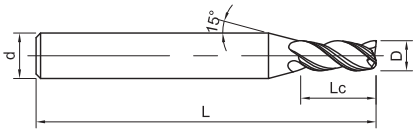


Fig1

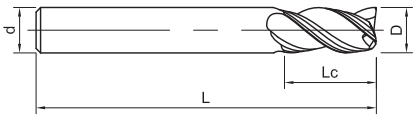


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SA100-S3-03009	3	9	50	6	1	●
SA100-S3-04011	4	11	50	6	1	●
SA100-S3-05013	5	13	50	6	1	●
SA100-S3-06012	6	12	50	6	2	●
SA100-S3-06016	6	16	50	6	2	●
SA100-S3-08020	8	20	60	8	2	●
SA100-S3-10025	10	25	75	10	2	●
SA100-S3-12030	12	30	75	12	2	●
SA100-S3-16036	16	36	100	16	2	●
SA100-S3-20045	20	45	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤10	0 -0.01
D>10	0 -0.02

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎	◎	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P657

SA100-S3X NEW

3 Flutes, Standard Length (DLC Colorful Coating)

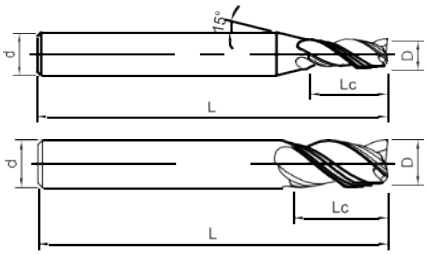


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SA100-S3X-01003	1	3	50	4	1	●
SA100-S3X-01504	1.5	4	50	4	1	●
SA100-S3X-02006	2	6	50	4	1	●
SA100-S3X-02508	2.5	8	50	4	1	●
SA100-S3X-03009	3	9	50	4	1	●
SA100-S3X-63009	3	9	50	6	1	●
SA100-S3X-04011	4	11	50	4	2	●
SA100-S3X-64011	4	11	50	6	1	●
SA100-S3X-05013	5	13	50	6	1	●
SA100-S3X-06016	6	16	50	6	2	●
SA100-S3X-08020	8	20	60	8	2	●
SA100-S3X-10025	10	25	75	10	2	●
SA100-S3X-10030	10	30	75	10	2	●
SA100-S3X-12030	12	30	75	12	2	●
SA100-S3X-14034	14	34	100	14	2	●
SA100-S3X-16036	16	36	100	16	2	●
SA100-S3X-20045	20	45	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤10	0 -0.01
D>10	0 -0.02

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎	◎	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P657

SA160-S3

3 Flutes, Standard Length, Square

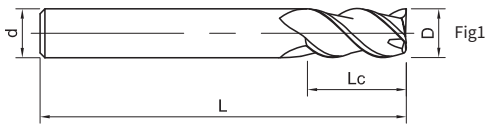


Fig1

SHANK h5 | 3 | 35° Helix | Square

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SA160-S3-04011	4	11	50	4	1	●
SA160-S3-06016	6	16	50	6	1	●
SA160-S3-06018	6	18	50	6	1	○
SA160-S3-08020	8	20	60	8	1	●
SA160-S3-08024	8	24	60	8	1	●
SA160-S3-10025	10	25	70	10	1	●
SA160-S3-10030	10	30	70	10	1	●
SA160-S3-12030	12	30	75	12	1	●
SA160-S3-12036	12	36	75	12	1	○
SA160-S3-16036	16	36	100	16	1	●
SA160-S3-20045	20	45	100	20	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤10	0 -0.01
D>10	0 -0.02

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P657

SA160-SL3

3 Flutes, Long Flute Length, Square

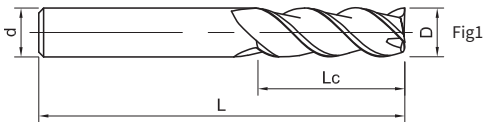


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SA160-SL3-04020	4	20	60	4	1	○
SA160-SL3-06030	6	30	75	6	1	●
SA160-SL3-08040	8	40	75	8	1	○
SA160-SL3-10050	10	50	100	10	1	●
SA160-SL3-12060	12	60	100	12	1	○
SA160-SL3-16080	16	80	140	16	1	○
SA160-SL3-20080	20	80	150	20	1	○

●Stock ○Available Upon Order

D	Tolerance
D≤10	0 -0.01
D>10	0 -0.02

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P657

SA160-S4

4 Flutes, Standard Length, Square

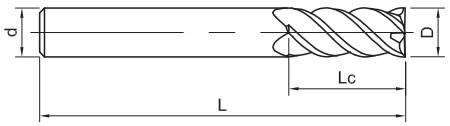


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SA160-S4-04011	4	11	50	4	1	●
SA160-S4-06016	6	16	50	6	1	●
SA160-S4-08020	8	20	60	8	1	●
SA160-S4-10025	10	25	70	10	1	●
SA160-S4-12030	12	30	75	12	1	●
SA160-S4-16036	16	36	100	16	1	●
SA160-S4-20045	20	45	100	20	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤10	0 -0.01
D>10	0 -0.02

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P657

SA160-SS4

4 Flutes, Stub Length, Square

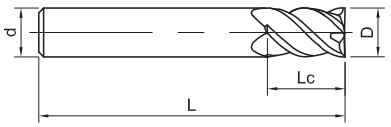


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SA160-SS4-04008	4	8	50	4	1	●
SA160-SS4-06012	6	12	50	6	1	●
SA160-SS4-08015	8	15	50	8	1	●
SA160-SS4-10015	10	15	50	10	1	●
SA160-SS4-12015	12	15	50	12	1	●
SA160-SS4-16020	16	20	60	16	1	●
SA160-SS4-20030	20	30	75	20	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤10	0 -0.01
D>10	0 -0.02

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P657

SA210-WR

3 Flutes, Corner Radius, with Long Neck

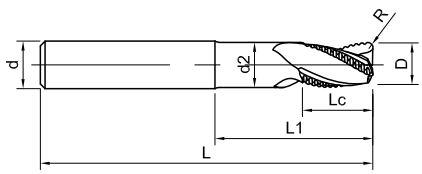


Fig1

SHANK h6 | 3 | 30° Helix | Corner-R

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
SA210-WR-12010	12	1	16	48	11.5	100	12	1	●
SA210-WR-12020	12	2	16	48	11.5	100	12	1	●
SA210-WR-12030	12	3	16	48	11.5	100	12	1	○
SA210-WR-16010	16	1	20	65	15.2	115	16	1	●
SA210-WR-16010A	16	1	24	42	15.2	92	16	1	●
SA210-WR-16020	16	2	20	65	15.2	115	16	1	●
SA210-WR-16020A	16	2	24	42	15.2	92	16	1	●
SA210-WR-16030	16	3	20	65	15.2	115	16	1	●
SA210-WR-16030A	16	3	24	42	15.2	92	16	1	●
SA210-WR-20010	20	1	25	73	19	125	20	1	●
SA210-WR-20010A	20	1	30	52	19	104	20	1	●
SA210-WR-20020	20	2	25	73	19	125	20	1	●
SA210-WR-20020A	20	2	30	52	19	104	20	1	●
SA210-WR-20020B	20	2	20	88	19	140	20	1	●
SA210-WR-20030	20	3	25	73	19	125	20	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤16	0 -0.05
D>16	0 -0.06

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P658

SA210-WR

3 Flutes, Corner Radius, with Long Neck

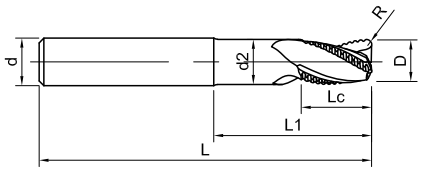


Fig1

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
SA210-WR-20030A	20	3	30	52	19	104	20	1	●
SA210-WR-20030B	20	3	20	88	19	140	20	1	●
SA210-WR-20040	20	4	25	73	19	125	20	1	●
SA210-WR-20050	20	5	25	73	19	125	20	1	●
SA210-WR-20050A	20	5	30	52	19	104	20	1	●
SA210-WR-25010	25	1	30	72	23.75	130	25	1	●
SA210-WR-25010B	25	1	25	92	23.75	150	25	1	●
SA210-WR-25020	25	2	30	72	23.75	130	25	1	●
SA210-WR-25020A	25	2	37	52	23.75	110	25	1	○
SA210-WR-25020B	25	2	25	92	23.75	150	25	1	●
SA210-WR-25030	25	3	30	72	23.75	130	25	1	●
SA210-WR-25030A	25	3	37	52	23.75	110	25	1	●
SA210-WR-25030B	25	3	25	92	23.75	150	25	1	●
SA210-WR-25030C	25	3	35	100	23.75	150	25	1	●
SA210-WR-25030D	25	3	35	80	23.75	135	25	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤16	0 -0.05
D>16	0 -0.06

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P658

SA210-WR

3 Flutes, Corner Radius, with Long Neck

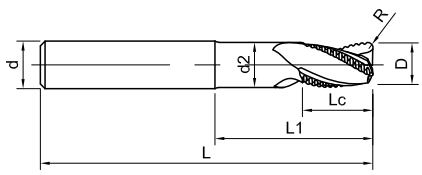


Fig1

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
SA210-WR-25040	25	4	30	72	23.75	130	25	1	●
SA210-WR-25040A	25	4	37	52	23.75	110	25	1	●
SA210-WR-25040B	25	4	25	92	23.75	150	25	1	●
SA210-WR-25050	25	5	30	72	23.75	130	25	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤16	0 -0.05
D>16	0 -0.06

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P658

SA210-WR-IC

3 Flutes, Corner Radius, with Long Neck (Coating with Coolant)

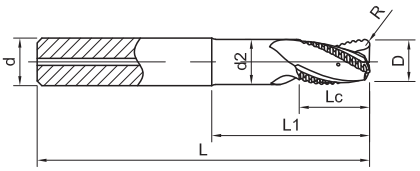


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
SA210-WR-IC-12010	12	1	16	48	11.5	100	12	1	○
SA210-WR-IC-12020	12	2	16	48	11.5	100	12	1	○
SA210-WR-IC-12030	12	3	16	48	11.5	100	12	1	●
SA210-WR-IC-16010	16	1	20	65	15.2	115	16	1	○
SA210-WR-IC-16010A	16	1	24	42	15.2	92	16	1	○
SA210-WR-IC-16020	16	2	20	65	15.2	115	16	1	○
SA210-WR-IC-16020A	16	2	24	42	15.2	92	16	1	○
SA210-WR-IC-16030	16	3	20	65	15.2	115	16	1	●
SA210-WR-IC-16030A	16	3	24	42	15.2	92	16	1	●
SA210-WR-IC-20010	20	1	25	73	19	125	20	1	●
SA210-WR-IC-20010A	20	1	30	52	19	104	20	1	●
SA210-WR-IC-20020	20	2	25	73	19	125	20	1	○
SA210-WR-IC-20020A	20	2	30	52	19	104	20	1	○
SA210-WR-IC-20020B	20	2	20	88	19	140	20	1	○
SA210-WR-IC-20030	20	3	25	73	19	125	20	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤16	0 -0.05
D>16	0 -0.06

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P658

SA210-WR-IC

3 Flutes, Corner Radius, with Long Neck (Coating with Coolant)

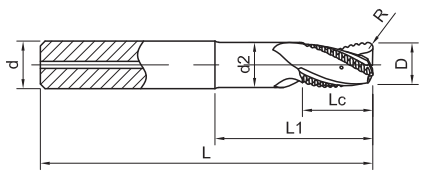


Fig1

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
SA210-WR-IC-20030A	20	3	30	52	19	104	20	1	●
SA210-WR-IC-20030B	20	3	20	88	19	140	20	1	●
SA210-WR-IC-20040	20	4	25	73	19	125	20	1	○
SA210-WR-IC-20050	20	5	25	73	19	125	20	1	○
SA210-WR-IC-20050A	20	5	30	52	19	104	20	1	○
SA210-WR-IC-25010	25	1	30	72	23.75	130	25	1	○
SA210-WR-IC-25010B	25	1	25	92	23.75	150	25	1	○
SA210-WR-IC-25020	25	2	30	72	23.75	130	25	1	○
SA210-WR-IC-25020A	25	2	37	52	23.75	110	25	1	○
SA210-WR-IC-25020B	25	2	25	92	23.75	150	25	1	○
SA210-WR-IC-25030	25	3	30	72	23.75	130	25	1	●
SA210-WR-IC-25030A	25	3	37	52	23.75	110	25	1	●
SA210-WR-IC-25030B	25	3	25	92	23.75	150	25	1	●
SA210-WR-IC-25030C	25	3	35	100	23.75	150	25	1	●
SA210-WR-IC-25030D	25	3	35	80	23.75	135	25	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤16	0 -0.05
D>16	0 -0.06

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P658

SA210-WR-IC

3 Flutes, Corner Radius, with Long Neck (Coating with Coolant)

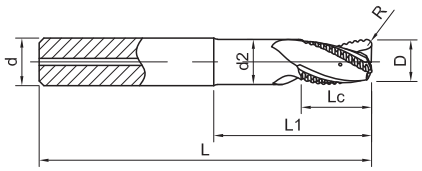


Fig1

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
SA210-WR-IC-25040	25	4	30	72	23.75	130	25	1	○
SA210-WR-IC-25040A	25	4	37	52	23.75	110	25	1	○
SA210-WR-IC-25040B	25	4	25	92	23.75	150	25	1	○
SA210-WR-IC-25050	25	5	30	72	23.75	130	25	1	○

●Stock ○Available Upon Order

D	Tolerance
D≤16	0 -0.05
D>16	0 -0.06

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P658

SA210-NR

3 Flutes, Corner Radius

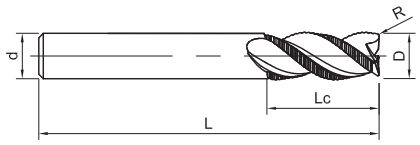


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SA210-NR-06001	6	16	0.1	50	6	2	●
SA210-NR-08002	8	20	0.2	60	8	2	●
SA210-NR-10003	10	25	0.25	75	10	2	●
SA210-NR-12003	12	30	0.25	75	12	2	●
SA210-NR-16003	16	36	0.3	100	16	2	●
SA210-NR-20003	20	45	0.3	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.03
D>6	0 -0.04

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎	◎	

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P658

SA300-S3

3 Flutes, Standard Length, Square

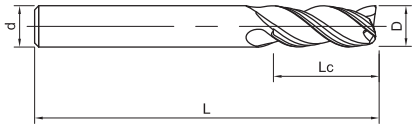


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SA300-S3-06016	6	16	50	6	1	●
SA300-S3-06016A	6	16	75	6	1	●
SA300-S3-08020	8	20	60	8	1	●
SA300-S3-08025	8	25	75	8	1	●
SA300-S3-10025	10	25	75	10	1	●
SA300-S3-12030	12	30	75	12	1	●
SA300-S3-16036	16	36	100	16	1	●
SA300-S3-20038	20	38	100	20	1	●

●Stock ○Available Upon Order

D	Tolerance
6⩽D⩽20	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (⩽48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P659

SA300-RN2

2 Flutes, Corner Radius, with Long Neck

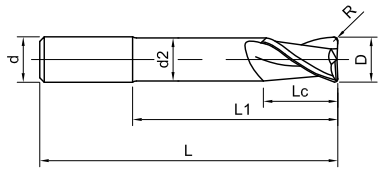


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
SA300-RN2-06002	6	0.2	10	20	5.5	60	6	1	●
SA300-RN2-06002A	6	0.2	10	40	5.5	80	6	1	●
SA300-RN2-06010	6	1	10	20	5.5	60	6	1	●
SA300-RN2-06010A	6	1	10	30	5.5	75	6	1	●
SA300-RN2-06010B	6	1	10	40	5.5	80	6	1	●
SA300-RN2-06020	6	2	10	20	5.5	60	6	1	●
SA300-RN2-06020A	6	2	10	40	5.5	80	6	1	●
SA300-RN2-08002	8	0.2	10	30	7.5	75	8	1	●
SA300-RN2-08002A	8	0.2	10	50	7.5	90	8	1	●
SA300-RN2-08010	8	1	10	30	7.5	75	8	1	●
SA300-RN2-08010A	8	1	10	40	7.5	80	8	1	●
SA300-RN2-08010B	8	1	10	50	7.5	90	8	1	●
SA300-RN2-08020	8	2	10	30	7.5	75	8	1	○
SA300-RN2-08020A	8	2	10	50	7.5	90	8	1	●
SA300-RN2-08030A	8	3	10	40	7.5	80	8	1	○
SA300-RN2-08030B	8	3	10	50	7.5	90	8	1	○
SA300-RN2-10002	10	0.2	12	30	9.5	75	10	1	●
SA300-RN2-10002A	10	0.2	12	50	9.5	90	10	1	●
SA300-RN2-10002B	10	0.2	12	40	9.5	80	10	1	○
SA300-RN2-10010A	10	1	12	30	9.5	75	10	1	○
SA300-RN2-10010B	10	1	12	40	9.5	80	10	1	○
SA300-RN2-10010C	10	1	12	50	9.5	90	10	1	●
SA300-RN2-10020	10	2	12	30	9.5	75	10	1	●

●Stock ○Available Upon Order

D	Tolerance
6≤D≤32	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P659

SA300-RN2

2 Flutes, Corner Radius, with Long Neck

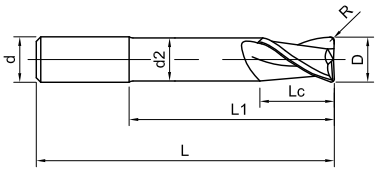


Fig1

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
SA300-RN2-10020A	10	2	12	50	9.5	90	10	1	●
SA300-RN2-10030	10	3	12	30	9.5	75	10	1	●
SA300-RN2-10030A	10	3	12	40	9.5	80	10	1	○
SA300-RN2-10030B	10	3	12	50	9.5	90	10	1	●
SA300-RN2-12002	12	0.2	14	50	11.5	100	12	1	●
SA300-RN2-12002A	12	0.2	14	70	11.5	120	12	1	○
SA300-RN2-12002C	12	0.2	14	60	11.5	110	12	1	○
SA300-RN2-12010	12	1	14	40	11.5	90	12	1	○
SA300-RN2-12010A	12	1	14	50	11.5	100	12	1	●
SA300-RN2-12010B	12	1	14	60	11.5	110	12	1	●
SA300-RN2-12010C	12	1	14	70	11.5	120	12	1	●
SA300-RN2-12020	12	2	14	50	11.5	100	12	1	●
SA300-RN2-12020A	12	2	14	70	11.5	120	12	1	○
SA300-RN2-12030	12	3	14	40	11.5	90	12	1	●
SA300-RN2-12030A	12	3	14	50	11.5	100	12	1	●
SA300-RN2-12030B	12	3	14	60	11.5	110	12	1	●
SA300-RN2-12030C	12	3	14	70	11.5	120	12	1	●
SA300-RN2-16002	16	0.2	18	50	15.5	100	16	1	●
SA300-RN2-16002A	16	0.2	18	70	15.5	120	16	1	●
SA300-RN2-16002C	16	0.2	18	60	15.5	110	16	1	○
SA300-RN2-16010	16	1	18	50	15.5	100	16	1	●
SA300-RN2-16010A	16	1	18	60	15.5	110	16	1	●

●Stock ○Available Upon Order

D	Tolerance
6≤D≤32	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P659

SA300-RN2

2 Flutes, Corner Radius, with Long Neck

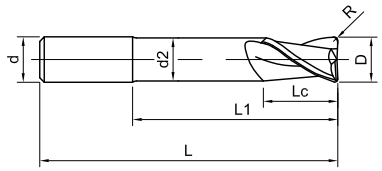


Fig1

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
SA300-RN2-16010B	16	1	18	70	15.5	120	16	1	●
SA300-RN2-16010C	16	1	18	80	15.5	130	16	1	○
SA300-RN2-16020	16	2	18	60	15.5	110	16	1	○
SA300-RN2-16030	16	3	18	50	15.5	100	16	1	●
SA300-RN2-16030A	16	3	18	60	15.5	110	16	1	●
SA300-RN2-16030B	16	3	18	70	15.5	120	16	1	○
SA300-RN2-16030C	16	3	18	80	15.5	130	16	1	●
SA300-RN2-16040	16	4	18	60	15.5	110	16	1	○
SA300-RN2-16040B	16	4	18	70	15.5	120	16	1	○
SA300-RN2-16050	16	5	18	60	15.5	110	16	1	○
SA300-RN2-16050A	16	5	18	80	15.5	130	16	1	●
SA300-RN2-20002	20	0.2	24	60	19	110	20	1	●
SA300-RN2-20002A	20	0.2	24	80	19	130	20	1	●
SA300-RN2-20010	20	1	24	60	19	110	20	1	●
SA300-RN2-20010A	20	1	24	80	19	130	20	1	○
SA300-RN2-20010B	20	1	24	50	19	100	20	1	●
SA300-RN2-20010C	20	1	24	70	19	120	20	1	●
SA300-RN2-20010D	20	1	24	90	19	140	20	1	●
SA300-RN2-20010E	20	1	24	100	19	150	20	1	●
SA300-RN2-20020	20	2	24	60	19	110	20	1	●
SA300-RN2-20020A	20	2	24	50	19	100	20	1	○

●Stock ○Available Upon Order

D	Tolerance
6≤D≤32	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P659

SA300-RN2

2 Flutes, Corner Radius, with Long Neck

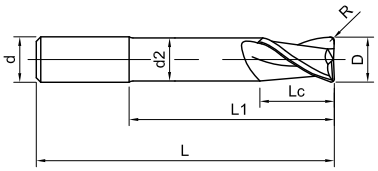


Fig1

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
SA300-RN2-20030	20	3	24	60	19	110	20	1	●
SA300-RN2-20030A	20	3	24	80	19	130	20	1	●
SA300-RN2-20030B	20	3	24	50	19	100	20	1	●
SA300-RN2-20030C	20	3	24	70	19	120	20	1	●
SA300-RN2-20030D	20	3	24	90	19	140	20	1	●
SA300-RN2-20030E	20	3	24	100	19	150	20	1	●
SA300-RN2-20040	20	4	24	60	19	110	20	1	●
SA300-RN2-20040C	20	4	24	80	19	130	20	1	○
SA300-RN2-20050	20	5	24	60	19	110	20	1	○
SA300-RN2-20050A	20	5	24	80	19	130	20	1	○
SA300-RN2-20050B	20	5	24	100	19	150	20	1	○
SA300-RN2-25010	25	1	30	80	24	135	25	1	●
SA300-RN2-25010A	25	1	30	100	24	155	25	1	●
SA300-RN2-25010B	25	1	30	125	24	180	25	1	●
SA300-RN2-25020	25	2	30	80	24	135	25	1	●
SA300-RN2-25030	25	3	30	80	24	135	25	1	●
SA300-RN2-25030A	25	3	30	100	24	155	25	1	●
SA300-RN2-25030B	25	3	30	125	24	180	25	1	○
SA300-RN2-32030	32	3	40	100	31	163	32	1	●
SA300-RN2-32030A	32	3	40	120	31	183	32	1	●

●Stock ○Available Upon Order

D	Tolerance
6⩽D⩽32	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (⩽48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P659

SA300-RN3

3 Flutes, Corner Radius, with Long Neck

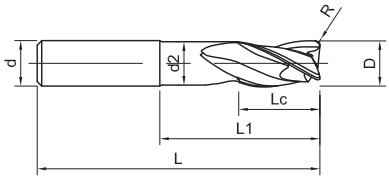


Fig1

SHANK h6 | 3 | 30° Helix | Corner-R

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
SA300-RN3-06002	6	0.2	10	20	5.5	60	6	1	●
SA300-RN3-06002A	6	0.2	10	40	5.5	80	6	1	●
SA300-RN3-06010	6	1	10	20	5.5	60	6	1	●
SA300-RN3-06010A	6	1	10	30	5.5	75	6	1	●
SA300-RN3-06010B	6	1	10	40	5.5	80	6	1	●
SA300-RN3-06020	6	2	10	20	5.5	60	6	1	●
SA300-RN3-06020A	6	2	10	40	5.5	80	6	1	●
SA300-RN3-08002	8	0.2	10	30	7.5	75	8	1	●
SA300-RN3-08002A	8	0.2	10	50	7.5	90	8	1	●
SA300-RN3-08010	8	1	10	30	7.5	75	8	1	●
SA300-RN3-08010A	8	1	10	40	7.5	80	8	1	●
SA300-RN3-08010B	8	1	10	50	7.5	90	8	1	●
SA300-RN3-08020	8	2	10	30	7.5	75	8	1	●
SA300-RN3-08020A	8	2	10	50	7.5	90	8	1	●
SA300-RN3-10002	10	0.2	12	30	9.5	75	10	1	●
SA300-RN3-10002A	10	0.2	12	50	9.5	90	10	1	●
SA300-RN3-10010	10	1	12	30	9.5	75	10	1	●
SA300-RN3-10010A	10	1	12	40	9.5	80	10	1	●
SA300-RN3-10010B	10	1	12	50	9.5	90	10	1	●
SA300-RN3-10020	10	2	12	30	9.5	75	10	1	●

●Stock ○Available Upon Order

D	Tolerance
6≤D≤32	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P659

SA300-RN3

3 Flutes, Corner Radius, with Long Neck

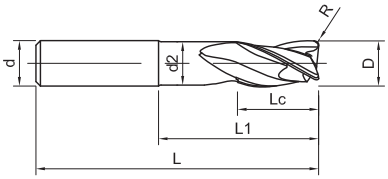


Fig1

SHANK h6 | 3 | 30° Helix | Corner-R

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
SA300-RN3-10020A	10	2	12	50	9.5	90	10	1	●
SA300-RN3-10030	10	3	12	30	9.5	75	10	1	●
SA300-RN3-10030A	10	3	12	40	9.5	80	10	1	●
SA300-RN3-10030B	10	3	12	50	9.5	90	10	1	●
SA300-RN3-12002	12	0.2	14	50	11.5	100	12	1	●
SA300-RN3-12002A	12	0.2	14	70	11.5	120	12	1	●
SA300-RN3-12010	12	1	14	40	11.5	90	12	1	●
SA300-RN3-12010A	12	1	14	50	11.5	100	12	1	●
SA300-RN3-12010B	12	1	14	60	11.5	110	12	1	●
SA300-RN3-12010C	12	1	14	70	11.5	120	12	1	○
SA300-RN3-12020	12	2	14	50	11.5	100	12	1	●
SA300-RN3-12020A	12	2	14	70	11.5	120	12	1	●
SA300-RN3-12030	12	3	14	40	11.5	90	12	1	●
SA300-RN3-12030A	12	3	14	50	11.5	100	12	1	●
SA300-RN3-12030B	12	3	14	60	11.5	110	12	1	●
SA300-RN3-12030C	12	3	14	70	11.5	120	12	1	●
SA300-RN3-16002	16	0.2	18	50	15.5	100	16	1	●
SA300-RN3-16002A	16	0.2	18	70	15.5	120	16	1	●
SA300-RN3-16010	16	1	18	50	15.5	100	16	1	○
SA300-RN3-16010A	16	1	18	60	15.5	110	16	1	●

●Stock ○Available Upon Order

D	Tolerance
6≤D≤32	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P659

SA300-RN3

3 Flutes, Corner Radius, with Long Neck

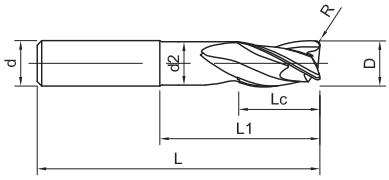


Fig1

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
SA300-RN3-16010B	16	1	18	70	15.5	120	16	1	●
SA300-RN3-16010C	16	1	18	80	15.5	130	16	1	●
SA300-RN3-16020	16	2	18	60	15.5	110	16	1	●
SA300-RN3-16030	16	3	18	50	15.5	100	16	1	●
SA300-RN3-16030A	16	3	18	60	15.5	110	16	1	●
SA300-RN3-16030B	16	3	18	70	15.5	120	16	1	○
SA300-RN3-16030C	16	3	18	80	15.5	130	16	1	●
SA300-RN3-16040	16	4	18	60	15.5	110	16	1	●
SA300-RN3-16050	16	5	18	60	15.5	110	16	1	●
SA300-RN3-16050A	16	5	18	80	15.5	130	16	1	○
SA300-RN3-20002	20	0.2	24	60	19	110	20	1	●
SA300-RN3-20002A	20	0.2	24	80	19	130	20	1	●
SA300-RN3-20010	20	1	24	60	19	110	20	1	●
SA300-RN3-20010A	20	1	24	80	19	130	20	1	○
SA300-RN3-20010B	20	1	24	50	19	100	20	1	●
SA300-RN3-20010C	20	1	24	70	19	120	20	1	●
SA300-RN3-20010D	20	1	24	90	19	140	20	1	○
SA300-RN3-20010E	20	1	24	100	19	150	20	1	●
SA300-RN3-20020	20	2	24	60	19	110	20	1	●
SA300-RN3-20030	20	3	24	60	19	110	20	1	○

●Stock ○Available Upon Order

D	Tolerance
6⩽D⩽32	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (⩽48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P659

SA300-RN3

3 Flutes, Corner Radius, with Long Neck

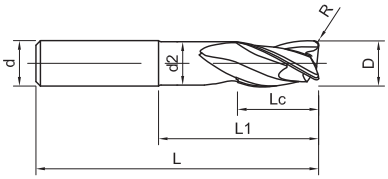


Fig1

SHANK h6 | 3 | 30° Helix | Corner-R

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
SA300-RN3-20030A	20	3	24	80	19	130	20	1	●
SA300-RN3-20030B	20	3	24	50	19	100	20	1	○
SA300-RN3-20030C	20	3	24	70	19	120	20	1	●
SA300-RN3-20030D	20	3	24	90	19	140	20	1	○
SA300-RN3-20030E	20	3	24	100	19	150	20	1	●
SA300-RN3-20040	20	4	24	60	19	110	20	1	●
SA300-RN3-20050	20	5	24	60	19	110	20	1	○
SA300-RN3-20050A	20	5	24	80	19	130	20	1	○
SA300-RN3-20050B	20	5	24	100	19	150	20	1	●
SA300-RN3-25010	25	1	30	80	24	135	25	1	●
SA300-RN3-25010A	25	1	30	100	24	155	25	1	●
SA300-RN3-25010B	25	1	30	125	24	180	25	1	●
SA300-RN3-25020	25	2	30	80	24	135	25	1	●
SA300-RN3-25030	25	3	30	80	24	135	25	1	●
SA300-RN3-25030A	25	3	30	100	24	155	25	1	○
SA300-RN3-25030B	25	3	30	125	24	180	25	1	●
SA300-RN3-32030	32	3	40	100	31	163	32	1	●
SA300-RN3-32030A	32	3	40	120	31	183	32	1	●

●Stock ○Available Upon Order

D	Tolerance
6⩽D⩽32	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (⩽48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P659

SA300-BN2

2 Flutes, Ballnose

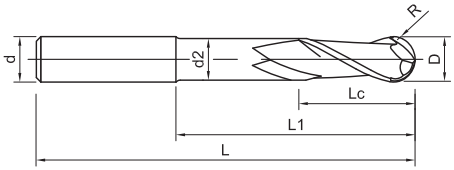


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
SA300-BN2-06020	6	3	10	20	5.5	60	6	1	●
SA300-BN2-06030	6	3	10	30	5.5	75	6	1	●
SA300-BN2-06040	6	3	10	40	5.5	80	6	1	○
SA300-BN2-08030	8	4	10	30	7.5	75	8	1	●
SA300-BN2-08040	8	4	10	40	7.5	80	8	1	●
SA300-BN2-08050	8	4	10	50	7.5	90	8	1	○
SA300-BN2-10030	10	5	12	30	9.5	75	10	1	○
SA300-BN2-10040	10	5	12	40	9.5	80	10	1	●
SA300-BN2-12040	12	6	14	40	11.5	90	12	1	●
SA300-BN2-12050	12	6	14	50	11.5	100	12	1	○
SA300-BN2-12060	12	6	14	60	11.5	110	12	1	○
SA300-BN2-16060	16	8	18	60	15.5	110	16	1	●
SA300-BN2-16070	16	8	18	70	15.5	120	16	1	●
SA300-BN2-20060	20	10	24	60	19	110	20	1	○
SA300-BN2-20080	20	10	24	80	19	130	20	1	○

●Stock ○Available Upon Order

D	Tolerance
6≤D≤20	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P659

SA300-SF-SN4

4 Flutes, Square with Long Neck (Side Milling Finishing)

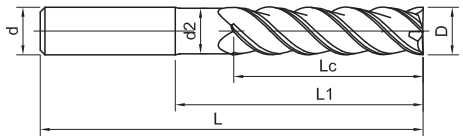


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L1	d2	L	d	Drawing No.	In Stock
SA300-SF-SN4-06030	6	24	30	5.5	60	6	1	●
SA300-SF-SN4-08040	8	32	40	7.5	64	8	1	●
SA300-SF-SN4-10050	10	40	50	9.5	80	10	1	●
SA300-SF-SN4-12040	12	30	40	11.5	83	12	1	●
SA300-SF-SN4-12062	12	48	62	11.5	100	12	1	●
SA300-SF-SN4-16051	16	40	51	15.5	93	16	1	●
SA300-SF-SN4-16082	16	64	82	15.5	125	16	1	●
SA300-SF-SN4-20063	20	50	63	19	108	20	1	●
SA300-SF-SN4-200A2	20	80	102	19	150	20	1	●

●Stock ○Available Upon Order

D	Tolerance
6≤D≤20	-0.02 -0.04

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P660

SA300-SF-IC-SN4

4 Flutes, Square with Long Neck (Side Milling Finishing) (Coating with Coolant)

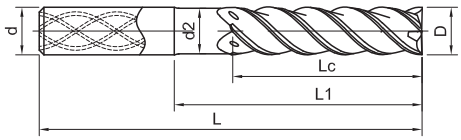


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L1	d2	L	d	Drawing No.	In Stock
SA300-SF-IC-SN4-12040	12	30	40	11.5	83	12	1	○
SA300-SF-IC-SN4-12062	12	48	62	11.5	100	12	1	○
SA300-SF-IC-SN4-16051	16	40	51	15.5	93	16	1	○
SA300-SF-IC-SN4-16082	16	64	82	15.5	125	16	1	○
SA300-SF-IC-SN4-20063	20	50	63	19	108	20	1	○
SA300-SF-IC-SN4-200A2	20	80	102	19	150	20	1	○

●Stock ○Available Upon Order

D	Tolerance
6≤D≤20	-0.02 -0.04

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P660

SA300-SF-RN4

4 Flutes, Corner Radius, with Long Neck (Side Milling Finishing)

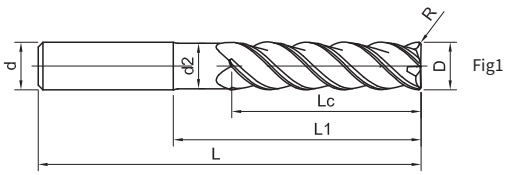


Fig1

SHANK h6 | 4 | 38°/41° Helix | Corner-R | L

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
SA300-SF-RN4-10030	10	3	40	50	9.5	80	10	1	○
SA300-SF-RN4-12005	12	0.5	30	40	11.5	83	12	1	●
SA300-SF-RN4-12005A	12	0.5	48	62	11.5	100	12	1	○
SA300-SF-RN4-12020	12	2	30	40	11.5	83	12	1	●
SA300-SF-RN4-12020A	12	2	48	62	11.5	100	12	1	●
SA300-SF-RN4-12030	12	3	30	40	11.5	83	12	1	●
SA300-SF-RN4-12030A	12	3	48	62	11.5	100	12	1	○
SA300-SF-RN4-12040	12	4	30	40	11.5	83	12	1	●
SA300-SF-RN4-12040A	12	4	48	62	11.5	100	12	1	●
SA300-SF-RN4-12050	12	5	30	40	11.5	83	12	1	●
SA300-SF-RN4-16020	16	2	40	51	15.5	93	16	1	●
SA300-SF-RN4-16020A	16	2	64	82	15.5	125	16	1	●
SA300-SF-RN4-16030	16	3	40	51	15.5	93	16	1	●
SA300-SF-RN4-16030A	16	3	64	82	15.5	125	16	1	●
SA300-SF-RN4-16040	16	4	40	51	15.5	93	16	1	●
SA300-SF-RN4-16040A	16	4	64	82	15.5	125	16	1	●
SA300-SF-RN4-16050	16	5	40	51	15.5	93	16	1	●

●Stock ○Available Upon Order

D	Tolerance
6≤D≤20	-0.02 -0.04

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P660

SA300-SF-RN4

4 Flutes, Corner Radius, with Long Neck (Side Milling Finishing)

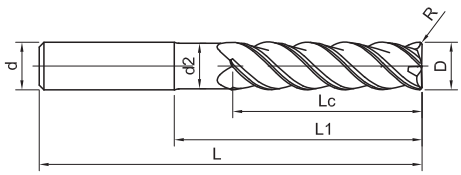


Fig1

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
SA300-SF-RN4-20030	20	3	50	63	19	108	20	1	●
SA300-SF-RN4-20030A	20	3	80	102	19	150	20	1	●
SA300-SF-RN4-20040	20	4	50	63	19	108	20	1	●
SA300-SF-RN4-20040A	20	4	80	102	19	150	20	1	●
SA300-SF-RN4-20050	20	5	50	63	19	108	20	1	●
SA300-SF-RN4-20050A	20	5	80	102	19	150	20	1	●

●Stock ○Available Upon Order

D	Tolerance
6≤D≤20	-0.02 -0.04

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P660

SA300-SF-IC-RN4

4 Flutes, Corner Radius, with Long Neck (Side Milling Finishing) (Coating with Coolant)

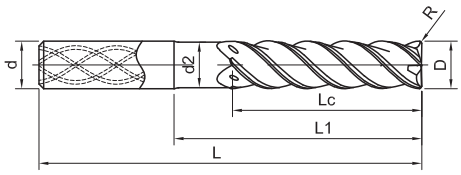


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
SA300-SF-IC-RN4-12005	12	0.5	30	40	11.5	83	12	1	○
SA300-SF-IC-RN4-12020	12	2	30	40	11.5	83	12	1	○
SA300-SF-IC-RN4-12020A	12	2	48	62	11.5	100	12	1	○
SA300-SF-IC-RN4-12030	12	3	30	40	11.5	83	12	1	●
SA300-SF-IC-RN4-12030A	12	3	48	62	11.5	100	12	1	●
SA300-SF-IC-RN4-12040	12	4	30	40	11.5	83	12	1	○
SA300-SF-IC-RN4-12040A	12	4	48	62	11.5	100	12	1	○
SA300-SF-IC-RN4-12050	12	5	30	40	11.5	83	12	1	○
SA300-SF-IC-RN4-16020	16	2	40	51	15.5	93	16	1	○
SA300-SF-IC-RN4-16020A	16	2	64	82	15.5	125	16	1	○
SA300-SF-IC-RN4-16030	16	3	40	51	15.5	93	16	1	●
SA300-SF-IC-RN4-16030A	16	3	64	82	15.5	125	16	1	●
SA300-SF-IC-RN4-16040	16	4	40	51	15.5	93	16	1	○
SA300-SF-IC-RN4-16040A	16	4	64	82	15.5	125	16	1	○
SA300-SF-IC-RN4-16050	16	5	40	51	15.5	93	16	1	○

●Stock ○Available Upon Order

D	Tolerance
6≤D≤20	-0.02 -0.04

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P660

SA300-SF-IC-RN4

4 Flutes, Corner Radius, with Long Neck (Side Milling Finishing) (Coating with Coolant)

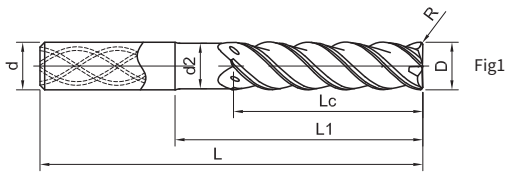


Fig1

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
SA300-SF-IC-RN4-20030	20	3	50	63	19	108	20	1	●
SA300-SF-IC-RN4-20030A	20	3	80	102	19	150	20	1	●
SA300-SF-IC-RN4-20040	20	4	50	63	19	108	20	1	○
SA300-SF-IC-RN4-20040A	20	4	80	102	19	150	20	1	○
SA300-SF-IC-RN4-20050	20	5	50	63	19	108	20	1	○
SA300-SF-IC-RN4-20050A	20	5	80	102	19	150	20	1	○

●Stock ○Available Upon Order

D	Tolerance
6≤D≤20	-0.02 -0.04

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P660

SA300-WF-RN6

6 Flutes, Corner Radius, with Long Neck (Face Milling Finishing)

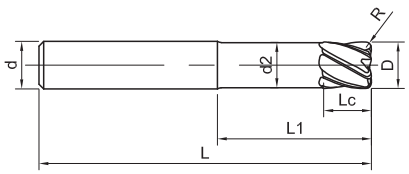


Fig1

SHANK h6 | 6 | 30° Helix | Corner-R | L

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
SA300-WF-RN6-16030	16	3	16	42	15.5	92	16	1	●
SA300-WF-RN6-16030A	16	3	16	65	15.5	115	16	1	●
SA300-WF-RN6-16040	16	4	16	65	15.5	115	16	1	●
SA300-WF-RN6-20030	20	3	20	52	19	104	20	1	●
SA300-WF-RN6-20030A	20	3	20	73	19	125	20	1	●
SA300-WF-RN6-20040	20	4	20	73	19	125	20	1	●
SA300-WF-RN6-25030	25	3	25	52	24	110	25	1	●
SA300-WF-RN6-25030A	25	3	25	72	24	130	25	1	●
SA300-WF-RN6-25030B	25	3	25	92	24	150	25	1	●
SA300-WF-RN6-25040	25	4	25	72	24	130	25	1	●

●Stock ○Available Upon Order

D	Tolerance
16⩽D⩽25	-0.02 -0.05

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (⩽48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P660

SA300-WF-IC-RN6

6 Flutes, Corner Radius, with Long Neck (Face Milling Finishing) (Coating with Coolant)

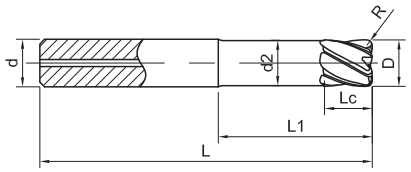


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
SA300-WF-IC-RN6-16030	16	3	16	42	15.5	92	16	1	○
SA300-WF-IC-RN6-16030A	16	3	16	65	15.5	115	16	1	●
SA300-WF-IC-RN6-16040	16	4	16	65	15.5	115	16	1	○
SA300-WF-IC-RN6-20030	20	3	20	52	19	104	20	1	●
SA300-WF-IC-RN6-20030A	20	3	20	73	19	125	20	1	●
SA300-WF-IC-RN6-20040	20	4	20	73	19	125	20	1	○
SA300-WF-IC-RN6-25030	25	3	25	52	24	110	25	1	●
SA300-WF-IC-RN6-25030A	25	3	25	72	24	130	25	1	●
SA300-WF-IC-RN6-25030B	25	3	25	92	24	150	25	1	●
SA300-WF-IC-RN6-25040	25	4	25	72	24	130	25	1	○

●Stock ○Available Upon Order

D	Tolerance
16⩽D⩽25	-0.02 -0.05

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (⩽48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P660

DNM100-RS1

1 Flutes, Corner Radius

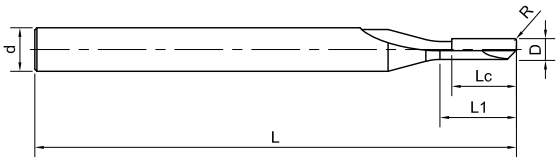


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L1	L	d	Drawing No.	In Stock
DNM100-RS1-02001	2	6	0.1	8	50	4	1	●
DNM100-RS1-02002	2	6	0.2	8	50	4	1	●
DNM100-RS1-02003	2	6	0.3	8	50	4	1	○
DNM100-RS1-03001	3	6	0.1	8	50	4	1	●
DNM100-RS1-03002	3	6	0.2	8	50	4	1	●
DNM100-RS1-03003	3	6	0.3	8	50	4	1	○

●Stock ○Available Upon Order

D	Tolerance
D≤3	±0.02

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎	◎	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P660

DNM100-RS2

2 Flutes, Corner Radius

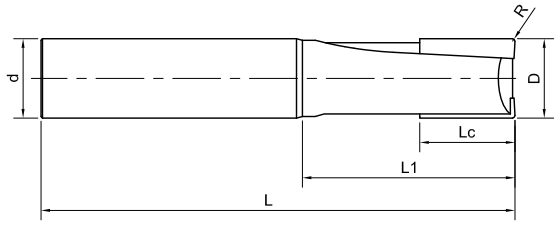


Fig1

SHANK h6 | 2 | Corner-R

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L1	L	d	Drawing No.	In Stock
DNM100-RS2-04001	4	6	0.1	8	50	6	1	●
DNM100-RS2-04002	4	6	0.2	8	50	6	1	●
DNM100-RS2-04005	4	6	0.5	8	50	6	1	○
DNM100-RS2-06001	6	10	0.1	20	75	6	1	●
DNM100-RS2-06002	6	10	0.2	20	75	6	1	●
DNM100-RS2-06003	6	10	0.3	20	75	6	1	○
DNM100-RS2-06005	6	10	0.5	20	75	6	1	○
DNM100-RS2-08001	8	15	0.1	30	75	10	1	●
DNM100-RS2-08002	8	15	0.2	30	75	10	1	○
DNM100-RS2-08005	8	15	0.5	30	75	10	1	●
DNM100-RS2-08010	8	15	1	30	75	10	1	●
DNM100-RS2-10001	10	15	0.1	35	75	10	1	○
DNM100-RS2-10002	10	15	0.2	35	75	10	1	●
DNM100-RS2-10005	10	15	0.5	35	75	10	1	●
DNM100-RS2-10010	10	15	1	35	75	10	1	●
DNM100-RS2-10020	10	15	2	35	75	10	1	○

●Stock ○Available Upon Order

D	Tolerance
D≤20	±0.02

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎	◎	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P660

DNM100-RS3

3 Flutes, Corner Radius

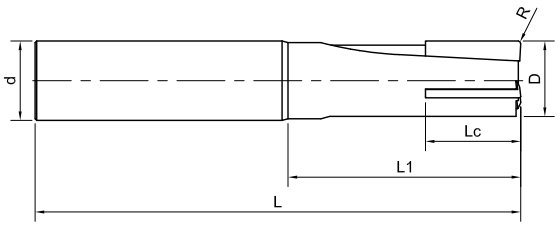


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L1	L	d	Drawing No.	In Stock
DNM100-RS3-10001	10	15	0.1	35	75	10	1	●
DNM100-RS3-10002	10	15	0.2	35	75	10	1	●
DNM100-RS3-10005	10	15	0.5	35	75	10	1	●
DNM100-RS3-10010	10	15	1	35	75	10	1	○
DNM100-RS3-10020	10	15	2	35	75	10	1	○
DNM100-RS3-12002	12	15	0.2	40	75	12	1	●
DNM100-RS3-12005	12	15	0.5	40	75	12	1	●
DNM100-RS3-12010	12	15	1	40	75	12	1	●
DNM100-RS3-12020	12	15	2	40	75	12	1	○
DNM100-RS3-16002	16	15	0.2	45	100	16	1	●
DNM100-RS3-16005	16	15	0.5	45	100	16	1	●
DNM100-RS3-16010	16	15	1	45	100	16	1	●
DNM100-RS3-16020	16	15	2	45	100	16	1	○
DNM100-RS3-16030	16	15	3	45	100	16	1	○

●Stock ○Available Upon Order

D	Tolerance
D≤20	±0.02

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				◎	◎	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P660

SG200-S2

2 Flutes, Standard Length, Square

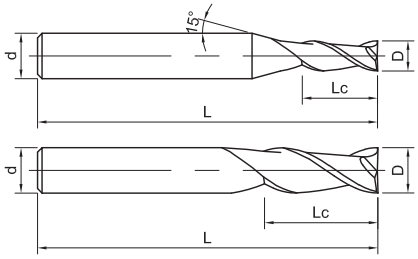


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SG200-S2-00401	0.4	0.8	50	4	1	○
SG200-S2-00802	0.8	2	50	4	1	●
SG200-S2-01003	1	3	50	4	1	●
SG200-S2-01504	1.5	4	50	4	1	●
SG200-S2-02006	2	6	50	4	1	●
SG200-S2-02008	2	8	75	4	1	○
SG200-S2-03009	3	9	50	4	1	●
SG200-S2-03012	3	12	75	4	1	●
SG200-S2-63009	3	9	50	6	1	○
SG200-S2-04011	4	11	50	4	2	●
SG200-S2-04016	4	16	75	4	2	○
SG200-S2-64011	4	11	50	6	1	○
SG200-S2-05013	5	13	50	6	1	○
SG200-S2-05020	5	20	100	6	1	○
SG200-S2-06016	6	16	50	6	2	○
SG200-S2-06025	6	25	100	6	2	○
SG200-S2-08020	8	20	60	8	2	●
SG200-S2-10025	10	25	75	10	2	○
SG200-S2-12030	12	30	75	12	2	○

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P661

SG200-SN2

2 Flutes, Square with Long Neck

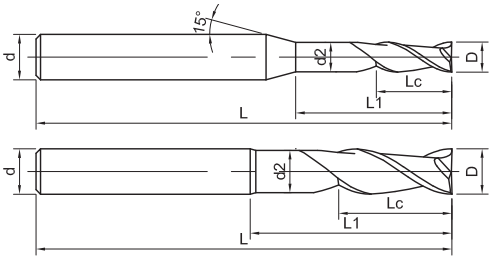


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	d2	L1	L	d	Drawing No.	In Stock
SG200-SN2-01005	1	3	0.95	5	50	4	1	●
SG200-SN2-01006	1	3	0.96	6	50	4	2	●
SG200-SN2-01020	1	3	0.95	20	60	4	1	●
SG200-SN2-01510	1.5	6	1.44	10	50	4	1	●
SG200-SN2-01520	1.5	6	1.44	20	60	4	1	●
SG200-SN2-02015	2	8	1.92	15	50	4	1	●
SG200-SN2-02020	2	8	1.92	20	50	4	1	○
SG200-SN2-02030	2	8	1.92	30	75	4	1	●
SG200-SN2-03015	3	12	2.9	15	50	4	1	●
SG200-SN2-03030	3	12	2.9	30	75	4	1	●
SG200-SN2-04020	4	16	3.9	20	50	4	2	●
SG200-SN2-04025	4	16	3.9	25	75	4	2	●
SG200-SN2-04040	4	16	3.9	40	75	4	2	●
SG200-SN2-05030	5	20	4.9	30	75	6	1	○
SG200-SN2-06030	6	24	5.9	30	75	6	2	○
SG200-SN2-06040	6	24	5.9	40	75	6	2	●
SG200-SN2-08040	8	25	7.9	40	100	8	2	○
SG200-SN2-10040	10	25	9.8	40	100	10	2	●
SG200-SN2-12040	12	25	11.8	40	100	12	2	○
SG200-SN2-12060	12	25	11.8	60	100	12	2	○

●Stock ○Available Upon Order

D	Tolerance
D＜6	0 -0.02
6≤D≤12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P661

SG200-S3

3 Flutes, Standard Length, Square

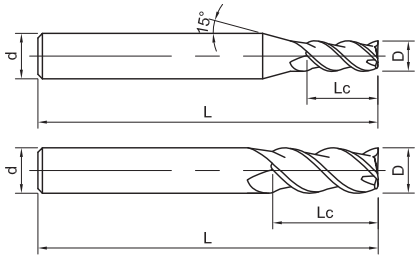


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SG200-S3-01003	1	3	50	4	1	○
SG200-S3-01504	1.5	4	50	4	1	●
SG200-S3-01506	1.5	6	60	4	1	○
SG200-S3-02006	2	6	50	4	1	●
SG200-S3-02010	2	10	60	4	1	●
SG200-S3-03009	3	9	50	4	1	●
SG200-S3-03015	3	15	60	4	1	●
SG200-S3-63009	3	9	50	6	1	○
SG200-S3-04011	4	11	50	4	2	●
SG200-S3-04020	4	20	75	4	2	○
SG200-S3-64011	4	11	50	6	1	●
SG200-S3-05013	5	13	50	6	1	○
SG200-S3-06016	6	16	50	6	2	●
SG200-S3-06018	6	18	75	6	2	○
SG200-S3-06025	6	25	100	6	2	○
SG200-S3-08020	8	20	60	8	2	●
SG200-S3-08035	8	35	100	8	2	○
SG200-S3-10025	10	25	75	10	2	●
SG200-S3-10040	10	40	100	10	2	○
SG200-S3-12030	12	30	75	12	2	○

●Stock ○Available Upon Order

D	Tolerance
D＜6	0 -0.02
6≤D≤12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P661

SG200-S4

4 Flutes, Standard Length, Square

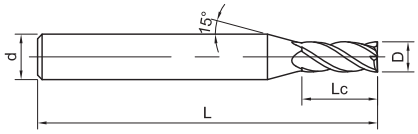


Fig1

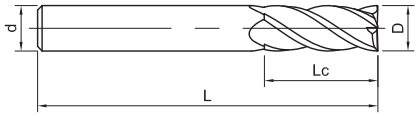


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SG200-S4-02006	2	6	50	4	1	●
SG200-S4-02010	2	10	60	4	1	●
SG200-S4-03009	3	9	50	4	1	●
SG200-S4-03015	3	15	60	4	1	●
SG200-S4-63009	3	9	50	6	1	○
SG200-S4-04011	4	11	50	4	2	●
SG200-S4-04020	4	20	75	4	2	●
SG200-S4-64011	4	11	50	6	1	●
SG200-S4-05013	5	13	50	6	1	●
SG200-S4-06016	6	16	50	6	2	●
SG200-S4-06025	6	25	100	6	2	●
SG200-S4-08020	8	20	60	8	2	●
SG200-S4-08025	8	25	100	8	2	●
SG200-S4-10025	10	25	75	10	2	●
SG200-S4-10040	10	40	100	10	2	○
SG200-S4-12030	12	30	75	12	2	●
SG200-S4-12045	12	45	100	12	2	○

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P661

SG200-R4

4 Flutes, Corner Radius

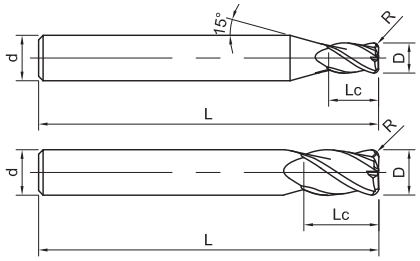


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SG200-R4-02002	2	3.5	0.2	50	4	1	○
SG200-R4-02005	2	3.5	0.5	60	4	1	○
SG200-R4-03002	3	4	0.2	50	4	1	●
SG200-R4-03005	3	4	0.5	75	4	1	●
SG200-R4-03010	3	4	1	75	4	1	●
SG200-R4-04002	4	6	0.2	50	4	2	●
SG200-R4-04010	4	6	1	50	4	2	●
SG200-R4-05003	5	7	0.3	50	6	1	○
SG200-R4-06005	6	9	0.5	50	6	2	●
SG200-R4-06010	6	9	1	50	6	2	○
SG200-R4-08005	8	12	0.5	60	8	2	○
SG200-R4-08010	8	12	1	60	8	2	○
SG200-R4-10005	10	15	0.5	75	10	2	○
SG200-R4-10010	10	15	1	75	10	2	○
SG200-R4-12005	12	18	0.5	75	12	2	○
SG200-R4-12010	12	18	1	75	12	2	○
SG200-R4-16010	16	36	1	100	16	2	●

●Stock ○Available Upon Order

D	Tolerance
D＜6	0 -0.02
6≤D≤12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P661

SG200-RN4

4 Flutes, Corner Radius, with Long Neck

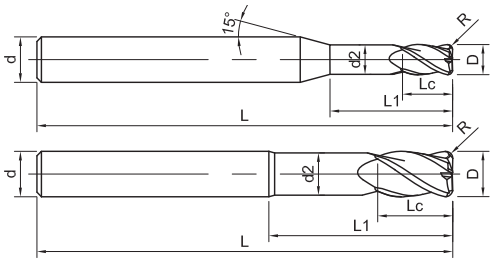


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	d2	L1	L	d	Drawing No.	In Stock
SG200-RN4-02002	2	3.5	0.2	1.92	6	50	4	1	●
SG200-RN4-02003	2	3.5	0.3	1.92	30	60	4	1	●
SG200-RN4-02005	2	3.5	0.5	1.92	30	60	4	1	●
SG200-RN4-03002	3	4	0.2	2.9	10	50	4	1	●
SG200-RN4-03003	3	4	0.3	2.9	20	50	4	1	○
SG200-RN4-03005	3	4	0.5	2.9	20	75	4	1	○
SG200-RN4-03010	3	4	1	2.9	20	75	4	1	●
SG200-RN4-04002	4	6	0.2	3.9	20	75	4	2	●
SG200-RN4-04005	4	6	0.5	3.9	20	50	4	2	●
SG200-RN4-04010	4	6	1	3.9	20	50	4	2	●
SG200-RN4-06005	6	9	0.5	5.9	25	75	6	2	●
SG200-RN4-06010	6	9	1	5.9	25	75	6	2	●
SG200-RN4-08005	8	12	0.5	7.9	30	100	8	2	●
SG200-RN4-08010	8	12	1	7.9	30	100	8	2	●
SG200-RN4-10005	10	15	0.5	9.8	45	100	10	2	●
SG200-RN4-10010	10	15	1	9.8	35	100	10	2	●
SG200-RN4-12005	12	18	0.5	11.8	40	100	12	2	●
SG200-RN4-12010	12	18	1	11.8	40	100	12	2	●

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P661

SG200-B2

2 Flutes, Ballnose

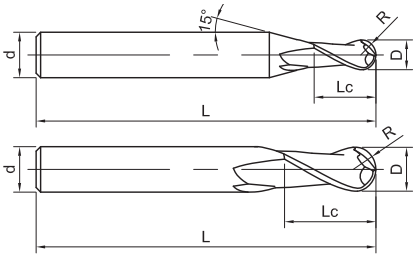


Fig1

Fig2

SHANK h6 | 2 | U-DIA | 30° Helix | Ballnose

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SG200-B2-00502	0.5	0.25	2	50	4	1	●
SG200-B2-00602	0.6	0.3	2	50	4	1	●
SG200-B2-00803	0.8	0.4	3	50	4	1	○
SG200-B2-01002	1	0.5	2	50	4	1	●
SG200-B2-01503	1.5	0.75	3	50	4	1	●
SG200-B2-02004	2	1	4	50	4	1	●
SG200-B2-02006	2	1	6	60	4	1	●
SG200-B2-03006	3	1.5	6	50	4	1	●
SG200-B2-03008	3	1.5	8	60	4	1	●
SG200-B2-04008	4	2	8	50	4	2	●
SG200-B2-04016	4	2	16	60	4	2	●
SG200-B2-05010	5	2.5	10	50	6	1	○
SG200-B2-06012	6	3	12	50	6	2	●
SG200-B2-08014	8	4	14	60	8	2	●
SG200-B2-10018	10	5	18	75	10	2	●
SG200-B2-12022	12	6	22	75	12	2	●

●Stock ○Available Upon Order

D	Tolerance
R<3	0 -0.02
3≤R≤6	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P662

SG200-BN2

2 Flutes, Ballnose, with Long Neck

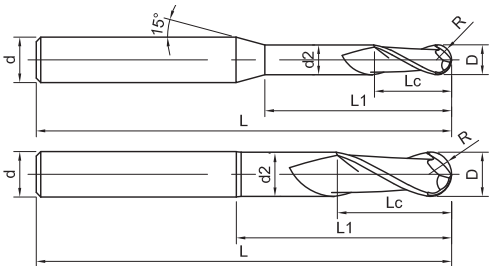


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	d2	L1	L	d	Drawing No.	In Stock
SG200-BN2-00508	0.5	0.25	2	0.45	8	50	4	1	○
SG200-BN2-01010	1	0.5	3	0.95	10	50	4	1	●
SG200-BN2-01015	1	0.5	3	0.95	15	60	4	1	●
SG200-BN2-01020	1	0.5	3	0.95	20	60	4	1	●
SG200-BN2-01515	1.5	0.75	3	1.44	15	50	4	1	●
SG200-BN2-02015	2	1	6	1.95	15	75	4	1	●
SG200-BN2-02020	2	1	4	1.92	20	75	4	1	●
SG200-BN2-02030	2	1	6	1.92	30	75	4	1	●
SG200-BN2-03015	3	1.5	6	2.9	15	50	4	1	●
SG200-BN2-03020	3	1.5	6	2.9	20	75	4	1	●
SG200-BN2-04012	4	2	8	3.9	12	60	4	2	●
SG200-BN2-04020	4	2	8	3.9	20	60	4	2	●

●Stock ○Available Upon Order

D	Tolerance
R<3	0 -0.02
3≤R≤6	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P662

SG200-BN2

2 Flutes, Ballnose, with Long Neck

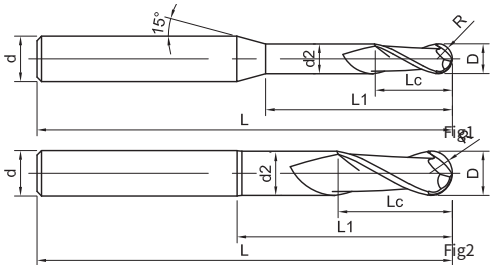


Fig1

Fig2

SHANK h6 | 2 | U-DIA | 30° Helix | Ballnose

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	d2	L1	L	d	Drawing No.	In Stock
SG200-BN2-06018	6	3	12	5.9	18	75	6	2	○
SG200-BN2-06025	6	3	16	5.9	25	75	6	2	○
SG200-BN2-06030	6	3	12	5.9	30	75	6	2	●
SG200-BN2-08024	8	4	14	7.9	24	100	8	2	○
SG200-BN2-08030	8	4	20	7.9	30	100	8	2	○
SG200-BN2-08040	8	4	14	7.9	40	100	8	2	○
SG200-BN2-10030	10	5	18	9.8	30	100	10	2	●
SG200-BN2-10040	10	5	22	9.8	40	100	10	2	○
SG200-BN2-10050	10	5	18	9.8	50	100	10	2	○
SG200-BN2-12035	12	6	22	11.8	35	100	12	2	○
SG200-BN2-12050	12	6	22	11.8	50	100	12	2	○

●Stock ○Available Upon Order

D	Tolerance
R＜3	0 -0.02
3≤R≤6	0 -0.03

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
				○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P662

SG200-M-RN4

4 Flutes, Corner Radius, with Long Neck

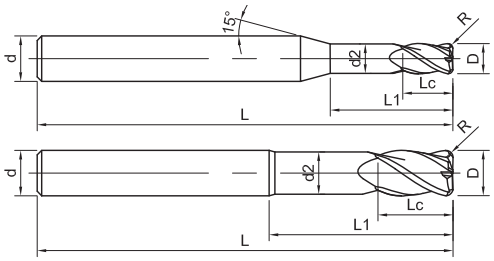


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	d2	L1	L	d	Drawing No.	In Stock
SG200-M-RN4-1-6-0.1-50	1	2	0.1	0.96	6	50	4	1	●
SG200-M-RN4-2-6-0.15-50	2	3.5	0.15	1.92	6	50	4	1	●
SG200-M-RN4-2-12-0.15-50	2	3.5	0.15	1.92	12	50	4	1	○
SG200-M-RN4-2-6-0.2-50	2	3.5	0.2	1.92	6	50	4	1	●
SG200-M-RN4-2-12-0.2-50	2	3.5	0.2	1.92	12	50	4	1	○
SG200-M-RN4-2-6-0.3-50	2	3.5	0.3	1.92	6	50	4	1	●
SG200-M-RN4-2-12-0.3-50	2	3.5	0.3	1.92	12	50	4	1	○
SG200-M-RN4-3-10-0.15-50	3	4	0.15	2.9	10	50	4	1	●
SG200-M-RN4-3-10-0.2-50	3	4	0.2	2.9	10	50	4	1	●
SG200-M-RN4-3-15-0.2-50	3	4	0.2	2.9	15	50	4	1	○
SG200-M-RN4-3-10-0.5-50	3	4	0.5	2.9	10	50	4	1	●
SG200-M-RN4-4-10-0.2-50	4	6	0.2	3.9	10	50	4	2	●
SG200-M-RN4-4-15-0.5-50	4	6	0.5	3.9	15	50	4	2	●
SG200-M-RN4-4-10-1-50	4	6	1	3.9	10	50	4	2	●
SG200-M-RN4-6-25-0.5-50	6	9	0.5	5.9	25	50	6	2	○
SG200-M-RN4-6-25-1-50	6	9	1	5.9	25	50	6	2	○
SG200-M-RN4-6-20-1.5-50	6	15	1.5	5.9	20	50	6	2	○
SG200-M-RN4-6-20-2-50	6	15	2	5.9	20	50	6	2	○
SG200-M-RN4-8-30-1-60	8	10	1	7.9	30	60	8	2	○
SG200-M-RN4-10-35-0.5-75	10	15	0.5	9.8	35	75	10	2	●
SG200-M-RN4-10-45-1-75	10	15	1	9.8	45	75	10	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤4	0 -0.010
D>4	0 -0.015

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
						◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P662

SG200-M-B2

2 Flutes, Ballnose

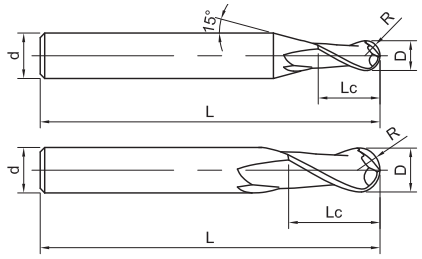


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SG200-M-B2-0.4-1.5-50	0.4	0.2	1.5	50	4	1	●
SG200-M-B2-0.5-2-50	0.5	0.25	2	50	4	1	●
SG200-M-B2-0.6-2-50	0.6	0.3	2	50	4	1	●
SG200-M-B2-0.8-3-50	0.8	0.4	3	50	4	1	●
SG200-M-B2-1-3-50	1	0.5	3	50	4	1	●
SG200-M-B2-1.5-5-50	1.5	0.75	5	50	4	1	●
SG200-M-B2-2-6-50	2	1	6	50	4	1	○
SG200-M-B2-3-8-50	3	1.5	8	50	4	1	●
SG200-M-B2-4-16-50	4	2	16	50	4	2	●
SG200-M-B2-5-16-50	5	2.5	16	50	6	1	●
SG200-M-B2-6-16-50	6	3	16	50	6	2	○

●Stock ○Available Upon Order

R	Tolerance
R≤0.4	±0.003
R>0.4	±0.005

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
						◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P662

SG200-M-BN2

2 Flutes, Ballnose, with Long Neck

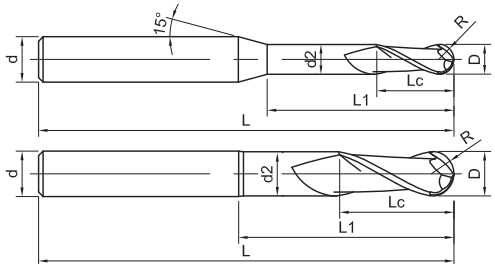


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	d2	L1	L	d	Drawing No.	In Stock
SG200-M-BN2-0.5-8-50	0.5	0.25	2	0.46	8	50	4	1	●
SG200-M-BN2-0.6-10-50	0.6	0.3	2	0.55	10	50	4	1	○
SG200-M-BN2-0.8-15-50	0.8	0.4	3	0.75	15	50	4	1	●
SG200-M-BN2-1-2.5-45	1	0.5	1.5	0.95	2.5	45	4	1	●
SG200-M-BN2-1-7-50	1	0.5	3	0.95	7	50	4	1	●
SG200-M-BN2-1-10-50	1	0.5	3	0.95	10	50	4	1	●
SG200-M-BN2-1-15-50	1	0.5	3	0.95	15	50	4	1	●
SG200-M-BN2-2-5-45	2	1	3	1.92	5	45	4	1	●
SG200-M-BN2-2-8-50	2	1	3	1.95	8	50	4	1	●
SG200-M-BN2-2-10-50	2	1	6	1.92	10	50	4	1	●
SG200-M-BN2-3-15-50	3	1.5	8	2.90	15	50	4	1	●
SG200-M-BN2-4-25-50	4	2	8	3.90	25	50	4	2	●
SG200-M-BN2-6-25-50	6	3	16	5.90	25	50	6	2	●

●Stock ○Available Upon Order

R	Tolerance
R≤0.4	±0.003
R>0.4	±0.005

Unit (mm)

Workpiece Material						
P		M	K	N		
1234	5	123	123	123	4	5
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	Aluminum Alloy	Copper Alloy	Graphite
						◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P662

ST210-S4

4 Flutes, Square, with Unequal Tooth Pitch

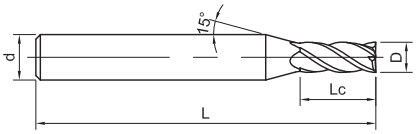


Fig1

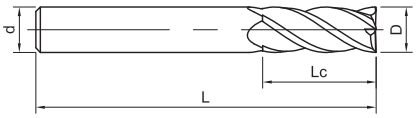


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
ST210-S4-01003	1	3	50	4	1	○
ST210-S4-01504	1.5	4	50	4	1	○
ST210-S4-02006	2	6	50	4	1	●
ST210-S4-02506	2.5	6	50	4	1	●
ST210-S4-02508	2.5	8	50	4	1	●
ST210-S4-03009	3	9	50	4	1	●
ST210-S4-03510	3.5	10	50	4	1	●
ST210-S4-04011	4	11	50	4	2	●
ST210-S4-04511	4.5	11	50	6	1	○
ST210-S4-05013	5	13	50	6	1	●
ST210-S4-06016	6	16	50	6	2	●
ST210-S4-08020	8	20	60	8	2	●
ST210-S4-10025	10	25	72	10	2	●
ST210-S4-12030	12	30	75	12	2	●
ST210-S4-14032	14	32	80	14	2	●
ST210-S4-16036	16	36	100	16	2	●
ST210-S4-20045	20	45	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤16	0 -0.03
D>16	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	◎	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P663

ST210-R4

4 Flutes, Corner Raidus, with Unequal Tooth Pitch

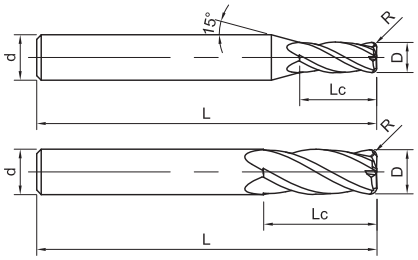


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
ST210-R4-02002	2	0.2	6	50	4	1	●
ST210-R4-03002	3	0.2	9	50	4	1	○
ST210-R4-03003	3	0.3	9	50	4	1	●
ST210-R4-03005	3	0.5	9	50	4	1	●
ST210-R4-04003	4	0.3	11	50	4	2	●
ST210-R4-04005	4	0.5	11	50	4	2	●
ST210-R4-04010	4	1	11	50	4	2	●
ST210-R4-05005	5	0.5	13	50	6	1	●
ST210-R4-06005	6	0.5	16	50	6	2	●
ST210-R4-06010	6	1	16	50	6	2	●
ST210-R4-08005	8	0.5	20	60	8	2	●
ST210-R4-08010	8	1	20	60	8	2	●
ST210-R4-10002	10	0.2	25	72	10	2	○
ST210-R4-10005	10	0.5	25	72	10	2	●
ST210-R4-10010	10	1	25	72	10	2	●
ST210-R4-10015	10	1.5	25	72	10	2	○
ST210-R4-10020	10	2	25	72	10	2	●
ST210-R4-10030	10	3	25	72	10	2	●
ST210-R4-12005	12	0.5	30	75	12	2	●
ST210-R4-12010	12	1	30	75	12	2	●

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6⩽D⩽16	0 -0.03
D>16	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (⩽48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	◎	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P663

ST210-R4

4 Flutes, Corner Raidus, with Unequal Tooth Pitch

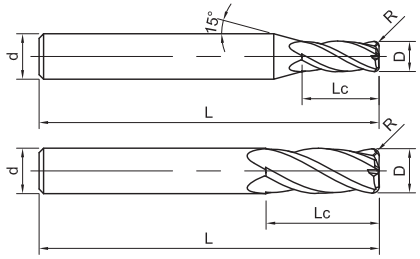


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
ST210-R4-12020	12	2	30	75	12	2	●
ST210-R4-12030	12	3	30	75	12	2	●
ST210-R4-16005	16	0.5	36	100	16	2	●
ST210-R4-16010	16	1	36	100	16	2	●
ST210-R4-16020	16	2	36	100	16	2	●
ST210-R4-16030	16	3	36	100	16	2	●
ST210-R4-16040	16	4	36	100	16	2	●
ST210-R4-16050	16	5	36	100	16	2	●
ST210-R4-20005	20	0.5	45	100	20	2	●
ST210-R4-20010	20	1	45	100	20	2	●
ST210-R4-20020	20	2	45	100	20	2	●
ST210-R4-20030	20	3	45	100	20	2	●
ST210-R4-20040	20	4	45	100	20	2	○
ST210-R4-20050	20	5	45	100	20	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤16	0 -0.03
D>16	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	◎	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P663

ST210-RN4

4 Flutes, Corner Raidus, with Unequal Tooth Pitch and Long Neck

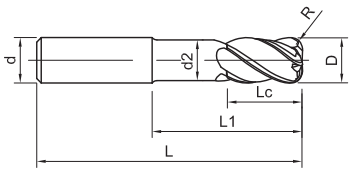


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
ST210-RN4-06005	6	0.5	12	18	5.4	60	6	1	●
ST210-RN4-06010	6	1	12	18	5.4	60	6	1	●
ST210-RN4-08005	8	0.5	16	25	7.4	75	8	1	●
ST210-RN4-08010	8	1	16	25	7.4	75	8	1	●
ST210-RN4-10005	10	0.5	20	30	9.4	75	10	1	●
ST210-RN4-10005A	10	0.5	30	50	9.4	90	10	1	●
ST210-RN4-10010	10	1	20	30	9.4	75	10	1	●
ST210-RN4-10010A	10	1	30	50	9.4	90	10	1	●
ST210-RN4-10020	10	2	20	30	9.4	75	10	1	●
ST210-RN4-10020A	10	2	30	50	9.4	90	10	1	●
ST210-RN4-10030	10	3	20	30	9.4	75	10	1	●
ST210-RN4-10030A	10	3	30	50	9.4	90	10	1	●
ST210-RN4-10030B	10	3	30	60	9.4	100	10	1	●
ST210-RN4-10030C	10	3	30	40	9.4	90	10	1	●
ST210-RN4-12005	12	0.5	24	40	11.4	90	12	1	●
ST210-RN4-12005A	12	0.5	24	50	11.4	100	12	1	●
ST210-RN4-12010	12	1	24	40	11.4	90	12	1	●
ST210-RN4-12010A	12	1	24	50	11.4	100	12	1	●
ST210-RN4-12020	12	2	24	40	11.4	90	12	1	●
ST210-RN4-12020A	12	2	24	50	11.4	100	12	1	●

●Stock ○Available Upon Order

D	Tolerance
D⩽16	0 -0.03
D>16	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (⩽48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	◎	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P663

ST210-RN4

4 Flutes, Corner Raidus, with Unequal Tooth Pitch and Long Neck

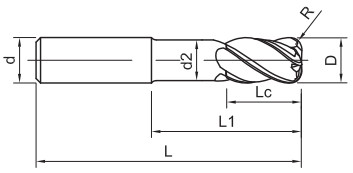


Fig1

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
ST210-RN4-12030A	12	3	24	40	11.4	90	12	1	●
ST210-RN4-12030B	12	3	36	50	11.4	100	12	1	●
ST210-RN4-12030C	12	3	36	60	11.4	110	12	1	●
ST210-RN4-16005	16	0.5	32	50	15.4	100	16	1	●
ST210-RN4-16005A	16	0.5	32	60	15.4	110	16	1	●
ST210-RN4-16010	16	1	32	50	15.4	100	16	1	●
ST210-RN4-16010A	16	1	32	70	15.4	120	16	1	●
ST210-RN4-16010B	16	1	32	80	15.4	130	16	1	○
ST210-RN4-16010C	16	1	32	60	15.4	110	16	1	●
ST210-RN4-16020	16	2	32	50	15.4	100	16	1	●
ST210-RN4-16020A	16	2	32	60	15.4	110	16	1	●
ST210-RN4-16030	16	3	32	50	15.4	100	16	1	●
ST210-RN4-16030A	16	3	32	70	15.4	120	16	1	●
ST210-RN4-16030B	16	3	32	80	15.4	130	16	1	●
ST210-RN4-16030C	16	3	32	60	15.4	110	16	1	●
ST210-RN4-16040	16	4	32	50	15.4	100	16	1	○
ST210-RN4-16040A	16	4	32	60	15.4	110	16	1	○
ST210-RN4-16050	16	5	32	50	15.4	100	16	1	●
ST210-RN4-16050A	16	5	32	60	15.4	110	16	1	●
ST210-RN4-16050B	16	5	32	70	15.4	120	16	1	○

●Stock ○Available Upon Order

D	Tolerance
D≤16	0 -0.03
D>16	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	◎	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P663

ST210-RN4

4 Flutes, Corner Raidus, with Unequal Tooth Pitch and Long Neck

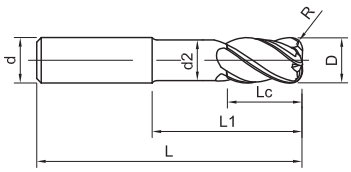


Fig1

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
ST210-RN4-16050C	16	5	32	80	15.4	130	16	1	●
ST210-RN4-20005	20	0.5	40	60	19.4	110	20	1	●
ST210-RN4-20005A	20	0.5	40	80	19.4	130	20	1	○
ST210-RN4-20010	20	1	40	60	19.4	110	20	1	●
ST210-RN4-20010A	20	1	40	80	19.4	130	20	1	○
ST210-RN4-20010B	20	1	40	70	19.4	120	20	1	●
ST210-RN4-20010C	20	1	40	100	19.4	150	20	1	●
ST210-RN4-20020	20	2	40	60	19.4	110	20	1	●
ST210-RN4-20020A	20	2	40	80	19.4	130	20	1	●
ST210-RN4-20030	20	3	40	60	19.4	110	20	1	●
ST210-RN4-20030A	20	3	40	80	19.4	130	20	1	●
ST210-RN4-20030B	20	3	40	100	19.4	150	20	1	●
ST210-RN4-20030C	20	3	40	70	19.4	120	20	1	●
ST210-RN4-20040	20	4	40	60	19.4	110	20	1	●
ST210-RN4-20040A	20	4	40	80	19.4	130	20	1	●
ST210-RN4-20050	20	5	40	60	19.4	110	20	1	●
ST210-RN4-20050A	20	5	40	80	19.4	130	20	1	○
ST210-RN4-20050B	20	5	40	100	19.4	150	20	1	○
ST210-RN4-20050C	20	5	40	70	19.4	120	20	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤16	0 -0.03
D>16	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	◎	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P663

ST210-RL5

5 Flutes, Corner Raidus, with Unequal Tooth Pitch and Long Flute

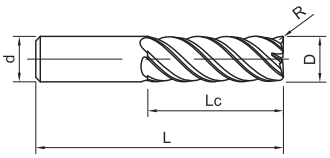


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
ST210-RL5-16005	16	0.5	48	100	16	1	●
ST210-RL5-16005A	16	0.5	80	130	16	1	●
ST210-RL5-20005	20	0.5	60	110	20	1	●
ST210-RL5-20005A	20	0.5	100	150	20	1	●
ST210-RL5-25005	25	0.5	75	155	25	1	○
ST210-RL5-25005A	25	0.5	125	205	25	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤16	0 -0.03
D>16	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	◎	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P663

ST210-B4

4 Flutes, Ballnose, with Unequal Tooth Pitch

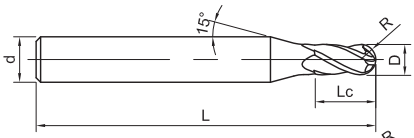


Fig1

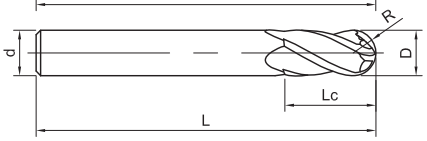


Fig2

SHANK h6 | 4 | AlCrSiN | 30° Helix | Ballnose

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
ST210-B4-02004	2	1	4	50	6	1	●
ST210-B4-03006	3	1.5	6	50	6	1	●
ST210-B4-04008	4	2	8	50	6	1	●
ST210-B4-05010	5	2.5	10	50	6	1	●
ST210-B4-06012	6	3	12	50	6	2	●
ST210-B4-08014	8	4	14	60	8	2	●
ST210-B4-10018	10	5	18	75	10	2	●
ST210-B4-12022	12	6	22	75	12	2	●
ST210-B4-16030	16	8	30	100	16	2	●
ST210-B4-20038	20	10	38	100	20	2	●

●Stock ○Available Upon Order

R	Tolerance
R<3	±0.010
3≤R≤6	±0.015
R<6	±0.020

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	◎	○	◎

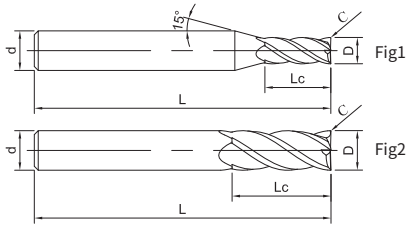
◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P663

ST300-S4

NEW

4 Flutes, Standard Length, Square



Please refer to P201 for guidelines to icons

Order No.	D	C	Lc	L	d	Drawing No.	In Stock
ST300-S4-01003	1	-	3	50	4	1	●
ST300-S4-01504	1.5	-	4	50	4	1	●
ST300-S4-02006	2	0.02	6	50	4	1	●
ST300-S4-02506	2.5	0.02	6	50	4	1	●
ST300-S4-03009	3	0.03	9	50	4	1	●
ST300-S4-03510	3.5	0.03	10	50	4	1	○
ST300-S4-04011	4	0.04	11	50	4	2	●
ST300-S4-04511	4.5	0.04	11	50	6	1	○
ST300-S4-05013	5	0.05	13	50	6	1	●
ST300-S4-06016	6	0.06	16	50	6	2	●
ST300-S4-08020	8	0.08	20	60	8	2	●
ST300-S4-10025	10	0.10	25	75	10	2	●
ST300-S4-12030	12	0.10	30	75	12	2	●
ST300-S4-14032	14	0.10	32	80	14	2	○
ST300-S4-16036	16	0.10	36	100	16	2	●
ST300-S4-20045	20	0.10	45	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
				◎

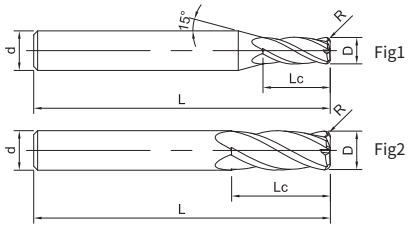
◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P664

ST300-R4

NEW

4 Flutes, Corner Radius



Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
ST300-R4-02002	2	0.2	6	50	4	1	●
ST300-R4-03003	3	0.3	9	50	4	1	●
ST300-R4-03005	3	0.5	9	50	4	1	●
ST300-R4-04003	4	0.3	11	50	4	2	●
ST300-R4-04005	4	0.5	11	50	4	2	●
ST300-R4-04010	4	1	11	50	4	2	●
ST300-R4-05005	5	0.5	13	50	6	1	●
ST300-R4-06005	6	0.5	16	50	6	2	●
ST300-R4-06010	6	1	16	50	6	2	●
ST300-R4-08002	8	0.2	20	60	8	2	●
ST300-R4-08005	8	0.5	20	60	8	2	●
ST300-R4-08010	8	1	20	60	8	2	●
ST300-R4-10002	10	0.2	25	75	10	2	○
ST300-R4-10005	10	0.5	25	75	10	2	●
ST300-R4-10010	10	1	25	75	10	2	●
ST300-R4-10020	10	2	25	75	10	2	●
ST300-R4-10030	10	3	25	75	10	2	●
ST300-R4-12002	12	0.2	30	75	12	2	○

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
				◎

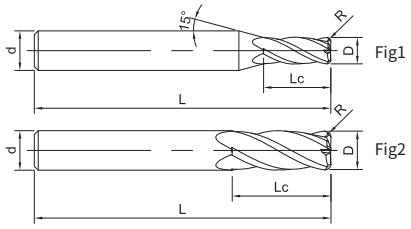
◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P664

ST300-R4

NEW

4 Flutes, Corner Radius



Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
ST300-R4-12005	12	0.5	30	75	12	2	●
ST300-R4-12010	12	1	30	75	12	2	●
ST300-R4-12020	12	2	30	75	12	2	●
ST300-R4-12030	12	3	30	75	12	2	●
ST300-R4-16002	16	0.2	36	100	16	2	○
ST300-R4-16005	16	0.5	36	100	16	2	●
ST300-R4-16010	16	1	36	100	16	2	●
ST300-R4-16020	16	2	36	100	16	2	●
ST300-R4-16030	16	3	36	100	16	2	●
ST300-R4-16040	16	4	36	100	16	2	●
ST300-R4-16050	16	5	36	100	16	2	●
ST300-R4-20002	20	0.2	45	100	20	2	○
ST300-R4-20005	20	0.5	45	100	20	2	●
ST300-R4-20010	20	1	45	100	20	2	●
ST300-R4-20020	20	2	45	100	20	2	●
ST300-R4-20030	20	3	45	100	20	2	●
ST300-R4-20040	20	4	45	100	20	2	○
ST300-R4-20050	20	5	45	100	20	2	○

●Stock ○Available Upon Order

D	Tolerance
D＜6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

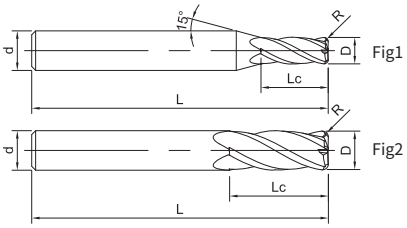
Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
				◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P664

ST300-RH4 NEW

4 Flutes, Corner Radius, with Long Shank Length



Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
ST300-RH4-06005	6	0.5	16	75	6	2	●
ST300-RH4-06010	6	1	16	75	6	2	●
ST300-RH4-08002	8	0.2	20	75	8	2	●
ST300-RH4-08005	8	0.5	20	75	8	2	●
ST300-RH4-08010	8	1	20	75	8	2	●
ST300-RH4-10002	10	0.2	30	100	10	2	○
ST300-RH4-10005	10	0.5	30	100	10	2	●
ST300-RH4-10010	10	1	30	100	10	2	●
ST300-RH4-10020	10	2	30	100	10	2	●
ST300-RH4-10030	10	3	30	100	10	2	●
ST300-RH4-12002A	12	0.2	30	100	12	2	○
ST300-RH4-12002B	12	0.2	30	120	12	2	○
ST300-RH4-12005A	12	0.5	30	100	12	2	○
ST300-RH4-12005B	12	0.5	30	120	12	2	●
ST300-RH4-12010A	12	1	30	100	12	2	○
ST300-RH4-12010B	12	1	30	120	12	2	●

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
				◎

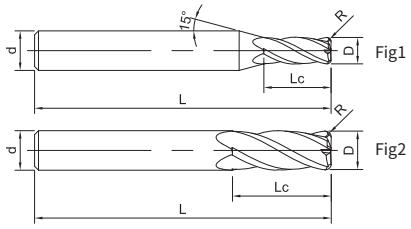
◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P664

ST300-RH4

NEW

4 Flutes, Corner Radius, with Long Shank Length



Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
ST300-RH4-12020A	12	2	30	100	12	2	○
ST300-RH4-12020B	12	2	30	120	12	2	●
ST300-RH4-12030A	12	3	30	100	12	2	○
ST300-RH4-12030B	12	3	30	120	12	2	●
ST300-RH4-16002A	16	0.2	40	150	16	2	○
ST300-RH4-16002B	16	0.2	50	200	16	2	○
ST300-RH4-16005A	16	0.5	40	150	16	2	●
ST300-RH4-16005B	16	0.5	50	200	16	2	○
ST300-RH4-16010A	16	1	40	150	16	2	●
ST300-RH4-16010B	16	1	50	200	16	2	○
ST300-RH4-16020A	16	2	40	150	16	2	●
ST300-RH4-16020B	16	2	50	200	16	2	○
ST300-RH4-16030A	16	3	40	150	16	2	●
ST300-RH4-16030B	16	3	50	200	16	2	○
ST300-RH4-16040A	16	4	40	150	16	2	○
ST300-RH4-16040B	16	4	50	200	16	2	○

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
				◎

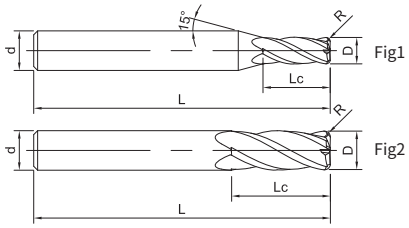
◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P664

ST300-RH4

NEW

4 Flutes, Corner Radius, with Long Shank Length



Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
ST300-RH4-16050A	16	5	40	150	16	2	○
ST300-RH4-16050B	16	5	50	200	16	2	○
ST300-RH4-20002A	20	0.2	50	150	20	2	○
ST300-RH4-20002B	20	0.2	50	200	20	2	○
ST300-RH4-20005A	20	0.5	50	150	20	2	●
ST300-RH4-20005B	20	0.5	50	200	20	2	○
ST300-RH4-20010A	20	1	50	150	20	2	●
ST300-RH4-20010B	20	1	50	200	20	2	○
ST300-RH4-20020A	20	2	50	150	20	2	●
ST300-RH4-20020B	20	2	50	200	20	2	○
ST300-RH4-20030A	20	3	50	150	20	2	●
ST300-RH4-20030B	20	3	50	200	20	2	○
ST300-RH4-20040A	20	4	50	150	20	2	○
ST300-RH4-20040B	20	4	50	200	20	2	○
ST300-RH4-20050A	20	5	50	150	20	2	○
ST300-RH4-20050B	20	5	50	200	20	2	○

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
				◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P664

ST300-RN4

NEW

4 Flutes, Corner Radius, with Long Neck

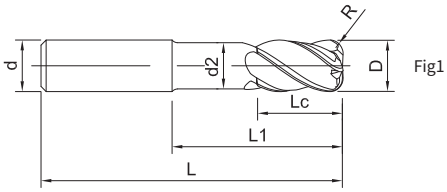


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
ST300-RN4-06005	6	0.5	12	18	5.4	60	6	1	○
ST300-RN4-06010	6	1	12	18	5.4	60	6	1	○
ST300-RN4-08005	8	0.5	16	25	7.4	75	8	1	●
ST300-RN4-08010	8	1	16	25	7.4	75	8	1	●
ST300-RN4-10005A	10	0.5	20	30	9.4	75	10	1	○
ST300-RN4-10005B	10	0.5	30	50	9.4	90	10	1	○
ST300-RN4-10010A	10	1	20	30	9.4	75	10	1	○
ST300-RN4-10010B	10	1	30	50	9.4	90	10	1	○
ST300-RN4-10020A	10	2	20	30	9.4	75	10	1	○
ST300-RN4-10020B	10	2	30	50	9.4	90	10	1	○
ST300-RN4-10030A	10	3	20	30	9.4	75	10	1	●
ST300-RN4-10030B	10	3	30	40	9.4	90	10	1	●
ST300-RN4-10030C	10	3	30	50	9.4	90	10	1	●
ST300-RN4-10030D	10	3	30	60	9.4	100	10	1	●
ST300-RN4-12005A	12	0.5	24	40	11.4	90	12	1	○
ST300-RN4-12005B	12	0.5	24	50	11.4	100	12	1	○
ST300-RN4-12010A	12	1	24	40	11.4	90	12	1	○
ST300-RN4-12010B	12	1	24	50	11.4	100	12	1	○
ST300-RN4-12010C	12	1	36	60	11.4	110	12	1	○
ST300-RN4-12020A	12	2	24	40	11.4	90	12	1	○
ST300-RN4-12020B	12	2	24	50	11.4	100	12	1	○

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
				◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P664

ST300-RN4 NEW

4 Flutes, Corner Radius, with Long Neck

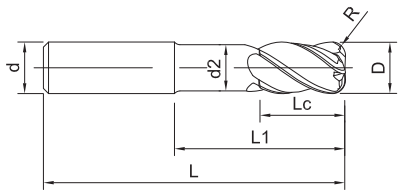


Fig1

SHANK h6 | 4 | GSR7115 | 40°/42° Helix | Corner-R

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
ST300-RN4-12030A	12	3	24	40	11.4	90	12	1	●
ST300-RN4-12030B	12	3	36	50	11.4	100	12	1	●
ST300-RN4-12030C	12	3	36	60	11.4	110	12	1	●
ST300-RN4-16005A	16	0.5	32	50	15.4	100	16	1	○
ST300-RN4-16005B	16	0.5	32	60	15.4	110	16	1	○
ST300-RN4-16005C	16	0.5	32	70	15.4	120	16	1	○
ST300-RN4-16005D	16	0.5	32	80	15.4	130	16	1	○
ST300-RN4-16010A	16	1	32	50	15.4	100	16	1	○
ST300-RN4-16010B	16	1	32	60	15.4	110	16	1	○
ST300-RN4-16010C	16	1	32	70	15.4	120	16	1	○
ST300-RN4-16010D	16	1	32	80	15.4	130	16	1	○
ST300-RN4-16020A	16	2	32	50	15.4	100	16	1	○
ST300-RN4-16020B	16	2	32	60	15.4	110	16	1	○
ST300-RN4-16030A	16	3	32	50	15.4	100	16	1	●
ST300-RN4-16030B	16	3	32	60	15.4	110	16	1	●
ST300-RN4-16030C	16	3	32	70	15.4	120	16	1	●
ST300-RN4-16030D	16	3	32	80	15.4	130	16	1	●
ST300-RN4-16040A	16	4	32	50	15.4	100	16	1	○
ST300-RN4-16040B	16	4	32	60	15.4	110	16	1	○
ST300-RN4-16040C	16	4	32	70	15.4	120	16	1	○

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
				◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P664

ST300-RN4 NEW

4 Flutes, Corner Radius, with Long Neck

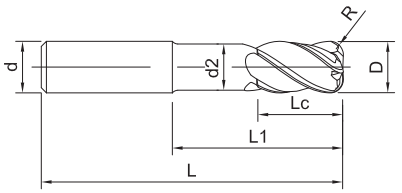


Fig1

SHANK h6 | 4 | GSR7115 | 40°/42° Helix | Corner-R

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
ST300-RN4-16040D	16	4	32	80	15.4	130	16	1	○
ST300-RN4-16050A	16	5	32	50	15.4	100	16	1	○
ST300-RN4-16050B	16	5	32	60	15.4	110	16	1	○
ST300-RN4-16050C	16	5	32	70	15.4	120	16	1	○
ST300-RN4-16050D	16	5	32	80	15.4	130	16	1	○
ST300-RN4-20005A	20	0.5	40	60	19.4	110	20	1	○
ST300-RN4-20005B	20	0.5	40	70	19.4	120	20	1	○
ST300-RN4-20005C	20	0.5	40	80	19.4	130	20	1	○
ST300-RN4-20005D	20	0.5	40	100	19.4	150	20	1	○
ST300-RN4-20010A	20	1	40	60	19.4	110	20	1	○
ST300-RN4-20010B	20	1	40	70	19.4	120	20	1	○
ST300-RN4-20010C	20	1	40	80	19.4	130	20	1	○
ST300-RN4-20010D	20	1	40	100	19.4	150	20	1	○
ST300-RN4-20020A	20	2	40	60	19.4	110	20	1	○
ST300-RN4-20020B	20	2	40	80	19.4	130	20	1	○
ST300-RN4-20030A	20	3	40	60	19.4	110	20	1	●
ST300-RN4-20030B	20	3	40	70	19.4	120	20	1	●
ST300-RN4-20030C	20	3	40	80	19.4	130	20	1	●
ST300-RN4-20030D	20	3	40	100	19.4	150	20	1	●
ST300-RN4-20040A	20	4	40	60	19.4	110	20	1	○

●Stock ○Available Upon Order

D	Tolerance
D＜6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
				◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P664

ST300-RN4 NEW

4 Flutes, Corner Radius, with Long Neck

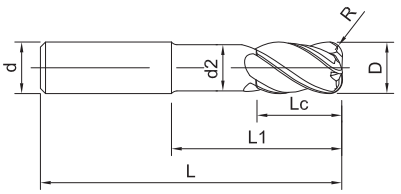


Fig1

SHANK h6 | 4 | GSR7115 | 40°/42° Helix | Corner-R

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
ST300-RN4-20040B	20	4	40	70	19.4	120	20	1	○
ST300-RN4-20040C	20	4	40	80	19.4	130	20	1	○
ST300-RN4-20040D	20	4	40	100	19.4	150	20	1	○
ST300-RN4-20050A	20	5	40	60	19.4	110	20	1	○
ST300-RN4-20050B	20	5	40	70	19.4	120	20	1	○
ST300-RN4-20050C	20	5	40	80	19.4	130	20	1	○
ST300-RN4-20050D	20	5	40	100	19.4	150	20	1	○
ST300-RN4-25005	25	0.5	50	80	24.4	140	25	1	○
ST300-RN4-25010A	25	1	50	80	24.4	140	25	1	○
ST300-RN4-25010B	25	1	50	100	24.4	160	25	1	○
ST300-RN4-25020	25	2	50	80	24.4	140	25	1	○
ST300-RN4-25030A	25	3	50	80	24.4	140	25	1	○
ST300-RN4-25030B	25	3	50	100	24.4	160	25	1	○
ST300-RN4-25030C	25	3	50	120	24.4	180	25	1	○
ST300-RN4-25040	25	4	50	80	24.4	140	25	1	○
ST300-RN4-25050A	25	5	50	80	24.4	140	25	1	○
ST300-RN4-25050B	25	5	50	100	24.4	160	25	1	○

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
				◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P664

ST300-R5

NEW

5 Flutes, Corner Radius

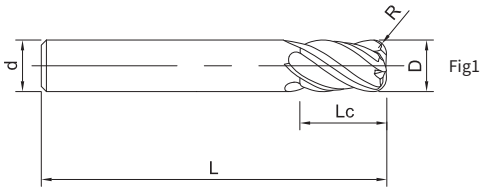


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	C	Lc	L	d	Drawing No.	In Stock
ST300-R5-06002	6	0.2	16	50	6	1	●
ST300-R5-06005	6	0.5	16	50	6	1	●
ST300-R5-06010	6	1	16	50	6	1	●
ST300-R5-08002	8	0.2	20	60	8	1	●
ST300-R5-08005	8	0.5	20	60	8	1	●
ST300-R5-08010	8	1	20	60	8	1	●
ST300-R5-10002	10	0.2	25	75	10	1	○
ST300-R5-10005	10	0.5	25	75	10	1	●
ST300-R5-10010	10	1	25	75	10	1	●
ST300-R5-10020	10	2	25	75	10	1	●
ST300-R5-10030	10	3	25	75	10	1	●
ST300-R5-12002	12	0.2	30	75	12	1	○
ST300-R5-12005	12	0.5	30	75	12	1	●
ST300-R5-12010	12	1	30	75	12	1	●
ST300-R5-12020	12	2	30	75	12	1	●

●Stock ○Available Upon Order

D	Tolerance
D＜6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
				◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P664

ST300-R5

NEW

5 Flutes, Corner Radius

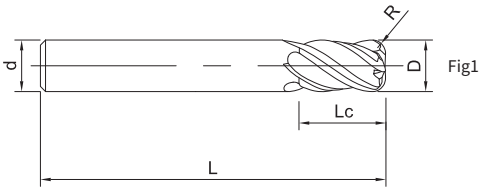


Fig1

Please refer to P201 for guidelines to icons

Continued

Order No.	D	C	Lc	L	d	Drawing No.	In Stock
ST300-R5-12030	12	3	30	75	12	1	●
ST300-R5-16002	16	0.2	36	100	16	1	○
ST300-R5-16005	16	0.5	36	100	16	1	●
ST300-R5-16010	16	1	36	100	16	1	●
ST300-R5-16020	16	2	36	100	16	1	●
ST300-R5-16030	16	3	36	100	16	1	●
ST300-R5-16040	16	4	36	100	16	1	○
ST300-R5-16050	16	5	36	100	16	1	○
ST300-R5-20002	20	0.2	45	100	20	1	○
ST300-R5-20005	20	0.5	45	100	20	1	●
ST300-R5-20010	20	1	45	100	20	1	●
ST300-R5-20020	20	2	45	100	20	1	●
ST300-R5-20030	20	3	45	100	20	1	●
ST300-R5-20040	20	4	45	100	20	1	○
ST300-R5-20050	20	5	45	100	20	1	○

●Stock ○Available Upon Order

D	Tolerance
D＜6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
				◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P664

