派斯泰顿 PRECITURN Precision Turn

PRODUCT CATALOG

2024

TURNING THREADING PARTING &GROOVING
MILLING DRILLING BROING

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About PRECITURN

Based on the development concept of “Developed elaborately and deeply in providing high cost performance,fast delivery and consistently stable cutting tools for globe customers”.

PRECITURN brand is a globe designer & manufacturer of metal machine cutting tools,founded by Jermin Chan, the leader of ShenZhen QITIANDA technology co.,Ltd.As the mature globe supplier of high perfermance cutting tools,PRECITURN manufacture and stocks a comprehensive range of turning inserts, taps, carbide drills, carbide mills, slitting saw, and offers various complicated custom cutters solutions.

About 1991, PRECITURN is a primary distributor in China for several well known global brands such as Japan YAMAWA, Taiwan TOSG, Switzerland Applitec , German ARNO , actively engaged in the sales and research and development of cutting tools. During this period, PRECITURN accumulated a wealth of experience in cutting tool applications.

As a strong leader and motivator, Jermin Chan has over 30 years of extensive experience in production, research and development, and application. He is dedicated to improving efficiency and producing high-quality metal cutting tools, and possesses unique insights and abundant experience in tool application and development in multiple fields.

At the beginning of 2000, Jermin Chan and his PRECITURN team began to dedicate to self-developed and manufacture of precision systems includes cutting tools and clamping tools and achieved certain achievements.In order to meet the growing demand and to take advantage of lower manufacturing costs， PRECITURN built the ShenZhen operation in 2007 and set up plants,foreign trade departments sales offices, and warehouse in Guangdong and Shanghai.

Over the years of independent research and manufacture of turning inserts, PRECITURN has acquired multiple machine of turning cutters producing. As the development brand of metal high-precision and high-efficiency turning cutters solutions for leading brands like Apple and Huawei's mobile phone lens rings in China, PRECITURN has accumulated a wealth of metal high-precision and high perfermance turning experience and has become the Long-term stable production supplier. Based on the development concept of developed elaborately and deeply in fostering high-quality growth., PRECITURN's cutting inserts, solid carbide drills,taps and other metal machine cutters have gained a leading position in multiple fields, earning an excellent reputation and widespread application in industries such as 3C (electronics), automotive components, defense, aerospace, and medical etc.

Coincidentally.as the first Chinese taps manufacturer that using German machine in production line, PRECITURN's high-quality thread taps have received favorable feedback from numerous customers for their cost-effectiveness. After years of quality upgrades, PRECITURN machine taps can be replaced of several well-known European and Japanese brands.
In addition to independently researching and producing turning, drilling and milling cutters, PRECITURN is also the primary agent for several global brands such as Japan YAMAWA,Taiwan TOSG, Switzerland Applitec and Germany KHC and so on in China.

IN 2024, PRECITURN has more than 200 employees and sale in about 30 countries and revenues of about ten millions dollars, including Europe, North America, Southeast Asia, Australia, Africa, the Middle East, and South America.

In the future, PRECITURN's major factories will continuously expand their modernized manufacturing capabilities, possess the latest and most advanced tool manufacturing equipment and workforce, and establish long-term stable strategic cooperation with numerous strong suppliers, always adhering to the mission of “Developed elaborately and deeply in providing high cost performance,fast delivery and consistently stable cutting tools for globe customers”

WHY CHOOSE US?

1、Excellent products quality : Over 16 years of experience in carbide cutters development and manufacture ,
PRECITURN also built a mature and comprehensive supply chain for turning,drillling,milling threading tools.
2、6 Production lines with 45 production machine,include grinding,testing etc.
3、Boasting a factory area exceeding 12000 square meters and a dedicated team of over 200 skilled employees.
4、A team of more than 20 engineers, including 8 senior engineers, capable of providing complex and innovative processing solutions.
5、Demonstrated excellence in various industries, including 3C electronics, automotive components, defense, aviation, and medical sectors.
We have earned an excellent reputation, providing cutting tools processing solutions to several fortune 500 companies, including Apple, Huawei, FAW-Volkswagen, DJI, BYD, and others.
6、Full stocked of standard cutting tools for turning, milling, drilling, threading, and more.
7、Short lead times, with lead times for carbide inserts and other cutters as short as 3-5 days.
8、Professional international trade team, successfully expanding our product reach to various countries in Southeast Asia, Europe, South America, and beyond.

Our principle is always "high quality, mutual benefits, fast delivery,comprehensive support".

6
6 production lines

45
45 production machines

12000
12000 square meter plant

200+
200+ employees

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INDEXABLE INSERTS

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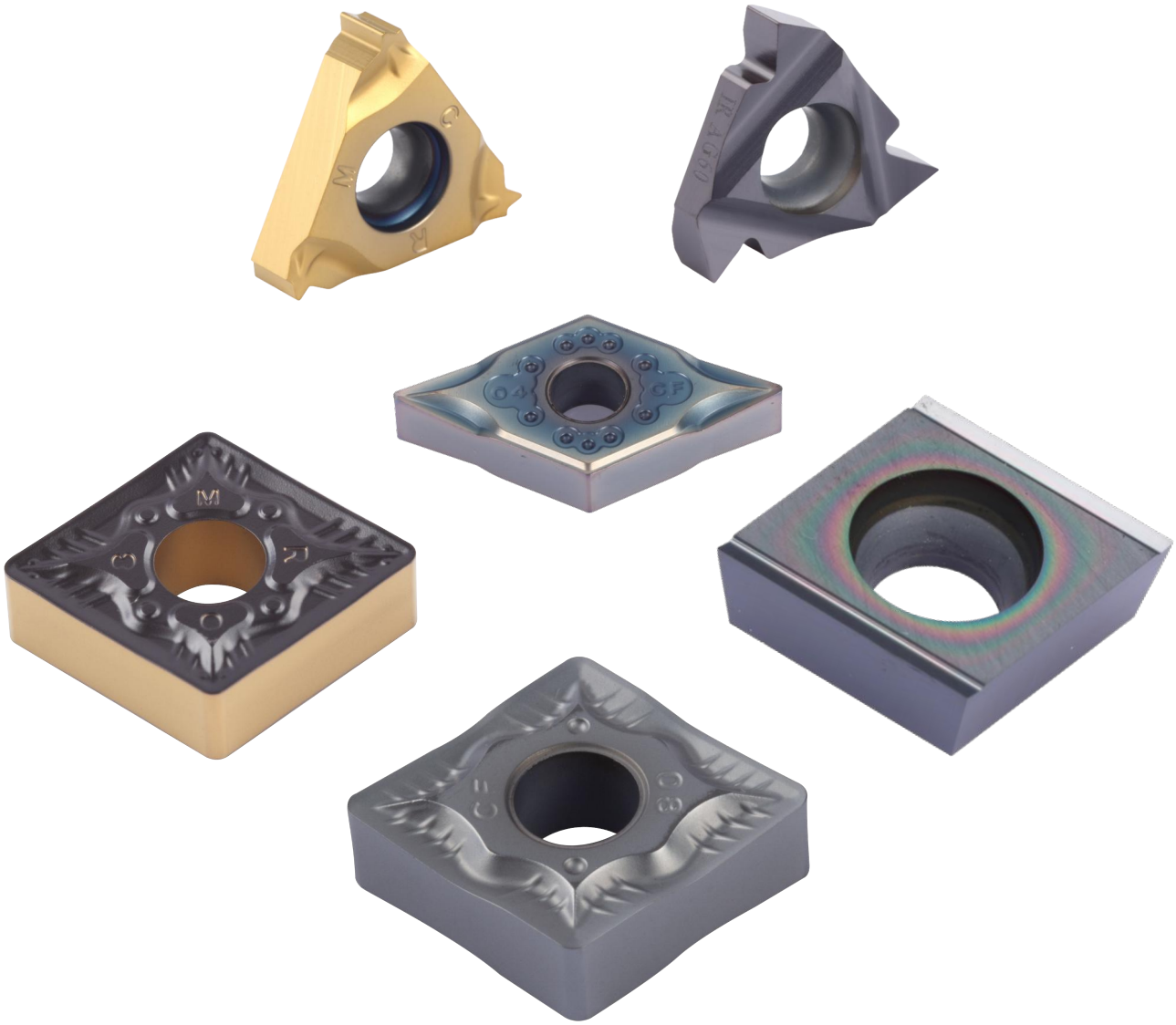
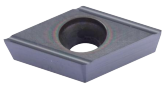
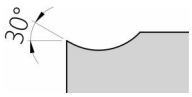
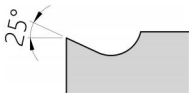
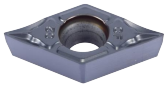
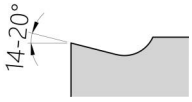
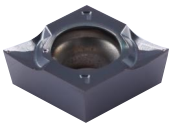
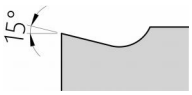
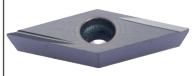
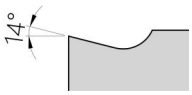
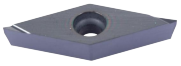
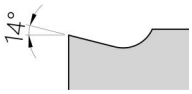
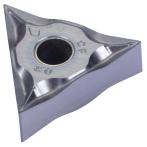
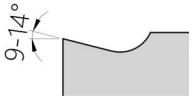
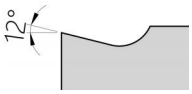
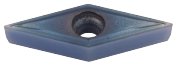
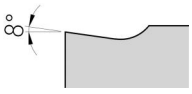
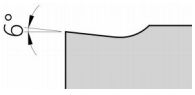
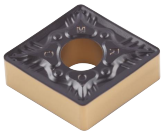
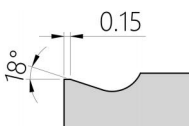


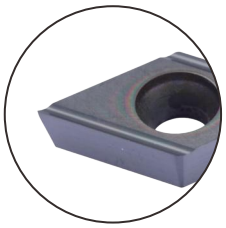
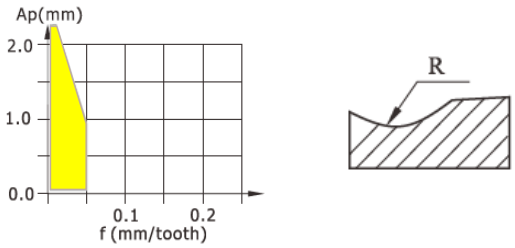
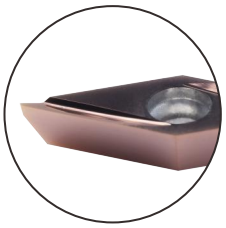
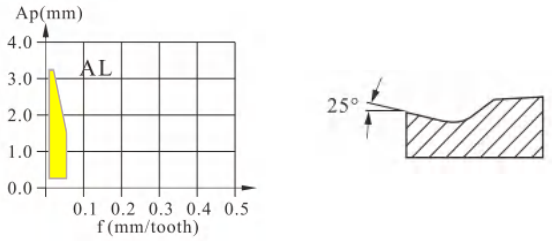
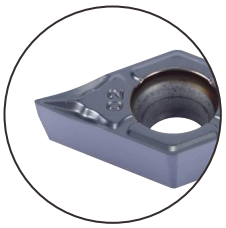
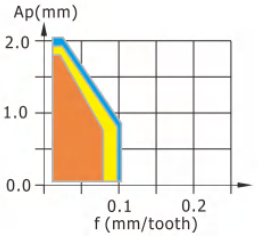
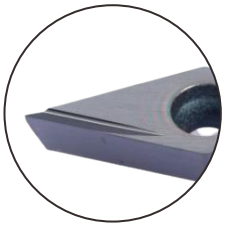
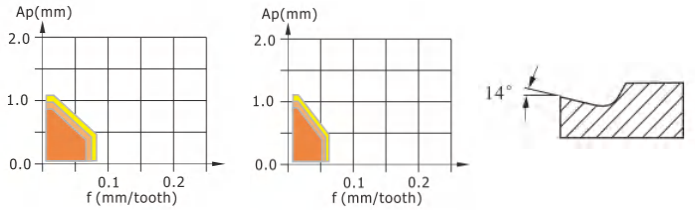
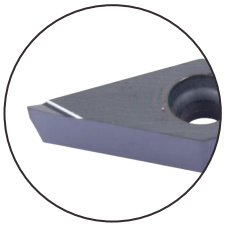
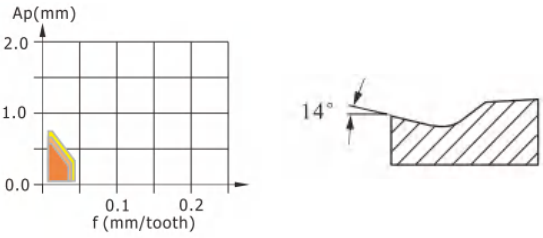
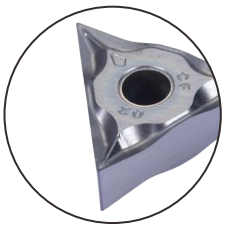
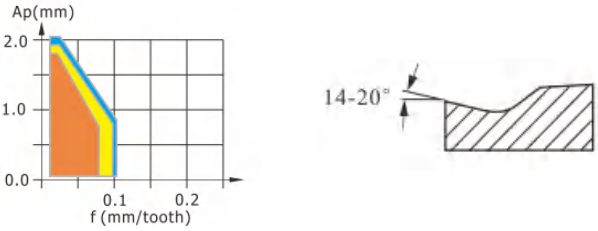
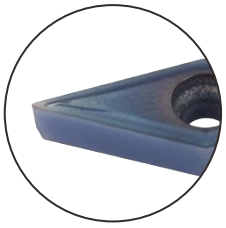
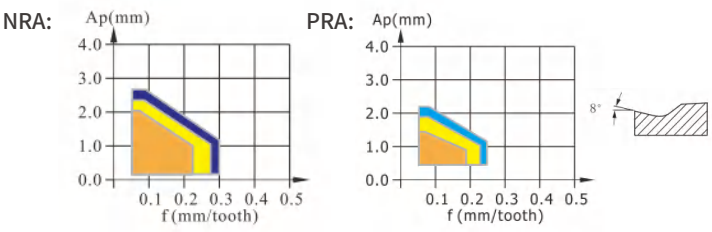
Slot Profile Material Description

Features	Code	Illustration	Chip Groove Cross-section	Geometry description
Precision grinding and grooving (Grade G/E) sharp edge	U			General Slot Profile Features: Sharp cutting edge, smooth finish. Extremely high control over chip flow direction. Wide application range. Prioritize when strict requirements on the external dimensions of the workpiece are needed. Materials Processed: Suitable for processing various materials, including coated steel, stainless steel, titanium alloy, non-ferrous metals, and almost all types of non-metallic materials.
Pressed groove + peripheral grinding (G level) sharp edge	AL			Sharp Slot Profile (Aluminum Profile) Features: Sharp cutting edge, smooth finish. Increased strength in press-formed slot profile, non-directional (no left or right-hand orientation). No unevenness in the center of the cutting edge radius when machining contoured surfaces, minimizing the impact on the line contour. Extremely high control over chip flow direction. Prioritize when strict requirements on the external dimensions of the workpiece are needed. Materials Processed: Suitable for processing titanium alloy, non-ferrous metals, and non-metallic materials.
Pressed groove + peripheral grinding (G level) sharp edge	CF			General Slot Profile Features: Sharp cutting edge, durable. Extremely high control over chip flow direction. Wide application range. Materials Processed: Suitable for semi-finishing and finishing processing of soft steel, regular steel, stainless steel, titanium alloy, with coatings tailored for different purposes.
Pressed groove + peripheral grinding (G level) sharp edge	QC			Sharp Slot Profile Features: Low-resistance, sharp cutting edge with strong chip handling capabilities. Increased strength in press-formed slot profile, non-directional (no left or right-hand orientation). Extremely high control over chip flow direction. Prioritize when strict requirements on the external dimensions of the workpiece are needed. Materials Processed: Suitable for processing titanium alloy, non-ferrous metals, and non-metallic materials.
Precision grinding and grooving (Grade G/E) sharp edge	Y			Universal Slot Profile Features: Sharp cutting edge, smooth finish. Extremely high control over chip flow direction. Wide application range. Prioritize when strict requirements on the external dimensions of the workpiece are needed. Materials Processed: Suitable for processing various materials, including coated steel, stainless steel, titanium alloy, non-ferrous metals, and almost all types of non-metallic materials.
Precision grinding and grooving (Grade G/E) sharp edge	S			Universal Slot Profile Features: Sharp cutting edge, smooth finish. Extremely high control over chip flow direction. Wide application range. Prioritize when strict requirements on the external dimensions of the workpiece are needed. Materials Processed: Suitable for processing various materials, including coated steel, stainless steel, titanium alloy, non-ferrous metals, and almost all types of non-metallic materials.
Pressed groove + peripheral grinding (G level) sharp edge	CF			Universal Slot Profile Features: Sharp cutting edge, durable. Extremely high control over chip flow direction. Wide application range. Materials Processed: Suitable for semi-finishing and finishing processing of soft steel, regular steel, stainless steel, titanium alloy, with coatings tailored for different purposes.
Pressed groove + peripheral grinding (G level) sharp edge	QY			Universal Slot Profile Features: Stable chip removal and machining surface. Materials Processed: Suitable for processing almost all materials, with a preference for stainless steel.
Pressed geometry (M grade) The cutting edge is strengthened compared to the CF geometry	CM			Reinforced Slot Profile Features: Reinforced cutting edge with a buffer angle, ensuring smooth cutting and durability. Extremely high control over chip flow direction. Wide application range, ideal for small allowance rough turning and semi-finishing. Materials Processed: Suitable for semi-finishing processing with different coatings, including steel, stainless steel, chrome steel, and high-temperature alloy steel.
Pressed geometry (M grade) The cutting edge is sharper	CTM			Universal Slot Profile Features: Relatively sharp cutting edge. Extremely high control over chip flow direction, good impact resistance. Wide application range, strong wear resistance, the preferred choice for medium to small cutting depths and semi-finishing. Materials Processed: Suitable for semi-finishing processing of medium to low carbon steel and alloy steel parts.
Pressed geometry (M grade) Strong cutting edge	MR			Strong Slot Profile Features: Enhanced cutting edge durability and stability. Extremely high control over chip flow direction. Wide application range, the preferred choice for larger allowances in rough turning and semi-finishing. Materials Processed: With coatings tailored for different purposes, suitable for rough machining and semi-finishing of steel, stainless steel, chrome steel, and high-temperature alloy steel.

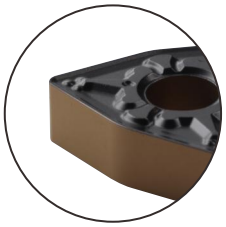
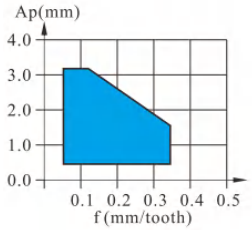
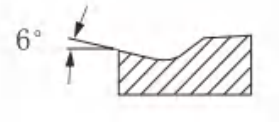
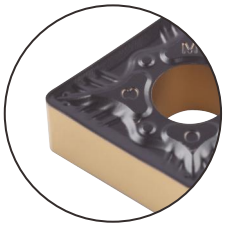
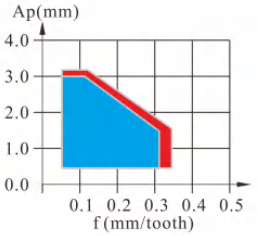
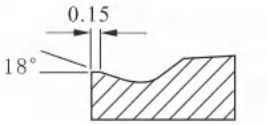
Turning Material Selection Table

Coating Properties	Coating Grade	Purpose	
		P Carbon Steel alloy steel; M Stainless steel; K Cast Iron; N Non ferrous metals; S Titanium alloy; H High Hardness Material	
PVD Coating Physical Coating	MZC20	M P	Coarse-grain material, Tin+TiCN+Al203; used for continuous processing of easy-cutting iron, alloy steel, carbon steel, and stainless steel.
	MZC30FH	M P	Optimized version of MZC20, specifically designed for high-hardness materials. Used for medium to high-speed precision machining and cutting of small parts in carbon steel and stainless steel
	MZE30	M H	Fine-grain material, AlTiN+X composite coating, for high-speed precision machining and cutting of carbon steel and stainless steel.
	MZE30F	M S H	Ultra-fine grain material, AlTiN+X composite coating, specifically designed for high-speed precision machining and cutting of stainless steel.
	MZF30MT	M P S	Fine-grain material, used for continuous, intermittent, irregular shape rough machining, semi-finishing of hard-to-process materials such as stainless steel, duplex stainless steel, and meeting the processing needs of quenched steel with HRC＜58.
	MZF30TN	M P	Fine-grain material, a universal type for stainless steel and alloy steel.
	MZF40TN	M P	Fine-grain material, a universal type for stainless steel and alloy steel. It is a more refined material based on 2630, suitable for precision machining and semi-finishing.
	MZL30MS	M S N	Fine-grain structure with a small amount of rare metals. AlTiN+X composite coating. Tailored for titanium alloy, stainless steel, and alloy steel materials. Strong anti-chip sticking, good lubrication, and versatile.
	BEG20	M P K	A composite coating with fine particle size and a small amount of rare metals. It features high wear resistance and corrosion resistance. Tailored for precision machining of materials such as stainless steel, low sulfur stainless steel, alloy steel, and cast iron. Strong anti-chip sticking, good lubrication, versatile, and has a longer lifespan.
	BEJ20	M P	A composite coating with fine particle size and a small amount of rare metals. It features high wear resistance and corrosion resistance. Tailored for precision machining of stainless steel and low sulfur stainless steel, it exhibits strong anti-chip sticking, good lubrication, higher substrate hardness, and performs well on hard-to-process materials.
	SSG20	M P K	Fine-grain material with a high-speed, high-hardness composite coating. Versatile and suitable for high-speed machining of stainless steel, as well as general processing of alloy steel, cast iron, and non-ferrous metals.
	SSJ20	M P	Fine-grain material with a high-speed, high-hardness composite coating. Tailored for precision machining of stainless steel at high speeds, alloy steel, and hard-to-process materials.
Uncoated	NZX20	N	Used for high-precision machining of aluminum alloy, copper, and non-metallic materials. Specifically designed for products that require extremely sharp cutting edges.
CVD	PZD35D	M S	Brand new high-hardness CVD coating, effectively inhibiting chip adhesion, suitable for continuous and light interrupted machining of stainless steel and high-temperature alloys.
	PZC35D	P	Fine-grain material with Tin+TiCN+Al2O3. Used for high-speed continuous machining of carbon steel, alloy steel, and quenched and tempered steel. Extremely strong wear resistance.
	PZC35G1	P	Coarse-grain material, used for intermittent and general processing of carbon steel and alloy steel.
	PZC35G2	P	Fine-grain material, used for continuous machining of carbon steel and alloy steel. Extremely strong wear resistance.
cermet	QT20	P	Metal ceramic inserts, uncoated. Designed for high-speed continuous machining of steel and easy-cutting iron, achieving extremely high surface smoothness.
	QTE20	P	Metal ceramic inserts with a dedicated coating. Similarly designed for high-speed continuous machining of steel and easy-cutting iron, achieving extremely high surface smoothness, with enhanced wear resistance.
	QD20	P N	Specialized coating, ultra-thin coating specifically designed for tools requiring coating in aluminum alloy and copper applications. It can achieve extremely high surface smoothness and lifespan.

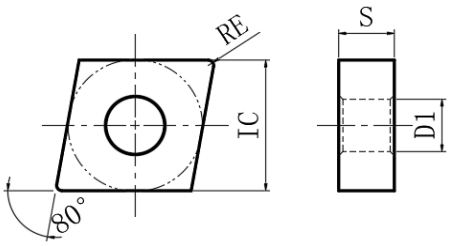
Chip Breaker Selection

R/L-U		
AL		
CF		
R/L-Y		
R/L-S		
CF		
CM		

Chip Breaker Selection

CTM		 
MR		 

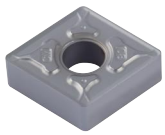
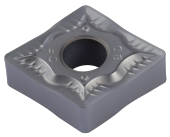
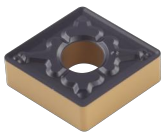
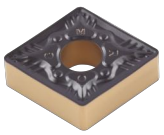
CNMG.80°



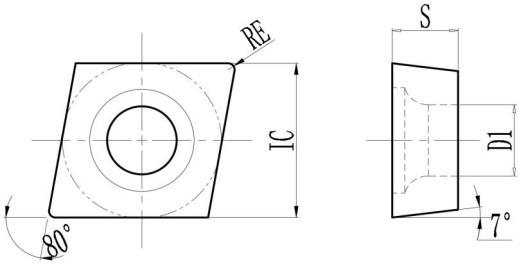
Model	IC	S	D1
CN_1204_	12.7	4.76	5.16

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	◔		●		✱	◔	○	✱	○
M	Stainless steel	✱	✱	◔	◔	●	●	✱				
K	Cast iron								◔			
S	Titanium alloy	✱	✱	◔		●	●	◔				
H	High hardness materials					●	●					

Shape	Model	RE	PVD Coated						CVD Coated				cermet
			MZF30TN	MZF40TN	MZF30MT	MZE30	MZE30F	MZL30MS	PZD35D	PZC35D	PZC35G2	PZC35G1	QTE20
	CNMG120404-CM	0.4	●	●	●	●		●	●				
	CNMG120408-CM	0.8	●	●	●	●		●	●				
	CNMG120412-CM	1.2	●	●	●	●		●	●				
	CNMG120404-CF	0.4	●	●	●	●	●	●	●	●			
	CNMG120408-CF	0.8	●	●	●	●	●	●	●	●			
	CNMG120412-CF	1.2	●	●	●	●	●	●	●	●			
	CNMG120404-CTM	0.4									●	●	●
	CNMG120408-CTM	0.8									●	●	●
	CNMG120412-CTM	1.2									●	●	●
	CNMG120404-MR	0.4									●	●	
	CNMG120408-MR	0.8									●	●	
	CNMG120412-MR	1.2									●	●	

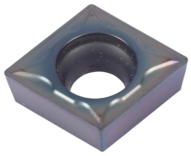
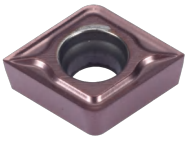
CCGT.80°



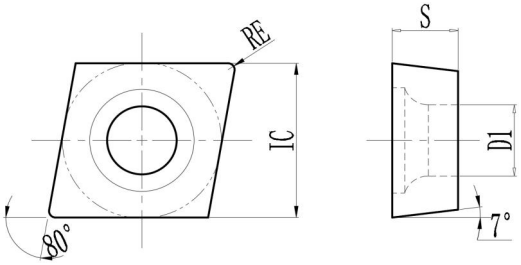
Model	IC	S	D1
CC_0602_	6.35	2.38	2.8
CC_09T3_	9.525	3.97	4.4

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	◔			◔	●	●	●	◔	◔		◔	◔
M	Stainless steel	✱	✱	◔	◔	●	●	●	●	●	◔	◔		◔	
N	Non ferrous metals									●		◔	✱		
S	Titanium alloy	✱	✱	◔	◔	●	●	●	●	●	◔	◔		◔	
H	High hardness materials				●	●	●	●							

Shape	Model	RE	PVD Coated											uncoated	CVD Coated	cermet
			MZC20	MZF30TN	MZF30MT	MZE30	MZE30F	MZL30MS	MZC30FH	SSJ20	BEJ20	SSG20	BEG20	NZX20	PZD35D	QT20
	CCGT060202-CM	0.2		●	●	●	●	●							●	
	CCMT060202-CM	0.2		●	●	●	●	●							●	
	CCMT060204-CM	0.4		●	●	●	●	●							●	
	CCMT060208-CM	0.8		●	●	●	●	●							●	
	CCGT09T302-CM	0.2		●	●	●	●	●							●	
	CCMT09T302-CM	0.2		●	●	●	●	●							●	
	CCMT09T304-CM	0.4		●	●	●	●	●							●	
	CCMT09T308-CM	0.8		●	●	●	●	●							●	
	CCGT060201-CF	0.1	●	●			●	●	●							
	CCGT060202-CF	0.2	●	●			●	●	●							
	CCGT09T301-CF	0.1	●	●			●	●	●							
	CCGT09T302-CF	0.2	●	●			●	●	●							
	CCGT09T304-CF	0.4	●	●			●	●	●							
	CCGT0602005-AL	0.05	●	●				●	●					●		
	CCGT060201-AL	0.1	●	●				●	●					●		
	CCGT060202-AL	0.2	●	●				●						●		
	CCGT060204-AL	0.4	●	●				●						●		
	CCGT09T3005-AL	0.05	●	●				●	●					●		
	CCGT09T301-AL	0.1	●	●				●	●					●		
	CCGT09T302-AL	0.2	●	●				●						●		
	CCGT09T304-AL	0.4	●	●				●						●		

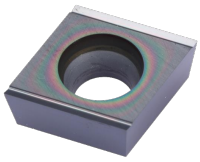
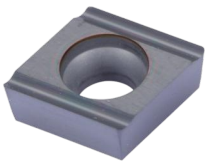
CCGT.80°



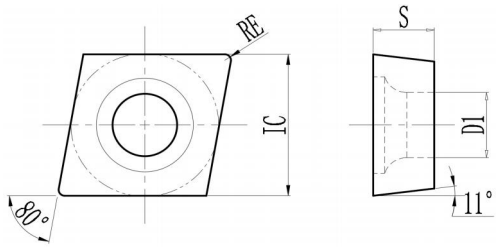
Model	IC	S	D1
CC_0602_	6.35	2.38	2.8
CC_09T3_	9.525	3.97	4.4

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	◔			◔	●	●	●	◔	◔		◔	◔
M	Stainless steel	✱	✱	◔	◔	●	●	●	●	●	◔	◔		◔	
N	Non ferrous metals									●		◔	✱		
S	Titanium alloy	✱	✱	◔	◔	●	●	●	●	●	◔	◔		◔	
H	High hardness materials				●	●	●	●							