ST300-RH5

NEW

5 Flutes, Corner Radius, with Long Shank Length

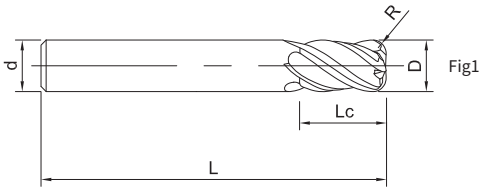


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	C	Lc	L	d	Drawing No.	In Stock
ST300-RH5-06002	6	0.2	16	75	6	1	●
ST300-RH5-06005	6	0.5	16	75	6	1	●
ST300-RH5-06010	6	1	16	75	6	1	●
ST300-RH5-08002	8	0.2	20	75	8	1	●
ST300-RH5-08005	8	0.5	20	75	8	1	●
ST300-RH5-08010	8	1	20	75	8	1	●
ST300-RH5-10002	10	0.2	30	100	10	1	○
ST300-RH5-10005	10	0.5	30	100	10	1	●
ST300-RH5-10010	10	1	30	100	10	1	●
ST300-RH5-10020	10	2	30	100	10	1	●
ST300-RH5-10030	10	3	30	100	10	1	●
ST300-RH5-12002A	12	0.2	30	100	12	1	○
ST300-RH5-12002B	12	0.2	30	120	12	1	○
ST300-RH5-12005A	12	0.5	30	100	12	1	○
ST300-RH5-12005B	12	0.5	30	120	12	1	●
ST300-RH5-12010A	12	1	30	100	12	1	○

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
				◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P664

ST300-RH5 NEW

5 Flutes, Corner Radius, with Long Shank Length

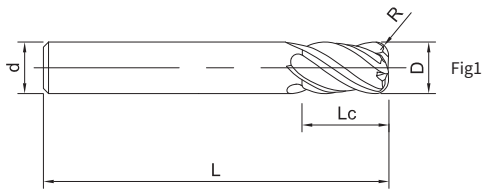


Fig1

SHANK h6 | 5 | GSR7115 | 42° Helix | Corner-R

Please refer to P201 for guidelines to icons

Continued

Order No.	D	C	Lc	L	d	Drawing No.	In Stock
ST300-RH5-12010B	12	1	30	120	12	1	●
ST300-RH5-12020A	12	2	30	100	12	1	○
ST300-RH5-12020B	12	2	30	120	12	1	●
ST300-RH5-12030A	12	3	30	100	12	1	○
ST300-RH5-12030B	12	3	30	120	12	1	●
ST300-RH5-16002A	16	0.2	40	150	16	1	○
ST300-RH5-16002B	16	0.2	50	200	16	1	○
ST300-RH5-16005A	16	0.5	40	150	16	1	●
ST300-RH5-16005B	16	0.5	50	200	16	1	○
ST300-RH5-16010A	16	1	40	150	16	1	●
ST300-RH5-16010B	16	1	50	200	16	1	○
ST300-RH5-16020A	16	2	40	150	16	1	●
ST300-RH5-16020B	16	2	50	200	16	1	○
ST300-RH5-16030A	16	3	40	150	16	1	●
ST300-RH5-16030B	16	3	50	200	16	1	○

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
				◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P664

ST300-RH5

NEW

5 Flutes, Corner Radius, with Long Shank Length

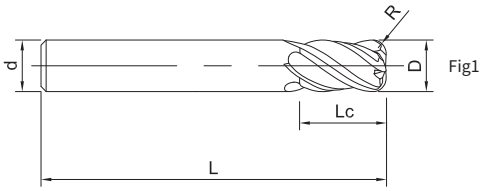


Fig1

SHANK h6 | 5 | GSR7115 | 42° Helix | Corner-R

Please refer to P201 for guidelines to icons

Continued

Order No.	D	C	Lc	L	d	Drawing No.	In Stock
ST300-RH5-16040A	16	4	40	150	16	1	○
ST300-RH5-16040B	16	4	50	200	16	1	○
ST300-RH5-16050A	16	5	40	150	16	1	○
ST300-RH5-16050B	16	5	50	200	16	1	○
ST300-RH5-20002A	20	0.2	50	150	20	1	○
ST300-RH5-20002B	20	0.2	50	200	20	1	○
ST300-RH5-20005A	20	0.5	50	150	20	1	●
ST300-RH5-20005B	20	0.5	50	200	20	1	○
ST300-RH5-20010A	20	1	50	150	20	1	●
ST300-RH5-20010B	20	1	50	200	20	1	○
ST300-RH5-20020A	20	2	50	150	20	1	●
ST300-RH5-20020B	20	2	50	200	20	1	○
ST300-RH5-20030A	20	3	50	150	20	1	●
ST300-RH5-20030B	20	3	50	200	20	1	○
ST300-RH5-20040A	20	4	50	150	20	1	○

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
				◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P664

ST300-RH5

NEW

5 Flutes, Corner Radius, with Long Shank Length

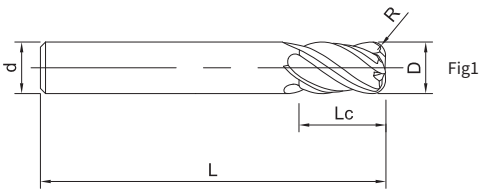


Fig1

Please refer to P201 for guidelines to icons

Continued

Order No.	D	C	Lc	L	d	Drawing No.	In Stock
ST300-RH5-20040B	20	4	50	200	20	1	○
ST300-RH5-20050A	20	5	50	150	20	1	○
ST300-RH5-20050B	20	5	50	200	20	1	○
ST300-RH5-25005A	25	0.5	50	150	25	1	○
ST300-RH5-25005B	25	0.5	50	200	25	1	○
ST300-RH5-25010A	25	1	50	150	25	1	○
ST300-RH5-25010B	25	1	50	200	25	1	○
ST300-RH5-25020A	25	2	50	150	25	1	○
ST300-RH5-25020B	25	2	50	200	25	1	○
ST300-RH5-25030A	25	3	50	150	25	1	○
ST300-RH5-25030B	25	3	50	200	25	1	○
ST300-RH5-25040A	25	4	50	150	25	1	○
ST300-RH5-25040B	25	4	50	200	25	1	○
ST300-RH5-25050A	25	5	50	150	25	1	○
ST300-RH5-25050B	25	5	50	200	25	1	○

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
				◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P664

ST300-RN5 NEW

5 Flutes, Corner Radius, with Long Neck

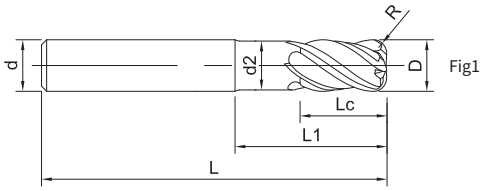


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
ST300-RN5-12005A	12	0.5	24	40	11.4	90	12	1	○
ST300-RN5-12005B	12	0.5	24	50	11.4	100	12	1	○
ST300-RN5-12010A	12	1	24	40	11.4	90	12	1	○
ST300-RN5-12010B	12	1	24	50	11.4	100	12	1	○
ST300-RN5-12020A	12	2	24	40	11.4	90	12	1	○
ST300-RN5-12020B	12	2	24	50	11.4	100	12	1	○
ST300-RN5-12030A	12	3	24	40	11.4	90	12	1	●
ST300-RN5-12030B	12	3	36	50	11.4	100	12	1	●
ST300-RN5-12030C	12	3	36	60	11.4	110	12	1	●
ST300-RN5-16005A	16	0.5	32	50	15.4	100	16	1	○
ST300-RN5-16005B	16	0.5	32	60	15.4	110	16	1	○
ST300-RN5-16005C	16	0.5	32	70	15.4	120	16	1	○
ST300-RN5-16005D	16	0.5	32	80	15.4	130	16	1	○
ST300-RN5-16010A	16	1	32	50	15.4	100	16	1	○
ST300-RN5-16010B	16	1	32	60	15.4	110	16	1	○
ST300-RN5-16010C	16	1	32	70	15.4	120	16	1	○
ST300-RN5-16010D	16	1	32	80	15.4	130	16	1	○
ST300-RN5-16020A	16	2	32	50	15.4	100	16	1	○
ST300-RN5-16020B	16	2	32	60	15.4	110	16	1	○
ST300-RN5-16030A	16	3	32	50	15.4	100	16	1	●

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
				◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P664

ST300-RN5 NEW

5 Flutes, Corner Radius, with Long Neck

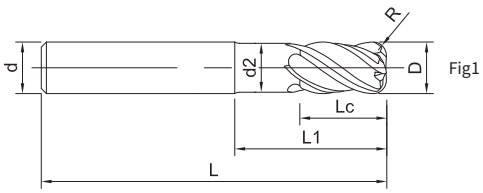


Fig1

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
ST300-RN5-16030B	16	3	32	60	15.4	110	16	1	●
ST300-RN5-16030C	16	3	32	70	15.4	120	16	1	●
ST300-RN5-16030D	16	3	32	80	15.4	130	16	1	●
ST300-RN5-16040A	16	4	32	50	15.4	100	16	1	○
ST300-RN5-16040B	16	4	32	60	15.4	110	16	1	○
ST300-RN5-16050A	16	5	32	50	15.4	100	16	1	○
ST300-RN5-16050B	16	5	32	60	15.4	110	16	1	○
ST300-RN5-16050C	16	5	32	70	15.4	120	16	1	○
ST300-RN5-16050D	16	5	32	80	15.4	130	16	1	○
ST300-RN5-20005A	20	0.5	40	60	19.4	110	20	1	○
ST300-RN5-20005B	20	0.5	40	70	19.4	120	20	1	○
ST300-RN5-20005C	20	0.5	40	80	19.4	130	20	1	○
ST300-RN5-20005D	20	0.5	40	100	19.4	150	20	1	○
ST300-RN5-20010A	20	1	40	60	19.4	110	20	1	○
ST300-RN5-20010B	20	1	40	70	19.4	120	20	1	○
ST300-RN5-20010C	20	1	40	80	19.4	130	20	1	○
ST300-RN5-20010D	20	1	40	100	19.4	150	20	1	○
ST300-RN5-20020A	20	2	40	60	19.4	110	20	1	○
ST300-RN5-20020B	20	2	40	80	19.4	130	20	1	○
ST300-RN5-20030A	20	3	40	60	19.4	110	20	1	●

●Stock ○Available Upon Order

D	Tolerance
D＜6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
				◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P664

ST300-RN5

NEW

5 Flutes, Corner Radius, with Long Neck

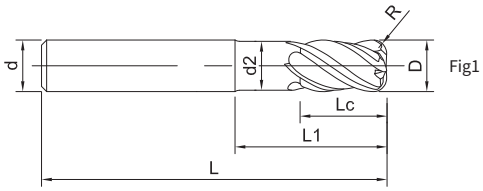


Fig1

SHANK h6 | 5 | GSR7115 | 42° Helix | Corner-R

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L1	d2	L	d	Drawing No.	In Stock
ST300-RN5-20030B	20	3	40	70	19.4	120	20	1	●
ST300-RN5-20030C	20	3	40	80	19.4	130	20	1	●
ST300-RN5-20030D	20	3	40	100	19.4	150	20	1	●
ST300-RN5-20040A	20	4	40	60	19.4	110	20	1	○
ST300-RN5-20040B	20	4	40	80	19.4	130	20	1	○
ST300-RN5-20050A	20	5	40	60	19.4	110	20	1	○
ST300-RN5-20050B	20	5	40	70	19.4	120	20	1	○
ST300-RN5-20050C	20	5	40	80	19.4	130	20	1	○
ST300-RN5-20050D	20	5	40	100	19.4	150	20	1	●
ST300-RN5-25005	25	0.5	50	80	24.4	140	25	1	○
ST300-RN5-25010A	25	1	50	80	24.4	140	25	1	○
ST300-RN5-25010B	25	1	50	100	24.4	160	25	1	○
ST300-RN5-25020	25	2	50	80	24.4	140	25	1	○
ST300-RN5-25030A	25	3	50	80	24.4	140	25	1	○
ST300-RN5-25030B	25	3	50	100	24.4	160	25	1	○
ST300-RN5-25030C	25	3	50	120	24.4	180	25	1	○
ST300-RN5-25040	25	4	50	80	24.4	140	25	1	○
ST300-RN5-25050A	25	5	50	80	24.4	140	25	1	○
ST300-RN5-25050B	25	5	50	100	24.4	160	25	1	○

●Stock ○Available Upon Order

D	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
				◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P664

ST300-C-R5

NEW

5 Flutes, Corner Radius (Trochoidal Milling Machining)

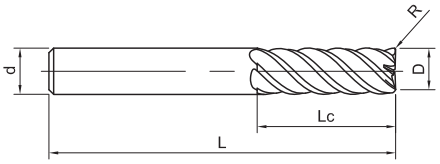


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
ST300-C-R5-06005	6	0.5	24	75	6	1	●
ST300-C-R5-06010	6	1	24	75	6	1	○
ST300-C-R5-06020	6	2	24	75	6	1	○
ST300-C-R5-08005	8	0.5	32	75	8	1	●
ST300-C-R5-08010	8	1	32	75	8	1	○
ST300-C-R5-08020	8	2	32	75	8	1	○
ST300-C-R5-10005	10	0.5	40	100	10	1	●
ST300-C-R5-10010	10	1	40	100	10	1	●
ST300-C-R5-10020	10	2	40	100	10	1	○
ST300-C-R5-10030	10	3	40	100	10	1	○
ST300-C-R5-12005	12	0.5	48	110	12	1	○
ST300-C-R5-12010	12	1	48	110	12	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
				◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P665

ST300-C-R5

NEW

5 Flutes, Corner Radius (Trochoidal Milling Machining)

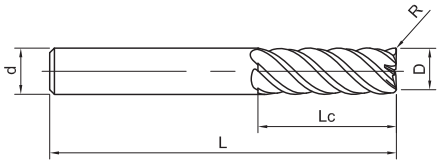


Fig1

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
ST300-C-R5-12020	12	2	48	110	12	1	○
ST300-C-R5-12030	12	3	48	110	12	1	●
ST300-C-R5-16005	16	0.5	64	130	16	1	○
ST300-C-R5-16010	16	1	64	130	16	1	○
ST300-C-R5-16020	16	2	64	130	16	1	○
ST300-C-R5-16030	16	3	64	130	16	1	●
ST300-C-R5-16040	16	4	64	130	16	1	○
ST300-C-R5-20005	20	0.5	80	140	20	1	○
ST300-C-R5-20010	20	1	80	140	20	1	○
ST300-C-R5-20020	20	2	80	140	20	1	○
ST300-C-R5-20030	20	3	80	140	20	1	●
ST300-C-R5-20040	20	4	80	140	20	1	○

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
				◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P665

STB200-CS NEW

4 Flutes, Taper, Ballnose (Trochoidal Milling Machining)

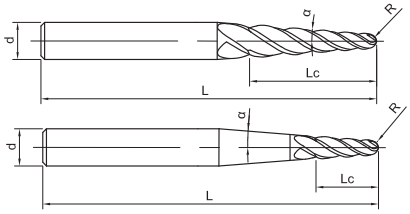


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	R	Lc	α	L	d	Z	Drawing No.	In Stock
STB200-CS-B4-3-2-25-d6	1	25	3°	75	6	4	2	●
STB200-CS-B4-3-2-15-d8	1	15	3°	100	8	4	2	○
STB200-CS-B4-3-3-25-d8	1.5	25	3°	80	8	4	2	●
STB200-CS-B4-3-3-25-d10	1.5	25	3°	100	10	4	2	○
STB200-CS-B4-4-3-25-d12	1.5	25	4°	100	12	4	2	○
STB200-CS-B4-3-4-15-d6	2	15	3°	75	6	4	2	●
STB200-CS-B4-3-4-20-d8	2	20	3°	80	8	4	2	○
STB200-CS-B4-3-4-20-d10	2	20	3°	100	10	4	2	○
STB200-CS-B4-4-4-30-d12	2	30	4°	100	12	4	2	○
STB200-CS-B4-3-5-30-d10	2.5	30	3°	100	10	4	2	○

●Stock ○Available Upon Order

R	Tolerance
R≤5	±0.02

Unit (mm)

Note:
★ For Model (Order No.) Designation Rules, please refer to page P206.

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
◎	◎	◎	○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P669

STB200-CS NEW

4 Flutes, Taper, Ballnose (Trochoidal Milling Machining)

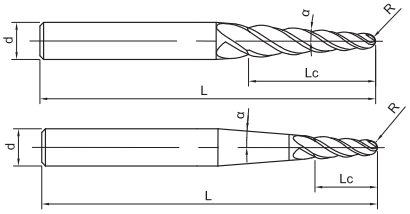


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	R	Lc	α	L	d	Z	Drawing No.	In Stock
STB200-CS-B4-4-5-30-d12	2.5	30	4°	100	12	4	2	○
STB200-CS-B4-3-6-30-d10	3	30	3°	100	10	4	2	●
STB200-CS-B4-3-6-30-d12	3	30	3°	100	12	4	2	○
STB200-CS-B4-4-6-45.8-d12	3	45.8	4°	100	12	4	1	●
STB200-CS-B4-4-6-35-d16	3	35	4°	130	16	4	2	○
STB200-CS-B4-4-7-39-d12	3.5	39	4°	110	12	4	1	○
STB200-CS-B4-4-8-32-d12	4	32	4°	110	12	4	1	●
STB200-CS-B4-4-8-61-d16	4	61	4°	130	16	4	1	○
STB200-CS-B4-3-10-45-d16	5	45	3°	130	16	4	2	○
STB200-CS-B4-4-10-48-d16	5	48	4°	110	16	4	1	●

●Stock ○Available Upon Order

R	Tolerance
R≤5	±0.02

Unit (mm)

Note:
★ For Model (Order No.) Designation Rules, please refer to page P206.

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
◎	◎	◎	○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P669

STB200-CT NEW

4/6 Flutes, Taper, Ballnose (Trochoidal Milling Machining)

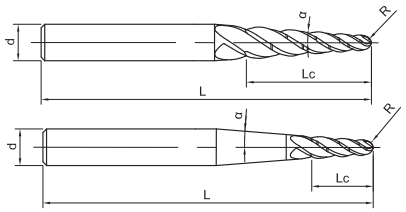


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	R	Lc	α	L	d	Z	Drawing No.	In Stock
STB200-CT-B4-3-2-25-d6	1	25	3°	75	6	4	2	○
STB200-CT-B4-3-2-15-d8	1	15	3°	100	8	4	2	○
STB200-CT-B4-3-3-25-d8	1.5	25	3°	80	8	4	2	○
STB200-CT-B4-3-3-25-d10	1.5	25	3°	100	10	4	2	○
STB200-CT-B4-4-3-25-d12	1.5	25	4°	100	12	4	2	●
STB200-CT-B4-3-4-15-d6	2	15	3°	75	6	4	2	●
STB200-CT-B4-3-4-20-d8	2	20	3°	80	8	4	2	○
STB200-CT-B4-3-4-30-d10	2	30	3°	100	10	4	2	○
STB200-CT-B4-3-4-20-d10	2	20	3°	100	10	4	2	○
STB200-CT-B4-4-4-30-d12	2	30	4°	100	12	4	2	○
STB200-CT-B4-3-5-30-d10	2.5	30	3°	100	10	4	2	○
STB200-CT-B4-4-5-30-d12	2.5	30	4°	100	12	4	2	○

●Stock ○Available Upon Order

R	Tolerance
1≤R≤9.5	±0.02

Unit (mm)

Note:
★ For Model (Order No.) Designation Rules, please refer to page P206.

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
				◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P669

STB200-CT NEW

4/6 Flutes, Taper, Ballnose (Trochoidal Milling Machining)

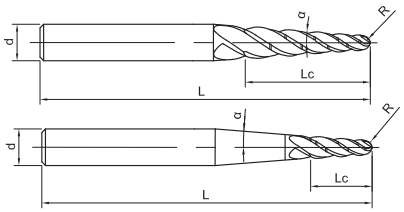


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	R	Lc	α	L	d	Z	Drawing No.	In Stock
STB200-CT-B4-3-6-30-d10	3	30	3°	100	10	4	2	○
STB200-CT-B4-3-6-30-d12	3	30	3°	100	12	4	2	○
STB200-CT-B4-4-6-45.8-d12	3	45.8	4°	100	12	4	1	●
STB200-CT-B4-4-6-35-d16	3	35	4°	130	16	4	2	○
STB200-CT-B4-4-7-39-d12	3.5	39	4°	110	12	4	1	○
STB200-CT-B4-4-8-32-d12	4	32	4°	110	12	4	1	○
STB200-CT-B4-4-8-61-d16	4	61	4°	130	16	4	1	●
STB200-CT-B4-3-10-45-d16	5	45	3°	130	16	4	2	●
STB200-CT-B4-4-10-48-d16	5	48	4°	110	16	4	1	●
STB200-CT-B4-4-12-34-d16	6	34	4°	110	16	4	1	○
STB200-CT-B6-4-12-34-d16	6	34	4°	110	16	6	1	○
STB200-CT-B6-1-19-37-d20	9.5	37	1°	180	20	6	1	○

●Stock ○Available Upon Order

R	Tolerance
1≤R≤9.5	±0.02

Unit (mm)

Note:
★ For Model (Order No.) Designation Rules, please refer to page P206.

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
				◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P669

STB200-CN NEW

4/6 Flutes, Taper, Ballnose (Trochoidal Milling Machining)

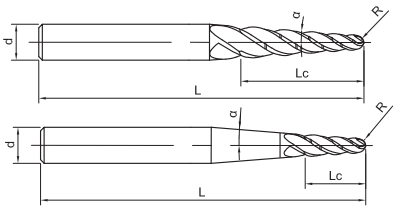


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	R	Lc	α	L	d	Z	Drawing No.	In Stock
STB200-CN-B4-3-2-25-d6	1	25	3°	75	6	4	2	●
STB200-CN-B4-3-2-15-d8	1	15	3°	100	8	4	2	○
STB200-CN-B4-3-3-25-d8	1.5	25	3°	80	8	4	2	○
STB200-CN-B4-3-3-25-d10	1.5	25	3°	100	10	4	2	○
STB200-CN-B4-4-3-25-d12	1.5	25	4°	100	12	4	2	○
STB200-CN-B4-3-4-15-d6	2	15	3°	75	6	4	2	○
STB200-CN-B4-3-4-20-d8	2	20	3°	80	8	4	2	●
STB200-CN-B4-3-4-30-d10	2	30	3°	100	10	4	2	○
STB200-CN-B4-3-4-20-d10	2	20	3°	100	10	4	2	○
STB200-CN-B4-4-4-30-d12	2	30	4°	100	12	4	2	○
STB200-CN-B4-3-5-30-d10	2.5	30	3°	100	10	4	2	○
STB200-CN-B4-4-5-30-d12	2.5	30	4°	100	12	4	2	○

●Stock ○Available Upon Order

R	Tolerance
1≤R≤9.5	±0.02

Unit (mm)

Note:
★ For Model (Order No.) Designation Rules, please refer to page P206.

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	○	◎	○

◎ Most Suitable ◯ Suitable

Recommended Cutting Data ※ P669

STB200-CN NEW

4/6 Flutes, Taper, Ballnose (Trochoidal Milling Machining)

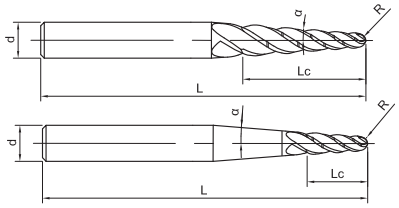


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	R	Lc	α	L	d	Z	Drawing No.	In Stock
STB200-CN-B4-3-6-30-d10	3	30	3°	100	10	4	2	●
STB200-CN-B4-3-6-30-d12	3	30	3°	100	12	4	2	○
STB200-CN-B4-4-6-45.8-d12	3	45.8	4°	100	12	4	1	○
STB200-CN-B4-4-6-35-d16	3	35	4°	130	16	4	2	○
STB200-CN-B4-4-7-39-d12	3.5	39	4°	110	12	4	1	○
STB200-CN-B4-4-8-32-d12	4	32	4°	110	12	4	1	●
STB200-CN-B4-4-8-61-d16	4	61	4°	130	16	4	1	○
STB200-CN-B4-3-10-45-d16	5	45	3°	130	16	4	2	○
STB200-CN-B4-4-10-48-d16	5	48	4°	110	16	4	1	●
STB200-CN-B4-4-12-34-d16	6	34	4°	110	16	4	1	○
STB200-CN-B6-4-12-34-d16	6	34	4°	110	16	6	1	○
STB200-CN-B6-1-19-37-d20	9.5	37	1°	180	20	6	1	○

●Stock ○Available Upon Order

R	Tolerance
1≤R≤9.5	±0.02

Unit (mm)

Note:
★ For Model (Order No.) Designation Rules, please refer to page P206.

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	○	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P669

STB200-FS

NEW

4 Flutes, Taper, Ballnose (Finishing)

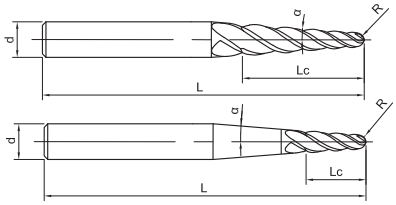


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	R	Lc	α	L	d	Z	Drawing No.	In Stock
STB200-FS-B4-3-2-6-d8	1	6	3°	80	8	4	2	○
STB200-FS-B4-4-2-6-d6	1	6	4°	75	6	4	2	●
STB200-FS-B4-3-3-10-d6	1.5	10	3°	75	6	4	2	●
STB200-FS-B4-4-3-10-d8	1.5	10	4°	80	8	4	2	○
STB200-FS-B4-3-4-10-d8	2	10	3°	80	8	4	2	○
STB200-FS-B4-4-4-10-d10	2	10	4°	100	10	4	2	●
STB200-FS-B4-4-4-45-d10	2	45	4°	100	10	4	1	○
STB200-FS-B4-4-4-59-d12	2	59	4°	120	12	4	1	○
STB200-FS-B4-4-5-10-d10	2.5	10	4°	100	10	4	2	●
STB200-FS-B4-3-6-15-d10	3	15	3°	100	10	4	2	○
STB200-FS-B4-4-6-15-d12	3	15	4°	100	12	4	2	●
STB200-FS-B4-4-6-45.8-d12	3	45.8	4°	100	12	4	1	○
STB200-FS-B4-4-6-74-d16	3	74	4°	140	16	4	1	○
STB200-FS-B4-3-8-15-d12	4	15	3°	100	12	4	2	○
STB200-FS-B4-4-8-32-d12	4	32	4°	110	12	4	1	○
STB200-FS-B4-4-8-61-d16	4	61	4°	120	16	4	1	●

●Stock ○Available Upon Order

R	Tolerance
R≤4	±0.01

Unit (mm)

Note:
★ For Model (Order No.) Designation Rules, please refer to page P206.

Workpiece Material					
P		M	K	S	
1234	5	123	123	123	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Cast Iron	High-temperature Alloy	Titanium Alloy
◎	◎	◎	○	○	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P670

STB200-FT

NEW

4/6 Flutes, Taper, Ballnose (Finishing)

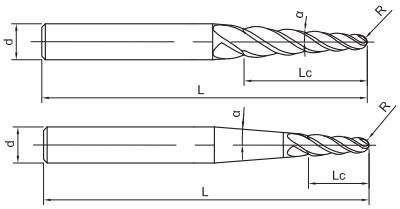


Fig1

Fig2

SHANK h6 | 4 | 6 | GSR7115 | 35° Helix | Ballnose

Please refer to P201 for guidelines to icons

Order No.	R	Lc	α	L	d	Z	Drawing No.	In Stock
STB200-FT-B4-3-2-6-d8	1	6	3°	80	8	4	2	○
STB200-FT-B4-4-2-6-d6	1	6	4°	75	6	4	1	○
STB200-FT-B4-3-3-10-d6	1.5	10	3°	75	6	4	1	○
STB200-FT-B4-4-3-10-d8	1.5	10	4°	80	8	4	2	●
STB200-FT-B4-3-4-10-d8	2	10	3°	80	8	4	2	○
STB200-FT-B4-4-4-10-d10	2	10	4°	100	10	4	2	●
STB200-FT-B4-4-4-45-d10	2	45	4°	100	10	4	1	○
STB200-FT-B4-4-4-59-d12	2	59	4°	120	12	4	1	○
STB200-FT-B6-4-4-87-d16	2	87	4°	150	16	6	1	○
STB200-FT-B4-4-5-10-d10	2.5	10	4°	100	10	4	2	●
STB200-FT-B4-3-6-15-d10	3	15	3°	100	10	4	2	●
STB200-FT-B4-4-6-15-d12	3	15	4°	100	12	4	2	●
STB200-FT-B4-4-6-45.8-d12	3	45.8	4°	100	12	4	1	○
STB200-FT-B4-4-6-74-d16	3	74	4°	140	16	4	1	○
STB200-FT-B4-3-8-15-d12	4	15	3°	100	12	4	2	○
STB200-FT-B4-4-8-32-d12	4	32	4°	110	12	4	1	○
STB200-FT-B4-4-8-61-d16	4	61	4°	120	16	4	1	●
STB200-FT-B6-2-12-20-d20	6	20	2°	180	20	6	2	●

●Stock ○Available Upon Order

R	Tolerance
1≤R≤6	±0.01

Unit (mm)

Note:
★ For Model (Order No.) Designation Rules, please refer to page P206.

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
				◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P670

STB200-FN NEW

4/6 Flutes, Taper, Ballnose (Finishing)

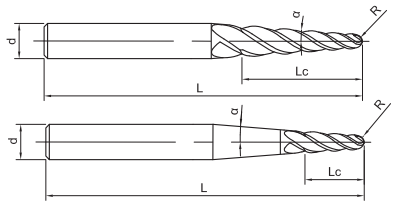


Fig1

Fig2

SHANK h6 | 4 | 6 | TiAlN | 35° Helix | Ballnose

Please refer to P201 for guidelines to icons

Order No.	R	Lc	α	L	d	Z	Drawing No.	In Stock
STB200-FN-B4-3-2-6-d8	1	6	3°	80	8	4	2	○
STB200-FN-B4-4-2-6-d6	1	6	4°	75	6	4	1	●
STB200-FN-B4-3-3-10-d6	1.5	10	3°	75	6	4	1	●
STB200-FN-B4-4-3-10-d8	1.5	10	4°	80	8	4	2	●
STB200-FN-B4-3-4-10-d8	2	10	3°	80	8	4	2	●
STB200-FN-B4-4-4-10-d10	2	10	4°	100	10	4	2	●
STB200-FN-B4-4-4-45-d10	2	45	4°	100	10	4	1	●
STB200-FN-B4-4-4-59-d12	2	59	4°	120	12	4	1	○
STB200-FN-B6-4-4-87-d16	2	87	4°	150	16	6	1	○
STB200-FN-B4-4-5-10-d10	2.5	10	4°	100	10	4	2	●
STB200-FN-B4-3-6-15-d10	3	15	3°	100	10	4	2	●
STB200-FN-B4-4-6-15-d12	3	15	4°	100	12	4	2	○
STB200-FN-B4-4-6-45.8-d12	3	45.8	4°	100	12	4	1	○
STB200-FN-B4-4-6-74-d16	3	74	4°	140	16	4	1	○
STB200-FN-B4-3-8-15-d12	4	15	3°	100	12	4	2	●
STB200-FN-B4-4-8-32-d12	4	32	4°	110	12	4	1	●
STB200-FN-B4-4-8-61-d16	4	61	4°	120	16	4	1	●
STB200-FN-B6-2-12-20-d20	6	20	2°	180	20	6	2	●

●Stock ○Available Upon Order

R	Tolerance
1≤R≤6	±0.01

Unit (mm)

Note:
★ For Model (Order No.) Designation Rules, please refer to page P206.

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	○	◎	○

◎ Most Suitable ◯ Suitable

Recommended Cutting Data ※ P670

SM200-TP2

2 Flutes, Ballnose, with Long Neck

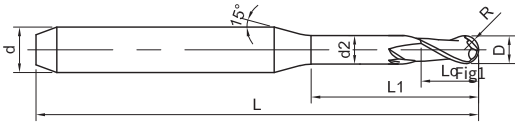


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	d2	L1	L	d	Teeth	Drawing No.	In Stock
SM200-TP2-1-12-50-d6	1	0.5	2.5	0.95	12	50	6	2	1	○
SM200-TP2-1.5-14-50-d6	1.5	0.75	3	1.45	14	50	6	2	1	○
SM200-TP2-2-16-50-d6	2	1	3	1.95	16	50	6	2	1	○
SM200-TP2-3-16-50-d6	3	1.5	4	2.95	16	50	6	2	1	●

●Stock ○Available Upon Order

R	Tolerance
0.5≤R≤1.5	±0.007

Unit (mm)

Workpiece Material				
N			S	
123	4	5	123	45
Aluminum Alloy	Copper Alloy	Zirconia	High-temperature Alloy	Titanium Alloy/ Cobalt-chromium Alloy
				◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P665

SM200-RO2/RO3

2/3 Flutes, Ballnose, with Long Neck

Interchangeable equipment: DWX50, DWX30, DWX51D

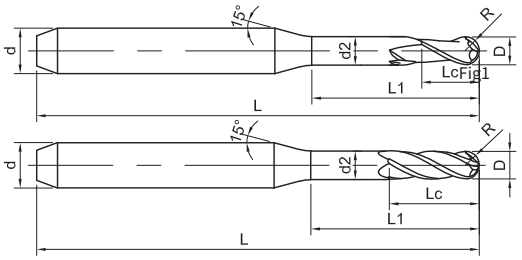


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	d2	L1	L	d	Teeth	Drawing No.	In Stock
SM200-RO2-1.0-16-45	1	0.5	6	0.92	16	45	4	2	1	●
SM200-RO2-2.0-16-45	2	1	8	1.92	16	45	4	2	1	●
SM200-RO2-0.6-6-50-d4	0.6	0.3	2	0.55	6	50	4	2	1	●
SM200-RO2-0.6-14-50-d4	0.6	0.3	2	0.55	14	50	4	2	1	○
SM200-RO2-1-16-50-d4	1	0.5	6	0.95	16	50	4	2	1	●
SM200-RO2-1-20-50-d4	1	0.5	6	0.95	20	50	4	2	1	●
SM200-RO2-2-16-50-d4	2	1	8	1.95	16	50	4	2	1	●
SM200-RO2-2-20-50-d4	2	1	8	1.95	20	50	4	2	1	●
SM200-RO2-3-20-50-d4	3	1.5	10	2.95	20	50	4	2	1	●
SM200-RO3-1-16-50-d4	1	0.5	6	0.95	16	50	4	3	2	○
SM200-RO3-1-20-50-d4	1	0.5	6	0.95	20	50	4	3	2	○
SM200-RO3-2-16-50-d4	2	1	8	1.95	16	50	4	3	2	○
SM200-RO3-2-20-50-d4	2	1	8	1.95	20	50	4	3	2	○
SM200-RO3-3-20-50-d4	3	1.5	10	2.95	20	50	4	3	2	○

●Stock ○Available Upon Order

R	Tolerance
0.3≤R≤1.5	±0.007

Unit (mm)

Workpiece Material				
N			S	
123	4	5	123	45
Aluminum Alloy	Copper Alloy	Zirconia	High-temperature Alloy	Titanium Alloy/ Cobalt-chromium Alloy
		◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P665

SM200-VH2/VH3

2/3 Flutes, Ballnose, with Long Neck

Interchangeable Equipment: 5Axes, Wieland, Brux Zir, EzMill, Jensen

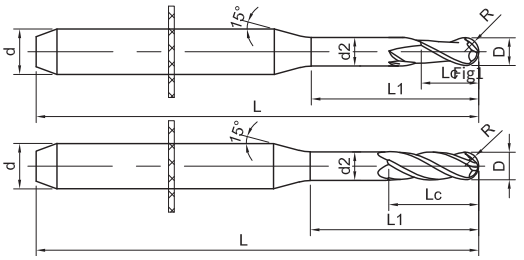


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	d2	L1	L	d	Teeth	Drawing No.	In Stock
SM200-VH2-0.6-7-40-d3	0.6	0.3	2	0.55	7	40	3	2	1	○
SM200-VH2-0.6-11-40-d3	0.6	0.3	2	0.55	11	40	3	2	1	○
SM200-VH2-1-17-40-d3	1	0.5	5	0.95	17	40	3	2	1	○
SM200-VH2-2-17-40-d3	2	1	8	1.95	17	40	3	2	1	○
SM200-VH3-1-16-40-d3	1	0.5	5	0.95	16	40	3	3	2	○
SM200-VH3-2-17-40-d3	2	1	8	1.95	17	40	3	3	2	○

●Stock ○Available Upon Order

R	Tolerance
0.3≤R≤1	±0.007

Unit (mm)

Workpiece Material				
N			S	
123	4	5	123	45
Aluminum Alloy	Copper Alloy	Zirconia	High-temperature Alloy	Titanium Alloy/ Cobalt-chromium Alloy
		◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P665

SM200-WI2/WI3

2/3 Flutes, Ballnose, with Long Neck

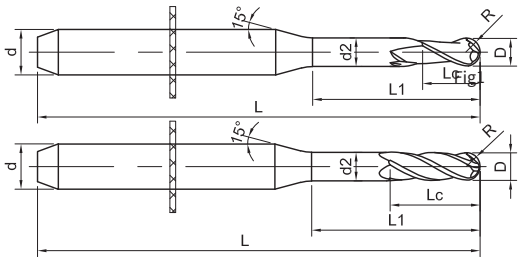


Fig1

Fig2

Special Equipment: Wieland

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	d2	L1	L	d	Teeth	Drawing No.	In Stock
SM200-WI2-0.6-7-40-d3	0.6	0.3	2	0.55	7	40	3	2	1	○
SM200-WI2-0.7-7-40-d3	0.7	0.35	2	0.65	7	40	3	2	1	○
SM200-WI2-1-17-40-d3	1	0.5	5	0.95	17	40	3	2	1	○
SM200-WI2-2-17-40-d3	2	1	8	1.95	17	40	3	2	1	○
SM200-WI2-2.5-20-40-d3	2.5	1.25	10	2.45	20	40	3	2	1	●
SM200-WI3-1-17-40-d3	1	0.5	5	0.95	17	40	3	3	2	○
SM200-WI3-2-17-40-d3	2	1	8	1.95	17	40	3	3	2	○
SM200-WI3-2.5-20-40-d3	2.5	1.25	10	2.45	20	40	3	3	2	●

●Stock ○Available Upon Order

R	Tolerance
0.3≤R≤1.25	±0.007

Unit (mm)

Workpiece Material				
N			S	
123	4	5	123	45
Aluminum Alloy	Copper Alloy	Zirconia	High-temperature Alloy	Titanium Alloy/ Cobalt-chromium Alloy
		◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P665

SM200-IM2/IM3

2/3 Flutes, Ballnose, with Long Neck

Special Equipment: 250i

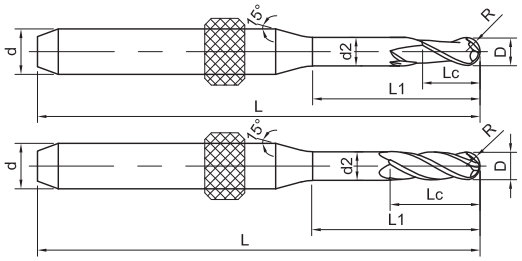


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	d2	L1	L	d	Teeth	Drawing No.	In Stock
SM200-IM2-0.6-7-48-d3	0.6	0.3	2	0.55	7	48	3	2	1	○
SM200-IM2-0.65-12-48-d3	0.65	0.325	2	0.60	12	48	3	2	1	○
SM200-IM2-1-16-48-d3	1	0.5	2	0.95	16	48	3	2	1	○
SM200-IM2-2-20-48-d3	2	1	8	1.95	20	48	3	2	1	●
SM200-IM2-2.5-20-48-d3	2.5	1.25	9	2.45	20	48	3	2	1	●
SM200-IM3-1-16-48-d3	1	0.5	2	0.95	16	48	3	3	2	○
SM200-IM3-2-20-48-d3	2	1	8	1.95	20	48	3	3	2	○
SM200-IM3-2.5-20-48-d3	2.5	1.25	9	2.45	20	48	3	3	2	○

●Stock ○Available Upon Order

R	Tolerance
0.3≤R≤1.25	±0.007

Unit (mm)

Workpiece Material				
N			S	
123	4	5	123	45
Aluminum Alloy	Copper Alloy	Zirconia	High-temperature Alloy	Titanium Alloy/ Cobalt-chromium Alloy
		◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P665

SM200-IM2/IM3

2/3 Flutes, Ballnose, with Long Neck

Interchangeable Equipment: 450i, 540i, DMG

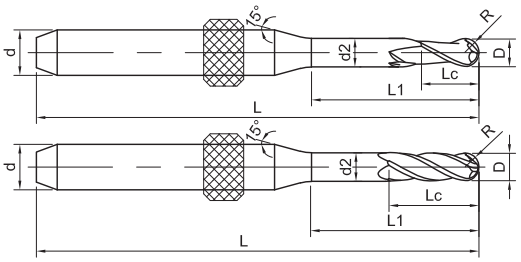


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	d2	L1	L	d	Teeth	Drawing No.	In Stock
SM200-IM2-0.6-7-53-d6	0.6	0.3	2	0.55	7	53	6	2	1	●
SM200-IM2-0.65-12-53-d6	0.65	0.325	2	0.60	12	53	6	2	1	○
SM200-IM2-1-16-53-d6	1	0.5	2	0.95	16	53	6	2	1	●
SM200-IM2-2-20-53-d6	2	1	8	1.95	20	53	6	2	1	○
SM200-IM2-2.5-20-53-d6	2.5	1.25	9	2.45	20	53	6	2	1	●
SM200-IM3-1-16-53-d6	1	0.5	2	0.95	16	53	6	3	2	○
SM200-IM3-2-20-53-d6	2	1	8	1.95	20	53	6	3	2	○
SM200-IM3-2.5-20-53-d6	2.5	1.25	9	2.45	20	53	6	3	2	○

●Stock ○Available Upon Order

R	Tolerance
0.3≤R≤1.25	±0.007

Unit (mm)

Workpiece Material				
N			S	
123	4	5	123	45
Aluminum Alloy	Copper Alloy	Zirconia	High-temperature Alloy	Titanium Alloy/ Cobalt-chromium Alloy
		◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P665

SM200-ZI2/ZI3

2/3 Flutes, Ballnose, with Long Neck

Interchangeable Equipment: M1, M5

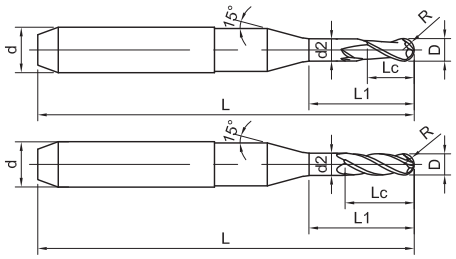


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	d2	L1	L	d	Teeth	Drawing No.	In Stock
SM200-ZI2-0.5-5-57-d3	0.5	0.25	3	0.45	5	57	3	2	1	●
SM200-ZI2-0.5-5-50-d6	0.5	0.25	3	0.45	5	50	6	2	1	●
SM200-ZI2-1-16-57-d3	1	0.5	6	0.95	16	57	3	2	1	●
SM200-ZI2-1-12-50-d6	1	0.5	6	0.95	12	50	6	2	1	○
SM200-ZI2-2-18-57-d3	2	1	10	1.95	18	57	3	2	1	●
SM200-ZI2-2-18-50-d6	2	1	10	1.95	18	50	6	2	1	○
SM200-ZI3-1-16-57-d3	1	0.5	6	0.95	16	57	3	3	2	○
SM200-ZI3-1-12-50-d6	1	0.5	6	0.95	12	50	6	3	2	○
SM200-ZI3-2-18-57-d3	2	1	10	1.95	18	57	3	3	2	○
SM200-ZI3-2-18-50-d6	2	1	10	1.95	18	50	6	3	2	○

●Stock ○Available Upon Order

R	Tolerance
0.25≤R≤1.5	±0.007

Unit (mm)

Workpiece Material				
N			S	
123	4	5	123	45
Aluminum Alloy	Copper Alloy	Zirconia	High-temperature Alloy	Titanium Alloy/ Cobalt-chromium Alloy
		◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P665

SM200-ZI2

2 Flutes, Ballnose, with Long Neck

Special Equipment: M1

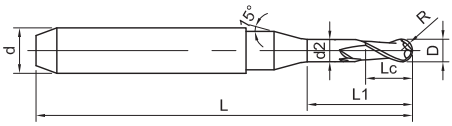


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	d2	L1	L	d	Teeth	Drawing No.	In Stock
SM200-ZI2-2-18-50-d6-R	2	1	3	1.95	18	50	6	2	1	○
SM200-ZI2-3-18-50-d6	3	1.5	4	2.95	18	50	6	2	1	○

●Stock ○Available Upon Order

R	Tolerance
0.25≤R≤1.25	±0.007

Unit (mm)

Workpiece Material				
N			S	
123	4	5	123	45
Aluminum Alloy	Copper Alloy	Zirconia	High-temperature Alloy	Titanium Alloy/ Cobalt-chromium Alloy
				◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P665

SM200-AR2/AR3

2/3 Flutes, Ballnose, with Long Neck

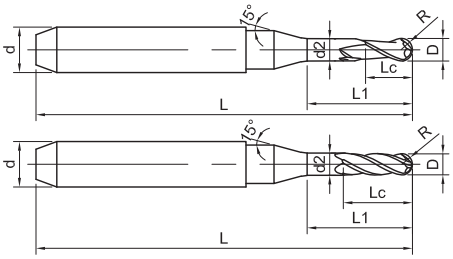


Fig1

Fig1

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	d2	L1	L	d	Teeth	Drawing No.	In Stock
SM200-AR2-0.6-13-50-d6	0.6	0.3	2	0.55	13	50	6	2	1	●
SM200-AR2-0.6-13-63-d6	0.6	0.3	2	0.55	13	63	6	2	1	○
SM200-AR2-1-16-50-d6	1	0.5	6	0.95	16	50	6	2	1	●
SM200-AR2-1-16-63-d6	1	0.5	6	0.95	16	63	6	2	1	○
SM200-AR2-2-20-50-d6	2	1	8	1.95	20	50	6	2	1	●
SM200-AR2-2-20-63-d6	2	1	8	1.95	20	63	6	2	1	○
SM200-AR3-1-16-50-d6	1	0.5	6	0.95	16	50	6	3	2	○
SM200-AR3-1-16-63-d6	1	0.5	6	0.95	16	63	6	3	2	○
SM200-AR3-2-20-50-d6	2	1	8	1.95	20	50	6	3	2	○
SM200-AR3-2-20-63-d6	2	1	8	1.95	20	63	6	3	2	○

●Stock ○Available Upon Order

R	Tolerance
0.3≤R≤1.5	±0.007

Unit (mm)

Workpiece Material				
N			S	
123	4	5	123	45
Aluminum Alloy	Copper Alloy	Zirconia	High-temperature Alloy	Titanium Alloy/ Cobalt-chromium Alloy
		◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P666

SM200-AR2

2 Flutes, Ballnose, with Long Neck

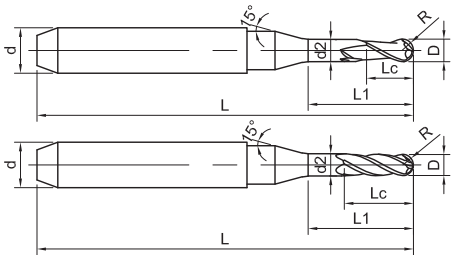


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	d2	L1	L	d	Teeth	Drawing No.	In Stock
SM200-AR2-1-8-50-d6	1	0.5	3	0.95	8	50	6	2	1	●
SM200-AR2-1.5-10-50-d6	1.5	0.75	3	1.45	10	50	6	2	1	●
SM200-AR2-2-12-50-d6	2	1	3	1.95	12	50	6	2	1	●
SM200-AR2-3-14-50-d6	3	1.5	2.5	2.95	14	50	6	2	1	●

●Stock ○Available Upon Order

R	Tolerance
0.3≤R≤1.5	±0.007

Unit (mm)

Workpiece Material				
N			S	
123	4	5	123	45
Aluminum Alloy	Copper Alloy	Zirconia	High-temperature Alloy	Titanium Alloy/ Cobalt-chromium Alloy
				◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P666

SM200-KL2

2 Flutes, Ballnose, with Long Neck

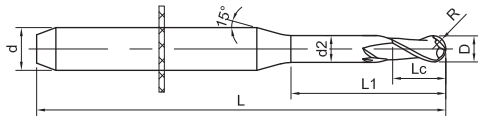


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	d2	L1	L	d	Teeth	Drawing No.	In Stock
SM200-KL2-0.6-7-40-d3	0.6	0.3	2	0.55	7	40	3	2	1	●
SM200-KL2-1.5-16-40-d3	1.5	0.75	6	1.45	16	40	3	2	1	●
SM200-KL2-1-16-40-d3	1	0.5	4	0.95	16	40	3	2	1	●
SM200-KL2-2-16-40-d3	2	1	8	1.95	16	40	3	2	1	●

●Stock ○Available Upon Order

R	Tolerance
0.3≤R≤1	±0.007

Unit (mm)

Workpiece Material				
N			S	
123	4	5	123	45
Aluminum Alloy	Copper Alloy	Zirconia	High-temperature Alloy	Titanium Alloy/ Cobalt-chromium Alloy
		◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P665

SM200-XT2

2 Flutes, Ballnose, with Long Neck

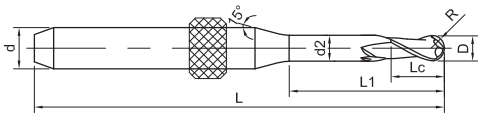


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	d2	L1	L	d	Teeth	Drawing No.	In Stock
SM200-XT2-0.6-5-50-d3	0.6	0.3	2	0.55	5	50	3	2	1	●
SM200-XT2-0.8-16-50-d3	0.8	0.4	6	0.72	16	50	3	2	1	●
SM200-XT2-1.5-16-50-d3	1.5	0.75	8	1.42	16	50	3	2	1	●
SM200-XT2-1-16-50-d3	1	0.5	6	0.95	16	50	3	2	1	●
SM200-XT2-2-16-50-d3	2	1	8	1.95	16	50	3	2	1	●
SM200-XT2-2-22-50-d3	2	1	8	1.95	22	50	3	2	1	●
SM200-XT2-2-25-50-d3	2	1	8	1.95	25	50	3	2	1	○
SM200-XT2-0.6-6-50-d4	0.6	0.3	2	0.55	6	50	4	2	1	●
SM200-XT2-1.5-16-50-d4	1.5	0.75	8	1.45	16	50	4	2	1	●
SM200-XT2-1-16-50-d4	1	0.5	6	0.95	16	50	4	2	1	●
SM200-XT2-2-16-50-d4	2	1	8	1.95	16	50	4	2	1	○
SM200-XT2-2-18-50-d4	2	1	8	1.95	18	50	4	2	1	●

●Stock ○Available Upon Order

R	Tolerance
0.3≤R≤1.5	±0.007

Unit (mm)

Workpiece Material				
N			S	
123	4	5	123	45
Aluminum Alloy	Copper Alloy	Zirconia	High-temperature Alloy	Titanium Alloy/ Cobalt-chromium Alloy
		◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P665

SM200-XT2

2 Flutes, Ballnose, with Long Neck

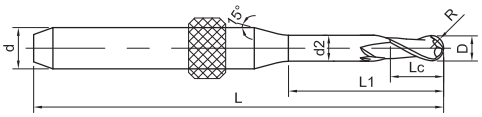


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	d2	L1	L	d	Teeth	Drawing No.	In Stock
SM200-XT2-1-10-50-d4	1	0.5	2.5	0.95	10	50	4	2	1	○
SM200-XT2-2-12-50-d4	2	1	2.5	1.95	12	50	4	2	1	○
SM200-XT2-3-14-50-d4	3	1.5	4	2.95	14	50	4	2	2	○

●Stock ○Available Upon Order

R	Tolerance
0.3≤R≤1.5	±0.007

Unit (mm)

Workpiece Material				
N			S	
123	4	5	123	45
Aluminum Alloy	Copper Alloy	Zirconia	High-temperature Alloy	Titanium Alloy/ Cobalt-chromium Alloy
				◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P665

SN200-R4

4 Flutes, Corner Raidus, with Unequal Tooth Pitch

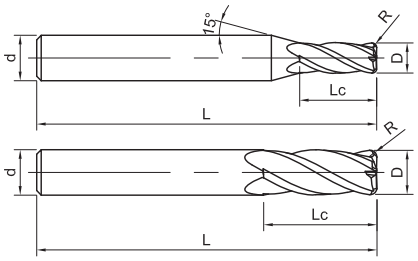


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SN200-R4-01001	1	0.1	3	50	4	1	●
SN200-R4-61001	1	0.1	3	50	6	1	○
SN200-R4-01501	1.5	0.1	4.5	50	4	1	●
SN200-R4-61501	1.5	0.1	4.5	50	6	1	●
SN200-R4-01502	1.5	0.2	4.5	50	4	1	○
SN200-R4-02002	2	0.2	6	50	4	1	●
SN200-R4-62002	2	0.2	6	50	6	1	●
SN200-R4-02005	2	0.5	6	50	4	1	●
SN200-R4-62005	2	0.5	6	50	6	1	●
SN200-R4-03002	3	0.2	8	50	4	1	●
SN200-R4-63002	3	0.2	8	50	6	1	●
SN200-R4-03005	3	0.5	8	50	4	1	●
SN200-R4-63005	3	0.5	8	50	6	1	●
SN200-R4-04002	4	0.2	11	50	4	2	●
SN200-R4-64002	4	0.2	11	50	6	1	●
SN200-R4-04003	4	0.3	11	50	4	2	○
SN200-R4-64003	4	0.3	11	50	6	1	○
SN200-R4-04005	4	0.5	11	50	4	2	○

● Standard Inventory ○ To be Booked

D	Tolerance
D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	○	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P666

SN200-R4

4 Flutes, Corner Raidus, with Unequal Tooth Pitch

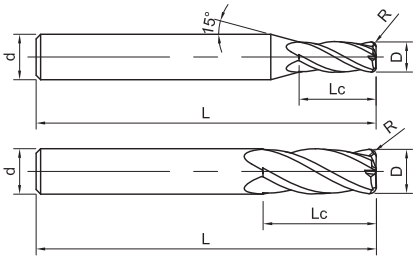


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SN200-R4-64005	4	0.5	11	50	6	1	●
SN200-R4-04010	4	1	11	50	4	2	○
SN200-R4-64010	4	1	11	50	6	1	○
SN200-R4-05002	5	0.2	13	50	6	1	●
SN200-R4-05005	5	0.5	13	50	6	1	●
SN200-R4-05010	5	1	13	50	6	1	○
SN200-R4-06002	6	0.2	15	50	6	2	●
SN200-R4-06003	6	0.3	15	50	6	2	○
SN200-R4-06005	6	0.5	15	50	6	2	●
SN200-R4-06010	6	1	15	50	6	2	●
SN200-R4-06015	6	1.5	15	50	6	2	●
SN200-R4-06020	6	2	15	50	6	2	○
SN200-R4-08002	8	0.2	20	60	8	2	●
SN200-R4-08005	8	0.5	20	60	8	2	●

● Standard Inventory ○ To be Booked

D	Tolerance
D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	○	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P666

SN200-R4

4 Flutes, Corner Raidus, with Unequal Tooth Pitch

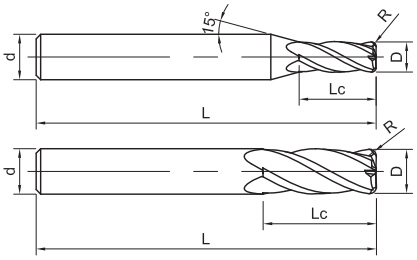


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SN200-R4-08010A	8	1	20	60	8	2	●
SN200-R4-08015	8	1.5	20	60	8	2	●
SN200-R4-08020	8	2	20	60	8	2	●
SN200-R4-10002	10	0.2	25	75	10	2	●
SN200-R4-10005	10	0.5	25	75	10	2	●
SN200-R4-10010	10	1	22	72	10	2	●
SN200-R4-10010A	10	1	25	75	10	2	●
SN200-R4-10015	10	1.5	25	75	10	2	●
SN200-R4-10020	10	2	25	75	10	2	●
SN200-R4-10025	10	2.5	25	75	10	2	●
SN200-R4-12002	12	0.2	26	83	12	2	●
SN200-R4-12005	12	0.5	26	83	12	2	●

● Standard Inventory ○ To be Booked

D	Tolerance
D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	○	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P666

SN200-R4

4 Flutes, Corner Raidus, with Unequal Tooth Pitch

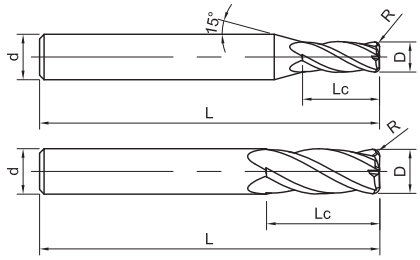


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SN200-R4-12010	12	1	26	83	12	2	●
SN200-R4-12015	12	1.5	26	83	12	2	●
SN200-R4-12020	12	2	26	83	12	2	●
SN200-R4-12025	12	2.5	26	83	12	2	●
SN200-R4-12030	12	3	26	83	12	2	●
SN200-R4-16002	16	0.2	32	92	16	2	●
SN200-R4-16005	16	0.5	32	92	16	2	●
SN200-R4-16010	16	1	32	92	16	2	●
SN200-R4-16015	16	1.5	32	92	16	2	○
SN200-R4-16020	16	2	32	92	16	2	○
SN200-R4-16025	16	2.5	32	92	16	2	○
SN200-R4-16030	16	3	32	92	16	2	●
SN200-R4-16040	16	4	32	92	16	2	○
SN200-R4-18010	18	1	32	92	18	2	○
SN200-R4-20002	20	0.2	38	100	20	2	●
SN200-R4-20010	20	1	38	100	20	2	●
SN200-R4-20020	20	2	38	100	20	2	●
SN200-R4-20030	20	3	38	100	20	2	●

● Standard Inventory ○ To be Booked

D	Tolerance
D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	○	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P666

SN200-RH4

4 Flutes, Corner Raidus, with Unequal Tooth Pitch and Long Shank

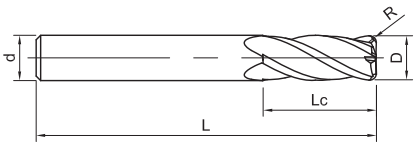


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SN200-RH4-08010	8	1	20	75	8	1	●
SN200-RH4-08020	8	2	20	75	8	1	○
SN200-RH4-10010	10	1	25	100	10	1	●
SN200-RH4-10020	10	2	25	100	10	1	○
SN200-RH4-12002	12	0.2	26	100	12	1	○
SN200-RH4-12010	12	1	26	100	12	1	●
SN200-RH4-12020	12	2	26	100	12	1	○
SN200-RH4-16010	16	1	32	110	16	1	●
SN200-RH4-16020	16	2	32	110	16	1	●
SN200-RH4-16030	16	3	32	110	16	1	●
SN200-RH4-16040	16	4	32	110	16	1	●

● Standard Inventory ○ To be Booked

D	Tolerance
D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	○	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P666

SN200-B4

4 Flutes, Ballnose, with Unequal Tooth Pitch

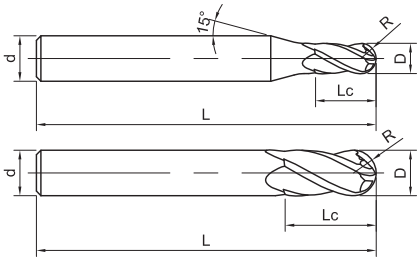


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SN200-B4-02004	2	1	4	50	4	1	●
SN200-B4-62004	2	1	4	50	6	1	●
SN200-B4-03006	3	1.5	6	50	4	1	●
SN200-B4-63006	3	1.5	6	50	6	1	●
SN200-B4-04008	4	2	8	50	4	2	●
SN200-B4-64008	4	2	8	50	6	1	●
SN200-B4-05010	5	2.5	10	50	6	1	●
SN200-B4-06012	6	3	12	50	6	2	●
SN200-B4-08014	8	4	14	60	8	2	●
SN200-B4-10018	10	5	18	75	10	2	●
SN200-B4-12022	12	6	22	75	12	2	●

●Stock ○Available Upon Order

R	Tolerance
R<2	±0.010
2≤R<3	±0.015
R≥3	±0.020

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	○	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P667

SN200-BH4

4 Flutes, Ballnose, with Unequal Tooth Pitch and Long Shank

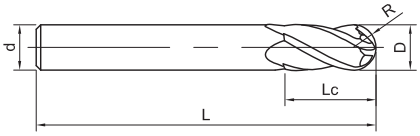


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SN200-BH4-08014	8	4	14	75	8	1	●
SN200-BH4-10018	10	5	18	100	10	1	●
SN200-BH4-12022	12	6	22	100	12	1	●

●Stock ○Available Upon Order

R	Tolerance
R⩾3	±0.020

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (⩽48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	○	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P667

SN300-S4 NEW

4 Flutes, Standard Length, Square (Round Corner on Tip)

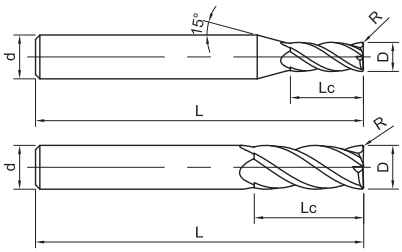


Fig1

Fig2

SHANK h6 | 4 | TiAlSiN | 37°/40° Helix | Corner-R

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SN300-S4-01003	1	0.1	3	50	4	1	●
SN300-S4-61003	1	0.1	3	50	6	1	○
SN300-S4-01505	1.5	0.1	4.5	50	4	1	●
SN300-S4-61505	1.5	0.1	4.5	50	6	1	●
SN300-S4-02006	2	0.2	6	50	4	1	●
SN300-S4-62006	2	0.2	6	50	6	1	●
SN300-S4-03008	3	0.2	8	50	4	1	●
SN300-S4-63008	3	0.2	8	50	6	1	●
SN300-S4-04011	4	0.2	11	50	4	2	●
SN300-S4-64011	4	0.2	11	50	6	1	●
SN300-S4-05013	5	0.2	13	50	6	1	●
SN300-S4-06016	6	0.2	16	50	6	2	●
SN300-S4-08020	8	0.2	20	60	8	2	●
SN300-S4-10025	10	0.2	25	75	10	2	●
SN300-S4-12026	12	0.2	26	83	12	2	●
SN300-S4-16032	16	0.2	32	92	16	2	●
SN300-S4-20038	20	0.2	38	100	20	2	●

●Stock ○Available Upon Order

R	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	○	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P667

SN300-SH4 NEW

4 Flutes, Long Shank Length (Round Corner on Tip)

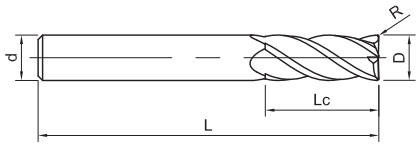


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SN300-SH4-06016	6	0.2	16	75	6	1	●
SN300-SH4-08020	8	0.2	20	75	8	1	●
SN300-SH4-10025	10	0.2	25	100	10	1	●
SN300-SH4-12026	12	0.2	26	100	12	1	○
SN300-SH4-16032A	16	0.2	32	115	16	1	○
SN300-SH4-16032B	16	0.2	32	150	16	1	○
SN300-SH4-20038	20	0.2	38	150	20	1	○

●Stock ○Available Upon Order

R	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	○	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P667

SN300-S5 NEW

5 Flutes, Standard Length, Square (Round Corner on Tip)

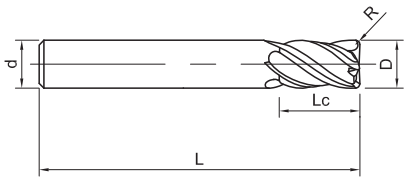


Fig1

SHANK h6 | 5 | TiAlSiN | 38° Helix | Corner-R

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SN300-S5-06016	6	0.2	16	50	6	1	●
SN300-S5-08020	8	0.2	20	60	8	1	●
SN300-S5-10025	10	0.2	25	75	10	1	●
SN300-S5-12026	12	0.2	26	83	12	1	●
SN300-S5-16032	16	0.2	32	92	16	1	●
SN300-S5-20038	20	0.2	38	100	20	1	●

●Stock ○Available Upon Order

R	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	○	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P668

SN300-SH5 NEW

5 Flutes, Long Shank Length (Round Corner on Tip)

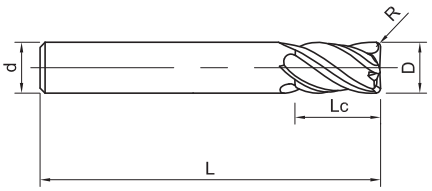


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SN300-SH5-06016	6	0.2	16	75	6	1	●
SN300-SH5-08020	8	0.2	20	75	8	1	●
SN300-SH5-10025	10	0.2	25	100	10	1	●
SN300-SH5-12026	12	0.2	26	100	12	1	●
SN300-SH5-16032A	16	0.2	32	115	16	1	○
SN300-SH5-16032B	16	0.2	32	150	16	1	○
SN300-SH5-20038	20	0.2	38	150	20	1	○

●Stock ○Available Upon Order

R	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	○	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P668

SN300-R4 NEW

4 Flutes, Corner Radius

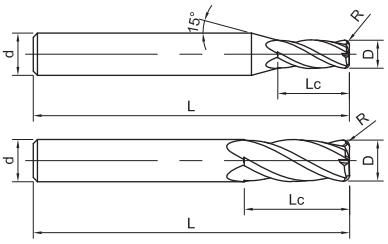


Fig1

Fig2

SHANK h6 | 4 | TiAlSiN | 37°/40° Helix | Corner-R

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SN300-R4-02005	2	0.5	6	50	4	1	●
SN300-R4-62005	2	0.5	6	50	6	1	●
SN300-R4-03005	3	0.5	8	50	4	1	●
SN300-R4-63005	3	0.5	8	50	6	1	●
SN300-R4-04005	4	0.5	11	50	4	2	●
SN300-R4-64005	4	0.5	11	50	6	1	●
SN300-R4-05005	5	0.5	13	50	6	1	●
SN300-R4-06005	6	0.5	16	50	6	2	●
SN300-R4-06010	6	1	16	50	6	2	●
SN300-R4-06015	6	1.5	16	50	6	2	●
SN300-R4-08005	8	0.5	20	60	8	2	●
SN300-R4-08010	8	1	20	60	8	2	●
SN300-R4-08015	8	1.5	20	60	8	2	●
SN300-R4-08020	8	2	20	60	8	2	●
SN300-R4-10005	10	0.5	25	75	10	2	●
SN300-R4-10010	10	1	25	75	10	2	●
SN300-R4-10015	10	1.5	25	75	10	2	●
SN300-R4-10020	10	2	25	75	10	2	●
SN300-R4-10025	10	2.5	25	75	10	2	●

●Stock ○Available Upon Order

R	Tolerance
D＜6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	○	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P667

SN300-R4 NEW

4 Flutes, Corner Radius

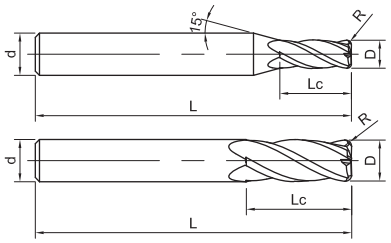


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SN300-R4-12005	12	0.5	26	83	12	2	●
SN300-R4-12010	12	1	26	83	12	2	●
SN300-R4-12015	12	1.5	26	83	12	2	●
SN300-R4-12020	12	2	26	83	12	2	●
SN300-R4-12025	12	2.5	26	83	12	2	●
SN300-R4-12030	12	3	26	83	12	2	●
SN300-R4-16005	16	0.5	32	92	16	2	●
SN300-R4-16010	16	1	32	92	16	2	●
SN300-R4-16015	16	1.5	32	92	16	2	●
SN300-R4-16020	16	2	32	92	16	2	●
SN300-R4-16025	16	2.5	32	92	16	2	●
SN300-R4-16030	16	3	32	92	16	2	●
SN300-R4-16040	16	4	32	92	16	2	●
SN300-R4-20005	20	0.5	38	100	20	2	●
SN300-R4-20010	20	1	38	100	20	2	●
SN300-R4-20020	20	2	38	100	20	2	●
SN300-R4-20030	20	3	38	100	20	2	●
SN300-R4-20040	20	4	38	100	20	2	●
SN300-R4-20050	20	5	38	100	20	2	●

●Stock ○Available Upon Order

R	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	○	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P667

SN300-RH4 NEW

4 Flutes, Corner Radius, with Long Shank Length

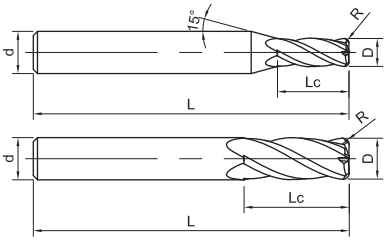


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SN300-RH4-06005	6	0.5	16	75	6	2	●
SN300-RH4-06010	6	1	16	75	6	2	●
SN300-RH4-06015	6	1.5	16	75	6	2	○
SN300-RH4-08005	8	0.5	20	75	8	2	●
SN300-RH4-08010	8	1	20	75	8	2	●
SN300-RH4-08015	8	1.5	20	75	8	2	●
SN300-RH4-08020	8	2	20	75	8	2	●
SN300-RH4-10005	10	0.5	25	100	10	2	●
SN300-RH4-10010	10	1	25	100	10	2	●
SN300-RH4-10015	10	1.5	25	100	10	2	●
SN300-RH4-10020	10	2	25	100	10	2	●
SN300-RH4-10025	10	2.5	25	100	10	2	○
SN300-RH4-12005	12	0.5	26	100	12	2	●
SN300-RH4-12010	12	1	26	100	12	2	●
SN300-RH4-12015	12	1.5	26	100	12	2	●
SN300-RH4-12020	12	2	26	100	12	2	●
SN300-RH4-12025	12	2.5	26	100	12	2	●
SN300-RH4-12030	12	3	26	100	12	2	●
SN300-RH4-16005A	16	0.5	32	115	16	2	○

●Stock ○Available Upon Order

R	Tolerance
D＜6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	○	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P667

SN300-RH4 NEW

4 Flutes, Corner Radius, with Long Shank Length

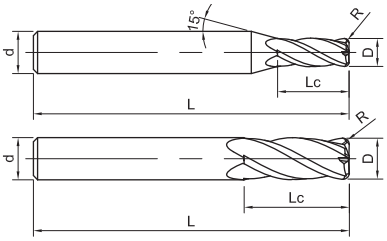


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SN300-RH4-16005B	16	0.5	32	150	16	2	○
SN300-RH4-16010A	16	1	32	115	16	2	○
SN300-RH4-16010B	16	1	32	150	16	2	○
SN300-RH4-16015A	16	1.5	32	115	16	2	○
SN300-RH4-16015B	16	1.5	32	150	16	2	○
SN300-RH4-16020A	16	2	32	115	16	2	○
SN300-RH4-16020B	16	2	32	150	16	2	○
SN300-RH4-16025A	16	2.5	32	115	16	2	○
SN300-RH4-16025B	16	2.5	32	150	16	2	○
SN300-RH4-16030A	16	3	32	115	16	2	○
SN300-RH4-16030B	16	3	32	150	16	2	○
SN300-RH4-16040A	16	4	32	115	16	2	○
SN300-RH4-16040B	16	4	32	150	16	2	○
SN300-RH4-20005	20	0.5	38	150	20	2	○
SN300-RH4-20010	20	1	38	150	20	2	○
SN300-RH4-20020	20	2	38	150	20	2	○
SN300-RH4-20030	20	3	38	150	20	2	○
SN300-RH4-20040	20	4	38	150	20	2	○
SN300-RH4-20050	20	5	38	150	20	2	○

●Stock ○Available Upon Order

R	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	○	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P667

SN300-R5

NEW

5 Flutes, Corner Radius

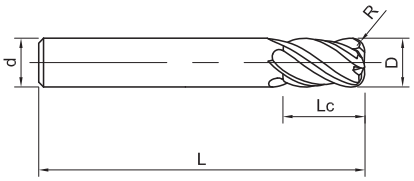


Fig1

SHANK h6 | 5 | TiAlSiN | 38° Helix | Corner-R

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SN300-R5-06005	6	0.5	16	50	6	1	●
SN300-R5-06010	6	1	16	50	6	1	●
SN300-R5-06015	6	1.5	16	50	6	1	○
SN300-R5-08005	8	0.5	20	60	8	1	●
SN300-R5-08010	8	1	20	60	8	1	●
SN300-R5-08015	8	1.5	20	60	8	1	●
SN300-R5-08020	8	2	20	60	8	1	●
SN300-R5-10005	10	0.5	25	75	10	1	●
SN300-R5-10010	10	1	25	75	10	1	●
SN300-R5-10015	10	1.5	25	75	10	1	●
SN300-R5-10020	10	2	25	75	10	1	●
SN300-R5-10025	10	2.5	25	75	10	1	○
SN300-R5-10030	10	3	25	75	10	1	○
SN300-R5-12005	12	0.5	26	83	12	1	●
SN300-R5-12010	12	1	26	83	12	1	●
SN300-R5-12015	12	1.5	26	83	12	1	●
SN300-R5-12020	12	2	26	83	12	1	●

●Stock ○Available Upon Order

R	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	○	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P668

SN300-R5

NEW

5 Flutes, Corner Radius

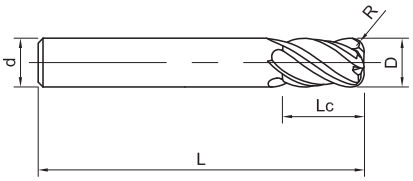


Fig1

SHANK h6 | 5 | TiAlSiN | 38° Helix | Corner-R

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SN300-R5-12025	12	2.5	26	83	12	1	●
SN300-R5-12030	12	3	26	83	12	1	●
SN300-R5-16005	16	0.5	32	92	16	1	●
SN300-R5-16010	16	1	32	92	16	1	●
SN300-R5-16015	16	1.5	32	92	16	1	●
SN300-R5-16020	16	2	32	92	16	1	●
SN300-R5-16025	16	2.5	32	92	16	1	●
SN300-R5-16030	16	3	32	92	16	1	●
SN300-R5-16040	16	4	32	92	16	1	●
SN300-R5-20005	20	0.5	38	100	20	1	●
SN300-R5-20010	20	1	38	100	20	1	●
SN300-R5-20020	20	2	38	100	20	1	●
SN300-R5-20030	20	3	38	100	20	1	●
SN300-R5-20040	20	4	38	100	20	1	●
SN300-R5-20050	20	5	38	100	20	1	●

●Stock ○Available Upon Order

R	Tolerance
D＜6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	○	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P668

SN300-RH5

NEW

5 Flutes, Corner Radius, with Long Shank Length

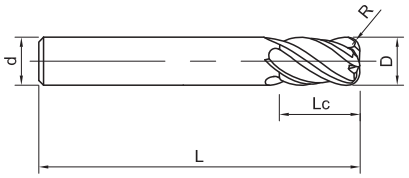


Fig1

SHANK h6 | 5 | TiAlSiN | 38° Helix | Corner-R

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SN300-RH5-06005	6	0.5	16	75	6	1	●
SN300-RH5-06010	6	1	16	75	6	1	●
SN300-RH5-06015	6	1.5	16	75	6	1	○
SN300-RH5-08005	8	0.5	20	75	8	1	●
SN300-RH5-08010	8	1	20	75	8	1	●
SN300-RH5-08015	8	1.5	20	75	8	1	●
SN300-RH5-08020	8	2	20	75	8	1	●
SN300-RH5-10005	10	0.5	25	100	10	1	●
SN300-RH5-10010	10	1	25	100	10	1	●
SN300-RH5-10015	10	1.5	25	100	10	1	●
SN300-RH5-10020	10	2	25	100	10	1	●
SN300-RH5-10025	10	2.5	25	100	10	1	○
SN300-RH5-12005	12	0.5	26	100	12	1	●
SN300-RH5-12010	12	1	26	100	12	1	●
SN300-RH5-12015	12	1.5	26	100	12	1	●
SN300-RH5-12020	12	2	26	100	12	1	●
SN300-RH5-12025	12	2.5	26	100	12	1	●
SN300-RH5-12030	12	3	26	100	12	1	●
SN300-RH5-16005A	16	0.5	32	115	16	1	○

●Stock ○Available Upon Order

R	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	○	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P668

SN300-RH5 NEW

5 Flutes, Corner Radius, with Long Shank Length

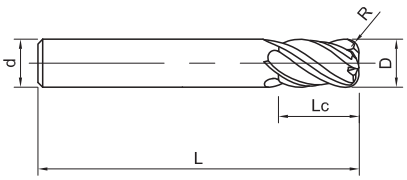


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SN300-RH5-16005B	16	0.5	32	150	16	1	○
SN300-RH5-16010A	16	1	32	115	16	1	○
SN300-RH5-16010B	16	1	32	150	16	1	○
SN300-RH5-16015A	16	1.5	32	115	16	1	○
SN300-RH5-16015B	16	1.5	32	150	16	1	○
SN300-RH5-16020A	16	2	32	115	16	1	○
SN300-RH5-16020B	16	2	32	150	16	1	○
SN300-RH5-16025A	16	2.5	32	115	16	1	○
SN300-RH5-16025B	16	2.5	32	150	16	1	○
SN300-RH5-16030A	16	3	32	115	16	1	○
SN300-RH5-16030B	16	3	32	150	16	1	○
SN300-RH5-16040A	16	4	32	115	16	1	○
SN300-RH5-16040B	16	4	32	150	16	1	○
SN300-RH5-20005	20	0.5	38	150	20	1	○
SN300-RH5-20010	20	1	38	150	20	1	○
SN300-RH5-20020	20	2	38	150	20	1	○
SN300-RH5-20030	20	3	38	150	20	1	○
SN300-RH5-20040	20	4	38	150	20	1	○
SN300-RH5-20050	20	5	38	150	20	1	○

●Stock ○Available Upon Order

R	Tolerance
D<6	0 -0.02
6≤D≤12	0 -0.03
D>12	0 -0.04

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	○	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P668

SN300-C-R5 NEW

5 Flutes, Corner Radius (Trochoidal Milling Machining)

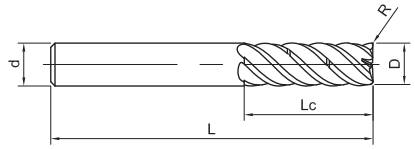


Fig1

SHANK h6 | 5 | TiAlN | 45° Helix | Corner-R

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SN300-C-R5-06005	6	0.5	24	75	6	1	●
SN300-C-R5-06010	6	1	24	75	6	1	○
SN300-C-R5-06020	6	2	24	75	6	1	○
SN300-C-R5-08005	8	0.5	32	75	8	1	●
SN300-C-R5-08010	8	1	32	75	8	1	○
SN300-C-R5-08020	8	2	32	75	8	1	○
SN300-C-R5-10005	10	0.5	40	100	10	1	●
SN300-C-R5-10010	10	1	40	100	10	1	●
SN300-C-R5-10020	10	2	40	100	10	1	○
SN300-C-R5-10030	10	3	40	100	10	1	○
SN300-C-R5-12005	12	0.5	48	110	12	1	○
SN300-C-R5-12010	12	1	48	110	12	1	●

●Stock ○Available Upon Order

R	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	○	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P668

SN300-C-R5

NEW

5 Flutes, Corner Radius (Trochoidal Milling Machining)

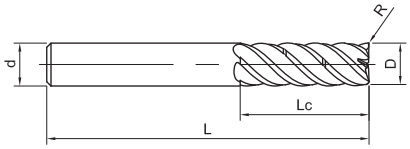


Fig1

SHANK h6 | 5 | TiAlSiN | 45° Helix | Corner-R

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SN300-C-R5-12020	12	2	48	110	12	1	○
SN300-C-R5-12030	12	3	48	110	12	1	●
SN300-C-R5-16005	16	0.5	64	130	16	1	○
SN300-C-R5-16010	16	1	64	130	16	1	○
SN300-C-R5-16020	16	2	64	130	16	1	○
SN300-C-R5-16030	16	3	64	130	16	1	●
SN300-C-R5-16040	16	4	64	130	16	1	○
SN300-C-R5-20005	20	0.5	80	140	20	1	○
SN300-C-R5-20010	20	1	80	140	20	1	○
SN300-C-R5-20020	20	2	80	140	20	1	○
SN300-C-R5-20030	20	3	80	140	20	1	●
SN300-C-R5-20040	20	4	80	140	20	1	○

●Stock ○Available Upon Order

R	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material				
P		M	S	
1 2 3 4	5	1 2 3	1 2 3	4
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	High-temperature Alloy	Titanium Alloy
○	○	○	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P668

SD200-CN

8/12 Flutes, Rhombic Teeth

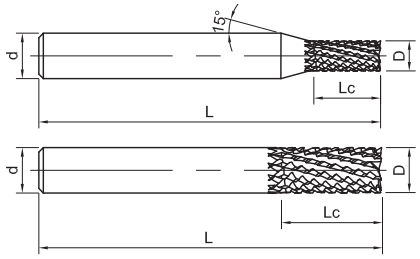


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Teeth	Drawing No.	In Stock
SD200-CN8-02008	2	8	50	4	8	1	●
SD200-CN8-04010	4	10	50	4	8	2	●
SD200-CN12-06015	6	15	60	6	12	2	●
SD200-CN12-08020	8	20	60	8	12	2	●
SD200-CN12-10025	10	25	75	10	12	2	●
SD200-CN12-12030	12	30	85	12	12	2	●

●Stock ○Available Upon Order

D	Tolerance
4≤D≤12	0 -0.04

Unit (mm)

Workpiece Material					
P		M	N		
1234	5	123	123	4	5
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	Stainless Steel	Aluminum Alloy	Copper Alloy	Carbon Fiber, Glass Fiber, Composite Material
					◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P671

SH160-S2

2 Flutes, Standard Length, Square

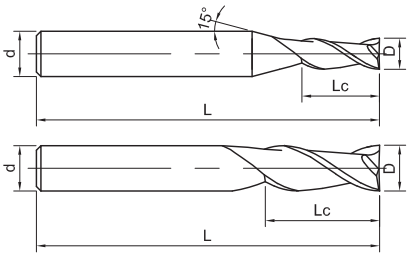


Fig1

Fig2

SHANK h6 | 2 | TiAlN | 35° Helix | Square | L

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SH160-S2-00501	0.5	1.5	50	4	1	●
SH160-S2-01003	1	3	50	4	1	●
SH160-S2-01504	1.5	4	50	4	1	●
SH160-S2-02006	2	6	50	4	1	●
SH160-S2-02508	2.5	8	50	4	1	●
SH160-S2-03009	3	9	50	4	1	●
SH160-S2-63009	3	9	50	6	1	●
SH160-S2-04010	4	10	50	4	2	●
SH160-S2-64010	4	10	50	6	1	●
SH160-S2-05013	5	13	50	6	1	●
SH160-S2-06015	6	15	50	6	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1234	5	6	1	2	34
Carbon steel/ Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	PH, Ferritic/ Martensitic Steel (<35HRC)	Hardened Steel (45-55HRC)	Hardened Steel (55-60HRC)	Hardened Steel (>60HRC)
			◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P672

SH160-S2

2 Flutes, Standard Length, Square

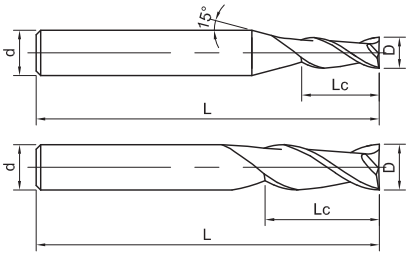


Fig1

Fig2

SHANK h6 | 2 | TiAlN | 35° Helix | Square

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	L	d	Drawing No.	In Stock
SH160-S2-07020	7	20	60	8	1	●
SH160-S2-08020	8	20	60	8	2	●
SH160-S2-09023	9	23	75	10	1	○
SH160-S2-10025	10	25	75	10	2	●
SH160-S2-11028	11	28	75	12	1	●
SH160-S2-12030	12	30	75	12	2	○
SH160-S2-13032	13	32	100	14	1	●
SH160-S2-14034	14	34	100	14	2	●
SH160-S2-16036	16	36	100	16	2	●
SH160-S2-18040	18	40	100	18	2	●
SH160-S2-20045	20	45	100	20	2	●

● Standard Inventory ○ To be Booked

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

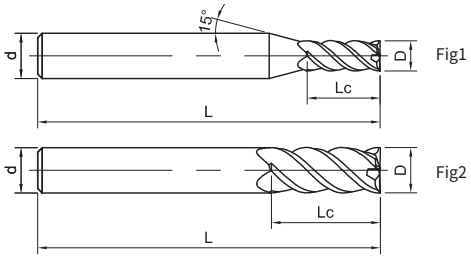
Workpiece Material					
P			H		
1234	5	6	1	2	34
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	PH, Ferritic/ Martensitic Steel (<35HRC)	Hardened Steel (45-55HRC)	Hardened Steel (55-60HRC)	Hardened Steel (>60HRC)
			◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P672

SH160-S4

4 Flutes, Standard Length, Square



SHANK h6 | 4 | TiAlN | 45° Helix | Square

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SH160-S4-01003	1	3	50	4	1	●
SH160-S4-01504	1.5	4	50	4	1	●
SH160-S4-02006	2	6	50	4	1	●
SH160-S4-02508	2.5	8	50	4	1	●
SH160-S4-03009	3	9	50	4	1	●
SH160-S4-63009	3	9	50	6	1	●
SH160-S4-04010	4	10	50	4	2	●
SH160-S4-64010	4	10	50	6	1	●
SH160-S4-05013	5	13	50	6	1	●
SH160-S4-06015	6	15	50	6	2	●
SH160-S4-07020	7	20	60	8	1	●

● Standard Inventory ○ To be Booked

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

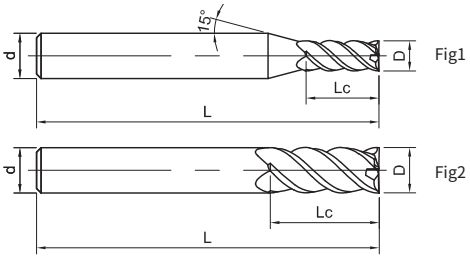
Workpiece Material					
P			H		
1234	5	6	1	2	34
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	PH, Ferritic/ Martensitic Steel (<35HRC)	Hardened Steel (45-55HRC)	Hardened Steel (55-60HRC)	Hardened Steel (>60HRC)
			◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P672

SH160-S4

4 Flutes, Standard Length, Square



SHANK h6 | 4 | TiAlN | 45° Helix | Square

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	L	d	Drawing No.	In Stock
SH160-S4-08020	8	20	60	8	2	●
SH160-S4-09023	9	23	75	10	1	●
SH160-S4-10025	10	25	75	10	2	●
SH160-S4-11028	11	28	75	12	1	○
SH160-S4-12030	12	30	75	12	2	●
SH160-S4-13032	13	32	100	14	1	●
SH160-S4-14034	14	34	100	14	2	●
SH160-S4-15036	15	36	100	16	1	●
SH160-S4-16036	16	36	100	16	2	●
SH160-S4-18040	18	40	100	18	2	○
SH160-S4-20045	20	45	100	20	2	●

● Standard Inventory ○ To be Booked

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1234	5	6	1	2	34
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	PH, Ferritic/ Martensitic Steel (<35HRC)	Hardened Steel (45-55HRC)	Hardened Steel (55-60HRC)	Hardened Steel (>60HRC)
			◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P672

SH160-SH4

4 Flutes, Long Shank Length

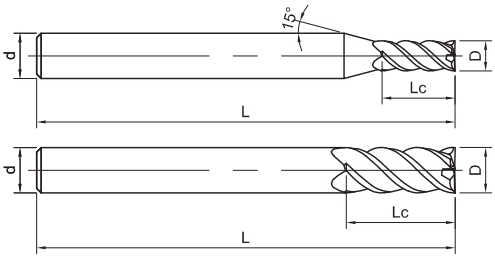


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SH160-SH4-03012	3	12	75	4	1	●
SH160-SH4-04015	4	15	75	4	2	●
SH160-SH4-06020	6	20	100	6	2	●
SH160-SH4-08025	8	25	100	8	2	●
SH160-SH4-10030	10	30	100	10	2	●
SH160-SH4-12035	12	35	100	12	2	●

● Standard Inventory ○ To be Booked

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1234	5	6	1	2	34
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	PH, Ferritic/ Martensitic Steel (<35HRC)	Hardened Steel (45-55HRC)	Hardened Steel (55-60HRC)	Hardened Steel (>60HRC)
			◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P672

SH160-S6

6 Flutes, Standard Length, Square

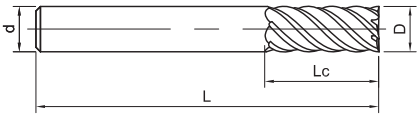


Fig1

SHANK h6 | 6 | TiAlN | 45° Helix | Square

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SH160-S6-06015	6	15	50	6	1	●
SH160-S6-08020	8	20	60	8	1	●
SH160-S6-10025	10	25	75	10	1	○
SH160-S6-12030	12	30	75	12	1	○
SH160-S6-16036	16	36	100	16	1	●
SH160-S6-20045	20	45	100	20	1	●

● Standard Inventory ○ To be Booked

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1234	5	6	1	2	34
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	PH, Ferritic/ Martensitic Steel (<35HRC)	Hardened Steel (45-55HRC)	Hardened Steel (55-60HRC)	Hardened Steel (>60HRC)
			◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P672

SH160-R2

2 Flutes, Corner Radius

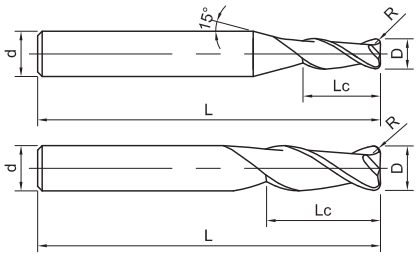


Fig1

Fig2

SHANK h6 | 2 | TiAlN | 35° Helix | Corner-R | L

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SH160-R2-02002	2	6	0.2	50	4	1	●
SH160-R2-02003	2	6	0.3	50	4	1	●
SH160-R2-03003	3	9	0.3	50	4	1	●
SH160-R2-03005	3	9	0.5	50	4	1	●
SH160-R2-04003	4	10	0.3	50	4	2	○
SH160-R2-04005	4	10	0.5	50	4	2	●
SH160-R2-04010	4	10	1	50	4	2	○
SH160-R2-05003	5	13	0.3	50	6	1	○
SH160-R2-05005	5	13	0.5	50	6	1	○
SH160-R2-05010	5	13	1	50	6	1	○
SH160-R2-06003	6	15	0.3	50	6	2	●
SH160-R2-06005	6	15	0.5	50	6	2	●

● Standard Inventory ○ To be Booked

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1234	5	6	1	2	34
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	PH, Ferritic/ Martensitic Steel (<35HRC)	Hardened Steel (45-55HRC)	Hardened Steel (55-60HRC)	Hardened Steel (>60HRC)
			◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P672

SH160-R2

2 Flutes, Corner Radius

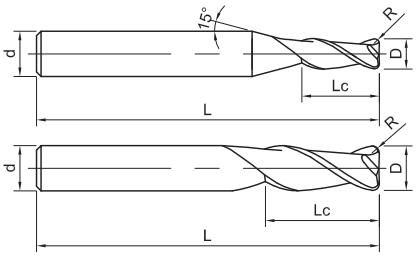


Fig1

Fig2

SHANK h6 | 2 | TiAlN | 35° Helix | Corner-R | L

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SH160-R2-06010	6	15	1	50	6	2	○
SH160-R2-08005	8	20	0.5	60	8	2	●
SH160-R2-08010	8	20	1	60	8	2	○
SH160-R2-10005	10	25	0.5	75	10	2	○
SH160-R2-10010	10	25	1	75	10	2	○
SH160-R2-10015	10	25	1.5	75	10	2	○
SH160-R2-10020	10	25	2	75	10	2	●
SH160-R2-12005	12	30	0.5	75	12	2	○
SH160-R2-12010	12	30	1	75	12	2	○
SH160-R2-12015	12	30	1.5	75	12	2	○
SH160-R2-12020	12	30	2	75	12	2	○

● Standard Inventory ○ To be Booked

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

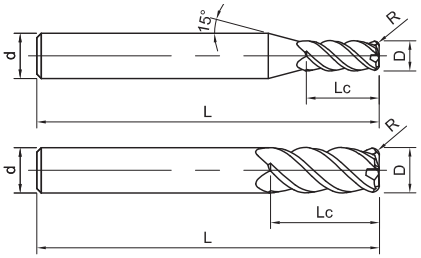
Workpiece Material					
P			H		
1234	5	6	1	2	34
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	PH, Ferritic/ Martensitic Steel (<35HRC)	Hardened Steel (45-55HRC)	Hardened Steel (55-60HRC)	Hardened Steel (>60HRC)
			◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P672

SH160-R4

4 Flutes, Corner Radius



Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SH160-R4-01002	1	3	0.2	50	4	1	●
SH160-R4-02002	2	6	0.2	50	4	1	●
SH160-R4-02005	2	6	0.5	50	4	1	●
SH160-R4-03002	3	9	0.2	50	4	1	●
SH160-R4-03003	3	9	0.3	50	4	1	●
SH160-R4-03005	3	9	0.5	50	4	1	●
SH160-R4-63003	3	8	0.3	50	6	1	●
SH160-R4-63005	3	8	0.5	50	6	1	●
SH160-R4-04002	4	10	0.2	50	4	2	●
SH160-R4-04003	4	10	0.3	50	4	2	●
SH160-R4-04005	4	10	0.5	50	4	2	●
SH160-R4-04010	4	10	1	50	4	2	●

● Standard Inventory ○ To be Booked

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1234	5	6	1	2	34
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	PH, Ferritic/ Martensitic Steel (<35HRC)	Hardened Steel (45-55HRC)	Hardened Steel (55-60HRC)	Hardened Steel (>60HRC)
			◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P672

SH160-R4

4 Flutes, Corner Radius

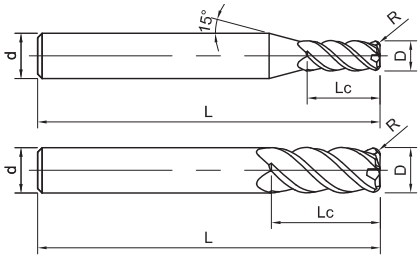


Fig1

Fig2

SHANK h6 | 4 | TiAlN | 45° Helix | Corner-R | L

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SH160-R4-64002	4	10	0.2	50	6	1	●
SH160-R4-64003	4	10	0.3	50	6	1	○
SH160-R4-64005	4	10	0.5	50	6	1	○
SH160-R4-64010	4	10	1	50	6	1	●
SH160-R4-05003	5	13	0.3	50	6	1	●
SH160-R4-05005	5	13	0.5	50	6	1	●
SH160-R4-05010	5	13	1	50	6	1	○
SH160-R4-06002	6	15	0.2	50	6	2	●
SH160-R4-06003	6	15	0.3	50	6	2	●
SH160-R4-06005	6	15	0.5	50	6	2	●
SH160-R4-06010	6	15	1	50	6	2	●
SH160-R4-08002	8	20	0.2	60	8	2	●

● Standard Inventory ○ To be Booked

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

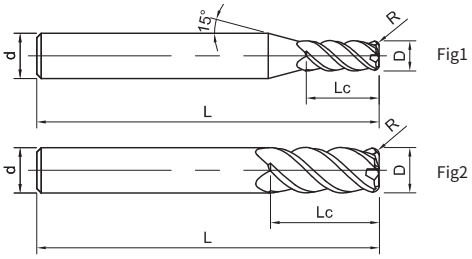
Workpiece Material					
P			H		
1234	5	6	1	2	34
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	PH, Ferritic/ Martensitic Steel (<35HRC)	Hardened Steel (45-55HRC)	Hardened Steel (55-60HRC)	Hardened Steel (>60HRC)
			◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P672

SH160-R4

4 Flutes, Corner Radius



Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SH160-R4-08003	8	20	0.3	60	8	2	○
SH160-R4-08005	8	20	0.5	60	8	2	●
SH160-R4-08010	8	20	1	60	8	2	●
SH160-R4-10005	10	25	0.5	75	10	2	●
SH160-R4-10010	10	25	1	75	10	2	●
SH160-R4-10015	10	25	1.5	75	10	2	●
SH160-R4-10020	10	25	2	75	10	2	○
SH160-R4-12003	12	30	0.3	75	12	2	●
SH160-R4-12005	12	30	0.5	75	12	2	●
SH160-R4-12010	12	30	1	75	12	2	○
SH160-R4-12015	12	30	1.5	75	12	2	○
SH160-R4-12020	12	30	2	75	12	2	○

● Standard Inventory ○ To be Booked

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1234	5	6	1	2	34
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	PH, Ferritic/ Martensitic Steel (<35HRC)	Hardened Steel (45-55HRC)	Hardened Steel (55-60HRC)	Hardened Steel (>60HRC)
			◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P672

SH160-RH4

4 Flutes, Corner Radius, with Long Shank Length

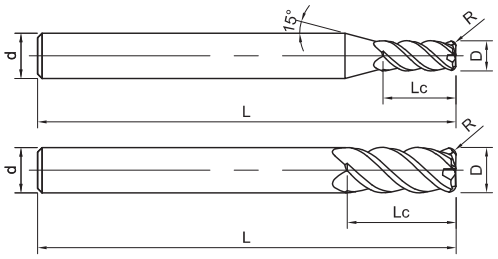


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SH160-RH4-04005	4	10	0.5	75	4	2	●
SH160-RH4-06005	6	15	0.5	75	6	2	●
SH160-RH4-06010	6	15	1	75	6	2	●
SH160-RH4-08005	8	20	0.5	100	8	2	●
SH160-RH4-08010	8	20	1	100	8	2	○
SH160-RH4-10005	10	25	0.5	100	10	2	●
SH160-RH4-10010	10	25	1	100	10	2	●
SH160-RH4-12005	12	30	0.5	100	12	2	●
SH160-RH4-12010	12	30	1	100	12	2	○

● Standard Inventory ○ To be Booked

D	Tolerance
D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1234	5	6	1	2	34
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	PH, Ferritic/ Martensitic Steel (<35HRC)	Hardened Steel (45-55HRC)	Hardened Steel (55-60HRC)	Hardened Steel (>60HRC)
			◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P672

SH160-B2

2 Flutes, Ballnose

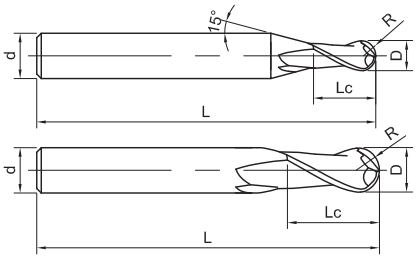


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SH160-B2-00501	0.5	0.25	1	50	4	1	●
SH160-B2-01002	1	0.5	2	50	4	1	●
SH160-B2-01503	1.5	0.75	3	50	4	1	●
SH160-B2-02004	2	1	4	50	4	1	●
SH160-B2-02505	2.5	1.25	5	50	4	1	●
SH160-B2-03006	3	1.5	6	50	4	1	●
SH160-B2-04008	4	2	8	50	4	2	●
SH160-B2-05010	5	2.5	10	50	6	1	●
SH160-B2-06012	6	3	12	50	6	2	●
SH160-B2-07014	7	3.5	14	60	8	1	●
SH160-B2-08014	8	4	14	60	8	2	●
SH160-B2-09016	9	4.5	16	75	10	1	●

● Standard Inventory ○ To be Booked

R	Tolerance
R≤1.5	0 -0.01
1.5<R<3	0 -0.015
R≥3	0 -0.02

Unit (mm)

Workpiece Material					
P			H		
1234	5	6	1	2	34
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	PH, Ferritic/ Martensitic Steel (<35HRC)	Hardened Steel (45-55HRC)	Hardened Steel (55-60HRC)	Hardened Steel (>60HRC)
			◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P672

SH160-B2

2 Flutes, Ballnose

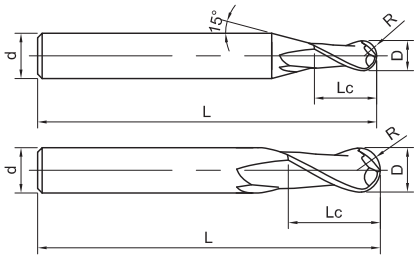


Fig1

Fig2

SHANK h6 | 2 | TiAlN | 30° Helix | Ballnose

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SH160-B2-10018	10	5	18	75	10	2	●
SH160-B2-11020	11	5.5	20	75	12	1	●
SH160-B2-12022	12	6	22	75	12	2	●
SH160-B2-14024	14	7	24	100	14	2	●
SH160-B2-16026	16	8	26	100	16	2	●
SH160-B2-20030	20	10	30	100	20	2	●

● Standard Inventory ○ To be Booked

R	Tolerance
R≤1.5	0 -0.01
1.5<R<3	0 -0.015
R≥3	0 -0.02

Unit (mm)

Workpiece Material					
P			H		
1234	5	6	1	2	34
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	PH, Ferritic/ Martensitic Steel (<35HRC)	Hardened Steel (45-55HRC)	Hardened Steel (55-60HRC)	Hardened Steel (>60HRC)
			◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P672

SH160-BH2

2 Flutes Ballnose, with Long Shank Length

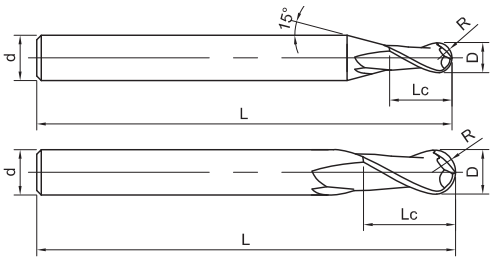


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SH160-BH2-04008	4	2	8	75	4	2	●
SH160-BH2-06012	6	3	12	100	6	2	●
SH160-BH2-08014	8	4	14	100	8	2	●
SH160-BH2-10018	10	5	18	100	10	2	●
SH160-BH2-12024	12	6	24	100	12	2	●

● Standard Inventory ○ To be Booked

R	Tolerance
R≤1.5	0 -0.01
1.5<R<3	0 -0.015
R≥3	0 -0.02

Unit (mm)

Workpiece Material					
P			H		
1234	5	6	1	2	34
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	PH, Ferritic/ Martensitic Steel (<35HRC)	Hardened Steel (45-55HRC)	Hardened Steel (55-60HRC)	Hardened Steel (>60HRC)
			◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P672

SH160-B4

4 Flutes, Ballnose

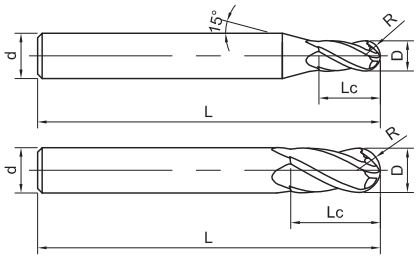


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SH160-B4-02004	2	1	4	50	4	1	●
SH160-B4-03006	3	1.5	6	50	4	1	●
SH160-B4-04008	4	2	8	50	4	2	●
SH160-B4-05010	5	2.5	10	50	6	1	●
SH160-B4-06012	6	3	12	50	6	2	●
SH160-B4-07014	7	3.5	14	60	8	1	●
SH160-B4-08014	8	4	14	60	8	2	●
SH160-B4-09016	9	4.5	16	75	10	1	○
SH160-B4-10018	10	5	18	75	10	2	●
SH160-B4-11020	11	5.5	20	75	12	1	●
SH160-B4-12022	12	6	22	75	12	2	●
SH160-B4-16026	16	8	26	100	16	2	○

● Standard Inventory ○ To be Booked

R	Tolerance
R≤1.5	0 -0.01
1.5<R<3	0 -0.015
R≥3	0 -0.02

Unit (mm)

Workpiece Material					
P			H		
1234	5	6	1	2	34
Carbon Steel/Alloy Steel (<35HRC)	Alloy Steel (≤48HRC)	PH, Ferritic/ Martensitic Steel (<35HRC)	Hardened Steel (45-55HRC)	Hardened Steel (55-60HRC)	Hardened Steel (>60HRC)
			◎		

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P672

SH260-S2-H

2 Flutes, Standard Length, Square

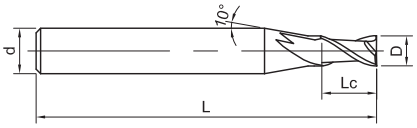


Fig1

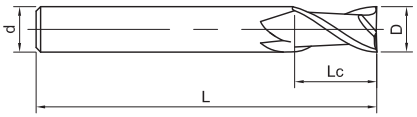


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SH260-S2-1-2.5-H	1	2.5	50	4	1	●
SH260-S2-1.5-6-H	1.5	6	50	4	1	●
SH260-S2-2-5-H	2	5	50	4	1	●
SH260-S2-3-7.5-H	3	7.5	50	4	1	●
SH260-S2-4-10-H	4	10	50	4	2	●
SH260-S2-5-12.5-H	5	12.5	50	6	1	●
SH260-S2-6-15-H	6	15	50	6	2	●
SH260-S2-8-20-H	8	20	60	8	2	●
SH260-S2-10-25-H	10	25	75	10	2	●
SH260-S2-12-30-H	12	30	75	12	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
D>6	0 -0.02

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P673

SH260-SN2-H

2 Flutes, Square with Long Neck

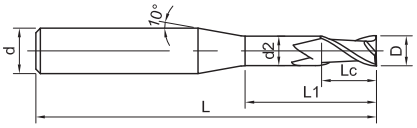


Fig1

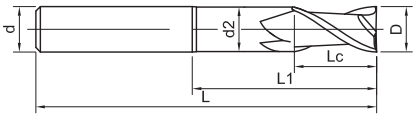


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	d2	L1	L	d	Drawing No.	In Stock
SH260-SN2-0.6-5.5-H	0.6	0.9	0.57	5.5	50	4	1	○
SH260-SN2-0.8-2.5-H	0.8	1.2	0.76	2.5	50	4	1	○
SH260-SN2-0.8-5-H	0.8	1.2	0.76	5	50	4	1	○
SH260-SN2-0.8-7-H	0.8	1.2	0.76	7	50	4	1	●
SH260-SN2-1-3-H	1	1.5	0.96	3	50	4	1	●
SH260-SN2-1-4-H	1	1.5	0.96	4	50	4	1	●
SH260-SN2-1-6-H	1	1.5	0.96	6	50	4	1	●
SH260-SN2-1-8-H	1	1.5	0.96	8	50	4	1	●
SH260-SN2-1-10-H	1	1.5	0.96	10	50	4	1	●
SH260-SN2-1.5-6-H	1.5	2.5	1.44	6	50	4	1	●
SH260-SN2-1.5-10-H	1.5	2.5	1.44	10	50	4	1	●
SH260-SN2-2-6-H	2	3	1.92	6	50	4	1	●
SH260-SN2-2-8-H	2	3	1.92	8	50	4	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
D>6	0 -0.02

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P673

SH260-SN2-H

2 Flutes, Square with Long Neck

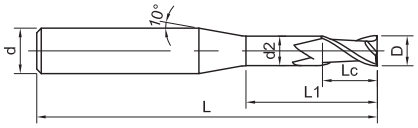


Fig1

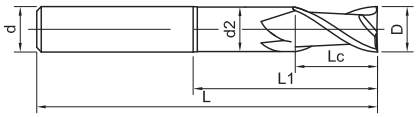


Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	d2	L1	L	d	Drawing No.	In Stock
SH260-SN2-2-10-H	2	3	1.92	10	50	4	1	●
SH260-SN2-2-12-H	2	3	1.92	12	50	4	1	●
SH260-SN2-2.5-13-H	2.5	3.8	2.4	13	50	4	1	●
SH260-SN2-3-9-H	3	4.5	2.88	9	50	4	1	●
SH260-SN2-3-18-H	3	4.5	2.88	18	50	4	1	●
SH260-SN2-4-12-H-6	4	6	3.8	12	60	6	1	●
SH260-SN2-4-24-H-6	4	6	3.8	24	60	6	1	●
SH260-SN2-5-15-H	5	7.5	4.8	15	60	6	1	●
SH260-SN2-5-25-H	5	7.5	4.8	25	75	6	1	●
SH260-SN2-6-18-H	6	9	5.8	18	75	6	2	○
SH260-SN2-6-36-H	6	9	5.8	36	75	6	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
D>6	0 -0.02

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P673

SH260-S4-H

4 Flutes, Standard Length, Square

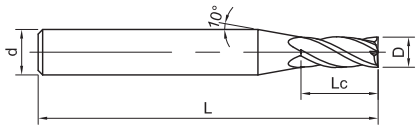


Fig1

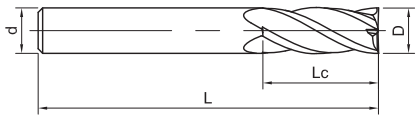


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SH260-S4-1-2.5-H	1	2.5	50	4	1	●
SH260-S4-1-2.5-H-6	1	2.5	50	6	1	●
SH260-S4-1.5-4-H	1.5	4	50	4	1	●
SH260-S4-2-5-H	2	5	50	4	1	●
SH260-S4-2.5-6-H	2.5	6	50	4	1	●
SH260-S4-3-8-H	3	8	50	4	1	●
SH260-S4-3-8-H-3	3	8	50	3	2	●
SH260-S4-3-9-H-6	3	9	50	6	1	●
SH260-S4-4-10-H	4	10	50	4	2	●
SH260-S4-5-13-H	5	13	50	6	1	●
SH260-S4-6-15-H	6	15	50	6	2	●
SH260-S4-8-20-H	8	20	60	8	2	●
SH260-S4-10-25-H	10	25	75	10	2	●
SH260-S4-10-30-H	10	30	75	10	2	●
SH260-S4-12-30-H	12	30	75	12	2	●
SH260-S4-12-36-H	12	36	75	12	2	●
SH260-S4-14-35-H	14	35	100	14	2	●
SH260-S4-16-40-H	16	40	100	16	2	●
SH260-S4-20-50-H	20	50	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
6<D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P674

SH260-S4A-H

4 Flutes, Standard Length, Square, 45° Helix Angle

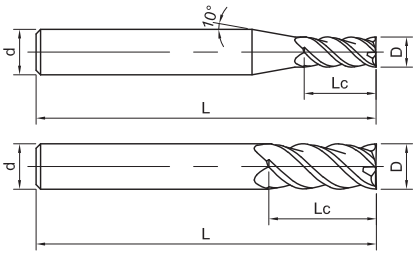


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SH260-S4A-1-3-H	1	3	50	4	1	●
SH260-S4A-1.5-4-H	1.5	4	50	4	1	●
SH260-S4A-2-5-H	2	5	50	4	1	●
SH260-S4A-2.5-6-H	2.5	6	50	4	1	●
SH260-S4A-3-8-H	3	8	50	4	1	●
SH260-S4A-4-10-H	4	10	50	4	2	●
SH260-S4A-5-13-H	5	13	50	6	1	●
SH260-S4A-6-15-H	6	15	50	6	2	●
SH260-S4A-8-20-H	8	20	60	8	2	●
SH260-S4A-10-25-H	10	25	75	10	2	●
SH260-S4A-10-30-H	10	30	75	10	2	●
SH260-S4A-12-30-H	12	30	75	12	2	●
SH260-S4A-16-45-H	16	45	100	16	2	●
SH260-S4A-20-50-H	20	50	100	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
6<D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P674

SH260-SH4-H

4 Flutes, Long Shank Length

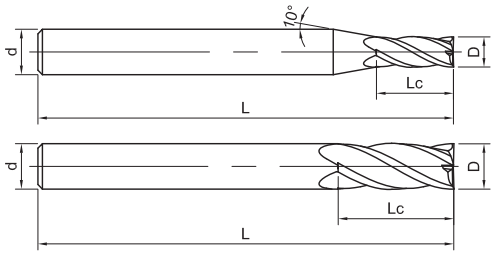


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SH260-SH4-1-60-H	1	2.5	60	4	1	●
SH260-SH4-2-60-H	2	5	60	4	1	●
SH260-SH4-3-60-H	3	8	60	4	1	●
SH260-SH4-3-60-H-6	3	8	60	6	1	○
SH260-SH4-4-60-H	4	10	60	4	2	●
SH260-SH4-4-75-H	4	10	75	4	2	●
SH260-SH4-4-60-H-6	4	10	60	6	1	●
SH260-SH4-4-75-H-6	4	10	75	6	1	●
SH260-SH4-5-60-H	5	13	60	6	1	●
SH260-SH4-6-60-H	6	15	60	6	2	●
SH260-SH4-6-75-H	6	15	75	6	2	●
SH260-SH4-8-75-H	8	20	75	8	2	●
SH260-SH4-8-100-H	8	20	100	8	2	●
SH260-SH4-10-100-H	10	25	100	10	2	●
SH260-SH4-12-100-H	12	30	100	12	2	●
SH260-SH4-12-120-H	12	30	120	12	2	●
SH260-SH4-16-150-H	16	40	150	16	2	●
SH260-SH4-20-150-H	20	50	150	20	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
6<D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P674

SH260-SH4A-H

4 Flutes, Long Shank Length, 45° Helix Angle

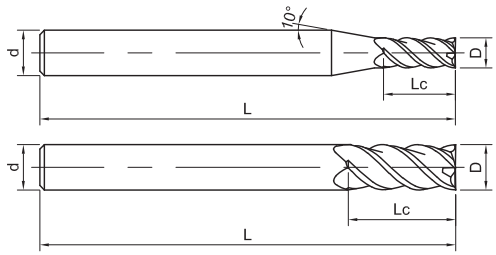


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SH260-SH4A-3-60-H	3	9	60	4	1	○
SH260-SH4A-4-60-H	4	12	60	4	2	●
SH260-SH4A-4-75-H-6	4	12	75	6	1	●
SH260-SH4A-5-60-H	5	15	60	6	1	○
SH260-SH4A-6-75-H	6	18	75	6	2	●
SH260-SH4A-6-100-H	6	18	100	6	2	●
SH260-SH4A-8-75-H	8	24	75	8	2	●
SH260-SH4A-8-100-H	8	24	100	8	2	●
SH260-SH4A-10-100-H	10	30	100	10	2	●
SH260-SH4A-12-100-H	12	36	100	12	2	●
SH260-SH4A-16-150-H	16	48	150	16	2	●
SH260-SH4A-20-150-H	20	60	150	20	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
6<D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P674

SH260-SN4-H

4 Flutes, Square with Long Neck

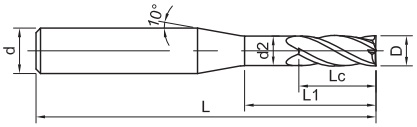


Fig1

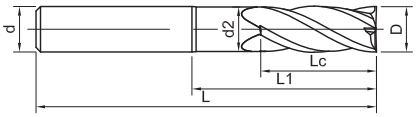


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	d2	L1	L	d	Drawing No.	In Stock
SH260-S N4-1-3-H	1	2	0.96	3	50	4	1	●
SH260-SN4-1-6-H	1	2	0.96	6	50	4	1	●
SH260-SN4-2-6-H	2	4	1.92	6	50	4	1	●
SH260-SN4-2-6-H-6	2	4	1.92	6	50	6	1	●
SH260-SN4-2-12-H	2	4	1.92	12	50	4	1	●
SH260-SN4-2.5-10-H	2.5	5	2.4	10	60	4	1	●
SH260-SN4-3-9-H	3	6	2.88	9	50	4	1	●
SH260-SN4-3-18-H-6	3	6	2.88	18	60	6	1	●
SH260-SN4-4-12-H	4	8	3.8	12	60	4	2	●
SH260-SN4-4-24-H-6	4	8	3.8	24	60	6	1	○
SH260-SN4-5-15-H	5	10	4.8	15	60	6	1	●
SH260-SN4-6-18-H	6	12	5.8	18	75	6	2	○
SH260-SN4-6-24-H	6	12	5.8	24	75	6	2	○
SH260-SN4-8-24-H	8	16	7.8	24	75	8	2	●
SH260-SN4-8-32-H	8	16	7.8	32	100	8	2	●
SH260-SN4-10-30-H	10	20	9.8	30	100	10	2	●
SH260-SN4-10-40-H	10	20	9.8	40	100	10	2	●
SH260-SN4-12-36-H	12	24	11.8	36	100	12	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
6<D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P674

SH260-SL4-H

4 Flutes, Long Flute Length, Square

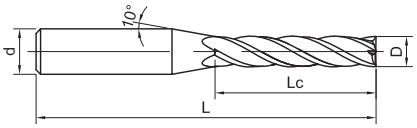


Fig1

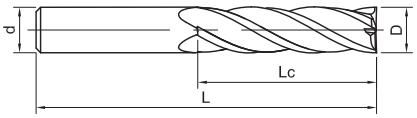


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SH260-SL4-1-5-H	1	5	50	4	1	●
SH260-SL4-2-10-H	2	10	50	4	1	●
SH260-SL4-3-15-H	3	15	50	4	1	●
SH260-SL4-4-16-H	4	16	60	4	2	●
SH260-SL4-4-20-H-6	4	20	60	6	1	●
SH260-SL4-5-20-H	5	20	60	6	1	●
SH260-SL4-6-24-H	6	24	75	6	2	●
SH260-SL4-8-32-H	8	32	75	8	2	●
SH260-SL4-8-35-H	8	35	100	8	2	●
SH260-SL4-10-40-H	10	40	100	10	2	●
SH260-SL4-10-50-H	10	50	120	10	2	●
SH260-SL4-12-50-H	12	50	120	12	2	●
SH260-SL4-16-60-H	16	60	150	16	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
6<D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P674

SH260-SL4A-H

4 Flutes, with Long Flute Length, Square, 45° Helix Angle

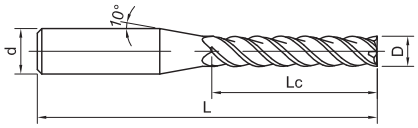


Fig1

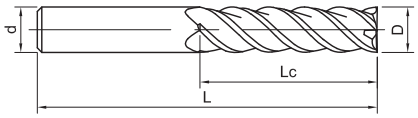


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SH260-SL4A-3-12-H-6	3	12	50	6	1	○
SH260-SL4A-4-16-H	4	16	60	4	2	●
SH260-SL4A-5-20-H	5	20	60	6	1	○
SH260-SL4A-6-24-H	6	24	75	6	2	●
SH260-SL4A-8-36-H	8	36	100	8	2	●
SH260-SL4A-10-45-H	10	45	100	10	2	●
SH260-SL4A-10-50-H	10	50	150	10	2	●
SH260-SL4A-12-50-H	12	50	100	12	2	●
SH260-SL4A-12-60-H	12	60	150	12	2	●
SH260-SL4A-16-65-H	16	65	150	16	2	●
SH260-SL4A-20-75-H	20	75	150	20	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
6<D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P674

SH260-S6-H

6 Flutes, Square Tool

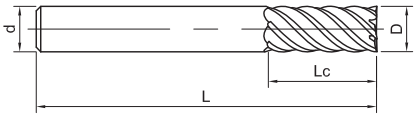


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SH260-S6-6-15-H	6	15	50	6	1	●
SH260-S6-8-20-H	8	20	60	8	1	●
SH260-S6-10-25-H	10	25	75	10	1	●
SH260-S6-10-30-H	10	30	75	10	1	●
SH260-S6-12-30-H	12	30	75	12	1	●
SH260-S6-16-40-H	16	40	100	16	1	●
SH260-S6-20-45-H	20	45	100	20	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.010
D>6	0 -0.020

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P674

SH260-SH6-H

6 Flutes, Long Shank Length Tool

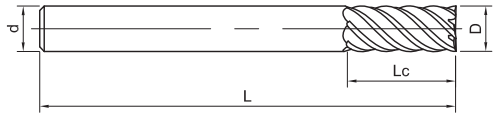


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SH260-SH6-6-60-H	6	15	60	6	1	●
SH260-SH6-8-75-H	8	20	75	8	1	●
SH260-SH6-10-100-H	10	25	100	10	1	●
SH260-SH6-12-100-H	12	30	100	12	1	●
SH260-SH6-16-150-H	16	45	150	16	1	●
SH260-SH6-20-150-H	20	60	150	20	1	○

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.010
D>6	0 -0.020

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P674

SH260-SL6-H

6 Flutes, with Long Flute Length Tool

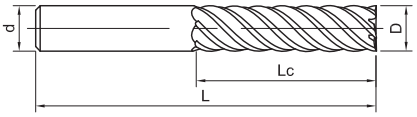


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SH260-SL6-6-24-H	6	24	75	6	1	○
SH260-SL6-6-30-H	6	30	100	6	1	●
SH260-SL6-8-32-H	8	32	75	8	1	●
SH260-SL6-8-40-H	8	40	100	8	1	●
SH260-SL6-10-40-H	10	40	100	10	1	●
SH260-SL6-10-50-H	10	50	150	10	1	●
SH260-SL6-12-50-H	12	50	100	12	1	●
SH260-SL6-12-60-H	12	60	150	12	1	●
SH260-SL6-16-70-H	16	70	150	16	1	●
SH260-SL6-16-80-H	16	80	150	16	1	●
SH260-SL6-20-80-H	20	80	150	20	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.010
D>6	0 -0.020

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P674

SH260-R2-H

2 Flutes, Corner Radius

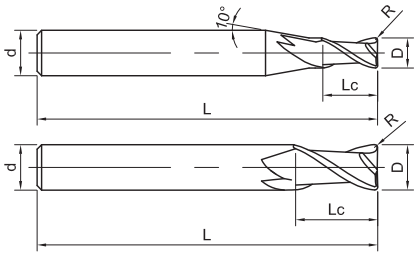


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SH260-R2-1-0.1-H	1	2.5	0.1	50	4	1	●
SH260-R2-1-0.2-H	1	2.5	0.2	50	4	1	●
SH260-R2-2-0.2-H	2	5	0.2	50	4	1	○
SH260-R2-2-0.3-H	2	5	0.3	50	4	1	●
SH260-R2-3-0.2-H	3	7.5	0.2	50	4	1	●
SH260-R2-3-0.5-H	3	7.5	0.5	50	4	1	●
SH260-R2-4-0.2-H	4	10	0.2	50	4	2	○
SH260-R2-4-0.5-H	4	10	0.5	50	4	2	●
SH260-R2-6-0.5-H	6	15	0.5	50	6	2	●
SH260-R2-6-1-H	6	15	1	50	6	2	○
SH260-R2-8-0.2-H	8	20	0.2	60	8	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
D>6	0 -0.02

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P673

SH260-RN2-H

2 Flutes, Corner Radius, with Long Neck

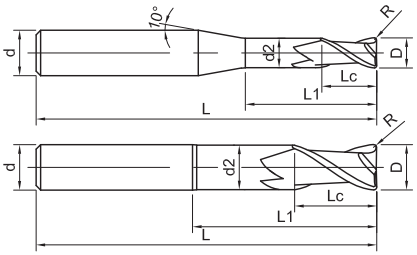


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	d2	L1	L	d	Drawing No.	In Stock
SH260-RN2-0.8-2.5-0.1-H	0.8	1.2	0.1	0.76	2.5	50	4	1	○
SH260-RN2-0.8-5-0.1-H	0.8	1.2	0.1	0.76	5	50	4	1	●
SH260-RN2-1-3-0.1-H	1	1.5	0.1	0.96	3	50	4	1	●
SH260-RN2-1-3-0.2-H	1	1.5	0.2	0.96	3	50	4	1	●
SH260-RN2-1-4-0.2-H	1	1.5	0.2	0.96	4	50	4	1	●
SH260-RN2-1-6-0.1-H	1	1.5	0.1	0.96	6	50	4	1	●
SH260-RN2-1-6-0.2-H	1	1.5	0.2	0.96	6	50	4	1	●
SH260-RN2-1-8-0.2-H	1	1.5	0.2	0.96	8	50	4	1	●
SH260-RN2-1-10-0.2-H	1	1.5	0.2	0.96	10	50	4	1	●
SH260-RN2-1.5-6-0.2-H	1.5	2.5	0.2	1.44	6	50	4	1	●
SH260-RN2-1.5-8-0.2-H	1.5	2.5	0.2	1.44	8	50	4	1	●
SH260-RN2-1.5-10-0.2-H	1.5	2.5	0.2	1.44	10	50	4	1	●
SH260-RN2-2-6-0.2-H	2	3	0.2	1.92	6	50	4	1	●
SH260-RN2-2-6-0.5-H	2	3	0.5	1.92	6	50	4	1	●
SH260-RN2-2-8-0.2-H	2	3	0.2	1.92	8	50	4	1	●
SH260-RN2-2-10-0.2-H	2	3	0.2	1.92	10	50	4	1	●

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
D>6	0 -0.02

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P673

SH260-RN2-H

2 Flutes, Corner Radius, with Long Neck

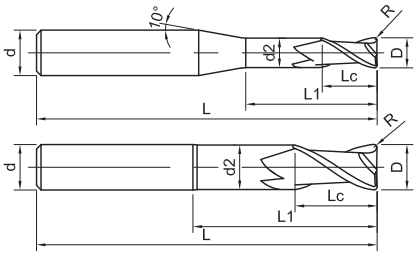


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	d2	L1	L	d	Drawing No.	In Stock
SH260-RN2-2-12-0.2-H	2	3	0.2	1.92	12	50	4	1	●
SH260-RN2-2-12-0.5-H	2	3	0.5	1.92	12	50	4	1	●
SH260-RN2-3-9-0.2-H	3	4.5	0.2	2.88	9	50	4	1	●
SH260-RN2-3-9-0.5-H	3	4.5	0.5	2.88	9	50	4	1	○
SH260-RN2-3-18-0.2-H	3	4.5	0.2	2.88	18	50	4	1	●
SH260-RN2-3-18-0.5-H	3	4.5	0.5	2.88	18	50	4	1	●
SH260-RN2-4-12-0.2-H	4	6	0.2	3.8	12	50	4	2	●
SH260-RN2-4-12-0.5-H	4	6	0.5	3.8	12	50	4	2	○
SH260-RN2-4-24-0.2-H	4	6	0.2	3.8	24	60	4	2	○
SH260-RN2-4-24-0.5-H	4	6	0.5	3.8	24	60	4	2	●
SH260-RN2-5-15-0.5-H	5	7.5	0.5	4.8	15	50	6	1	○
SH260-RN2-5-30-0.5-H	5	7.5	0.5	4.8	30	60	6	1	○
SH260-RN2-6-18-0.5-H	6	9	0.5	5.8	18	60	6	2	○
SH260-RN2-6-36-0.5-H	6	9	0.5	5.8	36	60	6	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
D>6	0 -0.02

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P673

SH260-R4-H

4 Flutes, Corner Radius

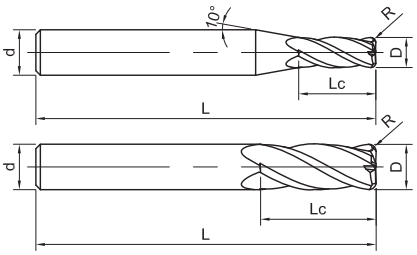


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SH260-R4-1-0.1-H	1	2.5	0.1	50	4	1	●
SH260-R4-1-0.2-H	1	2.5	0.2	50	4	1	●
SH260-R4-1.5-0.1-H	1.5	4	0.1	50	4	1	●
SH260-R4-1.5-0.2-H	1.5	4	0.2	50	4	1	●
SH260-R4-1.5-0.3-H	1.5	4	0.3	50	4	1	○
SH260-R4-2-0.1-H	2	5	0.1	50	4	1	●
SH260-R4-2-0.2-H	2	5	0.2	50	4	1	●
SH260-R4-2-0.3-H	2	5	0.3	50	4	1	●
SH260-R4-2-0.5-H	2	5	0.5	50	4	1	●
SH260-R4-3-0.2-H	3	8	0.2	50	4	1	●
SH260-R4-3-0.3-H	3	8	0.3	50	4	1	●
SH260-R4-3-0.5-H	3	8	0.5	50	4	1	●
SH260-R4-3-0.2-H-3	3	8	0.2	50	3	2	●
SH260-R4-3-0.3-H-3	3	8	0.3	50	3	2	●
SH260-R4-3-0.5-H-3	3	8	0.5	50	3	2	●
SH260-R4-3-0.2-H-6	3	8	0.2	50	6	1	○
SH260-R4-4-0.2-H	4	10	0.2	50	4	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
6＜D≤12	0 -0.02
D＞12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P674

SH260-R4-H

4 Flutes, Corner Radius

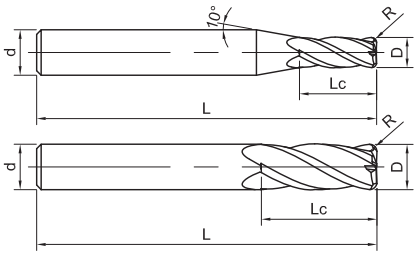


Fig1

Fig2

SHANK h6 | 4 | TiAlCrSiN | 30° Helix | Corner-R | L

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SH260-R4-4-0.3-H	4	10	0.3	50	4	2	●
SH260-R4-4-0.5-H	4	10	0.5	50	4	2	●
SH260-R4-4-1-H	4	10	1	50	4	2	●
SH260-R4-4-0.5-H-6	4	10	0.5	50	6	1	●
SH260-R4-5-0.2-H	5	13	0.2	50	6	1	●
SH260-R4-5-0.5-H	5	13	0.5	50	6	1	●
SH260-R4-6-0.2-H	6	15	0.2	50	6	2	●
SH260-R4-6-0.3-H	6	15	0.3	50	6	2	●
SH260-R4-6-0.5-H	6	15	0.5	50	6	2	●
SH260-R4-6-1-H	6	15	1	50	6	2	●
SH260-R4-8-0.2-H	8	20	0.2	60	8	2	●
SH260-R4-8-0.3-H	8	20	0.3	60	8	2	●
SH260-R4-8-0.4-H	8	20	0.4	60	8	2	●
SH260-R4-8-0.5-H	8	20	0.5	60	8	2	●
SH260-R4-8-1-H	8	20	1	60	8	2	●
SH260-R4-8-2-H	8	20	2	60	8	2	●
SH260-R4-10-0.2-H	10	25	0.2	75	10	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
6 < D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P674

SH260-R4-H

4 Flutes, Corner Radius

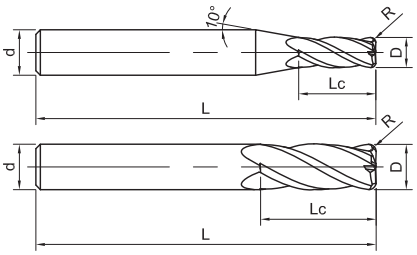


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SH260-R4-10-0.5-H	10	25	0.5	75	10	2	●
SH260-R4-10-1-H	10	25	1	75	10	2	●
SH260-R4-10-2-H	10	25	2	75	10	2	●
SH260-R4-12-0.2-H	12	30	0.2	75	12	2	●
SH260-R4-12-0.5-H	12	30	0.5	75	12	2	●
SH260-R4-12-1-H	12	30	1	75	12	2	●
SH260-R4-12-2-H	12	30	2	75	12	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
6＜D≤12	0 -0.02
D＞12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P674

SH260-R4A-H

4 Flutes, Corner Radius, 45° Helix Angle

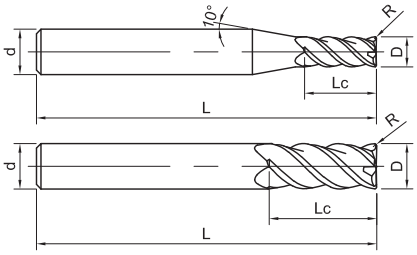


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SH260-R4A-1-0.1-H	1	2.5	0.1	50	4	1	●
SH260-R4A-1-0.2-H	1	2.5	0.2	50	4	1	○
SH260-R4A-2-0.1-H	2	5	0.1	50	4	1	○
SH260-R4A-2-0.2-H	2	5	0.2	50	4	1	○
SH260-R4A-2-0.3-H	2	5	0.3	50	4	1	○
SH260-R4A-2-0.5-H	2	5	0.5	50	4	1	○
SH260-R4A-3-0.2-H-3	3	7.5	0.2	50	3	2	●
SH260-R4A-3-0.2-H	3	7.5	0.2	50	4	1	●
SH260-R4A-3-0.3-H	3	7.5	0.3	50	4	1	●
SH260-R4A-3-0.5-H	3	7.5	0.5	50	4	1	●
SH260-R4A-4-0.2-H	4	10	0.2	50	4	2	●
SH260-R4A-4-0.5-H	4	10	0.5	50	4	2	●
SH260-R4A-4-0.5-H-6	4	10	0.5	50	6	1	●
SH260-R4A-5-0.2-H	5	13	0.2	50	6	1	○
SH260-R4A-5-0.5-H	5	13	0.5	50	6	1	●
SH260-R4A-6-0.2-H	6	15	0.2	50	6	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
6 < D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P674

SH260-R4A-H

4 Flutes, Corner Radius, 45° Helix Angle

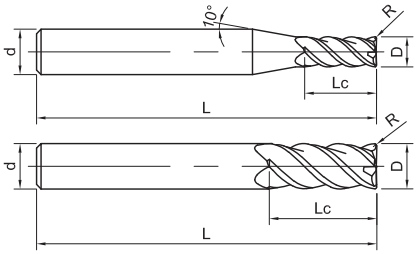


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SH260-R4A-6-0.5-H	6	15	0.5	50	6	2	●
SH260-R4A-6-1-H	6	15	1	50	6	2	●
SH260-R4A-8-0.2-H	8	20	0.2	60	8	2	○
SH260-R4A-8-0.5-H	8	20	0.5	60	8	2	●
SH260-R4A-8-1-H	8	20	1	60	8	2	○
SH260-R4A-10-0.2-H	10	25	0.2	75	10	2	○
SH260-R4A-10-0.5-H	10	25	0.5	75	10	2	●
SH260-R4A-10-1-H	10	25	1	75	10	2	●
SH260-R4A-10-2-H	10	25	2	75	10	2	●
SH260-R4A-12-0.5-H	12	30	0.5	75	12	2	●
SH260-R4A-12-1-H	12	30	1	75	12	2	●
SH260-R4A-12-2-H	12	30	2	75	12	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
6＜D≤12	0 -0.02
D＞12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P674

SH260-RH4-H

4 Flutes, Corner Radius, with Long Shank Length

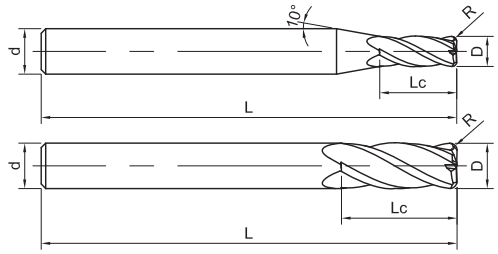


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SH260-RH4-2-60-0.5-H-6	2	5	0.5	60	6	1	○
SH260-RH4-2.5-60-0.5-H-6	2.5	6	0.5	60	6	1	●
SH260-RH4-3-60-0.5-H-6	3	8	0.5	60	6	1	●
SH260-RH4-3-75-0.5-H-6	3	8	0.5	75	6	1	●
SH260-RH4-4-60-0.2-H	4	10	0.2	60	4	2	●
SH260-RH4-4-60-0.3-H	4	10	0.3	60	4	2	●
SH260-RH4-4-60-0.5-H	4	10	0.5	60	4	2	●
SH260-RH4-4-75-0.5-H	4	10	0.5	75	4	2	●
SH260-RH4-4-60-1-H	4	10	1	60	4	2	●
SH260-RH4-4-75-0.5-H-6	4	10	0.5	75	6	1	●
SH260-RH4-4-60-1-H-6	4	10	1	60	6	1	○
SH260-RH4-5-60-0.5-H	5	13	0.5	60	6	1	○
SH260-RH4-6-60-0.2-H	6	15	0.2	60	6	2	●
SH260-RH4-6-75-0.2-H	6	15	0.2	75	6	2	●
SH260-RH4-6-60-0.3-H	6	15	0.3	60	6	2	●
SH260-RH4-6-75-0.3-H	6	15	0.3	75	6	2	●
SH260-RH4-6-60-0.5-H	6	15	0.5	60	6	2	●
SH260-RH4-6-75-0.5-H	6	15	0.5	75	6	2	●
SH260-RH4-6-100-0.5-H	6	15	0.5	100	6	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
6 < D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P674

SH260-RH4-H

4 Flutes, Corner Radius, with Long Shank Length

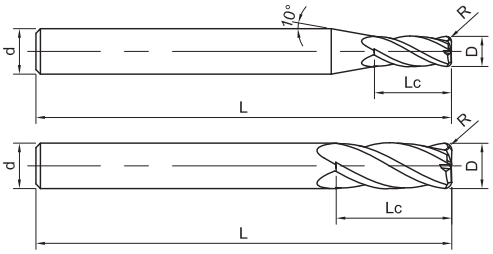


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SH260-RH4-6-60-1-H	6	15	1	60	6	2	●
SH260-RH4-6-75-1-H	6	15	1	75	6	2	●
SH260-RH4-8-75-0.1-H	8	20	0.1	75	8	2	●
SH260-RH4-8-75-0.2-H	8	20	0.2	75	8	2	●
SH260-RH4-8-75-0.3-H	8	20	0.3	75	8	2	●
SH260-RH4-8-75-0.5-H	8	20	0.5	75	8	2	●
SH260-RH4-8-100-0.5-H	8	20	0.5	100	8	2	●
SH260-RH4-8-75-1-H	8	20	1	75	8	2	●
SH260-RH4-8-100-1-H	8	20	1	100	8	2	●
SH260-RH4-8-100-2-H	8	20	2	100	8	2	●
SH260-RH4-10-100-0.2-H	10	25	0.2	100	10	2	○
SH260-RH4-10-100-0.5-H	10	25	0.5	100	10	2	●
SH260-RH4-10-120-0.5-H	10	25	0.5	120	10	2	●
SH260-RH4-10-100-1-H	10	25	1	100	10	2	●
SH260-RH4-10-120-1-H	10	25	1	120	10	2	●
SH260-RH4-10-100-2-H	10	25	2	100	10	2	●
SH260-RH4-12-100-0.5-H	12	30	0.5	100	12	2	●
SH260-RH4-12-120-0.5-H	12	30	0.5	120	12	2	●
SH260-RH4-12-100-1-H	12	30	1	100	12	2	●
SH260-RH4-12-120-1-H	12	30	1	120	12	2	●
SH260-RH4-12-120-2-H	12	30	2	120	12	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
6＜D≤12	0 -0.02
D＞12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P674

SH260-RH4A-H

4 Flutes, Corner Radius, with Long Shank Length, 45° Helix Angle

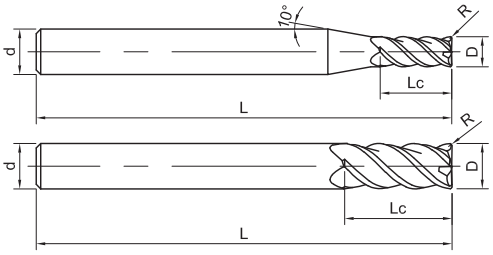


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SH260-RH4A-2-60-0.5-H-6	2	6	0.5	60	6	1	○
SH260-RH4A-3-60-0.5-H-6	3	9	0.5	60	6	1	●
SH260-RH4A-4-60-0.2-H	4	12	0.2	60	4	2	●
SH260-RH4A-4-60-0.5-H	4	12	0.5	60	4	2	●
SH260-RH4A-4-75-0.5-H	4	12	0.5	75	4	2	●
SH260-RH4A-4-75-0.5-H-6	4	12	0.5	75	6	1	●
SH260-RH4A-6-60-0.2-H	6	18	0.2	60	6	2	●
SH260-RH4A-6-75-0.2-H	6	18	0.2	75	6	2	●
SH260-RH4A-6-100-0.5-H	6	18	0.5	100	6	2	○
SH260-RH4A-6-60-0.5-H	6	18	0.5	60	6	2	○
SH260-RH4A-6-75-0.5-H	6	18	0.5	75	6	2	●
SH260-RH4A-6-60-1-H	6	18	1	60	6	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
6 < D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P674

SH260-RH4A-H

4 Flutes, Corner Radius, with Long Shank Length, 45° Helix Angle

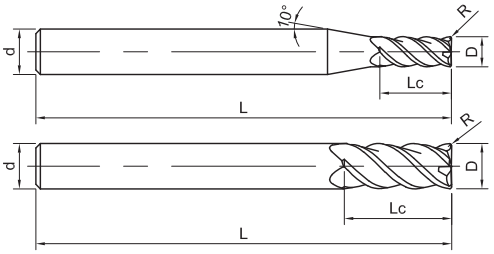


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SH260-RH4A-6-75-1-H	6	18	1	75	6	2	●
SH260-RH4A-8-75-0.5-H	8	24	0.5	75	8	2	●
SH260-RH4A-8-100-0.5-H	8	24	0.5	100	8	2	●
SH260-RH4A-8-75-1-H	8	24	1	75	8	2	●
SH260-RH4A-8-100-1-H	8	24	1	100	8	2	●
SH260-RH4A-10-100-0.5-H	10	30	0.5	100	10	2	●
SH260-RH4A-10-120-0.5-H	10	30	0.5	120	10	2	●
SH260-RH4A-10-100-1-H	10	30	1	100	10	2	○
SH260-RH4A-10-120-1-H	10	30	1	120	10	2	○
SH260-RH4A-12-100-0.5-H	12	36	0.5	100	12	2	●
SH260-RH4A-12-120-0.5-H	12	36	0.5	120	12	2	○
SH260-RH4A-12-100-1-H	12	36	1	100	12	2	○

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
6 < D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P674

SH260-RL4A-H

4 Flutes, Corner Raidus, with Long Flute, 45° Helix Angle

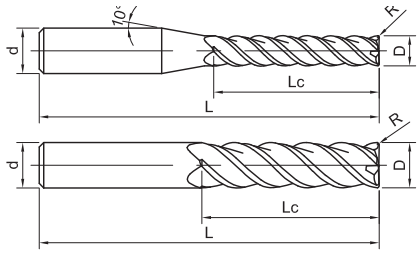


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SH260-RL4A-6-20-0.5-H	6	20	0.5	75	6	2	●
SH260-RL4A-8-25-0.5-H	8	25	0.5	100	8	2	○
SH260-RL4A-10-50-0.5-H	10	50	0.5	150	10	2	○
SH260-RL4A-12-50-0.5-H	12	50	0.5	100	12	2	○
SH260-RL4A-12-60-0.5-H	12	60	0.5	150	12	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
6 < D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P674

SH260-RN4-H

4 Flutes, Corner Radius, with Long Neck

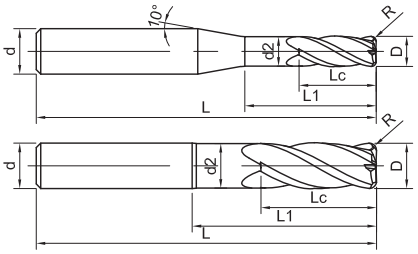


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	d2	L1	L	d	Drawing No.	In Stock
SH260-RN4-1-3-0.1-H	1	2	0.1	0.96	3	50	4	1	●
SH260-RN4-1-6-0.1-H	1	2	0.1	0.96	6	50	4	1	●
SH260-RN4-1.5-4.5-0.1-H	1.5	3	0.1	1.45	4.5	50	4	1	●
SH260-RN4-1.5-6-0.2-H	1.5	3	0.2	1.45	6	50	4	1	●
SH260-RN4-1.5-9-0.1-H	1.5	3	0.1	1.45	9	50	4	1	●
SH260-RN4-2-6-0.2-H	2	4	0.2	1.92	6	50	4	1	●
SH260-RN4-2-6-0.3-H	2	4	0.3	1.92	6	50	4	1	○
SH260-RN4-2-8-0.2-H	2	4	0.2	1.92	8	50	4	1	●
SH260-RN4-2-12-0.2-H	2	4	0.2	1.92	12	50	4	1	●
SH260-RN4-2-12-0.3-H	2	4	0.3	1.92	12	50	4	1	●
SH260-RN4-3-9-0.2-H-6	3	6	0.2	2.88	9	60	6	1	○
SH260-RN4-3-9-0.3-H-6	3	6	0.3	2.88	9	60	6	1	●
SH260-RN4-3-9-0.5-H-6	3	6	0.5	2.88	9	60	6	1	○
SH260-RN4-3-16-0.3-H-6	3	4.5	0.3	2.88	16	75	6	1	●
SH260-RN4-3-18-0.2-H-6	3	6	0.2	2.88	18	60	6	1	●
SH260-RN4-3-18-0.3-H-6	3	6	0.3	2.88	18	60	6	1	○
SH260-RN4-3-18-0.5-H-6	3	6	0.5	2.88	18	60	6	1	●
SH260-RN4-3-20-0.3-H-6	3	6	0.3	2.88	20	75	6	1	●
SH260-RN4-4-12-0.2-H-6	4	8	0.2	3.8	12	60	6	1	○
SH260-RN4-4-12-0.3-H-6	4	8	0.3	3.8	12	60	6	1	○

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
6 < D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P674

SH260-RN4-H

4 Flutes, Corner Radius, with Long Neck

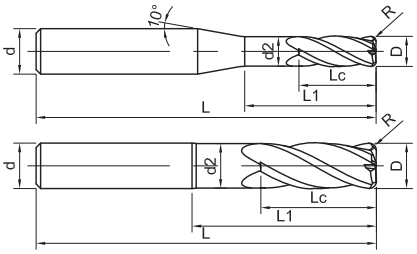


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	d2	L1	L	d	Drawing No.	In Stock
SH260-RN4-4-12-0.5-H-6	4	8	0.5	3.8	12	60	6	1	○
SH260-RN4-4-24-0.5-H-6	4	8	0.5	3.8	24	75	6	1	●
SH260-RN4-6-18-0.2-H	6	12	0.2	5.8	18	75	6	2	●
SH260-RN4-6-18-0.5-H	6	12	0.5	5.8	18	75	6	2	●
SH260-RN4-6-24-0.2-H	6	12	0.2	5.8	24	75	6	2	●
SH260-RN4-6-24-0.5-H	6	12	0.5	5.8	24	75	6	2	●
SH260-RN4-6-24-1-H	6	12	1	5.8	24	75	6	2	●
SH260-RN4-8-24-0.2-H	8	16	0.2	7.8	24	75	8	2	○
SH260-RN4-8-24-0.5-H	8	16	0.5	7.8	24	75	8	2	●
SH260-RN4-8-32-0.2-H	8	16	0.2	7.8	32	75	8	2	●
SH260-RN4-8-32-0.5-H	8	16	0.5	7.8	32	75	8	2	○
SH260-RN4-10-30-0.5-H	10	20	0.5	9.8	30	100	10	2	●
SH260-RN4-10-30-1-H	10	20	1	9.8	30	100	10	2	●
SH260-RN4-10-40-0.5-H	10	20	0.5	9.8	40	100	10	2	●
SH260-RN4-10-40-1-H	10	20	1	9.8	40	100	10	2	●
SH260-RN4-12-36-0.5-H	12	24	0.5	11.8	36	100	12	2	●
SH260-RN4-12-48-0.5-H	12	24	0.5	11.8	48	100	12	2	●
SH260-RN4-12-36-1-H	12	24	1	11.8	36	100	12	2	●
SH260-RN4-12-48-1-H	12	24	1	11.8	48	100	12	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤6	0 -0.01
6 < D≤12	0 -0.02
D>12	0 -0.03

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P674

SH260-B2-H

2 Flutes, Ballnose

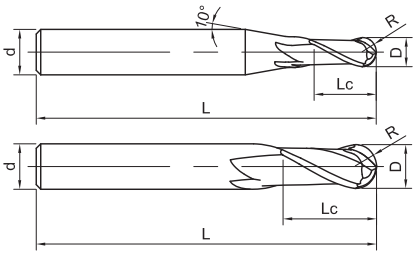


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SH260-B2-0.6-0.9-H	0.6	0.3	0.9	50	4	1	●
SH260-B2-1-1.5-H	1	0.5	1.5	50	4	1	●
SH260-B2-1.5-2.5-H	1.5	0.75	2.5	50	4	1	●
SH260-B2-1.5-2.5-H-6	1.5	0.75	2.5	50	6	1	●
SH260-B2-2-3-H	2	1	3	50	4	1	●
SH260-B2-2-3-H-6	2	1	3	50	6	1	●
SH260-B2-3-4.5-H	3	1.5	4.5	50	4	1	●
SH260-B2-3-4.5-H-3	3	1.5	4.5	50	3	2	●
SH260-B2-3-4.5-H-6	3	1.5	4.5	50	6	1	●
SH260-B2-4-6-H	4	2	6	50	4	2	●
SH260-B2-4-6-H-6	4	2	6	50	6	1	●
SH260-B2-5-7.5-H	5	2.5	7.5	50	6	1	●
SH260-B2-6-9-H	6	3	9	50	6	2	●
SH260-B2-7-10.5-H	7	3.5	10.5	60	8	1	○
SH260-B2-8-12-H	8	4	12	60	8	2	●
SH260-B2-10-15-H	10	5	15	75	10	2	●
SH260-B2-12-18-H	12	6	18	75	12	2	●
SH260-B2-16-24-H	16	8	24	100	16	2	●

● Standard Inventory ○ To be Booked

R	Tolerance
R≤3	±0.005
R>3	±0.008

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P675

SH260-BH2-H

2 Flutes Ballnose, with Long Shank Length

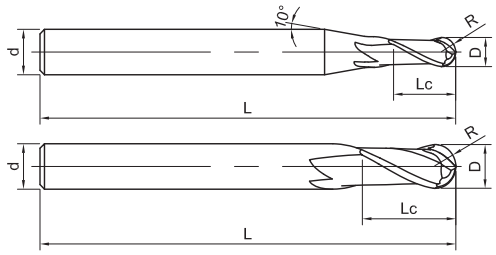


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SH260-BH2-2-60-H	2	1	3	60	4	1	●
SH260-BH2-2-60-H-6	2	1	3	60	6	1	○
SH260-BH2-2-75-H	2	1	3	75	4	1	●
SH260-BH2-3-60-H	3	1.5	4.5	60	4	1	●
SH260-BH2-3-60-H-6	3	1.5	4.5	60	6	1	●
SH260-BH2-3-75-H	3	1.5	4.5	75	4	1	●
SH260-BH2-3-75-H-6	3	1.5	4.5	75	6	1	●
SH260-BH2-4-60-H	4	2	6	60	4	2	●
SH260-BH2-4-75-H	4	2	6	75	4	2	●
SH260-BH2-4-60-H-6	4	2	6	60	6	1	●
SH260-BH2-4-75-H-6	4	2	6	75	6	1	●
SH260-BH2-5-60-H	5	2.5	7.5	60	6	1	●

● Standard Inventory ○ To be Booked

R	Tolerance
R≤3	±0.005
R>3	±0.008

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P675

SH260-BH2-H

2 Flutes Ballnose, with Long Shank Length

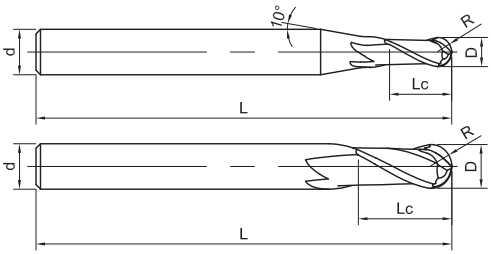


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SH260-BH2-6-60-H	6	3	9	60	6	2	●
SH260-BH2-6-75-H	6	3	9	75	6	2	●
SH260-BH2-6-100-H	6	3	9	100	6	2	●
SH260-BH2-8-75-H	8	4	12	75	8	2	●
SH260-BH2-8-100-H	8	4	12	100	8	2	●
SH260-BH2-10-100-H	10	5	15	100	10	2	●
SH260-BH2-10-120-H	10	5	15	120	10	2	●
SH260-BH2-12-100-H	12	6	18	100	12	2	●
SH260-BH2-12-120-H	12	6	18	120	12	2	●
SH260-BH2-16-150-H	16	8	24	150	16	2	○

● Standard Inventory ○ To be Booked

R	Tolerance
R≤3	±0.005
R>3	±0.008

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P675

SH260-BN2-H

2 Flutes, Ballnose, with Long Neck

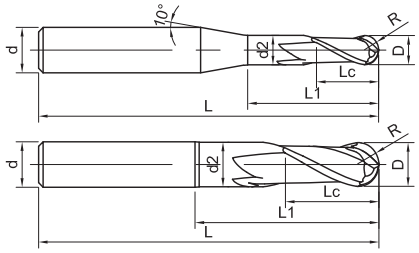


Fig1

Fig2

SHANK h5 | 2 | TiAlCrSiN | 30° Helix | Ballnose

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	d2	L1	L	d.	Drawing No.	In Stock
SH260-BN2-0.4-1.2-H	0.4	0.2	0.4	0.38	1.2	50	4	1	○
SH260-BN2-0.4-2.5-H	0.4	0.2	0.4	0.38	2.5	50	4	1	○
SH260-BN2-0.5-1.5-H	0.5	0.25	0.5	0.48	1.5	50	4	1	●
SH260-BN2-0.5-3-H	0.5	0.25	0.5	0.48	3	50	4	1	●
SH260-BN2-0.6-2-H	0.6	0.3	0.6	0.57	2	50	4	1	●
SH260-BN2-0.6-4-H	0.6	0.3	0.6	0.57	4	50	4	1	●
SH260-BN2-0.8-2.5-H	0.8	0.4	0.8	0.77	2.5	50	4	1	●
SH260-BN2-0.8-4-H	0.8	0.4	0.8	0.77	4	50	4	1	●
SH260-BN2-1-3-H	1	0.5	1	0.96	3	50	4	1	●
SH260-BN2-1-4-H	1	0.5	1	0.96	4	50	4	1	●
SH260-BN2-1-6-H	1	0.5	1	0.96	6	50	4	1	●
SH260-BN2-1-8-H	1	0.5	1	0.96	8	50	4	1	●
SH260-BN2-1-10-H	1	0.5	1	0.96	10	50	4	1	●
SH260-BN2-1.5-5-H	1.5	0.75	1.5	1.45	5	50	4	1	●
SH260-BN2-1.5-5-H-6	1.5	0.75	1.5	1.45	5	50	6	1	●
SH260-BN2-1.5-6-H	1.5	0.75	1.5	1.45	6	50	4	1	●
SH260-BN2-1.5-8-H	1.5	0.75	1.5	1.45	8	50	4	1	●
SH260-BN2-1.5-9-H	1.5	0.75	1.5	1.45	9	50	4	1	●
SH260-BN2-1.5-10-H	1.5	0.75	1.5	1.45	10	50	4	1	●
SH260-BN2-1.5-12-H	1.5	0.75	1.5	1.45	12	50	4	1	●

● Standard Inventory ○ To be Booked

R	Tolerance
R≤3	±0.005
R>3	±0.008

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P675

SH260-BN2-H

2 Flutes, Ballnose, with Long Neck

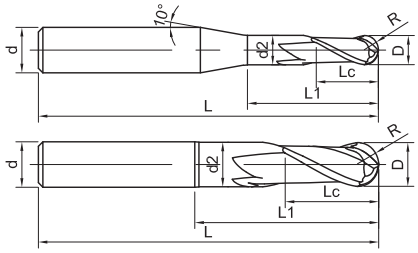


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	R	Lc	d2	L1	L	d.	Drawing No.	In Stock
SH260-BN2-2-6-H	2	1	2	1.95	6	50	4	1	●
SH260-BN2-2-6-H-6	2	1	2	1.95	6	50	6	1	○
SH260-BN2-2-8-H	2	1	2	1.95	8	50	4	1	●
SH260-BN2-2-10-H	2	1	2	1.95	10	50	4	1	●
SH260-BN2-2-12-H	2	1	2	1.95	12	50	4	1	●
SH260-BN2-3-9-H	3	1.5	3	2.9	9	50	4	1	●
SH260-BN2-3-12-H	3	1.5	3	2.9	12	50	4	1	●
SH260-BN2-3-16-H-6	3	1.5	3	2.9	16	75	6	1	●
SH260-BN2-3-18-H	3	1.5	3	2.9	18	50	4	1	●
SH260-BN2-3-18-H-6	3	1.5	3	2.9	18	50	6	1	●
SH260-BN2-4-12-H	4	2	4	3.9	12	50	4	2	●
SH260-BN2-4-12-H-6	4	2	4	3.9	12	50	6	1	○
SH260-BN2-4-24-H	4	2	4	3.9	24	60	4	2	●
SH260-BN2-4-24-H-6	4	2	4	3.9	24	60	6	1	●
SH260-BN2-5-15-H	5	2.5	5	4.9	15	60	6	1	○
SH260-BN2-5-30-H	5	2.5	5	4.9	30	75	6	1	○
SH260-BN2-6-18-H	6	3	6	5.9	18	75	6	2	●
SH260-BN2-8-24-H	8	4	8	7.9	24	75	8	2	●
SH260-BN2-10-30-H	10	5	10	9.9	30	100	10	2	●
SH260-BN2-12-36-H	12	6	12	11.9	36	100	12	2	○

● Standard Inventory ○ To be Booked

R	Tolerance
R≤3	±0.005
R>3	±0.008

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	◎		◎	◎	○

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P675

SH360-S2

2 Flutes, Standard Length, Square

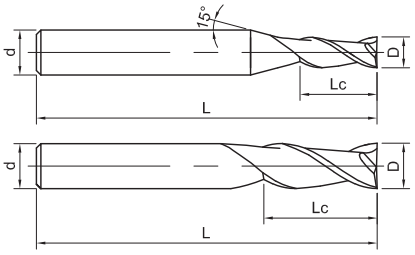


Fig1

Fig2

SHANK h5 | 2 | TiAlSiN | 35° Helix | Square

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SH360-S2-1-3-K	1	3	50	4	1	●
SH360-S2-1-3-K-6	1	3	50	6	1	○
SH360-S2-1.5-4-K	1.5	4	50	4	1	●
SH360-S2-1.5-4-K-6	1.5	4	50	6	1	○
SH360-S2-2-6-K	2	6	50	4	1	●
SH360-S2-2.5-8-K	2.5	8	50	4	1	●
SH360-S2-3-8-K	3	8	50	4	1	●
SH360-S2-4-11-K	4	11	50	4	2	●
SH360-S2-3-8-K-6	3	8	50	6	1	●
SH360-S2-4-11-K-6	4	11	50	6	1	●
SH360-S2-5-13-K	5	13	50	6	1	●
SH360-S2-6-16-K	6	16	50	6	2	○
SH360-S2-7-20-K	7	20	60	8	1	○
SH360-S2-8-20-K	8	20	60	8	2	○
SH360-S2-9-22-K	9	22	75	10	1	●
SH360-S2-10-25-K	10	25	75	10	2	●
SH360-S2-12-30-K	12	30	75	12	2	●

● Standard Inventory ○ To be Booked

D	Tolerance
D≤6	0 -0.01
6<D≤12	0 -0.015
D>12	0 -0.025

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	○		◎	◎	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P676

SH360-S4A

4 Flutes, Standard Length, Square

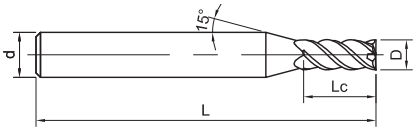


Fig1

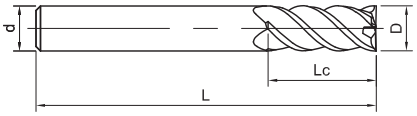


Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SH360-S4A-1-3-K	1	3	50	4	1	●
SH360-S4A-1-3-K-6	1	3	50	6	1	○
SH360-S4A-1.5-4-K	1.5	4	50	4	1	●
SH360-S4A-1.5-4-K-6	1.5	4	50	6	1	○
SH360-S4A-2-6-K	2	6	50	4	1	●
SH360-S4A-2.5-8-K	2.5	8	50	4	1	●
SH360-S4A-3-8-K	3	8	50	4	1	●
SH360-S4A-4-11-K	4	11	50	4	2	●
SH360-S4A-2-6-K-6	2	6	50	6	1	●
SH360-S4A-3-8-K-6	3	8	50	6	1	●
SH360-S4A-4-11-K-6	4	11	50	6	1	●
SH360-S4A-5-13-K	5	13	50	6	1	●
SH360-S4A-6-16-K	6	16	50	6	2	●
SH360-S4A-8-20-K	8	20	60	8	2	●
SH360-S4A-10-25-K	10	25	75	10	2	●
SH360-S4A-10-30-K	10	30	75	10	2	●
SH360-S4A-12-30-K	12	30	75	12	2	●
SH360-S4A-14-32-K	14	32	100	14	2	●
SH360-S4A-16-45-K	16	45	100	16	2	●
SH360-S4A-20-45-K	20	45	100	20	2	●

● Standard Inventory ○ To be Booked

D	Tolerance
D≤6	0 -0.01
6<D≤12	0 -0.015
D>12	0 -0.025

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	○		◎	◎	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P677

SH360-SH4A

4 Flutes, Long Shank Length

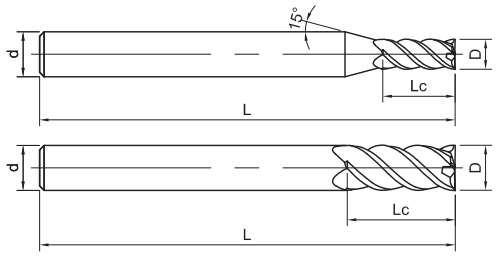


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SH360-SH4A-4-60-K	4	13	60	4	2	●
SH360-SH4A-4-75-K	4	13	75	4	2	●
SH360-SH4A-4-60-K-6	4	13	60	6	1	●
SH360-SH4A-6-60-K	6	20	60	6	2	●
SH360-SH4A-6-75-K	6	20	75	6	2	●
SH360-SH4A-6-100-K	6	20	100	6	2	●
SH360-SH4A-8-75-K	8	25	75	8	2	●
SH360-SH4A-8-100-K	8	25	100	8	2	●
SH360-SH4A-10-100-K	10	30	100	10	2	●
SH360-SH4A-12-100-K	12	35	100	12	2	●

● Standard Inventory ○ To be Booked

D	Tolerance
D≤6	0 -0.01
6<D≤12	0 -0.015
D>12	0 -0.025

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon steel, Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	Hardness Steel (>60HRC)
○	○		◎	◎	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P677

SH360-S6

6 Flutes, Standard Length, Square

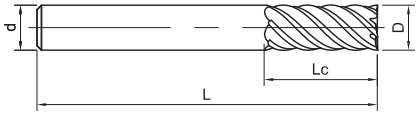


Fig1

SHANK h5 | 6 | TiAlSiN | 45° Helix | Square

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SH360-S6-6-16-K	6	16	50	6	2	●
SH360-S6-8-20-K	8	20	60	8	2	●
SH360-S6-10-30-K	10	30	75	10	2	●
SH360-S6-12-32-K	12	32	75	12	2	●
SH360-S6-16-40-K	16	40	100	16	2	●
SH360-S6-20-45-K	20	45	100	20	2	●

● Standard Inventory ○ To be Booked

D	Tolerance
D≤6	0 -0.01
6<D≤12	0 -0.015
D>12	0 -0.025

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	○		◎	◎	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P677

SH360-SL6

6 Flutes, Long Flute Length, Square

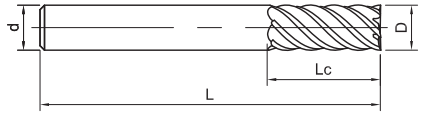


Fig1

SHANK h5 | 6 | TiAlSiN | 45° Helix | Square | L

Please refer to P201 for guidelines to icons

Order No.	D	Lc	L	d	Drawing No.	In Stock
SH360-SL6-6-24-K	6	24	75	6	1	●
SH360-SL6-8-32-K	8	32	75	8	1	●
SH360-SL6-10-40-K	10	40	100	10	1	●
SH360-SL6-12-45-K	12	45	100	12	1	●
SH360-SL6-16-64-K	16	64	150	16	1	●
SH360-SL6-20-75-K	20	75	150	20	1	●

● Standard Inventory ○ To be Booked

D	Tolerance
D≤6	0 -0.01
6<D≤12	0 -0.015
D>12	0 -0.025

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	○		◎	◎	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P677

SH360-R4

4 Flutes, Corner Radius

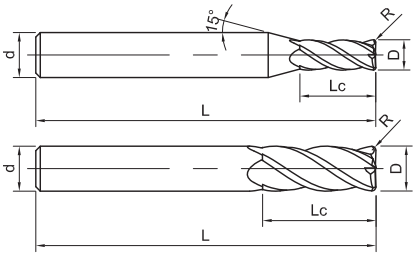


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SH360-R4-1-0.1-K	1	2.5	0.1	50	4	1	●
SH360-R4-1-0.2-K	1	2.5	0.2	50	4	1	●
SH360-R4-1.5-0.2-K	1.5	4	0.2	50	4	1	●
SH360-R4-2-0.1-K	2	5	0.1	50	4	1	●
SH360-R4-2-0.2-K	2	5	0.2	50	4	1	●
SH360-R4-2-0.5-K	2	5	0.5	50	4	1	●
SH360-R4-3-0.1-K	3	8	0.1	50	4	1	●
SH360-R4-3-0.2-K	3	8	0.2	50	4	1	●
SH360-R4-3-0.3-K	3	8	0.3	50	4	1	●
SH360-R4-3-0.3-K-3	3	8	0.3	50	3	2	●
SH360-R4-3-0.3-K-6	3	8	0.3	50	6	1	●
SH360-R4-3-0.5-K	3	8	0.5	50	4	1	●
SH360-R4-4-0.1-K	4	10	0.1	50	4	2	●
SH360-R4-4-0.2-K	4	10	0.2	50	4	2	●
SH360-R4-4-0.3-K	4	10	0.3	50	4	2	●
SH360-R4-4-0.3-K-6	4	10	0.3	50	6	1	●
SH360-R4-4-0.5-K	4	10	0.5	50	4	2	●
SH360-R4-5-0.5-K	5	13	0.5	50	6	1	●

● Standard Inventory ○ To be Booked

D	Tolerance	R Tolerance
D≤6	0 -0.01	±0.005
6<D≤12	0 -0.015	±0.007
D>12	0 -0.025	±0.007

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	○		◎	◎	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P677

SH360-R4

4 Flutes, Corner Radius

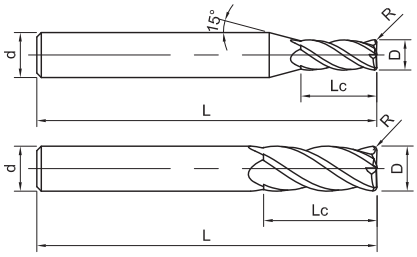


Fig1

Fig2

SHANK h5 | 4 | TiAlSiN | 35° Helix | Corner-R | L

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SH360-R4-5-1-K	5	13	1	50	6	1	●
SH360-R4-6-0.2-K	6	16	0.2	50	6	2	●
SH360-R4-6-0.3-K	6	16	0.3	50	6	2	●
SH360-R4-6-0.5-K	6	16	0.5	50	6	2	●
SH360-R4-6-1-K	6	16	1	50	6	2	●
SH360-R4-8-0.5-K	8	20	0.5	60	8	2	●
SH360-R4-8-1-K	8	20	1	60	8	2	●
SH360-R4-10-0.3-K	10	25	0.3	75	10	2	●
SH360-R4-10-0.5-K	10	25	0.5	75	10	2	●
SH360-R4-10-1-K	10	25	1	75	10	2	●
SH360-R4-12-0.5-K	12	30	0.5	75	12	2	●
SH360-R4-12-1-K	12	30	1	75	12	2	●
SH360-R4-12-2-K	12	30	2	75	12	2	●

● Standard Inventory ○ To be Booked

D	Tolerance	R Tolerance
D≤6	0 -0.01	±0.005
6<D≤12	0 -0.015	±0.007
D>12	0 -0.025	±0.007

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	○		◎	◎	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P677

SH360-RH4

4 Flutes, Corner Radius, with Long Shank Length

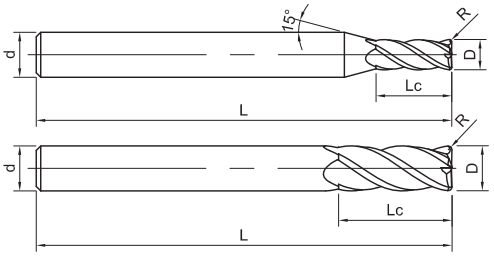


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	L	d	Drawing No.	In Stock
SH360-RH4-4-75-0.2-K-6	4	10	0.2	75	6	1	○
SH360-RH4-4-75-0.5-K	4	10	0.5	75	4	2	●
SH360-RH4-6-75-0.2-K	6	18	0.2	75	6	2	●
SH360-RH4-6-60-0.5-K	6	18	0.5	60	6	2	●
SH360-RH4-6-75-0.5-K	6	18	0.5	75	6	2	●
SH360-RH4-6-100-0.5-K	6	18	0.5	100	6	2	●
SH360-RH4-6-60-1-K	6	18	1	60	6	2	●
SH360-RH4-6-75-1-K	6	18	1	75	6	2	●
SH360-RH4-8-75-0.5-K	8	24	0.5	75	8	2	●
SH360-RH4-8-100-0.5-K	8	24	0.5	100	8	2	●
SH360-RH4-8-75-1-K	8	24	1	75	8	2	●
SH360-RH4-8-100-1-K	8	24	1	100	8	2	●
SH360-RH4-10-100-0.5-K	10	30	0.5	100	10	2	●
SH360-RH4-10-100-1-K	10	30	1	100	10	2	●
SH360-RH4-12-100-0.5-K	12	36	0.5	100	12	2	●
SH360-RH4-12-100-1-K	12	36	1	100	12	2	●

● Standard Inventory ○ To be Booked

D	Tolerance	R Tolerance
D≤6	0 -0.01	±0.005
6<D≤12	0 -0.015	±0.007
D>12	0 -0.025	±0.007

Unit (mm)

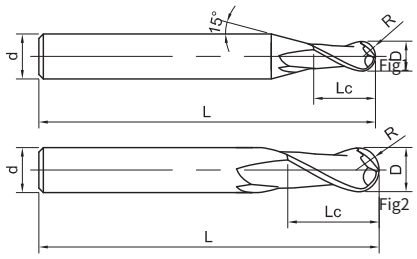
Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	○		◎	◎	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P677

SH360-B2

2 Flutes, Ballnose



Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SH360-B2-0.6-0.9-K	0.6	0.3	0.9	50	4	1	○
SH360-B2-1-2-K	1	0.5	2	50	4	1	●
SH360-B2-1-2-K-6	1	0.5	2	50	6	1	○
SH360-B2-1.5-3-K	1.5	0.75	3	50	4	1	●
SH360-B2-1.5-3-K-6	1.5	0.75	3	50	6	1	○
SH360-B2-2-4-K	2	1	4	50	4	1	●
SH360-B2-2-4-K-6	2	1	4	50	6	1	○
SH360-B2-2.5-5-K	2.5	1.25	5	50	4	1	○
SH360-B2-3-6-K	3	1.5	6	50	4	1	●
SH360-B2-4-8-K	4	2	8	50	4	2	●
SH360-B2-3-6-K-6	3	1.5	6	50	6	1	●
SH360-B2-4-8-K-6	4	2	8	50	6	1	●
SH360-B2-5-10-K	5	2.5	10	50	6	1	●
SH360-B2-6-12-K	6	3	12	50	6	2	●
SH360-B2-7-14-K	7	3.5	14	60	8	1	○
SH360-B2-8-16-K	8	4	16	60	8	2	●
SH360-B2-10-20-K	10	5	20	75	10	2	●
SH360-B2-12-24-K	12	6	24	75	12	2	●
SH360-B2-16-32-K	16	8	32	100	16	2	●
SH360-B2-20-30-K	20	10	30	100	20	2	●

● Standard Inventory ○ To be Booked

R	Tolerance
R≤3	±0.005
R>3	±0.007

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	○		◎	◎	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P678

SH360-BH2

2 Flutes Ballnose, with Long Shank Length

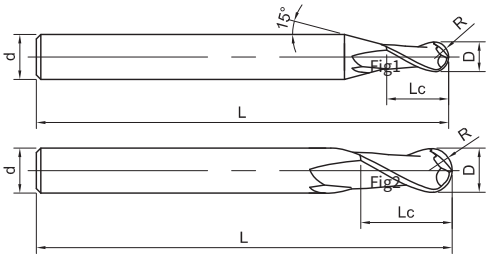


Fig1

Fig2

SHANK h5 | 2 | TiAlSiN | 30° Helix | Ballnose

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SH360-BH2-3-60-K-6	3	1.5	6	60	6	1	●
SH360-BH2-4-75-K-6	4	2	8	75	6	1	●
SH360-BH2-4-75-K	4	2	8	75	4	2	●
SH360-BH2-5-60-K	5	2.5	10	60	6	1	○
SH360-BH2-5-75-K	5	2.5	10	75	6	1	●
SH360-BH2-6-75-K	6	3	12	75	6	2	●
SH360-BH2-6-100-K	6	3	12	100	6	2	●
SH360-BH2-8-75-K	8	4	16	75	8	2	●
SH360-BH2-8-100-K	8	4	16	100	8	2	●
SH360-BH2-8-120-K	8	4	16	120	8	2	●
SH360-BH2-10-100-K	10	5	20	100	10	2	●
SH360-BH2-10-120-K	10	5	30	120	10	2	○
SH360-BH2-10-150-K	10	5	30	150	10	2	●
SH360-BH2-12-100-K	12	6	24	100	12	2	●
SH360-BH2-12-120-K	12	6	24	120	12	2	●
SH360-BH2-12-150-K	12	6	35	150	12	2	●
SH360-BH2-16-150-K	16	8	24	150	16	2	○
SH360-BH2-20-150-K	20	10	30	150	20	2	●

● Standard Inventory ○ To be Booked

R	Tolerance
R≤3	±0.005
R>3	±0.007

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	○		◎	◎	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P678

SH360-B4

4 Flutes, Ballnose

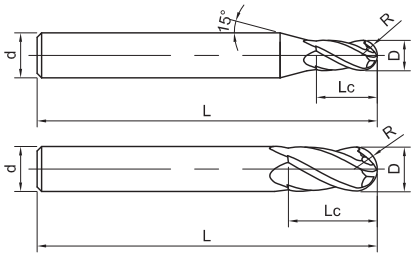


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SH360-B4-3-6-K-3	3	1.5	6	50	3	2	●
SH360-B4-3-6-K-6	3	1.5	6	50	6	1	●
SH360-B4-4-8-K-6	4	2	8	50	6	1	●
SH360-B4-5-10-K	5	2.5	10	50	6	1	●
SH360-B4-6-12-K	6	3	12	50	6	2	●
SH360-B4-8-16-K	8	4	16	60	8	2	●
SH360-B4-10-20-K	10	5	20	75	10	2	●
SH360-B4-12-24-K	12	6	24	75	12	2	●
SH360-B4-16-32-K	16	8	32	100	16	2	●

● Standard Inventory ○ To be Booked

R	Tolerance
R≤1.5	±0.005
R≤3	±0.007
R≤8	±0.010

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	○		◎	◎	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P679

SH360-BH4

4 Flutes Ballnose, with Long Shank Length

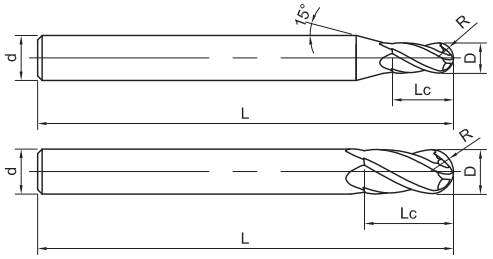


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	R	Lc	L	d	Drawing No.	In Stock
SH360-BH4-3-75-K-6	3	1.5	6	75	6	1	●
SH360-BH4-4-75-K	4	2	8	75	4	2	●
SH360-BH4-4-75-K-6	4	2	8	75	6	1	●
SH360-BH4-5-75-K	5	2.5	10	75	6	1	●
SH360-BH4-6-75-K	6	3	12	75	6	2	●
SH360-BH4-6-100-K	6	3	12	100	6	2	●
SH360-BH4-8-75-K	8	4	16	75	8	2	●
SH360-BH4-8-100-K	8	4	16	100	8	2	●
SH360-BH4-10-100-K	10	5	20	100	10	2	●
SH360-BH4-12-100-K	12	6	24	100	12	2	●

● Standard Inventory ○ To be Booked

R	Tolerance
R≤1.5	±0.005
R≤3	±0.007
R≤8	±0.010

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
○	○		◎	◎	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P679

FH200-R4-H

4 Flutes, Corner Radius

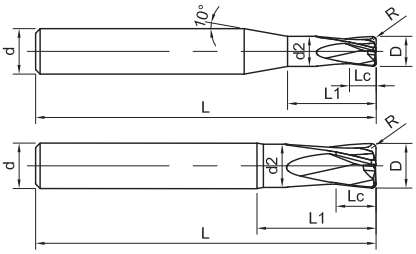


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	d2	L1	L	d	Drawing No.	In Stock
FH200-R4-01002-H	1	1	0.2	0.95	2	50	4	1	●
FH200-R4-01505-H	1.5	1.5	0.5	1.45	3	50	4	1	●
FH200-R4-02005-H	2	2	0.5	1.9	4	50	6	1	●
FH200-R4-03005-H	3	3	0.5	2.9	6	50	6	1	○
FH200-R4-04005-H	4	4	0.5	3.8	8	60	6	1	○
FH200-R4-04010-H	4	4	1	3.8	8	60	6	1	○
FH200-R4-05005-H	5	5	0.5	4.7	10	60	6	1	○
FH200-R4-05010-H	5	5	1	4.7	10	60	6	1	●
FH200-R4-06003-H	6	6	0.3	5.7	12	60	6	2	●
FH200-R4-06005-H	6	6	0.5	5.7	12	60	6	2	○
FH200-R4-06010-H	6	6	1	5.7	12	60	6	2	●
FH200-R4-06015-H	6	6	1.5	5.7	12	60	6	2	●

●Stock ○Available Upon Order

D	Tolerance
D≤5	0 -0.01
D>5	0 -0.015

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
	◎		◎	◎	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P680

FH200-R4-H

4 Flutes, Corner Radius

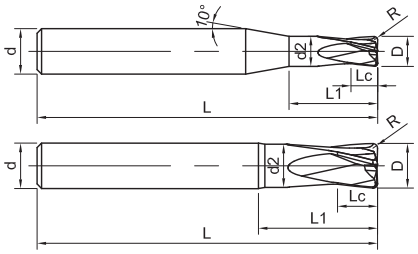


Fig1

Fig2

Please refer to P201 for guidelines to icons

Continued

Order No.	D	Lc	R	d2	L1	L	d	Drawing No.	In Stock
FH200-R4-08003-H	8	8	0.3	7.6	16	60	8	2	●
FH200-R4-08005-H	8	8	0.5	7.6	16	60	8	2	●
FH200-R4-08010-H	8	8	1	7.6	16	60	8	2	●
FH200-R4-08020-H	8	8	2	7.6	16	60	8	2	●
FH200-R4-08020E-H	8	8	2	7.6	16	75	8	2	●
FH200-R4-10005-H	10	10	0.5	9.5	20	75	10	2	○
FH200-R4-10010-H	10	10	1	9.5	20	75	10	2	●
FH200-R4-10020-H	10	10	2	9.5	20	75	10	2	○
FH200-R4-12005-H	12	12	0.5	11.5	24	75	12	2	○
FH200-R4-12010-H	12	12	1	11.5	24	75	12	2	○
FH200-R4-12020-H	12	12	2	11.5	24	75	12	2	○
FH200-R4-12030-H	12	12	3	11.5	24	75	12	2	○

● Standard Inventory ○ To be Booked

D	Tolerance
D≤5	0 -0.01
D>5	0 -0.015

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
	◎		◎	◎	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P680

FH200-RN4-H

4 Flutes, Corner Radius, with Long Neck

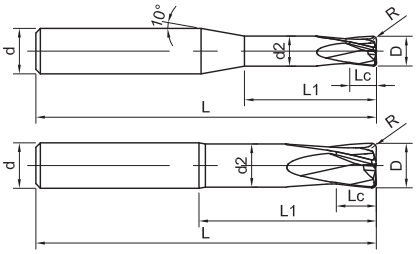


Fig1

Fig2

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	d2	L1	L	d	Drawing No.	In Stock
FH200-RN4-08005-H	8	8	0.5	7.6	24	75	8	2	○
FH200-RN4-08010-H	8	8	1	7.6	24	75	8	2	●
FH200-RN4-08020-H	8	8	2	7.6	24	75	8	2	●
FH200-RN4-10005-H	10	10	0.5	9.5	30	100	10	2	○
FH200-RN4-10010-H	10	10	1	9.5	30	100	10	2	●
FH200-RN4-10020-H	10	10	2	9.5	30	100	10	2	●
FH200-RN4-12005-H	12	12	0.5	11.5	36	100	12	2	●
FH200-RN4-12010-H	12	12	1	11.5	36	100	12	2	○
FH200-RN4-12020-H	12	12	2	11.5	36	100	12	2	○
FH200-RN4-12030-H	12	12	3	11.5	36	100	12	2	○

● Standard Inventory ○ To be Booked

D	Tolerance
D≤5	0 -0.01
D>5	0 -0.015

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
	◎		◎	◎	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P680

FH200-R6-H

6 Flutes, Corner Radius

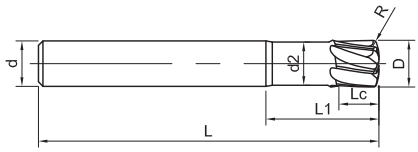


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	d2	L1	L	d	Drawing No.	In Stock
FH200-R6-06004-H	6	5	0.375	5.5	18	60	6	1	●
FH200-R6-08005-H	8	7	0.5	7.5	24	75	8	1	○
FH200-R6-10006-H	10	8	0.625	9.5	30	90	10	1	●
FH200-R6-12008-H	12	10	0.75	11.5	36	100	12	1	●
FH200-R6-16010-H	16	14	1	15.5	48	110	16	1	●
FH200-R6-20013-H	20	18	1.25	19.5	60	125	20	1	○

● Standard Inventory ○ To be Booked

D	Tolerance
D≤20	-0.014 -0.038

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
	◎		◎	◎	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P680

FH200-RH6-H

6 Flutes, Corner Radius, with Long Shank Length

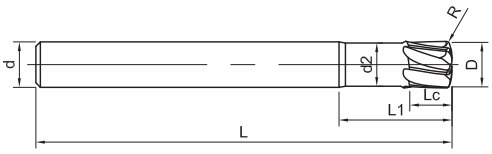


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	d2	L1	L	d	Drawing No.	In Stock
FH200-RH6-06004-H	6	5	0.375	5.5	18	100	6	1	●
FH200-RH6-08005-H	8	7	0.5	7.5	24	100	8	1	●
FH200-RH6-10006-H	10	8	0.625	9.5	30	120	10	1	●
FH200-RH6-12008-H	12	10	0.75	11.5	36	120	12	1	○
FH200-RH6-16010-H	16	14	1	15.5	48	150	16	1	●
FH200-RH6-20013-H	20	18	1.25	19.5	60	150	20	1	●

● Standard Inventory ○ To be Booked

D	Tolerance
D≤20	-0.014 -0.038

Unit (mm)

Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
	◎		◎	◎	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P680

FH200-RN6-H

6 Flutes, Corner Radius, with Long Neck

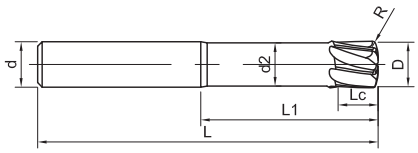


Fig1

Please refer to P201 for guidelines to icons

Order No.	D	Lc	R	d2	L1	L	d	Drawing No.	In Stock
FH200-RN6-06004-H	6	5	0.375	5.5	24	100	6	1	○
FH200-RN6-08005-H	8	7	0.5	7.5	32	100	8	1	○
FH200-RN6-10006-H	10	8	0.625	9.5	40	120	10	1	●
FH200-RN6-12008-H	12	10	0.75	11.5	48	120	12	1	●
FH200-RN6-16010-H	16	14	1	15.5	64	150	16	1	●
FH200-RN6-20013-H	20	18	1.25	19.5	80	150	20	1	●

● Standard Inventory ○ To be Booked

D	Tolerance
D≤20	-0.014 -0.038

Unit (mm)

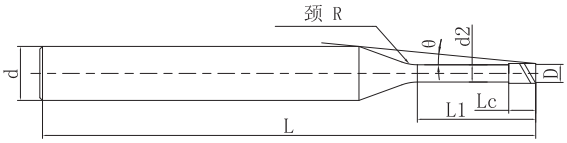
Workpiece Material					
P			H		
1 2 3 4	5	6	1	2	3 4
Carbon Steel/ Alloy Steel (<35HRC)	Alloy Steel (35-48HRC)	PH and Ferritic/ Martensitic Steel (<35HRC)	Hardness Steel (45-55HRC)	Hardness Steel (55-60HRC)	High-hardness Steel (>60HRC)
	◎		◎	◎	◎

◎ Most Suitable ○ Suitable

Recommended Cutting Data ※ P680

SPM200-SN2

2 Flutes, Square Endmill, Micro Diameter for Deep Machining



Please refer to P201 for guidelines to icons

Order No.	Outer Diameter D	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The Effective Under-neck Length for The Various Draft Angles					In Stock
									0.5°	1°	1.5°	2°	3°	
SPM200-SN2-0.1-0.3-V	0.1	0.3	0.15	0.08	50	4	1	14.39	0.31	0.33	0.35	0.37	0.40	●
SPM200-SN2-0.1-0.5-V		0.5						14.03	0.52	0.55	0.58	0.60	0.65	●
SPM200-SN2-0.1-1-V		1						13.22	1.05	1.09	1.13	1.18	1.27	●
SPM200-SN2-0.2-0.5-V	0.2	0.5	0.3	0.17	50	4	1	14.03	0.52	0.54	0.57	0.59	0.64	●
SPM200-SN2-0.2-1-V		1						13.20	1.04	1.08	1.12	1.16	1.26	●
SPM200-SN2-0.2-1.5-V		1.5						12.45	1.56	1.62	1.67	1.74	1.88	●
SPM200-SN2-0.2-2-V		2						11.79	2.08	2.15	2.23	2.31	2.50	●
SPM200-SN2-0.2-3-V		3						10.65	3.11	3.22	3.34	3.46	3.74	○
SPM200-SN2-0.3-1-V	0.3	1	0.45	0.27	50	4	2	13.06	1.06	1.12	1.18	1.23	1.33	●
SPM200-SN2-0.3-1.5-V		1.5						12.31	1.59	1.67	1.74	1.81	1.95	●
SPM200-SN2-0.3-2-V		2						11.65	2.12	2.21	2.29	2.38	2.57	●
SPM200-SN2-0.3-2.5-V		2.5						11.05	2.64	2.75	2.85	2.96	3.20	●
SPM200-SN2-0.3-3-V		3						10.51	3.16	3.28	3.40	3.53	3.82	○
SPM200-SN2-0.4-1-V	0.4	1	0.6	0.37	50	4	2	13.01	1.06	1.12	1.18	1.23	1.33	●
SPM200-SN2-0.4-1.5-V		1.5						12.25	1.59	1.67	1.74	1.81	1.95	●
SPM200-SN2-0.4-2-V		2						11.57	2.12	2.21	2.29	2.38	2.57	●
SPM200-SN2-0.4-2.5-V		2.5						10.97	2.64	2.75	2.85	2.96	3.20	○
SPM200-SN2-0.4-3-V		3						10.42	3.16	3.28	3.40	3.53	3.82	●
SPM200-SN2-0.4-3.5-V		3.5						9.92	3.68	3.82	3.96	4.11	4.44	●
SPM200-SN2-0.4-4-V		4						9.47	4.20	4.35	4.51	4.68	5.06	○
SPM200-SN2-0.4-5-V		5						8.68	5.24	5.42	5.62	5.83	6.30	○
SPM200-SN2-0.4-6-V		6						8.01	6.27	6.49	6.73	6.98	7.55	●
SPM200-SN2-0.4-8-V		8						6.94	8.34	8.63	8.94	9.28	10.03	○
SPM200-SN2-0.4-10-V		10						6.12	10.41	10.77	11.16	11.58	12.52	○

● Standard Inventory ○ To be Booked

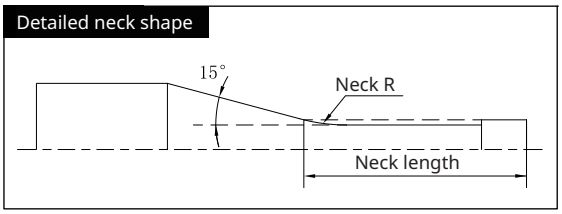
D	Tolerance
0.1≤D≤0.5	0 -0.007
0.6≤D≤0.9	0 -0.01
1.0≤D≤6.0	0 -0.015

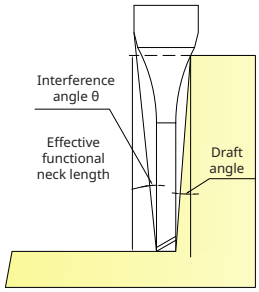
(mm)

Recommended Cutting Data ※ P682

SPM200-SN2

2 Flutes, Square Endmill, Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
									0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-SN2-0.5-1-V	0.5	1	0.75	0.47	50	4	2	12.96	1.06	1.12	1.18	1.23	1.33	●
SPM200-SN2-0.5-1.5-V		1.5						12.19	1.59	1.67	1.74	1.81	1.95	●
SPM200-SN2-0.5-2-V		2						11.50	2.12	2.21	2.29	2.38	2.57	○
SPM200-SN2-0.5-2.5-V		2.5						10.88	2.64	2.75	2.85	2.96	3.20	●
SPM200-SN2-0.5-3-V		3						10.33	3.16	3.28	3.40	3.53	3.82	●
SPM200-SN2-0.5-4-V		4						9.37	4.20	4.35	4.51	4.68	5.06	●
SPM200-SN2-0.5-5-V		5						8.58	5.24	5.42	5.62	5.83	6.30	●
SPM200-SN2-0.5-6-V		6						7.91	6.27	6.49	6.73	6.98	7.55	●
SPM200-SN2-0.5-8-V		8						6.84	8.34	8.63	8.94	9.28	10.03	●
SPM200-SN2-0.5-10-V		10						6.02	10.41	10.77	11.16	11.58	12.52	●
SPM200-SN2-0.6-2-V	0.6	2	0.9	0.57	50	4	4	11.21	2.17	2.31	2.44	2.56	2.78	●
SPM200-SN2-0.6-3-V		3						10.07	3.24	3.42	3.58	3.72	4.02	●
SPM200-SN2-0.6-4-V		4						9.13	4.30	4.51	4.69	4.87	5.26	●
SPM200-SN2-0.6-5-V		5						8.36	5.35	5.59	5.80	6.02	6.50	●
SPM200-SN2-0.6-6-V		6						7.70	6.40	6.67	6.91	7.17	7.75	●
SPM200-SN2-0.6-7-V		7						7.14	7.44	7.74	8.02	8.32	8.99	○
SPM200-SN2-0.6-8-V		8						6.66	8.49	8.81	9.12	9.47	10.23	○
SPM200-SN2-0.6-9-V		9						6.23	9.53	9.88	10.23	10.62	11.48	○
SPM200-SN2-0.6-10-V		10						5.86	10.57	10.94	11.34	11.77	12.72	●
SPM200-SN2-0.7-2-V	0.7	2	1.05	0.67	50	4	4	11.13	2.17	2.31	2.44	2.56	2.78	●
SPM200-SN2-0.7-4-V		4						9.02	4.30	4.51	4.69	4.87	5.26	●
SPM200-SN2-0.7-6-V		6						7.59	6.40	6.67	6.91	7.17	7.75	●
SPM200-SN2-0.7-8-V		8						6.54	8.49	8.81	9.12	9.47	10.23	○
SPM200-SN2-0.7-10-V		10						5.75	10.57	10.94	11.34	11.77	12.72	●

● Standard inventory ○ To be booked

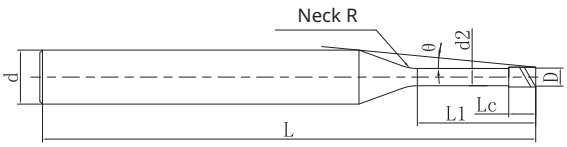
D	Tolerance
0.1≤D≤0.5	0 -0.007
0.6≤D≤0.9	0 -0.01
1.0≤D≤6.0	0 -0.015

(mm)

Recommended cutting data ※ P682

SPM200-SN2

2 Flutes, Square Endmill, Micro Diameter for Deep Machining



Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
									0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-SN2-0.8-4-V	0.8	4	1.2	0.76	50	4	4	8.94	4.27	4.48	4.65	4.83	5.22	●
SPM200-SN2-0.8-6-V		6			50			7.49	6.37	6.63	6.87	7.13	7.70	●
SPM200-SN2-0.8-8-V		8			50			6.45	8.46	8.77	9.09	9.43	10.19	●
SPM200-SN2-0.8-10-V		10			50			5.65	10.54	10.91	11.30	11.73	12.68	●
SPM200-SN2-0.8-12-V		12			55			5.04	12.61	13.05	13.52	14.03	15.16	●
SPM200-SN2-0.9-6-V	0.9	6	1.35	0.86	50	4	4	7.37	6.37	6.63	6.87	7.13	7.70	●
SPM200-SN2-0.9-8-V		8			50			6.33	8.46	8.77	9.09	9.43	10.19	○
SPM200-SN2-0.9-10-V		10			50			5.54	10.54	10.91	11.30	11.73	12.68	●
SPM200-SN2-0.9-12-V		12			55			4.93	12.61	13.05	13.52	14.03	15.16	○
SPM200-SN2-1-2-V	1	2	1.5	0.96	50	4	4	10.89	2.15	2.29	2.41	2.52	2.73	●
SPM200-SN2-1-3-V		3			50			9.68	3.21	3.39	3.54	3.68	3.98	●
SPM200-SN2-1-4-V		4			50			8.71	4.27	4.48	4.65	4.83	5.22	●
SPM200-SN2-1-5-V		5			50			7.91	5.32	5.56	5.76	5.98	6.46	●
SPM200-SN2-1-6-V		6			50			7.25	6.37	6.63	6.87	7.13	7.70	●
SPM200-SN2-1-7-V		7			50			6.69	7.41	7.7	7.98	8.28	8.95	●
SPM200-SN2-1-8-V		8			50			6.21	8.46	8.77	9.09	9.43	10.19	●
SPM200-SN2-1-9-V		9			50			5.79	9.50	9.84	10.19	10.58	11.43	○
SPM200-SN2-1-10-V		10			50			5.43	10.54	10.91	11.30	11.73	12.68	●
SPM200-SN2-1-12-V		12			55			4.82	12.61	13.05	13.52	14.03	15.16	●
SPM200-SN2-1-14-V		14			55			4.34	14.67	15.19	15.73	16.32	17.65	○
SPM200-SN2-1-16-V		16			55			3.94	16.74	17.33	17.95	18.62	20.14	●
SPM200-SN2-1-20-V		20			60			3.33	20.88	21.6	22.38	23.22	25.11	●
SPM200-SN2-1-25-V		25			65			2.79	26.05	26.95	27.93	28.97	-	●
SPM200-SN2-1.2-6-V	1.2	6	1.8	1.15	50	4	4	7.01	6.35	6.6	6.84	7.09	7.67	●

● Standard inventory ○ To be booked

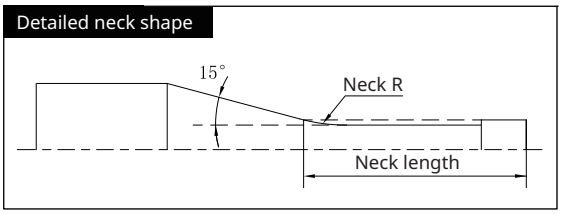
D	Tolerance
0.1≤D≤0.5	$^{0}_{-0.007}$
0.6≤D≤0.9	$^{0}_{-0.01}$
1.0≤D≤6.0	$^{0}_{-0.015}$

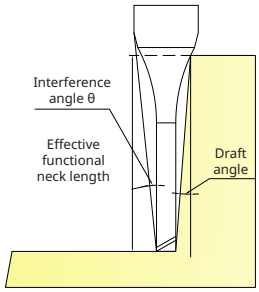
(mm)

Recommended cutting data ※ P682

SPM200-SN2

2 Flutes, Square Endmill, Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
									0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-SN2-1.2-8-V	1.2	8	1.8	1.15	50	4	4	5.97	8.43	8.74	9.05	9.39	10.16	●
SPM200-SN2-1.2-10-V		10			50			5.20	10.51	10.88	11.27	11.69	12.64	●
SPM200-SN2-1.2-12-V		12			55			4.61	12.58	13.02	13.49	13.99	15.13	●
SPM200-SN2-1.2-16-V		16			55			3.75	16.71	17.3	17.92	18.59	20.10	○
SPM200-SN2-1.4-6-V	1.4	6	2.1	1.34	50	4	4	6.74	6.33	6.57	6.81	7.07	7.64	●
SPM200-SN2-1.4-12-V		12			55			4.38	12.55	12.99	13.46	13.97	15.10	●
SPM200-SN2-1.5-4-V	1.5	4	2.25	1.44	50	4	4	8.08	4.24	4.43	4.59	4.77	5.15	●
SPM200-SN2-1.5-6-V		6			50			6.60	6.33	6.57	6.81	7.07	7.64	●
SPM200-SN2-1.5-8-V		8			50			5.58	8.41	8.71	9.03	9.37	10.13	●
SPM200-SN2-1.5-10-V		10			50			4.83	10.48	10.85	11.24	11.67	12.61	●
SPM200-SN2-1.5-12-V		12			55			4.26	12.55	12.99	13.46	13.97	15.10	●
SPM200-SN2-1.5-14-V		14			55			3.81	14.62	15.13	15.68	16.26	17.58	●
SPM200-SN2-1.5-16-V		16			55			3.44	16.69	17.27	17.89	18.56	20.07	●
SPM200-SN2-1.5-18-V		18			60			3.14	18.76	19.41	20.11	20.86	22.56	●
SPM200-SN2-1.5-20-V		20			60			2.89	20.82	21.55	22.33	23.16	-	●
SPM200-SN2-1.5-25-V		25			65			2.41	25.99	26.9	27.87	28.91	-	○
SPM200-SN2-1.5-30-V		30			70			2.06	31.16	32.25	33.41	34.66	-	●
SPM200-SN2-1.5-35-V		35			75			1.80	36.33	37.59	38.95	-	-	●
SPM200-SN2-1.5-40-V		40			80			1.60	41.50	42.94	44.49	-	-	○
SPM200-SN2-1.6-6-V	1.6	6	2.4	1.54	50	4	4	6.45	6.33	6.57	6.81	7.07	7.64	●
SPM200-SN2-1.6-8-V		8			50			5.43	8.41	8.71	9.03	9.37	10.13	●
SPM200-SN2-1.8-6-V	1.8	6	2.7	1.73	50	4	4	6.14	6.31	6.55	6.79	7.04	7.61	●
SPM200-SN2-1.8-8-V		8			50			5.14	8.39	8.69	9.00	9.34	10.10	○
SPM200-SN2-2-4-V	2	4	3	1.92	50	4	4	7.27	4.21	4.39	4.55	4.72	5.11	●

● Standard Inventory ○ To be Booked

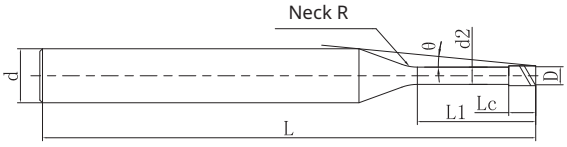
D	Tolerance
0.1≤D≤0.5	0 -0.007
0.6≤D≤0.9	0 -0.01
1.0≤D≤6.0	0 -0.015

(mm)

Recommended cutting data ※ P682

SPM200-SN2

2 Flutes, Square Endmill, Micro Diameter
for Deep Machining



Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
									0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-SN2-2-6-V	2	6	3	1.92	50	4	4	5.81	6.30	6.53	6.77	7.02	7.59	●
SPM200-SN2-2-8-V		8			50			4.83	8.38	8.67	8.99	9.32	10.08	●
SPM200-SN2-2-10-V		10			50			4.14	10.45	10.81	11.20	11.62	12.57	●
SPM200-SN2-2-12-V		12			55			3.62	12.51	12.95	13.42	13.92	15.05	●
SPM200-SN2-2-14-V		14			55			3.21	14.58	15.09	15.64	16.22	17.54	●
SPM200-SN2-2-16-V		16			55			2.89	16.65	17.23	17.85	18.52	-	●
SPM200-SN2-2-18-V		18			60			2.63	18.72	19.37	20.07	20.82	-	●
SPM200-SN2-2-20-V		20			60			2.41	20.78	21.51	22.28	23.12	-	●
SPM200-SN2-2-25-V		25			65			1.99	25.95	26.86	27.83	-	-	●
SPM200-SN2-2-30-V		30			70			1.70	31.12	32.2	33.37	-	-	●
SPM200-SN2-2-35-V		35			75			1.48	36.29	37.55	-	-	-	●
SPM200-SN2-2-40-V		40			80			1.31	41.46	42.9	-	-	-	●
SPM200-SN2-2-50-V		50			90			1.07	51.79	53.6	-	-	-	○
SPM200-SN2-2.5-8-V	2.5	8	3.75	2.4	50	4	4	3.95	8.35	8.64	8.95	9.29	10.04	●
SPM200-SN2-2.5-12-V		12			55			2.89	12.48	12.92	13.39	13.89	-	●
SPM200-SN2-2.5-16-V		16			55			2.28	16.62	17.2	17.82	18.49	-	●
SPM200-SN2-2.5-20-V		20			60			1.88	20.75	21.48	22.25	-	-	●
SPM200-SN2-2.5-30-V		30			70			1.31	31.09	32.17	-	-	-	●
SPM200-SN2-2.5-40-V		40			80			1.01	41.43	42.87	-	-	-	○
SPM200-SN2-2.5-50-V		50			90			0.82	51.76	-	-	-	-	○
SPM200-SN2-3-8-V	3	8	4.5	2.88	55	6	4	6.27	8.33	8.62	8.93	9.26	10.02	○
SPM200-SN2-3-12-V		12			60			4.86	12.46	12.9	13.36	13.86	14.99	●
SPM200-SN2-3-16-V		16			60			3.97	16.60	17.17	17.79	18.46	19.96	●
SPM200-SN2-3-20-V		20			65			3.35	20.73	21.45	22.23	23.06	24.93	●