Shape	Model	RE	PVD Coated											uncoated	CVD Coated	cermet
			MZC20	MZF30TN	MZF30MT	MZE30	MZE30F	MZL30MS	MZC30FH	SSJ20	BEJ20	SSG20	BEG20	NZX20	PZD35D	QT20
	CCGT0602005 R/L-Y	0.05	●	●				●		●	●	●	●			●
	CCGT060201 R/L-Y	0.1	●	●				●		●	●	●	●			●
	CCGT060202 R/L-Y	0.2	●	●				●		●	●	●	●			●
	CCGT060204 R/L-Y	0.4	●	●				●		●	●	●	●			●
	CCGT09T3005 R/L-Y	0.05	●	●				●		●	●	●	●			●
	CCGT09T301 R/L-Y	0.1	●	●				●		●	●	●	●			●
	CCGT09T302 R/L-Y	0.2	●	●				●		●	●	●	●			●
	CCGT09T304 R/L-Y	0.4	●	●				●		●	●	●	●			●
	CCGT0602005 R/L-U	0.05	●	●				●		●	●	●	●			●
	CCGT060201 R/L-U	0.1	●	●				●		●	●	●	●			●
	CCGT060202 R/L-U	0.2	●	●				●		●	●	●	●			●
	CCGT060204 R/L-U	0.4	●	●				●		●	●	●	●			●
	CCGT09T3005 R/L-U	0.05	●	●				●		●	●	●	●			●
	CCGT09T301 R/L-U	0.1	●	●				●		●	●	●	●			●
	CCGT09T302 R/L-U	0.2	●	●				●		●	●	●	●			●
	CCGT09T304 R/L-U	0.4	●	●				●		●	●	●	●			●

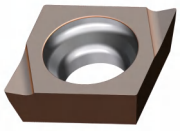
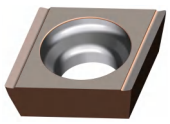
CPGH.80°



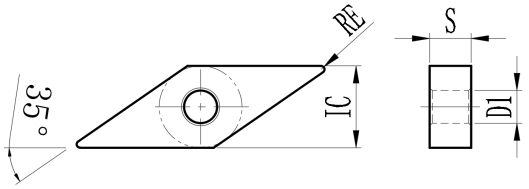
Model	IC	S	D1
CP_0401_	4.3	1.8	2.3

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✠ : interrupted cutting

P	Carbon steel/alloy steel	✠	✠	◔	◔
M	Stainless steel	✠	✠	●	
N	Non ferrous metals				
S	Titanium alloy	✠	✠	●	
H	High hardness materials				

Shape	Model	RE	PVD Coated			cermet
			MZC20	MZF30TN	MZL30MS	QT20
	CPGH040101 R/L-S	0.1	●	●	●	●
	CPGH040102 R/L-S	0.2	●	●	●	●
	CPGH040104 R/L-S	0.4	●	●	●	●
	CPGH040101 R/L-Y	0.1	●	●	●	●
	CPGH040102 R/L-Y	0.2	●	●	●	●
	CPGH040104 R/L-Y	0.4	●	●	●	●

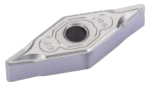
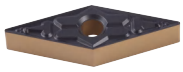
VNMG.35°



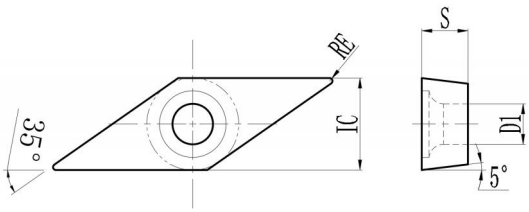
Model	IC	S	D1
VN_1604_	9.525	4.76	3.81

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	◔	●	●		◔	◔	○	✱	○
M	Stainless steel	✱	✱	◔	●	●	●	◔				
K	Cast iron								◔			
S	Titanium alloy	✱	✱	◔	●	●	●	◔				
H	High hardness materials				●	●	●					

Shape	Model	RE	PVD Coated						CVD Coated				cermet
			MZF30TN	MZF40TN	MZF30MT	MZE30	MZE30F	MZL30MS	PZD35D	PZC35D	PZC35G2	PZC35G1	QTE20
	VNMG160404-CM	0.4	●	●	●	●		●					
	VNMG160408-CM	0.8	●	●	●	●		●					
	VNMG160412-CM	1.2	●	●	●	●		●					
	VNMG160404-CF	0.4	●	●	●	●	●	●	●	●			
	VNMG160408-CF	0.8	●	●	●	●	●	●	●	●			
	VNMG160404-CTM	0.4									●	●	●
	VNMG160408-CTM	0.8									●	●	●
	VNMG160412-CTM	1.2									●	●	●
	VNMG160404-MR	0.4									●	●	
	VNMG160408-MR	0.8									●	●	

VBGT.35°



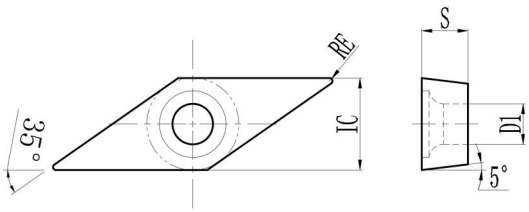
Model	IC	S	D1
VB_1103_	6.35	3.18	2.8
VB_1604_	9.525	4.76	4.4

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	◔			●	●	●	●	◔	◔		◔	◔
M	Stainless steel	✱	✱	◔	◔	◔	●	●	●	●	◔	◔		◔	
N	Non ferrous metals									●		◔	✱		
S	Titanium alloy	✱	✱	◔	◔	◔	●	●	●	●	◔	◔		◔	
H	High hardness materials				●	●									

Shape	Model	RE	PVD Coated											uncoated	CVD Coated	cermet
			MZC20	MZF30TN	MZF30MT	MZE30	MZE30F	MZL30MS	MZC30FH	SSJ20	BEJ20	SSG20	BEG20	NZX20	PZD35D	QT20
	VBGT110302-CM	0.2		●	●	●	●	●								
	VBGT160402-CM	0.2		●	●	●	●	●							●	
	VBGT160404-CM	0.4		●	●	●	●	●							●	
	VBGT160408-CM	0.8		●	●	●	●	●							●	
	VBGT110301-CF	0.1	●	●			●	●	●							
	VBGT110302-CF	0.2	●	●			●	●	●							
	VBGT1103005-AL	0.05	●	●				●	●					●		
	VBGT110301-AL	0.1	●	●				●	●					●		
	VBGT110302-AL	0.2	●	●				●						●		
	VBGT110304-AL	0.4	●	●				●						●		
	VBGT110302-QC	0.2									●	●				

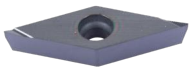
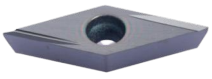
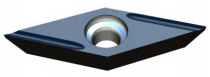
VBGT.35°



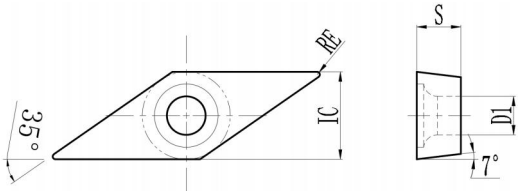
Model	IC	S	D1
VB_1103_	6.35	3.18	2.8
VB_1604_	9.525	4.76	4.4

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	◔			●	●	●	●	◔	◔		◔	◔
M	Stainless steel	✱	✱	◔	◔	◔	●	●	●	●	◔	◔		◔	
N	Non ferrous metals									●		◔	✱		
S	Titanium alloy	✱	✱	◔	◔	◔	●	●	●	●	◔	◔		◔	
H	High hardness materials				●	●									

Shape	Model	RE	PVD Coated											uncoated	CVD Coated	cermet
			MZC20	MZF30TN	MZF30MT	MZE30	MZE30F	MZL30MS	MZC30FH	SSJ20	BEJ20	SSG20	BEG20	NZX20	PZD35D	QT20
	VBGT1103005-QY	0.05										●	●			
	VBGT110301-QY	0.05										●	●			
	VBGT110302-QY	0.05										●	●			
	VBGT1103005 R/L-S	0.05	●	●				●		●	●	●	●			●
	VBGT110301 R/L-S	0.1	●	●				●		●	●	●	●			●
	VBGT110302 R/L-S	0.2	●	●				●		●	●	●	●			●
	VBGT110304 R/L-S	0.4	●	●				●		●	●	●	●			●
	VBGT1103005 R/L-Y	0.05	●	●				●		●	●	●	●			●
	VBGT110301 R/L-Y	0.1	●	●				●		●	●	●	●			●
	VBGT110302 R/L-Y	0.2	●	●				●		●	●	●	●			●
	VBGT110304 R/L-Y	0.4	●	●				●		●	●	●	●			●
	VBGT1103005 R/L-U	0.05	●	●				●		●	●	●	●			●
	VBGT110301 R/L-U	0.1	●	●				●		●	●	●	●			●
	VBGT110302 R/L-U	0.2	●	●				●		●	●	●	●			●
	VBGT110304 R/L-U	0.4	●	●				●		●	●	●	●			●

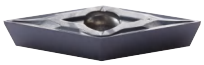
VCGT.35°



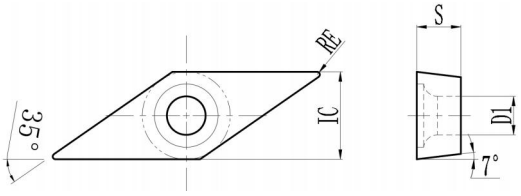
Model	IC	S	D1
VB_1103_	6.35	3.18	2.8
VB_1604_	9.525	4.76	4.4

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◐ : light interrupted cutting	✠ : interrupted cutting

P	Carbon steel/alloy steel	✠	✠	◐			●	●	●	◐	◐	●		◐
M	Stainless steel	✠	✠	◐	◐	◐	●	●	●	◐	◐	●		
N	Non ferrous metals								●		◐	✠	✠	
S	Titanium alloy	✠	✠	◐	◐	◐	●	●	●	◐	◐	●		
H	High hardness materials				●	●								

Shape	Model	RE	PVD Coated											uncoated	cermet
			MZC20	MZF30TN	MZF30MT	MZE30	MZE30F	MZL30MS	SSJ20	BEJ20	SSG20	BEG20	MZC30FH	NZX20	QT20
	VCGT110302-CM	0.2		●	●	●	●	●							
	VCGT160402-CM	0.2		●	●	●	●	●							
	VCGT110301-CF	0.1	●	●			●	●					●		
	VCGT110302-CF	0.2	●	●			●	●					●		
	VCGT1103005-AL	0.5	●	●				●					●	●	
	VCGT110301-AL	0.1	●	●				●					●	●	
	VCGT110302-AL	0.2	●	●				●						●	
	VCGT110304-AL	0.4	●	●				●						●	
	VCGT110304-AL	0.2									●	●			
	VCGT1103005-QY	0.05									●	●			
	VCGT110301-QY	0.1									●	●			
	VCGT110302-QY	0.2									●	●			

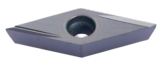
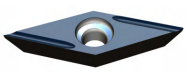
VCGT.35°



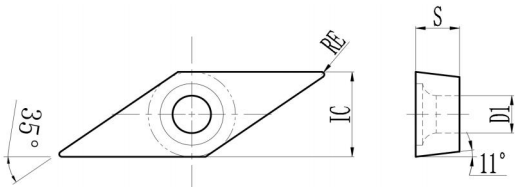
Model	IC	S	D1
VB_1103_	6.35	3.18	2.8
VB_1604_	9.525	4.76	4.4

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	◔			●	●	●	◔	◔	●		◔
M	Stainless steel	✱	✱	◔	◔	◔	●	●	●	◔	◔	●		
N	Non ferrous metals								●		◔	✱	✱	
S	Titanium alloy	✱	✱	◔	◔	◔	●	●	●	◔	◔	●		
H	High hardness materials				●	●								

Shape	Model	RE	PVD Coated											uncoated	cermet
			MZC20	MZF30TN	MZF30MT	MZE30	MZE30F	MZL30MS	SSJ20	BEJ20	SSG20	BEG20	MZC30FH	NZX20	QT20
	VCGT1103005 R/L-S	0.05	●	●				●	●	●	●	●			●
	VCGT110301 R/L-S	0.1	●	●				●	●	●	●	●			●
	VCGT110302 R/L-S	0.2	●	●				●	●	●	●	●			●
	VCGT110304 R/L-S	0.4	●	●				●	●	●	●	●			●
	VCGT1103005 R/L-Y	0.05	●	●				●	●	●	●	●			●
	VCGT110301 R/L-Y	0.1	●	●				●	●	●	●	●			●
	VCGT110302 R/L-Y	0.2	●	●				●	●	●	●	●			●
	VCGT110304 R/L-Y	0.4	●	●				●	●	●	●	●			●
	VCGT1103005 R/L-U	0.05	●	●				●	●	●	●	●			●
	VCGT110301 R/L-U	0.1	●	●				●	●	●	●	●			●
	VCGT110302 R/L-U	0.2	●	●				●	●	●	●	●			●
	VCGT110304 R/L-U	0.4	●	●				●	●	●	●	●			●

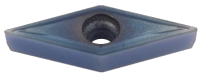
VPGT.35°



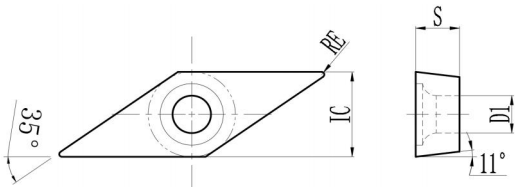
Model	IC	S	D1
VP_1103_	6.35	3.18	2.8

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✠ : interrupted cutting

P	Carbon steel/alloy steel	✠	✠	◔			●	●	◔	◔	●	●	
M	Stainless steel	✠	✠	◔	◔	◔	●	●	◔	◔	●	●	
N	Non ferrous metals							●		◔	✠		✠
S	Titanium alloy	✠	✠	◔	◔	◔	●	●	◔	◔	●	●	
H	High hardness materials				●	●							

Shape	Model	RE	PVD Coated											uncoated
			MZC20	MZF30TN	MZF30MT	MZE30	MZE30F	SSJ20	BEJ20	SSG20	BEG20	MZL30MS	MZC30FH	NZX20
	VPGT110302-CM	0.2		●	●	●	●					●		
	VPGT110301-CF	0.1	●	●			●					●	●	
	VPGT110302-CF	0.2	●	●			●					●	●	
	VPGT1103005-AL	0.05	●	●								●	●	●
	VPGT110301-AL	0.1	●	●								●	●	●
	VPGT110302-AL	0.2	●	●								●		●
	VPGT110304-AL	0.4	●	●								●		●

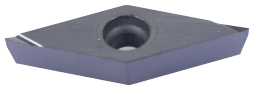
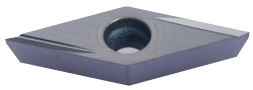
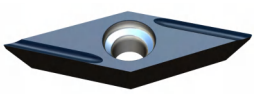
VPGT.35°



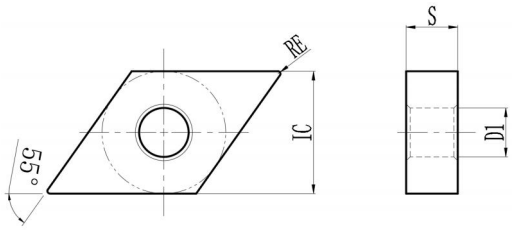
Model	IC	S	D1
VP_1103_	6.35	3.18	2.8

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	◔			●	●	◔	◔	●	●	
M	Stainless steel	✱	✱	◔	◔	◔	●	●	◔	◔	●	●	
N	Non ferrous metals							●		◔	✱		✱
S	Titanium alloy	✱	✱	◔	◔	◔	●	●	◔	◔	●	●	
H	High hardness materials				●	●							