● Standard Inventory ○ To be Booked

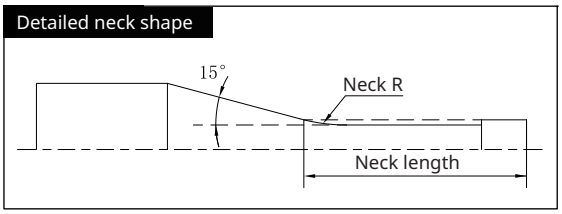
D	Tolerance
0.1≤D≤0.5	0 -0.007
0.6≤D≤0.9	0 -0.01
1.0≤D≤6.0	0 -0.015

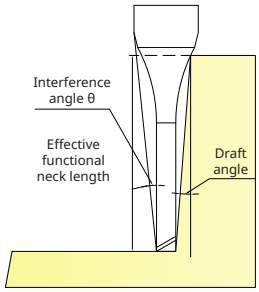
(mm)

Recommended cutting data ※ P682

SPM200-SN2

2 Flutes, Square Endmill, Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
									0.5°	1°	1.5°	2°	3°	
SPM200-SN2-3-25-V	3	25	4.5	2.88	70	6	4	2.81	25.90	26.8	27.77	28.81	-	●
SPM200-SN2-3-30-V		30			75			2.41	31.07	32.15	33.31	34.56	-	●
SPM200-SN2-3-40-V		40			90			1.89	41.40	42.85	44.39	-	-	●
SPM200-SN2-3-50-V		50			100			1.55	51.74	53.54	55.48	-	-	●
SPM200-SN2-4-12-V	4	12	6	3.86	60	6	4	3.63	12.44	12.88	13.34	13.84	14.97	●
SPM200-SN2-4-16-V		16			60			2.90	16.58	17.16	17.78	18.44	-	○
SPM200-SN2-4-20-V		20			70			2.41	20.71	21.43	22.21	23.04	-	●
SPM200-SN2-4-25-V		25			70			2.00	25.88	26.78	27.75	-	-	●
SPM200-SN2-4-30-V		30			80			1.70	31.05	32.13	33.29	-	-	●
SPM200-SN2-4-35-V		35			80			1.48	36.22	37.48	-	-	-	○
SPM200-SN2-4-40-V		40			90			1.31	41.39	42.83	-	-	-	●
SPM200-SN2-4-50-V		50			100			1.07	51.72	53.52	-	-	-	○
SPM200-SN2-5-20-V	5	20	7.5	4.85	70	6	4	1.31	20.71	21.43	-	-	-	●
SPM200-SN2-5-25-V		25			70			1.07	25.87	26.78	-	-	-	●
SPM200-SN2-5-30-V		30			80			0.90	31.04	-	-	-	-	●
SPM200-SN2-5-40-V		40			90			0.69	41.38	-	-	-	-	●
SPM200-SN2-5-50-V		50			100			0.56	51.72	-	-	-	-	●
SPM200-SN2-6-20-V	6	20	9	5.85	70	6	-	-	-	-	-	-	-	●
SPM200-SN2-6-30-V		30			80			-	-	-	-	-	-	○
SPM200-SN2-6-40-V		40			90			-	-	-	-	-	-	●
SPM200-SN2-6-50-V		50			100			-	-	-	-	-	-	●

● Standard Inventory ○ To be Booked

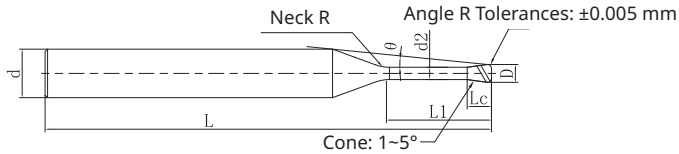
D	Tolerance
0.1≤D≤0.5	0 -0.007
0.6≤D≤0.9	0 -0.01
1.0≤D≤6.0	0 -0.015

(mm)

Recommended cutting data ※ P682

SPM200-RN2

2 Flutes, Corner Radius Endmill,
Micro Diameter for Deep Machining



The outer diameter of more than
Φ4 is not in the form of a cone

Please refer to P201 for guidelines to icons

Order No.	Outer Diameter D	Fillet Radius r	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-RN2-0.2-0.5-0.02-V	0.2	0.02	0.5	0.16	0.17	50	4	1	14.07	0.52	0.54	0.56	0.58	0.63	○
SPM200-RN2-0.2-1-0.02-V			1						13.23	1.04	1.08	1.12	1.16	1.25	○
SPM200-RN2-0.2-2-0.02-V			2						11.82	2.08	2.15	2.23	2.31	2.50	○
SPM200-RN2-0.2-0.5-0.05-V		0.05	0.5						14.12	0.52	0.54	0.56	0.58	0.62	○
SPM200-RN2-0.2-1-0.05-V			1						13.28	1.04	1.08	1.11	1.15	1.24	○
SPM200-RN2-0.2-1.5-0.05-V			1.5						12.53	1.56	1.61	1.67	1.73	1.87	○
SPM200-RN2-0.2-2-0.05-V			2						11.85	2.08	2.15	2.22	2.30	2.49	○
SPM200-RN2-0.3-1-0.02-V	0.3	0.02	1	0.24	0.27	50	4	2	13.09	1.06	1.12	1.17	1.23	1.33	○
SPM200-RN2-0.3-2-0.02-V			2						11.67	2.11	2.21	2.29	2.38	2.57	○
SPM200-RN2-0.3-3-0.02-V			3						10.53	3.16	3.28	3.40	3.53	3.81	○
SPM200-RN2-0.3-1-0.05-V		0.05	1						13.14	1.06	1.12	1.17	1.22	1.32	○
SPM200-RN2-0.3-1.5-0.05-V			1.5						12.38	1.59	1.66	1.73	1.80	1.94	○
SPM200-RN2-0.3-2-0.05-V			2						11.71	2.11	2.21	2.29	2.37	2.56	○
SPM200-RN2-0.3-2.5-0.05-V			2.5						11.11	2.64	2.75	2.84	2.95	3.18	●
SPM200-RN2-0.3-3-0.05-V			3						10.56	3.16	3.28	3.40	3.52	3.81	○
SPM200-RN2-0.4-1-0.02-V	0.4	0.02	1	0.32	0.37	50	4	2	13.04	1.06	1.12	1.17	1.23	1.33	○
SPM200-RN2-0.4-2-0.02-V			2						11.60	2.11	2.21	2.29	2.38	2.57	○
SPM200-RN2-0.4-3-0.02-V			3						10.44	3.16	3.28	3.40	3.53	3.81	○
SPM200-RN2-0.4-4-0.02-V			4						9.49	4.20	4.35	4.51	4.68	5.06	○
SPM200-RN2-0.4-1-0.05-V		0.05	1						13.09	1.06	1.12	1.17	1.22	1.32	○
SPM200-RN2-0.4-1.5-0.05-V			1.5						12.32	1.59	1.66	1.73	1.80	1.94	○
SPM200-RN2-0.4-2-0.05-V			2						11.64	2.11	2.21	2.29	2.37	2.56	●
SPM200-RN2-0.4-2.5-0.05-V			2.5						11.03	2.64	2.75	2.84	2.95	3.18	○
SPM200-RN2-0.4-3-0.05-V			3						10.47	3.16	3.28	3.40	3.52	3.81	○

● Standard Inventory ○ To be Booked

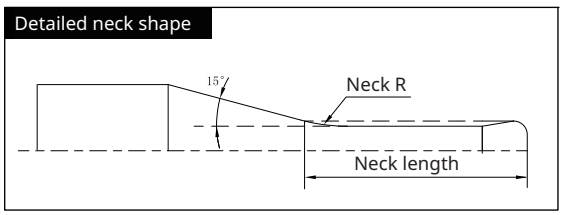
R	Tolerance
R	±0.005

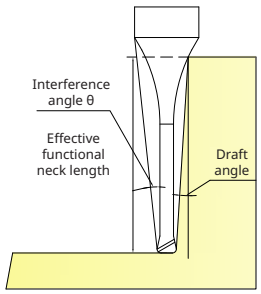
(mm)

Recommended cutting data ※ P692

SPM200-RN2

2 Flutes, Corner Radius Endmill,
Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Fillet Radius r	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-RN2-0.4-3.5-0.05-V	0.4	0.05	3.5	0.32	0.37	50	4	2	9.97	3.68	3.82	3.95	4.10	4.43	○
SPM200-RN2-0.4-4-0.05-V			4						9.52	4.20	4.35	4.51	4.67	5.05	●
SPM200-RN2-0.4-1-0.1-V		0.1	1						13.17	1.06	1.11	1.16	1.21	1.31	○
SPM200-RN2-0.4-2-0.1-V			2						11.70	2.11	2.20	2.28	2.37	2.55	○
SPM200-RN2-0.4-3-0.1-V			3						10.53	3.16	3.28	3.39	3.52	3.79	○
SPM200-RN2-0.4-4-0.1-V			4						9.56	4.20	4.35	4.50	4.67	5.04	○
SPM200-RN2-0.5-1-0.02-V	0.5	0.02	1	0.4	0.47	50	4	2	13.00	1.06	1.12	1.17	1.23	1.33	○
SPM200-RN2-0.5-2-0.02-V			2						11.53	2.11	2.21	2.29	2.38	2.57	○
SPM200-RN2-0.5-3-0.02-V			3						10.35	3.16	3.28	3.40	3.53	3.81	○
SPM200-RN2-0.5-4-0.02-V			4						9.39	4.20	4.35	4.51	4.68	5.06	○
SPM200-RN2-0.5-6-0.02-V			6						7.92	6.27	6.49	6.73	6.98	7.54	○
SPM200-RN2-0.5-1-0.05-V		0.05	1						13.05	1.06	1.12	1.17	1.22	1.32	○
SPM200-RN2-0.5-2-0.05-V			2						11.56	2.11	2.21	2.29	2.37	2.56	○
SPM200-RN2-0.5-3-0.05-V			3						10.38	3.16	3.28	3.40	3.52	3.81	○
SPM200-RN2-0.5-4-0.05-V			4						9.42	4.20	4.35	4.51	4.67	5.05	○
SPM200-RN2-0.5-5-0.05-V			5						8.62	5.24	5.42	5.61	5.82	6.29	○
SPM200-RN2-0.5-6-0.05-V			6						7.94	6.27	6.49	6.72	6.97	7.53	○
SPM200-RN2-0.5-1-0.1-V		0.1	1						13.13	1.06	1.11	1.16	1.21	1.31	○
SPM200-RN2-0.5-2-0.1-V			2						11.63	2.11	2.20	2.28	2.37	2.55	○
SPM200-RN2-0.5-3-0.1-V			3						10.44	3.16	3.28	3.39	3.52	3.79	○
SPM200-RN2-0.5-4-0.1-V			4						9.46	4.20	4.35	4.50	4.67	5.04	○
SPM200-RN2-0.5-5-0.1-V			5						8.65	5.24	5.42	5.61	5.82	6.28	○
SPM200-RN2-0.5-6-0.1-V			6						7.97	6.27	6.49	6.72	6.97	7.52	○
SPM200-RN2-0.6-2-0.02-V	0.6	0.02	2	0.48	0.57	50	4	4	11.24	2.17	2.31	2.44	2.55	2.77	○

● Standard Inventory ○ To be Booked

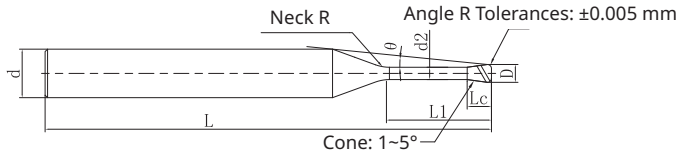
R	Tolerance
R	±0.005

(mm)

Recommended cutting data ※ P692

SPM200-RN2

2 Flutes, Corner Radius Endmill,
Micro Diameter for Deep Machining



The outer diameter of more than
Φ4 is not in the form of a cone

Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Fillet Radius r	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-RN2-0.6-4-0.02-V	0.6	0.02	4	0.48	0.57	50	4	4	9.15	4.29	4.51	4.69	4.86	5.26	○
SPM200-RN2-0.6-6-0.02-V			6						7.71	6.40	6.66	6.90	7.16	7.74	○
SPM200-RN2-0.6-2-0.05-V		0.05	2						11.27	2.17	2.31	2.43	2.55	2.76	○
SPM200-RN2-0.6-4-0.05-V			4						9.18	4.29	4.51	4.68	4.86	5.25	○
SPM200-RN2-0.6-6-0.05-V			6						7.73	6.40	6.66	6.90	7.16	7.74	○
SPM200-RN2-0.6-8-0.05-V			8						6.68	8.49	8.80	9.12	9.46	10.22	○
SPM200-RN2-0.6-10-0.05-V			10						5.88	10.57	10.94	11.33	11.76	12.71	○
SPM200-RN2-0.6-2-0.1-V		0.1	2						11.34	2.16	2.30	2.43	2.54	2.75	○
SPM200-RN2-0.6-4-0.1-V			4						9.22	4.29	4.50	4.68	4.85	5.24	○
SPM200-RN2-0.6-6-0.1-V			6						7.76	6.39	6.66	6.90	7.15	7.72	○
SPM200-RN2-0.6-8-0.1-V			8						6.70	8.48	8.80	9.11	9.45	10.21	○
SPM200-RN2-0.6-10-0.1-V			10						5.89	10.57	10.94	11.33	11.75	12.70	○
SPM200-RN2-0.7-4-0.05-V	0.7	0.05	4	0.56	0.67	50	4	4	9.07	4.29	4.51	4.68	4.86	5.25	○
SPM200-RN2-0.7-6-0.05-V			6						7.62	6.40	6.66	6.90	7.16	7.74	○
SPM200-RN2-0.7-4-0.1-V		0.1	4						9.11	4.29	4.50	4.68	4.85	5.24	○
SPM200-RN2-0.7-6-0.1-V			6						7.65	6.39	6.66	6.90	7.15	7.72	○
SPM200-RN2-0.8-4-0.02-V	0.8	0.02	4	0.64	0.76	50	4	4	8.96	4.27	4.47	4.65	4.82	5.21	○
SPM200-RN2-0.8-6-0.02-V			6			50			7.51	6.37	6.63	6.87	7.12	7.70	○
SPM200-RN2-0.8-4-0.05-V		0.05	4			50			8.99	4.27	4.47	4.65	4.82	5.21	●
SPM200-RN2-0.8-6-0.05-V			6			50			7.52	6.37	6.63	6.86	7.12	7.69	○
SPM200-RN2-0.8-8-0.05-V			8			50			6.47	8.45	8.76	9.08	9.42	10.18	○
SPM200-RN2-0.8-12-0.05-V			12			55			5.05	12.61	13.04	13.51	14.02	15.15	○
SPM200-RN2-0.8-4-0.1-V		0.1	4			50			9.03	4.26	4.47	4.64	4.81	5.19	●
SPM200-RN2-0.8-6-0.1-V			6			50			7.55	6.37	6.62	6.86	7.11	7.68	○

● Standard Inventory ○ To be Booked

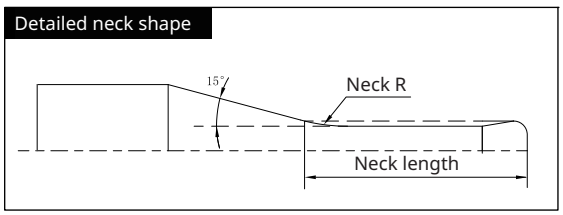
R	Tolerance
R	±0.005

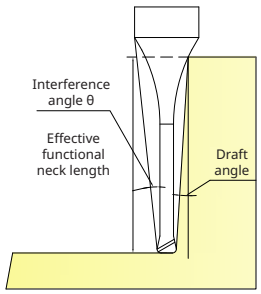
(mm)

Recommended cutting data ※ P692

SPM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Fillet Radius r	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-RN2-0.8-8-0.1-V	0.8	0.1	8	0.64	0.76	50	4	4	6.49	8.45	8.76	9.07	9.41	10.17	○
SPM200-RN2-0.8-12-0.1-V			12			55			5.06	12.60	13.04	13.51	14.01	15.14	○
SPM200-RN2-0.8-4-0.2-V		0.2	4			50			9.12	4.26	4.46	4.63	4.80	5.17	●
SPM200-RN2-0.8-6-0.2-V			6			50			7.62	6.36	6.61	6.85	7.10	7.66	○
SPM200-RN2-0.8-8-0.2-V			8			50			6.54	8.45	8.75	9.06	9.40	10.14	○
SPM200-RN2-0.8-12-0.2-V			12			55			5.09	12.60	13.03	13.50	14.00	15.11	○
SPM200-RN2-1-2-0.02-V	1	0.02	2	0.8	0.96	50	4	4	10.92	2.15	2.28	2.40	2.52	2.73	○
SPM200-RN2-1-4-0.02-V			4			50			8.72	4.27	4.47	4.65	4.82	5.21	○
SPM200-RN2-1-6-0.02-V			6			50			7.26	6.37	6.63	6.87	7.12	7.70	○
SPM200-RN2-1-8-0.02-V			8			50			6.22	8.46	8.77	9.08	9.42	10.19	○
SPM200-RN2-1-10-0.02-V			10			50			5.44	10.53	10.91	11.30	11.72	12.67	○
SPM200-RN2-1-12-0.02-V			12			55			4.83	12.61	13.05	13.52	14.02	15.16	○
SPM200-RN2-1-2-0.05-V		0.05	2			50			10.96	2.15	2.28	2.40	2.51	2.72	○
SPM200-RN2-1-3-0.05-V			3			50			9.73	3.21	3.38	3.53	3.67	3.96	○
SPM200-RN2-1-4-0.05-V			4			50			8.75	4.27	4.47	4.65	4.82	5.21	○
SPM200-RN2-1-5-0.05-V			5			50			7.95	5.32	5.55	5.75	5.97	6.45	○
SPM200-RN2-1-6-0.05-V			6			50			7.28	6.37	6.63	6.86	7.12	7.69	●
SPM200-RN2-1-8-0.05-V			8			50			6.23	8.45	8.76	9.08	9.42	10.18	○
SPM200-RN2-1-10-0.05-V			10			50			5.45	10.53	10.90	11.30	11.72	12.67	○
SPM200-RN2-1-12-0.05-V			12			55			4.84	12.61	13.04	13.51	14.02	15.15	○
SPM200-RN2-1-16-0.05-V			16			60			3.95	16.74	17.32	17.95	18.62	20.12	○
SPM200-RN2-1-20-0.05-V			20			60			3.34	20.88	21.60	22.38	23.22	25.10	○
SPM200-RN2-1-2-0.1-V		0.1	2			50			11.03	2.14	2.27	2.39	2.50	2.71	○
SPM200-RN2-1-3-0.1-V			3			50			9.79	3.21	3.38	3.53	3.66	3.95	○

● Standard inventory ○ To be booked

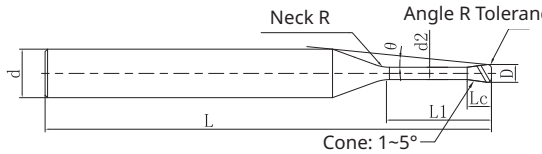
R	Tolerance
R	±0.005

(mm)

Recommended cutting data ※ P692

SPM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining



The outer diameter of more than Φ4 is not in the form of a cone

Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Fillet Radius r	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-RN2-1-4-0.1-V	1	0.1	4	0.8	0.96	50	4	4	8.80	4.26	4.47	4.64	4.81	5.19	○
SPM200-RN2-1-5-0.1-V			5			50			7.99	5.32	5.55	5.75	5.96	6.44	●
SPM200-RN2-1-6-0.1-V			6			50			7.31	6.37	6.62	6.86	7.11	7.68	○
SPM200-RN2-1-8-0.1-V			8			50			6.25	8.45	8.76	9.07	9.41	10.17	●
SPM200-RN2-1-10-0.1-V			10			50			5.46	10.53	10.90	11.29	11.71	12.65	○
SPM200-RN2-1-12-0.1-V			12			55			4.85	12.60	13.04	13.51	14.01	15.14	○
SPM200-RN2-1-16-0.1-V			16			60			3.96	16.74	17.32	17.94	18.61	20.11	○
SPM200-RN2-1-20-0.1-V			20			60			3.35	20.87	21.60	22.37	23.21	25.08	○
SPM200-RN2-1-2-0.2-V		0.2	2			50			11.17	2.14	2.26	2.38	2.48	2.68	○
SPM200-RN2-1-3-0.2-V			3			50			9.90	3.20	3.37	3.51	3.65	3.93	○
SPM200-RN2-1-4-0.2-V			4			50			8.89	4.26	4.46	4.63	4.80	5.17	●
SPM200-RN2-1-5-0.2-V			5			50			8.06	5.31	5.54	5.74	5.95	6.41	●
SPM200-RN2-1-6-0.2-V			6			50			7.37	6.36	6.61	6.85	7.10	7.66	●
SPM200-RN2-1-8-0.2-V			8			50			6.30	8.45	8.75	9.06	9.40	10.14	●
SPM200-RN2-1-10-0.2-V			10			50			5.50	10.53	10.89	11.28	11.70	12.63	○
SPM200-RN2-1-12-0.2-V			12			55			4.88	12.60	13.03	13.50	14.00	15.11	○
SPM200-RN2-1-16-0.2-V			16			60			3.98	16.74	17.31	17.93	18.59	20.09	○
SPM200-RN2-1-20-0.2-V			20			60			3.36	20.87	21.59	22.36	23.19	25.06	○
SPM200-RN2-1-2-0.3-V		0.3	2			50			11.32	2.13	2.25	2.36	2.47	2.66	○
SPM200-RN2-1-3-0.3-V			3			50			10.01	3.20	3.36	3.50	3.63	3.90	○
SPM200-RN2-1-4-0.3-V			4			50			8.98	4.25	4.45	4.62	4.78	5.15	○
SPM200-RN2-1-5-0.3-V			5			50			8.14	5.31	5.53	5.73	5.93	6.39	○
SPM200-RN2-1-6-0.3-V			6			50			7.44	6.36	6.61	6.84	7.08	7.63	○
SPM200-RN2-1-8-0.3-V			8			50			6.35	8.44	8.75	9.05	9.38	10.12	○

● Standard Inventory ○ To be Booked

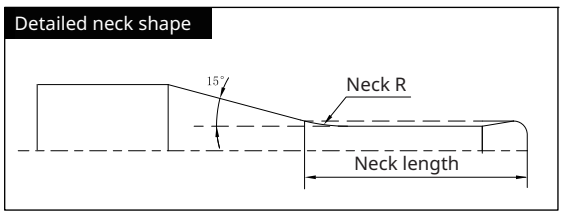
R	Tolerance
R	±0.005

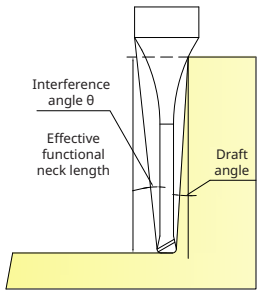
(mm)

Recommended cutting data ※ P692

SPM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Fillet Radius r	Neck Length L1	Edge length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-RN2-1-10-0.3-V	1	0.3	10	0.8	0.96	50	4	4	5.53	10.52	10.89	11.27	11.68	12.60	○
SPM200-RN2-1-12-0.3-V			12			55			4.90	12.60	13.03	13.49	13.98	15.09	○
SPM200-RN2-1-16-0.3-V			16			60			4.00	16.73	17.30	17.92	18.58	20.06	○
SPM200-RN2-1-20-0.3-V			20			60			3.37	20.87	21.58	22.35	23.18	25.04	○
SPM200-RN2-1.25-5-0.1-V	1.25	0.1	5	1	1.20	50	4	4	7.68	5.30	5.52	5.72	5.93	6.40	○
SPM200-RN2-1.25-10-0.1-V			10			50			5.17	10.50	10.87	11.26	11.68	12.62	○
SPM200-RN2-1.25-15-0.1-V			15			55			3.90	15.68	16.22	16.80	17.43	18.83	○
SPM200-RN2-1.25-20-0.1-V			20			60			3.13	20.84	21.57	22.34	23.18	25.05	○
SPM200-RN2-1.25-5-0.2-V		0.2	5			50			7.75	5.29	5.51	5.71	5.91	6.38	○
SPM200-RN2-1.25-10-0.2-V			10			50			5.21	10.50	10.86	11.25	11.66	12.59	○
SPM200-RN2-1.25-15-0.2-V			15			55			3.92	15.67	16.21	16.79	17.41	18.81	○
SPM200-RN2-1.25-20-0.2-V			20			60			3.14	20.84	21.56	22.33	23.16	25.02	○
SPM200-RN2-1.25-5-0.3-V		0.3	5			50			7.83	5.29	5.50	5.70	5.90	6.35	○
SPM200-RN2-1.25-10-0.3-V			10			50			5.24	10.50	10.86	11.24	11.65	12.57	○
SPM200-RN2-1.25-15-0.3-V			15			55			3.94	15.67	16.20	16.78	17.40	18.78	○
SPM200-RN2-1.25-20-0.3-V			20			60			3.15	20.84	21.55	22.32	23.15	25.00	○
SPM200-RN2-1.5-4-0.1-V	1.5	0.1	4	1.2	1.44	50	4	4	8.17	4.23	4.42	4.58	4.75	5.13	○
SPM200-RN2-1.5-6-0.1-V			6			50			6.66	6.32	6.57	6.80	7.05	7.62	○
SPM200-RN2-1.5-8-0.1-V			8			50			5.62	8.41	8.71	9.02	9.35	10.10	○
SPM200-RN2-1.5-12-0.1-V			12			55			4.28	12.55	12.98	13.45	13.95	15.07	○
SPM200-RN2-1.5-15-0.1-V			15			55			3.63	15.65	16.19	16.77	17.40	18.80	○
SPM200-RN2-1.5-20-0.1-V			20			60			2.90	20.82	21.54	22.32	23.15	-	○
SPM200-RN2-1.5-4-0.2-V		0.2	4			50			8.26	4.23	4.41	4.57	4.74	5.10	●
SPM200-RN2-1.5-6-0.2-V			6			50			6.72	6.32	6.56	6.79	7.04	7.59	●

● Standard Inventory ○ To be Booked

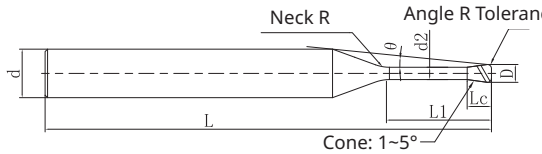
R	Tolerance
R	±0.005

(mm)

Recommended cutting data ※ P692

SPM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining



The outer diameter of more than Φ4 is not in the form of a cone

Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Fillet Radius r	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-RN2-1.5-8-0.2-V	1.5	0.2	8	1.2	1.44	50	4	4	5.66	8.40	8.70	9.01	9.34	10.08	○
SPM200-RN2-1.5-12-0.2-V			12			55			4.31	12.55	12.98	13.44	13.94	15.05	○
SPM200-RN2-1.5-15-0.2-V			15			55			3.65	15.65	16.19	16.76	17.38	18.78	○
SPM200-RN2-1.5-20-0.2-V			20			60			2.91	20.82	21.53	22.31	23.13	-	○
SPM200-RN2-1.5-4-0.3-V		0.3	4			50			8.36	4.22	4.40	4.56	4.72	5.08	○
SPM200-RN2-1.5-6-0.3-V			6			50			6.78	6.31	6.55	6.78	7.02	7.57	○
SPM200-RN2-1.5-8-0.3-V			8			50			5.71	8.40	8.69	8.99	9.32	10.05	○
SPM200-RN2-1.5-12-0.3-V			12			55			4.33	12.54	12.97	13.43	13.92	15.03	○
SPM200-RN2-1.5-15-0.3-V			15			55			3.67	15.64	16.18	16.75	17.37	18.76	○
SPM200-RN2-1.5-20-0.3-V			20			60			2.92	20.81	21.53	22.29	23.12	-	○
SPM200-RN2-1.5-4-0.5-V		0.5	4			50			8.55	4.21	4.39	4.54	4.69	5.03	○
SPM200-RN2-1.5-6-0.5-V			6			50			6.91	6.31	6.54	6.76	6.99	7.52	○
SPM200-RN2-1.5-8-0.5-V			8			50			5.80	8.39	8.68	8.97	9.29	10.00	○
SPM200-RN2-1.5-12-0.5-V			12			55			4.39	12.54	12.96	13.41	13.89	14.98	○
SPM200-RN2-1.5-15-0.5-V			15			55			3.71	15.64	16.17	16.73	17.34	18.71	○
SPM200-RN2-1.5-20-0.5-V			20			60			2.95	20.81	21.51	22.27	23.09	-	○
SPM200-RN2-1.75-5-0.1-V	1.75	0.1	5	1.4	1.68	50	4	4	6.96	5.26	5.47	5.67	5.88	6.35	○
SPM200-RN2-1.75-10-0.1-V			10			50			4.53	10.46	10.82	11.21	11.63	12.56	○
SPM200-RN2-1.75-15-0.1-V			15			55			3.35	15.63	16.17	16.75	17.38	18.78	○
SPM200-RN2-1.75-20-0.1-V			20			60			2.66	20.80	21.52	22.29	23.13	-	○
SPM200-RN2-1.75-5-0.2-V		0.2	5			50			7.03	5.26	5.47	5.66	5.86	6.32	○
SPM200-RN2-1.75-10-0.2-V			10			50			4.56	10.46	10.82	11.20	11.61	12.54	○
SPM200-RN2-1.75-15-0.2-V			15			55			3.37	15.63	16.16	16.74	17.36	18.75	○
SPM200-RN2-1.75-20-0.2-V			20			60			2.67	20.80	21.51	22.28	23.11	-	○

● Standard Inventory ○ To be Booked

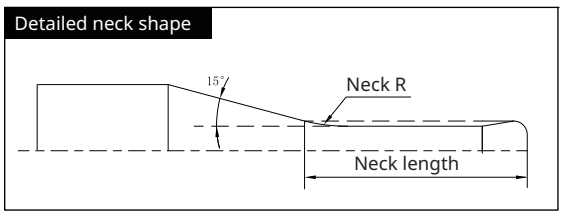
R	Tolerance
R	±0.005

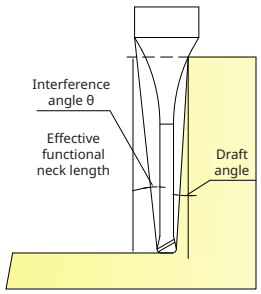
(mm)

Recommended cutting data ※ P692

SPM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining





SHANK h5 | 2 | AlCrSiN | 30° Helix | Corner-R

Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Fillet Radius r	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5°	1°	1.5°	2°	3°	
SPM200-RN2-1.75-5-0.3-V	1.75	0.3	5	1.4	1.68	50	4	4	7.11	5.25	5.46	5.65	5.85	6.30	○
SPM200-RN2-1.75-10-0.3-V			10			50			4.59	10.45	10.81	11.19	11.60	12.51	○
SPM200-RN2-1.75-15-0.3-V			15			55			3.39	15.62	16.16	16.73	17.35	18.73	○
SPM200-RN2-1.75-20-0.3-V			20			60			2.69	20.79	21.51	22.27	23.10	-	○
SPM200-RN2-2-4-0.1-V	2	0.1	4	1.6	1.92	50	4	4	7.36	4.21	4.38	4.54	4.71	5.08	○
SPM200-RN2-2-6-0.1-V			6			50			5.86	6.29	6.53	6.76	7.01	7.57	○
SPM200-RN2-2-8-0.1-V			8			50			4.87	8.37	8.66	8.97	9.31	10.05	●
SPM200-RN2-2-12-0.1-V			12			55			3.64	12.51	12.94	13.41	13.91	15.03	○
SPM200-RN2-2-16-0.1-V			16			55			2.90	16.65	17.22	17.84	18.51	-	○
SPM200-RN2-2-20-0.1-V			20			60			2.42	20.78	21.50	22.27	23.11	-	○
SPM200-RN2-2-25-0.1-V			25			65			2.00	25.95	26.85	27.82	-	-	○
SPM200-RN2-2-30-0.1-V			30			70			1.70	31.12	32.20	33.36	-	-	○
SPM200-RN2-2-4-0.2-V		0.2	4			50			7.46	4.20	4.37	4.53	4.69	5.06	○
SPM200-RN2-2-6-0.2-V			6			50			5.93	6.29	6.52	6.75	6.99	7.54	○
SPM200-RN2-2-8-0.2-V			8			50			4.91	8.37	8.66	8.96	9.29	10.03	●
SPM200-RN2-2-12-0.2-V			12			55			3.66	12.51	12.94	13.40	13.89	15.00	●
SPM200-RN2-2-16-0.2-V			16			55			2.92	16.64	17.22	17.83	18.49	-	○
SPM200-RN2-2-20-0.2-V			20			60			2.43	20.78	21.49	22.26	23.09	-	○
SPM200-RN2-2-25-0.2-V			25			65			2.00	25.95	26.84	27.80	-	-	○
SPM200-RN2-2-30-0.2-V			30			70			1.71	31.11	32.19	33.35	-	-	●
SPM200-RN2-2-4-0.3-V		0.3	4			50			7.56	4.20	4.37	4.52	4.68	5.03	○
SPM200-RN2-2-6-0.3-V			6			50			5.99	6.28	6.51	6.74	6.98	7.52	○
SPM200-RN2-2-8-0.3-V			8			50			4.96	8.36	8.65	8.95	9.28	10.01	○
SPM200-RN2-2-12-0.3-V			12			55			3.69	12.50	12.93	13.39	13.88	14.98	○

● Standard Inventory ○ To be booked

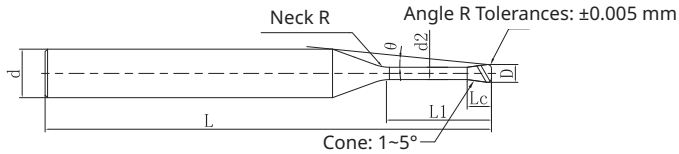
R	Tolerance
R	±0.005

(mm)

Recommended cutting data ※ P692

SPM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining



The outer diameter of more than Φ4 is not in the form of a cone

Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Fillet Radius r	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-RN2-2-16-0.3-V	2	0.3	16	1.6	1.92	55	4	4	2.93	16.64	17.21	17.82	18.48	-	○
SPM200-RN2-2-20-0.3-V			20			60			2.44	20.77	21.49	22.25	23.08	-	○
SPM200-RN2-2-25-0.3-V			25			65			2.01	25.94	26.84	27.79	28.82	-	○
SPM200-RN2-2-30-0.3-V			30			70			1.71	31.11	32.18	33.34	-	-	○
SPM200-RN2-2-6-0.5-V		0.5	6			50			6.11	6.28	6.50	6.71	6.95	7.47	○
SPM200-RN2-2-8-0.5-V			8			50			5.04	8.36	8.64	8.93	9.25	9.96	○
SPM200-RN2-2-12-0.5-V			12			55			3.73	12.50	12.92	13.36	13.85	14.93	○
SPM200-RN2-2-16-0.5-V			16			55			2.96	16.63	17.19	17.80	18.45	-	○
SPM200-RN2-2-20-0.5-V			20			60			2.46	20.77	21.47	22.23	23.05	-	○
SPM200-RN2-2-25-0.5-V			25			65			2.03	25.94	26.82	27.77	28.79	-	○
SPM200-RN2-2-30-0.5-V			30			70			1.72	31.10	32.17	33.31	-	-	○
SPM200-RN2-2-6-0.8-V		0.8	6			50			6.31	6.26	6.48	6.68	6.90	7.40	○
SPM200-RN2-2-8-0.8-V			8			50			5.18	8.35	8.62	8.90	9.20	9.88	○
SPM200-RN2-2-12-0.8-V			12			55			3.81	12.49	12.89	13.33	13.80	14.86	○
SPM200-RN2-2-16-0.8-V			16			55			3.01	16.62	17.17	17.77	18.40	19.83	○
SPM200-RN2-2-20-0.8-V			20			60			2.49	20.76	21.45	22.20	23.00	-	○
SPM200-RN2-2-25-0.8-V			25			65			2.05	25.93	26.80	27.74	28.75	-	○
SPM200-RN2-2-30-0.8-V			30			70			1.74	31.09	32.15	33.28	-	-	○
SPM200-RN2-2.5-10-0.1-V	2.5	0.1	10	2	2.40	50	4	4	3.36	10.41	10.77	11.16	11.57	12.50	○
SPM200-RN2-2.5-20-0.1-V			20			60			1.89	20.75	21.47	22.24	-	-	○
SPM200-RN2-2.5-30-0.1-V			30			70			1.32	31.09	32.17	-	-	-	●
SPM200-RN2-2.5-10-0.2-V		0.2	10			50			3.39	10.41	10.77	11.15	11.56	12.48	●
SPM200-RN2-2.5-20-0.2-V			20			60			1.90	20.75	21.46	22.23	-	-	○
SPM200-RN2-2.5-30-0.2-V			30			70			1.32	31.08	32.16	-	-	-	○

● Standard Inventory ○ To be Booked

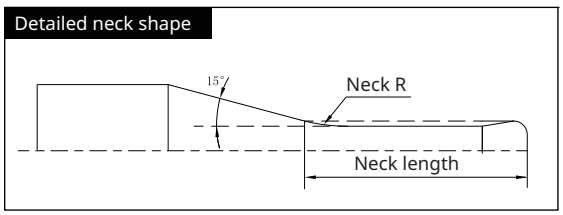
R	Tolerance
R	±0.005

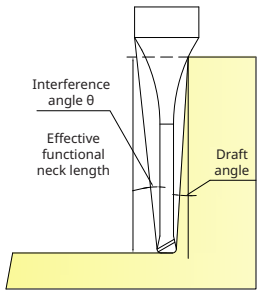
(mm)

Recommended cutting data ※ P692

SPM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Fillet Radius r	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-RN2-2.5-10-0.3-V	2.5	0.3	10	2	2.40	50	4	4	3.42	10.41	10.76	11.14	11.54	12.46	○
SPM200-RN2-2.5-20-0.3-V			20			60			1.91	20.74	21.46	22.22	-	-	○
SPM200-RN2-2.5-30-0.3-V			30			70			1.32	31.08	32.15	-	-	-	○
SPM200-RN2-2.5-10-0.5-V		0.5	10			50			3.47	10.40	10.75	11.12	11.51	12.41	○
SPM200-RN2-2.5-20-0.5-V			20			60			1.92	20.74	21.44	22.20	-	-	○
SPM200-RN2-2.5-30-0.5-V			30			70			1.33	31.07	32.14	-	-	-	○
SPM200-RN2-3-6-0.1-V	3	0.1	6	2.4	2.88	50	6	4	7.40	6.25	6.47	6.70	6.95	7.50	○
SPM200-RN2-3-8-0.1-V			8			55			6.32	8.32	8.61	8.92	9.25	9.99	○
SPM200-RN2-3-12-0.1-V			12			60			4.89	12.46	12.89	13.35	13.85	14.96	○
SPM200-RN2-3-16-0.1-V			16			60			3.99	16.59	17.17	17.78	18.45	19.94	○
SPM200-RN2-3-18-0.1-V			18			65			3.65	18.66	19.31	20.00	20.75	22.42	○
SPM200-RN2-3-20-0.1-V			20			65			3.36	20.73	21.45	22.22	23.05	24.91	○
SPM200-RN2-3-30-0.1-V			30			75			2.42	31.06	32.14	33.30	34.55	-	○
SPM200-RN2-3-35-0.1-V			35			80			2.12	36.23	37.49	38.84	40.29	-	○
SPM200-RN2-3-6-0.2-V		0.2	6			50			7.46	6.25	6.46	6.69	6.93	7.48	○
SPM200-RN2-3-8-0.2-V			8			55			6.36	8.32	8.60	8.91	9.23	9.97	○
SPM200-RN2-3-12-0.2-V			12			60			4.92	12.45	12.88	13.34	13.83	14.94	○
SPM200-RN2-3-16-0.2-V			16			60			4.00	16.59	17.16	17.77	18.43	19.91	○
SPM200-RN2-3-18-0.2-V			18			65			3.66	18.66	19.30	19.99	20.73	22.40	○
SPM200-RN2-3-20-0.2-V			20			65			3.38	20.72	21.44	22.21	23.03	24.88	○
SPM200-RN2-3-30-0.2-V			30			75			2.43	31.06	32.14	33.29	34.53	-	○
SPM200-RN2-3-35-0.2-V			35			80			2.13	36.23	37.48	38.83	40.28	-	○
SPM200-RN2-3-6-0.3-V		0.3	6			50			7.53	6.24	6.46	6.68	6.92	7.46	○
SPM200-RN2-3-8-0.3-V			8			55			6.41	8.32	8.60	8.90	9.22	9.94	○

● Standard Inventory ○ To be Booked

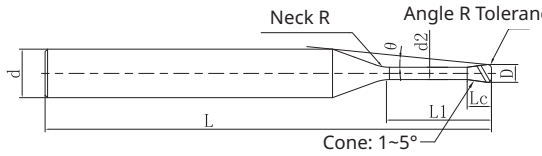
R	Tolerance
R	±0.005

(mm)

Recommended cutting data ※ P692

SPM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining



The outer diameter of more than Φ4 is not in the form of a cone

Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Fillet Radius r	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-RN2-3-12-0.3-V	3	0.3	12	2.4	2.88	60	6	4	4.94	12.45	12.87	13.33	13.82	14.91	○
SPM200-RN2-3-16-0.3-V			16			60			4.02	16.59	17.15	17.76	18.42	19.89	○
SPM200-RN2-3-18-0.3-V			18			65			3.68	18.65	19.29	19.98	20.72	22.37	○
SPM200-RN2-3-20-0.3-V			20			65			3.39	20.72	21.43	22.20	23.02	24.86	●
SPM200-RN2-3-30-0.3-V			30			75			2.43	31.06	32.13	33.28	34.52	-	●
SPM200-RN2-3-35-0.3-V			35			80			2.13	36.23	37.48	38.82	40.26	-	○
SPM200-RN2-3-8-0.5-V		0.5	8			55			6.51	8.31	8.58	8.87	9.19	9.89	○
SPM200-RN2-3-12-0.5-V			12			60			5.00	12.44	12.86	13.31	13.79	14.87	●
SPM200-RN2-3-16-0.5-V			16			60			4.06	16.58	17.14	17.74	18.39	19.84	○
SPM200-RN2-3-18-0.5-V			18			65			3.71	18.65	19.28	19.96	20.69	22.33	○
SPM200-RN2-3-20-0.5-V			20			65			3.42	20.71	21.42	22.17	22.99	24.81	●
SPM200-RN2-3-30-0.5-V			30			75			2.45	31.05	32.12	33.26	34.49	-	●
SPM200-RN2-3-35-0.5-V			35			80			2.14	36.22	37.46	38.80	40.23	-	○
SPM200-RN2-3-8-1-V		1	8			55			6.76	8.29	8.55	8.82	9.11	9.77	○
SPM200-RN2-3-12-1-V			12			60			5.15	12.43	12.83	13.25	13.71	14.74	○
SPM200-RN2-3-16-1-V			16			60			4.16	16.56	17.10	17.69	18.31	19.72	○
SPM200-RN2-3-18-1-V			18			65			3.79	18.63	19.24	19.90	20.61	22.20	○
SPM200-RN2-3-20-1-V			20			65			3.49	20.70	21.38	22.12	22.91	24.69	○
SPM200-RN2-3-30-1-V			30			75			2.48	31.03	32.08	33.20	34.41	-	○
SPM200-RN2-3-35-1-V			35			80			2.17	36.20	37.43	38.74	40.16	-	○
SPM200-RN2-4-8-0.1-V	4	0.1	8	3.2	3.86	55	6	4	4.90	8.31	8.59	8.90	9.23	9.97	○
SPM200-RN2-4-12-0.1-V			12			60			3.66	12.44	12.87	13.33	13.83	14.94	○
SPM200-RN2-4-16-0.1-V			16			60			2.91	16.57	17.15	17.76	18.43	-	○
SPM200-RN2-4-20-0.1-V			20			65			2.42	20.71	21.43	22.20	23.03	-	○

● Standard Inventory ○ To be Booked

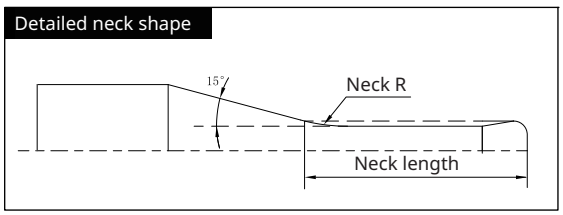
R	Tolerance
R	±0.005

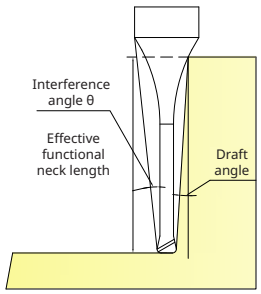
(mm)

Recommended cutting data ※ P692

SPM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Fillet Radius r	Neck Length L1	Edge length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-RN2-4-30-0.1-V	4	0.1	30	3.2	3.86	75	6	4	1.71	31.05	32.12	33.28	-	-	○
SPM200-RN2-4-35-0.1-V			35			80			1.49	36.21	37.47	-	-	-	○
SPM200-RN2-4-45-0.1-V			45			90			1.18	46.55	48.17	-	-	-	○
SPM200-RN2-4-8-0.2-V		0.2	8			55			4.94	8.30	8.58	8.89	9.21	9.94	○
SPM200-RN2-4-12-0.2-V			12			60			3.68	12.44	12.86	13.32	13.81	14.92	○
SPM200-RN2-4-16-0.2-V			16			60			2.93	16.57	17.14	17.75	18.41	-	○
SPM200-RN2-4-20-0.2-V			20			65			2.43	20.71	21.42	22.19	23.01	-	○
SPM200-RN2-4-30-0.2-V			30			75			1.71	31.04	32.12	33.27	-	-	○
SPM200-RN2-4-35-0.2-V			35			80			1.49	36.21	37.47	-	-	-	○
SPM200-RN2-4-45-0.2-V			45			90			1.18	46.55	48.16	-	-	-	○
SPM200-RN2-4-8-0.3-V		0.3	8			55			4.99	8.30	8.58	8.88	9.20	9.92	○
SPM200-RN2-4-12-0.3-V			12			60			3.70	12.43	12.86	13.31	13.80	14.89	○
SPM200-RN2-4-16-0.3-V			16			60			2.94	16.57	17.13	17.74	18.40	-	○
SPM200-RN2-4-20-0.3-V			20			65			2.44	20.70	21.41	22.18	23.00	-	○
SPM200-RN2-4-30-0.3-V			30			75			1.72	31.04	32.11	33.26	-	-	○
SPM200-RN2-4-35-0.3-V			35			80			1.49	36.21	37.46	-	-	-	○
SPM200-RN2-4-45-0.3-V			45			90			1.19	46.54	48.16	-	-	-	○
SPM200-RN2-4-12-0.5-V		0.5	12			60			3.75	12.43	12.84	13.29	13.77	14.84	○
SPM200-RN2-4-16-0.5-V			16			60			2.97	16.56	17.12	17.72	18.37	-	○
SPM200-RN2-4-20-0.5-V			20			65			2.47	20.70	21.40	22.15	22.97	-	○
SPM200-RN2-4-30-0.5-V			30			75			1.73	31.03	32.10	33.24	-	-	○
SPM200-RN2-4-35-0.5-V			35			80			1.50	36.20	37.44	-	-	-	○
SPM200-RN2-4-45-0.5-V			45			90			1.19	46.54	48.14	-	-	-	●
SPM200-RN2-4-12-1-V		1	12			60			3.88	12.41	12.81	13.23	13.69	14.72	○

● Standard Inventory ○ To be Booked

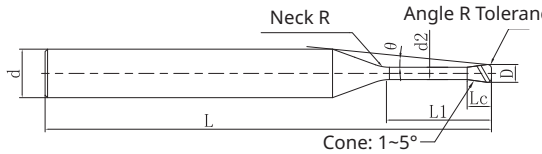
R	Tolerance
R	±0.005

(mm)

Recommended cutting data ※ P692

SPM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining



The outer diameter of more than Φ4 is not in the form of a cone

Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Fillet Radius r	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-RN2-4-16-1-V	4	1	16	3.2	3.86	60	6	4	3.05	16.54	17.09	17.67	18.29	19.70	○
SPM200-RN2-4-20-1-V			20			65			2.52	20.68	21.36	22.10	22.89	-	○
SPM200-RN2-4-30-1-V			30			75			1.75	31.02	32.06	33.18	-	-	○
SPM200-RN2-4-35-1-V			35			80			1.52	36.18	37.41	38.73	-	-	○
SPM200-RN2-4-45-1-V			45			90			1.20	46.52	48.11	-	-	-	○
SPM200-RN2-5-20-0.1-V	5	0.1	20	4	4.85	65	6	4	1.32	20.70	21.42	-	-	-	○
SPM200-RN2-5-40-0.1-V			40			85			0.69	41.38	-	-	-	-	○
SPM200-RN2-5-20-0.2-V		0.2	20			65			1.32	20.70	21.41	-	-	-	○
SPM200-RN2-5-40-0.2-V			40			85			0.69	41.37	-	-	-	-	○
SPM200-RN2-5-20-0.3-V		0.3	20			65			1.33	20.69	21.41	-	-	-	○
SPM200-RN2-5-40-0.3-V			40			85			0.69	41.37	-	-	-	-	○
SPM200-RN2-5-20-0.5-V		0.5	20			65			1.34	20.69	21.39	-	-	-	○
SPM200-RN2-5-40-0.5-V			40			85			0.70	41.36	-	-	-	-	○
SPM200-RN2-5-20-1-V		1	20			65			1.38	20.67	21.36	-	-	-	○
SPM200-RN2-5-40-1-V			40			85			0.71	41.34	-	-	-	-	○
SPM200-RN2-6-12-0.1-V	6	0.1	12	4.8	5.85	50	6	-	-	-	-	-	-	-	○
SPM200-RN2-6-18-0.1-V			18			60			-	-	-	-	-	-	○
SPM200-RN2-6-24-0.1-V			24			70			-	-	-	-	-	-	○
SPM200-RN2-6-35-0.1-V			35			80			-	-	-	-	-	-	○
SPM200-RN2-6-55-0.1-V			55			100			-	-	-	-	-	-	○
SPM200-RN2-6-12-0.2-V		0.2	12			50			-	-	-	-	-	-	○
SPM200-RN2-6-18-0.2-V			18			60			-	-	-	-	-	-	○
SPM200-RN2-6-24-0.2-V			24			70			-	-	-	-	-	-	○
SPM200-RN2-6-35-0.2-V			35			80			-	-	-	-	-	-	○

● Standard Inventory ○ To be Booked

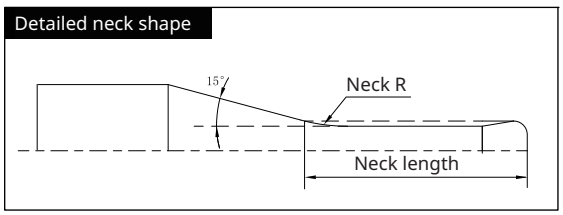
R	Tolerance
R	±0.005

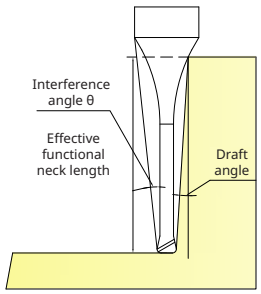
(mm)

Recommended cutting data ※ P692

SPM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Fillet Radius r	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-RN2-6-55-0.2-V	6	0.2	55	4.8	5.85	100	6	-	-	-	-	-	-	-	○
SPM200-RN2-6-12-0.3-V		0.3	12			50			-	-	-	-	-	-	○
SPM200-RN2-6-18-0.3-V			18			60			-	-	-	-	-	-	○
SPM200-RN2-6-24-0.3-V			24			70			-	-	-	-	-	-	○
SPM200-RN2-6-35-0.3-V			35			80			-	-	-	-	-	-	○
SPM200-RN2-6-55-0.3-V			55			100			-	-	-	-	-	-	○
SPM200-RN2-6-18-0.5-V		0.5	18			60			-	-	-	-	-	-	○
SPM200-RN2-6-24-0.5-V			24			70			-	-	-	-	-	-	○
SPM200-RN2-6-35-0.5-V			35			80			-	-	-	-	-	-	○
SPM200-RN2-6-55-0.5-V			55			100			-	-	-	-	-	-	○
SPM200-RN2-6-18-1-V		1	18			60			-	-	-	-	-	-	○
SPM200-RN2-6-24-1-V			24			70			-	-	-	-	-	-	○
SPM200-RN2-6-35-1-V			35			80			-	-	-	-	-	-	○
SPM200-RN2-6-55-1-V			55			100			-	-	-	-	-	-	○

● Standard Inventory ○ To be Booked

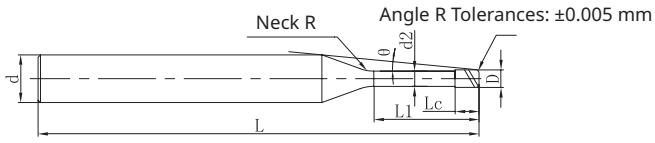
R	Tolerance
R	±0.005

(mm)

Recommended cutting data ※ P692

SPM200-RN4

4 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining



Please refer to P201 for guidelines to icons

Order No.	Outer Diameter D	Fillet Radius r	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-RN4-1-4-0.05-V	1	0.05	4	0.8	0.96	50	4	4	8.75	4.27	4.47	4.65	4.82	5.21	○
SPM200-RN4-1-6-0.05-V			6			50			7.28	6.37	6.63	6.86	7.12	7.69	○
SPM200-RN4-1-8-0.05-V			8			50			6.23	8.45	8.76	9.08	9.42	10.18	○
SPM200-RN4-1-10-0.05-V			10			50			5.45	10.53	10.90	11.30	11.72	12.67	○
SPM200-RN4-1-12-0.05-V			12			60			4.84	12.61	13.04	13.51	14.02	15.15	○
SPM200-RN4-1-16-0.05-V			16			60			3.95	16.74	17.32	17.95	18.62	20.12	○
SPM200-RN4-1-20-0.05-V			20			60			3.34	20.88	21.60	22.38	23.22	25.10	○
SPM200-RN4-1-4-0.1-V		0.1	4			50			8.80	4.26	4.47	4.64	4.81	5.19	○
SPM200-RN4-1-6-0.1-V			6			50			7.31	6.37	6.62	6.86	7.11	7.68	○
SPM200-RN4-1-8-0.1-V			8			50			6.25	8.45	8.76	9.07	9.41	10.17	○
SPM200-RN4-1-10-0.1-V			10			50			5.46	10.53	10.90	11.29	11.71	12.65	○
SPM200-RN4-1-12-0.1-V			12			60			4.85	12.60	13.04	13.51	14.01	15.14	○
SPM200-RN4-1-16-0.1-V			16			60			3.96	16.74	17.32	17.94	18.61	20.11	○
SPM200-RN4-1-20-0.1-V			20			60			3.35	20.87	21.60	22.37	23.21	25.08	○
SPM200-RN4-1.5-4-0.05-V	1.5	0.05	4	1.2	1.42	50			8.12	4.23	4.42	4.59	4.76	5.14	○
SPM200-RN4-1.5-8-0.05-V			8			50			5.60	8.41	8.71	9.02	9.36	10.11	○
SPM200-RN4-1.5-12-0.05-V			12			60			4.27	12.55	12.99	13.46	13.96	15.09	○
SPM200-RN4-1.5-15-0.05-V			15			60			3.62	15.65	16.20	16.78	17.41	18.82	○
SPM200-RN4-1.5-20-0.05-V			20			60			2.89	20.82	21.55	22.32	23.16	-	○
SPM200-RN4-1.5-4-0.1-V		0.1	4			50			8.17	4.23	4.42	4.58	4.75	5.13	○
SPM200-RN4-1.5-8-0.1-V			8			50			5.62	8.41	8.71	9.02	9.35	10.10	○
SPM200-RN4-1.5-12-0.1-V			12			60			4.28	12.55	12.98	13.45	13.95	15.07	●
SPM200-RN4-1.5-15-0.1-V			15			60			3.63	15.65	16.19	16.77	17.40	18.80	○
SPM200-RN4-1.5-20-0.1-V			20			60			2.90	20.82	21.54	22.32	23.15	-	○

● Standard Inventory ○ To be Booked

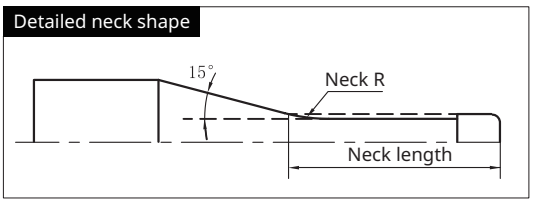
R	Tolerance
R	±0.005
D	0 -0.01

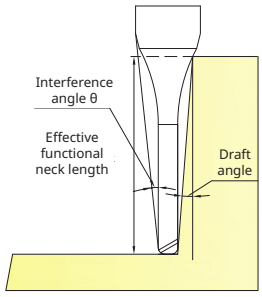
(mm)

Recommended cutting data ※ P714

SPM200-RN4

4 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Fillet Radius r	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-RN4-2-4-0.05-V	2	0.05	4	1.6	1.92	50	4	4	7.32	4.21	4.39	4.55	4.72	5.09	○
SPM200-RN4-2-6-0.05-V			6			50			5.84	6.30	6.53	6.76	7.01	7.58	○
SPM200-RN4-2-8-0.05-V			8			50			4.85	8.37	8.67	8.98	9.31	10.07	○
SPM200-RN4-2-12-0.05-V			12			60			3.63	12.51	12.95	13.41	13.91	15.04	●
SPM200-RN4-2-16-0.05-V			16			60			2.90	16.65	17.23	17.85	18.51	-	○
SPM200-RN4-2-20-0.05-V			20			60			2.41	20.78	21.50	22.28	23.11	-	●
SPM200-RN4-2-4-0.1-V		0.1	4			50			7.36	4.21	4.38	4.54	4.71	5.08	○
SPM200-RN4-2-6-0.1-V			6			50			5.86	6.29	6.53	6.76	7.01	7.57	○
SPM200-RN4-2-8-0.1-V			8			50			4.87	8.37	8.66	8.97	9.31	10.05	○
SPM200-RN4-2-12-0.1-V			12			60			3.64	12.51	12.94	13.41	13.91	15.03	●
SPM200-RN4-2-16-0.1-V			16			60			2.90	16.65	17.22	17.84	18.51	-	●
SPM200-RN4-2-20-0.1-V			20			60			2.42	20.78	21.50	22.27	23.11	-	●
SPM200-RN4-2-4-0.2-V		0.2	4			50			7.46	4.20	4.37	4.53	4.69	5.06	○
SPM200-RN4-2-6-0.2-V			6			50			5.93	6.29	6.52	6.75	6.99	7.54	○
SPM200-RN4-2-8-0.2-V			8			50			4.91	8.37	8.66	8.96	9.29	10.03	●
SPM200-RN4-2-12-0.2-V			12			60			3.66	12.51	12.94	13.40	13.89	15.00	●
SPM200-RN4-2-16-0.2-V			16			60			2.92	16.64	17.22	17.83	18.49	-	○
SPM200-RN4-2-20-0.2-V			20			60			2.43	20.78	21.49	22.26	23.09	-	○
SPM200-RN4-2-25-0.2-V			25			70			2.00	25.95	26.84	27.80	-	-	●
SPM200-RN4-2-30-0.2-V			30			70			1.71	31.11	32.19	33.35	-	-	●
SPM200-RN4-2-4-0.3-V		0.3	4			50			7.56	4.20	4.37	4.52	4.68	5.03	○
SPM200-RN4-2-8-0.3-V			8			50			4.96	8.36	8.65	8.95	9.28	10.01	○
SPM200-RN4-2-12-0.3-V			12			60			3.69	12.50	12.93	13.39	13.88	14.98	○
SPM200-RN4-2-16-0.3-V			16			60			2.93	16.64	17.21	17.82	18.48	-	○
SPM200-RN4-2-20-0.3-V			20			60			2.44	20.77	21.49	22.25	23.08	-	○

● Standard Inventory ○ To be Booked

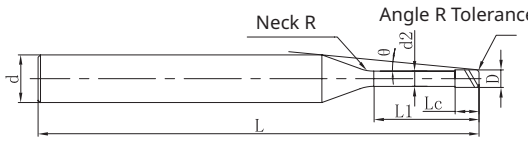
R	Tolerance
R	±0.005
D	0 -0.01

(mm)

Recommended cutting data ※ P714

SPM200-RN4

4 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining



Please refer to P201 for guidelines to icons

Continued

Order No.	Outer diameter D	Fillet Radius r	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-RN4-2-4-0.5-V	2	0.5	4	1.6	1.92	50	4	4	7.76	4.19	4.35	4.50	4.65	4.98	○
SPM200-RN4-2-6-0.5-V			6			50			6.11	6.28	6.50	6.71	6.95	7.47	○
SPM200-RN4-2-8-0.5-V			8			50			5.04	8.36	8.64	8.93	9.25	9.96	○
SPM200-RN4-2-12-0.5-V			12			60			3.73	12.50	12.92	13.36	13.85	14.93	○
SPM200-RN4-2-16-0.5-V			16			60			2.96	16.63	17.19	17.80	18.45	-	●
SPM200-RN4-2-20-0.5-V			20			60			2.46	20.77	21.47	22.23	23.05	-	○
SPM200-RN4-2-25-0.5-V			25			70			2.03	25.94	26.82	27.77	28.79	-	○
SPM200-RN4-2-30-0.5-V			30			70			1.72	31.10	32.17	33.31	-	-	○
SPM200-RN4-2.5-8-0.1-V	2.5	0.1	8	2	2.4	50			3.98	8.34	8.63	8.94	9.27	10.02	○
SPM200-RN4-2.5-16-0.1-V			16			60			2.29	16.62	17.19	17.81	18.47	-	●
SPM200-RN4-2.5-20-0.1-V			20			60			1.89	20.75	21.47	22.24	-	-	○
SPM200-RN4-2.5-8-0.2-V		0.2	8			50			4.02	8.34	8.63	8.93	9.26	9.99	○
SPM200-RN4-2.5-16-0.2-V			16			60			2.30	16.61	17.18	17.80	18.46	-	○
SPM200-RN4-2.5-20-0.2-V			20			60			1.90	20.75	21.46	22.23	-	-	○
SPM200-RN4-2.5-12-0.3-V		0.3	12			60			2.95	12.47	12.90	13.35	13.84	-	○
SPM200-RN4-2.5-20-0.3-V			20			60			1.91	20.74	21.46	22.22	-	-	○
SPM200-RN4-2.5-12-0.5-V		0.5	12			60			2.99	12.47	12.88	13.33	13.81	-	○
SPM200-RN4-2.5-20-0.5-V			20			60			1.92	20.74	21.44	22.20	-	-	○
SPM200-RN4-3-8-0.1-V	3	0.1	8	2.4	2.88	60	6		6.32	8.32	8.61	8.92	9.25	9.99	●
SPM200-RN4-3-16-0.1-V			16			60			3.99	16.59	17.17	17.78	18.45	19.94	○
SPM200-RN4-3-25-0.1-V			25			70			2.82	25.90	26.79	27.76	28.80	-	○
SPM200-RN4-3-30-0.1-V			30			80			2.42	31.06	32.14	33.30	34.55	-	●
SPM200-RN4-3-8-0.2-V		0.2	8			60			6.36	8.32	8.60	8.91	9.23	9.97	○
SPM200-RN4-3-12-0.2-V			12			60			4.92	12.45	12.88	13.34	13.83	14.94	●

● Standard Inventory ○ To be Booked

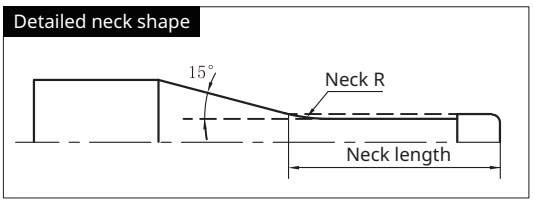
R	Tolerance
R	±0.005
D	0 -0.01

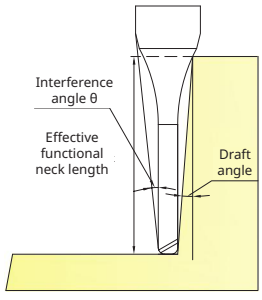
(mm)

Recommended cutting data ※ P714

SPM200-RN4

4 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Fillet Radius r	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-RN4-3-16-0.2-V	3	0.2	16	2.4	2.88	60	6	4	4.00	16.59	17.16	17.77	18.43	19.91	●
SPM200-RN4-3-20-0.2-V			20			70			3.38	20.72	21.44	22.21	23.03	24.88	○
SPM200-RN4-3-25-0.2-V			25			70			2.82	25.89	26.79	27.75	28.78	-	○
SPM200-RN4-3-30-0.2-V			30			80			2.43	31.06	32.14	33.29	34.53	-	○
SPM200-RN4-3-8-0.3-V		0.3	8			60			6.41	8.32	8.60	8.90	9.22	9.94	○
SPM200-RN4-3-16-0.3-V			16			60			4.02	16.59	17.15	17.76	18.42	19.89	○
SPM200-RN4-3-20-0.3-V			20			70			3.39	20.72	21.43	22.20	23.02	24.86	○
SPM200-RN4-3-25-0.3-V			25			70			2.83	25.89	26.78	27.74	28.77	-	○
SPM200-RN4-3-30-0.3-V			30			80			2.43	31.06	32.13	33.28	34.52	-	○
SPM200-RN4-3-8-0.5-V		0.5	8			60			6.51	8.31	8.58	8.87	9.19	9.89	○
SPM200-RN4-3-12-0.5-V			12			60			5.00	12.44	12.86	13.31	13.79	14.87	○
SPM200-RN4-3-16-0.5-V			16			60			4.06	16.58	17.14	17.74	18.39	19.84	○
SPM200-RN4-3-20-0.5-V			20			70			3.42	20.71	21.42	22.17	22.99	24.81	○
SPM200-RN4-3-25-0.5-V			25			70			2.85	25.88	26.77	27.72	28.74	-	○
SPM200-RN4-3-30-0.5-V			30			80			2.45	31.05	32.12	33.26	34.49	-	○
SPM200-RN4-3-35-0.5-V			35			80			2.14	36.22	37.46	38.80	40.23	-	○
SPM200-RN4-4-12-0.1-V	4	0.1	12	3.2	3.86	60			3.66	12.44	12.87	13.33	13.83	14.94	○
SPM200-RN4-4-20-0.1-V			20			60			2.42	20.71	21.43	22.20	23.03	-	○
SPM200-RN4-4-30-0.1-V			30			80			1.71	31.05	32.12	33.28	-	-	○
SPM200-RN4-4-40-0.1-V			40			80			1.32	41.38	42.82	-	-	-	●
SPM200-RN4-4-12-0.2-V		0.2	12			60			3.68	12.44	12.86	13.32	13.81	14.92	○
SPM200-RN4-4-20-0.2-V			20			60			2.43	20.71	21.42	22.19	23.01	-	○
SPM200-RN4-4-30-0.2-V			30			80			1.71	31.04	32.12	33.27	-	-	○
SPM200-RN4-4-40-0.2-V			40			80			1.32	41.38	42.81	-	-	-	○

● Standard Inventory ○ To be Booked

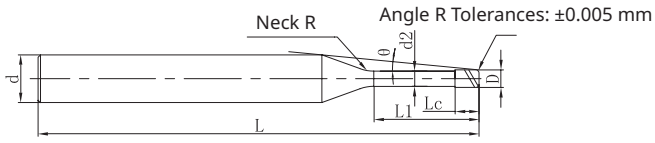
R	Tolerance
R	±0.005
D	0 -0.01

(mm)

Recommended cutting data ※ P714

SPM200-RN4

4 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining



Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Fillet Radius r	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-RN4-4-12-0.3-V	4	0.3	12	3.2	3.86	60	6	4	3.70	12.43	12.86	13.31	13.80	14.89	○
SPM200-RN4-4-20-0.3-V			20			60			2.44	20.70	21.41	22.18	23.00	-	○
SPM200-RN4-4-30-0.3-V			30			80			1.72	31.04	32.11	33.26	-	-	○
SPM200-RN4-4-40-0.3-V			40			80			1.32	41.38	42.81	-	-	-	○
SPM200-RN4-4-12-0.5-V		0.5	12			60			3.75	12.43	12.84	13.29	13.77	14.84	○
SPM200-RN4-4-20-0.5-V			20			60			2.47	20.70	21.40	22.15	22.97	-	○
SPM200-RN4-4-30-0.5-V			30			80			1.73	31.03	32.10	33.24	-	-	○
SPM200-RN4-4-40-0.5-V			40			80			1.33	41.37	42.79	-	-	-	○
SPM200-RN4-5-20-0.1-V	5	0.1	20	4	4.85	70			1.32	20.70	21.42	-	-	-	○
SPM200-RN4-5-40-0.1-V			40			90			0.69	41.38	-	-	-	-	○
SPM200-RN4-5-20-0.2-V		0.2	20			70			1.32	20.70	21.41	-	-	-	○
SPM200-RN4-5-40-0.2-V			40			90			0.69	41.37	-	-	-	-	○
SPM200-RN4-5-20-0.3-V		0.3	20			70			1.33	20.69	21.41	-	-	-	○
SPM200-RN4-5-40-0.3-V			40			90			0.69	41.37	-	-	-	-	○
SPM200-RN4-5-20-0.5-V		0.5	20			70			1.34	20.69	21.39	-	-	-	○
SPM200-RN4-5-40-0.5-V			40			90			0.70	41.36	-	-	-	-	○
SPM200-RN4-5-20-1-V		1	20			70			1.38	20.67	21.36	-	-	-	○
SPM200-RN4-5-40-1-V			40			90			0.71	41.34	-	-	-	-	○
SPM200-RN4-6-30-0.2-V	6	0.2	30	4.8	5.85	80			-	-	-	-	-	-	○
SPM200-RN4-6-54-0.2-V			54			100			-	-	-	-	-	-	○
SPM200-RN4-6-72-0.2-V			72			120			-	-	-	-	-	-	○
SPM200-RN4-6-30-0.3-V		0.3	30			80			-	-	-	-	-	-	○
SPM200-RN4-6-54-0.3-V			54			100			-	-	-	-	-	-	○
SPM200-RN4-6-72-0.3-V			72			120			-	-	-	-	-	-	○

● Standard Inventory ○ To be Booked

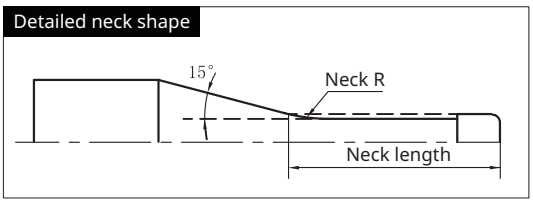
R	Tolerance
R	±0.005
D	0 -0.01

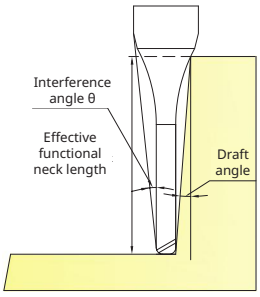
(mm)

Recommended cutting data ※ P714

SPM200-RN4

4 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Fillet Radius r	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-RN4-6-30-0.5-V	6	0.5	30	4.8	5.85	80	6	4	-	-	-	-	-	-	○
SPM200-RN4-6-54-0.5-V			54			100			-	-	-	-	-	-	○
SPM200-RN4-6-72-0.5-V			72			120			-	-	-	-	-	-	○
SPM200-RN4-6-30-1-V		1	30			80			-	-	-	-	-	-	○
SPM200-RN4-6-54-1-V			54			100			-	-	-	-	-	-	○
SPM200-RN4-6-72-1-V			72			120			-	-	-	-	-	-	○

● Standard Inventory ○ To be Booked

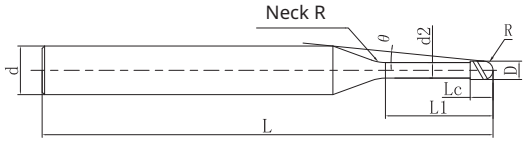
R	Tolerance
R	±0.005
D	0 -0.01

(mm)

Recommended cutting data ※ P714

SPM200-BN2

2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining



Please refer to P201 for guidelines to icons

Order No.	Outer Diameter D	Ball Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-BN2-0.1-0.2-V	0.1	0.05	0.2	0.08	0.08	50	4	1	14.66	0.2	0.21	0.22	0.24	0.26	○
SPM200-BN2-0.1-0.3-V			0.3						14.48	0.31	0.33	0.34	0.36	0.39	●
SPM200-BN2-0.1-0.5-V			0.5						14.12	0.52	0.55	0.57	0.59	0.64	●
SPM200-BN2-0.2-0.5-V	0.2	0.1	0.5	0.16	0.17	50	4	1	14.21	0.51	0.53	0.55	0.57	0.61	●
SPM200-BN2-0.2-0.75-V			0.75						13.77	0.78	0.8	0.83	0.86	0.92	●
SPM200-BN2-0.2-1-V			1						13.36	1.04	1.07	1.11	1.15	1.23	●
SPM200-BN2-0.2-1.25-V			1.25						12.97	1.3	1.34	1.39	1.43	1.54	○
SPM200-BN2-0.2-1.5-V			1.5						12.6	1.56	1.61	1.66	1.72	1.85	●
SPM200-BN2-0.2-2-V			2						11.92	2.07	2.14	2.22	2.3	2.48	●
SPM200-BN2-0.2-2.5-V			2.5						11.31	2.59	2.68	2.77	2.87	3.1	○
SPM200-BN2-0.2-3-V			3						10.76	3.11	3.21	3.33	3.45	3.72	●
SPM200-BN2-0.3-0.5-V	0.3	0.15	0.5	0.24	0.27	50	4	2	14.17	0.52	0.55	0.57	0.6	0.66	●
SPM200-BN2-0.3-0.75-V			0.75						13.72	0.79	0.83	0.87	0.91	0.98	○
SPM200-BN2-0.3-1-V			1						13.3	1.05	1.11	1.16	1.2	1.29	●
SPM200-BN2-0.3-1.25-V			1.25						12.9	1.32	1.38	1.44	1.5	1.61	○
SPM200-BN2-0.3-1.5-V			1.5						12.53	1.58	1.66	1.72	1.78	1.92	○
SPM200-BN2-0.3-2-V			2						11.84	2.11	2.2	2.28	2.36	2.54	○
SPM200-BN2-0.3-2.5-V			2.5						11.22	2.63	2.74	2.83	2.93	3.16	●
SPM200-BN2-0.3-3-V			3						10.66	3.15	3.27	3.39	3.51	3.78	○
SPM200-BN2-0.4-0.75-V	0.4	0.2	0.75	0.32	0.37	50	4	2	13.78	0.78	0.82	0.86	0.9	0.97	●
SPM200-BN2-0.4-1-V			1						13.34	1.05	1.1	1.15	1.19	1.28	○
SPM200-BN2-0.4-1.5-V			1.5						12.55	1.58	1.65	1.72	1.78	1.9	●
SPM200-BN2-0.4-2-V			2						11.84	2.11	2.19	2.27	2.35	2.53	●
SPM200-BN2-0.4-2.5-V			2.5						11.2	2.63	2.73	2.83	2.93	3.15	●

● Standard Inventory ○ To be Booked

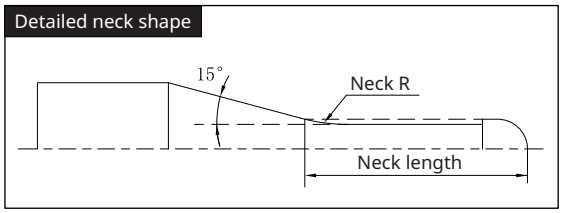
R	Tolerance
R≤0.25	±0.003
R>0.25	±0.005

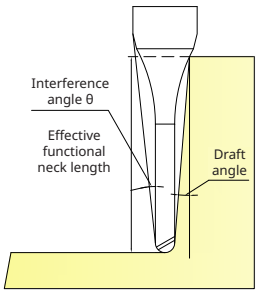
(mm)

Recommended cutting data ※ P719

SPM200-BN2

2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Ball Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-BN2-0.4-3-V	0.4	0.2	3	0.32	0.37	50	4	2	10.63	3.15	3.27	3.38	3.5	3.77	●
SPM200-BN2-0.4-3.5-V			3.5						10.12	3.67	3.8	3.94	4.08	4.39	○
SPM200-BN2-0.4-4-V			4						9.65	4.19	4.34	4.49	4.65	5.01	○
SPM200-BN2-0.4-4.5-V			4.5						9.22	4.71	4.87	5.04	5.23	5.63	●
SPM200-BN2-0.5-1-V	0.5	0.25	1	0.4	0.47	50	4	2	13.39	1.05	1.09	1.14	1.19	1.27	●
SPM200-BN2-0.5-1.5-V			1.5						12.56	1.58	1.65	1.71	1.77	1.89	●
SPM200-BN2-0.5-2-V			2						11.83	2.1	2.19	2.27	2.34	2.51	●
SPM200-BN2-0.5-2.5-V			2.5						11.18	2.63	2.73	2.82	2.92	3.14	●
SPM200-BN2-0.5-3-V			3						10.6	3.15	3.27	3.38	3.49	3.76	●
SPM200-BN2-0.5-4-V			4						9.6	4.19	4.34	4.48	4.64	5	●
SPM200-BN2-0.5-5-V			5						8.77	5.23	5.41	5.59	5.79	6.24	●
SPM200-BN2-0.5-5.5-V			5.5						8.4	5.75	5.94	6.15	6.37	6.86	○
SPM200-BN2-0.5-6-V			6						8.07	6.27	6.48	6.7	6.94	7.49	●
SPM200-BN2-0.5-8-V			8						6.96	8.33	8.62	8.92	9.24	9.97	●
SPM200-BN2-0.6-1-V	0.6	0.3	1	0.48	0.57	50	4	4	13.15	1.07	1.14	1.2	1.27	1.41	●
SPM200-BN2-0.6-2-V			2						11.61	2.15	2.28	2.39	2.5	2.7	●
SPM200-BN2-0.6-2.5-V			2.5						10.96	2.68	2.84	2.97	3.09	3.32	●
SPM200-BN2-0.6-3-V			3						10.38	3.22	3.39	3.54	3.67	3.95	●
SPM200-BN2-0.6-3.5-V			3.5						9.86	3.75	3.94	4.1	4.25	4.57	○
SPM200-BN2-0.6-4-V			4						9.39	4.28	4.48	4.66	4.82	5.19	●
SPM200-BN2-0.6-4.5-V			4.5						8.97	4.81	5.03	5.21	5.4	5.81	○
SPM200-BN2-0.6-5-V			5						8.57	5.33	5.57	5.77	5.97	6.43	○
SPM200-BN2-0.6-5.5-V			5.5						8.22	5.86	6.11	6.32	6.55	7.05	●
SPM200-BN2-0.6-6-V			6						7.89	6.38	6.64	6.87	7.12	7.67	●

● Standard Inventory ○ To be Booked

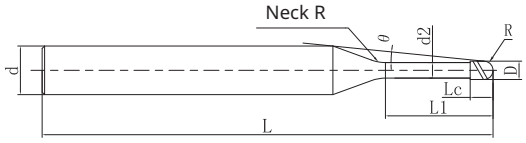
R	Tolerance
R≤0.25	±0.003
R>0.25	±0.005

(mm)

Recommended cutting data ※ P719

SPM200-BN2

2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining



Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Ball Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-BN2-0.6-7-V	0.6	0.3	7	0.48	0.57	50	4	4	7.3	7.43	7.71	7.98	8.27	8.92	○
SPM200-BN2-0.6-8-V			8						6.79	8.48	8.78	9.09	9.42	10.16	○
SPM200-BN2-0.6-9-V			9						6.35	9.52	9.85	10.2	10.57	11.4	●
SPM200-BN2-0.6-10-V			10						5.97	10.56	10.92	11.31	11.72	12.65	○
SPM200-BN2-0.6-12-V			12						5.32	12.63	13.06	13.52	14.02	15.13	○
SPM200-BN2-0.7-2-V	0.7	0.35	2	0.56	0.67	50	4	4	11.6	2.14	2.27	2.39	2.49	2.69	○
SPM200-BN2-0.7-4-V			4						9.33	4.27	4.48	4.65	4.81	5.18	○
SPM200-BN2-0.7-6-V			6						7.81	6.38	6.64	6.87	7.11	7.66	○
SPM200-BN2-0.7-8-V			8						6.71	8.47	8.78	9.09	9.41	10.15	○
SPM200-BN2-0.8-2-V	0.8	0.4	2	0.64	0.76	50	4	4	11.64	2.12	2.24	2.35	2.45	2.63	●
SPM200-BN2-0.8-4-V			4						9.3	4.25	4.44	4.61	4.77	5.12	●
SPM200-BN2-0.8-5-V			5						8.45	5.3	5.53	5.72	5.92	6.36	●
SPM200-BN2-0.8-6-V			6						7.74	6.35	6.6	6.83	7.07	7.61	○
SPM200-BN2-0.8-8-V			8						6.63	8.44	8.74	9.04	9.37	10.09	○
SPM200-BN2-0.8-10-V			10						5.8	10.52	10.88	11.26	11.67	12.58	●
SPM200-BN2-0.9-2-V	0.9	0.45	2	0.72	0.86	50	4	4	11.63	2.12	2.23	2.34	2.44	2.62	○
SPM200-BN2-0.9-4-V			4						9.24	4.25	4.44	4.6	4.76	5.11	○
SPM200-BN2-0.9-6-V			6						7.66	6.35	6.6	6.82	7.06	7.6	○
SPM200-BN2-0.9-8-V			8						6.54	8.44	8.74	9.04	9.36	10.08	○
SPM200-BN2-1-2-V	1	0.5	2	0.8	0.96	50	4	4	11.62	2.12	2.23	2.33	2.43	2.61	●
SPM200-BN2-1-3-V			3						10.25	3.18	3.34	3.48	3.6	3.85	●
SPM200-BN2-1-4-V			4						9.17	4.24	4.43	4.6	4.75	5.1	●
SPM200-BN2-1-5-V			5						8.29	5.3	5.52	5.71	5.9	6.34	●
SPM200-BN2-1-6-V			6						7.57	6.35	6.59	6.81	7.05	7.58	●

● Standard Inventory ○ To be Booked

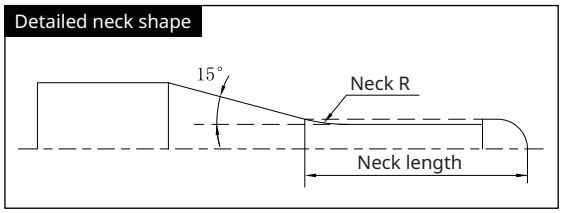
R	Tolerance
R≤0.25	±0.003
R>0.25	±0.005

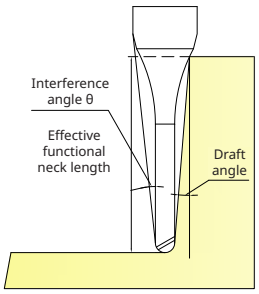
(mm)

Recommended cutting data ※ P719

SPM200-BN2

2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Ball Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5°	1°	1.5°	2°	3°	
SPM200-BN2-1-7-V	1	0.5	7	0.8	0.96	50	4	4	6.96	7.39	7.66	7.92	8.2	8.83	●
SPM200-BN2-1-8-V			8			50			6.44	8.44	8.73	9.03	9.35	10.07	●
SPM200-BN2-1-9-V			9			50			5.99	9.48	9.8	10.14	10.5	11.31	○
SPM200-BN2-1-10-V			10			50			5.6	10.52	10.87	11.25	11.65	12.56	●
SPM200-BN2-1-12-V			12			55			4.96	12.59	13.01	13.46	13.95	15.04	●
SPM200-BN2-1-13-V			13			55			4.69	13.62	14.08	14.57	15.1	16.29	○
SPM200-BN2-1-14-V			14			55			4.45	14.66	15.15	15.68	16.25	17.53	○
SPM200-BN2-1-16-V			16			55			4.03	16.73	17.29	17.9	18.55	20.01	●
SPM200-BN2-1-18-V			18			60			3.69	18.79	19.43	20.11	20.85	22.5	○
SPM200-BN2-1-20-V			20			60			3.4	20.86	21.57	22.33	23.15	24.99	●
SPM200-BN2-1.1-2-V	1.1	0.55	2	0.88	1.06	50	4	4	11.61	2.11	2.22	2.32	2.42	2.6	●
SPM200-BN2-1.1-4-V			4						9.09	4.24	4.43	4.59	4.74	5.08	○
SPM200-BN2-1.1-6-V			6						7.47	6.34	6.59	6.81	7.04	7.57	○
SPM200-BN2-1.1-8-V			8						6.34	8.43	8.73	9.03	9.34	10.06	○
SPM200-BN2-1.1-10-V			10						5.5	10.51	10.87	11.24	11.64	12.54	○
SPM200-BN2-1.2-4-V	1.2	0.6	4	0.96	1.15	50	4	4	9.05	4.22	4.4	4.55	4.7	5.04	●
SPM200-BN2-1.2-8-V			8			50			6.25	8.41	8.7	8.99	9.3	10.01	●
SPM200-BN2-1.2-10-V			10			50			5.41	10.49	10.84	11.21	11.6	12.5	●
SPM200-BN2-1.2-12-V			12			55			4.77	12.56	12.97	13.42	13.9	14.98	○
SPM200-BN2-1.4-8-V	1.4	0.7	8	1.12	1.34	50	4	4	6.04	8.38	8.66	8.95	9.26	9.96	●
SPM200-BN2-1.4-12-V			12			55			4.56	12.53	12.94	13.38	13.86	14.93	○
SPM200-BN2-1.4-16-V			16			55			3.67	16.66	17.22	17.82	18.46	19.9	○
SPM200-BN2-1.5-4-V	1.5	0.75	4	1.2	1.44	50	4	4	8.82	4.2	4.36	4.51	4.65	4.97	●
SPM200-BN2-1.5-6-V			6						7.08	6.29	6.52	6.73	6.95	7.46	●

● Standard Inventory ○ To be Booked

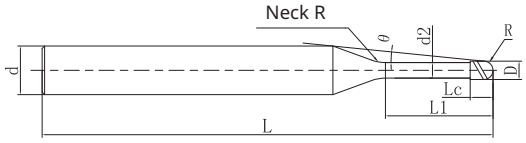
R	Tolerance
R≤0.25	±0.003
R>0.25	±0.005

(mm)

Recommended cutting data ※ P719

SPM200-BN2

2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining



Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Ball Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-BN2-1.5-8-V	1.5	0.75	8	1.2	1.44	50	4	4	5.92	8.38	8.66	8.95	9.25	9.94	●
SPM200-BN2-1.5-10-V			10			50			5.08	10.46	10.8	11.16	11.55	12.43	●
SPM200-BN2-1.5-12-V			12			55			4.45	12.53	12.94	13.38	13.85	14.92	●
SPM200-BN2-1.5-14-V			14			55			3.96	14.6	15.08	15.6	16.15	17.4	○
SPM200-BN2-1.5-16-V			16			55			3.57	16.66	17.22	17.81	18.45	19.89	●
SPM200-BN2-1.5-18-V			18			60			3.25	18.73	19.36	20.03	20.75	22.38	●
SPM200-BN2-1.5-20-V			20			60			2.98	20.8	21.5	22.25	23.05	-	●
SPM200-BN2-1.6-8-V	1.6	0.8	8	1.28	1.54	50	4	4	5.8	8.38	8.66	8.94	9.25	9.93	●
SPM200-BN2-1.6-12-V			12			55			4.34	12.53	12.94	13.37	13.85	14.9	●
SPM200-BN2-1.6-16-V			16			55			3.47	16.66	17.21	17.81	18.44	19.88	○
SPM200-BN2-1.6-20-V			20			60			2.89	20.8	21.49	22.24	23.04	-	○
SPM200-BN2-1.8-8-V	1.8	0.9	8	1.44	1.73	50	4	4	5.55	8.36	8.63	8.91	9.21	9.88	●
SPM200-BN2-1.8-12-V			12			55			4.11	12.5	12.91	13.34	13.81	14.85	○
SPM200-BN2-1.8-16-V			16			55			3.26	16.64	17.19	17.77	18.41	19.83	○
SPM200-BN2-1.8-20-V			20			60			2.7	20.77	21.46	22.21	23.01	-	○
SPM200-BN2-2-3-V	2	1	3	1.6	1.92	50	4	4	9.72	3.11	3.22	3.32	3.42	3.62	●
SPM200-BN2-2-4-V			4			50			8.32	4.16	4.31	4.44	4.57	4.86	●
SPM200-BN2-2-6-V			6			50			6.46	6.26	6.46	6.66	6.87	7.35	●
SPM200-BN2-2-8-V			8			50			5.27	8.34	8.6	8.88	9.17	9.84	●
SPM200-BN2-2-10-V			10			50			4.46	10.41	10.74	11.09	11.47	12.32	●
SPM200-BN2-2-12-V			12			55			3.86	12.48	12.88	13.31	13.77	14.81	●
SPM200-BN2-2-13-V			13			55			3.62	13.51	13.95	14.42	14.92	16.05	●
SPM200-BN2-2-14-V			14			55			3.4	14.55	15.02	15.53	16.07	17.29	●
SPM200-BN2-2-16-V			16			55			3.04	16.62	17.16	17.74	18.37	19.78	●

● Standard Inventory ○ To be Booked

R	Tolerance
R≤0.25	±0.003
R>0.25	±0.005

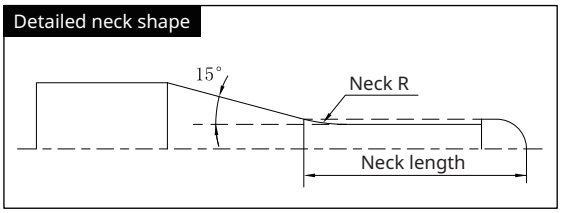
(mm)

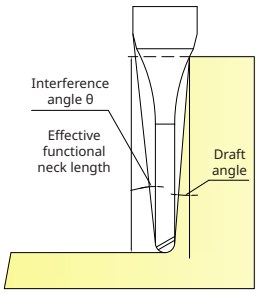
Recommended cutting data ※ P719

SPM200-BN2

2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining

Detailed neck shape





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Ball Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total length L	Shank diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-BN2-2-18-V	2	1	18	1.6	1.92	60	4	4	2.75	18.68	19.3	19.96	20.67	-	○
SPM200-BN2-2-20-V			20			60			2.51	20.75	21.44	22.18	22.97	-	●
SPM200-BN2-2-22-V			22			60			2.31	22.82	23.58	24.39	25.27	-	○
SPM200-BN2-2-25-V			25			65			2.06	25.92	26.79	27.72	28.72	-	●
SPM200-BN2-2-30-V			30			70			1.75	31.09	32.14	33.26	-	-	●
SPM200-BN2-2-35-V			35			75			1.52	36.26	37.48	38.8	-	-	●
SPM200-BN2-2-40-V			40			80			1.34	41.42	42.83	-	-	-	●
SPM200-BN2-2.5-6-V	2.5	1.25	6	2	2.4	50	4	4	5.62	6.22	6.41	6.6	6.8	7.25	○
SPM200-BN2-2.5-10-V			10			50			3.69	10.37	10.69	11.03	11.4	12.23	●
SPM200-BN2-2.5-15-V			15			55			2.59	15.54	16.04	16.58	17.15	-	○
SPM200-BN2-2.5-20-V			20			60			1.99	20.71	21.39	22.12	-	-	○
SPM200-BN2-2.5-25-V			25			65			1.62	25.88	26.74	27.66	-	-	●
SPM200-BN2-2.5-30-V			30			70			1.36	31.05	32.09	-	-	-	●
SPM200-BN2-3-8-V	3	1.5	8	2.4	2.88	55	6	4	7.04	8.27	8.51	8.77	9.04	9.65	●
SPM200-BN2-3-10-V			10			55			6.05	10.34	10.65	10.98	11.34	12.14	●
SPM200-BN2-3-13-V			13			60			5	13.44	13.86	14.31	14.79	15.87	●
SPM200-BN2-3-16-V			16			60			4.26	16.55	17.07	17.63	18.24	19.6	●
SPM200-BN2-3-20-V			20			65			3.56	20.68	21.35	22.07	22.84	24.57	●
SPM200-BN2-3-25-V			25			70			2.95	25.85	26.7	27.61	28.59	-	●
SPM200-BN2-3-30-V			30			75			2.52	31.02	32.05	33.15	34.34	-	●
SPM200-BN2-3-35-V			35			80			2.2	36.19	37.39	38.69	40.08	-	●
SPM200-BN2-3.5-15-V	3.5	1.75	15	2.8	3.36	60	6	4	3.99	15.49	15.96	16.48	17.03	18.27	○
SPM200-BN2-3.5-25-V			25			70			2.56	25.82	26.66	27.56	28.53	-	○
SPM200-BN2-3.5-35-V			35			80			1.89	36.16	37.36	38.64	-	-	○

● Standard Inventory ○ To be Booked

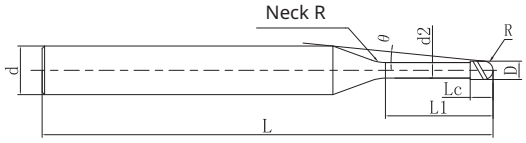
R	Tolerance
R≤0.25	±0.003
R>0.25	±0.005

(mm)

Recommended cutting data ※ P719

SPM200-BN2

2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining



Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Ball Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SPM200-BN2-3.5-45-V	3.5	1.75	45	2.8	3.36	90	6	4	1.5	46.5	48.05	-	-	-	○
SPM200-BN2-4-10-V	4	2	10	3.2	3.86	55	6	4	4.86	10.31	10.6	10.91	11.24	11.99	○
SPM200-BN2-4-13-V			13			60			3.88	13.41	13.81	14.23	14.69	15.72	●
SPM200-BN2-4-16-V			16			60			3.23	16.51	17.02	17.56	18.14	19.45	●
SPM200-BN2-4-20-V			20			65			2.63	20.65	21.3	21.99	22.74	-	●
SPM200-BN2-4-25-V			25			70			2.14	25.81	26.64	27.53	28.49	-	●
SPM200-BN2-4-30-V			30			75			1.81	30.98	31.99	33.08	-	-	○
SPM200-BN2-4-35-V			35			80			1.56	36.15	37.34	38.62	-	-	●
SPM200-BN2-4-40-V			40			80			1.38	41.32	42.69	-	-	-	●
SPM200-BN2-4-45-V			45			90			1.23	46.49	48.04	-	-	-	○
SPM200-BN2-4-50-V			50			100			1.11	51.66	53.39	-	-	-	●
SPM200-BN2-5-20-V	5	2.5	20	4	4.85	65	6	4	1.48	20.62	21.25	-	-	-	●
SPM200-BN2-5-25-V			25			70			1.18	25.79	26.6	-	-	-	○
SPM200-BN2-5-30-V			30			75			0.98	30.96	-	-	-	-	○
SPM200-BN2-5-40-V			40			80			0.73	41.29	-	-	-	-	●
SPM200-BN2-6-12-V	6	3	12	6	5.85	60	6	-	-	-	-	-	-	-	○
SPM200-BN2-6-20-V			20			65			-	-	-	-	-	-	●
SPM200-BN2-6-30-V			30			75			-	-	-	-	-	-	●
SPM200-BN2-6-50-V			50			100			-	-	-	-	-	-	●

● Standard Inventory ○ To be Booked

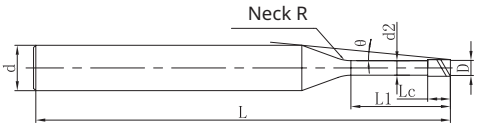
R	Tolerance
R≤0.25	±0.003
R>0.25	±0.005

(mm)

Recommended cutting data ※ P719

SHM200-SN2

2 Flutes, Square Endmill, Micro Diameter for Deep Machining



Please refer to P201 for guidelines to icons

Order No.	Outer Diameter D	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
									0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-SN2-0.1-0.3-K	0.1	0.3	0.15	0.08	50	4	1	14.39	0.31	0.33	0.35	0.37	0.40	○
SHM200-SN2-0.1-0.5-K		0.5						14.03	0.52	0.55	0.58	0.60	0.65	○
SHM200-SN2-0.1-1-K		1						13.22	1.05	1.09	1.13	1.18	1.27	○
SHM200-SN2-0.2-0.5-K	0.2	0.5	0.3	0.17	50	4	1	14.03	0.52	0.54	0.57	0.59	0.64	●
SHM200-SN2-0.2-1-K		1						13.20	1.04	1.08	1.12	1.16	1.26	●
SHM200-SN2-0.2-1.5-K		1.5						12.45	1.56	1.62	1.67	1.74	1.88	●
SHM200-SN2-0.2-2-K		2						11.79	2.08	2.15	2.23	2.31	2.50	○
SHM200-SN2-0.2-3-K		3						10.65	3.11	3.22	3.34	3.46	3.74	●
SHM200-SN2-0.3-1-K	0.3	1	0.45	0.27	50	4	2	13.06	1.06	1.12	1.18	1.23	1.33	●
SHM200-SN2-0.3-1.5-K		1.5						12.31	1.59	1.67	1.74	1.81	1.95	○
SHM200-SN2-0.3-2-K		2						11.65	2.12	2.21	2.29	2.38	2.57	○
SHM200-SN2-0.3-2.5-K		2.5						11.05	2.64	2.75	2.85	2.96	3.20	●
SHM200-SN2-0.3-3-K		3						10.51	3.16	3.28	3.40	3.53	3.82	○
SHM200-SN2-0.4-1-K	0.4	1	0.6	0.37	50	4	2	13.01	1.06	1.12	1.18	1.23	1.33	●
SHM200-SN2-0.4-1.5-K		1.5						12.25	1.59	1.67	1.74	1.81	1.95	○
SHM200-SN2-0.4-2-K		2						11.57	2.12	2.21	2.29	2.38	2.57	●
SHM200-SN2-0.4-2.5-K		2.5						10.97	2.64	2.75	2.85	2.96	3.20	○
SHM200-SN2-0.4-3-K		3						10.42	3.16	3.28	3.40	3.53	3.82	●
SHM200-SN2-0.4-3.5-K		3.5						9.92	3.68	3.82	3.96	4.11	4.44	●
SHM200-SN2-0.4-4-K		4						9.47	4.20	4.35	4.51	4.68	5.06	○
SHM200-SN2-0.4-5-K		5						8.68	5.24	5.42	5.62	5.83	6.30	○
SHM200-SN2-0.4-6-K		6						8.01	6.27	6.49	6.73	6.98	7.55	○
SHM200-SN2-0.4-8-K		8						6.94	8.34	8.63	8.94	9.28	10.03	○
SHM200-SN2-0.4-10-K		10						6.12	10.41	10.77	11.16	11.58	12.52	○

● Standard inventory ○ To be booked

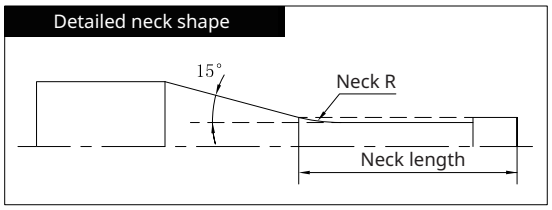
D	Tolerance
0.1≤D≤1.0	0 -0.007
1.0<D≤6.0	0 -0.01

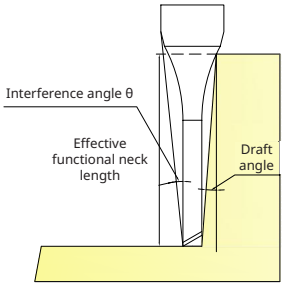
Unit (mm)