Shape	Model	RE	PVD Coated											uncoated
			MZC20	MZF30TN	MZF30MT	MZE30	MZE30F	SSJ20	BEJ20	SSG20	BEG20	MZL30MS	MZC30FH	NZX20
	VPGT1103005 R/L-S	0.05						●	●	●	●			
	VPGT110301 R/L-S	0.1						●	●	●	●			
	VPGT110302 R/L-S	0.2						●	●	●	●			
	VPGT110304 R/L-S	0.4						●	●	●	●			
	VPGT1103005 R/L-Y	0.05						●	●	●	●			
	VPGT110301 R/L-Y	0.1						●	●	●	●			
	VPGT110302 R/L-Y	0.2						●	●	●	●			
	VPGT110304 R/L-Y	0.4						●	●	●	●			
	VPGT1103005 R/L-U	0.05						●	●	●	●			
	VPGT110301 R/L-U	0.1						●	●	●	●			
	VPGT110302 R/L-U	0.2						●	●	●	●			
	VPGT110304 R/L-U	0.4						●	●	●	●			

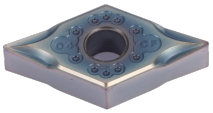
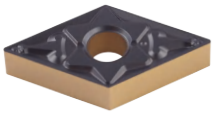
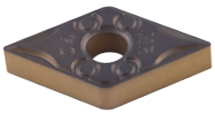
DNMG.55°



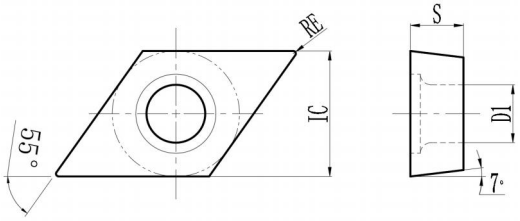
Model	IC	S	D1
DN_1104_	9.525	4.76	3.81
DN_1504_	12.7	4.76	5.16
DN_1506_	12.7	6.35	5.16

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	◔		●		✱	◔	○	✱	○
M	Stainless steel	✱	✱	◔	◔	●	●	✱				
K	Cast iron								◔			
S	Titanium alloy	✱	✱	◔		●	●	◔				
H	High hardness materials						●					

Shape	Model	RE	PVD Coated						CVD Coated				cermet
			MZF30TN	MZF40TN	MZF30MT	MZE30	MZE30F	MZL30MS	PZD35D	PZC35D	PZC35G2	PZC35G1	QTE20
	DNMG150404-CM	0.4	●	●	●	●		●	●				
	DNMG150408-CM	0.8	●	●	●	●		●	●				
	DNMG150604-CM	0.4	●	●	●	●		●	●				
	DNMG150608-CM	0.8	●	●	●	●		●	●				
	DNMG110404-CF	0.4	●	●	●	●	●	●	●	●			
	DNMG110408-CF	0.8	●	●	●	●	●	●	●	●			
	DNMG150404-CF	0.4	●	●	●	●	●	●	●	●			
	DNMG150408-CF	0.8	●	●	●	●	●	●	●	●			
	DNMG150604-CF	0.4	●	●	●	●	●	●	●	●			
	DNMG150608-CF	0.8	●	●	●	●	●	●	●	●			
	DNMG150404-CTM	0.4									●	●	●
	DNMG150408-CTM	0.8									●	●	●
	DNMG150604-CTM	0.4									●	●	●
	DNMG150608-CTM	0.8									●	●	●
	DNMG110404-MR	0.4									●	●	
	DNMG110408-MR	0.8									●	●	
	DNMG150404-MR	0.4									●	●	
	DNMG150408-MR	0.8									●	●	
	DNMG150604-MR	0.4									●	●	
	DNMG150608-MR	0.8									●	●	

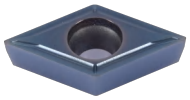
DCGT.55°



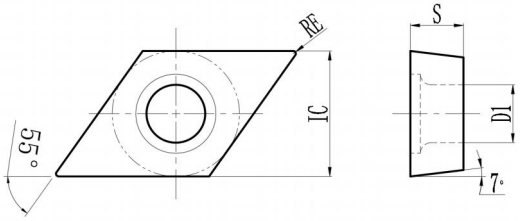
Model	IC	S	D1
DC_0702_	6.35	2.38	2.8
DC_11T3_	9.525	3.97	4.4

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	◔			◔	●	●	●	◔	◔		◔	◔
M	Stainless steel	✱	✱	◔	◔	●	●	●	●	●	◔	◔		◔	
N	Non ferrous metals									●		◔	✱		
S	Titanium alloy	✱	✱	◔	◔	●	●	●	●	●	◔	◔		◔	
H	High hardness materials				●	●	●	●							

Shape	Model	RE	PVD Coated											uncoated	CVD Coated	cermet
			MZC20	MZF30TN	MZF30MT	MZE30	MZE30F	MZL30MS	MZC30FH	SSJ20	BEJ20	SSG20	BEG20	NZX20	PZD35D	QT20
	DCGT070202-CM	0.2		●	●	●	●	●							●	
	DCMT070204-CM	0.4		●	●	●	●	●							●	
	DCGT11T302-CM	0.2		●	●	●	●	●							●	
	DCMT11T304-CM	0.4		●	●	●	●	●							●	
	DCGT070201-CF	0.1	●	●			●	●	●							
	DCGT070202-CF	0.2	●	●			●	●	●							
	DCGT11T301-CF	0.1	●	●			●	●	●							
	DCGT11T302-CF	0.2	●	●			●	●	●							
	DCGT11T304-CF	0.4	●	●			●	●	●							
	DCGT0702005-AL	0.05	●	●				●	●					●		
	DCGT070201-AL	0.1	●	●				●	●					●		
	DCGT070202-AL	0.2	●	●				●						●		
	DCGT070204-AL	0.4	●	●				●						●		
	DCGT11T3005-AL	0.05	●	●				●	●					●		
	DCGT11T301-AL	0.1	●	●				●	●					●		
	DCGT11T302-AL	0.2	●	●				●						●		
	DCGT11T304-AL	0.4	●	●				●						●		

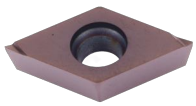
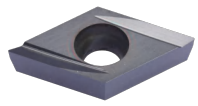
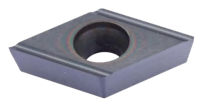
DCGT.55°



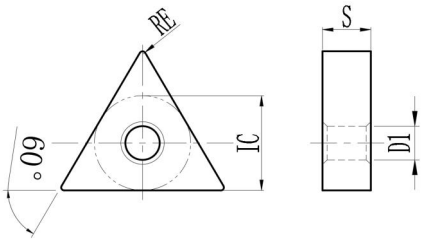
Model	IC	S	D1
DC_0702_	6.35	2.38	2.8
DC_11T3_	9.525	3.97	4.4

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	◔			◔	●	●	●	◔	◔		◔	◔
M	Stainless steel	✱	✱	◔	◔	●	●	●	●	●	◔	◔		◔	
N	Non ferrous metals									●		◔	✱		
S	Titanium alloy	✱	✱	◔	◔	●	●	●	●	●	◔	◔		◔	
H	High hardness materials				●	●	●	●							

Shape	Model	RE	PVD Coated											uncoated	CVD Coated	cermet
			MZC20	MZF30TN	MZF30MT	MZE30	MZE30F	MZL30MS	MZC30FH	SSJ20	BEJ20	SSG20	BEG20	NZX20	PZD35D	QT20
	DCGT0702005 R/L-S	0.05	●	●				●		●	●	●	●			●
	DCGT070201 R/L-S	0.1	●	●				●		●	●	●	●			●
	DCGT070202 R/L-S	0.2	●	●				●		●	●	●	●			●
	DCGT070204 R/L-S	0.4	●	●				●		●	●	●	●			●
	DCGT11T3005 R/L-S	0.05	●	●				●		●	●	●	●			●
	DCGT11T301 R/L-S	0.1	●	●				●		●	●	●	●			●
	DCGT11T302 R/L-S	0.2	●	●				●		●	●	●	●			●
	DCGT11T304 R/L-S	0.4	●	●				●		●	●	●	●			●
	DCGT0702005 R/L-Y	0.05	●	●				●		●	●	●	●			●
	DCGT070201 R/L-Y	0.1	●	●				●		●	●	●	●			●
	DCGT070202 R/L-Y	0.2	●	●				●		●	●	●	●			●
	DCGT070204 R/L-Y	0.4	●	●				●		●	●	●	●			●
	DCGT11T3005 R/L-Y	0.05	●	●				●		●	●	●	●			●
	DCGT11T301 R/L-Y	0.1	●	●				●		●	●	●	●			●
	DCGT11T302 R/L-Y	0.2	●	●				●		●	●	●	●			●
	DCGT11T304 R/L-Y	0.4	●	●				●		●	●	●	●			●
	DCGT0702005 R/L-U	0.05	●	●				●		●	●	●	●			●
	DCGT070201 R/L-U	0.1	●	●				●		●	●	●	●			●
	DCGT070202 R/L-U	0.2	●	●				●		●	●	●	●			●
	DCGT070204 R/L-U	0.4	●	●				●		●	●	●	●			●
	DCGT11T3005 R/L-U	0.05	●	●				●		●	●	●	●			●
	DCGT11T301 R/L-U	0.1	●	●				●		●	●	●	●			●
	DCGT11T302 R/L-U	0.2	●	●				●		●	●	●	●			●
	DCGT11T304 R/L-U	0.4	●	●				●		●	●	●	●			●

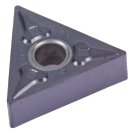
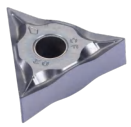
TNMG.60°



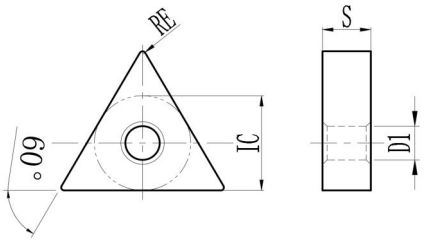
Model	IC	S	D1
TN_1604_	9.525	4.76	3.81
TN_2204_	12.7	4.76	5.16

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	✱	◔		●		◔	◔	○	✱	○	◔
M	Stainless steel	✱	✱	✱	◔	◔	●	●	◔					
K	Cast iron									◔				
S	Titanium alloy	✱	✱	✱	◔		●	●	◔					
H	High hardness materials						●	●						

Shape	Model	RE	PVD Coated							CVD Coated				cermet	
			MZC20	MZF30TN	MZF40TN	MZF30MT	MZE30	MZE30F	MZL30MS	PZD35D	PZC35D	PZC35G2	PZC35G1	QTE20	QT20
	TNMG160404-CM	0.4		●	●	●	●		●	●					
	TNMG160408-CM	0.8		●	●	●	●		●	●					
	TNMG160412-CM	1.2		●	●	●	●		●	●					
	TNGG160401-CF	0.1	●	●	●	●	●	●	●						
	TNGG160402-CF	0.2	●	●	●	●	●	●	●						
	TNGG160404-CF	0.4	●	●	●	●	●	●	●						
	TNGG160408-CF	0.8	●	●	●	●	●	●	●						
	TNMG160404-CF	0.4		●	●	●	●	●	●	●	●				
	TNMG160408-CF	0.8		●	●	●	●	●	●	●	●				
	TNMG160412-CF	1.2		●	●	●	●	●	●	●	●				
	TNMG160404-CTM	0.4										●	●	●	
	TNMG160408-CTM	0.8										●	●	●	
	TNMG160412-CTM	1.2										●	●	●	
	TNMG160404-MR	0.4										●	●		
	TNMG160408-MR	0.8										●	●		
	TNMG220408-MR	0.4										●	●		
	TNMG220412-MR	0.8										●	●		

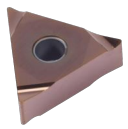
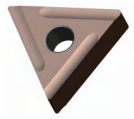
TNMG.60°



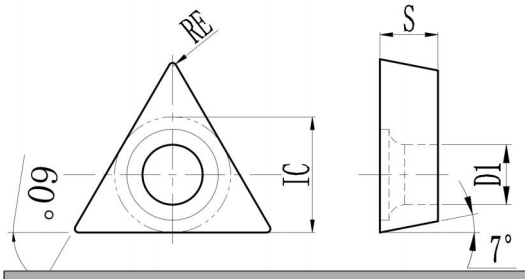
Model	IC	S	D1
TN_1604_	9.525	4.76	3.81
TN_2204_	12.7	4.76	5.16

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	✱	◔		●		◔	◔	○	✱	○	◔
M	Stainless steel	✱	✱	✱	◔	◔	●	●	◔					
K	Cast iron									◔				
S	Titanium alloy	✱	✱	✱	◔		●	●	◔					
H	High hardness materials						●	●						

Shape	Model	RE	PVD Coated							CVD Coated				cermet	
			MZC20	MZF30TN	MZF40TN	MZF30MT	MZE30	MZE30F	MZL30MS	PZD35D	PZC35D	PZC35G2	PZC35G1	QTE20	QT20
	TNGG1604005 R/L-S	0.05	●	●					●						●
	TNGG160401 R/L-S	0.1	●	●					●						●
	TNGG160402 R/L-S	0.2	●	●					●						●
	TNGG160401 R/L-U	0.1	●	●					●						●
	TNGG160402 R/L-U	0.2	●	●					●						●
	TNGG160404 R/L-U	0.4	●	●					●						●

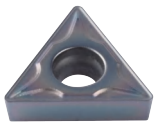
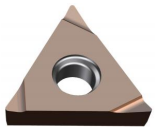
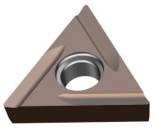
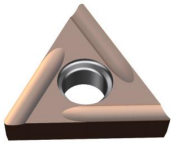
TCGT.60°



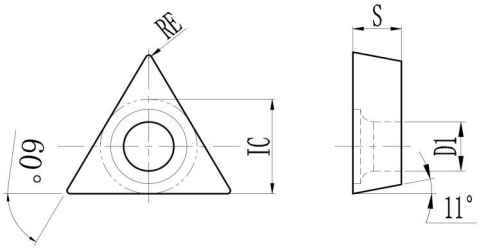
Model	IC	S	D1
TC_1102_	6.35	2.38	2.8

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◐ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	◐			◐	◐	◐
M	Stainless steel	✱	✱	◐	◐	●	●	◐	
N	Non ferrous metals								
S	Titanium alloy	✱	✱	◐	◐	●	●	◐	
H	High hardness materials				●	●	●		