Recommended cutting data ※ P682

SHM200-SN2

2 Flutes, Square Endmill, Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
									0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-SN2-0.5-1-K	0.5	1	0.75	0.47	50	4	2	12.96	1.06	1.12	1.18	1.23	1.33	●
SHM200-SN2-0.5-1.5-K		1.5						12.19	1.59	1.67	1.74	1.81	1.95	●
SHM200-SN2-0.5-2-K		2						11.50	2.12	2.21	2.29	2.38	2.57	●
SHM200-SN2-0.5-2.5-K		2.5						10.88	2.64	2.75	2.85	2.96	3.20	●
SHM200-SN2-0.5-3-K		3						10.33	3.16	3.28	3.40	3.53	3.82	●
SHM200-SN2-0.5-4-K		4						9.37	4.20	4.35	4.51	4.68	5.06	●
SHM200-SN2-0.5-5-K		5						8.58	5.24	5.42	5.62	5.83	6.30	○
SHM200-SN2-0.5-6-K		6						7.91	6.27	6.49	6.73	6.98	7.55	●
SHM200-SN2-0.5-8-K		8						6.84	8.34	8.63	8.94	9.28	10.03	○
SHM200-SN2-0.5-10-K		10						6.02	10.41	10.77	11.16	11.58	12.52	○
SHM200-SN2-0.6-2-K	0.6	2	0.9	0.57	50	4	4	11.21	2.17	2.31	2.44	2.56	2.78	●
SHM200-SN2-0.6-3-K		3						10.07	3.24	3.42	3.58	3.72	4.02	●
SHM200-SN2-0.6-4-K		4						9.13	4.30	4.51	4.69	4.87	5.26	●
SHM200-SN2-0.6-5-K		5						8.36	5.35	5.59	5.80	6.02	6.50	●
SHM200-SN2-0.6-6-K		6						14.39	0.31	0.33	0.35	0.37	0.40	○
SHM200-SN2-0.6-7-K		7						14.03	0.52	0.55	0.58	0.60	0.65	○
SHM200-SN2-0.6-8-K		8						13.22	1.05	1.09	1.13	1.18	1.27	○
SHM200-SN2-0.6-9-K		9						14.03	0.52	0.54	0.57	0.59	0.64	○
SHM200-SN2-0.6-10-K		10						13.20	1.04	1.08	1.12	1.16	1.26	○
SHM200-SN2-0.7-2-K	0.7	2	1.05	0.67	50	4	4	12.45	1.56	1.62	1.67	1.74	1.88	○
SHM200-SN2-0.7-4-K		4						11.79	2.08	2.15	2.23	2.31	2.50	○
SHM200-SN2-0.7-6-K		6						10.65	3.11	3.22	3.34	3.46	3.74	○
SHM200-SN2-0.7-8-K		8						13.06	1.06	1.12	1.18	1.23	1.33	○
SHM200-SN2-0.7-10-K		10						12.31	1.59	1.67	1.74	1.81	1.95	○

● Standard Inventory ○ To be Booked

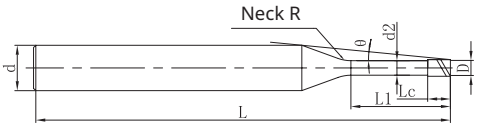
D	Tolerance
0.1≤D≤1.0	0 -0.007
1.0<D≤6.0	0 -0.01

Unit (mm)

Recommended cutting data ※ P682

SHM200-SN2

2 Flutes, Square Endmill, Micro Diameter for Deep Machining



SHANK h5 | 2 | TiAlSiN | 30° Helix | Square

Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
									0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-SN2-0.8-4-K	0.8	4	1.2	0.76	50	4	4	11.65	2.12	2.21	2.29	2.38	2.57	●
SHM200-SN2-0.8-6-K		6			50			11.05	2.64	2.75	2.85	2.96	3.20	●
SHM200-SN2-0.8-8-K		8			50			10.51	3.16	3.28	3.40	3.53	3.82	○
SHM200-SN2-0.8-10-K		10			50			13.01	1.06	1.12	1.18	1.23	1.33	○
SHM200-SN2-0.8-12-K		12			55			12.25	1.59	1.67	1.74	1.81	1.95	○
SHM200-SN2-0.9-6-K	0.9	6	1.35	0.86	50	4	4	11.57	2.12	2.21	2.29	2.38	2.57	○
SHM200-SN2-0.9-8-K		8			50			10.97	2.64	2.75	2.85	2.96	3.20	○
SHM200-SN2-0.9-10-K		10			50			10.42	3.16	3.28	3.40	3.53	3.82	○
SHM200-SN2-0.9-12-K		12			55			9.92	3.68	3.82	3.96	4.11	4.44	○
SHM200-SN2-1-2-K	1	2	1.5	0.96	50	4	4	9.47	4.20	4.35	4.51	4.68	5.06	○
SHM200-SN2-1-3-K		3			50			8.68	5.24	5.42	5.62	5.83	6.30	●
SHM200-SN2-1-4-K		4			50			8.01	6.27	6.49	6.73	6.98	7.55	●
SHM200-SN2-1-5-K		5			50			6.94	8.34	8.63	8.94	9.28	10.03	●
SHM200-SN2-1-6-K		6			50			6.12	10.41	10.77	11.16	11.58	12.52	●
SHM200-SN2-1-7-K		7			50			12.96	1.06	1.12	1.18	1.23	1.33	○
SHM200-SN2-1-8-K		8			50			12.19	1.59	1.67	1.74	1.81	1.95	●
SHM200-SN2-1-9-K		9			50			11.50	2.12	2.21	2.29	2.38	2.57	●
SHM200-SN2-1-10-K		10			50			10.88	2.64	2.75	2.85	2.96	3.20	●
SHM200-SN2-1-12-K		12			55			10.33	3.16	3.28	3.40	3.53	3.82	●
SHM200-SN2-1-14-K		14			55			9.37	4.20	4.35	4.51	4.68	5.06	○
SHM200-SN2-1-16-K		16			55			8.58	5.24	5.42	5.62	5.83	6.30	●
SHM200-SN2-1-20-K		20			60			7.91	6.27	6.49	6.73	6.98	7.55	○
SHM200-SN2-1-25-K		25			65				8.34	8.63	8.94	9.28	10.03	○
SHM200-SN2-1.2-6-K	1.2	6	1.8	1.15	50	4	4	14.39	0.31	0.33	0.35	0.37	0.40	○

● Standard Inventory ○ To be Booked

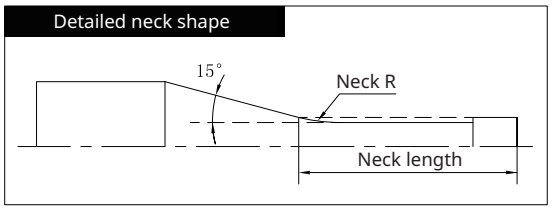
D	Tolerance
0.1≤D≤1.0	0 -0.007
1.0<D≤6.0	0 -0.01

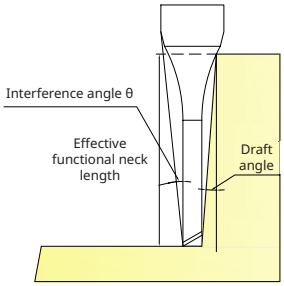
Unit (mm)

Recommended cutting data ※ P682

SHM200-SN2

2 Flutes, Square Endmill, Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
									0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-SN2-1.2-8-K	1.2	8	1.8	1.15	50	4	4	14.03	0.52	0.55	0.58	0.60	0.65	○
SHM200-SN2-1.2-10-K		10			50			13.22	1.05	1.09	1.13	1.18	1.27	○
SHM200-SN2-1.2-12-K		12			55			14.03	0.52	0.54	0.57	0.59	0.64	●
SHM200-SN2-1.2-16-K		16			55			13.20	1.04	1.08	1.12	1.16	1.26	○
SHM200-SN2-1.4-6-K	1.4	6	2.1	1.34	50	4	4	12.45	1.56	1.62	1.67	1.74	1.88	○
SHM200-SN2-1.4-12-K		12			55			11.79	2.08	2.15	2.23	2.31	2.50	○
SHM200-SN2-1.5-4-K	1.5	4	2.25	1.44	50	4	4	10.65	3.11	3.22	3.34	3.46	3.74	○
SHM200-SN2-1.5-6-K		6			50			13.06	1.06	1.12	1.18	1.23	1.33	●
SHM200-SN2-1.5-8-K		8			50			12.31	1.59	1.67	1.74	1.81	1.95	●
SHM200-SN2-1.5-10-K		10			50			11.65	2.12	2.21	2.29	2.38	2.57	●
SHM200-SN2-1.5-12-K		12			55			11.05	2.64	2.75	2.85	2.96	3.20	●
SHM200-SN2-1.5-14-K		14			55			10.51	3.16	3.28	3.40	3.53	3.82	○
SHM200-SN2-1.5-16-K		16			55			13.01	1.06	1.12	1.18	1.23	1.33	●
SHM200-SN2-1.5-18-K		1.5			60			4	4	1.67	1.74	1.81	1.95	○
SHM200-SN2-1.5-20-K		20			60			11.57	2.12	2.21	2.29	2.38	2.57	○
SHM200-SN2-1.5-25-K		25			65			10.97	2.64	2.75	2.85	2.96	3.20	○
SHM200-SN2-1.5-30-K		30			70			10.42	3.16	3.28	3.40	3.53	3.82	○
SHM200-SN2-1.5-35-K		35			75			9.92	3.68	3.82	3.96	4.11	4.44	○
SHM200-SN2-1.5-40-K		40			80			9.47	4.20	4.35	4.51	4.68	5.06	○
SHM200-SN2-1.6-6-K	1.6	6	2.4	1.54	50	4	4	8.68	5.24	5.42	5.62	5.83	6.30	●
SHM200-SN2-1.6-8-K		8			50			8.01	6.27	6.49	6.73	6.98	7.55	○
SHM200-SN2-1.8-6-K	1.8	6	2.7	1.73	50	4	4	6.94	8.34	8.63	8.94	9.28	10.03	○
SHM200-SN2-1.8-8-K		8			50			6.12	10.41	10.77	11.16	11.58	12.52	○
SHM200-SN2-2-4-K	2	4	3	1.92	50	4	4	12.96	1.06	1.12	1.18	1.23	1.33	●

● Standard Inventory ○ To be Booked

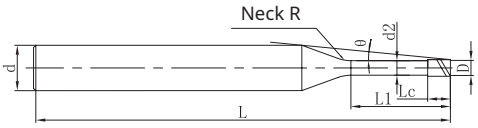
D	Tolerance
0.1≤D≤1.0	0 -0.007
1.0<D≤6.0	0 -0.01

Unit (mm)

Recommended cutting data ※ P682

SHM200-SN2

2 Flutes, Square Endmill, Micro Diameter for Deep Machining



SHANK h5 | 2 | TiAlSiN | 30° Helix | Square

Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
									0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-SN2-2-6-K	2	6	3	1.92	50	4	4	12.19	1.59	1.67	1.74	1.81	1.95	●
SHM200-SN2-2-8-K		8			50			11.50	2.12	2.21	2.29	2.38	2.57	●
SHM200-SN2-2-10-K		10			50			10.88	2.64	2.75	2.85	2.96	3.20	●
SHM200-SN2-2-12-K		12			55			10.33	3.16	3.28	3.40	3.53	3.82	●
SHM200-SN2-2-14-K		14			55			9.37	4.20	4.35	4.51	4.68	5.06	●
SHM200-SN2-2-16-K		16			55			8.58	5.24	5.42	5.62	5.83	6.30	●
SHM200-SN2-2-18-K		18			60			7.91	6.27	6.49	6.73	6.98	7.55	●
SHM200-SN2-2-20-K		20			60			6.84	8.34	8.63	8.94	9.28	10.03	○
SHM200-SN2-2-25-K		25			65			6.02	10.41	10.77	11.16	11.58	12.52	●
SHM200-SN2-2-30-K		30			70			11.21	2.17	2.31	2.44	2.56	2.78	○
SHM200-SN2-2-35-K		35			75			10.07	3.24	3.42	3.58	3.72	4.02	○
SHM200-SN2-2-40-K		40			80			9.13	4.30	4.51	4.69	4.87	5.26	○
SHM200-SN2-2-50-K		50			90			8.36	5.35	5.59	5.80	6.02	6.50	○
SHM200-SN2-2.5-8-K	2.5	8	3.75	2.4	50	4	4	14.39	0.31	0.33	0.35	0.37	0.40	○
SHM200-SN2-2.5-12-K		12			55			14.03	0.52	0.55	0.58	0.60	0.65	●
SHM200-SN2-2.5-16-K		16			55			13.22	1.05	1.09	1.13	1.18	1.27	●
SHM200-SN2-2.5-20-K		20			60			14.03	0.52	0.54	0.57	0.59	0.64	○
SHM200-SN2-2.5-30-K		30			70			13.20	1.04	1.08	1.12	1.16	1.26	○
SHM200-SN2-2.5-40-K		40			80			12.45	1.56	1.62	1.67	1.74	1.88	○
SHM200-SN2-2.5-50-K		50			90			11.79	2.08	2.15	2.23	2.31	2.50	○
SHM200-SN2-3-8-K	3	8	4.5	2.88	55	6	4	10.65	3.11	3.22	3.34	3.46	3.74	○
SHM200-SN2-3-12-K		12			60			13.06	1.06	1.12	1.18	1.23	1.33	○
SHM200-SN2-3-16-K		16			60			12.31	1.59	1.67	1.74	1.81	1.95	●
SHM200-SN2-3-20-K		20			65			11.65	2.12	2.21	2.29	2.38	2.57	○

● Standard Inventory ○ To be Booked

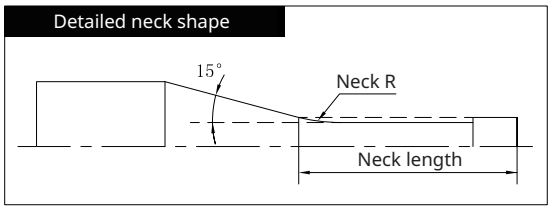
D	Tolerance
0.1≤D≤1.0	0 -0.007
1.0<D≤6.0	0 -0.01

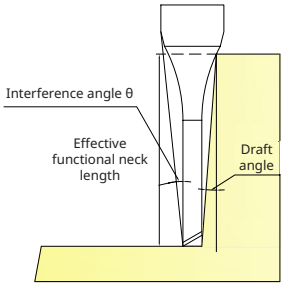
Unit (mm)

Recommended cutting data ※ P682

SHM200-SN2

2 Flutes, Square Endmill, Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
									0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-SN2-3-25-K	3	25	4.5	2.88	70	6	4	11.05	2.64	2.75	2.85	2.96	3.20	●
SHM200-SN2-3-30-K		30			75			10.51	3.16	3.28	3.40	3.53	3.82	●
SHM200-SN2-3-40-K		40			90			13.01	1.06	1.12	1.18	1.23	1.33	○
SHM200-SN2-3-50-K		50			100			4	4	1.67	1.74	1.81	1.95	○
SHM200-SN2-4-12-K	4	12	6	3.86	60	6	4	11.57	2.12	2.21	2.29	2.38	2.57	○
SHM200-SN2-4-16-K		16			60			10.97	2.64	2.75	2.85	2.96	3.20	○
SHM200-SN2-4-20-K		20			70			10.42	3.16	3.28	3.40	3.53	3.82	●
SHM200-SN2-4-25-K		25			70			9.92	3.68	3.82	3.96	4.11	4.44	●
SHM200-SN2-4-30-K		30			80			9.47	4.20	4.35	4.51	4.68	5.06	○
SHM200-SN2-4-35-K		35			80			8.68	5.24	5.42	5.62	5.83	6.30	○
SHM200-SN2-4-40-K		40			90			8.01	6.27	6.49	6.73	6.98	7.55	○
SHM200-SN2-4-50-K		50			100			6.94	8.34	8.63	8.94	9.28	10.03	○
SHM200-SN2-5-20-K	5	20	7.5	4.85	70	6	4	6.12	10.41	10.77	11.16	11.58	12.52	○
SHM200-SN2-5-25-K		25			70			12.96	1.06	1.12	1.18	1.23	1.33	○
SHM200-SN2-5-30-K		30			80			12.19	1.59	1.67	1.74	1.81	1.95	○
SHM200-SN2-5-40-K		40			90			11.50	2.12	2.21	2.29	2.38	2.57	○
SHM200-SN2-5-50-K		50			100			10.88	2.64	2.75	2.85	2.96	3.20	○
SHM200-SN2-6-20-K	6	20	9	5.85	70	6	-	10.33	3.16	3.28	3.40	3.53	3.82	○
SHM200-SN2-6-30-K		30			80			9.37	4.20	4.35	4.51	4.68	5.06	○
SHM200-SN2-6-40-K		40			90			8.58	5.24	5.42	5.62	5.83	6.30	○
SHM200-SN2-6-50-K		50			100			7.91	6.27	6.49	6.73	6.98	7.55	○

● Standard Inventory ○ To be Booked

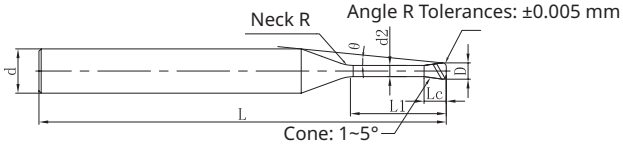
D	Tolerance
0.1≤D≤1.0	0 -0.007
1.0<D≤6.0	0 -0.01

Unit (mm)

Recommended cutting data ※ P682

SHM200-RN2

2 Flutes, Corner Radius Endmill,
Micro Diameter for Deep Machining



Please refer to P201 for guidelines to icons

Order No.	Outer Diameter D	Filleted Corner Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-RN2-0.2-0.5-0.02-K	0.2	0.02	0.5	0.16	0.17	50	4	1	14.07	0.52	0.54	0.56	0.58	0.63	○
SHM200-RN2-0.2-1-0.02-K			1						13.23	1.04	1.08	1.12	1.16	1.25	○
SHM200-RN2-0.2-2-0.02-K			2						11.82	2.08	2.15	2.23	2.31	2.50	○
SHM200-RN2-0.2-0.5-0.05-K		0.05	0.5						14.12	0.52	0.54	0.56	0.58	0.62	○
SHM200-RN2-0.2-1-0.05-K			1						13.28	1.04	1.08	1.11	1.15	1.24	○
SHM200-RN2-0.2-1.5-0.05-K			1.5						12.53	1.56	1.61	1.67	1.73	1.87	○
SHM200-RN2-0.2-2-0.05-K			2						11.85	2.08	2.15	2.22	2.30	2.49	○
SHM200-RN2-0.3-1-0.02-K	0.3	0.02	1	0.24	0.27	50	4	2	13.09	1.06	1.12	1.17	1.23	1.33	○
SHM200-RN2-0.3-2-0.02-K			2						11.67	2.11	2.21	2.29	2.38	2.57	○
SHM200-RN2-0.3-3-0.02-K			3						10.53	3.16	3.28	3.40	3.53	3.81	○
SHM200-RN2-0.3-1-0.05-K		0.05	1						13.14	1.06	1.12	1.17	1.22	1.32	○
SHM200-RN2-0.3-1.5-0.05-K			1.5						12.38	1.59	1.66	1.73	1.80	1.94	○
SHM200-RN2-0.3-2-0.05-K			2						11.71	2.11	2.21	2.29	2.37	2.56	○
SHM200-RN2-0.3-2.5-0.05-K			2.5						11.11	2.64	2.75	2.84	2.95	3.18	○
SHM200-RN2-0.3-3-0.05-K			3						10.56	3.16	3.28	3.40	3.52	3.81	○
SHM200-RN2-0.4-1-0.02-K	0.4	0.02	1	0.32	0.37	50	4	2	13.04	1.06	1.12	1.17	1.23	1.33	○
SHM200-RN2-0.4-2-0.02-K			2						11.60	2.11	2.21	2.29	2.38	2.57	○
SHM200-RN2-0.4-3-0.02-K			3						10.44	3.16	3.28	3.40	3.53	3.81	○
SHM200-RN2-0.4-4-0.02-K			4						9.49	4.20	4.35	4.51	4.68	5.06	○
SHM200-RN2-0.4-1-0.05-K		0.05	1						13.09	1.06	1.12	1.17	1.22	1.32	○
SHM200-RN2-0.4-1.5-0.05-K			1.5						12.32	1.59	1.66	1.73	1.80	1.94	○
SHM200-RN2-0.4-2-0.05-K			2						11.64	2.11	2.21	2.29	2.37	2.56	○
SHM200-RN2-0.4-2.5-0.05-K			2.5						11.03	2.64	2.75	2.84	2.95	3.18	○
SHM200-RN2-0.4-3-0.05-K			3						10.47	3.16	3.28	3.40	3.52	3.81	○

● Standard Inventory ○ To be Booked

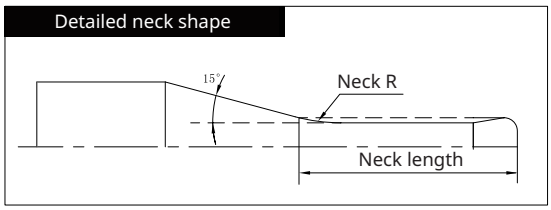
R	Tolerance
R	±0.005

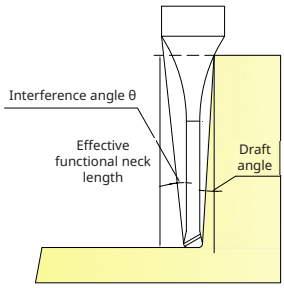
Unit (mm)

Recommended cutting data ※ P692

SHM200-RN2

2 Flutes, Corner Radius Endmill,
Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

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Order No.	Outer Diameter D	Filleted Corner Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-RN2-0.4-3.5-0.05-K	0.4	0.05	3.5	0.32	0.37	50	4	2	9.97	3.68	3.82	3.95	4.10	4.43	○
SHM200-RN2-0.4-4-0.05-K			4						9.52	4.20	4.35	4.51	4.67	5.05	○
SHM200-RN2-0.4-1-0.1-K		0.1	1						13.17	1.06	1.11	1.16	1.21	1.31	○
SHM200-RN2-0.4-2-0.1-K			2						11.70	2.11	2.20	2.28	2.37	2.55	○
SHM200-RN2-0.4-3-0.1-K			3						10.53	3.16	3.28	3.39	3.52	3.79	○
SHM200-RN2-0.4-4-0.1-K			4						9.56	4.20	4.35	4.50	4.67	5.04	○
SHM200-RN2-0.5-1-0.02-K	0.5	0.02	1	0.4	0.47	50	4	2	13.00	1.06	1.12	1.17	1.23	1.33	○
SHM200-RN2-0.5-2-0.02-K			2						11.53	2.11	2.21	2.29	2.38	2.57	○
SHM200-RN2-0.5-3-0.02-K			3						10.35	3.16	3.28	3.40	3.53	3.81	○
SHM200-RN2-0.5-4-0.02-K			4						9.39	4.20	4.35	4.51	4.68	5.06	○
SHM200-RN2-0.5-6-0.02-K			6						7.92	6.27	6.49	6.73	6.98	7.54	○
SHM200-RN2-0.5-1-0.05-K		0.05	1						13.05	1.06	1.12	1.17	1.22	1.32	○
SHM200-RN2-0.5-2-0.05-K			2						11.56	2.11	2.21	2.29	2.37	2.56	○
SHM200-RN2-0.5-3-0.05-K			3						10.38	3.16	3.28	3.40	3.52	3.81	○
SHM200-RN2-0.5-4-0.05-K	0.5	0.5	4	0.4	0.47	50	4	2	9.42	4.20	4.35	4.51	4.67	5.05	○
SHM200-RN2-0.5-5-0.05-K			5						8.62	5.24	5.42	5.61	5.82	6.29	○
SHM200-RN2-0.5-6-0.05-K			6						7.94	6.27	6.49	6.72	6.97	7.53	○
SHM200-RN2-0.5-1-0.1-K		0.1	1						13.13	1.06	1.11	1.16	1.21	1.31	○
SHM200-RN2-0.5-2-0.1-K			2						11.63	2.11	2.20	2.28	2.37	2.55	○
SHM200-RN2-0.5-3-0.1-K			3						10.44	3.16	3.28	3.39	3.52	3.79	○
SHM200-RN2-0.5-4-0.1-K			4						9.46	4.20	4.35	4.50	4.67	5.04	○
SHM200-RN2-0.5-5-0.1-K			5						8.65	5.24	5.42	5.61	5.82	6.28	○
SHM200-RN2-0.5-6-0.1-K			6						7.97	6.27	6.49	6.72	6.97	7.52	○
SHM200-RN2-0.6-2-0.02-K	0.6	0.02	2	0.48	0.57	50	4	4	11.24	2.17	2.31	2.44	2.55	2.77	○

● Standard Inventory ○ To be Booked

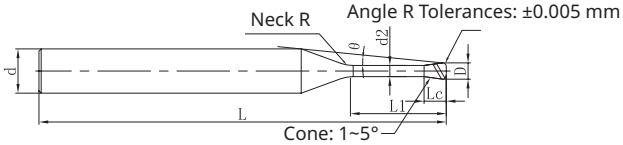
R	Tolerance
R	±0.005

Unit (mm)

Recommended cutting data ※ P692

SHM200-RN2

2 Flutes, Corner Radius Endmill,
Micro Diameter for Deep Machining



Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Filleted Corner Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-RN2-0.6-4-0.02-K	0.6	0.02	4	0.48	0.57	50	4	4	9.15	4.29	4.51	4.69	4.86	5.26	○
SHM200-RN2-0.6-6-0.02-K			6						7.71	6.40	6.66	6.90	7.16	7.74	○
SHM200-RN2-0.6-2-0.05-K		0.05	2						11.27	2.17	2.31	2.43	2.55	2.76	○
SHM200-RN2-0.6-4-0.05-K			4						9.18	4.29	4.51	4.68	4.86	5.25	●
SHM200-RN2-0.6-6-0.05-K			6						7.73	6.40	6.66	6.90	7.16	7.74	○
SHM200-RN2-0.6-8-0.05-K			8						6.68	8.49	8.80	9.12	9.46	10.22	○
SHM200-RN2-0.6-10-0.05-K			10						5.88	10.57	10.94	11.33	11.76	12.71	○
SHM200-RN2-0.6-2-0.1-K		0.1	2						11.34	2.16	2.30	2.43	2.54	2.75	○
SHM200-RN2-0.6-4-0.1-K			4						9.22	4.29	4.50	4.68	4.85	5.24	○
SHM200-RN2-0.6-6-0.1-K			6						7.76	6.39	6.66	6.90	7.15	7.72	○
SHM200-RN2-0.6-8-0.1-K			8						6.70	8.48	8.80	9.11	9.45	10.21	○
SHM200-RN2-0.6-10-0.1-K			10						5.89	10.57	10.94	11.33	11.75	12.70	○
SHM200-RN2-0.7-4-0.05-K	0.7	0.05	4	0.56	0.67	50	4	4	9.07	4.29	4.51	4.68	4.86	5.25	●
SHM200-RN2-0.7-6-0.05-K			6						7.62	6.40	6.66	6.90	7.16	7.74	○
SHM200-RN2-0.7-4-0.1-K		0.1	4						9.11	4.29	4.50	4.68	4.85	5.24	○
SHM200-RN2-0.7-6-0.1-K			6						7.65	6.39	6.66	6.90	7.15	7.72	○
SHM200-RN2-0.8-4-0.02-K	0.8	0.02	4	0.64	0.76	50	4	4	8.96	4.27	4.47	4.65	4.82	5.21	○
SHM200-RN2-0.8-6-0.02-K			6			50			7.51	6.37	6.63	6.87	7.12	7.70	○
SHM200-RN2-0.8-4-0.05-K		0.05	4			50			8.99	4.27	4.47	4.65	4.82	5.21	●
SHM200-RN2-0.8-6-0.05-K			6			50			7.52	6.37	6.63	6.86	7.12	7.69	○
SHM200-RN2-0.8-8-0.05-K			8			50			6.47	8.45	8.76	9.08	9.42	10.18	○
SHM200-RN2-0.8-12-0.05-K			12			55			5.05	12.61	13.04	13.51	14.02	15.15	○
SHM200-RN2-0.8-4-0.1-K		0.1	4			50			9.03	4.26	4.47	4.64	4.81	5.19	○
SHM200-RN2-0.8-6-0.1-K			6			50			7.55	6.37	6.62	6.86	7.11	7.68	○

● Standard Inventory ○ To be Booked

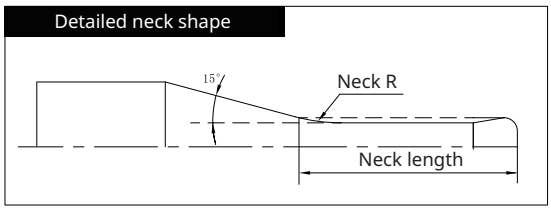
R	Tolerance
R	±0.005

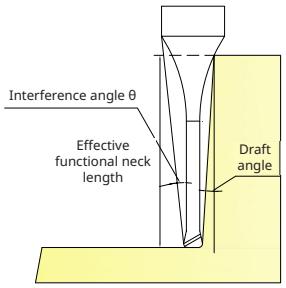
Unit (mm)

Recommended cutting data ※ P692

SHM200-RN2

2 Flutes, Corner Radius Endmill,
Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Filleted Corner Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-RN2-0.8-8-0.1-K	0.8	0.1	8	0.64	0.76	50	4	4	6.49	8.45	8.76	9.07	9.41	10.17	○
SHM200-RN2-0.8-12-0.1-K			12			55			5.06	12.60	13.04	13.51	14.01	15.14	○
SHM200-RN2-0.8-4-0.2-K		0.2	4			50			9.12	4.26	4.46	4.63	4.80	5.17	○
SHM200-RN2-0.8-6-0.2-K			6			50			7.62	6.36	6.61	6.85	7.10	7.66	○
SHM200-RN2-0.8-8-0.2-K			8			50			6.54	8.45	8.75	9.06	9.40	10.14	○
SHM200-RN2-0.8-12-0.2-K			12			50			5.09	12.60	13.03	13.50	14.00	15.11	○
SHM200-RN2-1-2-0.02-K	1	0.02	2	0.8	0.96	50	4	4	10.92	2.15	2.28	2.40	2.52	2.73	○
SHM200-RN2-1-4-0.02-K			4			50			8.72	4.27	4.47	4.65	4.82	5.21	○
SHM200-RN2-1-6-0.02-K			6			50			7.26	6.37	6.63	6.87	7.12	7.70	○
SHM200-RN2-1-8-0.02-K			8			50			6.22	8.46	8.77	9.08	9.42	10.19	○
SHM200-RN2-1-10-0.02-K			10			50			5.44	10.53	10.91	11.30	11.72	12.67	○
SHM200-RN2-1-12-0.02-K			12			55			4.83	12.61	13.05	13.52	14.02	15.16	○
SHM200-RN2-1-2-0.05-K		0.05	2			50			10.96	2.15	2.28	2.40	2.51	2.72	○
SHM200-RN2-1-3-0.05-K			3			50			9.73	3.21	3.38	3.53	3.67	3.96	○
SHM200-RN2-1-4-0.05-K			4			50			8.75	4.27	4.47	4.65	4.82	5.21	○
SHM200-RN2-1-5-0.05-K			5			50			7.95	5.32	5.55	5.75	5.97	6.45	○
SHM200-RN2-1-6-0.05-K			6			50			7.28	6.37	6.63	6.86	7.12	7.69	○
SHM200-RN2-1-8-0.05-K			8			50			6.23	8.45	8.76	9.08	9.42	10.18	○
SHM200-RN2-1-10-0.05-K			10			50			5.45	10.53	10.90	11.30	11.72	12.67	○
SHM200-RN2-1-12-0.05-K			12			55			4.84	12.61	13.04	13.51	14.02	15.15	○
SHM200-RN2-1-16-0.05-K			16			60			3.95	16.74	17.32	17.95	18.62	20.12	●
SHM200-RN2-1-20-0.05-K			20			60			3.34	20.88	21.60	22.38	23.22	25.10	○
SHM200-RN2-1-2-0.1-K		0.1	2			50			11.03	2.14	2.27	2.39	2.50	2.71	○
SHM200-RN2-1-3-0.1-K			3			50			9.79	3.21	3.38	3.53	3.66	3.95	○

● Standard inventory ○ To be booked

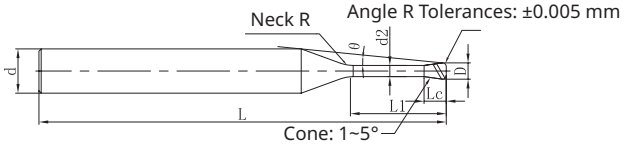
R	Tolerance
R	±0.005

Unit (mm)

Recommended cutting data ※ P692

SHM200-RN2

2 Flutes, Corner Radius Endmill,
Micro Diameter for Deep Machining



Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Filleted Corner Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-RN2-1-4-0.1-K	1	0.1	4	0.8	0.96	50	4	4	8.80	4.26	4.47	4.64	4.81	5.19	○
SHM200-RN2-1-5-0.1-K			5			50			7.99	5.32	5.55	5.75	5.96	6.44	○
SHM200-RN2-1-6-0.1-K			6			50			7.31	6.37	6.62	6.86	7.11	7.68	○
SHM200-RN2-1-8-0.1-K			8			50			6.25	8.45	8.76	9.07	9.41	10.17	○
SHM200-RN2-1-10-0.1-K			10			50			5.46	10.53	10.90	11.29	11.71	12.65	○
SHM200-RN2-1-12-0.1-K			12			55			4.85	12.60	13.04	13.51	14.01	15.14	○
SHM200-RN2-1-16-0.1-K			16			60			3.96	16.74	17.32	17.94	18.61	20.11	○
SHM200-RN2-1-20-0.1-K			20			60			3.35	20.87	21.60	22.37	23.21	25.08	○
SHM200-RN2-1-2-0.2-K		0.2	2			50			11.17	2.14	2.26	2.38	2.48	2.68	○
SHM200-RN2-1-3-0.2-K			3			50			9.90	3.20	3.37	3.51	3.65	3.93	○
SHM200-RN2-1-4-0.2-K			4			50			8.89	4.26	4.46	4.63	4.80	5.17	●
SHM200-RN2-1-5-0.2-K			5			50			8.06	5.31	5.54	5.74	5.95	6.41	○
SHM200-RN2-1-6-0.2-K			6			50			7.37	6.36	6.61	6.85	7.10	7.66	○
SHM200-RN2-1-8-0.2-K			8			50			6.30	8.45	8.75	9.06	9.40	10.14	○
SHM200-RN2-1-10-0.2-K			10			50			5.50	10.53	10.89	11.28	11.70	12.63	○
SHM200-RN2-1-12-0.2-K			12			55			4.88	12.60	13.03	13.50	14.00	15.11	○
SHM200-RN2-1-16-0.2-K			16			60			3.98	16.74	17.31	17.93	18.59	20.09	○
SHM200-RN2-1-20-0.2-K			20			60			3.36	20.87	21.59	22.36	23.19	25.06	○
SHM200-RN2-1-2-0.3-K	1	0.3	2	0.8	0.96	50	4	4	11.32	2.13	2.25	2.36	2.47	2.66	○
SHM200-RN2-1-3-0.3-K			3			50			10.01	3.20	3.36	3.50	3.63	3.90	○
SHM200-RN2-1-4-0.3-K			4			50			8.98	4.25	4.45	4.62	4.78	5.15	○
SHM200-RN2-1-5-0.3-K			5			50			8.14	5.31	5.53	5.73	5.93	6.39	○
SHM200-RN2-1-6-0.3-K			6			50			7.44	6.36	6.61	6.84	7.08	7.63	○
SHM200-RN2-1-8-0.3-K			8			50			6.35	8.44	8.75	9.05	9.38	10.12	○

● Standard Inventory ○ To be Booked

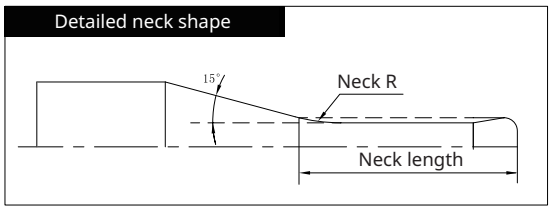
R	Tolerance
R	±0.005

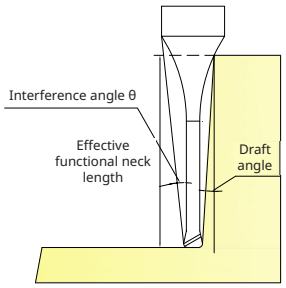
Unit (mm)

Recommended cutting data ※ P692

SHM200-RN2

2 Flutes, Corner Radius Endmill,
Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Filleted Corner Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-RN2-1-10-0.3-K	1	0.3	10	0.8	0.96	50	4	4	5.53	10.52	10.89	11.27	11.68	12.60	○
SHM200-RN2-1-12-0.3-K			12			55			4.90	12.60	13.03	13.49	13.98	15.09	○
SHM200-RN2-1-16-0.3-K			16			60			4.00	16.73	17.30	17.92	18.58	20.06	○
SHM200-RN2-1-20-0.3-K			20			60			3.37	20.87	21.58	22.35	23.18	25.04	○
SHM200-RN2-1.25-5-0.1-K	1.25	0.1	5	1	1.20	50	4	4	7.68	5.30	5.52	5.72	5.93	6.40	○
SHM200-RN2-1.25-10-0.1-K			10			50			5.17	10.50	10.87	11.26	11.68	12.62	○
SHM200-RN2-1.25-15-0.1-K			15			55			3.90	15.68	16.22	16.80	17.43	18.83	○
SHM200-RN2-1.25-20-0.1-K			20			60			3.13	20.84	21.57	22.34	23.18	25.05	○
SHM200-RN2-1.25-5-0.2-K		0.2	5			50			7.75	5.29	5.51	5.71	5.91	6.38	○
SHM200-RN2-1.25-10-0.2-K			10			50			5.21	10.50	10.86	11.25	11.66	12.59	○
SHM200-RN2-1.25-15-0.2-K			15			55			3.92	15.67	16.21	16.79	17.41	18.81	○
SHM200-RN2-1.25-20-0.2-K			20			60			3.14	20.84	21.56	22.33	23.16	25.02	○
SHM200-RN2-1.25-5-0.3-K		0.3	5			50			7.83	5.29	5.50	5.70	5.90	6.35	○
SHM200-RN2-1.25-10-0.3-K			10			50			5.24	10.50	10.86	11.24	11.65	12.57	○
SHM200-RN2-1.25-15-0.3-K			15			55			3.94	15.67	16.20	16.78	17.40	18.78	○
SHM200-RN2-1.25-20-0.3-K			20			60			3.15	20.84	21.55	22.32	23.15	25.00	○
SHM200-RN2-1.5-4-0.1-K	1.5	0.1	4	1.2	1.44	50	4	4	8.17	4.23	4.42	4.58	4.75	5.13	○
SHM200-RN2-1.5-6-0.1-K			6			50			6.66	6.32	6.57	6.80	7.05	7.62	●
SHM200-RN2-1.5-8-0.1-K			8			50			5.62	8.41	8.71	9.02	9.35	10.10	○
SHM200-RN2-1.5-12-0.1-K			12			55			4.28	12.55	12.98	13.45	13.95	15.07	○
SHM200-RN2-1.5-15-0.1-K			15			55			3.63	15.65	16.19	16.77	17.40	18.80	○
SHM200-RN2-1.5-20-0.1-K			20			60			2.90	20.82	21.54	22.32	23.15	-	○
SHM200-RN2-1.5-4-0.2-K		0.2	4			50			8.26	4.23	4.41	4.57	4.74	5.10	○
SHM200-RN2-1.5-6-0.2-K			6			50			6.72	6.32	6.56	6.79	7.04	7.59	○

● Standard Inventory ○ To be Booked

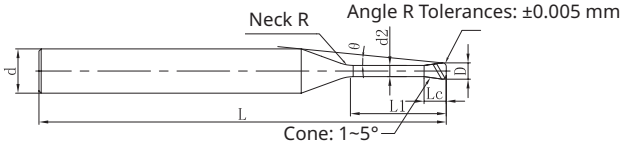
R	Tolerance
R	±0.005

Unit (mm)

Recommended cutting data ※ P692

SHM200-RN2

2 Flutes, Corner Radius Endmill,
Micro Diameter for Deep Machining



Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Filleted Corner Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-RN2-1.5-8-0.2-K	1.5	0.2	8	1.2	1.44	50	4	4	5.66	8.40	8.70	9.01	9.34	10.08	○
SHM200-RN2-1.5-12-0.2-K			12			55			4.31	12.55	12.98	13.44	13.94	15.05	○
SHM200-RN2-1.5-15-0.2-K			15			55			3.65	15.65	16.19	16.76	17.38	18.78	○
SHM200-RN2-1.5-20-0.2-K			20			60			2.91	20.82	21.53	22.31	23.13	-	○
SHM200-RN2-1.5-4-0.3-K		0.3	4			50			8.36	4.22	4.40	4.56	4.72	5.08	○
SHM200-RN2-1.5-6-0.3-K			6			50			6.78	6.31	6.55	6.78	7.02	7.57	○
SHM200-RN2-1.5-8-0.3-K			8			50			5.71	8.40	8.69	8.99	9.32	10.05	○
SHM200-RN2-1.5-12-0.3-K			12			55			4.33	12.54	12.97	13.43	13.92	15.03	○
SHM200-RN2-1.5-15-0.3-K			15	1.2	1.44	55	4	4	3.67	15.64	16.18	16.75	17.37	18.76	○
SHM200-RN2-1.5-20-0.3-K			20			60			2.92	20.81	21.53	22.29	23.12	-	○
SHM200-RN2-1.5-4-0.5-K		0.5	4			50			8.55	4.21	4.39	4.54	4.69	5.03	○
SHM200-RN2-1.5-6-0.5-K			6			50			6.91	6.31	6.54	6.76	6.99	7.52	○
SHM200-RN2-1.5-8-0.5-K			8			50			5.80	8.39	8.68	8.97	9.29	10.00	○
SHM200-RN2-1.5-12-0.5-K			12			55			4.39	12.54	12.96	13.41	13.89	14.98	○
SHM200-RN2-1.5-15-0.5-K			15			55			3.71	15.64	16.17	16.73	17.34	18.71	○
SHM200-RN2-1.5-20-0.5-K			20			60			2.95	20.81	21.51	22.27	23.09	-	○
SHM200-RN2-1.75-5-0.1-K	1.75	0.1	5	1.4	1.68	50	4	4	6.96	5.26	5.47	5.67	5.88	6.35	○
SHM200-RN2-1.75-10-0.1-K			10			50			4.53	10.46	10.82	11.21	11.63	12.56	○
SHM200-RN2-1.75-15-0.1-K			15			55			3.35	15.63	16.17	16.75	17.38	18.78	○
SHM200-RN2-1.75-20-0.1-K			20			60			2.66	20.80	21.52	22.29	23.13	-	○
SHM200-RN2-1.75-5-0.2-K		0.2	5			50			7.03	5.26	5.47	5.66	5.86	6.32	○
SHM200-RN2-1.75-10-0.2-K			10			50			4.56	10.46	10.82	11.20	11.61	12.54	○
SHM200-RN2-1.75-15-0.2-K			15			55			3.37	15.63	16.16	16.74	17.36	18.75	○
SHM200-RN2-1.75-20-0.2-K			20			60			2.67	20.80	21.51	22.28	23.11	-	○

● Standard Inventory ○ To be Booked

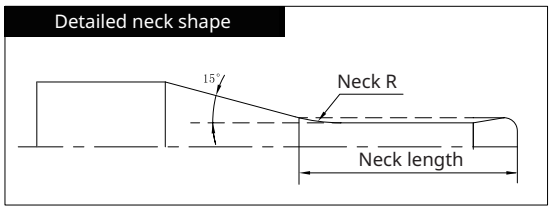
R	Tolerance
R	±0.005

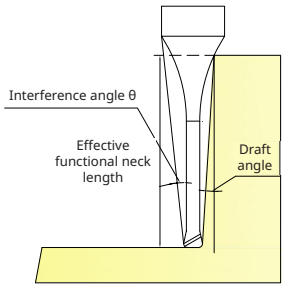
Unit (mm)

Recommended cutting data ※ P692

SHM200-RN2

2 Flutes, Corner Radius Endmill,
Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Filleted Corner Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-RN2-1.75-5-0.3-K	1.75	0.3	5	1.4	1.68	50	4	4	7.11	5.25	5.46	5.65	5.85	6.30	○
SHM200-RN2-1.75-10-0.3-K			10			50			4.59	10.45	10.81	11.19	11.60	12.51	○
SHM200-RN2-1.75-15-0.3-K			15			55			3.39	15.62	16.16	16.73	17.35	18.73	○
SHM200-RN2-1.75-20-0.3-K			20			60			2.69	20.79	21.51	22.27	23.10	-	○
SHM200-RN2-2-4-0.1-K	2	0.1	4	1.6	1.92	50	4	4	7.36	4.21	4.38	4.54	4.71	5.08	○
SHM200-RN2-2-6-0.1-K			6			50			5.86	6.29	6.53	6.76	7.01	7.57	●
SHM200-RN2-2-8-0.1-K			8			50			4.87	8.37	8.66	8.97	9.31	10.05	●
SHM200-RN2-2-12-0.1-K			12			55			3.64	12.51	12.94	13.41	13.91	15.03	○
SHM200-RN2-2-16-0.1-K			16			55			2.90	16.65	17.22	17.84	18.51	-	○
SHM200-RN2-2-20-0.1-K			20			60			2.42	20.78	21.50	22.27	23.11	-	○
SHM200-RN2-2-25-0.1-K			25			65			2.00	25.95	26.85	27.82	-	-	○
SHM200-RN2-2-30-0.1-K			30			70			1.70	31.12	32.20	33.36	-	-	○
SHM200-RN2-2-4-0.2-K		0.2	4			50			7.46	4.20	4.37	4.53	4.69	5.06	○
SHM200-RN2-2-6-0.2-K			6			50			5.93	6.29	6.52	6.75	6.99	7.54	○
SHM200-RN2-2-8-0.2-K			8			50			4.91	8.37	8.66	8.96	9.29	10.03	○
SHM200-RN2-2-12-0.2-K			12			55			3.66	12.51	12.94	13.40	13.89	15.00	○
SHM200-RN2-2-16-0.2-K			16			55			2.92	16.64	17.22	17.83	18.49	-	○
SHM200-RN2-2-20-0.2-K			20			60			2.43	20.78	21.49	22.26	23.09	-	○
SHM200-RN2-2-25-0.2-K			25			65			2.00	25.95	26.84	27.80	-	-	○
SHM200-RN2-2-30-0.2-K			30			70			1.71	31.11	32.19	33.35	-	-	○
SHM200-RN2-2-4-0.3-K		0.3	4			50			7.56	4.20	4.37	4.52	4.68	5.03	○
SHM200-RN2-2-6-0.3-K			6			50			5.99	6.28	6.51	6.74	6.98	7.52	○
SHM200-RN2-2-8-0.3-K			8			50			4.96	8.36	8.65	8.95	9.28	10.01	○
SHM200-RN2-2-12-0.3-K			12			55			3.69	12.50	12.93	13.39	13.88	14.98	○

● Standard Inventory ○ To be Booked

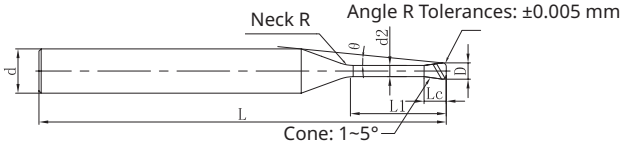
R	Tolerance
R	±0.005

Unit (mm)

Recommended cutting data ※ P692

SHM200-RN2

2 Flutes, Corner Radius Endmill,
Micro Diameter for Deep Machining



Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Filleted Corner Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-RN2-2-16-0.3-K	2	0.3	16	1.6	1.92	55	4	4	2.93	16.64	17.21	17.82	18.48	-	○
SHM200-RN2-2-20-0.3-K			20			60			2.44	20.77	21.49	22.25	23.08	-	○
SHM200-RN2-2-25-0.3-K			25			65			2.01	25.94	26.84	27.79	28.82	-	●
SHM200-RN2-2-30-0.3-K			30			70			1.71	31.11	32.18	33.34	-	-	○
SHM200-RN2-2-6-0.5-K		0.5	6			50			6.11	6.28	6.50	6.71	6.95	7.47	○
SHM200-RN2-2-8-0.5-K			8			50			5.04	8.36	8.64	8.93	9.25	9.96	○
SHM200-RN2-2-12-0.5-K			12			55			3.73	12.50	12.92	13.36	13.85	14.93	●
SHM200-RN2-2-16-0.5-K			16			55			2.96	16.63	17.19	17.80	18.45	-	○
SHM200-RN2-2-20-0.5-K			20			60			2.46	20.77	21.47	22.23	23.05	-	○
SHM200-RN2-2-25-0.5-K			25			65			2.03	25.94	26.82	27.77	28.79	-	○
SHM200-RN2-2-30-0.5-K			30			70			1.72	31.10	32.17	33.31	-	-	○
SHM200-RN2-2-6-0.8-K		0.8	6			50			6.31	6.26	6.48	6.68	6.90	7.40	○
SHM200-RN2-2-8-0.8-K			8			50			5.18	8.35	8.62	8.90	9.20	9.88	○
SHM200-RN2-2-12-0.8-K			12			55			3.81	12.49	12.89	13.33	13.80	14.86	○
SHM200-RN2-2-16-0.8-K			16			55			3.01	16.62	17.17	17.77	18.40	19.83	○
SHM200-RN2-2-20-0.8-K			20			60			2.49	20.76	21.45	22.20	23.00	-	○
SHM200-RN2-2-25-0.8-K			25			65			2.05	25.93	26.80	27.74	28.75	-	○
SHM200-RN2-2-30-0.8-K			30			70			1.74	31.09	32.15	33.28	-	-	○
SHM200-RN2-2.5-10-0.1-K	2.5	0.1	10	2	2.40	50	4	4	3.36	10.41	10.77	11.16	11.57	12.50	○
SHM200-RN2-2.5-20-0.1-K			20			60			1.89	20.75	21.47	22.24	-	-	○
SHM200-RN2-2.5-30-0.1-K			30			70			1.32	31.09	32.17	-	-	-	○
SHM200-RN2-2.5-10-0.2-K		0.2	10			50			3.39	10.41	10.77	11.15	11.56	12.48	○
SHM200-RN2-2.5-20-0.2-K			20			60			1.90	20.75	21.46	22.23	-	-	○
SHM200-RN2-2.5-30-0.2-K			30			70			1.32	31.08	32.16	-	-	-	○

● Standard Inventory ○ To be Booked

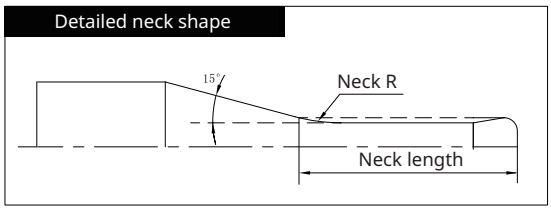
R	Tolerance
R	±0.005

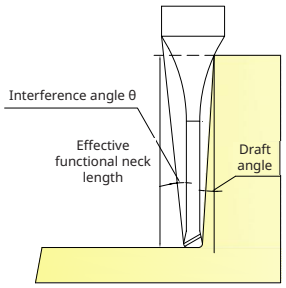
Unit (mm)

Recommended cutting data ※ P692

SHM200-RN2

2 Flutes, Corner Radius Endmill,
Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Filleted Corner Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-RN2-2.5-10-0.3-K	2.5	0.3	10	2	2.40	50	4	4	3.42	10.41	10.76	11.14	11.54	12.46	○
SHM200-RN2-2.5-20-0.3-K			20			60			1.91	20.74	21.46	22.22	-	-	○
SHM200-RN2-2.5-30-0.3-K			30			70			1.32	31.08	32.15	-	-	-	○
SHM200-RN2-2.5-10-0.5-K		0.5	10			50			3.47	10.40	10.75	11.12	11.51	12.41	●
SHM200-RN2-2.5-20-0.5-K			20			60			1.92	20.74	21.44	22.20	-	-	○
SHM200-RN2-2.5-30-0.5-K			30			70			1.33	31.07	32.14	-	-	-	○
SHM200-RN2-3-6-0.1-K	3	0.1	6	2.4	2.88	50	6	4	7.40	6.25	6.47	6.70	6.95	7.50	○
SHM200-RN2-3-8-0.1-K			8			55			6.32	8.32	8.61	8.92	9.25	9.99	○
SHM200-RN2-3-12-0.1-K			12			60			4.89	12.46	12.89	13.35	13.85	14.96	○
SHM200-RN2-3-16-0.1-K			16			60			3.99	16.59	17.17	17.78	18.45	19.94	○
SHM200-RN2-3-18-0.1-K			18			65			3.65	18.66	19.31	20.00	20.75	22.42	○
SHM200-RN2-3-20-0.1-K			20			65			3.36	20.73	21.45	22.22	23.05	24.91	○
SHM200-RN2-3-30-0.1-K			30			75			2.42	31.06	32.14	33.30	34.55	-	○
SHM200-RN2-3-35-0.1-K			35			80			2.12	36.23	37.49	38.84	40.29	-	○
SHM200-RN2-3-6-0.2-K		0.2	6			50			7.46	6.25	6.46	6.69	6.93	7.48	○
SHM200-RN2-3-8-0.2-K			8			55			6.36	8.32	8.60	8.91	9.23	9.97	○
SHM200-RN2-3-12-0.2-K			12			60			4.92	12.45	12.88	13.34	13.83	14.94	○
SHM200-RN2-3-16-0.2-K			16			60			4.00	16.59	17.16	17.77	18.43	19.91	●
SHM200-RN2-3-18-0.2-K			18			65			3.66	18.66	19.30	19.99	20.73	22.40	○
SHM200-RN2-3-20-0.2-K			20			65			3.38	20.72	21.44	22.21	23.03	24.88	○
SHM200-RN2-3-30-0.2-K			30			75			2.43	31.06	32.14	33.29	34.53	-	○
SHM200-RN2-3-35-0.2-K			35			80			2.13	36.23	37.48	38.83	40.28	-	○
SHM200-RN2-3-6-0.3-K		0.3	6			50			7.53	6.24	6.46	6.68	6.92	7.46	○
SHM200-RN2-3-8-0.3-K			8			55			6.41	8.32	8.60	8.90	9.22	9.94	○

● Standard Inventory ○ To be Booked

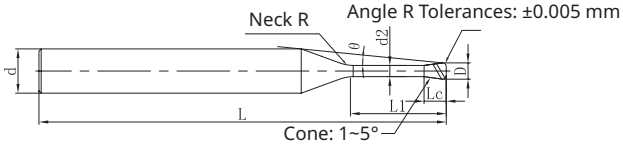
R	Tolerance
R	±0.005

Unit (mm)

Recommended cutting data ※ P692

SHM200-RN2

2 Flutes, Corner Radius Endmill,
Micro Diameter for Deep Machining



Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Filleted Corner Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-RN2-3-12-0.3-K	2	0.3	12	2.4	2.88	60	6	4	4.94	12.45	12.87	13.33	13.82	14.91	○
SHM200-RN2-3-16-0.3-K			16			60			4.02	16.59	17.15	17.76	18.42	19.89	○
SHM200-RN2-3-18-0.3-K			18			65			3.68	18.65	19.29	19.98	20.72	22.37	○
SHM200-RN2-3-20-0.3-K			20			65			3.39	20.72	21.43	22.20	23.02	24.86	○
SHM200-RN2-3-30-0.3-K			30			75			2.43	31.06	32.13	33.28	34.52	-	○
SHM200-RN2-3-35-0.3-K			35			80			2.13	36.23	37.48	38.82	40.26	-	○
SHM200-RN2-3-8-0.5-K		0.5	8			55			6.51	8.31	8.58	8.87	9.19	9.89	○
SHM200-RN2-3-12-0.5-K			12			60			5.00	12.44	12.86	13.31	13.79	14.87	●
SHM200-RN2-3-16-0.5-K			16			60			4.06	16.58	17.14	17.74	18.39	19.84	○
SHM200-RN2-3-18-0.5-K			18			65			3.71	18.65	19.28	19.96	20.69	22.33	○
SHM200-RN2-3-20-0.5-K			20			65			3.42	20.71	21.42	22.17	22.99	24.81	○
SHM200-RN2-3-30-0.5-K			30			75			2.45	31.05	32.12	33.26	34.49	-	○
SHM200-RN2-3-35-0.5-K			35			80			2.14	36.22	37.46	38.80	40.23	-	○
SHM200-RN2-3-8-1-K		1	8			55			6.76	8.29	8.55	8.82	9.11	9.77	○
SHM200-RN2-3-12-1-K			12			60			5.15	12.43	12.83	13.25	13.71	14.74	○
SHM200-RN2-3-16-1-K			16			60			4.16	16.56	17.10	17.69	18.31	19.72	○
SHM200-RN2-3-18-1-K			18			65			3.79	18.63	19.24	19.90	20.61	22.20	○
SHM200-RN2-3-20-1-K			20			65			3.49	20.70	21.38	22.12	22.91	24.69	○
SHM200-RN2-3-30-1-K			30			75			2.48	31.03	32.08	33.20	34.41	-	○
SHM200-RN2-3-35-1-K			35			80			2.17	36.20	37.43	38.74	40.16	-	○
SHM200-RN2-4-8-0.1-K	4	0.1	8	3.2	3.86	55	6	4	4.90	8.31	8.59	8.90	9.23	9.97	○
SHM200-RN2-4-12-0.1-K			12			60			3.66	12.44	12.87	13.33	13.83	14.94	○
SHM200-RN2-4-16-0.1-K			16			60			2.91	16.57	17.15	17.76	18.43	-	○
SHM200-RN2-4-20-0.1-K			20			65			2.42	20.71	21.43	22.20	23.03	-	○

● Standard Inventory ○ To be Booked

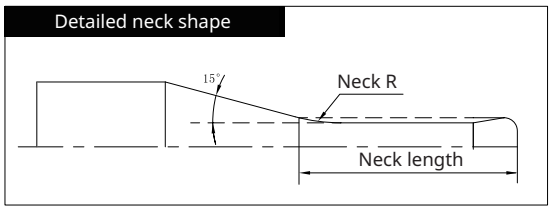
R	Tolerance
R	±0.005

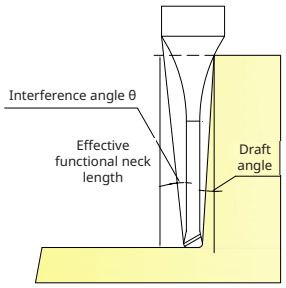
Unit (mm)

Recommended cutting data ※ P692

SHM200-RN2

2 Flutes, Corner Radius Endmill,
Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Filleted Corner Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-RN2-4-30-0.1-K	4	0.1	30	3.2	3.86	75	6	4	1.71	31.05	32.12	33.28	-	-	○
SHM200-RN2-4-35-0.1-K			35			80			1.49	36.21	37.47	-	-	-	○
SHM200-RN2-4-45-0.1-K			45			90			1.18	46.55	48.17	-	-	-	○
SHM200-RN2-4-8-0.2-K		0.2	8			55			4.94	8.30	8.58	8.89	9.21	9.94	○
SHM200-RN2-4-12-0.2-K			12			60			3.68	12.44	12.86	13.32	13.81	14.92	○
SHM200-RN2-4-16-0.2-K			16			60			2.93	16.57	17.14	17.75	18.41	-	○
SHM200-RN2-4-20-0.2-K			20			65			2.43	20.71	21.42	22.19	23.01	-	○
SHM200-RN2-4-30-0.2-K			30			75			1.71	31.04	32.12	33.27	-	-	○
SHM200-RN2-4-35-0.2-K			35			80			1.49	36.21	37.47	-	-	-	○
SHM200-RN2-4-45-0.2-K			45			90			1.18	46.55	48.16	-	-	-	○
SHM200-RN2-4-8-0.3-K		0.3	8			55			4.99	8.30	8.58	8.88	9.20	9.92	○
SHM200-RN2-4-12-0.3-K			12			60			3.70	12.43	12.86	13.31	13.80	14.89	○
SHM200-RN2-4-16-0.3-K			16			60			2.94	16.57	17.13	17.74	18.40	-	○
SHM200-RN2-4-20-0.3-K			20			65			2.44	20.70	21.41	22.18	23.00	-	○
SHM200-RN2-4-30-0.3-K			30			75			1.72	31.04	32.11	33.26	-	-	○
SHM200-RN2-4-35-0.3-K			35			80			1.49	36.21	37.46	-	-	-	○
SHM200-RN2-4-45-0.3-K			45			90			1.19	46.54	48.16	-	-	-	○
SHM200-RN2-4-12-0.5-K		0.5	12			60			3.75	12.43	12.84	13.29	13.77	14.84	○
SHM200-RN2-4-16-0.5-K			16			60			2.97	16.56	17.12	17.72	18.37	-	●
SHM200-RN2-4-20-0.5-K			20			65			2.47	20.70	21.40	22.15	22.97	-	○
SHM200-RN2-4-30-0.5-K			30			75			1.73	31.03	32.10	33.24	-	-	○
SHM200-RN2-4-35-0.5-K			35			80			1.50	36.20	37.44	-	-	-	○
SHM200-RN2-4-45-0.5-K			45			90			1.19	46.54	48.14	-	-	-	○
SHM200-RN2-4-12-1-K		1	12			60			3.88	12.41	12.81	13.23	13.69	14.72	○

● Standard Inventory ○ To be Booked

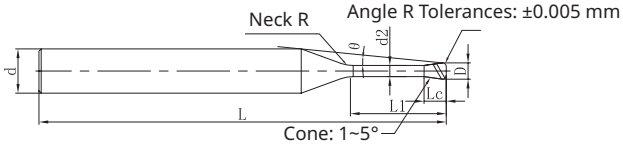
R	Tolerance
R	±0.005

Unit (mm)

Recommended cutting data ※ P692

SHM200-RN2

2 Flutes, Corner Radius Endmill,
Micro Diameter for Deep Machining



Please refer to P201 for guidelines to icons

Continued

Order No.	Outer diameter D	Filleted Corner Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-RN2-4-16-1-K	4	1	16	3.2	3.86	60	6	4	3.05	16.54	17.09	17.67	18.29	19.70	○
SHM200-RN2-4-20-1-K			20			65			2.52	20.68	21.36	22.10	22.89	-	○
SHM200-RN2-4-30-1-K			30			75			1.75	31.02	32.06	33.18	-	-	○
SHM200-RN2-4-35-1-K			35			80			1.52	36.18	37.41	38.73	-	-	○
SHM200-RN2-4-45-1-K			45			90			1.20	46.52	48.11	-	-	-	○
SHM200-RN2-5-20-0.1-K	5	0.1	20	4	4.85	65	6	4	1.32	20.70	21.42	-	-	-	○
SHM200-RN2-5-40-0.1-K			40			85			0.69	41.38	-	-	-	-	○
SHM200-RN2-5-20-0.2-K		0.2	20			65			1.32	20.70	21.41	-	-	-	○
SHM200-RN2-5-40-0.2-K			40			85			0.69	41.37	-	-	-	-	○
SHM200-RN2-5-20-0.3-K		0.3	20			65			1.33	20.69	21.41	-	-	-	○
SHM200-RN2-5-40-0.3-K			40			85			0.69	41.37	-	-	-	-	○
SHM200-RN2-5-20-0.5-K		0.5	20			65			1.34	20.69	21.39	-	-	-	○
SHM200-RN2-5-40-0.5-K			40			85			0.70	41.36	-	-	-	-	○
SHM200-RN2-5-20-1-K		1	20			65			1.38	20.67	21.36	-	-	-	○
SHM200-RN2-5-40-1-K			40			85			0.71	41.34	-	-	-	-	●
SHM200-RN2-6-12-0.1-K	6	0.1	12	4.8	5.85	50	6	-	-	-	-	-	-	-	○
SHM200-RN2-6-18-0.1-K			18			60			-	-	-	-	-	-	●
SHM200-RN2-6-24-0.1-K			24			70			-	-	-	-	-	-	●
SHM200-RN2-6-35-0.1-K			35			80			-	-	-	-	-	-	○
SHM200-RN2-6-55-0.1-K			55			100			-	-	-	-	-	-	○
SHM200-RN2-6-12-0.2-K		0.2	12			50			-	-	-	-	-	-	○
SHM200-RN2-6-18-0.2-K			18			60			-	-	-	-	-	-	○
SHM200-RN2-6-24-0.2-K			24			70			-	-	-	-	-	-	●
SHM200-RN2-6-35-0.2-K			35			80			-	-	-	-	-	-	○

● Standard Inventory ○ To be Booked

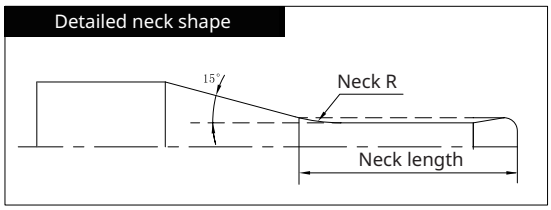
R	Tolerance
R	±0.005

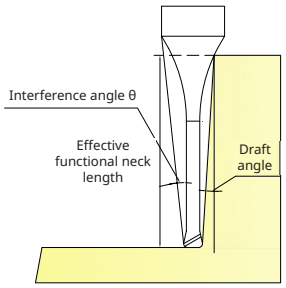
Unit (mm)

Recommended cutting data ※ P692

SHM200-RN2

2 Flutes, Corner Radius Endmill,
Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Filleted Corner Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-RN2-6-55-0.2-K	6	0.2	55	4.8	5.85	100	6	-	-	-	-	-	-	-	○
SHM200-RN2-6-12-0.3-K		0.3	12			50			-	-	-	-	-	-	○
SHM200-RN2-6-18-0.3-K			18			60			-	-	-	-	-	-	○
SHM200-RN2-6-24-0.3-K			24			70			-	-	-	-	-	-	○
SHM200-RN2-6-35-0.3-K			35			80			-	-	-	-	-	-	○
SHM200-RN2-6-55-0.3-K			55			100			-	-	-	-	-	-	○
SHM200-RN2-6-18-0.5-K		0.5	18			60			-	-	-	-	-	-	○
SHM200-RN2-6-24-0.5-K			24			70			-	-	-	-	-	-	●
SHM200-RN2-6-35-0.5-K			35			80			-	-	-	-	-	-	○
SHM200-RN2-6-55-0.5-K			55			100			-	-	-	-	-	-	○
SHM200-RN2-6-18-1-K		1	18			60			-	-	-	-	-	-	○
SHM200-RN2-6-24-1-K			24			70			-	-	-	-	-	-	○
SHM200-RN2-6-35-1-K			35			80			-	-	-	-	-	-	○
SHM200-RN2-6-55-1-K			55			100			-	-	-	-	-	-	○

● Standard Inventory ○ To be Booked

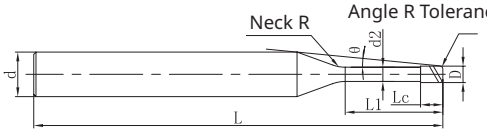
R	Tolerance
R	±0.005

Unit (mm)

Recommended cutting data ※ P692

SHM200-RN4

4 Flutes, Corner Radius Endmill,
Micro Diameter for Deep Machining



Please refer to P201 for guidelines to icons

Order No.	Outer Diameter D	Filleted Corner Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-RN4-1-4-0.05-K	1	0.05	4	0.8	0.96	50	4	4	8.75	4.27	4.47	4.65	4.82	5.21	○
SHM200-RN4-1-6-0.05-K			6			50			7.28	6.37	6.63	6.86	7.12	7.69	○
SHM200-RN4-1-8-0.05-K			8			50			6.23	8.45	8.76	9.08	9.42	10.18	○
SHM200-RN4-1-10-0.05-K			10			50			5.45	10.53	10.90	11.30	11.72	12.67	○
SHM200-RN4-1-12-0.05-K			12			60			4.84	12.61	13.04	13.51	14.02	15.15	○
SHM200-RN4-1-16-0.05-K			16			60			3.95	16.74	17.32	17.95	18.62	20.12	○
SHM200-RN4-1-20-0.05-K			20			60			3.34	20.88	21.60	22.38	23.22	25.10	○
SHM200-RN4-1-4-0.1-K		0.1	4			50			8.80	4.26	4.47	4.64	4.81	5.19	○
SHM200-RN4-1-6-0.1-K			6			50			7.31	6.37	6.62	6.86	7.11	7.68	○
SHM200-RN4-1-8-0.1-K			8			50			6.25	8.45	8.76	9.07	9.41	10.17	○
SHM200-RN4-1-10-0.1-K			10			50			5.46	10.53	10.90	11.29	11.71	12.65	○
SHM200-RN4-1-12-0.1-K			12			60			4.85	12.60	13.04	13.51	14.01	15.14	○
SHM200-RN4-1-16-0.1-K			16			60			3.96	16.74	17.32	17.94	18.61	20.11	○
SHM200-RN4-1-20-0.1-K			20			60			3.35	20.87	21.60	22.37	23.21	25.08	○
SHM200-RN4-1.5-4-0.05-K	1.5	0.05	4	1.2	1.42	50	4	4	8.12	4.23	4.42	4.59	4.76	5.14	○
SHM200-RN4-1.5-8-0.05-K			8			50			5.60	8.41	8.71	9.02	9.36	10.11	○
SHM200-RN4-1.5-12-0.05-K			12			60			4.27	12.55	12.99	13.46	13.96	15.09	○
SHM200-RN4-1.5-15-0.05-K			15			60			3.62	15.65	16.20	16.78	17.41	18.82	○
SHM200-RN4-1.5-20-0.05-K			20			60			2.89	20.82	21.55	22.32	23.16	-	○
SHM200-RN4-1.5-4-0.1-K		0.1	4			50			8.17	4.23	4.42	4.58	4.75	5.13	○
SHM200-RN4-1.5-8-0.1-K			8			50			5.62	8.41	8.71	9.02	9.35	10.10	○
SHM200-RN4-1.5-12-0.1-K			12			60			4.28	12.55	12.98	13.45	13.95	15.07	○
SHM200-RN4-1.5-15-0.1-K			15			60			3.63	15.65	16.19	16.77	17.40	18.80	○
SHM200-RN4-1.5-20-0.1-K			20			60			2.90	20.82	21.54	22.32	23.15	-	○

● Standard Inventory ○ To be Booked

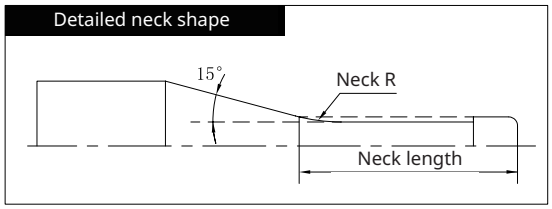
Tolerance	
R	±0.005
D	0 -0.01

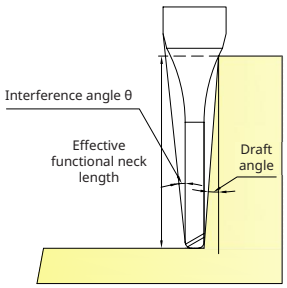
Unit (mm)

Recommended cutting data ※ P714

SHM200-RN4

4 Flutes, Corner Radius Endmill,
Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

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Order No.	Outer Diameter D	Filleted Corner Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-RN4-2-4-0.05-K	2	0.05	4	1.6	1.92	50	4	4	8.75	4.27	4.47	4.65	4.82	5.21	○
SHM200-RN4-2-6-0.05-K			6			50			7.28	6.37	6.63	6.86	7.12	7.69	○
SHM200-RN4-2-8-0.05-K			8			50			6.23	8.45	8.76	9.08	9.42	10.18	○
SHM200-RN4-2-12-0.05-K			12			60			5.45	10.53	10.90	11.30	11.72	12.67	○
SHM200-RN4-2-16-0.05-K			16			60			4.84	12.61	13.04	13.51	14.02	15.15	○
SHM200-RN4-2-20-0.05-K			20			60			3.95	16.74	17.32	17.95	18.62	20.12	○
SHM200-RN4-2-4-0.1-K		0.1	4			50			3.34	20.88	21.60	22.38	23.22	25.10	○
SHM200-RN4-2-6-0.1-K			6			50			8.80	4.26	4.47	4.64	4.81	5.19	○
SHM200-RN4-2-8-0.1-K			8			50			7.31	6.37	6.62	6.86	7.11	7.68	○
SHM200-RN4-2-12-0.1-K			12			60			6.25	8.45	8.76	9.07	9.41	10.17	○
SHM200-RN4-2-16-0.1-K			16			60			5.46	10.53	10.90	11.29	11.71	12.65	○
SHM200-RN4-2-20-0.1-K			20			60			4.85	12.60	13.04	13.51	14.01	15.14	○
SHM200-RN4-2-4-0.2-K		0.2	4			50			3.96	16.74	17.32	17.94	18.61	20.11	○
SHM200-RN4-2-6-0.2-K			6			50			3.35	20.87	21.60	22.37	23.21	25.08	○
SHM200-RN4-2-8-0.2-K			8			50			8.12	4.23	4.42	4.59	4.76	5.14	○
SHM200-RN4-2-12-0.2-K			12			60			5.60	8.41	8.71	9.02	9.36	10.11	○
SHM200-RN4-2-16-0.2-K			16			60			4.27	12.55	12.99	13.46	13.96	15.09	○
SHM200-RN4-2-20-0.2-K			20			60			3.62	15.65	16.20	16.78	17.41	18.82	○
SHM200-RN4-2-25-0.2-K			25			70			2.89	20.82	21.55	22.32	23.16	-	○
SHM200-RN4-2-30-0.2-K			30			70			8.17	4.23	4.42	4.58	4.75	5.13	○
SHM200-RN4-2-4-0.3-K		0.3	4			50			5.62	8.41	8.71	9.02	9.35	10.10	○
SHM200-RN4-2-8-0.3-K			8			50			4.28	12.55	12.98	13.45	13.95	15.07	○
SHM200-RN4-2-12-0.3-K			12			60			3.63	15.65	16.19	16.77	17.40	18.80	○
SHM200-RN4-2-16-0.3-K			16			60			2.90	20.82	21.54	22.32	23.15	-	○

● Standard Inventory ○ To be Booked

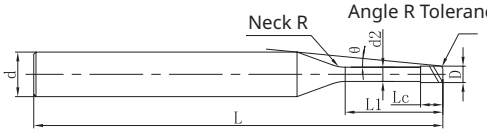
Tolerance	
R	±0.005
D	0 -0.01

Unit (mm)

Recommended cutting data ※ P714

SHM200-RN4

4 Flutes, Corner Radius Endmill,
Micro Diameter for Deep Machining



Please refer to P201 for guidelines to icons

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Order No.	Outer Diameter D	Filleted Corner Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-RN4-2-20-0.3-K	2	0.3	20	1.6	1.92	60	4	4	2.44	20.77	21.49	22.25	23.08	-	○
SHM200-RN4-2-4-0.5-K		0.5	4			50			7.76	4.19	4.35	4.50	4.65	4.98	○
SHM200-RN4-2-6-0.5-K			6			50			6.11	6.28	6.50	6.71	6.95	7.47	○
SHM200-RN4-2-8-0.5-K			8			50			5.04	8.36	8.64	8.93	9.25	9.96	●
SHM200-RN4-2-12-0.5-K			12			50			3.73	12.50	12.92	13.36	13.85	14.93	●
SHM200-RN4-2-16-0.5-K			16			60			2.96	16.63	17.19	17.80	18.45	-	○
SHM200-RN4-2-20-0.5-K			20			60			2.46	20.77	21.47	22.23	23.05	-	●
SHM200-RN4-2-25-0.5-K			25			60			2.03	25.94	26.82	27.77	28.79	-	○
SHM200-RN4-2-30-0.5-K			30			50			1.72	31.10	32.17	33.31	-	-	○
SHM200-RN4-2.5-8-0.1-K	2.5	0.1	8	2	2.4	50	4	4	3.98	8.34	8.63	8.94	9.27	10.02	○
SHM200-RN4-2.5-16-0.1-K			16			50			2.29	16.62	17.19	17.81	18.47	-	○
SHM200-RN4-2.5-20-0.1-K			20			50			1.89	20.75	21.47	22.24	-	-	●
SHM200-RN4-2.5-8-0.2-K		0.2	8			60			4.02	8.34	8.63	8.93	9.26	9.99	○
SHM200-RN4-2.5-16-0.2-K			16			60			2.30	16.61	17.18	17.80	18.46	-	○
SHM200-RN4-2.5-20-0.2-K			20			60			1.90	20.75	21.46	22.23	-	-	○
SHM200-RN4-2.5-12-0.3-K		0.3	12			50			2.95	12.47	12.90	13.35	13.84	-	○
SHM200-RN4-2.5-20-0.3-K			20			50			1.91	20.74	21.46	22.22	-	-	○
SHM200-RN4-2.5-12-0.5-K		0.5	12			60			2.99	12.47	12.88	13.33	13.81	-	○
SHM200-RN4-2.5-20-0.5-K			20			60			1.92	20.74	21.44	22.20	-	-	●
SHM200-RN4-3-8-0.1-K	3	0.1	8	2.4	2.88	60	6	4	6.32	8.32	8.61	8.92	9.25	9.99	○
SHM200-RN4-3-16-0.1-K			16			50			3.99	16.59	17.17	17.78	18.45	19.94	○
SHM200-RN4-3-25-0.1-K			25			50			2.82	25.90	26.79	27.76	28.80	-	○
SHM200-RN4-3-30-0.1-K			30			60			2.42	31.06	32.14	33.30	34.55	-	○
SHM200-RN4-3-8-0.2-K		0.2	8			60			6.36	8.32	8.60	8.91	9.23	9.97	○

● Standard Inventory ○ To be Booked

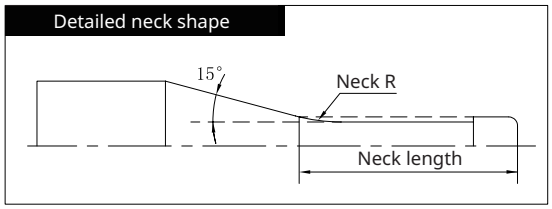
Tolerance	
R	±0.005
D	0 -0.01

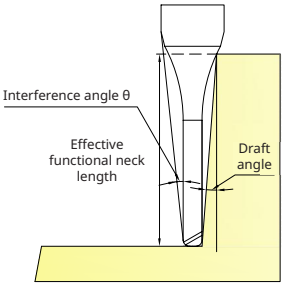
Unit (mm)

Recommended cutting data ※ P714

SHM200-RN4

4 Flutes, Corner Radius Endmill,
Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Filleted Corner Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-RN4-3-12-0.2-K	3	0.2	12	2.4	2.88	60	6	4	4.92	12.45	12.88	13.34	13.83	14.94	●
SHM200-RN4-3-16-0.2-K			16			60			4.00	16.59	17.16	17.77	18.43	19.91	○
SHM200-RN4-3-20-0.2-K			20			70			3.38	20.72	21.44	22.21	23.03	24.88	○
SHM200-RN4-3-25-0.2-K			25			70			2.82	25.89	26.79	27.75	28.78	-	○
SHM200-RN4-3-30-0.2-K			30			80			2.43	31.06	32.14	33.29	34.53	-	○
SHM200-RN4-3-8-0.3-K		0.3	8			60			6.41	8.32	8.60	8.90	9.22	9.94	○
SHM200-RN4-3-16-0.3-K			16			60			4.02	16.59	17.15	17.76	18.42	19.89	●
SHM200-RN4-3-20-0.3-K			20			70			3.39	20.72	21.43	22.20	23.02	24.86	○
SHM200-RN4-3-25-0.3-K			25			70			2.83	25.89	26.78	27.74	28.77	-	○
SHM200-RN4-3-30-0.3-K			30			80			2.43	31.06	32.13	33.28	34.52	-	○
SHM200-RN4-3-8-0.5-K		0.5	8			60			6.51	8.31	8.58	8.87	9.19	9.89	○
SHM200-RN4-3-12-0.5-K			12			60			5.00	12.44	12.86	13.31	13.79	14.87	○
SHM200-RN4-3-16-0.5-K			16			60			4.06	16.58	17.14	17.74	18.39	19.84	●
SHM200-RN4-3-20-0.5-K			20			70			3.42	20.71	21.42	22.17	22.99	24.81	○
SHM200-RN4-3-25-0.5-K			25			70			2.85	25.88	26.77	27.72	28.74	-	○
SHM200-RN4-3-30-0.5-K			30			80			2.45	31.05	32.12	33.26	34.49	-	○
SHM200-RN4-3-35-0.5-K			35			80			2.14	36.22	37.46	38.80	40.23	-	●
SHM200-RN4-4-12-0.1-K	4	0.1	12	3.2	3.86	60	6	4	3.66	12.44	12.87	13.33	13.83	14.94	○
SHM200-RN4-4-20-0.1-K			20			60			2.42	20.71	21.43	22.20	23.03	-	○
SHM200-RN4-4-30-0.1-K			30			80			1.71	31.05	32.12	33.28	-	-	○
SHM200-RN4-4-40-0.1-K			40			80			1.32	41.38	42.82	-	-	-	○
SHM200-RN4-4-12-0.2-K		0.2	12			60			3.68	12.44	12.86	13.32	13.81	14.92	○
SHM200-RN4-4-20-0.2-K			20			60			2.43	20.71	21.42	22.19	23.01	-	○
SHM200-RN4-4-30-0.2-K			30			80			1.71	31.04	32.12	33.27	-	-	○

● Standard Inventory ○ To be Booked

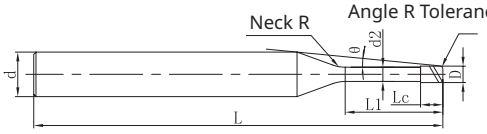
Tolerance	
R	±0.005
D	0 -0.01

Unit (mm)

Recommended cutting data ※ P714

SHM200-RN4

4 Flutes, Corner Radius Endmill,
Micro Diameter for Deep Machining



Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Filleted Corner Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-RN4-4-40-0.2-K	4	0.2	40	3.2	3.86	80	6	4	1.32	41.38	42.81	-	-	-	○
SHM200-RN4-4-12-0.3-K		0.3	12			60			3.70	12.43	12.86	13.31	13.80	14.89	○
SHM200-RN4-4-20-0.3-K			20			60			2.44	20.70	21.41	22.18	23.00	-	○
SHM200-RN4-4-30-0.3-K			30			80			1.72	31.04	32.11	33.26	-	-	○
SHM200-RN4-4-40-0.3-K			40			80			1.32	41.38	42.81	-	-	-	○
SHM200-RN4-4-12-0.5-K		0.5	12			60			3.75	12.43	12.84	13.29	13.77	14.84	○
SHM200-RN4-4-20-0.5-K			20			60			2.47	20.70	21.40	22.15	22.97	-	○
SHM200-RN4-4-30-0.5-K			30			80			1.73	31.03	32.10	33.24	-	-	○
SHM200-RN4-4-40-0.5-K			40			80			1.33	41.37	42.79	-	-	-	○
SHM200-RN4-5-20-0.1-K	5	0.1	20	4	4.85	70	6	4	1.32	20.70	21.42	-	-	-	○
SHM200-RN4-5-40-0.1-K			40			90			0.69	41.38	-	-	-	-	○
SHM200-RN4-5-20-0.2-K		0.2	20			70			1.32	20.70	21.41	-	-	-	○
SHM200-RN4-5-40-0.2-K			40			90			0.69	41.37	-	-	-	-	○
SHM200-RN4-5-20-0.3-K		0.3	20			70			1.33	20.69	21.41	-	-	-	○
SHM200-RN4-5-40-0.3-K			40			90			0.69	41.37	-	-	-	-	○
SHM200-RN4-5-20-0.5-K		0.5	20			70			1.34	20.69	21.39	-	-	-	○
SHM200-RN4-5-40-0.5-K			40			90			0.70	41.36	-	-	-	-	○
SHM200-RN4-5-20-1-K		1	20			70			1.38	20.67	21.36	-	-	-	○
SHM200-RN4-5-40-1-K			40			90			0.71	41.34	-	-	-	-	○
SHM200-RN4-6-30-0.2-K	6	0.2	30	4.8	5.85	80	6	4	-	-	-	-	-	-	○
SHM200-RN4-6-54-0.2-K			54			100			-	-	-	-	-	-	○
SHM200-RN4-6-72-0.2-K			72			120			-	-	-	-	-	-	○
SHM200-RN4-6-30-0.3-K		0.3	30			80			-	-	-	-	-	-	○
SHM200-RN4-6-54-0.3-K			54			100			-	-	-	-	-	-	○

● Standard Inventory ○ To be Booked

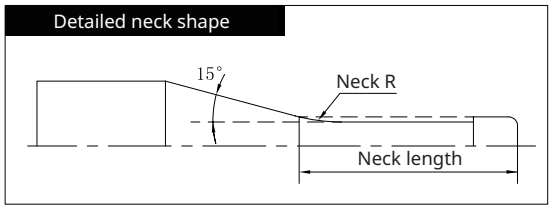
Tolerance	
R	±0.005
D	0 -0.01

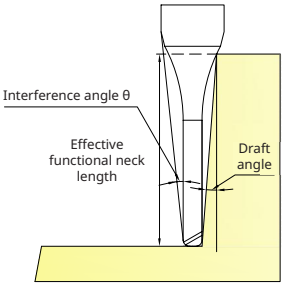
Unit (mm)

Recommended cutting data ※ P714

SHM200-RN4

4 Flutes, Corner Radius Endmill,
Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Filleted Corner Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-RN4-6-72-0.3-K	6	0.3	72	4.8	5.85	120	6	4	-	-	-	-	-	-	○
SHM200-RN4-6-30-0.5-K		0.5	30			80			-	-	-	-	-	-	○
SHM200-RN4-6-54-0.5-K			54			100			-	-	-	-	-	-	○
SHM200-RN4-6-72-0.5-K			72			120			-	-	-	-	-	-	○
SHM200-RN4-6-30-1-K		1	30			80			-	-	-	-	-	-	○
SHM200-RN4-6-54-1-K			54			100			-	-	-	-	-	-	○
SHM200-RN4-6-72-1-K			72			120			-	-	-	-	-	-	○

● Standard Inventory ○ To be Booked

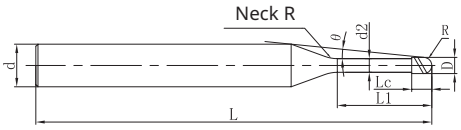
Tolerance	
R	±0.005
D	0 -0.01

Unit (mm)

Recommended cutting data ※ P714

SHM200-BN2

2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining



Please refer to P201 for guidelines to icons

Order No.	Outer Diameter D	Ball Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-BN2-0.1-0.2-K	0.1	0.05	0.2	0.08	0.08	50	4	1	14.66	0.2	0.21	0.22	0.24	0.26	●
SHM200-BN2-0.1-0.3-K			0.3						14.48	0.31	0.33	0.34	0.36	0.39	○
SHM200-BN2-0.1-0.5-K			0.5						14.12	0.52	0.55	0.57	0.59	0.64	○
SHM200-BN2-0.2-0.5-K	0.2	0.1	0.5	0.16	0.17	50	4	1	14.21	0.51	0.53	0.55	0.57	0.61	●
SHM200-BN2-0.2-0.75-K			0.75						13.77	0.78	0.8	0.83	0.86	0.92	○
SHM200-BN2-0.2-1-K			1						13.36	1.04	1.07	1.11	1.15	1.23	●
SHM200-BN2-0.2-1.25-K			1.25						12.97	1.3	1.34	1.39	1.43	1.54	○
SHM200-BN2-0.2-1.5-K			1.5						12.6	1.56	1.61	1.66	1.72	1.85	○
SHM200-BN2-0.2-2-K			2						11.92	2.07	2.14	2.22	2.3	2.48	○
SHM200-BN2-0.2-2.5-K			2.5						11.31	2.59	2.68	2.77	2.87	3.1	○
SHM200-BN2-0.2-3-K			3						10.76	3.11	3.21	3.33	3.45	3.72	○
SHM200-BN2-0.3-0.5-K	0.3	0.15	0.5	0.24	0.27	50	4	2	14.17	0.52	0.55	0.57	0.6	0.66	●
SHM200-BN2-0.3-0.75-K			0.75						13.72	0.79	0.83	0.87	0.91	0.98	○
SHM200-BN2-0.3-1-K			1						13.3	1.05	1.11	1.16	1.2	1.29	●
SHM200-BN2-0.3-1.25-K			1.25						12.9	1.32	1.38	1.44	1.5	1.61	○
SHM200-BN2-0.3-1.5-K			1.5						12.53	1.58	1.66	1.72	1.78	1.92	○
SHM200-BN2-0.3-2-K			2						11.84	2.11	2.2	2.28	2.36	2.54	●
SHM200-BN2-0.3-2.5-K			2.5						11.22	2.63	2.74	2.83	2.93	3.16	●
SHM200-BN2-0.3-3-K			3						10.66	3.15	3.27	3.39	3.51	3.78	○
SHM200-BN2-0.4-0.75-K	0.4	0.2	0.75	0.32	0.37	50	4	2	13.78	0.78	0.82	0.86	0.9	0.97	●
SHM200-BN2-0.4-1-K			1						13.34	1.05	1.1	1.15	1.19	1.28	○
SHM200-BN2-0.4-1.5-K			1.5						12.55	1.58	1.65	1.72	1.78	1.9	●
SHM200-BN2-0.4-2-K			2						11.84	2.11	2.19	2.27	2.35	2.53	●
SHM200-BN2-0.4-2.5-K			2.5						11.2	2.63	2.73	2.83	2.93	3.15	○

● Standard Inventory ○ To be Booked

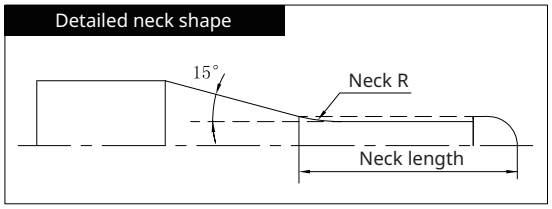
R	Tolerance
R≤1.0	±0.003
R>1.0	±0.005

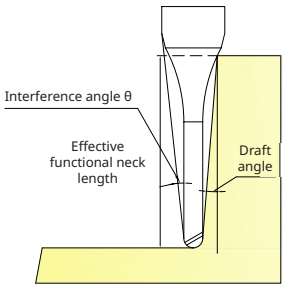
Unit (mm)

Recommended cutting data ※ P719

SHM200-BN2

2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Ball Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total length L	Shank diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-BN2-0.4-3-K	0.4	0.2	3	0.32	0.37	50	4	2	10.63	3.15	3.27	3.38	3.5	3.77	●
SHM200-BN2-0.4-3.5-K			3.5						10.12	3.67	3.8	3.94	4.08	4.39	○
SHM200-BN2-0.4-4-K			4						9.65	4.19	4.34	4.49	4.65	5.01	●
SHM200-BN2-0.4-4.5-K			4.5						9.22	4.71	4.87	5.04	5.23	5.63	○
SHM200-BN2-0.5-1-K	0.5	0.25	1	0.4	0.47	50	4	2	13.39	1.05	1.09	1.14	1.19	1.27	●
SHM200-BN2-0.5-1.5-K			1.5						12.56	1.58	1.65	1.71	1.77	1.89	○
SHM200-BN2-0.5-2-K			2						11.83	2.1	2.19	2.27	2.34	2.51	●
SHM200-BN2-0.5-2.5-K			2.5						11.18	2.63	2.73	2.82	2.92	3.14	○
SHM200-BN2-0.5-3-K			3						10.6	3.15	3.27	3.38	3.49	3.76	○
SHM200-BN2-0.5-4-K			4						9.6	4.19	4.34	4.48	4.64	5	●
SHM200-BN2-0.5-5-K			5						8.77	5.23	5.41	5.59	5.79	6.24	○
SHM200-BN2-0.5-5.5-K			5.5						8.4	5.75	5.94	6.15	6.37	6.86	○
SHM200-BN2-0.5-6-K			6						8.07	6.27	6.48	6.7	6.94	7.49	○
SHM200-BN2-0.5-8-K			8						6.96	8.33	8.62	8.92	9.24	9.97	●
SHM200-BN2-0.6-1-K	0.6	0.3	1	0.48	0.57	50	4	4	13.15	1.07	1.14	1.2	1.27	1.41	○
SHM200-BN2-0.6-2-K			2						11.61	2.15	2.28	2.39	2.5	2.7	●
SHM200-BN2-0.6-2.5-K			2.5						10.96	2.68	2.84	2.97	3.09	3.32	○
SHM200-BN2-0.6-3-K			3						10.38	3.22	3.39	3.54	3.67	3.95	●
SHM200-BN2-0.6-3.5-K			3.5						9.86	3.75	3.94	4.1	4.25	4.57	○
SHM200-BN2-0.6-4-K			4						9.39	4.28	4.48	4.66	4.82	5.19	●
SHM200-BN2-0.6-4.5-K			4.5						8.97	4.81	5.03	5.21	5.4	5.81	○
SHM200-BN2-0.6-5-K			5						8.57	5.33	5.57	5.77	5.97	6.43	○
SHM200-BN2-0.6-5.5-K			5.5						8.22	5.86	6.11	6.32	6.55	7.05	○
SHM200-BN2-0.6-6-K			6						7.89	6.38	6.64	6.87	7.12	7.67	●

● Standard Inventory ○ To be Booked

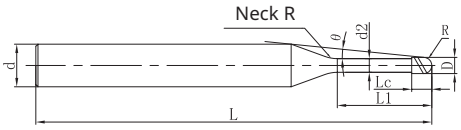
R	Tolerance
R≤1.0	±0.003
R>1.0	±0.005

Unit (mm)

Recommended cutting data ※ P719

SHM200-BN2

2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining



Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Ball Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-BN2-0.6-7-K	0.6	0.3	7	0.48	0.57	50	4	4	7.3	7.43	7.71	7.98	8.27	8.92	○
SHM200-BN2-0.6-8-K			8						6.79	8.48	8.78	9.09	9.42	10.16	●
SHM200-BN2-0.6-9-K			9						6.35	9.52	9.85	10.2	10.57	11.4	○
SHM200-BN2-0.6-10-K			10						5.97	10.56	10.92	11.31	11.72	12.65	○
SHM200-BN2-0.6-12-K			12						5.32	12.63	13.06	13.52	14.02	15.13	○
SHM200-BN2-0.7-2-K	0.7	0.35	2	0.56	0.67	50	4	4	11.6	2.14	2.27	2.39	2.49	2.69	○
SHM200-BN2-0.7-4-K			4						9.33	4.27	4.48	4.65	4.81	5.18	○
SHM200-BN2-0.7-6-K			6						7.81	6.38	6.64	6.87	7.11	7.66	○
SHM200-BN2-0.7-8-K			8						6.71	8.47	8.78	9.09	9.41	10.15	○
SHM200-BN2-0.8-2-K	0.8	0.4	2	0.64	0.76	50	4	4	11.64	2.12	2.24	2.35	2.45	2.63	●
SHM200-BN2-0.8-4-K			4						9.3	4.25	4.44	4.61	4.77	5.12	○
SHM200-BN2-0.8-5-K			5						8.45	5.3	5.53	5.72	5.92	6.36	○
SHM200-BN2-0.8-6-K			6						7.74	6.35	6.6	6.83	7.07	7.61	○
SHM200-BN2-0.8-8-K			8						6.63	8.44	8.74	9.04	9.37	10.09	○
SHM200-BN2-0.8-10-K			10						5.8	10.52	10.88	11.26	11.67	12.58	○
SHM200-BN2-0.9-2-K	0.9	0.45	2	0.72	0.86	50	4	4	11.63	2.12	2.23	2.34	2.44	2.62	●
SHM200-BN2-0.9-4-K			4						9.24	4.25	4.44	4.6	4.76	5.11	○
SHM200-BN2-0.9-6-K			6						7.66	6.35	6.6	6.82	7.06	7.6	○
SHM200-BN2-0.9-8-K			8						6.54	8.44	8.74	9.04	9.36	10.08	○
SHM200-BN2-1-2-K	1	0.5	2	0.8	0.96	50	4	4	11.62	2.12	2.23	2.33	2.43	2.61	●
SHM200-BN2-1-3-K			3			50			10.25	3.18	3.34	3.48	3.6	3.85	●
SHM200-BN2-1-4-K			4			50			9.17	4.24	4.43	4.6	4.75	5.1	●
SHM200-BN2-1-5-K			5			50			8.29	5.3	5.52	5.71	5.9	6.34	●
SHM200-BN2-1-6-K			6			50			7.57	6.35	6.59	6.81	7.05	7.58	●

● Standard Inventory ○ To be Booked

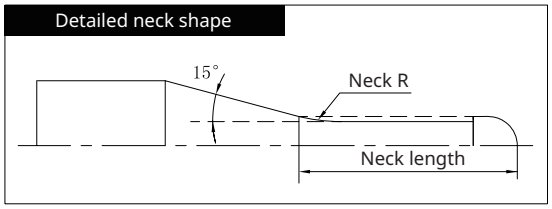
R	Tolerance
R≤1.0	±0.003
R>1.0	±0.005

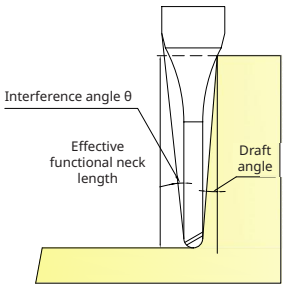
Unit (mm)

Recommended cutting data ※ P719

SHM200-BN2

2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Ball Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-BN2-1-7-K	1	0.5	7	0.8	0.96	50	4	4	6.96	7.39	7.66	7.92	8.2	8.83	○
SHM200-BN2-1-8-K			8			50			6.44	8.44	8.73	9.03	9.35	10.07	●
SHM200-BN2-1-9-K			9			50			5.99	9.48	9.8	10.14	10.5	11.31	○
SHM200-BN2-1-10-K			10			50			5.6	10.52	10.87	11.25	11.65	12.56	●
SHM200-BN2-1-12-K			12			55			4.96	12.59	13.01	13.46	13.95	15.04	●
SHM200-BN2-1-13-K			13			55			4.69	13.62	14.08	14.57	15.1	16.29	○
SHM200-BN2-1-14-K			14			55			4.45	14.66	15.15	15.68	16.25	17.53	○
SHM200-BN2-1-16-K			16			55			4.03	16.73	17.29	17.9	18.55	20.01	●
SHM200-BN2-1-18-K			18			60			3.69	18.79	19.43	20.11	20.85	22.5	○
SHM200-BN2-1-20-K			20			60			3.4	20.86	21.57	22.33	23.15	24.99	○
SHM200-BN2-1.1-2-K	1.1	0.55	2	0.88	1.06	50	4	4	11.61	2.11	2.22	2.32	2.42	2.6	○
SHM200-BN2-1.1-4-K			4						9.09	4.24	4.43	4.59	4.74	5.08	○
SHM200-BN2-1.1-6-K			6						7.47	6.34	6.59	6.81	7.04	7.57	○
SHM200-BN2-1.1-8-K			8						6.34	8.43	8.73	9.03	9.34	10.06	○
SHM200-BN2-1.1-10-K			10						5.5	10.51	10.87	11.24	11.64	12.54	○
SHM200-BN2-1.2-4-K	1.2	0.6	4	0.96	1.15	50	4	4	9.05	4.22	4.4	4.55	4.7	5.04	●
SHM200-BN2-1.2-8-K			8			50			6.25	8.41	8.7	8.99	9.3	10.01	○
SHM200-BN2-1.2-10-K			10			50			5.41	10.49	10.84	11.21	11.6	12.5	○
SHM200-BN2-1.2-12-K			12			55			4.77	12.56	12.97	13.42	13.9	14.98	○
SHM200-BN2-1.4-8-K	1.4	0.7	8	1.12	1.34	50	4	4	6.04	8.38	8.66	8.95	9.26	9.96	○
SHM200-BN2-1.4-12-K			12			55			4.56	12.53	12.94	13.38	13.86	14.93	○
SHM200-BN2-1.4-16-K			16			55			3.67	16.66	17.22	17.82	18.46	19.9	○
SHM200-BN2-1.5-4-K	1.5	0.75	4	1.2	1.44	50	4	4	8.82	4.2	4.36	4.51	4.65	4.97	●
SHM200-BN2-1.5-6-K			6			50			7.08	6.29	6.52	6.73	6.95	7.46	●

● Standard Inventory ○ To be Booked

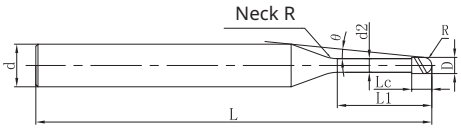
R	Tolerance
R≤1.0	±0.003
R>1.0	±0.005

Unit (mm)

Recommended cutting data ※ P719

SHM200-BN2

2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining



Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Ball Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-BN2-1.5-8-K	1.5	0.75	8	1.2	1.44	50	4	4	5.92	8.38	8.66	8.95	9.25	9.94	●
SHM200-BN2-1.5-10-K			10			50			5.08	10.46	10.8	11.16	11.55	12.43	●
SHM200-BN2-1.5-12-K			12			55			4.45	12.53	12.94	13.38	13.85	14.92	●
SHM200-BN2-1.5-14-K			14			55			3.96	14.6	15.08	15.6	16.15	17.4	○
SHM200-BN2-1.5-16-K			16			55			3.57	16.66	17.22	17.81	18.45	19.89	○
SHM200-BN2-1.5-18-K			18			60			3.25	18.73	19.36	20.03	20.75	22.38	○
SHM200-BN2-1.5-20-K			20			60			2.98	20.8	21.5	22.25	23.05	-	○
SHM200-BN2-1.6-8-K	1.6	0.8	8	1.28	1.54	50	4	4	5.8	8.38	8.66	8.94	9.25	9.93	○
SHM200-BN2-1.6-12-K			12			55			4.34	12.53	12.94	13.37	13.85	14.9	○
SHM200-BN2-1.6-16-K			16			55			3.47	16.66	17.21	17.81	18.44	19.88	○
SHM200-BN2-1.6-20-K			20			60			2.89	20.8	21.49	22.24	23.04	-	○
SHM200-BN2-1.8-8-K			8			50			5.55	8.36	8.63	8.91	9.21	9.88	○
SHM200-BN2-1.8-12-K			8			55			4.11	12.5	12.91	13.34	13.81	14.85	○
SHM200-BN2-1.8-16-K	1.8	0.9	16	1.44	1.73	55	4	4	3.26	16.64	17.19	17.77	18.41	19.83	○
SHM200-BN2-1.8-20-K			20			60			2.7	20.77	21.46	22.21	23.01	-	○
SHM200-BN2-2-3-K	2	1	3	1.6	1.92	50	4	4	9.72	3.11	3.22	3.32	3.42	3.62	○
SHM200-BN2-2-4-K			4			50			8.32	4.16	4.31	4.44	4.57	4.86	●
SHM200-BN2-2-6-K			6			50			6.46	6.26	6.46	6.66	6.87	7.35	●
SHM200-BN2-2-8-K			8			50			5.27	8.34	8.6	8.88	9.17	9.84	●
SHM200-BN2-2-10-K			10			50			4.46	10.41	10.74	11.09	11.47	12.32	●
SHM200-BN2-2-12-K			12			55			3.86	12.48	12.88	13.31	13.77	14.81	●
SHM200-BN2-2-13-K			13			55			3.62	13.51	13.95	14.42	14.92	16.05	○
SHM200-BN2-2-14-K			14			55			3.4	14.55	15.02	15.53	16.07	17.29	●
SHM200-BN2-2-16-K			16			55			3.04	16.62	17.16	17.74	18.37	19.78	●

● Standard Inventory ○ To be Booked

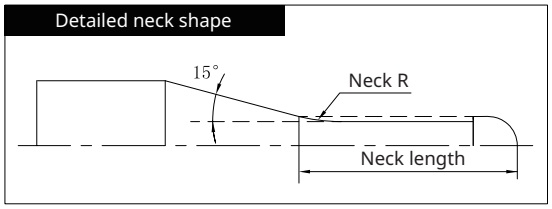
R	Tolerance
R≤1.0	±0.003
R>1.0	±0.005

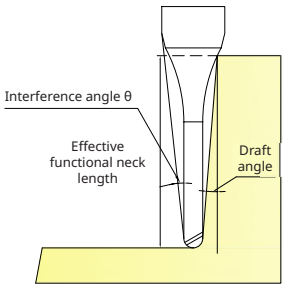
Unit (mm)

Recommended cutting data ※ P719

SHM200-BN2

2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining





Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Ball Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-BN2-2-18-K	2	1	18	1.6	1.92	60	4	4	2.75	18.68	19.3	19.96	20.67	-	○
SHM200-BN2-2-20-K			20			60			2.51	20.75	21.44	22.18	22.97	-	●
SHM200-BN2-2-22-K			22			60			2.31	22.82	23.58	24.39	25.27	-	○
SHM200-BN2-2-25-K			25			65			2.06	25.92	26.79	27.72	28.72	-	○
SHM200-BN2-2-30-K			30			70			1.75	31.09	32.14	33.26	-	-	○
SHM200-BN2-2-35-K			35			75			1.52	36.26	37.48	38.8	-	-	○
SHM200-BN2-2-40-K			40			80			1.34	41.42	42.83	-	-	-	○
SHM200-BN2-2.5-6-K	2.5	1.25	6	2	2.4	50	4	4	5.62	6.22	6.41	6.6	6.8	7.25	○
SHM200-BN2-2.5-10-K			10			50			3.69	10.37	10.69	11.03	11.4	12.23	○
SHM200-BN2-2.5-15-K			15			55			2.59	15.54	16.04	16.58	17.15	-	○
SHM200-BN2-2.5-20-K			20			60			1.99	20.71	21.39	22.12	-	-	○
SHM200-BN2-2.5-25-K			25			65			1.62	25.88	26.74	27.66	-	-	○
SHM200-BN2-2.5-30-K			30			70			1.36	31.05	32.09	-	-	-	○
SHM200-BN2-3-8-K	3	1.5	8	2.4	2.88	55	6	4	7.04	8.27	8.51	8.77	9.04	9.65	●
SHM200-BN2-3-10-K			10			55			6.05	10.34	10.65	10.98	11.34	12.14	○
SHM200-BN2-3-13-K			13			60			5	13.44	13.86	14.31	14.79	15.87	●
SHM200-BN2-3-16-K			16			60			4.26	16.55	17.07	17.63	18.24	19.6	●
SHM200-BN2-3-20-K			20			65			3.56	20.68	21.35	22.07	22.84	24.57	●
SHM200-BN2-3-25-K			25			70			2.95	25.85	26.7	27.61	28.59	-	●
SHM200-BN2-3-30-K			30			75			2.52	31.02	32.05	33.15	34.34	-	●
SHM200-BN2-3-35-K			35			80			2.2	36.19	37.39	38.69	40.08	-	●
SHM200-BN2-3.5-15-K	3.5	1.75	15	2.8	3.36	60	6	4	3.99	15.49	15.96	16.48	17.03	18.27	○
SHM200-BN2-3.5-25-K			25			70			2.56	25.82	26.66	27.56	28.53	-	○
SHM200-BN2-3.5-35-K			35			80			1.89	36.16	37.36	38.64	-	-	○

● Standard Inventory ○ To be Booked

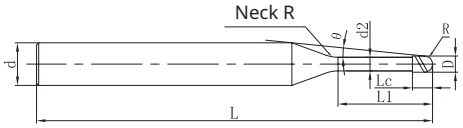
R	Tolerance
R≤1.0	±0.003
R>1.0	±0.005

Unit (mm)

Recommended cutting data ※ P719

SHM200-BN2

2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining



Please refer to P201 for guidelines to icons

Continued

Order No.	Outer Diameter D	Ball Radius R	Neck Length L1	Edge Length Lc	Neck Diameter d2	Total Length L	Shank Diameter d	Neck R	Interference Angle Θ	The effective under-neck length for the various draft angles					In Stock
										0.5 °	1 °	1.5 °	2 °	3 °	
SHM200-BN2-3.5-45-K	3.5	1.75	45	2.8	3.36	90	6	4	1.5	46.5	48.05	-	-	-	○
SHM200-BN2-4-10-K	4	2	10	3.2	3.86	55	6	4	4.86	10.31	10.6	10.91	11.24	11.99	○
SHM200-BN2-4-13-K			13			60			3.88	13.41	13.81	14.23	14.69	15.72	○
SHM200-BN2-4-16-K			16			60			3.23	16.51	17.02	17.56	18.14	19.45	●
SHM200-BN2-4-20-K			20			65			2.63	20.65	21.3	21.99	22.74	-	●
SHM200-BN2-4-25-K			25			70			2.14	25.81	26.64	27.53	28.49	-	●
SHM200-BN2-4-30-K			30			75			1.81	30.98	31.99	33.08	-	-	●
SHM200-BN2-4-35-K			35			80			1.56	36.15	37.34	38.62	-	-	●
SHM200-BN2-4-40-K			40			80			1.38	41.32	42.69	-	-	-	●
SHM200-BN2-4-45-K			45			90			1.23	46.49	48.04	-	-	-	○
SHM200-BN2-4-50-K			50			100			1.11	51.66	53.39	-	-	-	○
SHM200-BN2-5-20-K	5	2.5	20	4	4.85	65	6	4	1.48	20.62	21.25	-	-	-	●
SHM200-BN2-5-25-K			25			70			1.18	25.79	26.6	-	-	-	●
SHM200-BN2-5-30-K			30			75			0.98	30.96	-	-	-	-	○
SHM200-BN2-5-40-K			40			80			0.73	41.29	-	-	-	-	●
SHM200-BN2-6-12-K	6	3	12	6	5.85	60	6	-	-	-	-	-	-	-	●
SHM200-BN2-6-20-K			20			65			-	-	-	-	-	-	○
SHM200-BN2-6-30-K			30			75			-	-	-	-	-	-	●
SHM200-BN2-6-50-K			50			100			-	-	-	-	-	-	○

● Standard Inventory ○ To be Booked

R	Tolerance
R≤1.0	±0.003
R>1.0	±0.005

Unit (mm)

Recommended cutting data ※ P719

Recommended Cutting Data

UP210- SS2/S2/SL2 /SH2/R2/RH2

Steel and Cast Iron - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	3	4	6	8	10	12	16	20
P	Carbon Steel, Alloy Steel (<35hrc)	ap≤1.5D	180	Rotation Speed (min-1)	19110	14330	9550	7170	5730	4780	3580	2870
		ae≤0.15D		Feed Speed (mm/min)	1070	1030	920	930	920	860	860	860
	Alloy Steel (35-48hrc)	ap≤1D	130	Rotation Speed (min-1)	13800	10350	6900	5180	4140	3450	2590	2070
		ae≤0.12D		Feed Speed (mm/min)	610	580	550	620	560	500	410	370
M	Stainless Steel	ap≤1.5D	130	Rotation Speed (min-1)	13800	10350	6900	5180	4140	3450	2590	2070
		ae≤0.15D		Feed Speed (mm/min)	690	660	590	650	610	590	490	460
K	Gray Cast Iron Nodular Cast Iron (<32hrc)	ap≤1.5D	160	Rotation Speed (min-1)	16990	12740	8490	6370	5100	4250	3190	2550
		ae≤0.15D		Feed Speed (mm/min)	850	820	820	750	700	680	610	560
	High Alloy Cast Iron (35-45hrc)	ap≤1D	140	Rotation Speed (min-1)	14860	11150	7430	5570	4460	3720	2790	2230
		ae≤0.12D		Feed Speed (mm/min)	650	670	670	620	580	560	500	460

UP210- S3

Steel and Cast Iron - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	3	4	6	8	10	12	16	20
P	Carbon Steel, Alloy Steel (<35HRC)	ap≤1.5D	180	Rotation Speed (min-1)	19110	14330	9550	7170	5730	4780	3580	2870
		ae≤0.15D		Feed Speed (mm/min)	1610	1550	1380	1400	1380	1290	1290	1290
	Alloy Steel (35-48HRC)	ap≤1D	130	Rotation Speed (min-1)	13800	10350	6900	5180	4140	3450	2590	2070
		ae≤0.12D		Feed Speed (mm/min)	910	870	830	930	850	760	620	560
M	Stainless Steel	ap≤1.5D	130	Rotation Speed (min-1)	13800	10350	6900	5180	4140	3450	2590	2070
		ae≤0.15D		Feed Speed (mm/min)	1040	990	890	980	920	880	740	680
K	Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤1.5D	160	Rotation Speed (min-1)	16990	12740	8490	6370	5100	4250	3190	2550
		ae≤0.15D		Feed Speed (mm/min)	1270	1220	1220	1130	1060	1020	910	840
	High Alloy Cast Iron (35-45HRC)	ap≤1D	140	Rotation Speed (min-1)	14860	11150	7430	5570	4460	3720	2790	2230
		ae≤0.12D		Feed Speed (mm/min)	980	1000	1000	940	870	840	750	680

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

UP210- SS4/S4/SC4/S4A/SL4 /SH4/R4/R4A/RH4

Steel and Cast Iron - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	3	4	6	8	10	12	16	20
P	Carbon Steel, Alloy Steel (<35HRC)	ap≤1.5D	180	Rotation Speed (min-1)	19110	14330	9550	7170	5730	4780	3580	2870
		ae≤0.15D		Feed Speed (mm/min)	2140	2060	1830	1860	1830	1720	1720	1720
	Alloy Steel (35-48HRC)	ap≤1D	130	Rotation Speed (min-1)	13800	10350	6900	5180	4140	3450	2590	2070
		ae≤0.12D		Feed Speed (mm/min)	1210	1160	1100	1240	1130	1010	830	750
M	Stainless Steel	ap≤1.5D	130	Rotation Speed (min-1)	13800	10350	6900	5180	4140	3450	2590	2070
		ae≤0.15D		Feed Speed (mm/min)	1380	1330	1190	1300	1230	1170	980	910
K	Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤1.5D	160	Rotation Speed (min-1)	16990	12740	8490	6370	5100	4250	3190	2550
		ae≤0.15D		Feed Speed (mm/min)	1700	1630	1630	1500	1410	1360	1210	1120
	High Alloy Cast Iron (35-45HRC)	ap≤1D	140	Rotation Speed (min-1)	14860	11150	7430	5570	4460	3720	2790	2230
		ae≤0.12D		Feed Speed (mm/min)	1310	1340	1340	1250	1160	1120	1000	910

UP210- S6

Steel and Cast Iron - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	3	4	6	8	10	12	16	20
P	Carbon Steel, Alloy Steel (<35HRC)	ap≤1.5D	180	Rotation Speed (min-1)	19110	14330	9550	7170	5730	4780	3580	2870
		ae≤0.15D		Feed Speed (mm/min)	3210	3100	2750	2800	2750	2580	2580	2580
	Alloy Steel (35-48HRC)	ap≤1D	130	Rotation Speed (min-1)	13800	10350	6900	5180	4140	3450	2590	2070
		ae≤0.12D		Feed Speed (mm/min)	1820	1740	1660	1860	1690	1510	1240	1120
M	Stainless Steel	ap≤1.5D	130	Rotation Speed (min-1)	13800	10350	6900	5180	4140	3450	2590	2070
		ae≤0.15D		Feed Speed (mm/min)	2070	1990	1780	1960	1840	1760	1480	1370
K	Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤1.5D	160	Rotation Speed (min-1)	16990	12740	8490	6370	5100	4250	3190	2550
		ae≤0.15D		Feed Speed (mm/min)	2550	2450	2450	2260	2110	2040	1820	1680
	High Alloy Cast Iron (35-45HRC)	ap≤1D	140	Rotation Speed (min-1)	14860	11150	7430	5570	4460	3720	2790	2230
		ae≤0.12D		Feed Speed (mm/min)	1960	2010	2010	1870	1740	1670	1510	1360

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

UP210- SS2/S2/SL2/SH2/R2/RH2

Steel and Cast Iron - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	3	4	6	8	10	12	16	20
P	Carbon Steel, Alloy Steel (<35HRC)	ap≤0.8D	80	Rotation Speed (min-1)	8490	6370	4250	3190	2550	2120	1590	1270
				Feed Speed (mm/min)	430	540	440	400	370	350	400	410
	Alloy Steel (35-48HRC)	ap≤0.3D	60	Rotation Speed (min-1)	6370	4780	3190	2390	1910	1590	1190	960
				Feed Speed (mm/min)	260	310	270	230	220	220	230	230
M	Stainless Steel	ap≤0.3D	55	Rotation Speed (min-1)	5840	4380	2920	2190	1750	1460	1100	880
				Feed Speed (mm/min)	140	160	200	200	200	190	170	160
K	Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤0.5D	55	Rotation Speed (min-1)	5840	4380	2920	2190	1750	1460	1100	880
				Feed Speed (mm/min)	210	250	250	220	210	200	190	170
	High Alloy Cast Iron (35-45HRC)	ap≤0.3D	50	Rotation Speed (min-1)	5310	3980	2650	1990	1590	1330	1000	800
				Feed Speed (mm/min)	160	180	210	180	180	170	160	140

UP210- S3

Steel and Cast Iron - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	3	4	6	8	10	12	16	20
P	Carbon Steel, Alloy Steel (<35HRC)	ap≤0.8D	80	Rotation Speed (min-1)	8490	6370	4250	3190	2550	2120	1590	1270
				Feed Speed (mm/min)	640	800	660	590	550	520	600	610
	Alloy Steel (35-48HRC)	ap≤0.3D	60	Rotation Speed (min-1)	6370	4780	3190	2390	1910	1590	1190	960
				Feed Speed (mm/min)	380	460	400	340	330	330	340	340
M	Stainless Steel	ap≤0.3D	55	Rotation Speed (min-1)	5840	4380	2920	2190	1750	1460	1100	880
				Feed Speed (mm/min)	210	240	310	300	290	290	260	240
K	Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤0.5D	55	Rotation Speed (min-1)	5840	4380	2920	2190	1750	1460	1100	880
				Feed Speed (mm/min)	320	370	380	330	320	310	280	250
	High Alloy Cast Iron (35-45HRC)	ap≤0.3D	50	Rotation Speed (min-1)	5310	3980	2650	1990	1590	1330	1000	800
				Feed Speed (mm/min)	240	280	320	270	260	260	240	220

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

UP210- B2/BH2

Steel and Cast Iron - Profile Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	4	5	6	7	8	9	10	11	12
P	Carbon steel, alloy steel (<35HRC)	ap≤0.2D	160	Rotation Speed (min-1)	12740	10190	8490	7280	6370	5660	5100	4630	4250
		ae≤0.3D		Feed Speed (mm/min)	1020	1020	1020	1020	1020	1020	1020	1020	1020
	Alloy steel (35-48HRC)	ap≤0.15D	120	Rotation Speed (min-1)	9550	7640	6370	5460	4780	4250	3820	3470	3190
		ae≤0.15D		Feed Speed (mm/min)	610	640	660	630	620	610	610	610	610
M	Stainless Steel	ap≤0.2D	110	Rotation Speed (min-1)	8760	7010	5840	5010	4380	3890	3500	3190	2920
		ae≤0.2D		Feed Speed (mm/min)	610	630	640	630	630	620	630	640	640
K	Gray cast iron Nodular cast iron (<32HRC)	ap≤0.2D	140	Rotation Speed (min-1)	11150	8920	7430	6370	5570	4950	4460	4050	3720
		ae≤0.2D		Feed Speed (mm/min)	780	800	820	800	800	790	800	810	820
	High alloy cast iron (35-45HRC)	ap≤0.1D	120	Rotation Speed (min-1)	9550	7640	6370	5460	4780	4250	3820	3470	3190
		ae≤0.1D		Feed Speed (mm/min)	610	640	660	660	670	650	650	660	670

UP210- B4

Steel and Cast Iron - Profile Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	4	5	6	7	8	9	10	11	12
P	Carbon Steel, Alloy Steel (<35HRC)	ap≤0.2D	160	Rotation Speed (min-1)	12740	10190	8490	7280	6370	5660	5100	4630	4250
		ae≤0.3D		Feed Speed (mm/min)	2040	2040	2040	2040	2040	2040	2040	2040	2040
	Alloy Steel (35-48HRC)	ap≤0.15D	120	Rotation Speed (min-1)	9550	7640	6370	5460	4780	4250	3820	3470	3190
		ae≤0.15D		Feed Speed (mm/min)	1220	1280	1330	1270	1240	1220	1220	1210	1210
M	Stainless Steel	ap≤0.2D	110	Rotation Speed (min-1)	8760	7010	5840	5010	4380	3890	3500	3190	2920
		ae≤0.2D		Feed Speed (mm/min)	1230	1260	1290	1260	1260	1250	1260	1270	1290
K	Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤0.2D	140	Rotation Speed (min-1)	11150	8920	7430	6370	5570	4950	4460	4050	3720
		ae≤0.2D		Feed Speed (mm/min)	1560	1610	1640	1610	1610	1590	1610	1620	1640
	High Alloy Cast Iron (35-45HRC)	ap≤0.1D	120	Rotation Speed (min-1)	9550	7640	6370	5460	4780	4250	3820	3470	3190
		ae≤0.1D		Feed Speed (mm/min)	1220	1280	1330	1310	1340	1310	1300	1320	1340

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

UP210- L60/L90/L120

Steel and Cast Iron - Chamfer

Workpiece Material		Vc m/min	Edge Diameter (mm)	4	6	8	10	12	16	20
P	Carbon Steel, Alloy Steel (<35HRC)	130	Rotation Speed (min-1)	10350	6900	5175	4140	3450	2588	2070
			Feed Speed (mm/min)	414	33	311	414	442	435	406
	Alloy Steel (35-48HRC)	90	Rotation Speed (min-1)	7166	4777	3583	2866	2389	1791	1433
			Feed Speed (mm/min)	229	191	172	172	239	229	241
M	Stainless Steel	80	Rotation Speed (min-1)	6369	4246	3185	2548	2123	1592	1274
			Feed Speed (mm/min)	204	170	153	153	212	204	214
K	Gray Cast Iron Nodular Cast Iron (<32HRC)	100	Rotation Speed (min-1)	7962	5308	3981	3185	2654	1990	1592
			Feed Speed (mm/min)	318	255	239	318	340	334	312
	High Alloy Cast Iron (35-45HRC)	150	Rotation Speed (min-1)	11943	7962	5971	4777	3981	2986	2389
			Feed Speed (mm/min)	621	573	597	611	669	585	602

SP210- S3/C3

Steel and Cast Iron - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	3	4	6	8	10	12	16	20
P	Carbon Steel, Alloy Steel (<35HRC)	ap≤1.5D	200	Rotation Speed (min-1)	21230	15920	10620	7960	6370	5310	3980	3190
		ae≤0.15D		Feed Speed (mm/min)	2040	1960	1690	1670	1620	1590	1490	1480
	Alloy Steel (35-48HRC)	ap≤1D	150	Rotation Speed (min-1)	15920	11940	7960	5970	4780	3980	2990	2390
		ae≤0.12D		Feed Speed (mm/min)	1290	1180	1080	1160	1050	930	760	680
M	Stainless Steel	ap≤1.5D	150	Rotation Speed (min-1)	15920	11940	7960	5970	4780	3980	2990	2390
		ae≤0.15D		Feed Speed (mm/min)	1580	1330	1150	1220	1130	1080	900	820
K	Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤1.5D	170	Rotation Speed (min-1)	18050	13540	9020	6770	5410	4510	3380	2710
		ae≤0.15D		Feed Speed (mm/min)	1620	1500	1440	1300	1200	1150	1020	930
	High Alloy Cast Iron (35-45HRC)	ap≤1D	150	Rotation Speed (min-1)	15920	11940	7960	5970	4780	3980	2990	2390
		ae≤0.12D		Feed Speed (mm/min)	1290	1250	1190	1090	1000	960	850	770

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

SP210- C4/CN4/R4/RH4/S4

Steel and Cast Iron - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	3	4	6	8	10	12	16	20
P	Carbon Steel, Alloy Steel (<35HRC)	ap≤1.5D	200	Rotation Speed (min-1)	21230	15920	10620	7960	6370	5310	3980	3190
		ae≤0.15D		Feed Speed (mm/min)	2720	2610	2250	2230	2170	2120	1990	1980
	Alloy Steel (35-48HRC)	ap≤1D	150	Rotation Speed (min-1)	15920	11940	7960	5970	4780	3980	2990	2390
		ae≤0.12D		Feed Speed (mm/min)	1720	1580	1430	1550	1400	1240	1020	910
M	Stainless Steel	ap≤1.5D	150	Rotation Speed (min-1)	15920	11940	7960	5970	4780	3980	2990	2390
		ae≤0.15D		Feed Speed (mm/min)	2100	1770	1530	1620	1510	1430	1190	1100
K	Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤1.5D	170	Rotation Speed (min-1)	18050	13540	9020	6770	5410	4510	3380	2710
		ae≤0.15D		Feed Speed (mm/min)	2170	2000	1910	1730	1600	1530	1350	1250
	High Alloy Cast Iron (35-45HRC)	ap≤1D	150	Rotation Speed (min-1)	15920	11940	7960	5970	4780	3980	2990	2390
		ae≤0.12D		Feed Speed (mm/min)	1720	1670	1590	1460	1340	1270	1140	1020

SP210- S3/C3

Steel and Cast Iron - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	3	4	6	8	10	12	16	20
P	Carbon Steel, Alloy Steel (<35HRC)	ap≤1D	80	Rotation Speed (min-1)	8490	6370	4250	3190	2550	2120	1590	1270
				Feed Speed (mm/min)	790	920	730	640	590	570	640	650
	Alloy Steel (35-48HRC)	ap≤0.5D	60	Rotation Speed (min-1)	6370	4780	3190	2390	1910	1590	1190	960
				Feed Speed (mm/min)	500	550	450	370	360	360	370	370
M	Stainless Steel	ap≤0.3D	55	Rotation Speed (min-1)	5840	4380	2920	2190	1750	1460	1100	880
				Feed Speed (mm/min)	320	320	350	340	320	320	280	260
K	Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤0.8D	55	Rotation Speed (min-1)	5840	4380	2920	2190	1750	1460	1100	880
				Feed Speed (mm/min)	420	450	420	360	340	340	310	280
	High Alloy Cast Iron (35-45HRC)	ap≤0.5D	50	Rotation Speed (min-1)	5310	3980	2650	1990	1590	1330	1000	800
				Feed Speed (mm/min)	330	350	360	300	290	290	260	240

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

SP210- C4/CN4/R4/RH4/S4

Steel and Cast Iron - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	3	4	6	8	10	12	16	20
P	Carbon Steel, Alloy Steel (<35HRC)	ap≤1D	80	Rotation Speed (min-1)	8490	6370	4250	3190	2550	2120	1590	1270
				Feed Speed (mm/min)	1050	1220	970	850	790	760	850	870
	Alloy Steel (35-48HRC)	ap≤0.5D	60	Rotation Speed (min-1)	6370	4780	3190	2390	1910	1590	1190	960
				Feed Speed (mm/min)	660	730	600	500	470	480	490	500
M	Stainless Steel	ap≤0.3D	55	Rotation Speed (min-1)	5840	4380	2920	2190	1750	1460	1100	880
				Feed Speed (mm/min)	420	420	470	450	430	430	380	350
K	Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤0.8D	55	Rotation Speed (min-1)	5840	4380	2920	2190	1750	1460	1100	880
				Feed Speed (mm/min)	560	600	560	480	460	450	410	370
	High Alloy Cast Iron (35-45HRC)	ap≤0.5D	50	Rotation Speed (min-1)	5310	3980	2650	1990	1590	1330	1000	800
				Feed Speed (mm/min)	450	460	480	400	380	380	350	320

SP210- B2/BH2

Steel and Cast Iron - Profile Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	1	2	3	4	6	8	10	12
P	Carbon Steel, Alloy Steel (<35HRC)	ap≤0.04D	220	Rotation Speed (min-1)	50000	35030	23360	17520	11680	8760	7010	5840
		ae≤0.04D		Feed Speed (mm/min)	2800	2800	2800	2800	2800	2800	2800	2800
	Alloy Steel (35-48HRC)	ap≤0.02D	180	Rotation Speed (min-1)	50000	28660	19110	14330	9550	7170	5730	4780
		ae≤0.02D		Feed Speed (mm/min)	1950	2010	1990	2010	2010	2010	2000	2000
M	Stainless Steel	ap≤0.04D	220	Rotation Speed (min-1)	50000	35030	23360	17520	11680	8760	7010	5840
		ae≤0.04D		Feed Speed (mm/min)	2520	2450	2570	2630	2570	2540	2520	2530
K	Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤0.04D	220	Rotation Speed (min-1)	50000	35030	23360	17520	11680	8760	7010	5840
		ae≤0.04D		Feed Speed (mm/min)	2520	2450	2570	2630	2570	2540	2520	2530
	High Alloy Cast Iron (35-45HRC)	ap≤0.04D	220	Rotation Speed (min-1)	50000	35030	23360	17520	11680	8760	7010	5840
		ae≤0.04D		Feed Speed (mm/min)	2380	2450	2430	2450	2450	2450	2440	2440

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

PP300- C2

Steel and Cast Iron - Side Milling

Workpiece Material		Cutting Amount	Vc m/min	Edge Diameter (mm)	3	4	6	8	10	12	16	20
P	Carbon Steel, Alloy Steel (<35HRC)	ap≤1.5D	200	Rotation Speed (min-1)	21220	15910	10610	7950	6370	5300	3980	3180
		ae≤0.15D		Feed Speed (mm/min)	1910	1750	1380	1350	1270	1220	1110	1080
	Alloy Steel (35-48HRC)	ap≤1D	150	Rotation Speed (min-1)	15910	11940	7960	5970	4770	3980	2980	2390
		ae≤0.12D		Feed Speed (mm/min)	1270	1070	950	950	810	720	600	520
M	Stainless Steel	ap≤1.5D	150	Rotation Speed (min-1)	15910	11940	7960	5970	4770	3980	2980	2390
		ae≤0.15D		Feed Speed (mm/min)	1430	2390	1910	1910	1810	1670	1370	1240
K	Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤1.5D	180	Rotation Speed (min-1)	19100	14320	9550	7160	5730	4770	3580	2860
		ae≤0.15D		Feed Speed (mm/min)	1720	1430	1240	1070	970	950	820	740
	High Alloy Cast Iron (35-45HRC)	ap≤1D	150	Rotation Speed (min-1)	15910	11940	7960	5970	4770	3980	2980	2390
		ae≤0.12D		Feed Speed (mm/min)	1270	1190	1030	890	810	760	660	570

PP300- C2

Steel and Cast Iron - Grooving

Workpiece Material		Cutting Amount	Vc m/min	Edge Diameter (mm)	3	4	6	8	10	12	16	20
P	Carbon Steel, Alloy Steel (<35HRC)	ap≤1.0D	100	Rotation Speed (min-1)	10610	7960	5300	3980	3180	2650	1990	1590
				Feed Speed (mm/min)	760	870	690	600	570	500	560	560
	Alloy Steel (35-48HRC)	ap≤0.5D	80	Rotation Speed (min-1)	8490	6370	4240	3180	2550	2120	1590	1270
				Feed Speed (mm/min)	510	570	470	380	360	340	350	340
M	Stainless Steel	ap≤0.3D	70	Rotation Speed (min-1)	7430	5570	3710	2780	2230	1860	1390	1110
				Feed Speed (mm/min)	370	330	330	310	290	300	250	230
K	Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤0.8D	80	Rotation Speed (min-1)	8490	6370	4240	3180	2550	2120	1590	1270
				Feed Speed (mm/min)	510	510	470	380	370	350	320	280
	High Alloy Cast Iron (35-45HRC)	ap≤0.5D	70	Rotation Speed (min-1)	7430	5570	3710	2780	2230	1860	1390	1110
				Feed Speed (mm/min)	390	390	370	310	290	280	260	230

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

PP300- C3

Steel and Cast Iron - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	3	4	6	8	10	12	16	20
P	Carbon Steel, Alloy Steel (<35HRC)	ap≤1.5D	200	Rotation Speed (min-1)	21220	15910	10610	7950	6370	5300	3980	3180
		ae≤0.15D		Feed Speed (mm/min)	2860	2630	2070	2030	1910	1830	1670	1620
	Alloy Steel (35-48HRC)	ap≤1D	150	Rotation Speed (min-1)	15910	11940	7960	5970	4770	3980	2980	2390
		ae≤0.12D		Feed Speed (mm/min)	1910	1610	1430	1430	1220	1070	890	790
M	Stainless Steel	ap≤1.5D	150	Rotation Speed (min-1)	15910	11940	7960	5970	4770	3980	2980	2390
		ae≤0.15D		Feed Speed (mm/min)	2150	1790	1430	1430	1360	1250	1030	930
K	Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤1.5D	180	Rotation Speed (min-1)	19100	14320	9550	7160	5730	4770	3580	2860
		ae≤0.15D		Feed Speed (mm/min)	2580	2150	1860	1610	1460	1430	1230	1120
	High Alloy Cast Iron (35-45HRC)	ap≤1D	150	Rotation Speed (min-1)	15910	11940	7960	5970	4770	3980	2980	2390
		ae≤0.12D		Feed Speed (mm/min)	1910	1790	1550	1340	1220	1130	980	860

PP300- C3

Steel and Cast Iron - Grooving

Workpiece Material		Cutting Amount	Vc m/min	Edge Diameter (mm)	3	4	6	8	10	12	16	20
P	Carbon Steel, Alloy Steel (<35HRC)	ap≤1.0D	100	Rotation Speed (min-1)	10610	7960	5300	3980	3180	2650	1990	1590
				Feed Speed (mm/min)	1140	1310	1030	890	860	760	840	840
	Alloy Steel (35-48HRC)	ap≤0.5D	80	Rotation Speed (min-1)	8490	6370	4240	3180	2550	2120	1590	1270
				Feed Speed (mm/min)	760	860	700	570	530	510	520	520
M	Stainless Steel	ap≤0.3D	70	Rotation Speed (min-1)	7430	5570	3710	2780	2230	1860	1390	1110
				Feed Speed (mm/min)	560	500	500	470	440	450	380	350
K	Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤0.8D	80	Rotation Speed (min-1)	8490	6370	4240	3180	2550	2120	1590	1270
				Feed Speed (mm/min)	760	760	700	570	550	530	480	420
	High Alloy Cast Iron (35-45HRC)	ap≤0.5D	70	Rotation Speed (min-1)	7430	5570	3710	2780	2230	1860	1390	1110
				Feed Speed (mm/min)	580	580	560	460	430	420	400	350

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

PP300- C4/R4

Steel and Cast Iron - Side Milling

Workpiece Material		Cutting Amount	Vc m/min	Edge Diameter (mm)	3	4	6	8	10	12	16	20
P	Carbon Steel, Alloy Steel (<35HRC)	ap≤1.5D	200	Rotation Speed (min-1)	21220	15910	10610	7950	6370	5300	3980	3180
		ae≤0.15D		Feed Speed (mm/min)	3820	3500	2760	2710	2550	2440	2230	2160
	Alloy Steel (35-48HRC)	ap≤1D	150	Rotation Speed (min-1)	15910	11940	7960	5970	4770	3980	2980	2390
		ae≤0.12D		Feed Speed (mm/min)	2550	2150	1910	1910	1620	1430	1190	1050
M	Stainless Steel	ap≤1.5D	150	Rotation Speed (min-1)	15910	11940	7960	5970	4770	3980	2980	2390
		ae≤0.15D		Feed Speed (mm/min)	2860	2390	1910	1910	1810	1670	1370	1240
K	Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤1.5D	180	Rotation Speed (min-1)	19100	14320	9550	7160	5730	4770	3580	2860
		ae≤0.15D		Feed Speed (mm/min)	3440	2860	2480	2150	1950	1910	1650	1490
	High Alloy Cast Iron (35-45HRC)	ap≤1D	150	Rotation Speed (min-1)	15910	11940	7960	5970	4770	3980	2980	2390
		ae≤0.12D		Feed Speed (mm/min)	2550	2390	2070	1790	1620	1510	1310	1150

PP300- C4/R4

Steel and Cast Iron - Grooving

Workpiece Material		Cutting Amount	Vc m/min	Edge Diameter (mm)	3	4	6	8	10	12	16	20
P	Carbon Steel, Alloy Steel (<35HRC)	ap≤1.0D	100	Rotation Speed (min-1)	10610	7960	5300	3980	3180	2650	1990	1590
				Feed Speed (mm/min)	1530	1750	1380	1190	1150	1010	1110	1120
	Alloy Steel (35-48HRC)	ap≤0.5D	80	Rotation Speed (min-1)	8490	6370	4240	3180	2550	2120	1590	1270
				Feed Speed (mm/min)	1020	1150	930	760	710	680	700	690
M	Stainless Steel	ap≤0.3D	70	Rotation Speed (min-1)	7430	5570	3710	2780	2230	1860	1390	1110
				Feed Speed (mm/min)	740	670	670	620	590	590	510	470
K	Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤0.8D	80	Rotation Speed (min-1)	8490	6370	4240	3180	2550	2120	1590	1270
				Feed Speed (mm/min)	1020	1020	930	760	730	700	640	560
	High Alloy Cast Iron (35-45HRC)	ap≤0.5D	70	Rotation Speed (min-1)	7430	5570	3710	2780	2230	1860	1390	1110
				Feed Speed (mm/min)	770	780	740	610	580	560	530	470

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

PP300-SPEED-3D/3DN

Steel and Cast Iron - Side Milling/Trochoidal Milling

Workpiece Material		Cutting Amount	Vc m/min	Edge Diameter (mm)	6	8	10	12	14	16	20
P	Carbon Steel, Alloy Steel (<35HRC)	ap≤3D	180	Rotation Speed (min-1)	9550	7160	5730	4770	4090	3580	2860
		ae≤0.05D		Feed Speed (mm/min)	2290	2290	2860	2860	2860	2680	2140
	Alloy Steel (35-48HRC)	ap≤3D	110	Rotation Speed (min-1)	5830	4370	3500	2910	2500	2190	1750
		ae≤0.05D		Feed Speed (mm/min)	1160	1040	1400	1450	1370	1420	1310
M	Stainless Steel	ap≤3D	110	Rotation Speed (min-1)	5830	4370	3500	2910	2500	2190	1750
		ae≤0.05D		Feed Speed (mm/min)	1160	1040	1400	1450	1370	1420	1310
K	Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤3D	180	Rotation Speed (min-1)	9550	7160	5730	4770	4090	3580	2860
		ae≤0.05D		Feed Speed (mm/min)	2290	2290	2860	2860	2860	2680	2140
	High Alloy Cast Iron (35-45HRC)	ap≤3D	110	Rotation Speed (min-1)	5830	4370	3500	2910	2500	2190	1750
		ae≤0.05D		Feed Speed (mm/min)	1160	1040	1400	1450	1370	1420	1310

PP300-SPEED-5D

Steel and Cast Iron - Side Milling/Trochoidal Milling

Workpiece Material		Cutting Amount	Vc m/min	Edge Diameter (mm)	6	8	10	12	14	16	20
P	Carbon Steel, Alloy Steel (<35HRC)	ap≤5D	180	Rotation Speed (min-1)	9550	7160	5730	4770	4090	3580	2860
		ae≤0.05D		Feed Speed (mm/min)	2290	2290	2860	2860	2860	2680	2140
	Alloy Steel (35-48HRC)	ap≤5D	110	Rotation Speed (min-1)	5830	4370	3500	2910	2500	2190	1750
		ae≤0.05D		Feed Speed (mm/min)	1160	1040	1400	1450	1370	1420	1310
M	Stainless Steel	ap≤5D	110	Rotation Speed (min-1)	5830	4370	3500	2910	2500	2190	1750
		ae≤0.05D		Feed Speed (mm/min)	1160	1040	1400	1450	1370	1420	1310
K	Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤5D	180	Rotation Speed (min-1)	9550	7160	5730	4770	4090	3580	2860
		ae≤0.05D		Feed Speed (mm/min)	2290	2290	2860	2860	2860	2680	2140
	High Alloy Cast Iron (35-45HRC)	ap≤5D	110	Rotation Speed (min-1)	5830	4370	3500	2910	2500	2190	1750
		ae≤0.05D		Feed Speed (mm/min)	1160	1040	1400	1450	1370	1420	1310

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.

Recommended Cutting Data

UPR210- S4

Steel and Cast Iron - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	6	8	10	12	16	20
P	Carbon Steel Alloy Steel (< 35HRC)	ap ⩽ 1.5D	140	Rotation Speed (min-1)	7430	5570	4460	3720	2790	2230
		ae ⩽ 0.3D		Feed Speed (mm/min)	1070	1070	1070	1070	1000	900
	Alloy Steel (35-48HRC)	ap ⩽ 1D	120	Rotation Speed (min-1)	6370	4780	3820	3190	2390	1910
		ae ⩽ 0.25D		Feed Speed (mm/min)	630	660	690	700	570	535
M	Stainless Steel	ap ⩽ 1.5D	110	Rotation Speed (min-1)	5840	4380	3500	2920	2190	1750
		ae ⩽ 0.3D		Feed Speed (mm/min)	580	610	630	640	525	490
K	Gray Cast Iron Nodular Cast Iron (< 32HRC)	ap ⩽ 1.5D	140	Rotation Speed (min-1)	7430	5570	4460	3720	2790	2230
		ae ⩽ 0.3D		Feed Speed (mm/min)	1070	1070	1070	1070	1000	900
	High Alloy Cast Iron (35-45HRC)	ap ⩽ 1D	120	Rotation Speed (min-1)	6370	4780	3820	3190	2390	1910
		ae ⩽ 0.25D		Feed Speed (mm/min)	630	660	690	700	570	535
H	Alloy Steel Hardened Steel (< 55HRC)	ap ⩽ 1D	100	Rotation Speed (min-1)	5300	3980	3190	2650	1990	1590
		ae ⩽ 0.125D		Feed Speed (mm/min)	530	480	450	420	400	380

UPR210- S4

Steel and Cast Iron - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	6	8	10	12	16	20
P	Carbon Steel Alloy Steel (< 35HRC)	ap ⩽ 1D	120	Rotation Speed (min-1)	6370	4780	3820	3190	2390	1910
				Feed Speed (mm/min)	640	630	610	640	570	535
	Alloy Steel (35-48HRC)	ap ⩽ 0.75D	100	Rotation Speed (min-1)	5310	4000	3190	2650	1990	1590
				Feed Speed (mm/min)	430	400	450	425	360	320
M	Stainless Steel	ap ⩽ 0.75D	90	Rotation Speed (min-1)	4775	3580	2865	2385	1790	1432
				Feed Speed (mm/min)	382	160	190	210	200	190
K	Gray Cast Iron Nodular Cast Iron (< 32HRC)	ap ⩽ 1D	120	Rotation Speed (min-1)	6370	4780	3820	3190	2390	1910
				Feed Speed (mm/min)	640	630	610	640	570	535
	High Alloy Cast Iron (35-45HRC)	ap ⩽ 0.75D	100	Rotation Speed (min-1)	5310	4000	3190	2650	1990	1590
				Feed Speed (mm/min)	430	400	450	425	360	320

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

UPN210- S4

Steel and Cast Iron - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	6	8	10	12	16	20
P	Carbon Steel Alloy Steel (< 35HRC)	ap ⩽ 1.5D	130	Rotation Speed (min-1)	6900	5180	4140	3450	2590	2070
		ae ⩽ 0.3D		Feed Speed (mm/min)	990	990	990	990	930	830
	Alloy Steel (35-48HRC)	ap ⩽ 1D	110	Rotation Speed (min-1)	5840	4380	3500	2920	2190	1750
		ae ⩽ 0.25D		Feed Speed (mm/min)	580	610	630	640	525	490
M	Stainless Steel	ap ⩽ 1.5D	130	Rotation Speed (min-1)	6900	5180	4140	3450	2590	2070
		ae ⩽ 0.3D		Feed Speed (mm/min)	280	310	330	350	310	290
K	Gray Cast Iron Nodular Cast Iron (< 32HRC)	ap ⩽ 1.5D	130	Rotation Speed (min-1)	6900	5180	4140	3450	2590	2070
		ae ⩽ 0.3D		Feed Speed (mm/min)	990	990	990	990	930	830
	High Alloy Cast Iron (35-45HRC)	ap ⩽ 1D	110	Rotation Speed (min-1)	5840	4380	3500	2920	2190	1750
		ae ⩽ 0.25D		Feed Speed (mm/min)	580	610	630	640	525	490
H	Alloy Steel Hardened Steel (< 55HRC)	ap ⩽ 1D	90	Rotation Speed (min-1)	4780	3580	2870	2390	1790	1430
		ae ⩽ 0.125D		Feed Speed (mm/min)	480	430	400	380	360	345

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

UPN210- S4

Steel and Cast Iron - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	6	8	10	12	16	20
P	Carbon Steel, Alloy Steel (<35HRC)	ap≤0.8D	120	Rotation Speed (min-1)	6370	4780	3820	3190	2390	1910
				Feed Speed (mm/min)	640	630	610	640	570	535
	Alloy Steel (35-48HRC)	ap≤0.5D	100	Rotation Speed (min-1)	5310	4000	3190	2650	1990	1590
				Feed Speed (mm/min)	430	400	450	425	360	320
M	Stainless Steel	ap≤0.8D	100	Rotation Speed (min-1)	5310	3980	3190	2655	1990	1600
				Feed Speed (mm/min)	150	160	190	210	200	190
K	Gray Cast Iron Nodular Cast Iron (<32HRC)	ap≤0.8D	120	Rotation Speed (min-1)	6370	4780	3820	3190	2390	1910
				Feed Speed (mm/min)	640	630	610	640	570	535
	High Alloy Cast Iron (35-45HRC)	ap≤0.5D	100	Rotation Speed (min-1)	5310	4000	3190	2650	1990	1590
				Feed Speed (mm/min)	430	400	450	425	360	320

UPR300-S3/S4

Steel and Cast Iron - Side Milling

Workpiece Material		Cutting amount (mm)	Vc m/min	Edge Diameter (mm)	6	8	10	12	16	20
P	Carbon Steel Alloy Steel (< 35HRC)	ap ⩽ 1.5D	160	Rotation Speed (min-1)	8490	6370	5090	4240	3180	2550
		ae ⩽ 0.4D		Feed Speed (mm/min)	790	820	1040	1020	940	880
	Alloy Steel (35-48HRC)	ap ⩽ 1.5D	150	Rotation Speed (min-1)	7960	5970	4770	3980	2980	2390
		ae ⩽ 0.3D		Feed Speed (mm/min)	670	680	880	840	780	720
M	Stainless Steel	ap ⩽ 1.5D	115	Rotation Speed (min-1)	6100	4580	3660	3050	2290	1830
		ae ⩽ 0.4D		Feed Speed (mm/min)	570	590	750	730	680	630
K	Gray Cast Iron Nodular Cast Iron (< 32HRC)	ap ⩽ 1.5D	150	Rotation Speed (min-1)	7960	5970	4770	3980	2980	2390
		ae ⩽ 0.5D		Feed Speed (mm/min)	880	910	1170	1110	1030	930
	High Alloy Cast Iron (35-45HRC)	ap ⩽ 1.5D	130	Rotation Speed (min-1)	6900	5170	4140	3450	2590	2070
		ae ⩽ 0.4D		Feed Speed (mm/min)	520	530	680	660	610	570
H	Alloy Steel Hardened Steel (< 55HRC)	ap ⩽ 1.5D	140	Rotation Speed (min-1)	7430	5570	4460	3710	2790	2230
		ae ⩽ 0.3D		Feed Speed (mm/min)	620	640	820	790	720	670

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

UPR300-S3/S4

Steel and Cast Iron - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	6	8	10	12	16	20
P	Carbon Steel Alloy Steel (< 35HRC)	ap ⩽ 1D	130	Rotation Speed (min-1)	6900	5175	4140	3450	2590	2070
				Feed Speed (mm/min)	510	530	680	660	610	570
	Alloy Steel (35-48HRC)	ap ⩽ 0.75D	120	Rotation Speed (min-1)	6370	4780	3820	3185	2390	1910
				Feed Speed (mm/min)	430	440	560	540	500	460
M	Stainless Steel	ap ⩽ 0.75D	90	Rotation Speed (min-1)	4780	3580	2870	2390	1790	1430
				Feed Speed (mm/min)	360	370	470	460	430	395
K	Gray Cast Iron Nodular Cast Iron (< 32HRC)	ap ⩽ 1D	120	Rotation Speed (min-1)	6370	4780	3820	3185	2390	1910
				Feed Speed (mm/min)	570	590	750	710	660	595
	High Alloy Cast Iron (35-45HRC)	ap ⩽ 1D	100	Rotation Speed (min-1)	5310	3980	3185	2650	1990	1590
				Feed Speed (mm/min)	320	325	420	410	375	350
H	Alloy Steel Hardened Steel (< 55HRC)	ap ⩽ 0.3D	110	Rotation Speed (min-1)	5840	4380	3500	2920	2190	1750
				Feed Speed (mm/min)	390	400	515	500	450	420

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

US200-S2/R2
Stainless Steel - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	1	2	4	6	8	10	12	16	20
M	Stainless Steel	ap≤1D	100 (80-120)	Rotation Speed (min-1)	25000	15900	7960	5300	3980	3180	2650	1990	1590
		ae≤0.1D		Feed Speed (mm/min)	220	254	340	340	365	330	300	245	230

US200-S2/R2
Stainless Steel - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	1	2	4	6	8	10	12	16	20
M	Stainless Steel	ap≤0.1D	45 (35-55)	Rotation Speed (min-1)	14330	7165	3580	2390	1790	1430	1195	895	715
		ae≤1D		Feed Speed (mm/min)	200	140	120	155	155	155	155	135	120

US200- R3
Stainless Steel - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	1	2	4	6	8	10	12	16	20
M	Stainless Steel	ap≤1D	100 (80-120)	Rotation Speed (min-1)	25000	15900	7960	5300	3980	3180	2650	1990	1590
		ae≤0.1D		Feed Speed (mm/min)	525	480	525	510	550	500	450	370	340

US200-R3
Stainless Steel - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	1	2	4	6	8	10	12	16	20
M	Stainless Steel	ap≤0.1D	45 (35-55)	Rotation Speed (min-1)	14330	7165	3580	2390	1790	1430	1195	895	715
		ae≤1D		Feed Speed (mm/min)	300	215	180	235	235	230	230	200	180

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

US200-SS4/S4/SN4/R4
Stainless Steel - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	1	2	4	6	8	10	12	16	20
M	Stainless Steel	ap≤1D	100 (80-120)	Rotation Speed (min-1)	25000	15900	7960	5300	3980	3180	2650	1990	1590
		ae≤0.1D		Feed Speed (mm/min)	700	635	700	680	730	660	600	490	460

US200-R4
Stainless Steel - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	1	2	4	6	8	10	12	16	20
M	Stainless Steel	ap≤0.1D	45 (35-55)	Rotation Speed (min-1)	14330	7165	3580	2390	1790	1430	1195	895	715
		ae≤1D		Feed Speed (mm/min)	400	280	240	310	310	310	310	270	240

US200- B2

Stainless Steel - Profile Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	1	2	4	6	8	10	12	16	20
M	Stainless Steel	ap≤0.2D	100 (80-120)	Rotation Speed (min-1)	25000	15900	7960	5300	3980	3180	2650	1990	1590
		ae≤0.2D		Feed Speed (mm/min)	525	480	510	550	560	540	560	520	510

US200-B4

Stainless Steel - Profile Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	1	2	4	6	8	10	12	16	20
M	Stainless Steel	ap≤0.2D	100 (80-120)	Rotation Speed (min-1)	25000	15900	7960	5300	3980	3180	2650	1990	1590
		ae≤0.2D		Feed Speed (mm/min)	560	955	1020	1100	1110	1080	1115	1030	1020

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended cutting data

US260-S2
Stainless Steel - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	0.5	0.8	1	1.5	2	3	4	6	8
M	Stainless Steel	ap≤1D	25 -150	Rotation Speed (min-1)	18000	15000	13000	11000	10000	9500	9000	8000	6000
		ae≤0.1D		Feed Speed (mm/min)	500	800	1000	1200	1500	1800	2200	2500	2800

US260-S2
Stainless Steel - Face Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	0.5	0.8	1	1.5	2	3	4	6	8
M	Stainless Steel	ap≤0.1D	25 -150	Rotation Speed (min-1)	18000	15000	13000	11000	10000	9500	9000	8000	6000
		ae≤1D		Feed Speed (mm/min)	400	700	900	1100	1400	1700	2100	2200	2500

US260-SS4A/SS4B, S4A/S4B
Stainless Steel - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	1	1.5	2	3	4	6	8	10	12
M	Stainless Steel	ap≤1D	40 -180	Rotation Speed (min-1)	13000	11000	10000	9500	9000	8000	6000	5000	4500
		ae≤0.1D		Feed Speed (mm/min)	1400	1700	2200	2700	3000	3500	3800	4000	4200

US260-SS4A/SS4B, S4A/S4B
Stainless Steel - Face Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	1	1.5	2	3	4	6	8	10	12
M	Stainless Steel	ap≤0.1D	40 -180	Rotation Speed (min-1)	13000	11000	10000	9500	9000	8000	6000	5000	4500
		ae≤1D		Feed Speed (mm/min)	1300	1600	2100	2600	2800	3200	3500	3800	4000

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

US260-R4/RS4
Stainless Steel - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	1	1.5	2	3	4	6	8	10	12
M	Stainless Steel	ap≤1D	40 -180	Rotation Speed (min-1)	13000	11000	10000	9500	9000	8000	6000	5000	4500
		ae≤0.1D		Feed Speed (mm/min)	1500	1800	2400	3000	3200	3600	3800	4000	4200

US260-R4/RS4
Stainless Steel - Face Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	1	1.5	2	3	4	6	8	10	12
M	Stainless Steel	ap≤0.1D	40 -180	Rotation Speed (min-1)	13000	11000	10000	9500	9000	8000	6000	5000	4500
		ae≤1D		Feed Speed (mm/min)	1500	1800	2400	3000	3200	3600	3800	4000	4200

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

SS600-SS4/S4/SH4/RS4/R4/RH4
Stainless Steel - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	3	4	5	6	8	10	12	16	20
M	Stain-less Steel	ap≤1.5D	80 (60~110)	Rotation Speed (min-1)	10000	7430	6730	5095	4245	3185	2545	2020	1590	1275
		ae≤0.25D		Feed Speed (mm/min)	700	595	510	510	510	510	510	485	445	430
S	Tita-nium Alloy	ap≤1.5D	60 (40~100)	Rotation Speed (min-1)	7960	6369	4780	3821	3185	2390	1910	1590	1195	955
		ae≤0.25D		Feed Speed (mm/min)	398	350	285	270	320	335	354	350	310	305

SS600-SS4/S4/SH4/RS4/R4/RH4
Stainless Steel - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	3	4	5	6	8	10	12	16	20
M	Stain-less Steel	ap≤1.5D	60 (50~70)	Rotation Speed (min-1)	7960	6369	4775	3821	3185	2390	1910	1590	1195	955
				Feed Speed (mm/min)	398	350	285	270	320	335	345	350	310	305
S	Tita-nium Alloy	ap≤1.5D	40 (30~60)	Rotation Speed (min-1)	6369	4246	3185	2550	2120	1590	1270	1060	792	635
				Feed Speed (mm/min)	254	241	190	190	190	190	200	210	190	190

SS600-B4
Stainless Steel - Profile Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	6	8	10	12	16	20
M	Stainless Steel	ap≤0.2D	100 (80~120)	Rotation Speed (min-1)	5300	3980	3180	2650	1990	1590
		ae≤0.2D		Feed Speed (mm/min)	1100	1100	1080	1050	1030	1020
S	Titanium Alloy	ap≤0.2D	70 (60~80)	Rotation Speed (min-1)	3715	2785	2230	1860	1390	1110
		ae≤0.2D		Feed Speed (mm/min)	670	610	535	480	445	352

Recommended Cutting Data

SS600-S5/R5

Stainless Steel - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	6	8	10	12	16	20	25
M	Stainless Steel	ap≤1.5D	80 (60~110)	Rotation Speed (min-1)	4245	3185	2545	2020	1590	1275	1019
		ae≤0.25D		Feed Speed (mm/min)	638	638	638	600	556	535	427
S	Titanium Alloy	ap≤1.5D	60 (40~100)	Rotation Speed (min-1)	3185	2390	1910	1590	1195	955	764
		ae≤0.25D		Feed Speed (mm/min)	400	418	432	437	387	381	305

SS600-C-R5

Stainless Steel and Titanium Alloy - Side Milling/Trochoidal Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	6	8	10	12	16	20
M	Stainless Steel	ap≤Lc	120 (90-160)	Rotation Speed (min-1)	6366	4775	3820	3183	2387	1910
		ae≤0.1D		feed Speed (mm/min)	1910	1910	1910	1910	1910	1910
S	Titanium Alloy	ap≤Lc	90 (80-100)	Rotation Speed (min-1)	4775	3581	2865	2387	1790	1432
		ae≤0.08D		feed Speed (mm/min)	1432	1432	1432	1432	1432	1432

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended cutting data

UA100-S2/SH2/R2/RH2
Aluminum Alloy - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	1	2	4	6	8	10	12	16	20
N	Forged aluminum alloy Cast aluminum alloy (Si＜12%)	ap≤1.5D	150 (60-350)	Rotation Speed (min-1)	16000	12700	12000	10600	10000	9500	9280	7000	5600
		ae≤0.2D		Feed Speed (mm/min)	580	710	1200	1280	1390	1720	2400	2500	2450
	Copper alloy (＜HB200)	ap≤1.5D	150 (60-350)	Rotation Speed (min-1)	16000	12700	12000	10600	10000	9500	9280	7000	5600
		ae≤0.2D		Feed Speed (mm/min)	520	650	1070	1150	1250	1550	2170	2250	2200

UA100-S2/SH2/R2/RH2
Aluminum Alloy - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	1	2	4	6	8	10	12	16	20
N	Forged Aluminum Alloy Cast Aluminum Alloy (Si＜12%)	ap≤0.5D	150 (60-350)	Rotation Speed (min-1)	16000	10000	9000	8000	7800	8000	6800	5000	4000
		ae=1D		Feed Speed (mm/min)	400	500	810	920	1100	1280	1300	1310	1200
	Copper alloy (＜HB200)	ap≤0.5D	150 (60-350)	Rotation Speed (min-1)	16000	10000	9000	8000	7800	8000	6800	5000	4000
		ae=1D		Feed Speed (mm/min)	380	450	800	830	1000	1150	1130	1000	1080

UA100-SL2
Aluminum Alloy - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	1	2	4	6	8	10	12	16	20
N	Forged Aluminum Alloy Cast Aluminum Alloy (Si＜12%)	ap≤2.5D	150 (60-350)	Rotation Speed (min-1)	16000	10000	9000	8000	7800	8000	6800	5000	4000
		ae≤0.15D		Feed Speed (mm/min)	400	500	810	920	1100	1280	1300	1310	1200
	Copper Alloy (＜HB200)	ap≤2.5D	150 (60-350)	Rotation Speed (min-1)	16000	10000	9000	8000	7800	8000	6800	5000	4000
		ae≤0.15D		Feed Speed (mm/min)	380	450	800	830	1000	1150	1130	1000	1080

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

UA100-S3/SH3/R3/RH3
Aluminum Alloy - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	1	2	4	6	8	10	12	16	20
N	Forged Aluminum Alloy Cast Aluminum Alloy (Si＜12%)	ap≤1.5D	150 (60-350)	Rotation Speed (min-1)	16000	13000	12000	10600	10000	9500	9280	7000	5600
		ae≤0.2D		Feed Speed (mm/min)	650	850	1430	1530	1670	2050	2800	3000	3150
	Copper Alloy (＜HB200)	ap≤1.5D	150 (60-350)	Rotation Speed (min-1)	16000	13000	12000	10600	10000	9500	9280	7000	5600
		ae≤0.2D		Feed Speed (mm/min)	720	900	1200	1200	1500	1800	2225	2500	3000

UA100-S3/SH3/R3/RH3
Aluminum Alloy - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	1	2	4	6	8	10	12	16	20
N	Forged Aluminum Alloy Cast Aluminum Alloy (Si＜12%)	ap≤0.5D	150 (60-350)	Rotation Speed (min-1)	16000	10000	9000	8000	7800	8000	6800	5000	4000
		ae=1D		Feed Speed (mm/min)	450	570	960	1050	1300	1500	1620	1680	1800
	Copper Alloy (＜HB200)	ap≤0.5D	150 (60-350)	Rotation Speed (min-1)	16000	10000	9000	8000	7800	8000	6800	5000	4000
		ae=1D		Feed Speed (mm/min)	450	520	860	830	960	1240	1500	1550	1510

UA100- SL3
Aluminum Alloy - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	1	2	4	6	8	10	12	16	20
N	Forged Aluminum Alloy Cast Aluminum Alloy (Si＜12%)	ap≤2.5D	150 (60-350)	Rotation Speed (min-1)	16000	10000	9000	8000	7800	8000	6800	5000	4000
		ae≤0.15D		Feed Speed (mm/min)	450	570	960	1050	1300	1500	1620	1680	1800
	Copper Alloy (＜HB200)	ap≤2.5D	150 (60-350)	Rotation Speed (min-1)	16000	10000	9000	8000	7800	8000	6800	5000	4000
		ae≤0.15D		Feed Speed (mm/min)	450	520	860	830	960	1240	1500	1550	1510

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

UA100-B2
Aluminum Alloy - Profile Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	1	2	4	6	8	10	12	16
N	Forged Aluminum Alloy Cast Aluminum Alloy (Si＜12%)	ap≤0.3D	150 (60-350)	Rotation Speed (min-1)	19000	15900	11900	10600	8000	7950	7950	7000
		ae≤0.3D		Feed Speed (mm/min)	950	1600	1900	2500	2550	3200	3800	4450
	Copper Alloy (＜HB200)	ap≤0.3D	150 (60-350)	Rotation Speed (min-1)	19000	15900	11900	10600	8000	7950	7950	7000
		ae≤0.3D		Feed Speed (mm/min)	860	1430	1720	2300	2300	2850	3450	4010

SA100-S3/S3X
Aluminum Alloy - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	4	6	8	10	12
N	Forged Aluminum Alloy Cast Aluminum Alloy (Si＜12%)	ap≤1.5D	150 (60-350)	Rotation Speed (min-1)	14000	12000	10000	9000	8500	8000
		ae≤0.2D		Feed Speed (mm/min)	2000	3000	3500	4000	4500	5000
	Copper Alloy (＜HB200)	ap≤1.5D	150 (60-350)	Rotation Speed (min-1)	14000	12000	10000	9000	8500	8000
		ae≤0.2D		Feed Speed (mm/min)	2000	3000	3500	4000	4500	5000

SA100-S3/S3X
Aluminum Alloy - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	4	6	8	10	12
N	Forged Aluminum Alloy Cast Aluminum Alloy (Si＜12%)	ap≤1D	150 (60-350)	Rotation Speed (min-1)	11500	10000	9300	8750	8000	7450
		ae=1D		Feed Speed (mm/min)	1000	1500	2000	2500	3500	4000
	Copper alloy (＜HB200)	ap≤1D	150 (60-350)	Rotation Speed (min-1)	11500	10000	9300	8750	8000	7450
		ae=1D		Feed Speed (mm/min)	1000	1500	2000	2500	3500	4000

SA160-S3/SL3/S4/SS4
Aluminum Alloy - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	4	6	8	10	12	16	20
N	Aluminum Alloy	ap≤2D	60-240	Rotation Speed (min-1)	12000	11000	10000	10000	9000	8000	6000
		ae≤0.1		feed Speed (mm/min)	600	800	800	1000	1200	1300	1500

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

SA210-WR/WR-IC
Aluminum Alloy - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	12	16	20	25
N	Aluminum Alloy	ap≤1D	500~1750	Rotation Speed (min-1)	14000	17000	20000	22000
		ae≤0.7D		Feed Speed (mm/min)	6300	7650	9000	9900

SA210-WR/WR-IC
Aluminum Alloy - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	12	16	20	25
N	Aluminum Alloy	ap≤0.75D	500~1750	Rotation Speed (min-1)	14000	17000	20000	22000
		Ae=1D		Feed Speed (mm/min)	4200	5100	6000	6600

SA210-NR
Aluminum Alloy - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	6	8	10	12	16	20
N	Aluminum Alloy	ap≤2D	300-400	Rotation Speed (min-1)	18000	14000	1100	9000	7000	5500
		ae≤0.5D		Feed Speed (mm/min)	4700	4500	4300	3900	3500	3000

SA210-NR
Aluminum Alloy - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	6	8	10	12	16	20
N	Aluminum Alloy	ap≤1.5D	250-350	Rotation Speed (min-1)	16000	1200	9500	7900	6000	4800
		ae≤1D		Feed Speed (mm/min)	2800	2800	2800	2800	2600	2400

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 3 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended cutting data

SA300-RN2
Aluminum Alloy - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	6	8	10	12	16	20	25	32
N	Aluminum alloys such as 7075, 7050, etc.	ap≤0.15D	835 (370~1300)	Rotation Speed (min-1)	20000	20000	20000	20000	20000	20000	16000	12000
		ae≤0.5D		Feed Speed (mm/min)	3200	4000	5200	6000	6600	6800	7560	4800

SA300-RN2
Aluminum Alloy - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	6	8	10	12	16	20	25	32
N	Aluminum Alloys Such as 7075, 7050, etc.	ap≤0.2D	385 (300~471)	Rotation Speed (min-1)	16000	15000	12000	10000	8000	7000	6000	4000
		ae=1D		Feed Speed (mm/min)	3200	3600	3360	3200	3040	2940	3000	2000

SA300-S3/RN3
Aluminum Alloy - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	6	8	10	12	16	20	25	32
N	Aluminum Alloys Such as 7075, 7050, etc.	ap≤0.25D	785 (370~1200)	Rotation Speed (min-1)	20000	20000	20000	20000	20000	20000	16000	12000
		ae≤0.5D		Feed Speed (mm/min)	4800	6000	7200	8400	9000	9000	10000	10800

SA300-S3/RN3
Aluminum Alloy - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	6	8	10	12	16	20	25	32
N	Aluminum Alloys Such as 7075, 7050, etc.	ap≤0.2D	400 (300~500)	Rotation Speed (min-1)	16000	15000	12000	10000	8000	7000	6000	4000
		ae=1D		Feed Speed (mm/min)	4800	5400	5040	4800	4560	4410	4500	3000

SA300-BN2
Aluminum Alloy - Profile Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	6	8	10	12	16	20
N	Aluminum alloys such as 7075, 7050, etc.	ap≤0.75D	550 (500~600)	Rotation Speed (min-1)	25000	20000	20000	15000	11000	9000
		Ae<0.5D		Feed Speed (mm/min)	4000	3500	3000	2500	2000	2000

1. When the milling cutter is clamped, the radial bounce of the blade shall be controlled below 0.005mm.
2. Use machine and tool shanks with higher rigidity.
3. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
4. The above table is based on the tool overhang length of less than 3 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

SA300-SF/SF-IC
Aluminum Alloy - Side Milling

Workpiece Material		Cutting Amount (mm)	Cutting Speed (m/min)	Edge Diameter (mm)	6	8	10	12	16	20
N	Aluminum Alloy	ap≤4D	200~1150	Rotation Speed (min^{-1})	12000	13000	14000	16000	17000	18000
		ae≤0.5		Feed Speed Feed (mm/min)	2880	3120	3360	3840	4080	4320

SA300-WF/WF-IC
Aluminum Alloy - Side Milling

Workpiece Material		Cutting Amount (mm)	Cutting Speed (m/min)	Edge Diameter (mm)	16	20	25
N	Aluminum Alloy	ap≤2	850~1750	Rotation Speed (min^{-1})	17000	20000	22000
		ae≤0.7D		Feed Speed Feed (mm/min)	10200	12000	13200

1. When the milling cutter is clamped, the radial bounce of the blade shall be controlled below 0.005mm.
2. Use machine and tool shanks with higher rigidity.
3. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
4. The above table is based on the tool overhang length of less than 3 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

DNM100-RS 1/RS2/ RS3
Composite Material/Aluminum Alloy - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	4	6	8	10	12	16
N	Composite material	ap≤1.5D	400 (100~450)	Rotation Speed (min-1)	18000	16000	13270	11775	11145	10615	8000
		ae≤0.2D		Feed Speed (mm/min)	1800	2400	2650	2350	2230	2120	2400
	Aluminum alloy	ap≤1.5D	150 (100~250)	Rotation Speed (min-1)	16000	12000	12000	10000	8000	8000	5000
		ae≤0.1D		Feed Speed (mm/min)	2000	2000	2400	2000	1600	1600	1500

DNM100-RS1/RS2/ RS3
Composite Material/Aluminum Alloy - Face Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	4	6	8	10	12	16
N	Composite Material	ap≤0.1D	400 (100~450)	Rotation Speed (min-1)	18000	16000	13270	11775	11145	10615	8000
		ae≤0.6D		Feed Speed (mm/min)	1800	2400	2650	2350	2230	2120	2400
	Aluminum Alloy	ap≤0.1D	150 (100~250)	Rotation Speed (min-1)	16000	12000	12000	10000	8000	8000	5000
		ae≤0.6D		Feed Speed (mm/min)	2000	2000	2400	2000	1600	1600	1500

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

SG200- S2/SN2/R2/RN2
Graphite - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	4	6	8	10	12
N	Cast Aluminum Alloy (Si>12%)	ap≤1D	200	Rotation Speed (min-1)	31850	15920	10620	7960	6370	5310
		ae≤0.15D		Feed Speed (mm/min)	1910	1590	1270	1120	1080	1380
	Graphite	ap≤1.5D	250	Rotation Speed (min-1)	39810	19900	13270	9950	7960	6640
		ae≤0.5D		Feed Speed (mm/min)	3980	2790	2390	2190	2390	2390

SG200-S3
Graphite - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	4	6	8	10	12
N	Cast Aluminum Alloy (Si>12%)	ap≤1D	200	Rotation Speed (min-1)	31850	15920	10620	7960	6370	5310
		ae≤0.15D		Feed Speed (mm/min)	2870	2390	1910	1670	1620	2070
	Graphite	ap≤1.5D	250	Rotation Speed (min-1)	39810	19900	13270	9950	7960	6640
		ae≤0.5D		Feed Speed (mm/min)	5970	4180	3580	3280	3580	3580

SG200- S4/R4/RN4
Graphite - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	4	6	8	10	12
N	Cast Aluminum Alloy (Si>12%)	ap≤1D	200	Rotation Speed (min-1)	31850	15920	10620	7960	6370	5310
		ae≤0.15D		Feed Speed (mm/min)	3820	3190	2550	2230	2170	2760
	Graphite	ap≤1.5D	250	Rotation Speed (min-1)	39810	19900	13270	9950	7960	6640
		ae≤0.5D		Feed Speed (mm/min)	7960	5570	4780	4380	4780	4780

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

SG200- S2/SN2/R2/RN2
Graphite - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	4	6	8	10	12
N	Cast Aluminum Alloy (Si＞12%)	ap≤0.5D	180	Rotation Speed (min-1)	28660	14330	9550	7170	5730	4780
				Feed Speed (mm/min)	1150	1150	960	860	800	860
	Graphite	ap≤0.5D	200	Rotation Speed (min-1)	31850	15920	10620	7960	6370	5310
				Feed Speed (mm/min)	1910	1430	1380	1350	1400	1590

SG200-S3
Graphite - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	4	6	8	10	12
N	Cast Aluminum Alloy (Si＞12%)	ap≤0.5D	180	Rotation Speed (min-1)	28660	14330	9550	7170	5730	4780
				Feed Speed (mm/min)	1720	1720	1430	1290	1200	1290
	Graphite	ap≤0.5D	200	Rotation Speed (min-1)	31850	15920	10620	7960	6370	5310
				Feed Speed (mm/min)	2870	2150	2070	2030	2100	2390

SG200-B2/BN2
Graphite - Profile Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	4	6	8	10	12
N	Cast Aluminum Alloy (Si＞12%)	ap≤0.3D	200	Rotation Speed (min-1)	31850	15920	10620	7960	6370	5310
		ae≤0.3D		Feed Speed (mm/min)	2040	1430	1270	1270	1400	1380
	Graphite	ap≤0.5D	250	Rotation Speed (min-1)	39810	19900	13270	9950	7960	6640
		ae≤0.4D		Feed Speed (mm/min)	2790	1990	1860	1790	1910	1990

SG200-M-RN4/B2/BN2
Graphite - Profile Milling

Workpiece Material		Cutting Amount (mm)	Cutting Application	Rotation Speed (min-1)	Feed Speed (mm/min)
N	Graphite	0.03≤ap≤0.05 0.03≤ae≤0.05	General Condition	10000~15000	2000~3000
			High Speeds	25000~32000	3500~4500

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

ST210—S4/R4/RN4
Titanium Alloy - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	3	4	5	6	8	10	12	16	20
S	Titanium Alloy	ap≤1.5D	60 (40~100)	Rotation Speed (min-1)	9555	6370	4780	3820	3185	2390	1910	1590	1195	955
		ae≤0.25D		Feed Speed (mm/min)	380	305	285	305	320	335	345	350	310	305
M	Stainless Steel	ap≤1.5D	80 (60~110)	Rotation Speed (min-1)	12740	8490	6370	5095	4245	3185	2545	2020	1590	1275
		ae≤0.25D		Feed Speed (mm/min)	760	575	510	510	510	510	510	485	445	430

ST210-S4/R4/RN4
Titanium Alloy - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	3	4	5	6	8	10	12	16	20
S	Titanium Alloy	ap≤1D	40 (30~60)	Rotation Speed (min-1)	6370	4245	3185	2545	2120	1590	1270	1060	795	635
		ae≤1D		Feed Speed (mm/min)	255	200	190	170	170	190	200	210	190	190
M	Stainless Steel	ap≤1D	60 (50~70)	Rotation Speed (min-1)	9555	6370	4775	3820	3185	2390	1910	1590	1195	955
		ae≤1D		Feed Speed (mm/min)	380	305	285	305	320	335	345	350	310	305

ST210—RL5
Titanium Alloy - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	16	20	25
S	Titanium Alloy	ap≤0.7*Lc	50 (40-60)	Rotation Speed (min-1)	980	780	620
		ae≤0.1D		Feed Speed (mm/min)	390	370	300

Notes: Lc is the tool edge length.

1, Please use a machine with higher rigidity. It is recommended to use a strong milling tool shanks.
2, Please adjust the rotation speed and feed rate appropriately according to the actual machining working conditions, equipment rigidity, etc.

ST210-B4
Titanium Alloy - Profile Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	3	4	5	6	8	10	12	16	20
S	Titanium Alloy	ap≤0.2D	70 (60~80)	Rotation Speed (min-1)	8000	6300	5580	4500	3715	2785	2230	1860	1390	1120
		ae≤0.3D		Feed Speed (mm/min)	800	1000	1000	800	670	610	535	480	445	360

1. When the milling cutter is clamped, the radial bounce of the blade shall be controlled below 0.01mm.
2. Use machine and tool shanks with higher rigidity.
3. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
4. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended cutting data

ST300-S4/R4/RH4/RN4
Titanium Alloy - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc (m/min)	Edge Diameter (mm)	2	3	4	5	6	8	10	12	16	20	25
S	Titanium Alloy	ap≤1.5D	70 (60~80)	Rotation Speed N (min^{-1})	11140	7430	5570	4460	3720	2790	2230	1860	1400	1120	895
		ae≤0.3D		Feed Speed Vf (mm/min)	670	600	560	540	630	620	630	640	620	540	430

ST300-S4/R4/RH4/RN4
Titanium Alloy - Grooving

Workpiece Material		Cutting Amount (mm)	Vc (m/min)	Edge Diameter (mm)	2	3	4	5	6	8	10	12	16	20	25
S	Titanium Alloy	ap≤1D	60 (50~70)	Rotation Speed n (min^{-1})	9550	6370	4780	3820	3200	2390	1910	1600	1200	960	770
		ae≤1D		Feed Speed Vf (mm/min)	390	300	285	255	255	285	300	315	285	285	245

ST300-R5/RH5/RN5
Titanium Alloy - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc (m/min)	Edge Diameter (mm)	6	8	10	12	16	20	25
S	Titanium Alloy	ap≤1.5D	70 (60~80)	Rotation Speed n (min^{-1})	3720	2790	2230	1860	1400	1120	895
		ae≤0.3D		Feed Speed Vf (mm/min)	780	765	780	790	765	670	535

ST300-R5/RH5/RN5
Titanium Alloy - Grooving

Workpiece Material		Cutting Amount (mm)	Vc (m/min)	Edge Diameter (mm)	6	8	10	12	16	20	25
S	Titanium Alloy	ap≤1D	60 (50~70)	Rotation Speed n (min^{-1})	3200	2390	1910	1600	1200	960	770
		ae≤1D		Feed Speed Vf (mm/min)	320	360	375	400	360	360	305

1. When the milling cutter is clamped, the radial bounce of the blade shall be controlled below 0.01mm.
2. Use machine and tool shanks with higher rigidity.
3. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
4. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

ST300-C-R5
Titanium Alloy - Side Milling/Trochoidal Milling

Workpiece Material		Cutting Amount (mm)	Vc (m/min)	Edge Diameter (mm)	6	8	10	12	16	20
S	Titanium Alloy	ap≤4D	35-70	Rotation Speed n (min-1)	2650	2180	1900	1590	1390	1110
		ae≤0.15D		Feed Speed Vf (mm/min)	560	610	750	760	990	1000

SM200-TP2
Titanium Alloy - Profile Milling

Workpiece Material		Cutting Amount (mm)	Edge Diameter (mm)	1	1.5	2	3
S	Titanium Alloy	ap=0.05D	Rotation Speed (min-1)	37900	30600	23700	15800
		ae=0.3D	Feed Speed (mm/min)	860~1150	1390	1080~1430	1430

SM200-RO2/RO3/VH2/VH3/WI2/WI3/IM2/IM3/KL2
Zirconia - Profile Milling

Workpiece Material		Cutting Amount (mm)	Edge Diameter (mm)	0.6	1	2
N	Zirconia	ap=0.05D	Rotation Speed (min-1)	26800~29200	23000~25600	18300
		ae=0.3D	Feed Speed (mm/min)	320~350	460~510	730

SM200-ZI2/ZI3
Zirconia and Titanium Alloys - Profile Milling

Workpiece Material		Cutting Amount (mm)	Edge Diameter (mm)	1	2	3
N	Zirconia	ap=0.05D	Rotation Speed (min-1)	23000~25600	18300	--
		ae=0.3D	Feed Speed (mm/min)	460~510	730	--
S	Titanium Alloy	ap=0.05D	Rotation Speed (min-1)	--	18300	12200
		ae=0.3D	Feed Speed (mm/min)	--	690~920	920

1. Please select the corresponding machine and tool shank according to the tool model.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

SM200-AR2/AR3/XT2
Zirconia and Titanium Alloys - Profile Milling

Workpiece Material		Cutting Amount (mm)	Edge Diameter (mm)	0.6	1	1.5	2	3
N	Zirconia	ap=0.05D	Rotation Speed (min-1)	26800~29200	23000~25600	--	18300	--
		ae=0.3D	Feed Speed (mm/min)	320~350	460~510	--	730	--
S	Titanium Alloy	ap=0.05D	Rotation Speed (min-1)	--	29200	23600	18300	12200
		ae=0.3D	Feed Speed (mm/min)	--	550~7440	890	690~920	920

SN200-R4/RH4
High-temperature Alloy - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	1	2	3	4	5	6	8	10	12	16	20
S	Iron-based high-temperature Alloy	ap≤1D	25 (15-35)	Rotation Speed (min-1)	7900	3980	2650	1990	1592	1325	995	795	660	495	400
		ae≤0.1D		Feed Speed (mm/min)	550	280	210	160	125	160	160	190	185	160	160
	Cobalt-based high-temperature Alloy	ap≤1D	20 (15-30)	Rotation Speed (min-1)	6370	3180	2100	1590	1270	1060	795	635	530	400	320
		ae≤0.1D		Feed Speed (mm/min)	470	240	170	130	120	125	125	150	145	125	140
	Nickel-based high-temperature Alloy	ap≤1D	25 (15-30)	Rotation Speed (min-1)	7900	3980	2650	1990	1592	1325	995	795	660	495	400
		ae≤0.1D		Feed Speed (mm/min)	550	280	210	160	125	160	160	190	185	160	160

SN200-R4/RH4
High-temperature Alloy - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	1	2	3	4	5	6	8	10	12	16	20
S	Iron-based high-temperature Alloy	ap≤0.5D	20 (10-30)	Rotation Speed (min-1)	6370	3180	2100	1590	1270	1060	795	635	530	400	320
		ae≤1D		Feed Speed (mm/min)	280	230	160	120	120	105	95	90	95	80	65
	Cobalt-based high-temperature Alloy	ap≤0.5D	15 (10-25)	Rotation Speed (min-1)	4750	2380	1590	1190	950	795	600	475	400	300	240
		ae≤1D		Feed Speed (mm/min)	220	200	120	80	80	65	60	60	60	60	55
	Nickel-based high-temperature Alloy	ap≤0.5D	20 (10-30)	Rotation Speed (min-1)	6370	3180	2100	1590	1270	1060	795	635	530	400	320
		ae≤1D		Feed Speed (mm/min)	280	230	160	120	120	105	95	90	95	80	65

1. When the milling cutter is clamped, the radial bounce of the blade shall be controlled below 0.01mm.
2. Use machine and tool shanks with higher rigidity.
3. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
4. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

SN200-B4/BH4
High-temperature Alloy - Profile Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	3	4	5	6	8	10	12
S	Iron-based high-temperature Alloy	ap≤0.04D	40 (30-50)	Rotation Speed (min-1)	6370	4250	3180	2550	2120	1590	1270	1060
		ae≤0.04D		Feed Speed (mm/min)	500	420	350	300	255	285	305	340
	Cobalt-based high-temperature Alloy	ap≤0.04D	35 (25-45)	Rotation Speed (min-1)	5570	3710	2780	2230	1855	1390	1115	930
		ae≤0.04D		Feed Speed (mm/min)	440	360	270	260	220	220	265	260
	Nickel-based high-temperature Alloy	ap≤0.03D	40 (30-50)	Rotation Speed (min-1)	6370	4250	3180	2550	2120	1590	1270	1060
		ae≤0.03D		Feed Speed (mm/min)	500	420	350	300	255	285	305	320

SN300-S4/SH4/R4/RH4
High-temperature Alloy - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	1	2	3	4	5	6	8	10	12	16	20
S	Iron-based high-temperature Alloy	ap≤1D	25 (15-35)	Rotation Speed (min-1)	7900	3980	2650	1990	1592	1325	995	795	660	495	400
		ae≤0.1D		Feed Speed (mm/min)	550	280	210	160	125	160	160	190	185	160	160
	Cobalt-based high-temperature Alloy	ap≤1D	20 (15-30)	Rotation Speed (min-1)	6370	3180	2100	1590	1270	1060	795	635	530	400	320
		ae≤0.1D		Feed Speed (mm/min)	470	240	170	130	120	125	125	150	145	125	140
	Nickel-based high-temperature Alloy	ap≤1D	25 (15-30)	Rotation Speed (min-1)	7900	3980	2650	1990	1592	1325	995	795	660	495	400
		ae≤0.1D		Feed Speed (mm/min)	550	280	210	160	125	160	160	190	185	160	160

SN300-S4/SH4/R4/RH4
High-temperature Alloy - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	1	2	3	4	5	6	8	10	12	16	20
S	Iron-based high-temperature Alloy	ap≤0.5D	20 (10-30)	Rotation Speed (min-1)	6370	3180	2100	1590	1270	1060	795	635	530	400	320
		ae≤1D		Feed Speed (mm/min)	280	230	160	120	120	105	95	90	95	80	65
	Cobalt-based high-temperature Alloy	ap≤0.5D	15 (10-25)	Rotation Speed (min-1)	4750	2380	1590	1190	950	795	600	475	400	300	240
		ae≤1D		Feed Speed (mm/min)	220	200	120	80	80	65	60	60	60	60	55
	Nickel-based high-temperature Alloy	ap≤0.5D	20 (10-30)	Rotation Speed (min-1)	6370	3180	2100	1590	1270	1060	795	635	530	400	320
		ae≤1D		Feed Speed (mm/min)	280	230	160	120	120	105	95	90	95	80	65

1. When the milling cutter is clamped, the radial bounce of the blade shall be controlled below 0.01mm.
2. Use machine and tool shanks with higher rigidity.
3. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
4. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

SN300-S5/SH5/R5/RH5
High-temperature Alloy - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	6	8	10	12	16	20
S	Iron-based high-temperature Alloy	ap≤1D	25 (15-35)	Rotation Speed (min-1)	1325	995	795	660	495	400
		ae≤0.1D		Feed Speed (mm/min)	200	200	230	230	200	200
	Cobalt-based high-temperature Alloy	ap≤1D	20 (15-30)	Rotation Speed (min-1)	1060	795	635	530	400	320
		ae≤0.1D		Feed Speed (mm/min)	155	155	180	180	155	175
	Nickel-based high-temperature Alloy	ap≤1D	25 (15-30)	Rotation Speed (min-1)	1325	995	795	660	495	400
		ae≤0.1D		Feed Speed (mm/min)	200	200	230	230	200	200

SN300-S5/SH5/R5/RH5
High-temperature Alloy - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	6	8	10	12	16	20
S	Iron-based high-temperature Alloy	ap≤0.5D	20 (10-30)	Rotation Speed (min-1)	1060	795	635	530	400	320
		ae≤1D		Feed Speed (mm/min)	130	120	120	120	100	80
	Cobalt-based high-temperature Alloy	ap≤0.5D	15 (10-25)	Rotation Speed (min-1)	795	600	475	400	300	240
		ae≤1D		Feed Speed (mm/min)	80	75	75	75	75	70
	Nickel-based high-temperature Alloy	ap≤0.5D	20 (10-30)	Rotation Speed (min-1)	1060	795	635	530	400	320
		ae≤1D		Feed Speed (mm/min)	130	120	120	120	100	80

SN300-C-R5
High-temperature Alloy - Side Milling/Trochoidal Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	6	8	10	12	16	20
S	High-temperature Alloy	ap≤4D	30-40	Rotation Speed (min-1)	1590	1190	950	920	790	630
		ae≤0.15D		Feed Speed (mm/min)	300	310	330	440	500	630

1. When the milling cutter is clamped, the radial bounce of the blade shall be controlled below 0.01mm.
2. Use machine and tool shanks with higher rigidity.
3. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
4. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

STB200-CS
Stainless Steel and Titanium Alloy - Trochoidal Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	3	4	5	6	7	8	10
M	Stainless Steel	ap≤Lc	110 (80-150)	Rotation Speed (min-1)	17507	11671	8754	7003	5836	5002	4377	3501
		ae≤0.1D		Feed Speed (mm/min)	1401	1401	1401	1401	1401	1401	1401	1401
S	Titanium Alloy	ap≤Lc	80 (70-90)	Rotation Speed (min-1)	12732	8488	6366	5093	4244	3638	3183	2546
		ae≤0.08D		Feed Speed (mm/min)	815	815	815	815	815	815	815	815

STB200-CT
Titanium Alloy - Layer Milling, Profile Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	4	6	8	10	12	16	20
S	Titanium Alloy	ap≤0.4D	35-70	Rotation Speed (min-1)	6000	3180	2650	2180	1900	1590	1390	1110
		ae≤0.1D		Feed Speed (mm/min)	90	110	190	220	300	320	420	440

STB200-CN
High-temperature Alloy - Layer Milling, Profile Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	4	6	8	10	12	16	20
S	High-temperature Alloy	ap≤0.4D	30-40	Rotation Speed (min-1)	4500	2300	1590	1190	950	920	790	630
		ae≤0.08D		Feed Speed (mm/min)	70	75	110	120	160	180	190	200

1. When the milling cutter is clamped, the radial bounce of the blade shall be controlled below 0.01mm.
2. Use machine and tool shanks with higher rigidity.
3. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
4. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

STB200-FS
Stainless Steel and Titanium Alloy - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	3	4	5	6	8
M	Stainless Steel	ap≤2.5D	55 (30-80)	Rotation Speed (min-1)	8754	5836	4377	3501	2918	2188
		ae≤0.03D		Feed Speed (mm/min)	1050	700	525	420	350	263
S	Titanium Alloy	ap≤2.5D	30 (20-40)	Rotation Speed (min-1)	4775	3183	2387	1910	1592	1194
		ae≤0.03D		Feed Speed (mm/min)	573	382	286	229	191	143

STB200-FS
Stainless Steel and Titanium Alloy - Profile Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	3	4	5	6	8
M	Stainless Steel	ap≤0.02D	105 (90-120)	Rotation Speed (min-1)	16711	11141	8356	6685	5570	4178
		ae≤0.03D		Feed Speed (mm/min)	5013	3342	2507	2005	1671	1253
S	Titanium Alloy	ap≤0.02D	90 (80-95)	Rotation Speed (min-1)	14324	9549	7162	5730	4775	3581
		ae≤0.03D		Feed Speed (mm/min)	4297	2865	2149	1719	1432	1074

STB200-FT
Titanium Alloy - Point Milling, Profile Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	4	6	8	10	12	16	20
S	Titanium Alloy	ap≤0.2D	40-70	Rotation Speed (min-1)	6000	3180	2650	2180	1900	1590	1390	1110
		ae≤0.02D		Feed Speed (mm/min)	120	150	270	310	420	450	590	620

STB200-FN
High-temperature Alloy - Point Milling, Profile Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	4	6	8	10	12	16	20
S	High-temperature Alloy	ap≤0.2D	30-40	Rotation Speed (min-1)	4500	2300	1590	1190	950	920	790	630
		ae≤0.02D		Feed Speed (mm/min)	80	90	130	140	190	210	230	240

1. When the milling cutter is clamped, the radial bounce of the blade shall be controlled below 0.01mm.
2. Use machine and tool shanks with higher rigidity.
3. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
4. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

SD200-CN
Composite Material - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	4	6	8	10	12
N	Carbon Steel CFRP	ap≤2D	140 (80-200)	Rotation Speed (min-1)	15000	8000	7430	5570	4460	3715
		ae≤0.2D		Feed Speed (mm/min)	900	480	445	445	445	370
	Glass Fiber GFRP	ap≤2D	150 (100-200)	Rotation Speed (min-1)	15000	8000	7960	5970	4775	3980
		ae≤0.2D		Feed Speed (mm/min)	900	480	475	475	475	400

SD200-CN
Composite Material - Grooving

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	4	6	8	10	12
N	Carbon Steel CFRP	ap≤1D	120 (80-160)	Rotation Speed (min-1)	15000	8000	6370	4775	3820	3185
		ae≤1D		Feed Speed (mm/min)	600	320	255	285	305	320
	Glass Fiber GFRP	ap≤1D	150 (100-200)	Rotation Speed (min-1)	15000	8000	7960	5970	4775	3980
		ae≤1D		Feed Speed (mm/min)	600	320	320	360	380	400

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

SH160-S2, R2
Alloy Steel, Hardened Steel - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	4	6	8	10	12	16	20
H	Alloy Steel, Hardened Steel (<55HRC)	ap≤1D	120	Rotation Speed (min-1)	19110	9550	6370	4780	3820	3190	2390	1910
		ae≤0.05D		Feed Speed (mm/min)	380	380	380	380	370	360	310	290
	Alloy Steel, Hardened Steel (55-60HRC)	ap≤0.7D	90	Rotation Speed (min-1)	15920	11940	7960	5970	4780	3980	2990	2390
		ae≤0.03D		Feed Speed (mm/min)	260	360	370	360	360	330	320	290

SH160-S4, SH4, S6, R4, RH4
Alloy Steel, Hardened Steel - Side Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	4	6	8	10	12	16	20
H	Alloy Steel, Hardened Steel (<55HRC)	ap≤1D	120	Rotation Speed (min-1)	19110	9550	6370	4780	3820	3190	2390	1910
		ae≤0.05D		Feed Speed (mm/min)	760	760	760	760	730	710	620	570
	Alloy Steel, Hardened Steel (55-60HRC)	ap≤0.7D	90	Rotation Speed (min-1)	15920	11940	7960	5970	4780	3980	2990	2390
		ae≤0.03D		Feed Speed (mm/min)	510	720	730	720	730	670	630	570

SH160-B2, BH2
Alloy Steel, Hardened Steel - Profile Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	4	6	8	10	12	14	16
H	Alloy Steel, Hardened Steel (<55HRC)	ap≤0.03D	200	Rotation Speed (min-1)	31850	15920	10620	7960	6370	5310	4550	3980
		ae≤0.03D		Feed Speed (mm/min)	510	570	590	610	570	570	530	490
	Alloy Steel, Hardened Steel (55-60HRC)	ap≤0.02D	150	Rotation Speed (min-1)	23890	11940	7960	5970	4780	3980	3410	2990
		ae≤0.03D		Feed Speed (mm/min)	330	310	320	330	330	320	310	300

SH160-B4
Alloy Steel, Hardened Steel - Profile Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Edge Diameter (mm)	2	4	6	8	10	12	14	16
H	Alloy Steel, Hardened Steel (<55HRC)	ap≤0.03D	200	Rotation Speed (min-1)	31850	15920	10620	7960	6370	5310	4550	3980
		ae≤0.03D		feed Speed (mm/min)	1020	1150	1190	1210	1150	1150	1060	990
	Alloy Steel, Hardened Steel (55-60HRC)	ap≤0.02D	150	Rotation Speed (min-1)	23890	11940	7960	5970	4780	3980	3410	2990
		ae≤0.03D		feed Speed (mm/min)	670	620	640	670	670	640	610	600

[Notes]
1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended cutting data

SH260- S2/SN2/R2/RN2-H
Alloy Steel, Hardened Steel - Grooving

Workpiece Material		Cutting Amount (mm)	Cutting Conditions	Edge Diameter Dc (mm)					
				2	4	6	8	10	12
P	Alloy Steel (30-45HRC)	ae=1D	Rotation Speed (min-1)	20000	10350	8500	6600	5250	4400
		ap≤0.05D	Feed Speed (mm/min)	520	550	630	610	580	580
H	Hardened Steel (45-55HRC)	ae=1D	Rotation Speed (min-1)	16000	8300	5200	3800	3100	2800
		ap≤0.02D	Feed Speed (mm/min)	380	410	340	320	300	300
	Hardened Steel (55-60HRC)	ae=1D	Rotation Speed (min-1)	13500	6800	4600	3000	2400	2000
		ap≤0.01D	Feed Speed (mm/min)	240	240	230	190	180	170

SH260- S2/SN2/R2/RN2-H
Alloy Steel, Hardened Steel - Side Milling

Workpiece Material		Cutting Amount (mm)	Cutting Conditions	Edge Diameter Dc (mm)					
				2	4	6	8	10	12
P	Alloy Steel (30-45HRC)	ap≤0.8D	Rotation Speed (min-1)	20000	10350	8500	6600	5250	4400
		ae≤0.03D	Feed Speed (mm/min)	720	750	880	610	820	820
H	Hardened Steel (45-55HRC)	ap≤0.5D	Rotation Speed (min-1)	16000	8300	5200	3800	3100	2800
		ae≤0.03D	Feed Speed (mm/min)	540	570	520	460	420	420
	Hardened Steel (55-60HRC)	ap≤0.5D	Rotation Speed (min-1)	13500	6800	4600	3000	2400	2000
		ae≤0.01D	Feed Speed (mm/min)	340	360	350	270	250	250

[Notes]
1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

SH260- S4/S4A/SH4/SH4A/SL4/SL4A/SN4/R4/R4A/RH4/RH4A/RL4A/RN4-H
Alloy Steel, Hardened Steel - Side Milling

Workpiece Material		Cutting Amount (mm)	Cutting Application	Cutting Conditions	Edge Diameter Dc (mm)					
					2	4	6	8	10	12
P	Alloy Steel (30-45HRC)	ap≤1.2D ae≤0.08D	General Condition	Rotation Speed (min-1)	14000	7200	4800	3600	2900	2400
				Feed Speed (mm/min)	800	900	1000	1100	1050	1000
			High Speeds	Rotation Speed (min-1)	20000	10000	7000	5200	4200	3600
				Feed Speed (mm/min)	1200	1400	1600	1800	1600	1500
H	Hardened Steel (45-55HRC)	ap≤1.0D ae≤0.04D	General Condition	Rotation Speed (min-1)	12500	6400	4200	3200	2500	2100
				Feed Speed (mm/min)	500	600	700	800	700	640
			High Speeds	Rotation Speed (min-1)	18000	9200	6100	4600	3600	3000
				Feed Speed (mm/min)	900	1150	1300	1400	1300	1200
	Hardened Steel (55-60HRC)	ap≤0.8D ae≤0.02D	General Condition	Rotation Speed (min-1)	11000	5600	3700	2800	2200	1900
				Feed Speed (mm/min)	440	500	580	630	570	550
			High Speeds	Rotation Speed (min-1)	15000	8000	5300	4000	3200	2700
				Feed Speed (mm/min)	790	900	1040	1100	1000	900

SH260- S6/SH6/SL6-H
Alloy Steel, Hardened Steel - Side Milling

Workpiece Material		Cutting Amount (mm)	Cutting Conditions	Edge Diameter Dc (mm)					
				6	8	10	12	16	20
P	Alloy Steel (30-45HRC)	ap≤1.5D ae≤0.05D	Rotation Speed (min-1)	6200	4800	4000	3200	2400	1600
			Feed Speed (mm/min)	1674	1584	1560	1440	1296	960
H	Hardened Steel (45-55HRC)	ap≤1.5D ae≤0.03D	Rotation Speed (min-1)	4500	3600	3000	2400	1800	1200
			Feed Speed (mm/min)	1215	1188	1170	1080	972	720
	Hardened Steel (55-60HRC)	ap≤1.5D ae≤0.02D	Rotation Speed (min-1)	3100	2400	2000	1600	1200	800
			Feed Speed (mm/min)	744	720	720	627	576	432

[Notes]
1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended cutting data

SH260-B2/BH2/BN2-H
Alloy Steel, Hardened Steel - Profile Milling

Workpiece Material		Cutting Amount (mm)	Cutting Application	Cutting Conditions	Edge Diameter Dc (mm)					
					2	4	6	8	10	12
P	Alloy Steel (30-45HRC)	ap=0.05~0.1D ae≤0.02D	General Condition	Rotation Speed (min-1)	20000	10300	6900	5100	4100	3400
				Feed Speed (mm/min)	1500	1650	1650	1700	1700	1750
			High Speeds	Rotation Speed (min-1)	35000	17500	11600	8700	7000	6000
				Feed Speed (mm/min)	2600	2700	2700	2850	2850	2900
H	Hardened Steel (45-55HRC)	ap=0.05~0.1D ae≤0.02D	General Condition	Rotation Speed (min-1)	15900	8000	5300	4000	3200	2600
				Feed Speed (mm/min)	1200	1300	1300	1350	1350	1400
			High Speeds	Rotation Speed (min-1)	28600	14300	9500	7200	5700	4500
				Feed Speed (mm/min)	2200	2300	2300	2350	2350	2400
	Hardened Steel (55-60HRC)	ap=0.05~0.1D ae≤0.02D	General Condition	Rotation Speed (min-1)	12000	6000	4000	2900	2400	2100
				Feed Speed (mm/min)	900	960	960	920	920	900
			High Speeds	Rotation Speed (min-1)	25400	12700	8500	6400	5000	1900
				Feed Speed (mm/min)	1800	1800	1800	1500	1500	1500

[Notes]
1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.

Recommended Cutting Data

SH360- S2
Alloy Steel, Hardened Steel, Pre-hardened Steel - Grooving

Workpiece Material		Cutting Amount (mm)	Cutting Conditions	Edge Diameter Dc (mm)					
				2	4	6	8	10	12
H	Alloy Steel, Pre-hardened Steel (30-45HRC)	Ae=1.0D Ap≤0.05D	Rotation Speed N (min-1)	20000	10350	8500	6600	5250	4400
			Feed Speed F (mm/min)	520	550	630	610	580	580
	Alloy Steel, Hardened Steel (45-55HRC)	Ae=1.0D Ap≤0.02D	Rotation Speed (min-1)	16000	8300	5200	3800	3100	2800
			Feed Speed (mm/min)	380	410	340	320	300	300
	Alloy Steel, Hardened Steel (55-65HRC)	Ae=1D Ap≤0.01D	Rotation Speed (min-1)	13500	6800	4600	3000	2400	2000
			Feed Speed (mm/min)	240	240	230	190	180	170

SH360- S2
Alloy Steel, Hardened Steel, Pre-hardened Steel - Side Milling

Workpiece Material		Cutting Amount (mm)	Cutting Conditions	Edge Diameter Dc (mm)					
				2	4	6	8	10	12
H	Alloy Steel, Pre-hardened Steel (30-45HRC)	Ap≤1.5D Ae≤0.03D	Rotation Speed N (min-1)	20000	10350	8500	6600	5250	4400
			feed Speed F (mm/min)	720	750	880	610	820	820
	Alloy Steel, Hardened Steel (45-55HRC)	Ap≤1.5D Ae≤0.03D	Rotation Speed (min-1)	16000	8300	5200	3800	3100	2800
			Feed Speed (mm/min)	540	570	520	460	420	420
	Alloy Steel, Hardened Steel (55-65HRC)	Ap≤1.5D Ae≤0.01D	Rotation Speed (min-1)	13500	6800	4600	3000	2400	2000
			Feed Speed (mm/min)	340	360	350	270	250	250

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.
4. Recommended cooling modes include oil mist and cutting oil.