Shape	Model	RE	PVD Coated						CVD Coated	cermet
			MZC20	MZF30TN	MZF30MT	MZE30	MZE30F	MZL30MS	PZD35D	QT20
	TCGT110202-CM	0.2		●	●	●	●	●	●	
	TCMT110204-CM	0.4		●	●	●	●	●	●	
	TCMT110208-CM	0.8		●	●	●	●	●	●	
	TCGT110201 R/L-S	0.1	●	●				●		●
	TCGT110202 R/L-S	0.2	●	●				●		●
	TCGT110204 R/L-S	0.4	●	●				●		●
	TCGT110201 R/L-Y	0.1	●	●				●		●
	TCGT110202 R/L-Y	0.2	●	●				●		●
	TCGT110204 R/L-Y	0.4	●	●				●		●
	TCGT110201 R/L-U	0.1	●	●				●		●
	TCGT110202 R/L-U	0.2	●	●				●		●
	TCGT110204 R/L-U	0.4	●	●				●		●

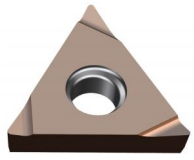
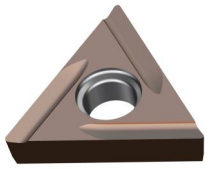
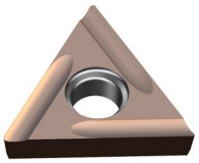
TPGT.60°



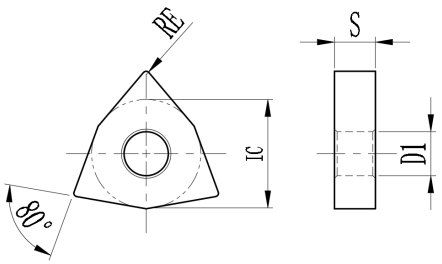
Model	IC	S	D1
TP_0802_	4.76	2.38	2.3
TP_0902_	5.56	2.38	3.0
TP_1103_	6.35	3.18	3.3

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◖ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	◖	◖
M	Stainless steel	✱	✱	●	
N	Non ferrous metals				
S	Titanium alloy	✱	✱		
H	High hardness materials				

Shape	Model	RE	PVD Coated			cermet
			MZC20	MZF30TN	MZL30MS	QT20
	TPGT080201 R/L-S	0.1	●	●	●	●
	TPGT080202 R/L-S	0.2	●	●	●	●
	TPGT080204 R/L-S	0.4	●	●	●	●
	TPGT090201 R/L-S	0.1	●	●	●	●
	TPGT090202 R/L-S	0.2	●	●	●	●
	TPGT090204 R/L-S	0.4	●	●	●	●
	TPGH110301 R/L-S	0.1	●	●	●	●
	TPGH110302 R/L-S	0.2	●	●	●	●
	TPGH110304 R/L-S	0.4	●	●	●	●
	TPGT080201 R/L-Y	0.1	●	●	●	●
	TPGT080202 R/L-Y	0.2	●	●	●	●
	TPGT080204 R/L-Y	0.4	●	●	●	●
	TPGT090201 R/L-Y	0.1	●	●	●	●
	TPGT090202 R/L-Y	0.2	●	●	●	●
	TPGT090204 R/L-Y	0.4	●	●	●	●
	TPGH110301 R/L-Y	0.1	●	●	●	●
	TPGH110302 R/L-Y	0.2	●	●	●	●
	TPGH110304 R/L-Y	0.4	●	●	●	●
	TPGT080201 R/L-U	0.1	●	●	●	●
	TPGT080202 R/L-U	0.2	●	●	●	●
	TPGT080204 R/L-U	0.4	●	●	●	●
	TPGT090201 R/L-U	0.1	●	●	●	●
	TPGT090202 R/L-U	0.2	●	●	●	●
	TPGT090204 R/L-U	0.4	●	●	●	●
	TPGH110301 R/L-U	0.1	●	●	●	●
	TPGH110302 R/L-U	0.2	●	●	●	●
	TPGH110304 R/L-U	0.4	●	●	●	●

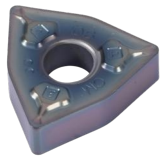
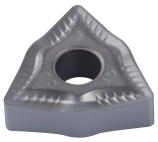
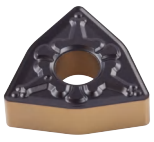
WNMG.80°



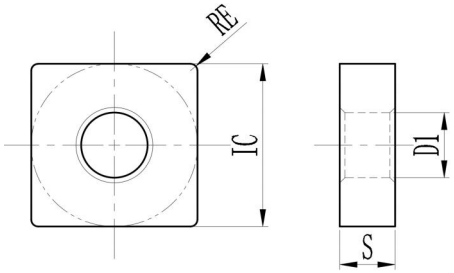
Model	IC	S	D1
WN_0804_	12.7	4.76	5.16

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	◔		●		✱	◔	○	✱	○
M	Stainless steel	✱	✱	◔	◔	●	●	✱				
K	Cast iron								◔			
S	Titanium alloy	✱	✱	◔		●	●	◔				
H	High hardness materials					●	●					

Shape	Model	RE	PVD Coated						CVD Coated				cermet
			MZF30TN	MZF40TN	MZF30MT	MZE30	MZE30F	MZL30MS	PZD35D	PZC35D	PZC35G2	PZC35GI	QTE20
	WNMG080404-CM	0.4	●	●	●	●		●	●				
	WNMG080408-CM	0.8	●	●	●	●		●	●				
	WNMG080412-CM	1.2	●	●	●	●		●	●				
	WNMG080404-CF	0.4	●	●	●	●	●	●	●	●			
	WNMG080408-CF	0.8	●	●	●	●	●	●	●	●			
	WNMG080412-CF	1.2	●	●	●	●	●	●	●	●			
	WNMG080404-CTM	0.4									●	●	●
	WNMG080408-CTM	0.8									●	●	●
	WNMG080412-CTM	1.2									●	●	●
	WNMG080404-MR	0.4									●	●	
	WNMG080408-MR	0.8									●	●	
	WNMG080412-MR	1.2									●	●	

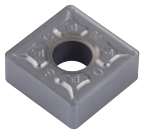
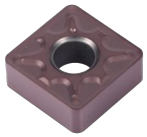
SNMG.80°



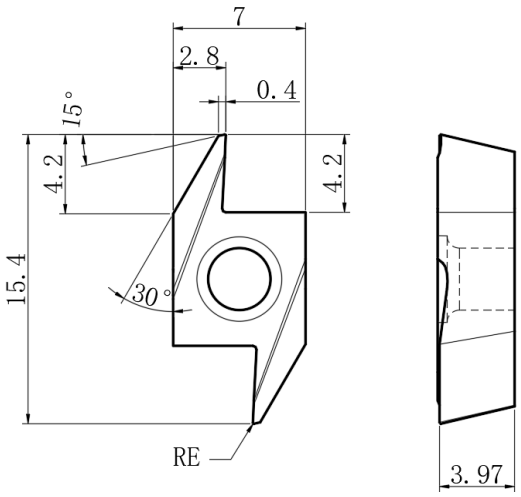
Model	IC	S	D1
SN_1204_	12.7	4.76	5.16
SN_1506_	15.875	6.35	6.35

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	◔			✱	○	✱	○
M	Stainless steel	✱	✱	◔	◔	●	✱			
K	Cast iron									
S	Titanium alloy	✱	✱	◔		●	◔			
H	High hardness materials					●				

Shape	Model	RE	PVD Coated					CVD Coated			cermet
			MZF30TN	MZF40TN	MZF30MT	MZE30	MZL30MS	PZD35D	PZC35G2	PZC35G1	QTE20
	120404-CM	0.4	●	●	●	●	●	●			
	120408-CM	0.8	●	●	●	●	●	●			
	120412-CM	0.2	●	●	●	●	●	●			
	120404-CTM	0.4							●	●	●
	120408-CTM	0.8							●	●	●
	120412-CTM	1.2							●	●	●
	120404-MR	0.4							●	●	
	120408-MR	0.8							●	●	
	120412-MR	1.2							●	●	
	150608-MR	0.8							●	●	
	150612-MR	1.2							●	●	
	150616-MR	1.6							●	●	
	150624-MR	2.4							●	●	

QBS Back Turning Inserts

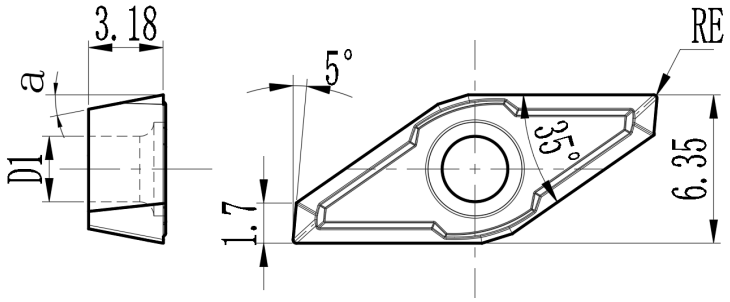


Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✠ : interrupted cutting

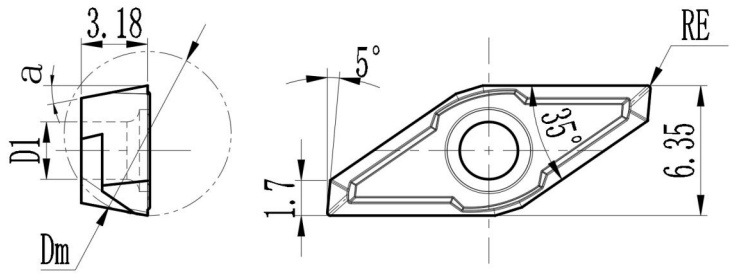
P	Carbon steel/alloy steel	✠	✠	✠	
M	Stainless steel	✠	✠	✠	
S	titanium alloy		✠	✠	
N	Non ferrous metals				✠

Shape	Model	RE	PVD Coated			
			MZF30TN	MZC20	MZL30MS	QD20
	QBS15R4005	0.05	●	●	●	●
	QBS15R4010	0.1	●	●	●	●
	QBS15R4015	0.15	●	●	●	●
	QBS15R4020	0.2	●	●	●	●
	QBS15R4025	0.25	●	●	●	●

XP(C)GT1103



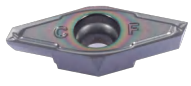
Cylindrical and end face machining



Bore processing

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◐ : light interrupted cutting	✱ : interrupted cutting

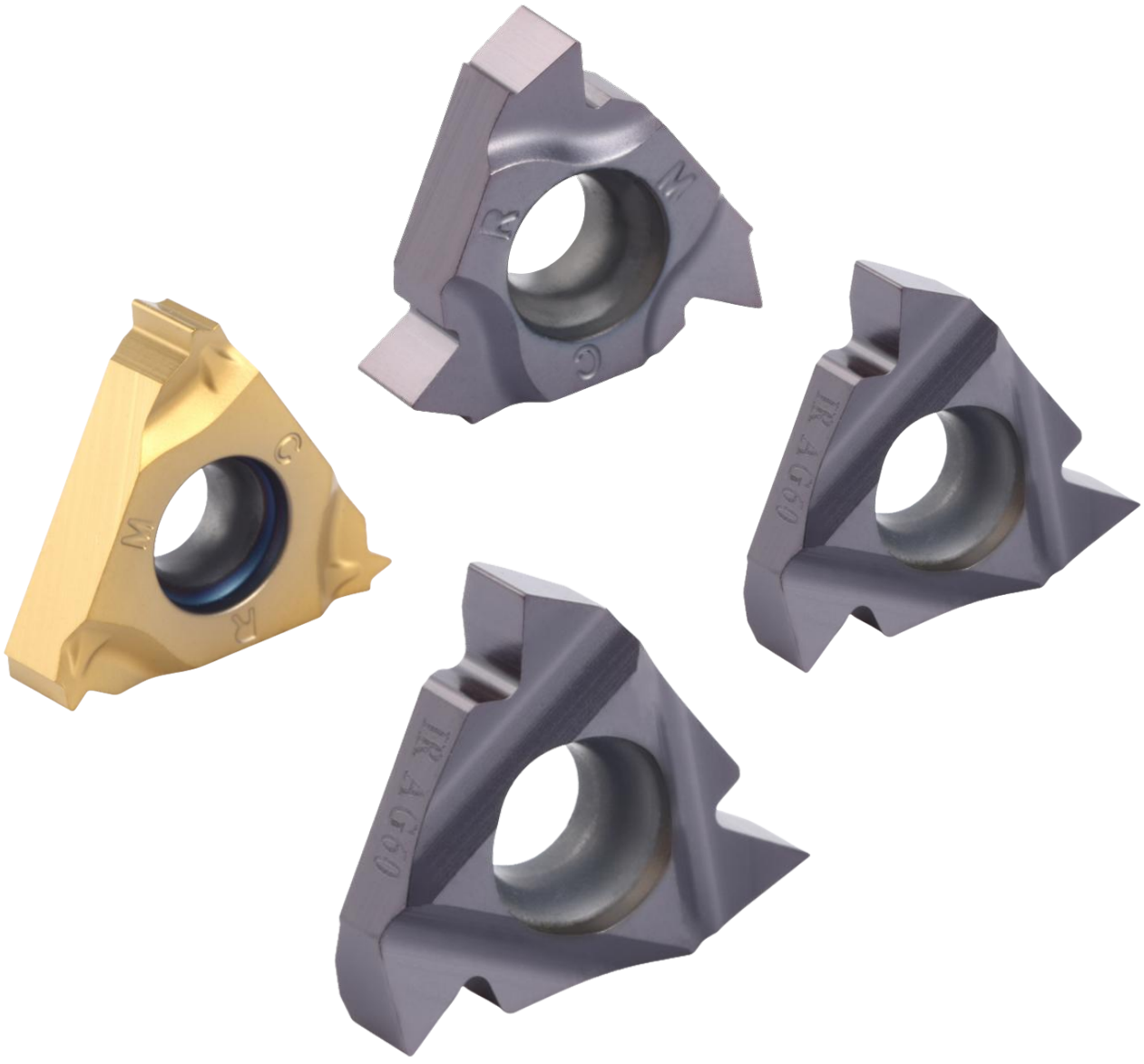
P	Carbon steel/alloy steel	✱	◐	✱
M	Stainless steel	✱	◐	✱
S	titanium alloy	✱	◐	✱
N	Non ferrous metals			

a	Shape	Model	D1	RE	Dm	PVD Coated		
						MZF30TN	MZL30MS	MZC20
7°		XCGT1103005RC-CF	2.8	0.05		●	●	●
7°		XCGT110301RC-CF	2.8	0.1		●	●	●
11°		XPGT1103005R-CF	2.8	0.05	8.0	●	●	●
11°		XPGT110301R-CF	2.8	0.1	8.0	●	●	●

Threading Turning

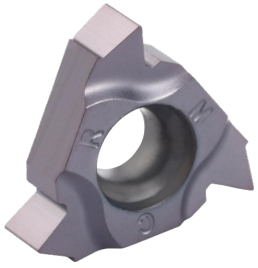
edison@preciturntools.com

https://www.preciturntools.com



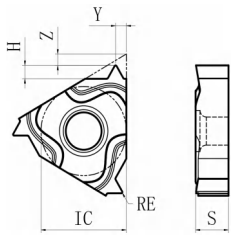
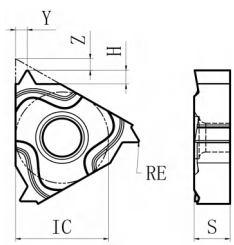
IRM/ERM