Recommended Cutting Data

SH360- S4A, SH4A, R4, RH4

Alloy Steel, Hardened Steel, Pre-hardened Steel - Side Milling

Workpiece Material		Cutting Amount (mm)	Cutting Application	Cutting Conditions	Edge Diameter Dc (mm)							
					2	4	6	8	10	12	16	20
H	Alloy Steel, Pre-hardened Steel (30-45HRC)	Ap≤1.5D Ae≤0.08D	General Condition	Rotation Speed N (min-1)	15000	8000	5300	4000	3200	2700	200	1600
				Feed Speed F (mm/min)	680	840	870	890	830	780	760	720
			High Speeds	Rotation Speed N (min-1)	40000	20000	13000	10000	8000	6600	5000	4000
				Feed Speed F (mm/min)	2910	3360	4390	4500	4320	3960	6750	3600
	Alloy Steel, Hardened Steel (45-55HRC)	Ap≤1.5D Ae≤0.04D	General Condition	Rotation Speed N (min-1)	13000	6000	4200	3200	2500	2100	1600	1300
				Feed Speed F (mm/min)	520	520	870	890	830	780	760	720
			High Speeds	Rotation Speed N (min-1)	32000	16000	11000	8000	6400	5300	400	3200
				Feed Speed F (mm/min)	1830	2110	3270	3170	3040	2800	2640	2530
	Alloy Steel, Hardened Steel (55-65HRC)	Ap≤1.5D Ae≤0.02D	General Condition	Rotation Speed N (min-1)	9600	4800	3200	2400	1900	1600	1200	1000
				Feed Speed F (mm/min)	350	380	600	600	570	540	520	500
			High Speeds	Rotation Speed N (min-1)	24000	12000	8000	6000	4800	4000	3000	2400
				Feed Speed F (mm/min)	1250	1440	2160	2160	2070	1920	1800	1730

SH360- S6, SL6

Alloy Steel, Hardened Steel, Pre-hardened Steel - Side Milling

Workpiece Material		Cutting amount (mm)	Cutting Application	Cutting Conditions	Edge Diameter Dc (mm)							
					2	4	6	8	10	12	16	20
H	Alloy Steel, Pre-hardened Steel (30-45HRC)	Ap≤1.5D Ae≤0.08D	General Condition	Rotation Speed N (min-1)	16000	9300	6200	4800	4000	3200	2400	1920
				Feed Speed F (mm/min)	1600	1650	1774	1684	1650	1540	1396	1060
			High Speeds	Rotation Speed N (min-1)	43000	21500	14400	10800	8600	7200	5400	4300
				Feed Speed F (mm/min)	3910	4360	5294	5294	5140	4720	4386	3940
	Alloy Steel, Hardened Steel (45-55HRC)	Ap≤1.5D Ae≤0.04D	General Condition	Rotation Speed N (min-1)	13500	6500	4500	3600	3000	2400	1800	1300
				Feed Speed F (mm/min)	1000	1020	1215	1188	1170	1080	972	920
			High Speeds	Rotation Speed N (min-1)	32500	16800	11300	8400	6900	5600	4200	3200
				Feed Speed F (mm/min)	2550	2650	3615	3468	3380	3100	2852	2730
	Alloy Steel, Hardened Steel (55-65HRC)	Ap≤1.5D Ae≤0.02D	General Condition	Rotation Speed N (min-1)	11400	5700	3800	2900	2400	2000	1500	1200
				Feed Speed F (mm/min)	500	600	744	720	720	627	576	532
			High Speeds	Rotation Speed N (min-1)	25800	12900	8600	6500	5300	4400	3300	2600
				Feed Speed F (mm/min)	1400	1660	2304	2280	2220	2007	1856	1762

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.
4. Recommended cooling modes include oil mist and cutting oil.

Recommended Cutting Data

SH360-B2, BH2
Alloy Steel, Hardened Steel, Pre-hardened Steel - Profile Milling

Workpiece Material		Cutting Amount (mm)	Cutting Application	Cutting Conditions	Ball Radius R*Edge Diameter Dc (mm)						
					R1	R2	R3	R4	R5	R6	R8
H	Alloy Steel, Pre-hardened Steel (30-45HRC)	Ap=0.05~0.1 Ae≤0.02D	General Condition General	Rotation Speed N (min-1)	20000	10300	6900	5100	4100	3400	2550
				Feed Speed F (mm/min)	1500	1650	1650	1700	1700	1750	1750
			High Speeds High Speed	Rotation Speed N (min-1)	35000	17500	11600	8700	7000	6000	4500
				Feed Speed F (mm/min)	2600	2700	2700	2850	2850	2900	2900
	Alloy Steel, Hardened Steel (45-55HRC)	Ap=0.05~0.1 Ae≤0.02D	General Condition General	Rotation Speed N (min-1)	15900	8000	5300	4000	3200	2600	1950
				Feed Speed F (mm/min)	1200	1300	1300	1350	1350	1400	1400
			High Speeds High Speed	Rotation Speed N (min-1)	28600	14300	9500	7200	5700	4500	3380
				Feed Speed F (mm/min)	2200	2300	2300	2350	2350	2400	2400
	Alloy Steel, Hardened Steel (55-65HRC)	Ap=0.05~0.1 Ae≤0.02D	General Condition General	Rotation Speed N (min-1)	12000	6000	4000	2900	2400	2100	1600
				Feed Speed F (mm/min)	900	960	960	920	920	900	900
			High Speeds High Speed	Rotation Speed N (min-1)	25400	12700	8500	6400	5000	1900	1450
				Feed Speed F (mm/min)	1800	1800	1800	1500	1500	1500	1500

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.
4. Recommended cooling modes include oil mist and cutting oil.

Recommended Cutting Data

SH360-B4, BH4
Alloy Steel, Hardened Steel, Pre-hardened Steel - Profile Milling

Workpiece Material		Cutting Amount (mm)	Cutting Application	Cutting Conditions	Ball Radius R*Edge Diameter Dc (mm)						
					R1	R2	R3	R4	R5	R6	R8
H	Alloy Steel, Pre-hardened Steel (30-45HRC)	Ap=0.05~0.1 Ae≤0.02D	General Condition	Rotation Speed N (min-1)	20000	10300	6900	5100	4100	3400	2550
				Feed Speed F (mm/min)	1500	1650	1650	1700	1700	1750	1750
			High Speeds	Rotation Speed N (min-1)	35000	17500	11600	8700	7000	6000	4500
				Feed Speed F (mm/min)	2600	2700	2700	2850	2850	2900	2900
	Alloy Steel, Hardened Steel (45-55HRC)	Ap=0.05~0.1 Ae≤0.02D	General Condition	Rotation Speed N (min-1)	15900	8000	5300	4000	3200	2600	1950
				Feed Speed F (mm/min)	1200	1300	1300	1350	1350	1400	1400
			High Speeds	Rotation Speed N (min-1)	28600	14300	9500	7200	5700	4500	3380
				Feed Speed F (mm/min)	2200	2300	2300	2350	2350	2400	2400
	Alloy Steel, Hardened Steel (55-65HRC)	Ap=0.05~0.1 Ae≤0.02D	General Condition	Rotation Speed N (min-1)	12000	6000	4000	2900	2400	2100	1600
				Feed Speed F (mm/min)	900	960	960	920	920	900	900
			High Speeds	Rotation Speed N (min-1)	25400	12700	8500	6400	5000	1900	1450
				Feed Speed F (mm/min)	1800	1800	1800	1500	1500	1500	1500

1. Use machine and tool shanks with higher rigidity.
2. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
3. The above table is based on the tool overhang length of less than 4 times the diameter. If the tool overhang length is too long, it is easy to vibrate during machining. At this time, please adjust the rotation speed, feed rate and cutting depth appropriately.
4. Recommended cooling modes include oil mist and cutting oil.

Recommended Cutting Data

FH200-R4/RN4-H
Alloy Steel, Hardened Steel - Face Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Cutting Conditions	Edge Diameter Dc (mm)						
					1	2	4	6	8	10	12
P	Alloy Steel (< 48HRC)	ap≤0.03D	150	Rotation Speed (min-1)	40000	24000	12000	8000	6500	5000	4500
		ae≤0.5D		Feed Speed (mm/min)	2640	3120	3840	5760	5760	5800	5200
H	Hardened Steel (45-55HRC)	ap≤0.025D	125	Rotation Speed (min-1)	33000	20000	10000	7000	5500	4000	3500
		ae≤0.5D		Feed Speed (mm/min)	2200	2600	3200	4800	4800	4400	3800
	Hardened Steel (55-65HRC)	ap≤0.02D	90	Rotation Speed (min-1)	23000	14000	7200	5000	3600	3000	2500
		ae≤0.5D		Feed Speed (mm/min)	2000	2500	2800	3500	3300	3000	2600

[Notes]
1. It is normal for the end edge of the tool to turn red during machining. As long as there is no obvious vibration or damage to the machine, it can continue to be used.
2. This tool type is not suitable for side milling machining.
3. Please adjust the rotation speed and feed rate appropriately according to the cutting speed, equipment rigidity, etc.
4. For smooth chip removal, it is recommended to use air cooling or oil cooling.

FH200-R6/RN6/RH6-H
Alloy Steel, Hardened Steel - Face Milling

Workpiece Material		Cutting Amount (mm)	Vc m/min	Cutting Conditions	Edge Diameter Dc (mm)					
					6	8	10	12	16	20
P	Alloy Steel (35-48 HRC)	ap≤0.035D	60-90	Rotation Speed (min-1)	3200-4800	2400-3600	1900-2900	1600-2400	1200-1800	950-1450
		ae≤0.5D		Feed Speed (mm/min)	2200-3000	2200-3000	2200-3000	2200-3000	2500-3500	2500-3500
H	Hardened Steel (45-65HRC)	ap≤0.035D	60-90	Rotation Speed (min-1)	3200-4800	2400-3600	1900-2900	1600-2400	1200-1800	950-1450
		ae≤0.5D		Feed Speed (mm/min)	1920-2880	1950-2920	1950-2950	1920-2880	2160-3240	2280-3480

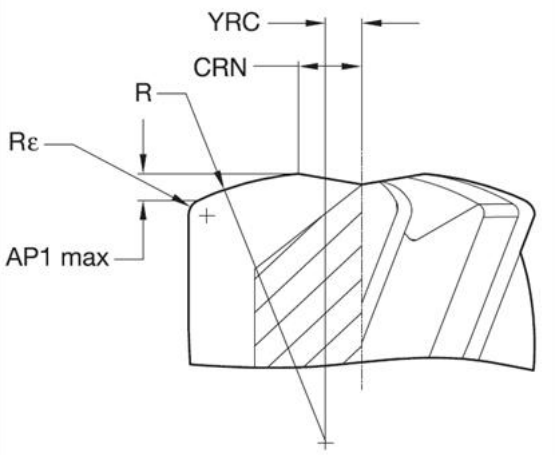
[Notes]
1. It is normal for the end edge of the tool to turn red during machining. As long as there is no obvious vibration or damage to the machine, it can continue to be used.
2. Cutting speed is negatively correlated with tool service life. In pursuit of high tool life, it is recommended that the cutting speed be selected between 60 and 80m/min.
3. Due to the special shape of the end cutting edge, the surface of the machined workpiece will have corresponding tool contour marks, which can be easily removed by subsequent semi-finishing.
4. There is no cutting edge in the center of the end edge of the tool, and vertical cutting is not allowed. The tool should be cut horizontally or obliquely from the edge of the workpiece.
5. This tool model is not suitable for machining under large cutting depth and side milling machining.

Table of Machining Technical Parameters

FH200-R6/RN6/RH6-H

Geometrical Parameters						Recommended Values for Circular Interpolation and Linear Interpolation During Slope Milling Machining.						
						Circular Interpolation		Linear Interpolation				
						Permitted Range for Machining Hole Diameters		Calculated Length Corresponding to Different Tilt Angles (mm)				
Diameter	Ap1 max	R	R_ε	YRC	CRN			Ramp Angle(degree)				
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	Min.	Max.	1 °	2 °	3 °	4 °	5 °
6	0.20	9	0.375	0.75	1.26	8.52	12.00	11.51	5.75	3.83	2.87	2.30
8	0.27	12	0.500	1.00	1.68	11.36	16.00	15.34	7.67	5.11	3.83	3.06
10	0.33	15	0.625	1.25	2.10	14.20	20.00	19.18	9.58	6.39	4.79	3.83
12	0.40	18	0.750	1.50	2.52	17.04	24.00	23.01	11.50	7.66	5.74	4.59
16	0.54	24	1.000	2.00	3.36	22.72	32.00	30.68	15.34	10.22	7.66	6.12
20	0.67	30	1.250	2.00	4.2	28.40	40.00	38.35	19.17	12.77	9.57	7.65
Recommended Feed Rate % for Ramp Milling								100%	70%	50%	30%	10%

R = Tool bit radius dimension.
YRC = Distance from centreline to the crown of the R radius.
CRN = Distance from centreline to the start of the cutting edge. This dimension can also help determine the minimum circle size when helical ramping.
R_ε = The shoulder axis radius or corner radius of the tool.



FH200-H Schematic Diagram of the End Edge of 6 Flute Corner Radius Endmill

Recommended Cutting Data (General Type)

SPM200-SN2/SHM200-SN2

2 Flutes, Square Endmill, Micro Diameter for Deep Machining

Workpiece Material			P						N		H			
			Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		Ph and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)			1.00		0.90		0.70		1.20		0.50		0.45	
Outer Diameter (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
0.1	0.3	0.006	45,000	450	45,000	428	43,740	313	50,000	500	38,475	230	36,045	187
	0.5	0.004	45,000	450	45,000	428	43,740	313	50,000	500	38,475	230	36,045	187
	1	0.003	45,000	410	43,740	387	39,330	284	50,000	455	34,650	209	32,445	168
0.2	0.5	0.02	40,500	574	36,450	517	34,425	363	45,000	637	30,375	271	28,350	218
	1	0.014	40,500	574	36,450	517	34,425	363	45,000	637	30,375	271	28,350	218
	1.5	0.008	36,450	473	32,805	425	30,983	326	43,740	567	27,338	244	25,515	196
	2	0.005	32,400	378	29,160	340	27,540	257	38,880	454	24,300	193	22,680	155
	3	0.003	32,400	340	29,160	306	27,540	231	38,880	409	24,300	174	22,680	140
0.3	1	0.021	36,000	510	32,400	459	30,600	322	43,200	612	27,000	240	25,200	194
	1.5	0.021	36,000	510	32,400	459	30,600	322	43,200	612	27,000	240	25,200	194
	2	0.012	32,400	420	29,160	378	27,540	290	38,880	504	24,300	217	22,680	175
	2.5	0.01	32,400	420	29,160	378	27,540	290	38,880	504	24,300	217	22,680	175
	3	0.008	32,400	420	29,160	378	27,540	290	38,880	504	24,300	217	22,680	175
0.4	1	0.04	28,800	635	25,920	572	24,480	401	34,560	762	21,600	300	20,160	241
	1.5	0.028	28,800	635	25,920	572	24,480	401	34,560	762	21,600	300	20,160	241
	2	0.028	28,800	635	25,920	572	24,480	401	34,560	762	21,600	300	20,160	241
	2.5	0.022	25,920	523	23,328	471	22,032	361	31,104	627	19,440	269	18,144	217
	3	0.016	25,920	523	23,328	471	22,032	361	31,104	627	19,440	269	18,144	217
	3.5	0.012	25,920	523	23,328	471	22,032	361	31,104	627	19,440	269	18,144	217
	4	0.01	25,920	523	23,328	471	22,032	361	31,104	627	19,440	269	18,144	217
	5	0.01	23,040	407	20,736	365	19,584	234	27,648	488	17,280	207	16,128	163
	6	0.006	23,040	407	20,736	365	19,584	234	27,648	488	17,280	207	16,128	163
	8	0.003	20,160	310	18,144	279	17,136	180	24,192	372	15,120	155	14,112	118
	10	0.002	17,280	228	15,552	205	14,688	132	20,736	274	12,960	114	12,096	86
0.5	1	0.05	28,800	635	25,920	572	24,480	482	34,560	762	21,600	300	20,160	241
	1.5	0.05	28,800	635	25,920	572	24,480	482	34,560	762	21,600	300	20,160	241
	2	0.035	28,800	635	25,920	572	24,480	482	34,560	762	21,600	300	20,160	241
	2.5	0.03	25,920	523	23,328	471	22,032	397	31,104	627	19,440	269	18,144	217
	3	0.02	25,920	523	23,328	471	22,032	397	31,104	627	19,440	269	18,144	217
	4	0.02	25,920	523	23,328	471	22,032	361	31,104	627	19,440	269	18,144	217
	5	0.013	25,920	523	23,328	471	22,032	361	31,104	627	19,440	269	18,144	217
	6	0.013	23,040	407	20,736	365	19,584	234	27,648	488	17,280	207	16,128	163

[Note] Please refer to P686.

Recommended Cutting Data (General Type)

SPM200-SN2/SHM200-SN2

2 Flutes, Square Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material			P						N		H			
			Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		Ph and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)			1.00		0.90		0.70		1.20		0.50		0.45	
Outer Diameter (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
0.5	8	0.008	23,040	348	20,736	313	19,584	222	27,648	418	17,280	175	16,128	132
	10	0.004	20,160	270	18,144	243	17,136	157	24,192	324	15,120	135	14,112	103
0.6	2	0.042	28,800	907	25,920	816	24,480	572	34,560	1,089	21,600	428	20,160	345
	3	0.035	25,920	746	23,328	671	22,032	516	31,104	896	19,440	385	18,144	311
	4	0.024	25,920	746	23,328	671	22,032	516	31,104	896	19,440	385	18,144	311
	5	0.02	25,920	746	23,328	671	22,032	516	31,104	896	19,440	385	18,144	311
	6	0.015	25,920	746	23,328	671	22,032	516	31,104	896	19,440	385	18,144	311
	7	0.015	23,040	644	20,736	580	19,584	445	27,648	773	17,280	332	16,128	268
	8	0.015	23,040	581	20,736	523	19,584	335	27,648	697	17,280	295	16,128	232
	9	0.012	23,040	581	20,736	523	19,584	335	27,648	697	17,280	295	16,128	232
	10	0.009	23,040	581	20,736	523	19,584	335	27,648	697	17,280	295	16,128	232
0.7	2	0.07	28,800	907	25,920	816	24,480	572	34,560	1,089	21,600	428	20,160	346
	4	0.049	25,920	746	23,328	671	22,032	516	31,104	896	19,440	385	18,144	311
	6	0.018	25,920	746	23,328	671	22,032	516	31,104	896	19,440	385	18,144	311
	8	0.018	23,040	581	20,736	523	19,584	335	27,648	697	17,280	295	16,128	232
	10	0.018	23,040	581	20,736	523	19,584	335	27,648	697	17,280	295	16,128	232
0.8	4	0.056	28,800	907	25,920	816	24,480	702	34,560	1,089	21,600	619	20,160	380
	6	0.032	25,920	746	23,328	671	22,032	610	31,104	896	21,600	599	18,144	341
	8	0.02	25,920	746	23,328	671	22,032	516	31,104	896	19,440	385	18,144	311
	10	0.02	23,040	581	20,736	523	19,584	335	27,648	697	17,280	295	16,128	232
	12	0.012	23,040	581	20,736	523	19,584	335	27,648	697	17,280	295	16,128	232
0.9	6	0.036	25,920	895	23,328	806	22,032	618	31,104	985	19,440	500	18,144	373
	8	0.023	25,920	820	23,328	738	22,032	567	31,104	985	19,440	462	18,144	341
	10	0.023	23,040	581	20,736	523	19,584	335	27,648	697	17,280	295	16,128	232
	12	0.023	23,040	581	20,736	523	19,584	335	27,648	697	17,280	295	16,128	232
1	2	0.1	25,920	1,220	23,328	1,098	22,032	1,035	31,104	1,465	20,637	907	18,144	761
	3	0.085	25,920	1,220	23,328	1,098	22,032	1,035	31,104	1,465	20,637	907	18,144	761
	4	0.07	25,920	1,220	23,328	1,098	22,032	969	31,104	1,465	20,637	867	18,144	689
	5	0.055	25,920	1,220	23,328	1,098	22,032	925	31,104	1,465	20,637	784	18,144	617
	6	0.04	23,328	1,008	20,995	907	19,829	813	27,994	1,210	18,630	671	16,330	419
	7	0.04	23,328	1,008	20,995	907	19,829	753	27,994	1,210	18,630	633	16,330	419
	8	0.04	23,328	1,008	20,995	907	19,829	753	27,994	1,210	18,630	560	16,330	419

[Note] Please refer to P686.

Recommended Cutting Data (General Type)

SPM200-SN2/SHM200-SN2

2 Flutes, Square Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material			P						N		H			
			Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)			1.00		0.90		0.70		1.20		0.50		0.45	
Outer Diameter (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
1	9	0.033	23,328	1,008	20,995	907	19,829	696	27,994	1,210	17,496	519	16,330	419
	10	0.025	23,328	1,008	20,995	907	19,829	696	27,994	1,210	17,496	519	16,330	419
	12	0.025	20,736	784	18,662	706	17,626	452	24,883	941	15,552	399	14,515	313
	14	0.025	20,736	784	18,662	706	17,626	452	24,883	941	15,552	399	14,515	313
	16	0.015	20,736	671	18,662	605	17,626	428	24,883	806	15,552	336	14,515	255
	20	0.01	18,621	549	20,111	494	15,828	313	22,345	659	13,966	275	13,035	203
	25	0.005	15,750	427	17,010	384	13,388	243	18,900	512	11,813	213	11,025	158
1.2	6	0.084	23,040	1,089	20,736	980	19,584	783	27,648	1,307	17,280	513	16,128	414
	8	0.048	20,736	896	18,662	806	17,626	705	24,883	1,075	15,552	462	14,515	373
	10	0.03	20,736	896	18,662	806	17,626	670	24,883	1,075	15,552	462	14,515	373
	12	0.03	20,736	896	18,662	806	17,626	618	24,883	1,075	15,552	462	14,515	373
	16	0.02	18,432	796	16,589	716	15,667	550	22,118	955	13,824	410	12,902	331
1.4	6	0.1	20,160	952	18,144	858	17,136	601	24,192	1,143	15,120	449	14,112	363
	12	0.035	18,144	784	16,330	706	15,422	541	21,773	941	13,608	404	12,701	326
1.5	4	0.11	20,160	1,047	18,144	943	17,136	721	24,192	1,257	15,120	583	14,112	434
	6	0.11	20,160	1,047	18,144	943	17,136	721	24,192	1,257	15,120	561	14,112	434
	8	0.08	18,144	862	16,330	846	15,422	649	21,773	1,034	13,608	484	12,701	374
	10	0.06	18,144	784	16,330	776	15,422	649	21,773	1,034	13,608	484	12,701	374
	12	0.06	18,144	784	16,330	706	15,422	649	21,773	941	13,608	404	12,701	326
	14	0.038	18,144	784	16,330	706	15,422	649	21,773	941	13,608	404	12,701	326
	16	0.038	16,128	609	14,515	549	13,709	352	19,354	732	12,096	311	11,290	244
	18	0.038	16,128	609	14,515	549	13,709	352	19,354	732	12,096	311	11,290	244
	20	0.038	16,128	609	14,515	549	13,709	352	19,354	732	12,096	311	11,290	244
	25	0.023	12,096	392	10,886	353	10,282	250	14,515	471	9,072	196	8,467	149
	30	0.015	10,080	266	10,886	239	8,568	160	12,096	320	7,560	125	7,056	101
	35	0.01	10,080	266	10,886	239	8,568	160	12,096	320	7,560	125	7,056	101
	40	0.005	8,064	142	7,258	128	6,854	86	9,677	171	6,048	67	5,645	54
1.6	6	0.11	18,720	1,081	16,848	1,017	15,912	683	22,464	1,179	14,040	509	13,104	410
	8	0.11	18,720	1,081	16,848	885	15,912	621	22,464	1,179	14,040	509	13,104	410
1.8	6	0.13	18,720	1,081	16,848	1,061	15,912	683	22,464	1,179	14,040	556	13,104	448
	8	0.13	18,720	1,081	16,848	973	15,912	621	22,464	1,179	14,040	556	13,104	448
2	4	0.2	15,120	1,057	13,608	943	12,852	661	18,144	1,257	11,340	493	10,584	399

[Note] Please refer to P686.

Recommended Cutting Data (General Type)

SPM200-SN2/SHM200-SN2

2 Flutes, Square Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material			P						N		H			
			Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)			1.00		0.90		0.70		1.20		0.50		0.45	
Outer Diameter (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
2	6	0.2	15,120	1,057	13,608	943	12,852	661	18,144	1,257	11,340	493	10,584	399
	8	0.14	15,120	1,057	13,608	943	12,852	661	18,144	1,257	11,340	493	10,584	399
	10	0.14	15,120	1,057	13,608	943	12,852	661	18,144	1,257	11,340	493	10,584	399
	12	0.1	13,608	862	12,247	776	11,567	595	16,330	1,034	10,206	444	9,526	358
	14	0.08	13,608	862	12,247	776	11,567	595	16,330	1,034	10,206	444	9,526	326
	16	0.08	13,608	823	12,247	776	11,567	541	16,330	941	10,206	404	9,526	326
	18	0.05	13,608	823	12,247	776	11,567	541	16,330	941	10,206	404	9,526	326
	20	0.05	13,608	784	12,247	706	11,567	541	16,330	941	10,206	404	9,526	326
	25	0.05	12,096	609	10,886	549	10,282	352	14,515	732	9,072	311	8,467	244
	30	0.03	12,096	609	10,886	549	10,282	352	14,515	732	9,072	311	8,467	244
	35	0.02	10,584	437	9,526	393	8,996	254	12,701	525	7,938	205	7,409	167
	40	0.01	10,584	437	9,526	393	8,996	254	12,701	525	7,938	205	7,409	167
	50	0.005	9,072	266	8,165	239	7,711	155	10,886	320	6,804	125	6,350	101
2.5	8	0.18	12,960	1,122	11,664	1,011	11,016	708	15,552	1,347	9,720	578	9,072	427
	12	0.18	12,960	1,122	11,664	1,011	11,016	644	15,552	1,134	9,720	529	9,072	388
	16	0.1	11,664	966	10,498	869	9,914	580	13,997	1,008	8,748	476	8,165	349
	20	0.1	11,664	840	10,498	756	9,914	580	13,997	1,008	8,748	476	8,165	349
	30	0.06	10,368	653	9,331	588	8,813	392	12,442	783	7,776	307	7,258	248
	40	0.03	9,072	469	8,165	422	7,711	282	10,886	563	6,804	221	6,350	178
	50	0.01	9,072	469	8,165	422	7,711	282	10,886	563	6,804	221	6,350	178
3	8	0.3	11,520	997	10,368	897	9,792	629	13,824	1,198	9,540	513	8,064	380
	12	0.21	11,520	997	10,368	897	9,792	629	13,824	1,198	9,540	513	8,064	380
	16	0.15	10,368	895	9,331	738	8,813	567	12,442	1,030	8,505	462	7,258	341
	20	0.12	10,368	820	9,331	738	8,813	567	12,442	896	8,505	462	7,258	341
	25	0.08	10,368	820	9,331	738	8,813	567	12,442	896	8,505	462	7,258	341
	30	0.08	10,368	746	9,331	671	8,813	567	12,442	896	8,505	462	7,258	312
	40	0.05	9,216	663	8,294	597	7,834	458	11,059	796	6,912	342	6,451	276
	50	0.02	8,064	417	7,258	375	6,854	250	9,677	500	6,048	196	5,645	158
4	12	0.4	8,460	1,692	7,614	1,372	7,191	1,222	10,350	2,070	6,345	812	5,922	655
	16	0.28	8,460	1,692	7,614	1,372	7,191	1,222	10,350	2,070	6,345	812	5,922	655
	20	0.28	7,614	1,523	6,853	1,234	6,472	1,100	9,315	1,863	5,711	731	5,330	590
	25	0.16	7,614	1,372	6,853	1,110	6,472	990	9,315	1,677	5,711	731	5,330	590

[Note] Please refer to P686.

Recommended Cutting Data (General Type)

SPM200-SN2/SHM200-SN2

2 Flutes, Square Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material			P						N		H			
			Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)			1.00		0.90		0.70		1.20		0.50		0.45	
Outer Diameter (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
4	30	0.16	7,614	1,372	6,853	1,110	6,472	990	9,315	1,677	5,711	731	5,330	590
	35	0.1	6,853	1,234	6,168	999	5,825	891	8,223	1,481	5,140	658	4,797	530
	40	0.1	6,853	1,234	6,168	999	5,825	891	8,223	1,481	5,140	658	4,797	530
	50	0.06	5,922	846	5,330	761	5,034	592	7,106	1,015	4,442	398	4,145	321
5	20	0.3	6,761	1,487	6,085	1,338	5,747	946	8,113	1,622	5,071	635	4,732	514
	25	0.3	6,084	1,216	5,476	1,094	5,171	851	7,301	1,459	4,563	572	4,259	462
	30	0.2	6,084	1,095	5,476	985	5,171	766	7,301	1,315	4,563	516	4,259	416
	40	0.15	5,476	986	4,928	887	4,654	690	6,571	1,184	4,107	464	3,833	374
	50	0.1	5,476	986	4,928	887	4,654	690	6,571	1,184	4,107	464	3,833	374
6	20	0.5	5,564	1,333	5,008	1,200	4,730	932	6,676	1,466	4,173	689	3,894	506
	30	0.4	5,058	1,211	4,552	1,091	4,299	848	6,070	1,332	3,794	626	3,541	460
	40	0.3	5,058	998	4,552	898	4,299	762	6,070	1,199	3,794	563	3,541	413
	50	0.2	4,500	887	4,050	798	3,825	621	5,400	981	3,375	464	3,150	341

[Notes]
1. For different workpiece materials, please adjust ap according to the cutting depth ratio coefficient in the above table, such as: For hardened steel (45～55 HRC), the value of ap should be *0.5.
2. Please use the appropriate cooling fluid in combination with the workpiece material and machining shape. Air cooling or water cooling is recommended.
3. In actual machining, please consider factors such as machining shape, purpose, and machine tools used to adjust the cutting conditions.
4. If the machine rotation speed is lower than the value listed in the table, the feed rate should be reduced to the same proportion as the rotation speed.

Recommended Cutting Data (High Accuracy)

SPM200-SN2/SHM200-SN2

2 Flutes, Square Endmill, Micro Diameter for Deep Machining

Workpiece Material			P						N		H			
			Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)			1.00		0.90		0.70		1.20		0.50		0.45	
Outer Diameter (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
0.1	0.3	0.006	50,000	350	45,000	299	43,740	218	50,000	350	38,475	160	36,045	130
	0.5	0.004	50,000	350	45,000	299	43,740	218	50,000	350	38,475	160	36,045	130
	1	0.003	50,000	318	43,740	271	39,330	198	50,000	318	34,650	146	32,445	116
0.2	0.5	0.015	40,500	401	36,450	361	34,425	254	45,000	446	30,375	189	28,350	152
	1	0.011	40,500	401	36,450	361	34,425	254	45,000	446	30,375	189	28,350	152
	1.5	0.006	36,450	330	32,805	297	30,983	228	43,740	397	27,338	170	25,515	137
	2	0.004	32,400	265	29,160	238	27,540	180	38,880	317	24,300	149	22,680	132
	3	0.002	32,400	238	29,160	214	27,540	161	38,880	285	24,300	149	22,680	120
0.3	1	0.021	36,000	408	32,400	367	30,600	257	43,200	490	27,000	216	25,200	174
	1.5	0.021	36,000	408	32,400	367	30,600	257	43,200	490	27,000	216	25,200	174
	2	0.012	32,400	336	29,160	302	27,540	231	38,880	403	24,300	173	22,680	140
	2.5	0.01	32,400	336	29,160	302	27,540	231	38,880	403	24,300	173	22,680	140
	3	0.008	32,400	336	29,160	302	27,540	231	38,880	403	24,300	162	22,680	131
0.4	1	0.04	28,800	572	25,920	514	24,480	361	34,560	686	21,600	267	20,160	217
	1.5	0.028	28,800	572	25,920	514	24,480	361	34,560	686	21,600	267	20,160	217
	2	0.028	28,800	572	25,920	514	24,480	361	34,560	686	21,600	267	20,160	217
	2.5	0.022	25,920	418	23,328	376	22,032	288	31,104	501	19,440	215	18,144	173
	3	0.016	25,920	418	23,328	376	22,032	288	31,104	501	19,440	215	18,144	173
	3.5	0.012	25,920	418	23,328	376	22,032	288	31,104	501	19,440	215	18,144	173
	4	0.01	25,920	418	23,328	376	22,032	288	31,104	501	19,440	215	18,144	173
	5	0.01	23,040	284	20,736	256	19,584	187	27,648	365	17,280	166	16,128	130
	6	0.006	23,040	284	20,736	256	19,584	187	27,648	365	17,280	166	16,128	130
	8	0.003	20,160	216	18,144	195	17,136	144	24,192	260	15,120	127	14,112	115
	10	0.002	17,280	159	15,552	143	14,688	105	20,736	191	12,960	93	12,096	85
0.5	1	0.05	28,800	572	25,920	514	24,480	401	34,560	686	21,600	269	20,160	217
	1.5	0.05	28,800	572	25,920	514	24,480	401	34,560	686	21,600	269	20,160	217
	2	0.035	28,800	572	25,920	514	24,480	401	34,560	686	21,600	269	20,160	217
	2.5	0.03	25,920	418	23,328	376	22,032	319	31,104	501	19,440	215	18,144	173
	3	0.02	25,920	418	23,328	376	22,032	319	31,104	501	19,440	215	18,144	173
	4	0.02	25,920	418	23,328	376	22,032	288	31,104	501	19,440	215	18,144	173
	5	0.013	25,920	418	23,328	376	22,032	288	31,104	501	19,440	215	18,144	173
	6	0.013	23,040	325	20,736	292	19,584	187	27,648	390	17,280	166	16,128	130

[Note] Please refer to P691.

Recommended Cutting Data (High Accuracy)

SPM200-SN2/SHM200-SN2

2 Flutes, Square Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material			P						N		H			
			Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)			1.00		0.90		0.70		1.20		0.50		0.45	
Outer Diameter (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
0.5	8	0.008	23,040	278	20,736	250	19,584	155	27,648	334	17,280	140	16,128	105
	10	0.004	20,160	216	18,144	194	17,136	109	24,192	259	15,120	95	14,112	71
0.6	2	0.042	28,800	816	25,920	734	24,480	515	34,560	980	21,600	384	20,160	310
	3	0.035	25,920	671	23,328	604	22,032	464	31,104	806	19,440	347	18,144	279
	4	0.024	25,920	671	23,328	604	22,032	464	31,104	806	19,440	347	18,144	279
	5	0.02	25,920	597	23,328	536	22,032	412	31,104	716	19,440	308	18,144	248
	6	0.015	25,920	597	23,328	536	22,032	412	31,104	716	19,440	308	18,144	248
	7	0.015	23,040	515	20,736	464	19,584	356	27,648	618	17,280	266	16,128	214
	8	0.015	23,040	464	20,736	418	19,584	267	27,648	536	17,280	236	16,128	185
	9	0.012	23,040	464	20,736	418	19,584	267	27,648	536	17,280	236	16,128	185
	10	0.009	23,040	464	20,736	418	19,584	267	27,648	536	17,280	236	16,128	185
0.7	2	0.07	28,800	816	25,920	734	24,480	515	34,560	980	21,600	384	20,160	310
	4	0.049	25,920	597	23,328	536	22,032	412	31,104	716	19,440	308	18,144	248
	6	0.018	25,920	597	23,328	536	22,032	412	31,104	716	19,440	308	18,144	248
	8	0.018	23,040	406	20,736	365	19,584	234	27,648	487	17,280	206	16,128	162
	10	0.018	23,040	406	20,736	365	19,584	234	27,648	487	17,280	206	16,128	162
0.8	4	0.056	28,800	816	25,920	734	24,480	572	34,560	980	21,600	428	20,160	345
	6	0.032	25,920	597	23,328	536	22,032	516	31,104	716	19,440	385	18,144	311
	8	0.02	25,920	597	23,328	536	22,032	412	31,104	716	19,440	308	18,144	248
	10	0.02	23,040	406	20,736	365	19,584	234	27,648	487	17,280	206	16,128	162
	12	0.012	23,040	406	20,736	365	19,584	234	27,648	487	17,280	206	16,128	162
0.9	6	0.036	25,920	746	23,328	671	22,032	516	31,104	896	19,440	385	18,144	311
	8	0.023	25,920	671	23,328	671	22,032	516	31,104	896	19,440	385	18,144	311
	10	0.023	23,040	464	20,736	418	19,584	267	27,648	557	17,280	236	16,128	185
	12	0.023	23,040	406	20,736	373	19,584	267	27,648	487	17,280	236	16,128	185
1	2	0.09	25,920	1,098	23,328	988	22,032	842	31,104	1,319	19,440	629	18,144	507
	3	0.07	25,920	1,098	23,328	988	22,032	842	31,104	1,319	19,440	629	18,144	507
	4	0.065	25,920	1,098	23,328	988	22,032	842	31,104	1,319	19,440	629	18,144	507
	5	0.05	25,920	1,098	23,328	988	22,032	842	31,104	1,319	19,440	629	18,144	507
	6	0.035	23,328	907	20,995	816	19,829	696	27,994	1,148	17,496	519	16,330	376
	7	0.035	23,328	907	20,995	816	19,829	696	27,994	1,148	17,496	519	16,330	376
	8	0.035	23,328	907	20,995	816	19,829	696	27,994	1,088	17,496	519	16,330	376

[Note] Please refer to P691.

Recommended Cutting Data (High Accuracy)

SPM200-SN2/SHM200-SN2

2 Flutes, Square Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material			P						N		H			
			Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)			1.00		0.90		0.70		1.20		0.50		0.45	
Outer Diameter (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
1	9	0.03	23,328	907	20,995	816	19,829	626	27,994	1,088	17,496	415	16,330	335
	10	0.022	23,328	806	20,995	734	19,829	626	27,994	1,088	17,496	415	16,330	335
	12	0.022	20,736	626	18,662	564	17,626	361	24,883	752	15,552	319	14,515	250
	14	0.022	20,736	626	18,662	564	17,626	361	24,883	752	15,552	319	14,515	250
	16	0.012	20,736	536	18,662	483	17,626	342	24,883	644	15,552	268	14,515	203
	20	0.008	18,621	439	16,759	395	15,828	250	22,345	527	13,966	192	13,035	142
	25	0.005	15,750	341	14,175	307	13,388	194	18,900	410	11,813	149	11,025	110
1.2	6	0.084	23,040	980	20,736	882	19,584	684	27,648	1,175	17,280	462	16,128	373
	8	0.048	20,736	806	18,662	725	17,626	616	24,883	967	15,552	415	14,515	335
	10	0.03	20,736	806	18,662	725	17,626	616	24,883	967	15,552	415	14,515	335
	12	0.03	20,736	644	18,662	578	17,626	494	24,883	860	15,552	369	14,515	298
	16	0.02	18,432	636	16,589	501	15,667	439	22,118	763	13,824	328	12,902	265
1.4	6	0.1	20,160	857	18,144	771	17,136	541	24,192	1,029	15,120	404	14,112	325
	12	0.035	18,144	705	16,330	635	15,422	486	21,773	846	13,608	364	12,701	293
1.5	4	0.11	20,160	952	18,144	858	17,136	601	24,192	1,143	15,120	449	14,112	362
	6	0.11	20,160	857	18,144	779	17,136	601	24,192	1,029	15,120	449	14,112	362
	8	0.06	18,144	784	16,330	706	15,422	541	21,773	941	13,608	404	12,701	326
	10	0.06	18,144	705	16,330	635	15,422	541	21,773	941	13,608	404	12,701	326
	12	0.06	18,144	705	16,330	635	15,422	541	21,773	846	13,608	364	12,701	293
	14	0.038	18,144	705	16,330	635	15,422	541	21,773	846	13,608	364	12,701	293
	16	0.038	16,128	548	14,515	494	13,709	316	19,354	658	12,096	279	11,290	219
	18	0.038	16,128	548	14,515	494	13,709	316	19,354	658	12,096	279	11,290	219
	20	0.038	16,128	548	14,515	439	13,709	281	19,354	658	12,096	248	11,290	194
	25	0.023	12,096	352	10,886	282	10,282	200	14,515	423	9,072	157	8,467	119
	30	0.015	10,080	239	10,886	191	8,568	134	12,096	287	7,560	100	7,056	80
	35	0.01	10,080	212	10,886	167	8,568	134	12,096	256	7,560	100	7,056	80
	40	0.005	8,064	113	7,258	102	6,854	68	9,677	137	6,048	53	5,645	43
1.6	6	0.11	18,720	879	16,848	796	15,912	621	22,464	1,061	14,040	464	13,104	374
	8	0.11	18,720	879	16,848	796	15,912	559	22,464	1,061	14,040	464	13,104	374
1.8	6	0.13	18,720	897	16,848	796	15,912	621	22,464	1,061	14,040	464	13,104	374
	8	0.13	18,720	897	16,848	796	15,912	559	22,464	1,061	14,040	464	13,104	374
2	4	0.2	15,120	857	13,608	775	12,852	590	18,144	1,143	11,340	449	10,584	362

[Note] Please refer to P691.

Recommended Cutting Data (High Accuracy)

SPM200-SN2/SHM200-SN2

2 Flutes, Square Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material			P						N		H			
			Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)			1.00		0.90		0.70		1.20		0.50		0.45	
Outer Diameter (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
2	6	0.2	15,120	857	13,608	775	12,852	590	18,144	1,143	11,340	449	10,584	362
	8	0.14	15,120	857	13,608	775	12,852	590	18,144	1,143	11,340	449	10,584	362
	10	0.14	15,120	857	13,608	775	12,852	590	18,144	1,143	11,340	449	10,584	362
	12	0.08	13,608	784	12,247	706	11,567	531	16,330	941	10,206	404	9,526	326
	14	0.08	13,608	784	12,247	706	11,567	531	16,330	941	10,206	404	9,526	293
	16	0.08	13,608	705	12,247	636	11,567	486	16,330	846	10,206	383	9,526	293
	18	0.05	13,608	705	12,247	636	11,567	486	16,330	846	10,206	364	9,526	260
	20	0.05	13,608	626	12,247	564	11,567	432	16,330	799	10,206	323	9,526	260
	25	0.05	12,096	548	10,886	494	10,282	281	14,515	658	9,072	279	8,467	209
	30	0.03	12,096	487	10,886	439	10,282	246	14,515	585	9,072	248	8,467	194
	35	0.02	10,584	349	9,526	314	8,996	203	12,701	419	7,938	164	7,409	133
	40	0.01	10,584	306	9,527	275	8,996	177	12,701	367	7,938	143	7,409	116
	50	0.005	9,072	212	8,165	167	7,711	108	10,886	256	6,804	87	6,350	70
2.5	8	0.18	12,960	1,021	11,664	919	11,016	644	15,552	1,225	9,720	482	9,072	388
	12	0.18	12,960	918	11,664	840	11,016	580	15,552	1,021	9,720	468	9,072	348
	16	0.1	11,664	755	10,498	682	9,914	521	13,997	907	8,748	405	8,165	314
	20	0.1	11,664	715	10,498	640	9,914	464	13,997	756	8,748	405	8,165	279
	30	0.06	10,368	522	9,331	411	8,813	313	12,442	626	7,776	245	7,258	198
	40	0.03	9,072	328	8,165	295	7,711	225	10,886	393	6,804	176	6,350	142
	50	0.01	9,072	304	8,165	274	7,711	183	10,886	338	6,804	154	6,350	124
3	8	0.3	11,520	907	10,368	816	9,792	572	13,824	1,089	8,640	428	8,064	345
	12	0.21	11,520	907	10,368	816	9,792	572	13,824	1,089	8,640	428	8,064	345
	16	0.12	10,368	746	9,331	671	8,813	516	12,442	896	7,776	385	7,258	310
	20	0.12	10,368	708	9,331	635	8,813	516	12,442	806	7,776	385	7,258	310
	25	0.08	10,368	708	9,331	635	8,813	516	12,442	806	7,776	385	7,258	310
	30	0.08	10,368	597	9,331	541	8,813	516	12,442	716	7,776	385	7,258	279
	40	0.05	9,216	464	8,294	418	7,834	320	11,059	556	6,912	274	6,451	221
	50	0.02	8,064	312	7,258	262	6,854	175	9,677	350	6,048	137	5,645	111
4	12	0.4	8,460	1,523	7,614	1,233	7,191	1,100	10,350	1,863	6,345	730	5,922	589
	16	0.28	8,460	1,523	7,614	1,233	7,191	1,100	10,350	1,863	6,345	730	5,922	589
	20	0.28	7,614	1,370	6,853	1,110	6,472	989	9,315	1,677	5,711	657	5,330	529
	25	0.16	7,614	1,233	6,853	998	6,472	891	9,315	1,508	5,711	657	5,330	529

[Note] Please refer to P691.

Recommended Cutting Data (High Accuracy)

SPM200-SN2/SHM200-SN2

2 Flutes, Square Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material			P						N		H			
			Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)			1.00		0.90		0.70		1.20		0.50		0.45	
Outer Diameter (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
4	30	0.16	7,614	1,233	6,853	998	6,472	792	9,315	1,508	5,711	584	5,330	529
	35	0.1	6,853	986	6,168	799	5,825	713	8,223	1,184	5,140	526	4,797	424
	40	0.1	6,853	863	6,168	699	5,825	624	8,223	1,036	5,140	460	4,797	371
	50	0.06	5,922	592	6,395	533	5,034	414	7,106	710	4,442	278	4,145	224
5	20	0.3	6,761	1,216	6,085	1,094	5,747	851	8,113	1,459	5,071	572	4,732	462
	25	0.3	6,084	1,094	5,476	985	5,171	765	7,301	1,312	4,563	514	4,259	415
	30	0.2	6,084	985	5,476	886	5,171	689	7,301	1,182	4,563	463	4,259	374
	40	0.15	5,476	788	4,928	709	4,654	552	6,571	947	4,107	371	3,833	299
	50	0.1	5,476	788	4,928	621	4,654	518	6,571	887	4,107	324	3,833	262
6	20	0.5	5,564	1,111	5,008	1,000	4,730	778	6,676	1,333	4,173	522	3,894	422
	30	0.4	5,058	1,010	4,552	909	4,299	707	6,070	1,211	3,794	474	3,541	383
	40	0.3	5,058	908	4,552	817	4,299	635	6,070	1,090	3,794	427	3,541	345
	50	0.2	4,500	735	4,050	662	3,825	572	5,400	883	3,375	384	3,150	311

[Notes]
1. For different workpiece materials, please adjust ap according to the cutting depth ratio coefficient in the above table, such as: For hardened steel (45～55 HRC), the value of ap should be *0.5.
2. Please use the appropriate cooling fluid in combination with the workpiece material and machining shape. Air cooling or water cooling is recommended.
3. In actual machining, please consider factors such as machining shape, purpose, and machine tools used to adjust the cutting conditions.
4. If the machine rotation speed is lower than the value listed in the table, the feed rate should be reduced to the same proportion as the rotation speed.

Recommended Cutting Data (General Type)

SPM200-RN2/SHM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
0.2	0.02	0.5	0.016	45,000	830	40,500	746	38,250	635	45,000	830	33,750	498	31,500	407
		1	0.011	45,000	830	40,500	746	38,250	635	45,000	830	33,750	498	31,500	407
		2	0.007	37,800	697	36,450	671	34,425	572	45,000	728	30,375	448	28,350	365
	0.05	0.5	0.02	45,000	830	40,500	746	38,250	635	45,000	830	33,750	498	31,500	407
		1	0.014	45,000	830	40,500	746	38,250	635	45,000	830	33,750	498	31,500	407
		1.5	0.008	42,300	779	38,475	709	36,338	603	45,000	728	32,063	473	29,925	386
		2	0.008	37,800	697	36,450	671	34,425	572	45,000	728	30,375	448	28,350	365
0.3	0.02	1	0.016	43,200	1,045	38,880	941	36,720	660	45,000	1,087	32,400	492	30,240	397
		2	0.011	34,992	774	31,493	697	29,743	535	40,500	898	26,244	399	24,494	321
		3	0.007	33,242	684	29,918	616	28,256	473	38,475	793	24,932	353	23,270	284
	0.05	1	0.021	43,200	1,045	38,880	941	36,720	660	45,000	1,087	32,400	492	30,240	397
		1.5	0.016	41,040	993	36,936	894	34,884	627	42,750	1,032	30,780	468	28,728	377
		2	0.012	34,992	774	31,493	697	29,743	535	40,500	898	26,244	399	24,494	321
		2.5	0.01	34,992	774	31,493	697	29,743	535	40,500	898	26,244	399	24,494	321
		3	0.008	33,242	684	29,918	616	28,256	473	38,475	793	24,932	353	23,270	284
0.4	0.02	1	0.016	34,470	929	31,104	836	29,030	714	41,472	1,115	25,920	558	24,053	457
		2	0.013	34,470	836	31,104	752	29,030	643	41,472	1,004	25,920	501	24,053	411
		3	0.01	26,393	584	23,793	527	22,208	449	31,725	702	19,828	351	18,401	288
		4	0.007	21,735	482	19,595	433	18,288	370	26,126	578	16,329	289	15,153	237
	0.05	1	0.025	34,470	929	31,104	836	29,030	714	41,472	1,115	25,920	558	24,053	457
		1.5	0.02	34,470	929	31,104	836	29,030	714	41,472	1,115	25,920	558	24,053	457
		2	0.016	34,470	836	31,104	752	29,030	643	41,472	1,004	25,920	501	24,053	411
		2.5	0.015	32,400	797	29,160	716	27,540	609	38,880	956	24,300	478	22,680	391
		3	0.014	26,393	584	23,793	527	22,208	449	31,725	702	19,828	351	18,401	288
		3.5	0.012	24,786	548	22,307	493	21,068	420	29,743	658	18,590	329	17,350	269
		4	0.008	21,735	482	19,595	433	18,288	370	26,126	578	16,329	289	15,153	237
	0.1	1	0.033	34,470	929	31,104	836	29,030	714	41,472	1,115	25,920	558	24,053	457
		2	0.028	34,470	836	31,104	752	29,030	643	41,472	1,004	25,920	501	24,053	411
		3	0.016	26,393	584	23,793	527	22,208	449	31,725	702	19,828	351	18,401	288
		4	0.01	21,735	482	19,595	433	18,288	370	26,126	578	16,329	289	15,153	237
0.5	0.02	1	0.016	34,470	929	31,104	836	29,030	714	41,472	1,115	25,920	558	24,053	457
		2	0.013	34,470	929	31,104	836	29,030	714	41,472	1,115	25,920	558	24,053	457

[Note] Please refer to P702.

Recommended Cutting Data (General Type)

SPM200-RN2/SHM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
0.5	0.02	3	0.01	27,994	755	25,195	675	23,794	571	33,593	900	20,995	426	19,596	343
		4	0.008	24,883	671	22,395	599	21,151	507	29,860	800	18,662	378	17,419	305
		6	0.006	19,354	500	17,419	449	16,450	288	23,225	599	14,515	254	13,548	200
	0.05	1	0.03	34,470	929	31,104	836	29,030	714	41,472	1,115	25,920	558	24,053	457
		2	0.023	34,470	929	31,104	836	29,030	714	41,472	1,115	25,920	558	24,053	457
		3	0.017	27,994	755	25,195	675	23,794	571	33,593	900	20,995	426	19,596	343
		4	0.017	24,883	671	22,395	599	21,151	507	29,860	800	18,662	378	17,419	305
		5	0.011	21,773	588	19,596	525	18,507	444	26,127	700	16,330	331	15,241	267
		6	0.008	19,354	500	17,419	449	16,450	288	23,225	599	14,515	254	13,548	200
	0.1	1	0.035	34,470	929	31,104	836	29,030	714	41,472	1,115	25,920	558	24,053	457
		2	0.03	34,470	929	31,104	836	29,030	714	41,472	1,115	25,920	558	24,053	457
		3	0.02	27,994	755	25,195	675	23,794	571	33,593	900	20,995	426	19,596	343
		4	0.02	24,883	671	22,395	599	21,151	507	29,860	800	18,662	378	17,419	305
		5	0.013	21,773	588	19,596	525	18,507	444	26,127	700	16,330	331	15,241	267
		6	0.013	19,354	500	17,419	449	16,450	288	23,225	599	14,515	254	13,548	200
0.6	0.02	2	0.016	34,470	1,310	31,104	1,182	29,030	892	41,472	1,576	25,920	697	24,053	572
		4	0.013	27,994	1,032	25,195	929	23,794	713	33,593	1,238	20,995	532	19,596	429
		6	0.01	21,773	803	19,596	723	18,507	554	26,127	963	16,330	414	15,241	334
	0.05	2	0.028	34,470	1,310	31,104	1,182	29,030	892	41,472	1,576	25,920	697	24,053	572
		4	0.019	27,994	1,032	25,195	929	23,794	713	33,593	1,238	20,995	532	19,596	429
		6	0.012	21,773	803	19,596	723	18,507	554	26,127	963	16,330	414	15,241	334
		8	0.01	20,684	762	18,616	687	17,582	527	24,821	915	15,513	393	14,479	317
		10	0.007	18,507	610	16,656	549	15,731	440	22,208	733	13,880	320	12,955	258
	0.1	2	0.035	34,470	1,310	31,104	1,182	29,030	892	41,472	1,576	25,920	697	24,053	572
		4	0.024	27,994	1,032	25,195	929	23,794	713	33,593	1,238	20,995	532	19,596	429
		6	0.015	21,773	803	19,596	723	18,507	554	26,127	963	16,330	414	15,241	334
		8	0.013	20,684	762	18,616	687	17,582	527	24,821	915	15,513	393	14,479	317
		10	0.009	18,507	610	16,656	549	15,731	440	22,208	733	13,880	320	12,955	258
0.7	0.05	4	0.024	27,994	1,032	25,195	929	23,794	713	33,593	1,238	20,995	532	19,596	429
		6	0.015	21,773	803	19,596	723	18,507	554	26,127	963	16,330	414	15,241	334
	0.1	4	0.029	27,994	1,032	25,195	929	23,794	713	33,593	1,238	20,995	532	19,596	429
		6	0.018	21,773	803	19,596	723	18,507	554	26,127	963	16,330	414	15,241	334

[Note] Please refer to P702.

Recommended Cutting Data (General Type)

SPM200-RN2/SHM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
0.8	0.02	4	0.016	36,000	1,328	32,400	1,194	30,600	1,015	43,200	1,592	27,000	797	25,200	651
		6	0.013	27,540	914	24,786	823	23,409	777	33,048	1,096	20,655	609	19,278	498
	0.05	4	0.026	36,000	1,328	32,400	1,194	30,600	1,015	43,200	1,592	27,000	797	25,200	651
		6	0.015	27,540	914	24,786	823	23,409	777	33,048	1,096	20,655	609	19,278	498
		8	0.012	22,032	680	19,829	612	18,727	578	26,438	815	16,524	454	15,422	370
		12	0.01	19,829	569	17,846	512	16,854	483	23,794	683	14,872	379	13,880	310
	0.1	4	0.032	36,000	1,328	32,400	1,194	30,600	1,015	43,200	1,592	27,000	797	25,200	651
		6	0.019	27,540	914	24,786	823	23,409	777	33,048	1,096	20,655	609	19,278	498
		8	0.015	22,032	680	19,829	612	18,727	578	26,438	815	16,524	454	15,422	370
		12	0.012	19,829	569	17,846	512	16,854	483	23,794	683	14,872	379	13,880	310
	0.2	4	0.056	36,000	1,328	32,400	1,194	30,600	1,015	43,200	1,592	27,000	797	25,200	651
		6	0.032	27,540	914	24,786	823	23,409	777	33,048	1,096	20,655	609	19,278	498
		8	0.018	22,032	680	19,829	612	18,727	578	26,438	815	16,524	454	15,422	370
		12	0.015	19,829	569	17,846	512	16,854	483	23,794	683	14,872	379	13,880	310
1	0.02	2	0.016	35,541	2,132	32,101	1,926	30,095	1,625	42,993	2,579	26,655	1,279	24,936	1,047
		4	0.013	32,400	1,941	29,160	1,747	27,540	1,485	38,880	2,329	24,300	1,165	22,680	951
		6	0.01	26,244	1,415	26,369	1,581	22,307	1,202	31,493	1,698	19,683	943	18,371	770
		8	0.008	23,328	1,257	23,620	1,274	19,829	1,069	27,994	1,509	17,496	839	16,330	685
		10	0.006	20,412	1,101	20,995	1,132	17,350	935	24,494	1,320	15,309	734	14,288	599
		12	0.005	18,144	869	18,371	990	15,422	647	21,773	1,043	13,608	571	12,701	456
	0.05	2	0.046	35,541	2,132	32,101	1,926	30,095	1,625	42,993	2,579	26,655	1,279	24,936	1,047
		3	0.035	35,541	2,132	32,101	1,926	30,095	1,625	42,993	2,579	26,655	1,279	24,936	1,047
		4	0.027	32,400	1,941	29,160	1,747	27,540	1,485	38,880	2,329	24,300	1,165	22,680	951
		5	0.021	28,662	1,719	26,369	1,581	24,936	1,346	35,827	2,149	22,070	1,059	20,636	867
		6	0.017	26,244	1,415	23,620	1,274	22,307	1,202	31,493	1,698	19,683	943	18,371	770
		8	0.016	23,328	1,257	20,995	1,132	19,829	1,069	27,994	1,509	17,496	839	16,330	685
		10	0.011	20,412	1,101	18,371	990	17,350	935	24,494	1,320	15,309	734	14,288	599
		12	0.01	18,144	869	16,330	783	15,422	647	21,773	1,043	13,608	571	12,701	456
		16	0.006	18,144	761	16,330	685	15,422	600	21,773	913	13,608	489	12,701	381
		20	0.004	13,608	571	12,247	514	11,567	450	16,330	685	10,206	367	9,526	285
	0.1	2	0.065	35,541	2,132	32,101	1,926	30,095	1,625	42,993	2,579	26,655	1,279	24,936	1,047
		3	0.05	35,541	2,132	32,101	1,926	30,095	1,625	42,993	2,579	26,655	1,279	24,936	1,047

[Note] Please refer to P702.

Recommended Cutting Data (General Type)

SPM200-RN2/SHM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
1	0.1	4	0.038	32,400	1,941	29,160	1,747	27,540	1,485	38,880	2,329	24,300	1,165	22,680	951
		5	0.03	28,662	1,719	26,369	1,581	24,936	1,346	35,827	2,149	22,070	1,059	20,636	867
		6	0.024	26,244	1,415	23,620	1,274	22,307	1,202	31,493	1,698	19,683	943	18,371	770
		8	0.024	23,328	1,257	20,995	1,132	19,829	1,069	27,994	1,509	17,496	839	16,330	685
		10	0.015	20,412	1,101	18,371	990	17,350	935	24,494	1,320	15,309	734	14,288	599
		12	0.015	18,144	869	16,330	783	15,422	647	21,773	1,043	13,608	571	12,701	456
		16	0.009	18,144	761	16,330	685	15,422	600	21,773	913	13,608	489	12,701	381
		20	0.006	13,608	571	12,247	514	11,567	450	16,330	685	10,206	367	9,526	285
	0.2	2	0.11	35,541	2,132	32,101	1,926	30,095	1,625	42,993	2,579	26,655	1,279	24,936	1,047
		3	0.09	35,541	2,132	32,101	1,926	30,095	1,625	42,993	2,579	26,655	1,279	24,936	1,047
		4	0.07	32,400	1,941	29,160	1,747	27,540	1,485	38,880	2,329	24,300	1,165	22,680	951
		5	0.05	28,662	1,719	26,369	1,581	24,936	1,346	35,827	2,149	22,070	1,059	20,636	867
		6	0.04	26,244	1,415	23,620	1,274	22,307	1,202	31,493	1,698	19,683	943	18,371	770
		8	0.04	23,328	1,257	20,995	1,132	19,829	1,069	27,994	1,509	17,496	839	16,330	685
		10	0.025	20,412	1,101	18,371	990	17,350	935	24,494	1,320	15,309	734	14,288	599
		12	0.025	18,144	869	16,330	783	15,422	647	21,773	1,043	13,608	571	12,701	456
		16	0.015	18,144	761	16,330	685	15,422	600	21,773	913	13,608	489	12,701	381
		20	0.01	13,608	571	12,247	514	11,567	450	16,330	685	10,206	367	9,526	285
	0.3	2	0.11	35,541	2,132	32,101	1,926	30,095	1,625	42,993	2,579	26,655	1,279	24,936	1,047
		3	0.09	35,541	2,132	32,101	1,926	30,095	1,625	42,993	2,579	26,655	1,279	24,936	1,047
		4	0.07	32,400	1,941	29,160	1,747	27,540	1,485	38,880	2,329	24,300	1,165	22,680	951
		5	0.05	28,662	1,719	26,369	1,581	24,936	1,346	35,827	2,149	22,070	1,059	20,636	867
		6	0.04	26,244	1,415	23,620	1,274	22,307	1,202	31,493	1,698	19,683	943	18,371	770
		8	0.04	23,328	1,257	20,995	1,132	19,829	1,069	27,994	1,509	17,496	839	16,330	685
		10	0.025	20,412	1,101	18,371	990	17,350	935	24,494	1,320	15,309	734	14,288	599
		12	0.025	18,144	869	16,330	783	15,422	647	21,773	1,043	13,608	571	12,701	456
		16	0.015	18,144	761	16,330	685	15,422	600	21,773	913	13,608	489	12,701	381
		20	0.01	13,608	571	12,247	514	11,567	450	16,330	685	10,206	367	9,526	285
1.25	0.1	5	0.03	28,662	1,719	26,369	1,581	24,936	1,346	35,827	2,149	22,070	1,059	20,636	867
		10	0.015	23,328	1,257	18,371	990	17,350	935	24,494	1,320	15,309	734	14,288	599
		15	0.01	18,144	761	16,330	685	15,422	600	21,773	913	13,608	489	12,701	381
		20	0.006	13,608	571	12,247	514	11,567	450	16,330	685	10,206	367	9,526	285

[Note] Please refer to P702.

Recommended Cutting Data (General Type)

SPM200-RN2/SHM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
1.25	0.2	5	0.05	28,662	1,719	26,369	1,581	24,936	1,346	35,827	2,149	22,070	1,059	20,636	867
		10	0.025	23,328	1,257	18,371	990	17,350	935	24,494	1,320	15,309	734	14,288	599
		15	0.016	18,144	761	16,330	685	15,422	600	21,773	913	13,608	489	12,701	381
		20	0.01	13,608	571	12,247	514	11,567	450	16,330	685	10,206	367	9,526	285
	0.3	5	0.05	28,662	1,719	26,369	1,581	24,936	1,346	35,827	2,149	22,070	1,059	20,636	867
		10	0.025	23,328	1,257	18,371	990	17,350	935	24,494	1,320	15,309	734	14,288	599
		15	0.016	18,144	761	16,330	685	15,422	600	21,773	913	13,608	489	12,701	381
		20	0.01	13,608	571	12,247	514	11,567	450	16,330	685	10,206	367	9,526	285
1.5	0.1	4	0.042	24,930	1,614	22,453	1,453	20,957	1,240	29,938	1,938	18,711	968	17,364	795
		6	0.04	23,885	1,543	21,401	1,382	20,255	1,199	28,662	1,851	17,961	930	16,624	761
		8	0.036	22,680	1,467	20,412	1,320	19,278	1,141	27,216	1,760	17,010	881	15,876	726
		12	0.036	18,144	1,174	16,330	1,057	15,422	913	21,773	1,409	13,608	705	12,701	581
		15	0.023	14,112	812	12,701	731	11,995	604	16,934	974	10,584	533	9,878	426
		20	0.018	14,112	734	12,701	660	11,995	552	16,934	880	10,584	486	9,878	385
	0.2	4	0.07	24,930	1,614	22,453	1,453	20,957	1,240	29,938	1,938	18,711	968	17,364	795
		6	0.065	23,885	1,543	21,401	1,382	20,255	1,199	28,662	1,851	17,961	930	16,624	761
		8	0.06	22,680	1,467	20,412	1,320	19,278	1,141	27,216	1,760	17,010	881	15,876	726
		12	0.06	18,144	1,174	16,330	1,057	15,422	913	21,773	1,409	13,608	705	12,701	581
		15	0.038	14,112	812	12,701	731	11,995	604	16,934	974	10,584	533	9,878	426
		20	0.03	14,112	734	12,701	660	11,995	552	16,934	880	10,584	486	9,878	385
	0.3	4	0.07	24,930	1,614	22,453	1,453	20,957	1,240	29,938	1,938	18,711	968	17,364	795
		6	0.065	23,885	1,543	21,401	1,382	20,255	1,199	28,662	1,851	17,961	930	16,624	761
		8	0.06	22,680	1,467	20,412	1,320	19,278	1,141	27,216	1,760	17,010	881	15,876	726
		12	0.06	18,144	1,174	16,330	1,057	15,422	913	21,773	1,409	13,608	705	12,701	581
		15	0.038	14,112	812	12,701	731	11,995	604	16,934	974	10,584	533	9,878	426
		20	0.03	14,112	734	12,701	660	11,995	552	16,934	880	10,584	486	9,878	385
	0.5	4	0.085	24,930	1,614	22,453	1,453	20,957	1,240	29,938	1,938	18,711	968	17,364	795
		6	0.08	23,885	1,543	21,401	1,382	20,255	1,199	28,662	1,851	17,961	930	16,624	761
		8	0.07	22,680	1,467	20,412	1,320	19,278	1,141	27,216	1,760	17,010	881	15,876	726
		12	0.065	18,144	1,174	16,330	1,057	15,422	913	21,773	1,409	13,608	705	12,701	581
		15	0.045	14,112	812	12,701	731	11,995	604	16,934	974	10,584	533	9,878	426
		20	0.035	14,112	734	12,701	660	11,995	552	16,934	880	10,584	486	9,878	385

[Note] Please refer to P702.

Recommended Cutting Data (General Type)

SPM200-RN2/SHM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
1.75	0.1	5	0.04	23,885	1,543	21,401	1,382	20,255	1,199	28,662	1,851	17,961	930	16,624	761
		10	0.036	18,144	1,174	16,330	1,057	15,422	913	21,773	1,409	13,608	705	12,701	581
		15	0.023	14,112	812	12,701	731	11,995	604	16,934	974	10,584	533	9,878	426
		20	0.018	14,112	734	12,701	660	11,995	552	16,934	880	10,584	486	9,878	385
	0.2	5	0.065	23,885	1,543	21,401	1,382	20,255	1,199	28,662	1,851	17,961	930	16,624	761
		10	0.06	18,144	1,174	16,330	1,057	15,422	913	21,773	1,409	13,608	705	12,701	581
		15	0.038	14,112	812	12,701	731	11,995	604	16,934	974	10,584	533	9,878	426
		20	0.03	14,112	734	12,701	660	11,995	552	16,934	880	10,584	486	9,878	385
	0.3	5	0.065	23,885	1,543	21,401	1,382	20,255	1,199	28,662	1,851	17,961	930	16,624	761
		10	0.06	18,144	1,174	16,330	1,057	15,422	913	21,773	1,409	13,608	705	12,701	581
		15	0.038	14,112	812	12,701	731	11,995	604	16,934	974	10,584	533	9,878	426
		20	0.03	14,112	734	12,701	660	11,995	552	16,934	880	10,584	486	9,878	385
2	0.1	4	0.08	21,783	2,448	19,634	2,207	18,487	2,077	25,796	2,899	16,337	1,467	15,334	1,205
		6	0.07	20,790	2,336	18,711	2,102	17,672	1,985	24,948	2,803	15,593	1,401	14,553	1,144
		8	0.055	18,900	2,123	17,010	1,911	16,065	1,805	22,680	2,547	14,175	1,274	13,230	1,040
		12	0.03	15,309	1,548	13,778	1,393	13,013	1,316	18,371	1,857	11,482	1,031	10,716	842
		16	0.03	13,608	1,375	12,247	1,238	11,567	1,169	16,330	1,651	10,206	917	9,526	749
		20	0.025	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,445	8,931	721	8,335	588
		25	0.015	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,445	8,931	721	8,335	588
		30	0.01	11,312	1,144	10,181	1,029	9,615	972	13,574	1,373	8,483	685	7,918	559
	0.2	4	0.1	21,783	2,448	19,634	2,207	18,487	2,077	25,796	2,899	16,337	1,467	15,334	1,205
		6	0.08	20,790	2,336	18,711	2,102	17,672	1,985	24,948	2,803	15,593	1,401	14,553	1,144
		8	0.07	18,900	2,123	17,010	1,911	16,065	1,805	22,680	2,547	14,175	1,274	13,230	1,040
		12	0.04	15,309	1,548	13,778	1,393	13,013	1,316	18,371	1,857	11,482	1,031	10,716	842
		16	0.04	13,608	1,375	12,247	1,238	11,567	1,169	16,330	1,651	10,206	917	9,526	749
		20	0.035	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,445	8,931	721	8,335	588
		25	0.025	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,445	8,931	721	8,335	588
		30	0.017	11,312	1,144	10,181	1,029	9,615	972	13,574	1,373	8,483	685	7,918	559
	0.3	4	0.13	21,783	2,448	19,634	2,207	18,487	2,077	25,796	2,899	16,337	1,467	15,334	1,205
		6	0.11	20,790	2,336	18,711	2,102	17,672	1,985	24,948	2,803	15,593	1,401	14,553	1,144
		8	0.09	18,900	2,123	17,010	1,911	16,065	1,805	22,680	2,547	14,175	1,274	13,230	1,040
		12	0.06	15,309	1,548	13,778	1,393	13,013	1,316	18,371	1,857	11,482	1,031	10,716	842

[Note] Please refer to P702.

Recommended Cutting Data (General Type)

SPM200-RN2/SHM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
2	0.3	16	0.06	13,608	1,375	12,247	1,238	11,567	1,169	16,330	1,651	10,206	917	9,526	749
		20	0.037	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,445	8,931	721	8,335	588
		25	0.03	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,445	8,931	721	8,335	588
		30	0.021	11,312	1,144	10,181	1,029	9,615	972	13,574	1,373	8,483	685	7,918	559
	0.5	6	0.17	20,790	2,336	18,711	2,102	17,672	1,985	24,948	2,803	15,593	1,401	14,553	1,144
		8	0.14	18,900	2,123	17,010	1,911	16,065	1,805	22,680	2,547	14,175	1,274	13,230	1,040
		12	0.08	15,309	1,548	13,778	1,393	13,013	1,316	18,371	1,857	11,482	1,031	10,716	842
		16	0.08	13,608	1,375	12,247	1,238	11,567	1,169	16,330	1,651	10,206	917	9,526	749
		20	0.05	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,445	8,931	721	8,335	588
		25	0.05	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,445	8,931	721	8,335	588
		30	0.03	11,312	1,144	10,181	1,029	9,615	972	13,574	1,373	8,483	685	7,918	559
	0.8	6	0.22	20,790	2,336	18,711	2,102	17,672	1,985	24,948	2,803	15,593	1,401	14,553	1,144
		8	0.2	18,900	2,123	17,010	1,911	16,065	1,805	22,680	2,547	14,175	1,274	13,230	1,040
		12	0.13	15,309	1,548	13,778	1,393	13,013	1,316	18,371	1,857	11,482	1,031	10,716	842
		16	0.1	13,608	1,375	12,247	1,238	11,567	1,169	16,330	1,651	10,206	917	9,526	749
		20	0.06	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,445	8,931	721	8,335	588
		25	0.057	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,445	8,931	721	8,335	588
		30	0.045	11,312	1,144	10,181	1,029	9,615	972	13,574	1,373	8,483	685	7,918	559
2.5	0.1	10	0.05	15,309	1,548	13,778	1,393	13,013	1,316	18,371	2,064	11,482	1,031	10,716	842
		20	0.03	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,605	8,931	721	8,335	588
		30	0.015	11,312	1,144	10,181	1,029	9,615	972	13,574	1,373	8,483	685	7,918	559
	0.2	10	0.07	15,309	1,548	13,778	1,393	13,013	1,316	18,371	2,064	11,482	1,031	10,716	842
		20	0.04	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,605	8,931	721	8,335	588
		30	0.025	11,312	1,144	10,181	1,029	9,615	972	13,574	1,373	8,483	685	7,918	559
	0.3	10	0.09	15,309	1,548	13,778	1,393	13,013	1,316	18,371	2,064	11,482	1,031	10,716	842
		20	0.06	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,605	8,931	721	8,335	588
		30	0.03	11,312	1,144	10,181	1,029	9,615	972	13,574	1,373	8,483	685	7,918	559
	0.5	10	0.12	15,309	1,548	13,778	1,393	13,013	1,316	18,371	2,064	11,482	1,031	10,716	842
		20	0.08	11,907	1,203	10,716	1,084	10,121	1,023	14,288	1,605	8,931	721	8,335	588
		30	0.05	11,312	1,144	10,181	1,029	9,615	972	13,574	1,373	8,483	685	7,918	559
3	0.1	6	0.08	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		8	0.07	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991

[Note] Please refer to P702.

Recommended Cutting Data (General Type)

SPM200-RN2/SHM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
3	0.1	12	0.05	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		16	0.035	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		18	0.035	12,898	1,811	11,464	1,609	10,987	1,543	15,287	2,146	9,554	1,074	9,076	893
		20	0.035	11,664	1,638	10,498	1,474	9,914	1,392	13,997	1,966	8,748	983	8,165	803
		30	0.027	9,072	1,143	8,165	1,029	7,711	971	10,886	1,372	6,804	694	6,350	559
		35	0.02	9,072	1,143	8,165	1,029	7,711	971	10,886	1,372	6,804	694	6,350	559
	0.2	6	0.1	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		8	0.09	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		12	0.07	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		16	0.05	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		18	0.05	12,898	1,811	11,464	1,609	10,987	1,543	15,287	2,146	9,554	1,074	9,076	893
		20	0.05	11,664	1,638	10,498	1,474	9,914	1,392	13,997	1,966	8,748	983	8,165	803
		30	0.04	9,072	1,143	8,165	1,029	7,711	971	10,886	1,372	6,804	694	6,350	559
		35	0.035	9,072	1,143	8,165	1,029	7,711	971	10,886	1,372	6,804	694	6,350	559
	0.3	6	0.145	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		8	0.13	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		12	0.1	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		16	0.075	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		18	0.075	12,898	1,811	11,464	1,609	10,987	1,543	15,287	2,146	9,554	1,074	9,076	893
		20	0.075	11,664	1,638	10,498	1,474	9,914	1,392	13,997	1,966	8,748	983	8,165	803
		30	0.06	9,072	1,143	8,165	1,029	7,711	971	10,886	1,372	6,804	694	6,350	559
		35	0.05	9,072	1,143	8,165	1,029	7,711	971	10,886	1,372	6,804	694	6,350	559
	0.5	8	0.18	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		12	0.13	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		16	0.1	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		18	0.1	12,898	1,811	11,464	1,609	12,240	1,718	15,287	2,146	9,554	1,074	9,076	893
		20	0.1	11,664	1,638	10,498	1,474	9,914	1,392	13,997	1,966	8,748	983	8,165	803
		30	0.08	9,072	1,143	8,165	1,029	7,711	971	10,886	1,372	6,804	694	6,350	559
		35	0.065	9,072	1,143	8,165	1,029	7,711	971	10,886	1,372	6,804	694	6,350	559
	1	8	0.2	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		12	0.15	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991
		16	0.12	14,400	2,021	12,960	1,820	12,240	1,718	17,280	2,426	10,800	1,213	10,080	991

[Note] Please refer to P702.

Recommended Cutting Data (General Type)

SPM200-RN2/SHM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
3	1	18	0.11	12,898	1,811	11,464	1,609	12,240	1,718	15,287	2,146	9,554	1,074	9,076	893
		20	0.11	11,664	1,638	10,498	1,474	9,914	1,392	13,997	1,966	8,748	983	8,165	803
		30	0.09	9,072	1,143	8,165	1,029	7,711	971	10,886	1,372	6,804	694	6,350	559
		35	0.075	9,072	1,143	8,165	1,029	7,711	971	10,886	1,372	6,804	694	6,350	559
4	0.1	8	0.08	12,420	2,160	11,178	1,944	10,557	1,836	14,904	2,592	9,315	1,296	8,694	1,058
		12	0.065	12,420	2,160	11,178	1,944	10,557	1,836	14,904	2,592	9,315	1,296	8,694	1,058
		16	0.06	10,301	1,791	9,064	1,576	8,652	1,504	12,360	2,149	7,416	1,031	7,004	852
		20	0.055	10,301	1,791	9,064	1,576	8,652	1,504	12,360	2,149	7,416	1,031	7,004	852
		30	0.045	8,239	1,290	7,415	1,161	7,003	1,096	9,887	1,547	6,179	774	5,767	632
		35	0.04	8,239	1,290	7,415	1,161	7,003	1,096	9,887	1,547	6,179	774	5,767	632
		45	0.03	6,592	825	5,933	743	5,603	702	7,910	990	4,945	499	4,614	401
	0.2	8	0.16	12,420	2,160	11,178	1,944	10,557	1,836	14,904	2,592	9,315	1,296	8,694	1,058
		12	0.14	12,420	2,160	11,178	1,944	10,557	1,836	14,904	2,592	9,315	1,296	8,694	1,058
		16	0.13	10,301	1,791	9,064	1,576	8,652	1,504	12,360	2,149	7,416	1,031	7,004	852
		20	0.11	10,301	1,791	9,064	1,576	8,652	1,504	12,360	2,149	7,416	1,031	7,004	852
		30	0.1	8,239	1,290	7,415	1,161	7,003	1,096	9,887	1,547	6,179	774	5,767	632
		35	0.08	8,239	1,290	7,415	1,161	7,003	1,096	9,887	1,547	6,179	774	5,767	632
		45	0.06	6,592	825	5,933	743	5,603	702	7,910	990	4,945	499	4,614	401
	0.3	8	0.24	12,420	2,160	11,178	1,944	10,557	1,836	14,904	2,592	9,315	1,296	8,694	1,058
		12	0.22	12,420	2,160	11,178	1,944	10,557	1,836	14,904	2,592	9,315	1,296	8,694	1,058
		16	0.2	10,301	1,791	9,064	1,576	8,652	1,504	12,360	2,149	7,416	1,031	7,004	852
		20	0.18	10,301	1,791	9,064	1,576	8,652	1,504	12,360	2,149	7,416	1,031	7,004	852
		30	0.16	8,239	1,290	7,415	1,161	7,003	1,096	9,887	1,547	6,179	774	5,767	632
		35	0.14	8,239	1,290	7,415	1,161	7,003	1,096	9,887	1,547	6,179	774	5,767	632
		45	0.12	6,592	825	5,933	743	5,603	702	7,910	990	4,945	499	4,614	401
	0.5	12	0.35	12,420	2,160	11,178	1,944	10,557	1,836	14,904	2,592	9,315	1,296	8,694	1,058
		16	0.25	10,301	1,791	9,064	1,576	8,652	1,504	12,360	2,149	7,416	1,031	7,004	852
		20	0.2	10,301	1,791	9,064	1,576	8,652	1,504	12,360	2,149	7,416	1,031	7,004	852
		30	0.15	8,239	1,290	7,415	1,161	7,003	1,096	9,887	1,547	6,179	774	5,767	632
		35	0.1	8,239	1,290	7,415	1,161	7,003	1,096	9,887	1,547	6,179	774	5,767	632
		45	0.05	6,592	825	5,933	743	5,603	702	7,910	990	4,945	499	4,614	401

[Note] Please refer to P702.

Recommended Cutting Data (General Type)

SPM200-RN2/SHM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
4	1	12	0.4	12,420	2,160	11,178	1,944	10,557	1,836	14,904	2,592	9,315	1,296	8,694	1,058
		16	0.29	10,301	1,791	9,064	1,576	8,652	1,504	12,360	2,149	7,416	1,031	7,004	852
		20	0.23	10,301	1,791	9,064	1,576	8,652	1,504	12,360	2,149	7,416	1,031	7,004	852
		30	0.17	8,239	1,290	7,415	1,161	7,003	1,096	9,887	1,547	6,179	774	5,767	632
		35	0.12	8,239	1,290	7,415	1,161	7,003	1,096	9,887	1,547	6,179	774	5,767	632
		45	0.06	6,592	825	5,933	743	5,603	702	7,910	990	4,945	499	4,614	401
5	0.1	20	0.08	9,885	2,149	8,896	1,934	8,402	1,826	11,861	2,579	7,413	1,290	6,919	1,053
		40	0.06	8,901	1,733	8,011	1,561	7,566	1,473	10,681	2,081	6,676	1,040	6,231	850
	0.2	20	0.16	9,885	2,149	8,896	1,934	8,402	1,826	11,861	2,579	7,413	1,290	6,919	1,053
		40	0.13	8,901	1,733	8,011	1,561	7,566	1,473	10,681	2,081	6,676	1,040	6,231	850
	0.3	20	0.24	9,885	2,149	8,896	1,934	8,402	1,826	11,861	2,579	7,413	1,290	6,919	1,053
		40	0.2	8,901	1,733	8,011	1,561	7,566	1,473	10,681	2,081	6,676	1,040	6,231	850
	0.5	20	0.35	9,885	2,149	8,896	1,934	8,402	1,826	11,861	2,579	7,413	1,290	6,919	1,053
		40	0.135	8,901	1,733	8,011	1,561	7,566	1,473	10,681	2,081	6,676	1,040	6,231	850
	1	20	0.4	9,885	2,149	8,896	1,934	8,402	1,826	11,861	2,579	7,413	1,290	6,919	1,053
		40	0.15	8,901	1,733	8,011	1,561	7,566	1,473	10,681	2,081	6,676	1,040	6,231	850
6	0.1	12	0.08	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		18	0.065	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		24	0.06	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		35	0.05	7,411	1,740	6,670	1,566	6,299	1,479	8,893	2,088	5,558	1,044	5,188	852
		55	0.04	5,765	1,354	5,189	1,219	4,901	1,150	6,918	1,625	4,325	812	4,036	663
	0.2	12	0.16	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		18	0.14	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		24	0.13	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		35	0.11	7,411	1,740	6,670	1,566	6,299	1,479	8,893	2,088	5,558	1,044	5,188	852
		55	0.08	5,765	1,354	5,189	1,219	4,901	1,150	6,918	1,625	4,325	812	4,036	663
	0.3	12	0.24	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		18	0.22	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		24	0.2	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		35	0.18	7,411	1,740	6,670	1,566	6,299	1,479	8,893	2,088	5,558	1,044	5,188	852
		55	0.14	5,765	1,354	5,189	1,219	4,901	1,150	6,918	1,625	4,325	812	4,036	663

[Note] Please refer to P702.

Recommended Cutting Data (General Type)

SPM200-RN2/SHM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
6	0.5	18	0.35	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		24	0.29	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		35	0.24	7,411	1,740	6,670	1,566	6,299	1,479	8,893	2,088	5,558	1,044	5,188	852
		55	0.165	5,765	1,354	5,189	1,219	4,901	1,150	6,918	1,625	4,325	812	4,036	663
	1	18	0.4	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		24	0.35	8,239	2,149	7,415	1,934	7,003	1,827	9,887	2,579	6,179	1,290	5,767	1,053
		35	0.28	7,411	1,740	6,670	1,566	6,299	1,479	8,893	2,088	5,558	1,044	5,188	852
		55	0.2	5,765	1,354	5,189	1,219	4,901	1,150	6,918	1,625	4,325	812	4,036	663

[Notes]
1. For different workpiece materials, please adjust ap according to the cutting depth ratio coefficient in the above table, such as: For hardened steel (45～55 HRC), the value of ap should be *0.65.
2. Please use the appropriate cooling fluid in combination with the workpiece material and machining shape. Air cooling or water cooling is recommended.
3. In actual machining, please consider factors such as machining shape, purpose, and machine tools used to adjust the cutting conditions.
4. If the machine rotation speed is lower than the value listed in the table, the feed rate should be reduced to the same proportion as the rotation speed.

Recommended Cutting Data (High Accuracy)

SPM200-RN2/SHM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
0.2	0.02	0.5	0.016	45,000	232	45,000	207	45,000	185	45,000	276	45,000	162	45,000	144
		1	0.011	45,000	232	45,000	207	45,000	185	45,000	276	45,000	162	45,000	144
		2	0.007	37,800	182	34,020	163	33,030	158	45,000	221	33,030	146	33,030	132
	0.05	0.5	0.02	45,000	232	45,000	207	45,000	185	45,000	276	45,000	162	45,000	144
		1	0.014	45,000	232	45,000	207	45,000	185	45,000	276	45,000	162	45,000	144
		1.5	0.008	45,000	216	43,740	201	41,310	182	45,000	248	41,310	153	41,310	138
		2	0.008	37,800	182	34,020	163	33,030	158	45,000	221	33,030	146	33,030	132
0.3	0.02	1	0.016	45,000	527	45,000	464	45,000	410	45,000	626	45,000	302	45,000	288
		2	0.011	40,500	477	40,500	414	40,500	378	40,500	558	40,500	270	40,500	261
		3	0.007	31,500	371	31,500	322	31,500	293	36,000	454	27,000	180	27,000	175
	0.05	1	0.021	45,000	527	45,000	464	45,000	410	45,000	626	45,000	302	45,000	288
		1.5	0.016	45,000	527	40,500	464	40,500	410	45,000	626	40,500	302	40,500	288
		2	0.012	40,500	477	40,500	414	40,500	378	40,500	558	40,500	270	40,500	261
		2.5	0.01	36,000	424	36,000	368	36,000	336	36,000	496	36,000	240	36,000	232
		3	0.008	31,500	371	31,500	322	31,500	293	36,000	454	27,000	180	27,000	175
0.4	0.02	1	0.016	45,000	522	45,000	466	45,000	415	45,000	622	36,000	288	32,400	243
		2	0.013	40,500	468	40,500	423	40,500	369	40,500	558	32,400	261	30,600	216
		3	0.01	36,000	369	36,000	333	36,000	297	36,000	432	29,520	216	23,040	180
		4	0.007	27,000	288	27,000	252	27,000	225	27,000	333	19,440	144	17,280	135
	0.05	1	0.025	45,000	522	45,000	466	45,000	415	45,000	622	36,000	288	32,400	243
		1.5	0.02	45,000	522	45,000	466	45,000	415	45,000	622	36,000	288	32,400	243
		2	0.016	40,500	468	40,500	423	40,500	369	40,500	558	32,400	261	30,600	216
		2.5	0.015	36,450	432	36,450	360	36,450	333	36,450	504	30,060	243	27,540	198
		3	0.014	36,000	369	36,000	333	36,000	297	36,000	432	29,520	216	23,040	180
		3.5	0.012	32,400	342	32,400	288	32,400	270	32,400	378	26,460	180	20,628	162
		4	0.008	27,000	288	27,000	252	27,000	225	27,000	333	19,440	144	17,280	135
	0.1	1	0.033	45,000	522	45,000	466	45,000	415	45,000	622	36,000	288	32,400	243
		2	0.028	40,500	468	40,500	423	40,500	369	40,500	558	32,400	261	30,600	216
		3	0.016	36,000	369	36,000	333	36,000	297	36,000	432	29,520	216	23,040	180
		4	0.01	27,000	288	27,000	252	27,000	225	27,000	333	19,440	144	17,280	135
0.5	0.02	1	0.016	45,000	808	45,000	680	36,000	418	45,000	963	27,000	340	25,200	284
		2	0.013	45,000	808	45,000	680	36,000	418	45,000	963	27,000	340	25,200	284

[Note] Please refer to P713.

Recommended Cutting Data (High Accuracy)

SPM200-RN2/SHM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
0.5	0.02	3	0.01	40,500	729	40,500	616	32,400	373	40,500	864	24,300	284	22,050	235
		4	0.008	36,000	648	36,000	543	28,800	340	36,000	765	21,600	251	18,000	211
		6	0.006	25,920	432	21,600	342	17,460	234	27,000	513	16,200	225	13,500	180
	0.05	1	0.03	45,000	808	45,000	680	36,000	418	45,000	963	27,000	340	25,200	284
		2	0.023	45,000	808	45,000	680	36,000	418	45,000	963	27,000	340	25,200	284
		3	0.017	40,500	729	40,500	616	32,400	373	40,500	864	24,300	284	22,050	235
		4	0.017	36,000	648	36,000	543	28,800	340	36,000	765	21,600	251	18,000	211
		5	0.011	25,920	486	21,600	342	17,460	252	27,000	576	16,200	225	13,500	180
		6	0.008	25,920	432	21,600	342	17,460	234	27,000	513	16,200	225	13,500	180
	0.1	1	0.035	45,000	808	45,000	680	36,000	418	45,000	963	27,000	340	25,200	284
		2	0.03	45,000	808	45,000	680	36,000	418	45,000	963	27,000	340	25,200	284
		3	0.02	40,500	729	40,500	616	32,400	373	40,500	864	24,300	284	22,050	235
		4	0.02	36,000	648	36,000	543	28,800	340	36,000	765	21,600	251	18,000	211
		5	0.013	25,920	486	21,600	342	17,460	252	27,000	576	16,200	225	13,500	180
		6	0.013	25,920	432	21,600	342	17,460	234	27,000	513	16,200	225	13,500	180
0.6	0.02	2	0.016	45,000	1,043	42,120	828	34,047	540	45,000	1,242	25,380	351	20,700	288
		4	0.013	36,000	747	31,050	558	25,020	396	36,000	882	21,240	252	18,900	207
		6	0.01	21,600	441	18,000	324	16,200	270	27,000	522	16,020	216	13,500	189
	0.05	2	0.028	45,000	1,043	42,120	828	34,047	540	45,000	1,242	25,380	351	20,700	288
		4	0.019	36,000	747	31,050	558	25,020	396	36,000	882	21,240	252	18,900	207
		6	0.012	21,600	441	18,000	324	16,200	270	27,000	522	16,020	216	13,500	189
		8	0.01	21,600	419	18,000	308	16,200	257	27,000	496	16,020	205	13,500	180
		10	0.007	21,600	406	18,000	298	16,200	248	27,000	481	16,020	199	13,500	174
	0.1	2	0.035	45,000	1,043	42,120	828	34,047	540	45,000	1,242	25,380	351	20,700	288
		4	0.024	36,000	747	31,050	558	25,020	396	36,000	882	21,240	252	18,900	207
		6	0.015	21,600	441	18,000	324	16,200	270	27,000	522	16,020	216	13,500	189
		8	0.013	21,600	419	18,000	308	16,200	257	27,000	496	16,020	205	13,500	180
		10	0.009	21,600	406	18,000	298	16,200	248	27,000	481	16,020	199	13,500	174
0.7	0.05	4	0.024	36,000	747	31,050	558	25,020	396	36,000	882	21,240	252	18,900	207
		6	0.015	21,600	441	18,000	324	16,200	270	27,000	522	16,020	216	13,500	189
	0.1	4	0.029	36,000	747	31,050	558	25,020	396	36,000	882	21,240	252	18,900	207
		6	0.018	21,600	441	18,000	324	16,200	270	27,000	522	16,020	216	13,500	189

[Note] Please refer to P713.

Recommended Cutting Data (High Accuracy)

SPM200-RN2/SHM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
0.8	0.02	4	0.016	43,200	992	32,400	675	25,200	466	45,000	1,181	18,000	288	18,000	259
		6	0.013	34,830	720	23,400	477	22,500	415	36,000	855	16,200	259	16,200	230
	0.05	4	0.026	43,200	992	32,400	675	25,200	466	45,000	1,181	18,000	288	18,000	259
		6	0.015	34,830	720	23,400	477	22,500	415	36,000	855	16,200	259	16,200	230
		8	0.012	26,123	540	18,720	382	18,000	332	27,000	642	14,580	233	14,580	207
		12	0.01	26,123	513	18,720	363	18,000	315	27,000	609	14,580	221	14,580	197
	0.1	4	0.032	43,200	992	32,400	675	25,200	466	45,000	1,181	18,000	288	18,000	259
		6	0.019	34,830	720	23,400	477	22,500	415	36,000	855	16,200	259	16,200	230
		8	0.015	26,123	540	18,720	382	18,000	332	27,000	642	14,580	233	14,580	207
		12	0.012	26,123	513	18,720	363	18,000	315	27,000	609	14,580	221	14,580	197
	0.2	4	0.056	43,200	992	32,400	675	25,200	466	45,000	1,181	18,000	288	18,000	259
		6	0.032	34,830	720	23,400	477	22,500	415	36,000	855	16,200	259	16,200	230
		8	0.018	26,123	540	18,720	382	18,000	332	27,000	642	14,580	233	14,580	207
		12	0.015	26,123	513	18,720	363	18,000	315	27,000	609	14,580	221	14,580	197
1	0.02	2	0.016	32,101	1,412	28,868	1,270	27,265	1,091	38,408	1,689	24,057	866	22,453	718
		4	0.013	29,160	1,223	26,244	1,101	24,786	935	34,992	1,467	21,870	734	20,412	599
		6	0.01	23,620	891	21,258	802	20,076	758	28,344	1,070	17,715	594	16,534	485
		8	0.008	20,995	792	18,896	713	17,846	673	25,195	950	15,746	528	14,697	431
		10	0.006	18,371	693	16,534	624	15,615	590	19,596	832	13,778	463	12,859	377
		12	0.005	16,330	548	14,697	493	13,880	408	19,596	657	12,247	359	11,431	288
	0.05	2	0.046	32,101	1,412	28,868	1,270	27,229	1,089	38,408	1,689	24,057	866	22,453	718
		3	0.035	30,618	1,316	27,556	1,185	27,265	1,091	36,716	1,579	22,964	780	21,433	643
		4	0.027	29,160	1,223	26,244	1,101	26,025	1,015	34,992	1,467	21,870	734	20,412	599
		5	0.021	25,981	1,039	23,384	935	24,786	935	31,242	1,249	19,486	654	18,187	535
		6	0.017	23,620	891	21,258	802	22,084	835	28,344	1,070	17,715	594	16,534	485
		8	0.016	20,995	792	18,896	713	17,846	673	25,195	950	15,746	528	14,697	431
		10	0.011	18,371	693	16,534	624	15,615	590	22,045	832	13,778	463	12,859	377
		12	0.01	16,330	548	14,697	493	13,880	408	19,596	657	12,247	359	11,431	288
		16	0.006	16,330	480	14,697	431	13,880	378	19,596	575	12,247	308	11,431	239
		20	0.004	12,247	359	11,022	323	10,410	284	14,697	431	9,185	231	8,573	180
	0.1	2	0.065	32,101	1,412	28,868	1,270	27,265	1,091	38,408	1,689	24,057	866	22,453	718
		3	0.05	30,618	1,316	27,556	1,185	26,025	1,015	36,716	1,579	22,964	780	21,433	643

[Note] Please refer to P713.

Recommended Cutting Data (High Accuracy)

SPM200-RN2/SHM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
1	0.1	4	0.038	29,160	1,223	26,244	1,101	24,786	935	34,992	1,467	21,870	734	20,412	599
		5	0.03	25,981	1,039	23,384	935	22,084	835	31,242	1,249	19,486	654	18,187	535
		6	0.024	23,620	891	21,258	802	20,076	758	28,344	1,070	17,715	594	16,534	485
		8	0.024	20,995	792	18,896	713	17,846	673	25,195	950	15,746	528	14,697	431
		10	0.015	18,371	693	16,534	624	15,615	590	22,045	832	13,778	463	12,859	377
		12	0.015	16,330	548	14,697	493	13,880	408	19,596	657	12,247	359	11,431	288
		16	0.009	16,330	480	14,697	431	13,880	378	19,596	575	12,247	308	11,431	239
		20	0.006	12,247	359	11,022	323	10,410	284	14,697	431	9,185	231	8,573	180
	0.2	2	0.11	32,101	1,412	28,868	1,270	27,265	1,091	38,408	1,689	24,057	866	22,453	718
		3	0.09	30,618	1,316	27,556	1,185	26,025	1,015	36,716	1,579	22,964	780	21,433	643
		4	0.07	29,160	1,223	26,244	1,101	24,786	935	34,992	1,467	21,870	734	20,412	599
		5	0.05	25,981	1,039	23,384	935	22,084	835	31,242	1,249	19,486	654	18,187	535
		6	0.04	23,620	891	21,258	802	20,076	758	28,344	1,070	17,715	594	16,534	485
		8	0.04	20,995	792	18,896	713	17,846	673	25,195	950	15,746	528	14,697	431
		10	0.025	18,371	693	16,534	624	15,615	590	22,045	832	13,778	463	12,859	377
		12	0.025	16,330	548	14,697	493	13,880	408	19,596	657	12,247	359	11,431	288
		16	0.015	16,330	480	14,697	431	13,880	378	19,596	575	12,247	308	11,431	239
		20	0.01	12,247	359	11,022	323	10,410	284	14,697	431	9,185	231	8,573	180
	0.3	2	0.11	32,101	1,412	28,868	1,270	27,265	1,091	38,408	1,689	24,057	866	22,453	718
		3	0.09	30,618	1,316	27,556	1,185	26,025	1,015	36,716	1,579	22,964	780	21,433	643
		4	0.07	29,160	1,223	26,244	1,101	24,786	935	34,992	1,467	21,870	734	20,412	599
		5	0.05	25,981	1,039	23,384	935	22,084	835	31,242	1,249	19,486	654	18,187	535
		6	0.04	23,620	891	21,258	802	20,076	758	28,344	1,070	17,715	594	16,534	485
		8	0.04	20,995	792	18,896	713	17,846	673	25,195	950	15,746	528	14,697	431
		10	0.025	18,371	693	16,534	624	15,615	590	22,045	832	13,778	463	12,859	377
		12	0.025	16,330	548	14,697	493	13,880	408	19,596	657	12,247	359	11,431	288
		16	0.015	16,330	480	14,697	431	13,880	378	19,596	575	12,247	308	11,431	239
		20	0.01	12,247	359	11,022	323	10,410	284	14,697	431	9,185	231	8,573	180
1.25	0.1	5	0.03	25,981	1,039	23,384	935	22,084	835	31,242	1,249	19,486	654	18,187	535
		10	0.015	18,371	693	16,534	624	15,615	590	22,045	832	13,778	463	12,859	377
		15	0.01	16,330	480	14,697	493	13,880	408	19,596	575	12,247	308	11,431	239
		20	0.006	12,247	359	11,022	323	10,410	284	14,697	431	9,185	231	8,573	180

[Note] Please refer to P713.

Recommended Cutting Data (High Accuracy)

SPM200-RN2/SHM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
1.25	0.2	5	0.05	25,981	1,039	23,384	935	22,084	835	31,242	1,249	19,486	654	18,187	535
		10	0.025	18,371	693	16,534	624	15,615	590	22,045	832	13,778	463	12,859	377
		15	0.016	16,330	480	14,697	493	13,880	408	19,596	575	12,247	308	11,431	239
		20	0.01	12,247	359	11,022	323	10,410	284	14,697	431	9,185	231	8,573	180
	0.3	5	0.05	25,981	1,039	23,384	935	22,084	835	31,242	1,249	19,486	654	18,187	535
		10	0.025	18,371	693	16,534	624	15,615	590	22,045	832	13,778	463	12,859	377
		15	0.016	16,330	480	14,697	493	13,880	408	19,596	575	12,247	308	11,431	239
		20	0.01	12,247	359	11,022	323	10,410	284	14,697	431	9,185	231	8,573	180
1.5	0.1	4	0.042	22,437	1,017	20,208	915	18,860	852	26,944	1,220	16,840	677	15,628	550
		6	0.04	21,401	967	19,299	872	18,344	829	25,605	1,157	16,051	644	14,904	524
		8	0.036	20,412	924	18,371	832	17,350	786	24,494	1,110	15,309	617	14,288	503
		12	0.036	16,330	740	14,697	666	13,880	628	19,596	887	12,247	493	11,431	402
		15	0.023	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268
		20	0.018	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268
	0.2	4	0.07	22,437	1,017	20,208	915	18,860	781	26,944	1,220	16,840	610	15,628	500
		6	0.065	21,401	967	19,299	872	18,344	829	25,605	1,157	16,051	644	14,904	524
		8	0.06	20,412	924	18,371	832	17,350	786	24,494	1,110	15,309	617	14,288	503
		12	0.06	16,330	740	14,697	666	13,880	628	19,596	887	12,247	493	11,431	402
		15	0.038	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268
		20	0.03	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268
	0.3	4	0.07	22,437	1,017	20,208	915	18,860	781	26,944	1,220	16,840	610	15,628	500
		6	0.065	21,401	967	19,299	872	18,344	829	25,605	1,157	16,051	644	14,904	524
		8	0.06	20,412	924	18,371	832	17,350	786	24,494	1,110	15,309	617	14,288	503
		12	0.06	16,330	740	14,697	666	13,880	628	19,596	887	12,247	493	11,431	402
		15	0.038	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268
		20	0.03	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268
	0.5	4	0.085	22,437	1,017	20,208	915	18,860	781	26,944	1,220	16,840	610	15,628	500
		6	0.08	21,401	967	19,299	872	18,344	829	25,605	1,157	16,051	644	14,904	524
		8	0.07	20,412	924	18,371	832	17,350	786	24,494	1,110	15,309	617	14,288	503
		12	0.065	16,330	740	14,697	666	13,880	628	19,596	887	12,247	493	11,431	402
		15	0.045	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268
		20	0.035	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268

[Note] Please refer to P713.