Multi-Tooth Threading-Molded



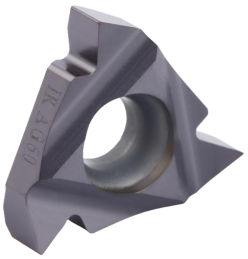
Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel		✱	✱
M	Stainless steel		✱	✱
S	titanium alloy		✱	✱
H	High hardness materials		✱	✱
N	Non ferrous metals			

Shape	Model	PITCH mm	PITCH tpi	Dimensions(mm)							Solid Carbide Inserts with Coatings		
											PVD		
				A	IC	S	Z	Y	RE	H min		MZE30	MZC25
Internal 	11IRMA60	0.5-1.5	48-16	60°	6.35	3.0	0.8	0.9	0.06	0.97		●	●
	11IRMA55			55°					0.08	1.14		●	●
	11IRMAG60	1.0-3.0	20-11	60°				1.1	0.07	1.5		●	●
	11IRMAG55			55°					0.18	1.6		●	●
	16IRMA60	0.5-1.5	48-16	60°	9.53	3.5	0.8	0.9	0.06	0.97		●	●
	16IRMA55			55°					0.08	1.14		●	●
	16IRMAG60	1.0-3.0	24-11	60°			1.2	1.7	0.07	1.9		●	●
	16IRMAG55			55°					0.15	2.3		●	●
	16IRMG60	1.75-3.0	14-8	60°					0.13	1.89		●	●
	16IRMG55			55°					0.26	2.06		●	●
	22IRMN60	3.5-5.0	7-5	60°	12.7	4.7	1.7	2.5	0.25	2.95		●	●
	22IRMN55			55°					0.5	3.4		●	●
External 	16ERMA60	0.5-1.5	48-16	60°	9.53	3.5	0.8	0.9	0.07	1.1		●	●
	16ERMA55			55°				1.7	0.08	1.14		●	●
	16ERMAG60	1.0-3.0	24-11	60°			1.2		0.15	2.2		●	●
	16ERMAG55			55°					0.15	2.3		●	●
	16ERMG60	1.75-3.0	14-8	60°					0.26	2.06		●	●
	16ERMG55			55°					0.26	2.06		●	●
	22ERMN60	3.5-5.0	7-5	60°	12.7	4.7	1.7	2.5	0.51	3.36		●	●
	22ERMN55			55°					0.5	3.4		●	●

IR

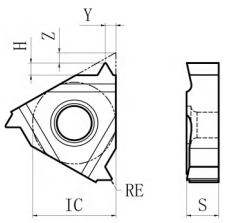
Multi-Tooth Threading-Periphery Grounded



Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

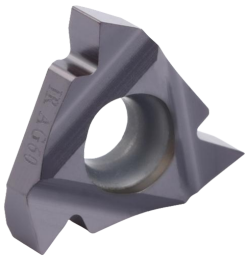
P	Carbon steel/alloy steel	✱	✱	✱	
M	Stainless steel	✱	✱	✱	
S	titanium alloy	✱	✱	✱	
H	High hardness materials	✱	✱		
N	Non ferrous metals				✱

Shape	Model	PITCH mm	PITCH tpi	Dimensions(mm)							Solid Carbide Inserts with Coatings			
											PVD			合金
				A	IC	S	Z	Y	RE	H min	MZF30	MZE30	MZL25	QD20
Internal	06IR/LA60	0.5-1.25	48-20	60°		2.0	0.5	0.6	0.03	0.77	●	●	●	●
	06IR/LA55	0.5-1.0	48-24	55°			0.6	0.6	0.08	0.75	●	●	●	●
	08IR/LA60	0.5-1.5	48-16	60°	4.76	2.3	0.6	0.75	0.03	0.97	●	●	●	●
	08IR/LA55	0.5-1.25	48-20	55°			0.6	0.7	0.08	0.92	●	●	●	●
	11IR/LA60	0.5-1.5	48-16	60°	6.35	3	0.8	0.9	0.06	0.97	●	●	●	●
	11IR/LA55			55°					0.08	1.14	●	●	●	●
	11IR/LAG60	1.0-3.0	20-11	60°				1.1	0.07	1.5	●	●	●	●
	11IR/LAG55			55°					0.18	1.6	●	●	●	●
	16IR/LA60	0.5-1.5	48-16	60°	9.53	3.5	0.8	0.9	0.06	0.97	●	●	●	●
	16IR/LA55			55°					0.08	1.14	●	●	●	●
	16IR/LAG60	1.0-3.0	24-11	60°			1.2	1.7	0.07	1.9	●	●	●	●
	16IR/LAG55			55°					0.15	2.3	●	●	●	●
	16IR/LG60	1.75-3.0	14-8	60°					0.13	1.89	●	●	●	●
	16IR/LG55			55°					0.26	2.06	●	●	●	●
	22IR/LN60	3.5-5.0	7-5	60°	12.7	4.7	1.7	2.5	0.25	2.95	●	●	●	●
	22IR/LN55			55°					0.5	3.4	●	●	●	●
	27IR/LQ60	5.5-6.0	4.5-4	60°	15.88	6.3	1.8	2.7	0.39	3.6	●	●	●	●
	27IR/LQ55			55°			2.0	2.9	0.77	4.1	●	●	●	●



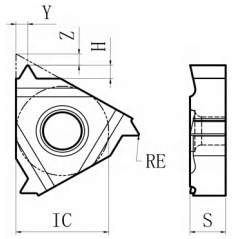
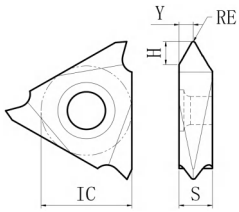
ER

Multi-Tooth Threading-Periphery Grounded



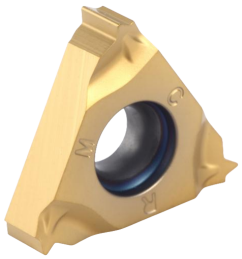
Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	✱	
M	Stainless steel	✱	✱	✱	
S	titanium alloy	✱	✱	✱	
H	High hardness materials	✱	✱		
N	Non ferrous metals				✱

Shape	Model	螺距 mm	螺距 tpi	Dimensions(mm)							Solid Carbide Inserts with Coatings			
											PVD			合金
					IC	S	Z	Y	RE	H min	MZF30	MZE30	MZL25	QD20
External 	16ER/LA60	0.5-1.5	48-16	60°	9.53	3.5	0.8	0.9	0.07	1.1	●	●	●	●
	16ER/LA55			55°				1.7	0.08	1.14	●	●	●	●
	16ER/LAG60	1.0-3.0	24-11	60°			1.2		0.15	2.2	●	●	●	●
	16ER/LAG55			55°					0.15	2.3	●	●	●	●
	16ER/LG60	1.75-3.0	14-8	60°					0.26	2.06	●	●	●	●
	16ER/LG55			55°				2.5	0.26	2.06	●	●	●	●
	22ER/LN60	3.5-5.0	7-5	60°	12.7	4.7	1.7	2.5	0.51	3.36	●	●	●	●
	22ER/LN55			55°					0.5	3.4	●	●	●	●
	27ER/LQ60	5.5-6.0	4.5-4	60°	15.88	6.3	2.1	3.1	0.77	3.85	●	●	●	●
	27ER/LQ55			55°			2.0	2.9	0.77	4.1	●	●	●	●
	11VER/LA60	0.5-1.5	48.-16	60°	6.35	3.0	/	0.8	0.06	0.97	●	●	●	●
	16VER/LA60	0.5-1.5	48-16	60°	9.53	3.5		0.8	0.06	1.14	●	●	●	●
	16VER/LA55			55°					0.08	1.14	●	●	●	●
	16VER/LAG60	1.0-3.0	24-11	60°				1.1	0.1	1.9	●	●	●	●
	16VER/LAG55			55°					0.18	2.3	●	●	●	●
	16VER/LG60	1.75-3.0	14-8	60°				1.5	0.13	1.89	●	●	●	●
	16VER/LG55			55°					0.26	2.06	●	●	●	●
	22VER/LN60	3.5-5.0	7-5	60°	12.7	4.7		2.3	0.25	2.95	●	●	●	●
	22VER/LN55			55°					0.5	3.4	●	●	●	●

IRM

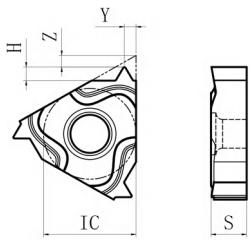
Single-Tooth Threading-Molded



Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel		✱	✱	
M	Stainless steel		✱	✱	
S	titanium alloy		✱	✱	
H	High hardness materials		✱	✱	
N	Non ferrous metals				

Shape	Model	PITCH mm	Dimensions(mm)						Solid Carbide Inserts with Coatings		
									PVD		
			A	IC	S	Z	Y	H min		MZE30	MZC25
Internal	11IRM050ISO	0.5	60°	6.35	3.0	0.6	0.4	0.29		●	●
	11IRM075ISO	0.75					0.6	0.44		●	●
	11IRM080ISO	0.8					0.6	0.47		●	●
	11IRM100ISO	1.0					0.7	0.57		●	●
	11IRM125ISO	1.25				0.8	0.9	0.71		●	●
	11IRM150ISO	1.5					1.0	0.86		●	●
	11IRM175ISO	1.75				0.9	1.1	1.00		●	●
	11IRM200ISO	2.0					1.1	1.14		●	●
	16IRM050ISO	0.5	60°	9.53	3.5	0.6	0.4	0.29		●	●
	16IRM075ISO	0.75					0.6	0.44		●	●
	16IRM080ISO	0.8					0.6	0.47		●	●
	16IRM100ISO	1.0					0.7	0.57		●	●
	16IRM125ISO	1.25				0.8	0.9	0.71		●	●
	16IRM150ISO	1.5					1.0	0.86		●	●
	16IRM175ISO	1.75				0.9	1.0	1.00		●	●
	16IRM200ISO	2.0				1.0	1.2	1.14		●	●
	16IRM250ISO	2.5				1.1	1.4	1.43		●	●
	16IRM300ISO	3.0					1.5	1.72		●	●
	16IRM350ISO	3.5				1.4	1.9	2.00		●	●
	16IRM150ISO-CH	1.5	60°	9.53	3.5	0.8	1.0	0.83		●	●
	16IRM200ISO-CH	2.0				1.0	1.3	1.11		●	●
	16IRM250ISO-CH	2.5				1.1	1.5	1.40		●	●
	16IRM300ISO-CH	3.0				1.1	1.5	1.67		●	●
	22IRM350ISO	3.5	60°	12.7	4.7	1.6	2.3	2.00		●	●
	22IRM400ISO	4.0						2.48		●	●
	22IRM450ISO	4.5						2.79		●	●
	22IRM500ISO	5.0					2.4	3.10		●	●
	16IRM100ISO3M	1.0	60°	9.53	3.5	1.8	2.6	0.57		●	●
	16IRM150ISO2M	1.5				1.6	2.4	0.86		●	●
	16IRM200ISO2M	2.0				2.1	3.1	1.14		●	●
	22IRM150ISO4M	1.5	60°	12.7	4.7	3.2	5.1	0.86		●	●
	22IRM200ISO3M	2.0				2.1	3.1	1.14		●	●
	22IRM250ISO2M	2.5				2.5	4.1	1.43		●	●



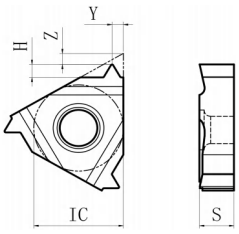
IR

Single-Tooth Threading-Periphery Grounded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	✱	
M	Stainless steel	✱	✱	✱	
S	titanium alloy	✱	✱	✱	
H	High hardness materials	✱	✱		
N	Non ferrous metals				✱

Shape	Model	PITCH mm	Dimensions(mm)						Solid Carbide Inserts with Coatings			
									PVD			合金
			A	IC	S	Z	Y	H min	MZF30	MZE30	MZL25	QD20
Internal	11IR/L050ISO	0.5	60°	6.35	3.0	0.6	0.4	0.29	●	●	●	●
	11IR/L075ISO	0.75					0.6	0.44	●	●	●	●
	11IR/L080ISO	0.8					0.6	0.47	●	●	●	●
	11IR/L100ISO	1.0					0.7	0.57	●	●	●	●
	11IR/L125ISO	1.25				0.8	0.9	0.71	●	●	●	●
	11IR/L150ISO	1.5					1.0	0.86	●	●	●	●
	11IR/L175ISO	1.75				0.9	1.1	1.00	●	●	●	●
	11IR/L200ISO	2.0					1.1	1.14	●	●	●	●
	16IR/L050ISO	0.5	60°	9.53	3.5	0.6	0.4	0.29	●	●	●	●
	16IR/L075ISO	0.75					0.6	0.44	●	●	●	●
	16IR/L080ISO	0.8					0.6	0.47	●	●	●	●
	16IR/L100ISO	1.0					0.7	0.57	●	●	●	●
	16IR/L125ISO	1.25				0.8	0.9	0.71	●	●	●	●
	16IR/L150ISO	1.5					1.0	1.0	●	●	●	●
	16IR/L175ISO	1.75				0.9	1.0	1.00	●	●	●	●
	16IR/L200ISO	2.0				1.0	1.2	1.14	●	●	●	●
	16IR/L250ISO	2.5				1.1	1.4	1.43	●	●	●	●
	16IR/L300ISO	3.0					1.5	1.72	●	●	●	●
	16IR/L350ISO	3.5				1.4	1.9	2.00	●	●	●	●
	16IR/L150ISO-CH	1.5	60°	9.53	3.5	0.8	1.0	0.83	●	●	●	●
	16IR/L200ISO-CH	2.0				1.0	1.3	1.11	●	●	●	●
	16IR/L250ISO-CH	2.5				1.1	1.5	1.40	●	●	●	●
	16IR/L300ISO-CH	3.0				1.1	1.5	1.67	●	●	●	●
	22IR/L350ISO	3.5	60°	12.7	4.7	1.6	2.3	2.00	●	●	●	●
	22IR/L400ISO	4.0						2.48	●	●	●	●
	22IR/L450ISO	4.5						2.79	●	●	●	●
	22IR/L500ISO	5.0					2.4	3.10	●	●	●	●
	27IR/L550ISO	5.5	60°	15.88	6.3	1.6	2.3	3.17	●	●	●	●
	27IR/L600ISO	6.0				1.8	2.6	3.46	●	●	●	●
	16IR/L100ISO3M	1.0	60°	9.53	3.5	1.8	2.6	0.57	●	●	●	●
	16IR/L150ISO2M	1.5				1.6	2.4	0.86	●	●	●	●
	16IR/L200ISO2M	2.0				2.1	3.1	0.86	●	●	●	●
	22IR/L150ISO4M	1.5	60°	12.7	4.7	3.2	5.1	0.86	●	●	●	●
	22IR/L200ISO3M	2.0				2.1	5.1	1.14	●	●	●	●
	22IR/L250ISO2M	2.5				2.5	4.1	1.43	●	●	●	●



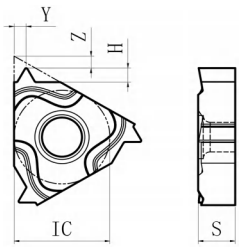
ERM

Single-Tooth Threading-Molded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel		✱	✱	
M	Stainless steel		✱	✱	
S	titanium alloy		✱	✱	
H	High hardness materials		✱	✱	
N	Non ferrous metals				

Shape	Model	PITCH mm	Dimensions(mm)						Solid Carbide Inserts with Coatings		
									PVD		
			A	IC	S	Z	Y	H min		MZE30	MZC25
External	16ERM050ISO	0.5	60°	9.53	3.5	0.6	0.4	0.31		●	●
	16ERM060ISO	0.6					0.4	0.37		●	●
	16ERM070ISO	0.7					0.5	0.43		●	●
	16ERM075ISO	0.75					0.6	0.47		●	●
	16ERM080ISO	0.8					0.6	0.50		●	●
	16ERM100ISO	1.0					0.7	0.62		●	●
	16ERM125ISO	1.25				0.8	0.9	0.71		●	●
	16ERM150ISO	1.5					1.0	0.93		●	●
	16ERM175ISO	1.75				0.9	1.0	1.09		●	●
	16ERM200ISO	2.0				1.0	1.2	1.24		●	●
	16ERM250ISO	2.5				1.1	1.2	1.55		●	●
	16ERM300ISO	3.0					1.4	1.86		●	●
	16ERM350ISO	3.5				1.4	1.9	2.17		●	●
	16ERM150ISO-CH	1.5	60°	9.53	3.5	0.8	1.0	0.89		●	●
	22ERM350ISO	3.5	60°	12.7	4.7	1.6	2.3	2.17		●	●
	22ERM400ISO	4.0						2.48		●	●
	22ERM450ISO	4.5						2.79		●	●
	22ERM500ISO	5.0					2.4	3.10		●	●
	16ERM100ISO3M	1.0	60°	9.53	3.5	1.8	2.6	0.62		●	●
	16ERM150ISO2M	1.5				1.6	2.4	0.93		●	●
	16ERM200ISO2M	2.0				2.1	3.1	1.24		●	●
	22ERM150ISO4M	1.5	60°	12.7	4.7	3.2	5.1	0.93		●	●
	22ERM200ISO3M	2.0				2.1	3.1	1.24		●	●
	22ERM250ISO2M	2.5				2.5	4.1	1.55		●	●



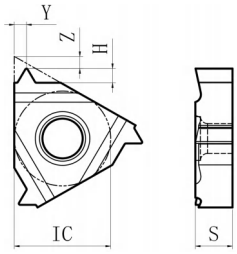
ER/VER

Single-Tooth Threading-Periphery Grounded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	✱	
M	Stainless steel	✱	✱	✱	
S	titanium alloy	✱	✱	✱	
H	High hardness materials	✱	✱		
N	Non ferrous metals				✱

Shape	Model	PITCH mm	Dimensions(mm)						Solid Carbide Inserts with Coatings			
									PVD			合金
			A	IC	S	Z	Y	H min	MZF30	MZE30	MZL25	QD20
External	16ER/L050ISO	0.5	60°	9.53	3.5	0.6	0.4	0.31	●	●	●	●
	16ER/060ISO	0.6					0.4	0.37	●	●	●	●
	16ER/070ISO	0.7					0.5	0.43	●	●	●	●
	16ER/075ISO	0.75					0.6	0.47	●	●	●	●
	16ER/080ISO	0.8					0.6	0.50	●	●	●	●
	16ER/100ISO	1.0					0.7	0.62	●	●	●	●
	16ER/125ISO	1.25				0.8	0.9	0.78	●	●	●	●
	16ER/150ISO	1.5					1.0	0.93	●	●	●	●
	16ER/175ISO	1.75				0.9	1.0	1.09	●	●	●	●
	16ER/200ISO	2.0				1.0	1.2	1.24	●	●	●	●
	16ER/250ISO	2.5				1.1	1.2	1.55	●	●	●	●
	16ER/300ISO	2.5					1.4	1.86	●	●	●	●
	16ER/350ISO	3.5				1.4	1.9	2.17	●	●	●	●
	16ER/L150ISO-CH	1.5	60°	9.53	3.5	0.8	1.0	0.93	●	●	●	●
	22ER/L350ISO	3.5	60°	12.7	4.7	1.6	2.3	2.17	●	●	●	●
	22ER/L400ISO	4.0						2.48	●	●	●	●
	22ER/L450ISO	4.5						2.79	●	●	●	●
	22ER/L500ISO	5.0					2.4	3.10	●	●	●	●
	27ER/L550ISO	5.5	60°	15.88	6.3	1.9	2.7	3.37	●	●	●	●
	27ER/L600ISO	6.0				2.0	2.9	2.68	●	●	●	●
	16ER/L100ISO3M	1.0	60°	9.53	3.5	1.8	2.6	0.62	●	●	●	●
	16ER/L150ISO2M	1.5				1.6	2.4	0.93	●	●	●	●
	16ER/L200ISO2M	2.0				2.1	3.1	1.24	●	●	●	●
	22ER/L150ISO4M	1.5	60°	12.7	4.7	3.2	5.1	0.93	●	●	●	●
	22ER/L200ISO3M	2.0				2.1	3.1	1.24	●	●	●	●
	22ER/L250ISO2M	2.5				2.5	4.1	1.55	●	●	●	●
	16VER100ISO	1.0	60°	9.53	3.5	/	0.6	0.62	●	●	●	●
	16VER150ISO	1.5					0.9	0.93	●	●	●	●
	16VER200ISO	2.0					1.1	1.24	●	●	●	●
	16VER250ISO	2.5					1.1	1.55	●	●	●	●
	16VER300ISO	3.0					1.3	1.55	●	●	●	●
	22VER400ISO	4.0	60°	12.7	4.7		2.2	2.48	●	●	●	●
	22VER500ISO	5.0					2.3	3.10	●	●	●	●



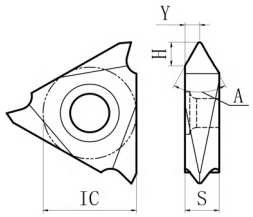
VER

Single-Tooth Threading-Periphery Grounded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◐ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	✱	
M	Stainless steel	✱	✱	✱	
S	titanium alloy	✱	✱	✱	
H	High hardness materials	✱	✱		
N	Non ferrous metals				✱

Shape	Model	PITCH mm	Dimensions(mm)						Solid Carbide Inserts with Coatings			
									PVD			合金
			A	IC	S	Z	Y	H min	MZF30	MZE30	MZL25	QD20
External	16VER100ISO	1.0	60°	9.53	3.5	/	0.6	0.62	●	●	●	●
	16VER150ISO	1.5					0.9	0.93	●	●	●	●
	16VER200ISO	2.0					1.1	1.24	●	●	●	●
	16VER250ISO	2.5					1.1	1.55	●	●	●	●
	16VER300ISO	3.0					1.3	1.86	●	●	●	●
	22VER400ISO	4.0	60°	12.7	4.7		2.2	2.48	●	●	●	●
	22VER500ISO	5.0					2.3	3.10	●	●	●	●



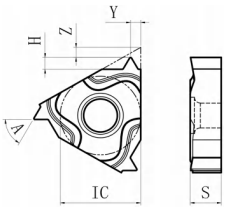
IRM-UN

UN Threading -Molded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel		✱	✱	
M	Stainless steel		✱	✱	
S	titanium alloy		✱	✱	
H	High hardness materials		✱	✱	
N	Non ferrous metals				

Shape	Model	PITCH tpi	Dimensions(mm)						Solid Carbide Inserts with Coatings			
									PVD			
			A	IC	S	Z	Y	H min		MZE30	MZC25	
Internal	11IRM32UN	32	60°	6.35	3.0	0.6	0.6	0.45		●	●	
	11IRM28UN	28					0.7	0.52		●	●	
	11IRM24UN	24				0.7	0.8	0.61		●	●	
	11IRM20UN	20				0.8	0.9	0.73		●	●	
	11IRM18UN	18					1.0	0.81		●	●	
	11IRM16UN	16				0.9	1.1	0.91		●	●	
	11IRM14UN	14						1.04		●	●	
	11IRM12UN	12						1.22		●	●	
	16IRM48UN	48	60°	9.53	3.5	0.6	0.4	0.30		●	●	
	16IRM40UN	40					0.5	0.36		●	●	
	16IRM36UN	36					0.6	0.40		●	●	
	16IRM32UN	32						0.45		●	●	
	16IRM28UN	28					0.7			●	●	
	16IRM24UN	24				0.7	0.8	0.61		●	●	
	16IRM20UN	20				0.8	0.9	0.73		●	●	
	16IRM18UN	18					1.0	0.81		●	●	
	16IRM16UN	16				0.9		0.91		●	●	
	16IRM14UN	14					1.2	1.04		●	●	
	16IRM13UN	13				1.0	1.3	1.13		●	●	
	16IRM12UN	12				1.1		1.22		●	●	
	16IRM11UN	11						1.33		●	●	
	16IRM10UN	10						1.46		●	●	
	16IRM9UN	9					1.7	1.63		●	●	
	16IRM8UN	8						1.81		●	●	
	22IRM7UN	7	60°	12.7	4.7	1.6	2.3	2.09		●	●	
	22IRM6UN	6						2.42		●	●	
	22IRM5UN	5						2.93		●	●	



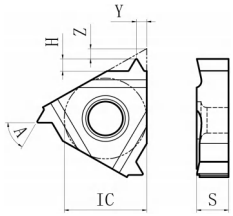
IR

UN Threading-Periphery Grounded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	✱	
M	Stainless steel	✱	✱	✱	
S	titanium alloy	✱	✱	✱	
H	High hardness materials	✱	✱		
N	Non ferrous metals				✱

Shape	Model	PITCH tpi	Dimensions(mm)						Solid Carbide Inserts with Coatings			
									PVD			合金
			A	IC	S	Z	Y	H min	MZF30	MZE30	MZL25	QD20
Internal	11IR/L32UN	32	60°	6.35	3.0	0.6	0.6	0.45	●	●	●	●
	11IR/L28UN	28					0.7	0.52	●	●	●	●
	11IR/L24UN	24				0.7	0.8	0.61	●	●	●	●
	11IR/L20UN	20				0.8	0.9	0.73	●	●	●	●
	11IR/L18UN	18					1.0	0.81	●	●	●	●
	11IR/L16UN	16				0.9	1.1	0.91	●	●	●	●
	11IR/L14UN	14						1.04	●	●	●	●
	11IR/L12UN	12						1.22	●	●	●	●
	16IR/L48UN	48	60°	9.53	3.5	0.6	0.4	0.30	●	●	●	●
	16IR/L40UN	40					0.5	0.36	●	●	●	●
	16IR/L36UN	36					0.6	0.40	●	●	●	●
	16IR/L32UN	32						0.45	●	●	●	●
	16IR/L28UN	28					0.7	0.52	●	●	●	●
	16IR/L24UN	24				6.3	0.8	0.61	●	●	●	●
	16IR/L20UN	20				6.3	0.9	0.73	●	●	●	●
	16IR/L18UN	18					1.0	0.81	●	●	●	●
	16IR/L16UN	16				6.3		0.91	●	●	●	●
	16IR/L14UN	14					1.2	1.04	●	●	●	●
	16IR/L13UN	13				6.3	1.3	1.13	●	●	●	●
	16IR/L12UN	12				6.3		1.22	●	●	●	●
	16IR/L11UN	11						1.33	●	●	●	●
	16IR/L10UN	10						1.46	●	●	●	●
	16IR/L9UN	9					1.7	1.63	●	●	●	●
	16IR/L8UN	8						1.81	●	●	●	●
	22IR/L7UN	7	60°	12.7	4.7	6.3	2.3	2.09	●	●	●	●
	22IR/L6UN	6						2.42	●	●	●	●
	22IR/L5UN	5						2.93	●	●	●	●
	27IR/L4.5UN	4.5	60°	15.88	6.3	6.3	2.4	2.93	●	●	●	●
	27IR/L4UN	4				6.3	2.7	3.67	●	●	●	●



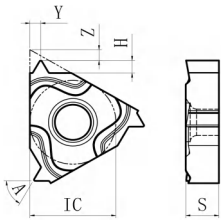
ERM

UN Threading -Molded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel		✱	✱	
M	Stainless steel		✱	✱	
S	titanium alloy		✱	✱	
H	High hardness materials		✱	✱	
N	Non ferrous metals				

Shape	Model	PITCH tpi	Dimensions(mm)						Solid Carbide Inserts with Coatings			
									PVD			
			A	IC	S	Z	Y	H min		MZE30	MZC25	
External	16ERM48UN	48	60°	9.53	3.5	0.6	0.4	0.32		●	●	
	16ERM40UN	40					0.5	0.39		●	●	
	16ERM36UN	36					0.6	0.43		●	●	
	16ERM32UN	32						0.48		●	●	
	16ERM28UN	28					0.7	0.55		●	●	
	16ERM24UN	24				0.7	0.8	0.65		●	●	
	16ERM20UN	20				0.8	0.9	0.79		●	●	
	16ERM18UN	18					1.0	0.86		●	●	
	16ERM16UN	16				0.9		0.97		●	●	
	16ERM14UN	14					1.2	1.11		●	●	
	16ERM13UN	13				1.0	1.3	1.19		●	●	
	16ERM12UN	12				1.1		1.29		●	●	
	16ERM11UN	11						1.41		●	●	
	16ERM10UN	10						1.55		●	●	
	16ERM9UN	9					1.7	1.72		●	●	
	16ERM8UN	8						1.94		●	●	
	22ERM7UN	7	60°	12.7	4.7	1.6	2.3	2.21		●	●	
	22ERM6UN	6						2.58		●	●	
	22ERM5UN	5				1.7	2.5	3.11		●	●	



ERM/VER

UN Threading-Periphery Grounded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	✱	
M	Stainless steel	✱	✱	✱	
S	titanium alloy	✱	✱	✱	
H	High hardness materials	✱	✱		
N	Non ferrous metals				✱

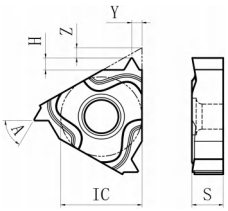
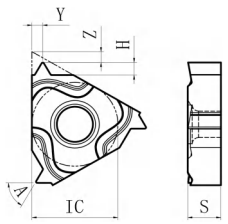
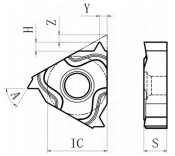
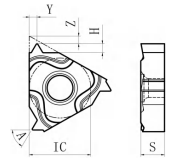
Shape	Model	PITCH tpi	Dimensions(mm)						Solid Carbide Inserts with Coatings			
									PVD			合金
			A	IC	S	Z	Y	H min	MZF30	MZE30	MZL25	QD20
External	16ER/L48UN	48	60°	9.53	3.5	0.6	0.4	0.32	●	●	●	●
	16ERM40UN	40					0.5	0.39	●	●	●	●
	16ERM36UN	36					0.6	0.43	●	●	●	●
	16ERM32UN	32						0.48	●	●	●	●
	16ERM28UN	28					0.7	0.55	●	●	●	●
	16ERM24UN	24				0.7	0.8	0.65	●	●	●	●
	16ERM20UN	20				0.8	0.9	0.79	●	●	●	●
	16ERM18UN	18					1.0	0.86	●	●	●	●
	16ERM16UN	16				0.9		0.97	●	●	●	●
	16ERM14UN	14					1.2	1.11	●	●	●	●
	16ERM13UN	13				1.0	1.3	1.19	●	●	●	●
	16ERM12UN	12				1.1		1.29	●	●	●	●
	16ERM11UN	11						1.41	●	●	●	●
	16ERM10UN	10						1.55	●	●	●	●
	16ERM9UN	9					1.7	1.72	●	●	●	●
	16ERM8UN	8						1.94	●	●	●	●
	22ER/L7UN	7	60°	12.7	4.7	1.6	2.3	2.21	●	●	●	●
	22ER/L6UN	6						2.58	●	●	●	●
	22ER/L5UN	5				1.7	2.5	3.11	●	●	●	●
	27ER/L4.5UN	4.5	60°	15.88	6.3	1.9	2.7	3.46	●	●	●	●
	27ER/L4UN	4				2.1	3.0	3.90	●	●	●	●
	16VER24UN	24	60°	9.53	3.5	/	0.7	0.65	●	●	●	●
	16VER20UN	20					0.8	0.79	●	●	●	●
	16VER18UN	18						0.86	●	●	●	●
	16VER16UN	16					0.9	0.97	●	●	●	●
	16VER14UN	14						1.11	●	●	●	●
	16VER12UN	12					1.1	1.29	●	●	●	●
	16VER10UN	10						1.55	●	●	●	●