Recommended Cutting Data (High Accuracy)

SPM200-RN2/SHM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		Ph and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
1.75	0.1	5	0.04	22,437	1,017	20,208	915	18,860	781	26,944	1,220	16,840	610	15,628	500
		10	0.036	20,412	924	18,371	832	17,350	786	24,494	1,110	15,309	617	14,288	503
		15	0.023	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268
		20	0.018	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268
	0.2	5	0.065	22,437	1,017	20,208	915	18,860	781	26,944	1,220	16,840	610	15,628	500
		10	0.06	20,412	924	18,371	832	17,350	786	24,494	1,110	15,309	617	14,288	503
		15	0.038	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268
		20	0.03	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268
	0.3	5	0.065	22,437	1,017	20,208	915	18,860	781	26,944	1,220	16,840	610	15,628	500
		10	0.06	20,412	924	18,371	832	17,350	786	24,494	1,110	15,309	617	14,288	503
		15	0.038	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268
		20	0.03	12,701	511	11,431	460	10,796	381	15,241	614	9,526	336	8,890	268
2	0.1	4	0.08	19,777	1,554	17,771	1,396	16,624	1,306	23,503	1,847	14,761	930	13,757	756
		6	0.07	18,711	1,472	16,840	1,324	15,905	1,250	22,453	1,766	14,034	883	13,098	721
		8	0.055	17,010	1,337	15,309	1,203	14,459	1,137	20,412	1,605	12,758	803	11,907	655
		12	0.03	13,778	975	12,400	878	11,712	829	16,534	1,170	10,334	650	9,644	531
		16	0.03	12,247	867	11,022	780	10,410	736	14,697	1,040	9,185	578	8,573	472
		20	0.025	10,716	759	9,644	682	9,109	644	12,859	910	8,037	506	7,502	413
		25	0.015	10,716	681	9,644	613	9,109	579	12,859	817	8,037	455	7,502	370
		30	0.01	10,181	647	9,162	582	8,654	550	12,217	777	7,636	432	7,126	352
	0.2	4	0.1	19,777	1,554	17,771	1,396	16,624	1,306	23,503	1,847	14,761	930	13,757	756
		6	0.08	18,711	1,472	16,840	1,324	15,905	1,250	22,453	1,766	14,034	883	13,098	721
		8	0.07	17,010	1,337	15,309	1,203	14,459	1,137	20,412	1,605	12,758	803	11,907	655
		12	0.04	13,778	975	12,400	878	11,712	829	16,534	1,170	10,334	650	9,644	531
		16	0.04	12,247	867	11,022	780	10,410	736	14,697	1,040	9,185	578	8,573	472
		20	0.035	10,716	759	9,644	682	9,109	644	12,859	910	8,037	506	7,502	413
		25	0.025	10,716	681	9,644	613	9,109	579	12,859	817	8,037	455	7,502	370
		30	0.017	10,181	647	9,162	582	8,654	550	12,217	777	7,636	432	7,126	352
	0.3	4	0.13	19,777	1,554	17,771	1,396	16,624	1,306	23,503	1,847	14,761	930	13,757	756
		6	0.11	18,711	1,472	16,840	1,324	15,905	1,250	22,453	1,766	14,034	883	13,098	721
		8	0.09	17,010	1,337	15,309	1,203	14,459	1,137	20,412	1,605	12,758	803	11,907	655
		12	0.06	13,778	975	12,400	878	11,712	829	16,534	1,300	10,334	650	9,644	531

[Note] Please refer to P713.

Recommended Cutting Data (High Accuracy)

SPM200-RN2/SHM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
2	0.3	16	0.06	12,247	867	11,022	780	10,410	736	14,697	1,156	9,185	578	8,573	472
		20	0.037	10,716	759	9,644	682	9,109	644	12,859	1,011	8,037	506	7,502	413
		25	0.03	10,716	681	9,644	613	9,109	579	12,859	817	8,037	455	7,502	370
		30	0.021	10,181	647	9,162	582	8,654	550	12,217	777	7,636	432	7,126	352
	0.5	6	0.17	18,711	1,472	16,840	1,324	15,905	1,250	22,453	1,766	14,034	883	13,098	721
		8	0.14	17,010	1,337	15,309	1,203	14,459	1,137	20,412	1,605	12,758	803	11,907	655
		12	0.08	13,778	975	12,400	878	11,712	921	16,534	1,300	10,334	650	9,644	531
		16	0.08	12,247	867	11,022	780	10,410	736	14,697	1,156	9,185	578	8,573	472
		20	0.05	10,716	759	9,644	682	9,109	644	12,859	1,011	8,037	506	7,502	413
		25	0.05	10,716	681	9,644	613	9,109	579	12,859	817	8,037	455	7,502	370
		30	0.03	10,181	647	9,162	582	8,654	550	12,217	777	7,636	432	7,126	352
	0.8	6	0.22	18,711	1,472	16,840	1,324	15,905	1,250	22,453	1,766	14,034	883	13,098	721
		8	0.2	17,010	1,337	15,309	1,203	14,459	1,137	20,412	1,605	12,758	803	11,907	655
		12	0.13	13,778	975	12,400	878	11,712	829	16,534	1,300	10,334	650	9,644	531
		16	0.1	12,247	867	11,022	780	10,410	736	14,697	1,156	9,185	578	8,573	472
		20	0.06	10,716	759	9,644	682	9,109	644	12,859	1,011	8,037	506	7,502	413
		25	0.057	10,716	681	9,644	613	9,109	579	12,859	817	8,037	455	7,502	370
		30	0.045	10,181	647	9,162	582	8,654	550	12,217	777	7,636	432	7,126	352
2.5	0.1	10	0.055	17,010	1,337	15,309	1,203	14,459	1,137	20,412	1,605	12,758	803	11,907	655
		20	0.03	12,247	867	11,022	780	10,410	736	14,697	1,156	9,185	578	8,573	472
		30	0.015	10,716	681	9,644	613	9,109	579	12,859	907	8,037	455	7,502	370
	0.2	10	0.07	17,010	1,337	15,309	1,203	14,459	1,137	20,412	1,605	12,758	803	11,907	655
		20	0.04	12,247	867	11,022	780	10,410	736	14,697	1,156	9,185	578	8,573	472
		30	0.025	10,716	681	9,644	613	9,109	579	12,859	907	8,037	455	7,502	370
	0.3	10	0.09	17,010	1,337	15,309	1,203	14,459	1,137	20,412	1,605	12,758	803	11,907	655
		20	0.06	12,247	867	11,022	780	10,410	736	14,697	1,156	9,185	578	8,573	472
		30	0.03	10,716	681	9,644	613	9,109	579	12,859	907	8,037	455	7,502	370
	0.5	10	0.14	17,010	1,337	15,309	1,203	14,459	1,137	20,412	1,605	12,758	803	11,907	655
		20	0.08	12,247	867	11,022	780	10,410	736	14,697	1,156	9,185	578	8,573	472
		30	0.05	10,716	681	9,644	613	9,109	579	12,859	907	8,037	455	7,502	370
3	0.1	6	0.08	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		8	0.07	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624

[Note] Please refer to P713.

Recommended Cutting Data (High Accuracy)

SPM200-RN2/SHM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
3	0.1	12	0.05	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		16	0.035	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		18	0.035	11,656	1,144	10,509	1,034	9,841	966	13,948	1,369	8,789	690	8,121	558
		20	0.035	10,498	1,031	9,448	929	8,923	877	12,597	1,238	7,873	618	7,349	505
		30	0.027	8,165	721	7,349	649	6,940	613	9,797	866	6,124	432	5,715	354
		35	0.02	8,165	721	7,349	649	6,940	613	9,797	866	6,124	432	5,715	354
	0.2	6	0.1	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		8	0.09	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		12	0.07	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		16	0.05	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		18	0.05	11,656	1,144	10,509	1,034	9,841	966	13,948	1,369	8,789	690	8,121	558
		20	0.05	10,498	1,031	9,448	929	8,923	877	12,597	1,238	7,873	618	7,349	505
		30	0.04	8,165	721	7,349	649	6,940	613	9,797	866	6,124	432	5,715	354
		35	0.035	8,165	721	7,349	649	6,940	613	9,797	866	6,124	432	5,715	354
	0.3	6	0.145	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		8	0.13	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		12	0.1	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		16	0.075	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		18	0.075	11,656	1,144	10,509	1,034	9,841	966	13,948	1,369	8,789	690	8,121	558
		20	0.075	10,498	1,031	9,448	929	8,923	877	12,597	1,238	7,873	618	7,349	505
		30	0.06	8,165	721	7,349	649	6,940	613	9,797	866	6,124	432	5,715	354
		35	0.05	8,165	721	7,349	649	6,940	613	9,797	866	6,124	432	5,715	354
	0.5	8	0.18	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		12	0.13	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		16	0.1	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		18	0.1	11,656	1,144	10,509	1,034	9,841	966	13,948	1,369	8,789	690	8,121	558
		20	0.1	10,498	1,031	9,448	929	8,923	877	12,597	1,238	7,873	618	7,349	505
		30	0.08	8,165	721	7,349	649	6,940	613	9,797	866	6,124	432	5,715	354
		35	0.065	8,165	721	7,349	649	6,940	613	9,797	866	6,124	432	5,715	354
	1	8	0.2	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		12	0.15	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624
		16	0.12	12,960	1,274	11,664	1,147	11,016	1,083	15,552	1,528	9,720	764	9,072	624

[Note] Please refer to P713.

Recommended Cutting Data (High Accuracy)

SPM200-RN2/SHM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius R (Mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
3	1	18	0.11	11,656	1,144	10,509	1,034	9,841	966	13,948	1,369	8,789	690	8,121	558
		20	0.11	10,498	1,031	9,448	929	8,923	877	12,597	1,238	7,873	618	7,349	505
		30	0.09	8,165	721	7,349	649	6,940	613	9,797	866	6,124	432	5,715	354
		35	0.075	8,165	721	7,349	649	6,940	613	9,797	866	6,124	432	5,715	354
4	0.1	8	0.08	10,092	1,755	9,082	1,580	8,578	1,492	12,110	2,106	7,569	1,053	7,064	860
		12	0.065	10,092	1,755	9,082	1,580	8,578	1,492	12,110	2,106	7,569	1,053	7,064	860
		16	0.06	9,230	1,605	8,240	1,433	7,827	1,361	11,124	1,934	6,839	951	6,016	733
		20	0.055	9,230	1,605	8,240	1,433	7,827	1,361	11,124	1,934	6,839	951	6,016	733
		30	0.045	9,230	1,605	8,240	1,433	6,180	968	11,124	1,934	4,942	619	4,612	505
		35	0.04	9,230	1,605	8,240	1,433	6,180	968	11,124	1,934	4,942	619	4,612	505
		45	0.03	7,416	968	6,592	860	5,026	655	8,899	1,160	4,450	464	3,707	322
	0.2	8	0.16	10,092	1,755	9,082	1,580	8,578	1,492	12,110	2,106	7,569	1,053	7,064	860
		12	0.14	10,092	1,755	9,082	1,580	8,578	1,492	12,110	2,106	7,569	1,053	7,064	860
		16	0.13	9,230	1,605	8,240	1,433	7,827	1,361	11,124	1,934	6,839	951	6,016	733
		20	0.11	9,230	1,605	8,240	1,433	7,827	1,361	11,124	1,934	6,839	951	6,016	733
		30	0.1	9,230	1,605	8,240	1,433	6,180	968	11,124	1,934	4,942	619	4,612	505
		35	0.08	9,230	1,605	8,240	1,433	6,180	968	11,124	1,934	4,942	619	4,612	505
		45	0.06	7,416	968	6,592	860	5,026	655	8,899	1,160	4,450	464	3,707	322
	0.3	8	0.24	10,092	1,755	9,082	1,580	8,578	1,492	12,110	2,106	7,569	1,053	7,064	860
		12	0.22	10,092	1,755	9,082	1,580	8,578	1,492	12,110	2,106	7,569	1,053	7,064	860
		16	0.2	9,230	1,605	8,240	1,433	7,827	1,361	11,124	1,934	6,839	951	6,016	733
		20	0.18	9,230	1,605	8,240	1,433	7,827	1,361	11,124	1,934	6,839	951	6,016	733
		30	0.16	9,230	1,605	8,240	1,433	6,180	968	11,124	1,934	4,942	619	4,612	505
		35	0.14	9,230	1,605	8,240	1,433	6,180	968	11,124	1,934	4,942	619	4,612	505
		45	0.12	7,416	968	6,592	860	5,026	655	8,899	1,160	4,450	464	3,707	322
	0.5	12	0.35	10,092	1,755	9,082	1,580	8,578	1,492	12,110	2,106	7,569	1,053	7,064	860
		16	0.25	9,230	1,605	8,240	1,433	7,827	1,361	11,124	1,934	6,839	951	6,016	733
		20	0.2	9,230	1,605	8,240	1,433	7,827	1,361	11,124	1,934	6,839	951	6,016	733
		30	0.15	9,230	1,605	8,240	1,433	6,180	968	11,124	1,934	4,942	619	4,612	505
		35	0.1	9,230	1,605	8,240	1,433	6,180	968	11,124	1,934	4,942	619	4,612	505
		45	0.05	7,416	968	6,592	860	5,026	655	8,899	1,160	4,450	464	3,707	322
	1	12	0.4	10,092	1,755	9,082	1,580	8,578	1,492	12,110	2,106	7,569	1,053	7,064	860

[Note] Please refer to P713.

Recommended Cutting Data (High Accuracy)

SPM200-RN2/SHM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
4	1	16	0.29	9,230	1,605	8,240	1,433	7,827	1,361	11,124	1,934	6,839	951	6,016	733
		20	0.23	9,230	1,605	8,240	1,433	7,827	1,361	11,124	1,934	6,839	951	6,016	733
		30	0.17	9,230	1,605	8,240	1,433	6,180	968	11,124	1,934	4,942	619	4,612	505
		35	0.12	9,230	1,605	8,240	1,433	6,180	968	11,124	1,934	4,942	619	4,612	505
		45	0.06	7,416	968	6,592	860	5,026	655	8,899	1,160	4,450	464	3,707	322
5	0.1	20	0.08	8,239	1,791	7,415	1,612	7,003	1,523	9,887	2,149	6,179	1,075	5,767	878
		40	0.06	5,931	1,156	5,338	1,040	5,042	982	7,116	1,386	4,449	693	4,152	566
	0.2	20	0.16	8,239	1,791	7,415	1,612	7,003	1,523	9,887	2,149	6,179	1,075	5,767	878
		40	0.13	5,931	1,156	5,338	1,040	5,042	982	7,116	1,386	4,449	693	4,152	566
	0.3	20	0.24	8,239	1,791	7,415	1,612	7,003	1,523	9,887	2,149	6,179	1,075	5,767	878
		40	0.2	5,931	1,156	5,338	1,040	5,042	982	7,116	1,386	4,449	693	4,152	566
	0.5	20	0.35	8,239	1,791	7,415	1,612	7,003	1,523	9,887	2,149	6,179	1,075	5,767	878
		40	0.135	5,931	1,156	5,338	1,040	5,042	982	7,116	1,386	4,449	693	4,152	566
	1	20	0.4	8,239	1,791	7,415	1,612	7,003	1,523	9,887	2,149	6,179	1,075	5,767	878
		40	0.15	5,931	1,156	5,338	1,040	5,042	982	7,116	1,386	4,449	693	4,152	566
6	0.1	12	0.08	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878
		18	0.065	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878
		24	0.06	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878
		35	0.05	5,837	1,371	5,253	1,234	4,962	1,165	7,005	1,644	4,379	823	4,086	671
		55	0.04	4,942	945	4,449	851	4,201	803	5,931	1,134	3,706	561	3,460	457
	0.2	12	0.16	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878
		18	0.14	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878
		24	0.13	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878
		35	0.11	5,837	1,371	5,253	1,234	4,962	1,165	7,005	1,644	4,379	823	4,086	671
		55	0.08	4,942	945	4,449	851	4,201	803	5,931	1,134	3,706	561	3,460	457
	0.3	12	0.24	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878
		18	0.22	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878
		24	0.2	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878
		35	0.18	5,837	1,371	5,253	1,234	4,962	1,165	7,005	1,644	4,379	823	4,086	671
		55	0.14	4,942	945	4,449	851	4,201	803	5,931	1,134	3,706	561	3,460	457
	0.5	18	0.35	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878
		24	0.29	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878

[Note] Please refer to P713.

Recommended Cutting Data (High Accuracy)

SPM200-RN2/SHM200-RN2

2 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
6	0.5	35	0.24	5,837	1,371	5,253	1,234	4,962	1,165	7,005	1,644	4,379	823	4,086	671
		55	0.165	4,942	945	4,449	851	4,201	803	5,931	1,134	3,706	561	3,460	457
	1	18	0.4	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878
		24	0.35	6,867	1,792	6,181	1,612	5,837	1,523	8,240	2,150	5,150	1,075	4,808	878
		35	0.28	5,837	1,371	5,253	1,234	4,962	1,165	7,005	1,644	4,379	823	4,086	671
		55	0.2	4,942	945	4,449	851	4,201	803	5,931	1,134	3,706	561	3,460	457

[Notes]
1. For different workpiece materials, please adjust ap according to the cutting depth ratio coefficient in the above table, such as: For hardened steel (45～55 HRC), the value of ap should be *0.65.
2. Please use the appropriate cooling fluid in combination with the workpiece material and machining shape. Air cooling or water cooling is recommended.
3. In actual machining, please consider factors such as machining shape, purpose, and machine tools used to adjust the cutting conditions.
4. If the machine rotation speed is lower than the value listed in the table, the feed rate should be reduced to the same proportion as the rotation speed.

Recommended Cutting Data (High Accuracy)

SPM200-RN4/SHM200-RN4

4 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
1	0.05	4	0.012	31,120	1,952	28,008	1,757	26,608	1,669	38,900	2,440	23,947	1,230	22,749	1,000
		6	0.01	25,200	1,424	22,680	1,282	21,546	1,218	31,500	1,780	19,391	990	18,422	810
		8	0.008	22,400	1,264	20,160	1,138	19,152	1,081	28,000	1,580	17,237	880	16,375	720
		10	0.005	19,600	1,112	17,640	1,001	16,758	951	24,500	1,390	15,082	770	14,328	630
		12	0.004	17,440	880	15,696	792	14,911	752	21,800	1,100	13,420	600	12,749	480
		16	0.003	17,440	768	15,696	691	14,911	657	21,800	960	13,420	510	12,749	400
		20	0.002	13,040	576	11,736	518	11,149	492	16,300	720	10,034	385	9,533	300
	0.1	4	0.02	31,120	1,952	28,008	1,757	26,608	1,669	38,900	2,440	23,947	1,230	22,749	1,000
		6	0.018	25,200	1,424	22,680	1,282	21,546	1,218	31,500	1,780	19,391	990	18,422	810
		8	0.014	22,400	1,264	20,160	1,138	19,152	1,081	28,000	1,580	17,237	880	16,375	720
		10	0.01	19,600	1,112	17,640	1,001	16,758	951	24,500	1,390	15,082	770	14,328	630
		12	0.008	17,440	880	15,696	792	14,911	752	21,800	1,100	13,420	600	12,749	480
		16	0.006	17,440	768	15,696	691	14,911	657	21,800	960	13,420	510	12,749	400
		20	0.004	13,040	576	11,736	518	11,149	492	16,300	720	10,034	385	9,533	300
1.5	0.05	4	0.02	23,920	1,624	21,528	1,462	20,452	1,389	29,900	2,030	18,406	1,020	17,486	830
		8	0.014	21,760	1,480	19,584	1,332	18,605	1,265	27,200	1,850	16,744	1,030	15,907	840
		12	0.007	17,440	1,184	15,696	1,066	14,911	1,012	21,800	1,480	13,420	820	12,749	670
		15	0.006	13,520	816	12,168	734	11,560	698	16,900	1,020	10,404	560	9,883	450
		20	0.004	13,520	816	12,168	734	11,560	698	16,900	1,020	10,404	560	9,883	450
	0.1	4	0.027	23,920	1,624	21,528	1,462	20,452	1,389	29,900	2,030	18,406	1,020	17,486	830
		8	0.02	21,760	1,480	19,584	1,332	18,605	1,265	27,200	1,850	16,744	1,030	15,907	840
		12	0.017	17,440	1,184	15,696	1,066	14,911	1,012	21,800	1,480	13,420	820	12,749	670
		15	0.014	13,520	816	12,168	734	11,560	698	16,900	1,020	10,404	560	9,883	450
		20	0.01	13,520	816	12,168	734	11,560	698	16,900	1,020	10,404	560	9,883	450
2	0.05	4	0.035	20,800	2,450	18,700	2,210	17,700	2,080	24,900	2,940	15,600	1,470	14,600	1,200
		6	0.03	20,800	2,450	18,700	2,210	17,700	2,080	24,900	2,940	15,600	1,470	14,600	1,200
		8	0.025	18,900	2,230	17,000	2,010	16,100	1,890	22,700	2,670	14,200	1,340	13,200	1,090
		12	0.02	15,300	1,620	13,800	1,460	13,000	1,380	18,400	1,950	11,500	1,080	10,700	890
		16	0.015	13,600	1,440	12,200	1,300	11,600	1,230	16,300	1,730	10,200	960	9,500	790
		20	0.01	11,900	1,260	10,700	1,140	10,100	1,070	14,300	1,520	8,900	840	8,300	690

[Note] Please refer to P718.

Recommended Cutting Data (High Accuracy)

SPM200-RN4/SHM200-RN4

4 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
2	0.1	4	0.042	20,800	2,450	18,700	2,210	17,700	2,080	24,900	2,940	15,600	1,470	14,600	1,200
		6	0.042	20,800	2,450	18,700	2,210	17,700	2,080	24,900	2,940	15,600	1,470	14,600	1,200
		8	0.036	18,900	2,230	17,000	2,010	16,100	1,890	22,700	2,670	14,200	1,340	13,200	1,090
		12	0.036	15,300	1,620	13,800	1,460	13,000	1,380	18,400	1,950	11,500	1,080	10,700	890
		16	0.023	13,600	1,440	12,200	1,300	11,600	1,230	16,300	1,730	10,200	960	9,500	790
		20	0.018	11,900	1,260	10,700	1,140	10,100	1,070	14,300	1,520	8,900	840	8,300	690
	0.2	4	0.08	20,800	2,450	18,700	2,210	17,700	2,080	24,900	2,940	15,600	1,470	14,600	1,200
		6	0.08	20,800	2,450	18,700	2,210	17,700	2,080	24,900	2,940	15,600	1,470	14,600	1,200
		8	0.07	18,900	2,230	17,000	2,010	16,100	1,890	22,700	2,670	14,200	1,340	13,200	1,090
		12	0.04	15,300	1,620	13,800	1,460	13,000	1,380	18,400	1,950	11,500	1,080	10,700	890
		16	0.04	13,600	1,440	12,200	1,300	11,600	1,230	16,300	1,730	10,200	960	9,500	790
		20	0.035	11,900	1,260	10,700	1,140	10,100	1,070	14,300	1,520	8,900	840	8,300	690
		25	0.025	11,900	1,260	10,700	1,140	10,100	1,070	14,300	1,520	8,900	840	8,300	690
		30	0.017	11,300	1,200	10,200	1,080	9,600	1,020	13,600	1,440	8,500	800	7,900	650
	0.3	4	0.11	20,800	2,450	18,700	2,210	17,700	2,080	24,900	2,940	15,600	1,470	14,600	1,200
		8	0.09	18,900	2,350	17,000	2,100	16,100	1,950	22,700	2,850	14,200	1,490	13,200	1,210
		12	0.06	15,300	1,810	13,800	1,620	13,000	1,530	18,400	2,170	11,500	1,200	10,700	980
		16	0.06	13,600	1,610	12,200	1,440	11,600	1,360	16,300	1,930	10,200	1,070	9,500	870
		20	0.037	11,900	1,400	10,700	1,260	10,100	1,190	14,300	1,680	8,900	940	8,300	770
	0.5	4	0.17	20,800	2450	18,700	2210	17,700	2,080	24,900	2940	15,600	1,470	14,600	1,200
		6	0.17	20,800	2450	18,700	2210	17,700	2,080	24,900	2940	15,600	1,470	14,600	1,200
		8	0.14	18,900	2350	17,000	2100	16,100	1,950	22,700	2850	14,200	1,490	13,200	1,210
		12	0.08	15,300	1810	13,800	1620	13,000	1,530	18,400	2170	11,500	1,200	10,700	980
		16	0.08	13,600	1610	12,200	1440	11,600	1,360	16,300	1930	10,200	1,070	9,500	870
		20	0.05	11,900	1400	10,700	1260	10,100	1,190	14,300	1680	8,900	940	8,300	770
		25	0.05	11,900	1400	10,700	1260	10,100	1,190	14,300	1680	8,900	940	8,300	770
		30	0.03	11,300	1330	10,200	1200	9,600	1,130	13,600	1600	8,500	850	7,900	730
2.5	0.1	8	0.047	18,900	2480	17,000	2230	16,100	2,100	22,700	2970	14,200	1,490	13,200	1,210
		16	0.037	13,600	1610	12,200	1440	11,600	1,360	16,300	1930	10,200	1,070	9,500	870
		20	0.025	11,900	1400	10,700	1260	10,100	1,190	14,300	1680	8,900	940	8,300	770

[Note] Please refer to P718.

Recommended Cutting Data (High Accuracy)

SPM200-RN4/SHM200-RN4

4 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
2.5	0.2	8	0.08	16,200	2140	14,600	1920	13,800	1,820	19,400	2570	12,200	1,280	11300	1,100
		16	0.045	14,100	1770	12,700	1600	12,000	1,510	16,900	2130	10,600	1,110	9,900	960
		20	0.042	11,800	1410	10,600	1270	10,000	1,200	14,100	1750	8,800	930	8,200	790
	0.3	12	0.09	14,800	1960	13,300	1760	12,500	1,660	17,700	2350	11,100	1,230	10,300	1,010
		20	0.052	11,800	1560	10600	1400	10,000	1330	14,100	1870	8,800	1,040	8,200	850
	0.5	12	0.1	14,800	1,960	13,300	1,760	12,500	1,660	17,700	2,350	11,100	1,230	10,300	1,010
		20	0.07	11,800	1,560	10,600	1,400	10,000	1,330	14,100	1,870	8,800	1,040	8,200	850
3	0.1	8	0.055	14,400	2,120	13,000	1,910	12,200	1,800	17,300	2,550	10,800	1,270	10,100	1,040
		16	0.035	14,400	2,120	13,000	1,910	12,200	1,800	17,300	2,550	10,800	1,270	10,100	1,040
		25	0.022	11,700	1,720	10,500	1,550	9,900	1,460	14,000	2,060	8,700	1,150	8,200	940
		30	0.014	9,100	1,720	8,200	1,550	7,700	1,460	10,900	2,060	6,800	1,150	6,400	940
	0.2	8	0.09	14,400	2,120	13,000	1,910	12,200	1,800	17,300	2,550	10,800	1,270	10,100	1,040
		12	0.07	14,400	2,120	13,000	1,910	12,200	1,800	17,300	2,550	10,800	1,270	10,100	1,040
		16	0.05	14,400	2,120	13,000	1,910	12,200	1,800	17,300	2,550	10,800	1,270	10,100	1,040
		20	0.05	11,700	1,720	10,500	1,550	9,900	1,460	14,000	2,060	8,700	1,150	8,200	940
		25	0.045	11,700	1,720	10,500	1,550	9,900	1,460	14,000	2,060	8,700	1,150	8,200	940
		30	0.04	9,100	1,720	8,200	1,550	7,700	1,460	10,900	2,060	6,800	1,150	6,400	940
	0.3	8	0.13	14,400	2,360	13,000	2,120	12,200	2,010	17,300	2,830	10,800	1,410	10,100	1,160
		16	0.075	14,400	2,360	13,000	2,120	12,200	2,010	17,300	2,830	10,800	1,410	10,100	1,160
		20	0.075	11,700	1,910	10,500	1,720	9,900	1,620	14,000	2,290	8,700	1,270	8,200	1,040
		25	0.067	11,700	1,910	10,500	1,720	9,900	1,620	14,000	2,290	8,700	1,270	8,200	1,040
		30	0.06	9,100	1,910	8,200	1,720	7,700	1,620	10,900	2,290	6,800	1,270	6,400	1,040
	0.5	8	0.18	14,400	2,360	13,000	2,120	12,200	2,010	17,300	2,830	10,800	1,410	10,100	1,160
		12	0.13	14,400	2,360	13,000	2,120	12,200	2,010	17,300	2,830	10,800	1,410	10,100	1,160
		16	0.1	14,400	2,360	13,000	2,120	12,200	2,010	17,300	2,830	10,800	1,410	10,100	1,160
		20	0.1	11,700	1,910	10,500	1,720	9,900	1,620	14,000	2,290	8,700	1,270	8,200	1,040
		25	0.09	11,700	1,910	10,500	1,720	9,900	1,620	14,000	2,290	8,700	1,270	8,200	1,040
		30	0.08	9,100	1,910	8,200	1,720	7,700	1,620	10,900	2,290	6,800	1,270	6,400	1,040
		35	0.065	9,100	1,910	8,200	1,720	7,700	1,620	10,900	2,290	6,800	1,270	6,400	1,040

[Note] Please refer to P718.

Recommended Cutting Data (High Accuracy)

SPM200-RN4/SHM200-RN4

4 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
4	0.1	12	0.065	10,400	2,790	9,300	2,520	8,800	2,240	12,400	3,350	7,800	1,750	7,200	1,300
		20	0.055	10,400	2,790	9,300	2,520	8,800	2,240	12,400	3,350	7,800	1,750	7,200	1,300
		30	0.045	9,300	2,520	8,400	2,010	7,900	1,830	11,200	3,020	7000	1,470	6500	1,170
		40	0.03	9,300	2,520	8,400	2,010	7,900	1,830	11,200	3,020	7000	1,470	6,500	1,170
	0.2	12	0.13	10,400	2,790	9,300	2,520	8,800	2,240	12,400	3,350	7,800	1,750	7,200	1,300
		20	0.1	10,400	2,790	9,300	2,520	8,800	2,240	12,400	3,350	7,800	1,750	7,200	1,300
		30	0.08	9,300	2,520	8,400	2,010	7,900	1,830	11,200	3,020	7000	1,470	6500	1,170
		40	0.06	9,300	2,520	8,400	2,010	7,900	1,830	11,200	3,020	7000	1,470	6,500	1,170
	0.3	12	0.17	10,400	2,790	9,300	2,520	8,800	2,380	12,400	3,350	7,800	1,860	7,200	1,410
		20	0.13	10,400	2,790	9,300	2,520	8,800	2,380	12,400	3,350	7,800	1,860	7,200	1,410
		30	0.1	9,300	2,520	8,400	2,260	7,900	1,900	11,200	3,020	7,000	1,570	6,500	1,170
		40	0.08	9,300	2,520	8,400	2,260	7,900	1,900	11,200	3,020	7,000	1,570	6,500	1,170
	0.5	12	0.24	10,400	2,790	9,300	2,520	8,800	2,380	12,400	3,350	7,800	1,860	7,200	1,410
		20	0.2	10,400	2,790	9,300	2,520	8,800	2,380	12,400	3,350	7,800	1,860	7,200	1,410
		30	0.17	9,300	2,520	8,400	2,260	7,900	1,900	11,200	3,020	7,000	1,570	6,500	1,170
		40	0.1	9,300	2,520	8,400	2,260	7,900	1,900	11,200	3,020	7,000	1,570	6,500	1,170
5	0.1	20	0.07	8,100	2,190	7,300	1,970	6,900	1,760	9,700	2,620	6,100	1,370	5,700	1,020
		40	0.035	7,300	1,970	6,600	1,570	6,200	1,430	8,700	2,360	5,500	1,150	5,100	920
	0.2	20	0.15	8,100	2,190	7,300	1,970	6,900	1,760	9,700	2,620	6,100	1,370	5,700	1,020
		40	0.08	7,300	1,970	6,600	1,570	6,200	1,430	8,700	2,360	5,500	1,150	5,100	920
	0.3	20	0.21	8,100	2,190	7,300	1,970	6,900	1,860	9,700	2,620	6,100	1,460	5,700	1,110
		40	0.1	7,300	1,970	6,600	1,770	6,200	1,490	8,700	2,360	5,500	1,230	5,100	920
	0.5	20	0.28	8,100	2,190	7,300	1,970	6,900	1,860	9,700	2,620	6,100	1,460	5,700	1,110
		40	0.14	7,300	1,970	6,600	1,770	6,200	1,490	8,700	2,360	5,500	1,230	5,100	920
	1	20	0.35	8,100	2,190	7,300	1,970	6,900	1,860	9,700	2,620	6,100	1,460	5,700	1,110
		40	0.18	7,300	1,970	6,600	1,770	6,200	1,490	8,700	2,360	5,500	1,230	5,100	920

[Note] Please refer to P718.

Recommended Cutting Data (High Accuracy)

SPM200-RN4/SHM200-RN4

4 Flutes, Corner Radius Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Outer Diameter (mm)	Fillet Radius r (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
6	0.2	30	0.15	7,200	1,940	6,500	1,750	6,100	1,560	8,600	2,330	5,400	1,220	5,000	910
		54	0.1	6,500	1,750	5,800	1,400	5,500	1,270	7,800	2,100	4,900	1,020	4,500	820
		72	0.07	6,500	1,750	5,800	1,400	5,500	1,270	7,800	2,100	4,900	1,020	4,500	820
	0.3	30	0.25	7,200	1,940	6,500	1,750	6,100	1,560	8,600	2,330	5,400	1,300	5,000	980
		54	0.18	6,500	1,750	5,800	1,570	5,500	1,270	7,800	2,100	4,900	1,090	4,500	820
		72	0.1	6,500	1,750	5,800	1,570	5,500	1,270	7,800	2,100	4,900	1,090	4,500	820
	0.5	30	0.35	7,200	1,940	6,500	1,750	6,100	1,650	8,600	2,330	5,400	1,300	5,000	980
		54	0.25	6,500	1,750	5,800	1,570	5,500	1,320	7,800	2,100	4,900	1,090	4,500	820
		72	0.15	6,500	1,750	5,800	1,570	5,500	1,320	7,800	2,100	4,900	1,090	4,500	820
	1	30	0.55	7,200	1,940	6,500	1,750	6,100	1,650	8,600	2,330	5,400	1,300	5,000	980
		54	0.4	6,500	1,750	5,800	1,570	5,500	1,320	7,800	2,100	4,900	1,090	4,500	820
		72	0.22	6,500	1,750	5,800	1,570	5,500	1,320	7,800	2,100	4,900	1,090	4,500	820

[Notes]
1. For different workpiece materials, please adjust ap according to the cutting depth ratio coefficient in the above table, such as: For hardened steel (45～55 HRC), the value of ap should be *0.65.
2. Please use the appropriate cooling fluid in combination with the workpiece material and machining shape. Air cooling or water cooling is recommended.
3. In actual machining, please consider factors such as machining shape, purpose, and machine tools used to adjust the cutting conditions.
4. If the machine rotation speed is lower than the value listed in the table, the feed rate should be reduced to the same proportion as the rotation speed.

Recommended Cutting Data (General Type)

SPM200-BN2/SHM200-BN2

2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Ball Radius R (mm)	Outer Diameter (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
0.05	0.1	0.2	0.008	50,000	250	50,000	250	50,000	225	50,000	300	50,000	200	50,000	188
		0.3	0.006	50,000	250	50,000	250	50,000	225	50,000	300	50,000	200	50,000	188
		0.5	0.004	50,000	250	50,000	250	50,000	225	50,000	300	50,000	200	50,000	188
0.1	0.2	0.5	0.02	45,000	315	45,000	315	45,000	293	45,000	378	40,950	246	37,800	189
		0.75	0.017	45,000	315	45,000	315	45,000	293	45,000	378	40,950	246	37,800	189
		1	0.014	45,000	315	45,000	315	45,000	293	45,000	378	40,950	246	37,800	189
		1.25	0.011	45,000	284	43,740	275	41,310	242	45,000	340	36,450	197	34,020	153
		1.5	0.008	45,000	284	43,740	275	41,310	242	45,000	340	36,450	197	34,020	153
		2	0.008	45,000	284	43,740	275	41,310	242	45,000	340	36,450	197	34,020	153
		2.5	0.006	43,200	242	38,880	218	36,720	191	43,200	291	32,400	156	30,240	121
		3	0.004	43,200	242	38,880	218	36,720	191	43,200	291	32,400	156	30,240	121
0.15	0.3	0.5	0.027	45,000	450	45,000	450	45,000	405	45,000	540	40,500	345	37,800	302
		0.75	0.024	45,000	450	45,000	450	45,000	405	45,000	540	40,500	345	37,800	302
		1	0.021	45,000	450	45,000	450	45,000	405	45,000	540	40,500	345	37,800	302
		1.25	0.019	45,000	450	45,000	450	45,000	405	45,000	540	40,500	345	37,800	302
		1.5	0.016	45,000	450	45,000	450	45,000	405	45,000	540	40,500	345	37,800	302
		2	0.012	45,000	405	43,740	393	41,310	335	45,000	486	36,450	279	34,020	245
		2.5	0.01	45,000	405	43,740	393	41,310	335	45,000	486	36,450	279	34,020	245
		3	0.008	45,000	405	43,740	393	41,310	335	45,000	486	36,450	279	34,020	245
0.2	0.4	0.75	0.043	45,000	756	45,000	755	45,000	693	45,000	870	42,120	590	39,312	551
		1	0.04	45,000	756	45,000	755	45,000	693	45,000	870	42,120	590	39,312	551
		1.5	0.034	45,000	648	45,000	647	45,000	594	45,000	746	42,120	421	39,312	393
		2	0.028	45,000	540	45,000	540	45,000	495	45,000	622	42,120	421	39,312	393
		2.5	0.022	38,880	420	34,992	378	33,048	328	45,000	504	29,160	263	32,659	245
		3	0.016	38,880	420	34,992	378	33,048	328	45,000	504	29,160	263	32,659	245
		3.5	0.012	38,880	420	34,992	378	33,048	328	45,000	504	29,160	263	32,659	245
		4	0.01	38,880	420	34,992	378	33,048	328	45,000	504	29,160	263	32,659	245
		4.5	0.008	34,560	353	31,104	318	29,376	275	41,472	423	25,920	221	24,192	205
0.25	0.5	1	0.045	45,000	1,350	42,120	1,264	39,780	1,074	45,000	1,350	35,100	948	32,760	669
		1.5	0.04	45,000	1,350	42,120	1,264	39,780	1,074	45,000	1,350	35,100	948	32,760	613
		2	0.035	45,000	1,080	42,120	1,011	39,780	860	45,000	1,080	35,100	758	32,760	613
		2.5	0.033	45,000	900	37,908	682	35,802	581	45,000	973	31,590	511	29,484	452

[Note] Please refer to P729.

Recommended Cutting Data (General Type)

SPM200-BN2/SHM200-BN2

2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Ball Radius R (mm)	Outer Diameter (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
0.25	0.5	3	0.03	42,120	758	37,908	682	35,802	581	45,000	810	31,590	511	22,680	347
		4	0.02	32,400	583	29,160	525	27,540	446	38,880	700	29,160	472	22,680	347
		5	0.018	32,400	583	29,160	525	27,540	446	38,880	700	29,160	472	22,680	347
		5.5	0.015	28,800	490	25,920	441	24,480	374	34,560	588	21,600	330	20,160	292
		6	0.013	28,800	490	25,920	441	24,480	374	34,560	588	21,600	330	20,160	292
		8	0.008	28,800	490	25,920	441	24,480	374	34,560	588	21,600	330	20,160	292
0.3	0.6	1	0.075	45,000	2,025	45,000	2,025	45,000	1,755	45,000	2,025	43,200	1,555	40,320	1,210
		2	0.063	45,000	2,025	45,000	2,025	45,000	1,755	45,000	2,025	43,200	1,555	40,320	1,210
		2.5	0.046	45,000	1,620	45,000	1,620	45,000	1,404	45,000	1,620	43,200	1,244	40,320	887
		3	0.041	45,000	1,620	45,000	1,620	45,000	1,404	45,000	1,620	43,200	1,244	40,320	887
		3.5	0.035	45,000	1,539	45,000	1,538	44,064	1,307	45,000	1,539	38,880	1,065	36,288	759
		4	0.026	45,000	1,539	45,000	1,538	44,064	1,307	45,000	1,539	38,880	1,065	36,288	689
		4.5	0.022	45,000	1,215	43,740	1,182	41,310	967	45,000	1,215	36,450	788	34,020	613
		5	0.02	42,120	1,138	37,908	1,024	35,802	838	45,000	1,215	31,590	682	29,484	531
		5.5	0.017	42,120	1,138	37,908	1,024	35,802	838	45,000	1,215	31,590	682	29,484	531
		6	0.015	42,120	1,138	37,908	1,024	35,802	838	45,000	1,215	31,590	682	29,484	531
		7	0.015	28,800	734	25,920	793	24,480	541	34,560	881	21,600	441	20,160	446
		8	0.015	28,800	734	25,920	661	24,480	541	34,560	881	21,600	441	20,160	343
		9	0.012	28,800	734	25,920	661	24,480	541	34,560	881	21,600	441	20,160	343
		10	0.009	25,200	643	22,680	579	21,420	473	30,240	771	18,900	385	17,640	300
		12	0.007	21,600	518	19,440	466	18,360	382	25,920	622	16,200	311	15,120	242
0.35	0.7	2	0.092	45,000	2,228	45,000	2,228	45,000	1,940	45,000	2,228	43,200	1,739	37,800	1,069
		4	0.041	45,000	1,692	45,000	1,692	44,064	1,443	45,000	1,692	38,880	1,189	34,020	761
		6	0.027	42,120	1,251	37,908	1,126	35,802	925	45,000	1,337	31,590	763	27,216	577
		8	0.02	28,800	760	25,920	684	24,480	563	34,560	912	21,600	464	20,160	380
0.4	0.8	2	0.12	45,000	2,430	45,000	2,430	45,000	2,160	45,000	2,430	43,200	2,333	40,320	1,694
		4	0.078	45,000	2,430	45,000	2,430	45,000	2,160	45,000	2,430	43,200	2,333	40,320	1,694
		5	0.059	45,000	2,186	45,000	2,188	44,064	1,903	45,000	2,188	38,880	1,911	36,288	1,372
		6	0.042	45,000	2,040	40,824	1,852	38,556	1,554	45,000	2,042	34,020	1,286	31,752	1,121
		8	0.02	37,440	1,213	33,696	1,092	31,824	916	44,928	1,455	28,080	758	26,208	660
		10	0.02	28,800	881	25,920	793	24,480	666	34,560	1,058	21,600	551	20,160	480
0.45	0.9	2	0.135	45,000	2,877	45,000	2,877	45,000	2,539	45,000	2,877	41,040	2,170	38,304	1,924

[Note] Please refer to P729.

Recommended Cutting Data (General Type)

SPM200-BN2/SHM200-BN2

2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Ball Radius R (mm)	Outer Diameter (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
0.45	0.9	4	0.081	45,000	2,494	45,000	2,494	43,605	2,132	45,000	2,494	38,475	1,763	35,910	1,563
		6	0.05	43,092	1,818	38,783	1,636	36,628	1,364	45,000	2,072	32,319	1,128	30,164	1,000
		8	0.036	32,832	1,259	29,549	1,133	27,907	944	39,398	1,511	24,624	781	22,982	693
0.5	1	2	0.2	45,000	3,375	43,740	3,281	41,310	2,788	45,000	3,375	38,880	2,450	34,020	2,041
		3	0.2	45,000	3,375	43,740	3,281	41,310	2,788	45,000	3,375	38,880	2,450	34,020	2,041
		4	0.14	45,000	3,375	43,740	3,281	41,310	2,788	45,000	3,375	38,880	2,450	34,020	2,041
		5	0.09	42,120	2,948	37,908	2,653	35,802	2,336	45,000	3,150	38,880	2,286	29,484	1,652
		6	0.06	37,908	2,389	36,742	2,302	34,700	2,087	45,000	2,836	34,992	2,118	26,536	1,241
		7	0.06	34,992	1,575	31,493	1,417	29,743	1,204	41,990	1,890	28,431	1,191	24,494	955
		8	0.06	34,992	1,575	31,493	1,417	29,743	1,204	41,990	1,890	28,431	1,191	24,494	881
		9	0.045	34,992	1,575	31,493	1,417	29,743	1,204	41,990	1,890	28,431	1,191	24,494	881
		10	0.038	34,992	1,575	31,493	1,417	29,743	1,204	41,990	1,890	28,431	1,191	24,494	881
		12	0.025	25,920	1,102	23,328	992	22,032	842	31,104	1,322	19,440	694	18,144	617
		13	0.023	25,920	1,102	23,328	992	22,032	842	31,104	1,322	19,440	694	18,144	617
		14	0.02	25,920	1,102	23,328	992	22,032	842	31,104	1,322	19,440	694	18,144	617
		16	0.015	25,920	1,102	23,328	992	22,032	842	31,104	1,322	19,440	694	18,144	617
		18	0.012	22,680	907	20,412	816	19,278	694	27,216	1,089	17,010	572	15,876	508
		20	0.01	19,440	778	17,496	700	16,524	595	23,328	933	14,580	490	13,608	436
0.55	1.1	2	0.2	45,000	3,532	40,824	3,204	38,556	2,634	45,000	3,532	34,020	2,207	31,752	1,958
		4	0.14	45,000	3,532	40,824	3,204	38,556	2,634	45,000	3,532	34,020	2,207	31,752	1,958
		6	0.06	35,802	2,075	32,222	1,868	30,432	1,535	42,962	2,490	26,852	1,287	25,061	1,141
		8	0.06	35,802	2,075	32,222	1,556	28,091	1,181	42,962	2,075	24,786	990	23,134	878
		10	0.038	35,802	1,597	32,222	1,556	28,091	1,181	42,962	2,075	24,786	990	23,134	878
0.6	1.2	4	0.16	41,539	3,369	37,384	2,934	35,307	2,445	45,000	3,532	33,231	2,300	29,076	1,674
		8	0.06	33,696	1,928	30,326	1,893	28,642	1,862	40,435	2,313	27,216	1,856	23,587	943
		10	0.053	31,104	1,537	27,994	1,310	26,438	1,190	37,325	1,746	24,300	962	21,773	784
		12	0.045	31,104	1,456	27,994	1,310	26,438	1,190	37,325	1,746	23,328	923	21,773	784
0.7	1.4	8	0.11	29,484	2,123	26,536	1,911	25,061	1,625	35,381	2,547	22,113	1,380	20,639	1,238
		12	0.053	27,216	1,470	24,494	1,323	23,134	1,124	32,659	1,764	20,412	956	19,051	858
		16	0.035	20,160	1,028	18,144	925	17,136	787	24,192	1,234	15,120	669	14,112	599
0.75	1.5	4	0.2	37,800	3,742	34,020	3,368	32,130	2,892	45,000	4,456	28,350	2,297	26,460	1,985
		6	0.2	37,800	3,742	34,020	3,368	32,130	2,892	45,000	4,456	28,350	2,297	26,460	1,985
		8	0.09	29,484	2,364	26,536	1,891	25,061	1,625	35,381	2,522	22,113	1,291	20,639	1,115

[Note] Please refer to P729.

Recommended Cutting Data (General Type)

SPM200-BN2/SHM200-BN2

2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Ball Radius R (mm)	Outer Diameter (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
0.75	1.5	10	0.09	27,216	1,940	24,494	1,746	23,134	1,499	32,659	2,327	20,412	1,191	19,051	1,029
		12	0.09	27,216	1,616	24,494	1,454	23,134	1,249	32,659	1,940	20,412	993	19,051	858
		14	0.075	27,216	1,616	21,773	1,221	20,563	1,049	29,030	1,629	18,144	833	16,934	719
		16	0.038	20,160	1,131	18,144	1,018	17,136	874	24,192	1,357	15,120	694	14,112	599
		18	0.038	20,160	1,131	18,144	1,018	17,136	874	24,192	1,357	15,120	694	14,112	599
		20	0.038	20,160	1,131	18,144	1,018	17,136	874	24,192	1,357	15,120	694	14,112	599
0.8	1.6	8	0.22	32,760	2,752	29,484	2,477	27,846	2,244	39,312	3,302	24,570	1,916	21,294	1,431
		12	0.098	29,484	2,600	26,536	2,341	25,061	1,958	35,381	3,120	22,113	1,672	19,165	1,160
		16	0.06	25,272	1,592	22,745	1,433	21,481	1,199	30,326	1,911	18,954	1,024	17,690	892
		20	0.04	18,720	1,114	16,848	1,003	15,912	839	22,464	1,337	14,040	716	13,104	624
0.9	1.8	8	0.26	30,420	2,921	27,378	2,628	25,857	2,172	36,504	3,505	22,815	1,807	21,294	1,534
		12	0.105	25,272	1,820	22,745	1,637	21,481	1,354	30,326	2,183	18,954	1,125	17,690	956
		16	0.068	25,272	1,820	22,745	1,637	21,481	1,354	30,326	2,183	18,954	1,125	17,690	956
		20	0.045	18,720	1,273	16,848	1,146	15,912	947	22,464	1,527	14,040	788	13,104	669
1	2	3	0.4	28,350	4,253	25,515	3,828	24,098	3,254	34,020	5,103	21,263	2,744	19,845	2,381
		4	0.4	28,350	4,253	25,515	3,828	24,098	3,254	34,020	5,103	21,263	2,744	19,845	2,381
		6	0.4	28,350	3,828	25,515	3,444	24,098	2,892	34,020	4,593	21,263	2,424	19,845	2,143
		8	0.28	28,350	3,828	25,515	3,444	24,098	2,892	34,020	4,593	21,263	2,424	19,845	2,143
		10	0.21	26,460	3,175	23,814	2,858	22,491	2,429	31,752	3,811	19,845	2,024	17,199	1,321
		12	0.12	23,814	2,858	21,433	2,572	20,242	2,187	28,577	3,428	17,861	1,846	15,479	1,189
		13	0.12	23,814	2,858	21,433	2,572	20,242	2,187	28,577	3,428	17,861	1,822	14,288	914
		14	0.12	23,814	2,477	21,433	2,229	20,242	1,895	28,577	2,971	16,585	1,466	14,288	914
		16	0.12	22,113	1,592	19,902	1,434	18,797	1,218	26,536	1,911	16,585	1,320	14,288	823
		18	0.09	20,412	1,470	18,371	1,323	17,350	1,124	24,494	1,764	16,585	1,219	14,288	823
		20	0.075	20,412	1,470	18,371	1,323	17,350	1,124	24,494	1,764	16,585	1,015	14,288	823
		22	0.05	16,065	1,093	14,459	983	13,656	836	19,278	1,311	12,049	697	13,495	734
		25	0.05	15,120	1,028	13,608	925	12,852	787	18,144	1,234	11,340	655	12,701	691
		30	0.03	15,120	1,028	13,608	925	12,852	787	18,144	1,234	11,340	655	12,701	691
		35	0.025	13,230	847	11,907	762	11,246	648	15,876	1,016	9,923	540	9,261	474
		40	0.022	11,340	725	10,206	653	9,639	555	13,608	871	8,505	463	7,938	407
1.25	2.5	6	0.5	24,975	4,557	22,478	4,100	21,229	3,417	29,970	5,468	18,732	2,779	17,483	2,278
		10	0.34	24,975	4,557	22,478	4,100	21,229	3,417	29,970	5,468	18,732	2,779	17,483	2,278
		15	0.15	19,481	2,558	17,533	2,302	16,558	1,919	23,377	3,070	14,611	1,821	13,637	1,279

[Note] Please refer to P729.

Recommended Cutting Data (General Type)

SPM200-BN2/SHM200-BN2

2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Ball Radius R (mm)	Outer Diameter (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
1.25	2.5	20	0.12	17,982	1,967	16,184	1,771	15,285	1,476	21,578	2,362	14,611	1,301	12,587	984
		25	0.098	17,982	1,770	16,184	1,593	15,285	1,328	21,578	2,124	13,487	1,080	12,587	885
		30	0.055	13,320	1,377	11,988	1,239	11,322	1,033	15,984	1,652	9,990	840	9,324	689
1.5	3	8	0.6	21,600	4,860	19,440	4,374	18,360	3,690	25,920	5,832	16,200	3,062	15,120	2,722
		10	0.42	21,600	4,860	19,440	4,374	18,360	3,690	25,920	5,832	16,200	3,062	15,120	2,722
		13	0.315	20,160	3,629	18,144	3,266	17,136	2,755	24,192	4,354	15,120	2,286	14,112	2,032
		16	0.315	20,160	3,266	18,144	2,939	17,136	2,480	24,192	3,920	15,120	2,057	13,104	1,699
		20	0.18	16,848	2,274	15,163	2,048	14,321	1,727	20,218	2,730	12,636	1,434	10,886	1,176
		25	0.12	16,848	2,274	15,163	2,048	14,321	1,727	20,218	2,730	12,636	1,434	10,886	1,176
		30	0.12	15,552	2,100	13,997	1,890	13,219	1,594	18,662	2,520	11,664	1,323	10,886	1,176
		35	0.08	11,520	1,469	10,368	1,322	9,792	1,115	13,824	1,762	8,640	925	9,677	987
1.75	3.5	15	0.36	16,088	3,299	14,479	2,969	13,675	2,475	19,305	3,959	12,065	2,012	11,262	1,650
		25	0.21	13,365	2,052	12,029	1,847	11,361	1,539	16,038	2,462	10,024	1,252	9,356	1,026
		35	0.09	13,365	2,052	12,029	1,847	11,361	1,539	16,038	2,462	10,024	1,252	9,356	1,026
		45	0.09	9,900	1,438	8,910	1,294	8,415	1,079	11,880	1,726	7,425	878	6,930	719
2	4	10	0.6	15,525	4,658	13,973	4,192	13,197	3,564	18,630	5,589	11,644	2,969	10,868	2,608
		13	0.48	15,525	4,658	13,973	4,192	13,197	3,564	18,630	5,589	11,644	2,969	10,868	2,608
		16	0.42	15,525	4,658	13,973	4,192	13,197	3,564	18,630	5,589	11,644	2,969	10,868	2,608
		20	0.42	13,455	3,229	12,110	2,906	11,437	2,471	16,146	3,875	10,092	2,058	9,419	1,808
		25	0.24	12,110	2,615	10,899	2,354	10,293	2,001	14,531	3,139	9,083	1,946	8,477	1,464
		30	0.16	11,178	2,012	10,060	1,811	9,502	1,539	13,414	2,415	8,384	1,283	7,825	1,127
		35	0.1	11,178	2,012	10,060	1,811	9,502	1,539	13,414	2,415	8,384	1,283	7,825	1,127
		40	0.1	11,178	2,012	10,060	1,811	9,502	1,539	13,414	2,415	8,384	1,283	7,825	1,127
		45	0.1	8,280	1,408	7,452	1,267	7,038	1,076	9,936	1,689	6,210	897	5,796	788
		50	0.1	8,280	1,408	7,452	1,267	7,038	1,076	9,936	1,689	6,210	897	5,796	788
2.5	5	20	0.525	11,340	4,082	10,206	3,674	9,639	2,892	13,608	4,899	8,505	2,552	7,938	2,143
		25	0.525	10,530	3,285	9,477	3,412	8,951	2,686	12,636	4,549	7,898	2,370	7,371	1,990
		30	0.3	9,477	2,502	8,529	3,072	8,056	2,417	11,372	4,094	7,108	2,132	6,634	1,792
		40	0.2	8,748	1,890	7,873	1,701	7,436	1,338	10,498	2,268	6,561	1,182	6,124	993
3	6	12	0.6	12,150	5,103	10,935	4,593	10,328	3,828	14,580	6,124	9,113	3,113	8,505	2,552
		20	0.5	11,475	4,476	10,328	4,028	9,754	3,356	13,770	5,370	8,607	2,730	8,033	2,237
		30	0.42	9,360	2,696	8,424	2,426	7,956	1,910	11,232	3,235	7,020	1,825	6,552	1,415
		50	0.15	7,776	2,015	6,998	1,814	6,610	1,428	9,331	2,418	5,832	1,260	5,443	1,058

[Note] Please refer to P729.

Recommended Cutting Data (High Accuracy)

SPM200-BN2/SHM200-BN2

2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Ball Radius R (mm)	Outer Diameter (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
0.05	0.1	0.2	0.004	50,000	250	50,000	250	50,000	225	50,000	300	50,000	200	50,000	188
		0.3	0.003	50,000	250	50,000	250	50,000	225	50,000	300	50,000	200	50,000	188
		0.5	0.002	50,000	250	50,000	250	50,000	225	50,000	300	50,000	200	50,000	188
0.1	0.2	0.5	0.015	45,000	315	45,000	315	45,000	293	45,000	378	40,950	246	37,800	189
		0.75	0.013	45,000	315	45,000	315	45,000	293	45,000	378	40,950	246	37,800	189
		1	0.011	45,000	315	45,000	315	45,000	293	45,000	378	40,950	246	37,800	189
		1.25	0.008	45,000	284	43,740	275	41,310	242	45,000	340	36,450	197	34,020	153
		1.5	0.007	45,000	284	43,740	275	41,310	242	45,000	340	36,450	197	34,020	153
		2	0.006	45,000	284	43,740	275	41,310	242	45,000	340	36,450	197	34,020	153
		2.5	0.005	43,200	242	38,880	218	36,720	191	43,200	291	32,400	156	30,240	121
		3	0.003	43,200	242	38,880	218	36,720	191	43,200	291	32,400	156	30,240	121
0.15	0.3	0.5	0.02	45,000	450	45,000	450	45,000	405	45,000	540	40,500	345	37,800	302
		0.75	0.018	45,000	450	45,000	450	45,000	405	45,000	540	40,500	345	37,800	302
		1	0.016	45,000	450	45,000	450	45,000	405	45,000	540	40,500	345	37,800	302
		1.25	0.014	45,000	450	45,000	450	45,000	405	45,000	540	40,500	345	37,800	302
		1.5	0.012	45,000	450	45,000	450	45,000	405	45,000	540	40,500	345	37,800	302
		2	0.009	45,000	405	43,740	393	41,310	335	45,000	486	36,450	279	34,020	245
		2.5	0.008	45,000	405	43,740	393	41,310	335	45,000	486	36,450	279	34,020	245
		3	0.006	45,000	405	43,740	393	41,310	335	45,000	486	36,450	279	34,020	245
0.2	0.4	0.75	0.043	43,200	518	38,880	466	36,720	404	45,000	622	32,400	324	30,240	302
		1	0.04	43,200	518	38,880	466	36,720	404	45,000	622	32,400	324	30,240	302
		1.5	0.034	43,200	518	38,880	466	36,720	404	45,000	622	32,400	324	30,240	302
		2	0.028	43,200	518	38,880	466	36,720	404	45,000	622	32,400	324	30,240	302
		2.5	0.016	38,880	420	34,992	378	33,048	328	45,000	504	29,160	263	27,216	245
		3	0.011	38,880	420	34,992	378	33,048	328	45,000	504	29,160	263	27,216	245
		3.5	0.008	38,880	420	34,992	378	33,048	328	45,000	504	29,160	263	27,216	245
		4	0.005	38,880	420	34,992	378	33,048	328	45,000	504	29,160	263	27,216	245
		4.5	0.004	34,560	353	31,104	318	29,376	275	41,472	423	25,920	221	24,192	205
0.25	0.5	1	0.045	36,000	720	32,400	648	30,600	551	43,200	864	27,000	486	25,200	428
		1.5	0.04	36,000	720	32,400	648	30,600	551	43,200	864	27,000	486	25,200	428
		2	0.035	36,000	720	32,400	648	30,600	551	43,200	864	27,000	486	25,200	428
		2.5	0.033	36,000	720	29,160	525	27,540	446	38,880	700	24,300	393	22,680	347

[Note] Please refer to P729.

Recommended Cutting Data (High Accuracy)

Spm200-Bn2/Shm200-Bn2

2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Ball Radius R (mm)	Outer Diameter (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
0.25	0.5	3	0.03	32,400	583	29,160	525	27,540	446	38,880	700	24,300	393	22,680	347
		4	0.02	32,400	583	29,160	525	27,540	446	38,880	700	24,300	393	22,680	347
		5	0.018	32,400	583	29,160	525	27,540	446	38,880	700	24,300	393	22,680	347
		5.5	0.008	28,800	490	25,920	441	24,480	374	34,560	588	21,600	330	20,160	292
		6	0.007	28,800	490	25,920	441	24,480	374	34,560	588	21,600	330	20,160	292
		8	0.004	28,800	490	25,920	441	24,480	374	34,560	588	21,600	330	20,160	292
0.3	0.6	1	0.05	36,000	1,080	32,400	972	30,600	796	43,200	1,296	27,000	648	25,200	504
		2	0.042	36,000	1,080	32,400	972	30,600	796	43,200	1,296	27,000	648	25,200	504
		2.5	0.038	36,000	1,080	32,400	972	30,600	796	43,200	1,296	27,000	648	25,200	504
		3	0.034	36,000	1,080	32,400	972	30,600	796	43,200	1,296	27,000	648	25,200	504
		3.5	0.029	32,400	923	29,160	831	27,540	680	38,880	1,108	24,300	554	22,680	431
		4	0.024	32,400	923	29,160	831	27,540	680	38,880	1,108	24,300	554	22,680	431
		4.5	0.022	32,400	875	29,160	788	27,540	644	38,880	1,049	24,300	525	22,680	409
		5	0.02	32,400	875	29,160	788	27,540	644	38,880	1,049	24,300	525	22,680	409
		5.5	0.017	32,400	875	29,160	788	27,540	644	38,880	1,049	24,300	525	22,680	409
		6	0.015	32,400	875	29,160	788	27,540	644	38,880	1,049	24,300	525	22,680	409
		7	0.008	28,800	734	25,920	661	24,480	541	34,560	881	21,600	441	20,160	343
		8	0.008	28,800	734	25,920	661	24,480	541	34,560	881	21,600	441	20,160	343
		9	0.006	28,800	734	25,920	661	24,480	541	34,560	881	21,600	441	20,160	343
		10	0.005	25,200	643	22,680	579	21,420	473	30,240	771	18,900	385	17,640	300
		12	0.004	21,600	518	19,440	466	18,360	382	25,920	622	16,200	311	15,120	242
0.35	0.7	2	0.061	36,000	1,188	32,400	1,069	30,600	879	43,200	1,426	27,000	725	25,200	594
		4	0.034	32,400	1,015	29,160	914	27,540	752	38,880	1,219	24,300	619	22,680	508
		6	0.027	32,400	962	29,160	866	27,540	712	38,880	1,155	24,300	587	22,680	482
		8	0.01	28,800	760	25,920	684	24,480	563	34,560	912	21,600	464	20,160	380
0.4	0.8	2	0.08	36,000	1,296	32,400	1,166	30,600	979	43,200	1,555	27,000	810	25,200	706
		4	0.056	36,000	1,296	32,400	1,166	30,600	979	43,200	1,555	27,000	810	25,200	706
		5	0.045	32,400	1,049	29,160	945	27,540	793	38,880	1,260	24,300	656	22,680	572
		6	0.032	32,400	1,049	29,160	945	27,540	793	38,880	1,260	24,300	656	22,680	572
		8	0.02	28,800	933	25,920	840	24,480	705	34,560	1,120	21,600	583	20,160	508
		10	0.01	28,800	881	25,920	793	24,480	666	34,560	1,058	21,600	551	20,160	480
0.45	0.9	2	0.09	34,200	1,458	30,780	1,312	29,070	1,094	41,040	1,750	25,650	904	23,940	802

[Note] Please refer to P729.

Recommended Cutting Data (High Accuracy)

SPM200-BN2/SHM200-BN2

2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Ball Radius R (mm)	Outer Diameter (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
0.45	0.9	4	0.058	34,200	1,458	30,780	1,312	29,070	1,094	41,040	1,750	25,650	904	23,940	802
		6	0.042	30,780	1,181	27,702	1,063	26,163	886	36,936	1,417	23,085	732	21,546	650
		8	0.03	27,360	1,049	24,624	944	23,256	788	32,832	1,259	20,520	651	19,152	577
0.5	1	2	0.1	32,400	1,620	29,160	1,458	27,540	1,239	38,880	1,944	24,300	1,021	22,680	907
		3	0.1	32,400	1,620	29,160	1,458	27,540	1,239	38,880	1,944	24,300	1,021	22,680	907
		4	0.07	32,400	1,620	29,160	1,458	27,540	1,239	38,880	1,944	24,300	1,021	22,680	907
		5	0.06	32,400	1,620	29,160	1,458	27,540	1,239	38,880	1,944	24,300	1,021	22,680	907
		6	0.04	29,160	1,312	26,244	1,181	24,786	1,004	34,992	1,575	21,870	827	20,412	734
		7	0.04	29,160	1,312	26,244	1,181	24,786	1,004	34,992	1,575	21,870	827	20,412	734
		8	0.04	29,160	1,312	26,244	1,181	24,786	1,004	34,992	1,575	21,870	827	20,412	734
		9	0.03	29,160	1,312	26,244	1,181	24,786	1,004	34,992	1,575	21,870	827	20,412	734
		10	0.025	29,160	1,312	26,244	1,181	24,786	1,004	34,992	1,575	21,870	827	20,412	734
		12	0.013	25,920	1,102	23,328	992	22,032	842	31,104	1,322	19,440	694	18,144	617
		13	0.011	25,920	1,102	23,328	992	22,032	842	31,104	1,322	19,440	694	18,144	617
		14	0.01	25,920	1,102	23,328	992	22,032	842	31,104	1,322	19,440	694	18,144	617
		16	0.008	25,920	1,102	23,328	992	22,032	842	31,104	1,322	19,440	694	18,144	617
		18	0.006	22,680	907	20,412	816	19,278	694	27,216	1,089	17,010	572	15,876	508
		20	0.005	19,440	778	17,496	700	16,524	595	23,328	933	14,580	490	13,608	436
0.55	1.1	2	0.1	30,240	1,582	27,216	1,424	25,704	1,171	36,288	1,899	22,680	981	21,168	870
		4	0.07	30,240	1,582	27,216	1,424	25,704	1,171	36,288	1,899	22,680	981	21,168	870
		6	0.04	27,540	1,330	24,786	1,197	23,409	985	33,048	1,597	20,655	824	19,278	732
		8	0.04	27,540	1,330	24,786	1,197	23,409	985	33,048	1,597	20,655	824	19,278	732
		10	0.025	27,540	1,330	24,786	1,197	23,409	985	33,048	1,597	20,655	824	19,278	732
0.6	1.2	4	0.08	27,692	1,449	24,923	1,304	23,539	1,087	33,231	1,739	20,769	898	19,384	797
		8	0.04	25,920	1,348	23,328	1,213	22,032	992	31,104	1,617	19,440	855	18,144	725
		10	0.035	25,920	1,281	23,328	1,092	22,032	992	31,104	1,455	19,440	770	18,144	653
		12	0.03	25,920	1,213	23,328	1,092	22,032	992	31,104	1,455	19,440	770	18,144	653
0.7	1.4	8	0.055	22,680	1,361	20,412	1,225	19,278	1,041	27,216	1,633	17,010	885	15,876	794
		12	0.035	22,680	1,225	20,412	1,103	19,278	937	27,216	1,470	17,010	797	15,876	715
		16	0.017	20,160	1,028	18,144	925	17,136	787	24,192	1,234	15,120	669	14,112	599
0.75	1.5	4	0.1	25,200	1,663	22,680	1,497	21,420	1,285	30,240	1,996	18,900	1,021	17,640	882
		6	0.1	25,200	1,663	22,680	1,497	21,420	1,285	30,240	1,996	18,900	1,021	17,640	882

[Note] Please refer to P729.

Recommended Cutting Data (High Accuracy)

SPM200-BN2/SHM200-BN2

2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Ball Radius R (mm)	Outer Diameter (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
0.75	1.5	8	0.06	22,680	1,347	20,412	1,212	19,278	1,041	27,216	1,616	17,010	827	15,876	715
		10	0.06	22,680	1,347	20,412	1,212	19,278	1,041	27,216	1,616	17,010	827	15,876	715
		12	0.06	22,680	1,347	20,412	1,212	19,278	1,041	27,216	1,616	17,010	827	15,876	715
		14	0.05	22,680	1,347	18,144	1,018	17,136	874	24,192	1,357	15,120	694	14,112	599
		16	0.019	20,160	1,131	18,144	1,018	17,136	874	24,192	1,357	15,120	694	14,112	599
		18	0.019	20,160	1,131	18,144	1,018	17,136	874	24,192	1,357	15,120	694	14,112	599
		20	0.019	20,160	1,131	18,144	1,018	17,136	874	24,192	1,357	15,120	694	14,112	599
0.8	1.6	8	0.11	23,400	1,638	21,060	1,474	19,890	1,233	28,080	1,966	17,550	1,053	16,380	917
		12	0.065	21,060	1,327	18,954	1,194	17,901	999	25,272	1,592	15,795	853	14,742	743
		16	0.04	21,060	1,327	18,954	1,194	17,901	999	25,272	1,592	15,795	853	14,742	743
		20	0.02	18,720	1,114	16,848	1,003	15,912	839	22,464	1,337	14,040	716	13,104	624
0.9	1.8	8	0.13	23,400	1,872	21,060	1,685	19,890	1,392	28,080	2,246	17,550	1,158	16,380	983
		12	0.07	21,060	1,517	18,954	1,364	17,901	1,128	25,272	1,820	15,795	938	14,742	797
		16	0.045	21,060	1,517	18,954	1,364	17,901	1,128	25,272	1,820	15,795	938	14,742	797
		20	0.022	18,720	1,273	16,848	1,146	15,912	947	22,464	1,527	14,040	788	13,104	669
1	2	3	0.2	18,900	1,890	17,010	1,701	16,065	1,446	22,680	2,268	14,175	1,220	13,230	1,058
		4	0.2	18,900	1,890	17,010	1,701	16,065	1,446	22,680	2,268	14,175	1,220	13,230	1,058
		6	0.2	18,900	1,701	17,010	1,531	16,065	1,285	22,680	2,041	14,175	1,077	13,230	952
		8	0.14	18,900	1,701	17,010	1,531	16,065	1,285	22,680	2,041	14,175	1,077	13,230	952
		10	0.14	18,900	1,512	17,010	1,361	16,065	1,157	22,680	1,814	14,175	964	13,230	847
		12	0.08	17,010	1,361	15,309	1,225	14,459	1,041	20,412	1,633	12,758	868	11,907	762
		13	0.08	17,010	1,361	15,309	1,225	14,459	1,041	20,412	1,633	12,758	868	11,907	762
		14	0.08	17,010	1,361	15,309	1,225	14,459	1,041	20,412	1,633	12,758	868	11,907	762
		16	0.08	17,010	1,225	15,309	1,103	14,459	937	20,412	1,470	12,758	781	11,907	686
		18	0.06	17,010	1,225	15,309	1,103	14,459	937	20,412	1,470	12,758	781	11,907	686
		20	0.05	17,010	1,225	15,309	1,103	14,459	937	20,412	1,470	12,758	781	11,907	686
		22	0.042	16,065	1,093	14,459	983	13,656	836	19,278	1,311	12,049	697	11,246	612
		25	0.035	15,120	1,028	13,608	925	12,852	787	18,144	1,234	11,340	655	10,584	576
		30	0.015	15,120	1,028	13,608	925	12,852	787	18,144	1,234	11,340	655	10,584	576
		35	0.012	13,230	847	11,907	762	11,246	648	15,876	1,016	9,923	540	9,261	474
		40	0.01	11,340	725	10,206	653	9,639	555	13,608	871	8,505	463	7,938	407
1.25	2.5	6	0.25	16,650	2,025	14,985	1,823	14,153	1,519	19,980	2,430	12,488	1,236	11,655	1,013

[Note] Please refer to P729.

Recommended Cutting Data (High Accuracy)

SPM200-BN2/SHM200-BN2

2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining

Continued

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Ball Radius R (mm)	Outer Diameter (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
1.25	2.5	10	0.17	16,650	2,025	14,985	1,823	14,153	1,519	19,980	2,430	12,488	1,236	11,655	1,013
		15	0.1	14,985	1,640	13,487	1,476	12,738	1,230	17,982	1,967	11,239	1,000	10,490	820
		20	0.08	14,985	1,640	13,487	1,476	12,738	1,230	17,982	1,967	11,239	1,000	10,490	820
		25	0.065	14,985	1,475	13,487	1,328	12,738	1,106	17,982	1,770	11,239	900	10,490	738
		30	0.044	13,320	1,377	11,988	1,239	11,322	1,033	15,984	1,652	9,990	840	9,324	689
1.5	3	8	0.3	14,400	2,160	12,960	1,944	12,240	1,640	17,280	2,592	10,800	1,361	10,080	1,210
		10	0.21	14,400	2,160	12,960	1,944	12,240	1,640	17,280	2,592	10,800	1,361	10,080	1,210
		13	0.21	14,400	2,160	12,960	1,944	12,240	1,640	17,280	2,592	10,800	1,361	10,080	1,210
		16	0.21	14,400	1,944	12,960	1,750	12,240	1,476	17,280	2,333	10,800	1,225	10,080	1,089
		20	0.12	12,960	1,750	11,664	1,575	11,016	1,328	15,552	2,100	9,720	1,103	9,072	980
		25	0.08	12,960	1,750	11,664	1,575	11,016	1,328	15,552	2,100	9,720	1,103	9,072	980
		30	0.08	12,960	1,750	11,664	1,575	11,016	1,328	15,552	2,100	9,720	1,103	9,072	980
		35	0.064	11,520	1,469	10,368	1,322	9,792	1,115	13,824	1,762	8,640	925	8,064	823
1.75	3.5	15	0.24	12,375	2,115	11,138	1,904	10,519	1,587	14,850	2,538	9,282	1,291	8,663	1,058
		25	0.14	11,138	1,710	10,024	1,539	9,467	1,283	13,365	2,052	8,353	1,043	7,797	855
		35	0.09	11,138	1,710	10,024	1,539	9,467	1,283	13,365	2,052	8,353	1,043	7,797	855
		45	0.072	9,900	1,438	8,910	1,294	8,415	1,079	11,880	1,726	7,425	878	6,930	719
2	4	10	0.4	10,350	2,070	9,315	1,863	8,798	1,584	12,420	2,484	7,763	1,319	7,245	1,159
		13	0.32	10,350	2,070	9,315	1,863	8,798	1,584	12,420	2,484	7,763	1,319	7,245	1,159
		16	0.28	10,350	2,070	9,315	1,863	8,798	1,584	12,420	2,484	7,763	1,319	7,245	1,159
		20	0.28	10,350	2,070	9,315	1,863	8,798	1,584	12,420	2,484	7,763	1,319	7,245	1,159
		25	0.16	9,315	1,677	8,384	1,509	7,918	1,283	11,178	2,012	6,987	1,069	6,521	939
		30	0.16	9,315	1,677	8,384	1,509	7,918	1,283	11,178	2,012	6,987	1,069	6,521	939
		35	0.1	9,315	1,677	8,384	1,509	7,918	1,283	11,178	2,012	6,987	1,069	6,521	939
		40	0.1	9,315	1,677	8,384	1,509	7,918	1,283	11,178	2,012	6,987	1,069	6,521	939
		45	0.08	8,280	1,408	7,452	1,267	7,038	1,076	9,936	1,689	6,210	897	5,796	788
		50	0.07	8,280	1,408	7,452	1,267	7,038	1,076	9,936	1,689	6,210	897	5,796	788
2.5	5	20	0.35	8,100	1,944	7,290	1,750	6,885	1,377	9,720	2,333	6,075	1,215	5,670	1,021
		25	0.35	8,100	1,944	7,290	1,750	6,885	1,377	9,720	2,333	6,075	1,215	5,670	1,021
		30	0.2	7,290	1,750	6,561	1,575	6,197	1,239	8,748	2,100	5,468	1,094	5,103	919
		40	0.2	7,290	1,575	6,561	1,418	6,197	1,115	8,748	1,890	5,468	985	5,103	827

[Note] Please refer to P729.

Recommended Cutting Data (High Accuracy)

SPM200-BN2/SHM200-BN2

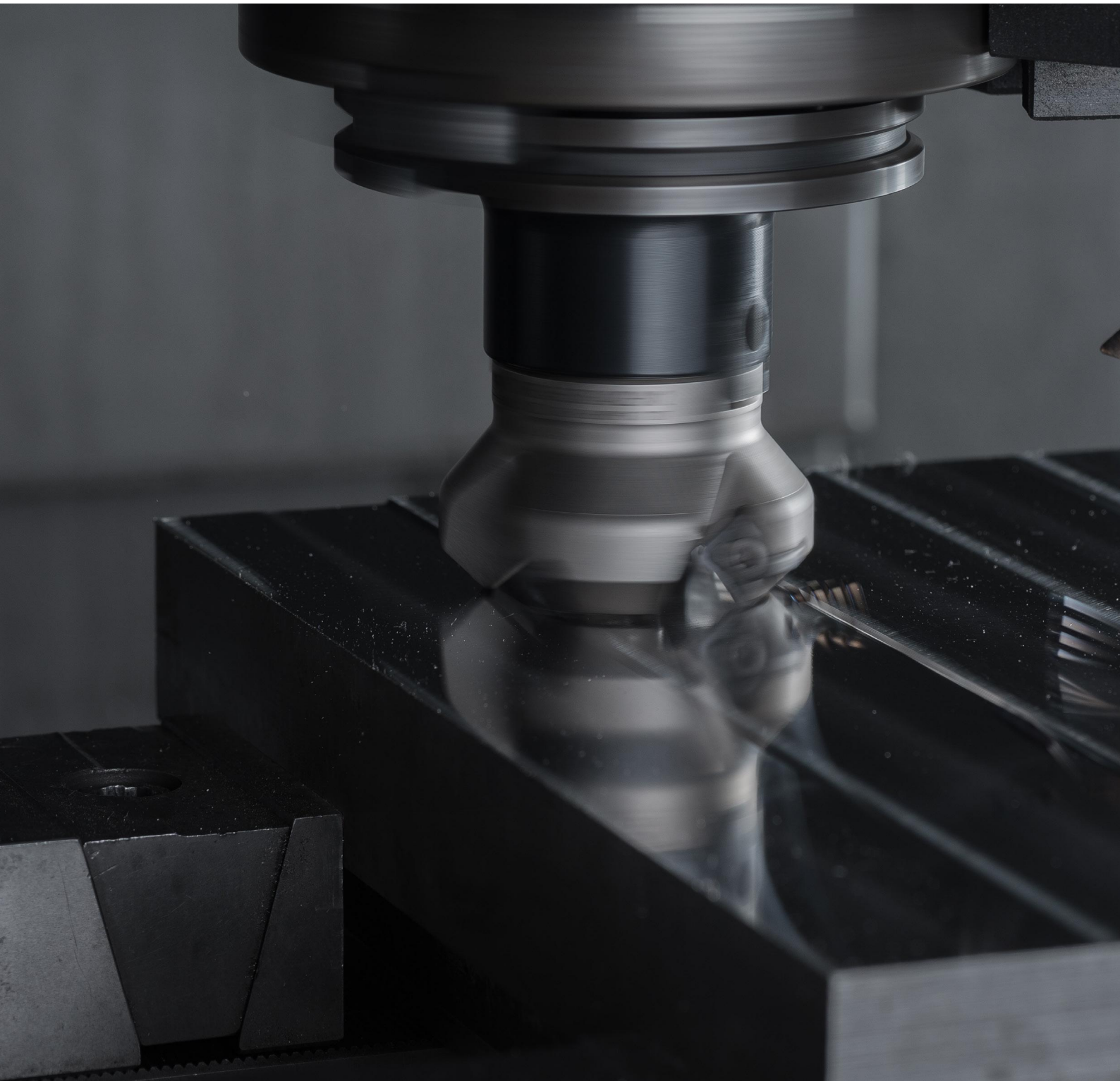
2 Flutes, Ballnose Endmill, Micro Diameter for Deep Machining

Workpiece Material				P						N		H			
				Carbon Steel, Alloy Steel (180~250HB)		Alloy Steel, Tool Steel (25~35HRC)		PH and Ferritic/ Martensitic Steel (35~45HRC)		Copper, Copper Alloy		Hardened Steel (45~55HRC)		Hardened Steel (55~65HRC)	
Ratio to Standard Depth of Cut (ap)				1.00		0.90		0.80		1.20		0.65		0.60	
Ball Radius R (mm)	Outer Diameter (mm)	Neck Length (mm)	ap	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min	Rotation Speed n r/min	Feed Speed Vf mm/min
3	6	12	0.6	8,100	2,268	7,290	2,041	6,885	1,701	9,720	2,722	6,075	1,383	5,670	1,134
		20	0.5	7,650	1,989	6,885	1,790	6,503	1,492	9,180	2,387	5,738	1,213	5,355	995
		30	0.42	7,200	1,728	6,480	1,555	6,120	1,224	8,640	2,074	5,400	1,080	5,040	907
		50	0.15	6,480	1,400	5,832	1,260	5,508	992	7,776	1,679	4,860	875	4,536	734

[Notes]
1. For different workpiece materials, please adjust ap according to the cutting depth ratio coefficient in the above table, such as: For hardened steel (45～55 HRC), the value of ap should be *0.65.
2. When performing operations such as slot cutting for ribs or shoulders, which are prone to chip accumulation, the cutting depth should be set as the basic depth of cut multiplied by the cutting depth ratio, and then reduced to 80% of this value.
3.ae is set to ap × cutting ratio × 3-5 times. When performing finishing, please enter the highest point of the theoretical margin value.
4. Please use the appropriate cooling fluid in combination with the workpiece material and machining shape. Air cooling or water cooling is recommended.
5. In actual machining, please consider factors such as machining shape, purpose, and machine tools used to adjust the cutting conditions.
6. If the machine rotation speed is lower than the value listed in the table, the feed rate should be reduced to the same proportion as the rotation speed.

C

APPENDIX



Cutting Definition and Calculation

Common parameters and their units	
D Mill Diameter (mm)	Fn Feed Per Revolution (mm/rev)
ap Depth of Cut (mm)	fz Feed Per Edge (mm/tooth)
ae Cutting Width (mm)	Z Tool Teeth
Vf Feed Speed (mm/min)	n Spindle Rotation Speed (rev/min)
Vc Cutting Speed (m/min)	L Workbench Total Feed Length (Workpiece Length + Mill Diameter: l+D) (mm)
Q Metal Cutting Rate (cm^3/min)	Tc Machining Time (min)

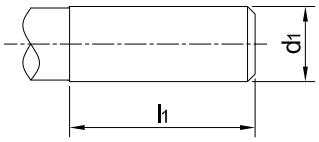
General calculation formulas	
n Spindle Rotation Speed	$n = \frac{Vc * 1000}{\pi * D}$ (rev/min)
Vc Cutting Speed	$Vc = \frac{\pi * D * n}{1000}$ (m/min)
Vf Feed Speed	$V_f = f_z * z * n$ (mm/min)
fz Feed Per Tooth	$f_z = \frac{V_f}{z * n}$ (mm)
Q Metal Cutting Rate	$Q = \frac{ae * ap * V_f}{1000}$ (cm^3/min)
Tc Machining Time	$T_c = \frac{L}{V_f}$ (min)

Workpiece Material Table

Material Group	MC	Workpiece Material	Content	Tensile Strength Tensile Strength	Brinell Hardness	Rockwell Hardness
P Steel	P1	Low-carbon Steel, Long Chips	C<0.25%	<530	<125	
	P2	Low-carbon Steel, Short Chips, Free Cutting Steel	C<0.25%	<530	<125	
	P3	High-carbon Steel and Medium-Carbon Steel	C>0.25%	>530	<220	<25
	P4	Alloy Steel, Tool Steel	C>0.25%	600-850	<330	<35
	P5	Alloy Steel, Tool Steel	C>0.25%	850-1400	340-450	35-48
	P6	Ferritic Stainless Steel, Martensitic Stainless Steel, PH Stainless Steel	C=(0-0.4)%	600-900	<330	<35
	P7	High-strength Ferritic Stainless Steel, martensitic stainless steel, PH Stainless Steel	C=(0.1-0.6)%	900-1350	330-450	35-48
M Stainless Steel	M1	Austenitic Stainless Steels	C=(0.05-0.15)%	<600	130-200	
	M2	High Strength Austenitic and Cast Stainless Steel	C=(0.05-0.15)%	600-800	150-230	<25
	M3	Duplex Stainless Steel	C=(0.05-0.20)%	<800	135-275	<30
K Cast Iron	K1	Gray Cast Iron		125-500	120-290	< 32
	K2	Alloy Cast Iron with Medium Machining Difficulty, Nodular Cast Iron		<600	130-260	< 28
	K3	Difficult-to-machine High Alloy Cast Iron, Nodular Cast Iron		>600	180-350	< 43
N Non-ferrous Materials	N1	Forged Aluminum Alloy		<520	60-90	
	N2	Cast Aluminum Alloy	Si<12%	<350	70-100	
	N3	Cast Aluminum Alloy	Si>12%	200-320	60-120	
	N4	Copper, Copper Alloy		200-650	60-200	
	N5	Graphite, Composite Materials		600-1500		
	N6	Aluminum-matrix Composite Materials (MMCs)		<700	<210	
S Heat-resistant Alloys, Titanium Alloys	S1	Iron-based High-temperature Alloy		500-1200	160-260	25-48
	S2	Cobalt-based High-temperature Alloy		1000-1450	250-450	25-48
	S3	Nickel-based High-temperature Alloy		600-1700	160-450	<48
	S4	Titanium and Titanium Alloys		900-1600	300-400	33-48
H High-hardness Hard Materials	H1	Hardened Steel				45-55
	H2	Hardened Steel				55-60
	H3	Hardened Steel				60-65
	H4	Hardened Steel				>65

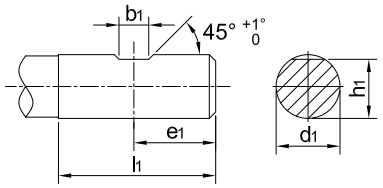
Shank Standard-DIN Standard

DIN 6535-HA

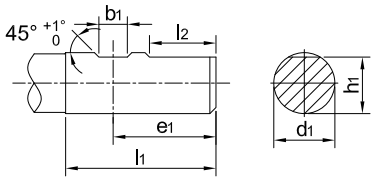


d_1h6	2	3	4	5	6	8	10	12	14	16	18	20	25	32
l_1 +2 0	28				36		40	45		48		50	56	60

DIN 6535-HB



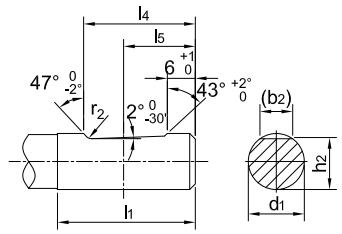
d_1=6~20mm



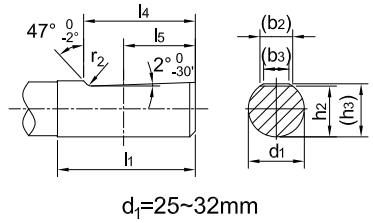
d_1=25~32mm

d_1 h6	b_1 +0.05 0	e_1 0 -1	h_1 h11	l_1 +2 0	l_2 +1 0
6	4.2	18	5.1	36	–
8	5.5		6.9		
10	7	20	8.5	40	
12	8	22.5	10.4	45	
14			12.7		
16	10	24	14.2	48	
18			16.2		
20	11	25	18.2	50	
25	12	32	23	56	17
32	14	36	30	60	19

DIN 6535-HE



d_1=6~20mm



d_1=25~32mm

d_1 h6	(b_2)	(b_3)	h_2 h11	(h_3)	l_1 +2 0	l_4 0 -1	l_5 Nominal size	r_2 min
6	4.3	–	5.1	–	36	25	18	1.2
8	5.5		6.9					
10	7.1		8.5		40	28	20	
12	8.2		10.4		45	33	22.5	
14	8.1		12.7					
16	10.1		14.2		48	36	24	1.6
18	10.8		16.2					
20	11.4		18.2		50	38	25	
25	13.6	9.3	23	24.1	56	44	32	
32	15.5	9.9	30	31.2	60	48	35	

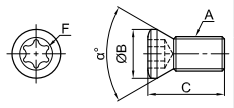
Comparison Table of Tensile Strength, Brinell Hardness and Rockwell Hardness

N/mm2	HV10	HB	HRC
240	75	71	
255	80	76	
270	85	81	
285	90	86	
305	95	90	
320	100	95	
335	105	100	
350	110	105	
370	115	109	
385	120	114	
400	125	119	
415	130	124	
430	135	128	
450	140	133	
465	145	138	
480	150	143	
495	155	147	
510	160	152	
530	165	157	
545	170	162	
560	175	166	
575	180	171	
595	185	176	
610	190	181	
625	195	185	
640	200	190	
660	205	195	
675	210	199	
690	215	204	
705	220	209	
720	225	214	
740	230	219	
755	235	223	
770	240	228	
785	245	233	
800	250	238	22
820	255	242	23
835	260	247	24
860	268	255	25
870	272	258	26
900	280	266	27

N/mm2	HV10	HB	HRC
920	287	273	28
940	293	278	29
970	302	287	30
995	310	295	31
1020	317	301	32
1050	327	311	33
1080	336	319	34
1110	345	328	35
1140	355	337	36
1170	364	346	37
1200	373	354	38
1230	382	363	39
1260	392	372	40
1260	403	383	41
1330	413	393	42
1360	423	402	43
1400	434	413	44
1440	446	424	45
1480	458	435	46
1530	473	449	47
1570	484	460	48
1620	497	472	49
1680	514	488	50
1730	527	501	51
1790	544	517	52
1845	560	632	53
1910	578	549	54
1980	596	567	55
2050	615	584	56
2140	639	607	57
	655	622	58
	675		59
	698		60
	720		61
	745		62
	773		63
	800		64
	829		65
	864		66
	900		67
	940		68

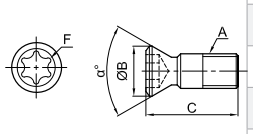
List of Accessory Specifications

Insert Fastening Screw

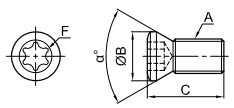
Shape	Order No.	Torque	Dimensions							Applicable Tool
		N·m	A	ΦB	C	D	E	F	α°	
	SI60M020037-02806S	0.6	M2X0.4	2.8	3.7			TT06	60	MPA100-RD05
	SI60M025050-03509S	1.0	M2.5X0.45	3.5	5.0			TT07	60	MPA100-RD07
	SI60M025065-03509S	1.0	M2.5X0.45	3.5	6.4			TT07	60	MEA190-AP11,MEJ190-AP10, MPA100-RD08,MPB100-RP08
	SI60M025065-03610IS	1.2	M2.5X0.45	3.5	6.4			TI07	60	MEE190-WN04,MKA110-UD08, MET190-AD10
	SI60M030065-03906IB	1.2	M3.0X0.5	3.9	6.5			TI08	60	MKF115-LN09
	SI60M030072-04210S	1.8	M3X0.5	4.2	7.2			TT09	60	MEB190/MHB190-AP11
	SI60M030072-04205WW	1.8	M3X0.5	4.2	7.2			TT09	60	MKM113-SD09
	SI60M030090-04205S	1.8	M3X0.5	4.2	9.0			TT09	60	MSA110~113-CN07
	SI60M035069-04805IB	3.0	M3.5X0.6	4.8	6.9			TI10	60	MET190-AD12
	SI60M035076-04808IB	3.0	M3.5X0.6	4.8	7.6			TI10	60	MKT113/MKT213-SO09
	SI60M035080-04805IB	3.0	M3.5X0.6	4.8	8.0			TI10	60	MET190-AD12,MKF115-LN12
	SI60M035080-05314S	3.0	M3.5X0.6	5.3	8.0			TT15	60	MEB190/MHB190-AP16, MPC100-RC12
	SI60M035080-05410B	3.0	M3.5X0.6	5.6	8.6			TT15	60	MFA145-SE13
	SI60M035090-04806IB	3.0	M3.5X0.6	4.8	9.0			TI10	60	MET190-AD12
	SI60M035094-04909IB	3.0	M3.5X0.6	4.8	9.4			TI10	60	MVA*-LN11
	SI60M035100-05018IS	3.0	M3.5X0.6	5.0	10.0			TI15	60	MES190-SD14
	SI60M035116-05410IB	3.0	M3.5X0.6	5.4	12.0			TI15	60	MFA145-SE13 (with shim)
	SI60M035120-05314S	3.0	M3.5X0.6	5.3	12.0			TT15	60	MEC190/MHC190-AN12
	SI60M040075-05505WW	3.5	M4X0.7	5.5	7.5			TT15	60	MEH190-XD19
	SI60M040085-05609IB	3.5	M4X0.7	5.6	8.5			TI15	60	MKA110-UD12
	SI60M040089-05313S	3.5	M4X0.7	5.7	9.0			TT15	60	MCA*-SP09,MEA190-AP16, MPA100-RD10/RD12, MPB100-RP10/RP12, MPC100-RC10
	SI60M040094-05311IWW	3.5	M4X0.7	5.3	9.4			TI15	60	MKM113-SD12
	SI60M040100-05510IS	3.5	M4X0.7	5.7	10.0			TI15	60	MEE190-WN08,MKB113-SD12, MKT113/MKT213-SO09
	SI60M040110-05708IB	4.0	M4X0.7	5.7	11.0			TI15	60	MVA*-LN15
	SI60M040158-07108B	4.0	M4X0.7	7.1	16.0			TT15	60	MFB145-SN12
	SI60M045100-06212IB	5.0	M4.5X0.75	6.2	10.0			TI20	60	MET190-AD18
	SI60M045120-06412S	4.5	M4.5X0.75	6.4	12.0			TT20	60	MEC190/MHC190-AN16
	SI60M050108-07209S	5.0	M5X0.8	7.2	10.8			TT20	60	MCA*-SP12,MFA143-OD06, MPA100-RD16,MPB100-RP16, MPC100-RC16
	SI60M050108-07214IB	5.0	M5X0.8	7.2	10.9			TI20	60	MKA110-UP17,MKB113-SD15
	SI83M050140-07010IB	5.0	M5X0.8	7.0	14			TI20	83	MFB245/MFB275/MFB288-SN12
	SI60M050143-07215IB	5.0	M5X0.8	7.2	14.3			TI20	60	MKF115-LN15
	SI60M060160-08509S	7.5	M6X1	8.4	15.8			TT25	60	MPC100-RC20
	SI90M040032-06003IFQ	1.7	M4X0.5	6.0	3.2			TI08	90	MSA104-SN12
	SI90M040042-06003IFQ	1.7	M4X0.5	6.0	4.2			TI08	90	MSA105-SN12
	SI90M040051-06003IFQ	1.7	M4X0.5	6.0	5.1			TI08	90	MSA106-SN12
	SI90M040061-06003IFQ	1.7	M4X0.5	6.0	6.1			TI08	90	MSA107-SN12
	SI90M040071-06003IFQ	1.7	M4X0.5	6.0	7.1			TI08	90	MSA108-SN12
	SR30M040100K	3.5	M4X0.7	5.7	10.0			TT15		MFC*-HN06/HN09
	SR45M060160IK	8.0	M6X1	9.5	16.0			TI25		MFC145-HN13

List of Accessory Specifications

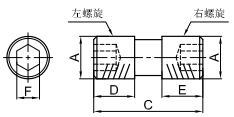
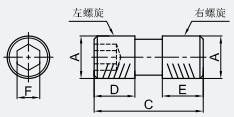
Insert Fastening Screw

Shape	Order No.	Torque	Dimensions							Applicable Tool
		N·m	A	ΦB	C	D	E	F	α°	
	SBM035095Q	2.0	M3.5X0.6	4.8	9.7			TT10	40	MBA100-QT12
	SBM040135Q	3.0	M4X0.7	5.8	13.3			TT15	40	MBA100-QT16
	SBM050165Q	4.0	M5X0.8	6.8	16.6			TT20	40	MBA100-QT20
	SBM060200Q	5.0	M6X1	8.3	20.6			TT20	40	MBA100-QT25
	SBM080250Q	6.0	M8X1.25	11.1	25.0			TT30	40	MBA100-QT30

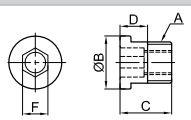
Clamp Plate Screw

Shape	Order No.	Torque	Dimensions							Applicable Tool
		N·m	A	ΦB	C	D	E	F	α°	
	SI60M035100-05510S	-	M3.5X0.6	5.0	10.0			TT15	50	MPA100-RD10,MPB100-RP10
	SI60M035120-05314S	-	M3.5X0.6	5.3	12.0			TT15	60	MPA100-RD12,MPB100-RP12

Dowel Screw

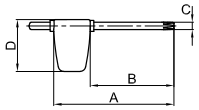
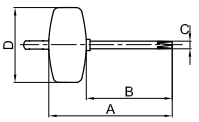
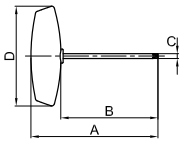
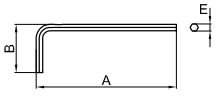
Shape	Order No.	Torque	Dimensions						Applicable Tool
		N·m	A	ΦB	C	D	E	F	
	SDAM060200B	-	M6X1		20.5	8.3	8.3	3.0	MFB160/MFB260-HN09
	SDAM080245B	-	M8X1.25		24.5	8.7	12.2	4.0	MFB160-HN09

Shim Screw

Shape	Order No.	Torque	Dimensions						Applicable Tool
		N·m	A	ΦB	C	D	E	F	
	SSAM050070B	-	M5X0.5	6.3	7	3		3.5	MFA145-SE13
	SSAM060075B	-	M6X0.75	7.8	7.5	3.6		4	MFB145-SN12

List of Accessory Specifications

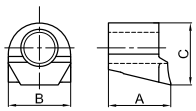
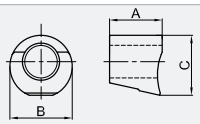
Wrench

Shape	Order No.	Dimensions						Applicable Tool
		A	B	C	D	E	F	
	TT06PQ	51	35	TT06	15			MPA100-RD05
	TI07PB	54	35	TI07	19			MEE190-WN04,MKA110-UD08,MET190-AD10
	TT07PQ	54	35	TT07	19			MEA190-AP11,MEJ190-AP10,MPA100-RD07, MPA100-RD08,MPB100-RP08
	TI08PQ	60	40	TI08	19			MSA104~108-SN12
	TT09PQ	60	40	TT09	24			MEB190/MHB190-AP11,MSA110~113-CN07, MKM113-SD09
	TI10PB	60	40	TI10	24			MVA*-LN11,MET190-AD12
	TI15PB	66	45	TI15	28			MEE190-WN08,MES190-SD14,MFA145-SE13, MKA110-UD12,MKB113-SD12,MVA*-LN15
	TT15PB	66	45	TT15	28			MEH190-XD19,MFA145-SE13,MFB145-SN12
	TT15PB	66	45	TT15	28			MCA*-SP09,MEA190-AP16,MEB190/MHB190-AP16, MEC190/MHC190-AN12,MFC*-HN06/HN09, MPA100-RD10/RD12,MPB100-RP10/RP12, MPC100-RC10/RC12
	TI20PB	66	45	TI20	28			MFB245/MFB275/288-SN12,MKA110-UP17, MKB113-SD15,MET190-AD18
	TT20PQ	66	45	TT20	28			MCA*-SP12,MEC190/MHC190-AN16,MPA100-RD16, MPB100-RP16,MPC100-RC16
	TI08KB	60	40	TI08	40			MKF115-LN09
	TI10KB	60	40	TI10	40			MKT113/MKT213-SO09,MKF115-LN12
	TT10KQ	60	40	TT10	40			MBA100-QT12
	TI15KB	66	45	TI15	40			MKT113/MKT213-SO12
	TT15KQ	66	45	TT15	40			MBA100-QT16
	TI20KB	66	45	TI20	40			MKF115-LN15
	TT20KQ	66	45	TT20	40			MBA100-QT20,MBA100-QT25
	TT09TQ	126	100	TT09	80			MEB190-AP11
	TI10TB	126	100	TI10	80			MVA*-LN11
	TI15TB	126	100	TI15	80			MEE190-WN08,MES190-SD14,MFA145-SE13, MKB113-SD12, MVA*-LN15, MKM113-SD12, MKT113/MKT213-SO09/SO12
	TT15TB	126	100	TT15	80			MEH190-XD19,MFB145-SN12,MEA190-AP16, MEB190-AP16,MFC*-HN06/HN09
	TI20TB	132	100	TI20	100			MFB245/MFB275/288-SN12,MKA110-UP17, MKB113-SD15
	TT20TB	132	100	TT20	100			MEC190-AN16,MFA143-OD06,MPA100-RD16, MPB100-RP16,MPC100-RC16
	TI25TQ	182	150	TI25	100			MFC145-HN13
	TT25TB	132	100	TT25	100			MPC100-RC20
	TT30TQ	132	100	TT30	100			MBA100-QT30
	TH30LB	64	22			3		MFB160/MFB260-HN09
	TH35LB	67	25			3.5		MFA145-SE13
	TH40LB	71	28			4		MFB145-SN12,MFB160-HN09

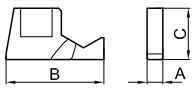
Note: When the tool diameter exceeds 80mm, it should be paired with a T style wrench, except for the MFB160/260 series.

List of Accessory Specifications

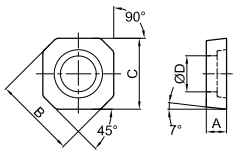
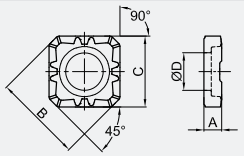
Wedge

Shape	Order No.	Dimensions						Applicable Tool
		A	B	C	D	E	F	
	CWA01B	10	10	10				MFB160/MFB260-HN09
	CWA02B	11	13	12.5				MFB160-HN09

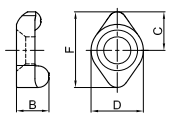
Adjustable Tool Clamp

Shape	Order No.	Dimensions						Applicable Tool
		A	B	C	D	E	F	
	AMFB1601RAB	5.5	34.3	18				MFB160-HN09

Shim

Shape	Order No.	Dimensions						Applicable Tool
		A	B	C	ΦD	E	F	
	H0K30DSE1300S	3	12.1	10.5	5.4			MFA145-SE13
	H0K30SSN12	3.15	15.6	12.6	6.7			MFB145-SN12

Clamp Plate

Shape	Order No.	Dimensions						Applicable Tool
		A	B	C	D	E	F	
	PCAX01RQ		5	5.2	7.6		10.2	MPA100-RD10,MPB100-RP10
	PCAX02RQ		5.9	5.9	9		12.3	MPA100-RD12,MPB100-RP12

MEMO

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