IRM/ERM-J

UNJ,MJ Threading-Molded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel		✱	✱	
M	Stainless steel		✱	✱	
S	titanium alloy		✱	✱	
H	High hardness materials		✱	✱	
N	Non ferrous metals				

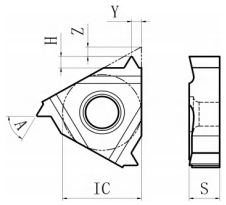
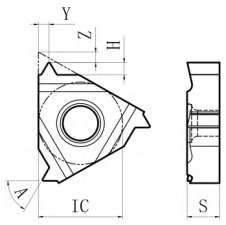
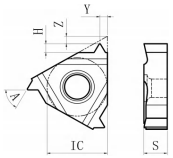
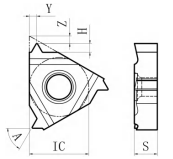
Shape	Model	PITCH tpi	Dimensions(mm)						Solid Carbide Inserts with Coatings		
			A	IC	S	Z	Y	H min	PVD		
										MZE30	MZC25
Internal 	16IRM32UNJ	32	60°	9.53	3.5	0.6	0.6	0.42		●	●
	16IRM28UNJ	28				0.7	0.7	0.48		●	●
	16IRM24UNJ	24					0.8	0.55		●	●
	16IRM20UNJ	20				0.8	0.9	0.67		●	●
	16IRM18UNJ	18					1.0	0.74		●	●
	16IRM16UNJ	16				0.9		0.83		●	●
	16IRM14UNJ	14				1.0	1.2	0.95		●	●
	16IRM12UNJ	12				1.1	1.3	1.11		●	●
	16IRM10UNJ	10						1.33		●	●
	16IRM08UNJ	8					1.7	1.66		●	●
External 	16ERM32UNJ	32	60°	9.53	3.5	0.6	0.6	0.45		●	●
	16ERM28UNJ	28				0.7	0.7	0.51		●	●
	16ERM24UNJ	24					0.8	0.60		●	●
	16ERM20UNJ	20				0.8	0.9	0.72		●	●
	16ERM18UNJ	18					1.0	0.80		●	●
	16ERM16UNJ	16				0.9		0.90		●	●
	16ERM14UNJ	14				1.0	1.2	1.03		●	●
	16ERM12UNJ	12				1.1	1.3	1.20		●	●
	16ERM10UNJ	10						1.45		●	●
	16ERM08UNJ	8					1.7	1.81		●	●
		PITCH mm									
Internal 	16IRM075MJ	0.75	60°	9.53	3.5	0.6	0.6	0.39		●	●
	16IRM100MJ	1.00					0.7	0.52		●	●
	16IRM125MJ	1.25				0.8	0.9	0.65		●	●
	16IRM150MJ	1.50					1.0	0.78		●	●
	16IRM200MJ	2.00				1.0	1.2	1.04		●	●
	16IRM250MJ	2.50				1.1	1.4	1.30		●	●
	16IRM300MJ	3.00					1.5	1.56		●	●
External 	16ERM075MJ	0.75	60°	9.53	3.5	0.6	0.6	0.42		●	●
	16ERM100MJ	1.00					0.7	0.58		●	●
	16ERM125MJ	1.25				0.8	0.9	0.72		●	●
	16ERM150MJ	1.50					1.0	0.86		●	●
	16ERM200MJ	2.00				1.0	1.2	1.15		●	●
	16ERM250MJ	2.50				1.1	1.4	1.44		●	●
	16ERM300MJ	3.00					1.5	1.73		●	●

IR/ER-J

UNJ,MJ Threading-Periphery Grounded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	✱	
M	Stainless steel	✱	✱	✱	
S	titanium alloy	✱	✱	✱	
H	High hardness materials	✱	✱		
N	Non ferrous metals				✱

Shape	Model	PITCH tpi	Dimensions(mm)						Solid Carbide Inserts with Coatings			
									PVD			
			A	IC	S	Z	Y	H min	MZF30	MZE30	MZL25	QD20
Internal 	16IR/L32UNJ	32	60°	9.53	3.5	0.6	0.6	0.42	●	●	●	●
	16IR/L28UNJ	28				0.7	0.7	0.48	●	●	●	●
	16IR/L24UNJ	24					0.8	0.55	●	●	●	●
	16IR/L20UNJ	20				0.8	0.9	0.67	●	●	●	●
	16IR/L18UNJ	18					1.0	0.74	●	●	●	●
	16IR/L16UNJ	16				0.9		0.83	●	●	●	●
	16IR/L14UNJ	14				1.0	1.2	0.95	●	●	●	●
	16IR/L12UNJ	12				1.1	1.3	1.11	●	●	●	●
	16IR/L10UNJ	10						1.33	●	●	●	●
	16IR/L08UNJ	8					1.7	1.66	●	●	●	●
External 	16ER/L32UNJ	32	60°	9.53	3.5	0.6	0.6	0.45	●	●	●	●
	16ER/L28UNJ	28				0.7	0.7	0.51	●	●	●	●
	16ER/L24UNJ	24					0.8	0.60	●	●	●	●
	16ER/L20UNJ	20				0.8	0.9	0.72	●	●	●	●
	16ER/L18UNJ	18					1.0	0.80	●	●	●	●
	16ER/L16UNJ	16				0.9		0.90	●	●	●	●
	16ER/L14UNJ	14				1.0	1.2	1.03	●	●	●	●
	16ER/L12UNJ	12				1.1	1.3	1.20	●	●	●	●
	16ER/L10UNJ	10						1.45	●	●	●	●
	16ER/L08UNJ	8					1.7	1.81	●	●	●	●
		PITCH mm										
Internal 	16IR/L075MJ	0.75	60°	9.53	3.5	0.6	0.6	0.39	●	●	●	●
	16IR/L100MJ	1.00					0.7	0.52	●	●	●	●
	16IR/L125MJ	1.25				0.8	0.9	0.65	●	●	●	●
	16IR/L150MJ	1.50					1.0	0.78	●	●	●	●
	16IR/L200MJ	2.00				1.0	1.2	1.04	●	●	●	●
	16IR/L250MJ	2.50				1.1	1.4	1.30	●	●	●	●
	16IR/L300MJ	3.00					1.5	1.56	●	●	●	●
External 	16ER/L075MJ	0.75	60°	9.53	3.5	0.6	0.6	0.42	●	●	●	●
	16ER/L100MJ	1.00					0.7	0.58	●	●	●	●
	16ER/L125MJ	1.25				0.8	0.9	0.72	●	●	●	●
	16ER/L150MJ	1.50					1.0	0.86	●	●	●	●
	16ER/L200MJ	2.00				1.0	1.2	1.15	●	●	●	●
	16ER/L250MJ	2.50				1.1	1.4	1.44	●	●	●	●
	16ER/L300MJ	3.00					1.5	1.73	●	●	●	●

IRM-BSW

BSW Threading-Molded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel		✱	✱	
M	Stainless steel		✱	✱	
S	titanium alloy		✱	✱	
H	High hardness materials		✱	✱	
N	Non ferrous metals				

Shape	Model	PITCH tpi	Dimensions(mm)						Solid Carbide Inserts with Coatings			
									PVD			
			A	IC	S	Z	Y	H min		MZE30	MZC25	
Internal	11IRM19W	19	60°	6.35	3.0	0.8	1.0	0.86		●	●	
	11IRM14W	14				0.9	1.1	1.16		●	●	
	16IRM40W	40	60°	9.53	3.5	0.6	0.5	0.40		●	●	
	16IRM36W	36					0.6	0.45		●	●	
	16IRM32W	32						0.50		●	●	
	16IRM28W	28				0.7	0.7	0.58		●	●	
	16IRM24W	24				0.8	0.8	0.68		●	●	
	16IRM20W	20					0.9	0.74		●	●	
	16IRM19W	19					1.0	0.86		●	●	
	16IRM18W	18				0.9		0.90		●	●	
	16IRM16W	16				1.0		1.02		●	●	
	16IRM14W	14				1.1	1.2	1.16		●	●	
	16IRM12W	12					1.3	1.35		●	●	
	16IRM11W	11						1.48		●	●	
	16IRM10W	10						1.63		●	●	
	16IRM09W	9				1.2	1.7	1.81		●	●	
	16IRM08W	8						2.03		●	●	
	22IRM07W	7	60°	12.7	4.7	1.6	2.3	2.32		●	●	
	22IRM06W	6						2.71		●	●	
	22IRM05W	5				1.7	2.4	3.25		●	●	

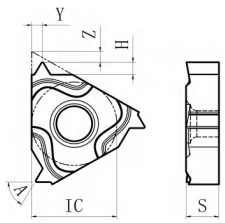
ERM-BSW

BSW Threading-Molded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel		✱	✱	
M	Stainless steel		✱	✱	
S	titanium alloy		✱	✱	
H	High hardness materials		✱	✱	
N	Non ferrous metals				

Shape	Model	PITCH tpi	Dimensions(mm)						Solid Carbide Inserts with Coatings			
									PVD			
			A	IC	S	Z	Y	H min		MZE30	MZC25	
External	16ERM40W	40	60°	9.53	3.5	0.6	0.6	0.40		●	●	
	16ERM36W	36						0.45		●	●	
	16ERM32W	32						0.50		●	●	
	16ERM28W	28				0.7	0.7	0.58		●	●	
	16ERM24W	24				0.8	0.8	0.68		●	●	
	16ERM20W	20					0.9	0.74		●	●	
	16ERM19W	19					1.0	0.86		●	●	
	16ERM18W	18				0.9		0.90		●	●	
	16ERM16W	16				1.0		1.02		●	●	
	16ERM14W	14				1.1	1.2	1.16		●	●	
	16ERM12W	12					1.3	1.35		●	●	
	16ERM11W	11						1.48		●	●	
	16ERM10W	10						1.63		●	●	
	16ERM09W	9				1.2	1.7	1.81		●	●	
	16ERM08W	8						2.03		●	●	
	22ERM07W	7	60°	12.7	4.7	1.6	2.3	2.32		●	●	
	22ERM06W	6						2.71		●	●	
	22ERM05W	5				1.7	2.4	3.25		●	●	



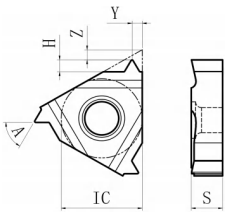
IR-BSW

BSW Threading-Periphery Grounded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	✱	
M	Stainless steel	✱	✱	✱	
S	titanium alloy	✱	✱	✱	
H	High hardness materials	✱	✱		
N	Non ferrous metals				✱

Shape	Model	PITCH tpi	Dimensions(mm)						Solid Carbide Inserts with Coatings			
									PVD			
			A	IC	S	Z	Y	H min	MZF30	MZE30	MZL25	QD20
Internal	11IR/L19W	19	60°	6.35	3.0	0.8	1.0	0.86	●	●	●	●
	11IR/L14W	14				0.9	1.1	1.16	●	●	●	●
	16IR/L40W	40	60°	9.53	3.5	0.6	0.5	0.40	●	●	●	●
	16IR/L36W	36					0.6	0.45	●	●	●	●
	16IR/L32W	32						0.50	●	●	●	●
	16IR/L28W	28				0.7	0.7	0.58	●	●	●	●
	16IR/L24W	24				0.8	0.8	0.68	●	●	●	●
	16IR/L20W	20					0.9	0.74	●	●	●	●
	16IR/L19W	19					1.0	0.86	●	●	●	●
	16IR/L18W	18				0.9		0.90	●	●	●	●
	16IR/L16W	16				1.0		1.02	●	●	●	●
	16IR/L14W	14				1.1	1.2	1.16	●	●	●	●
	16IR/L12W	12					1.3	1.35	●	●	●	●
	16IR/L11W	11						1.48	●	●	●	●
	16IR/L10W	10						1.63	●	●	●	●
	16IR/L09W	9				1.2	1.7	1.81	●	●	●	●
	16IR/L08W	8						2.03	●	●	●	●
	22IR/L07W	7	60°	12.7	4.7	1.6	2.3	2.32	●	●	●	●
	22IR/L06W	6						2.71	●	●	●	●
	22IR/L05W	5				1.7	2.4	3.25	●	●	●	●
	27IR/L4.5W	4.5	60°	15.88	6.3	1.8	2.6	3.61	●	●	●	●
	27IR/4WL	4				2.0	2.9	4.07	●	●	●	●



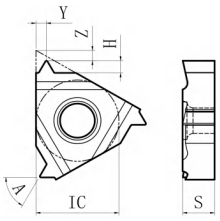
ER-BSW

BSW Threading-Periphery Grounded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	✱	
M	Stainless steel	✱	✱	✱	
S	titanium alloy	✱	✱	✱	
H	High hardness materials	✱	✱		
N	Non ferrous metals				✱

Shape	Model	PITCH tpi	Dimensions(mm)						Solid Carbide Inserts with Coatings			
									PVD			合金
			A	IC	S	Z	Y	H min	MZF30	MZE30	MZL25	QD20
External	16ER/L40W	40	60°	9.53	3.5	0.6	0.5	0.40	●	●	●	●
	16ER/L36W	36					0.6	0.45	●	●	●	●
	16ER/L32W	32						0.50	●	●	●	●
	16ER/L28W	28				0.7	0.7	0.50	●	●	●	●
	16ER/L24W	24				0.8	0.8	0.68	●	●	●	●
	16ER/L20W	20					0.9	0.74	●	●	●	●
	16ER/L19W	19					1.0	0.86	●	●	●	●
	16ER/L18W	18				0.9		0.90	●	●	●	●
	16ER/L16W	16				1.0		1.02	●	●	●	●
	16ER/L14W	14				1.1	1.2	1.16	●	●	●	●
	16ER/L12W	12					1.3	1.35	●	●	●	●
	16ER/L11W	11						1.48	●	●	●	●
	16ER/L10W	10						1.63	●	●	●	●
	16ER/L09W	9				1.2	1.7	1.81	●	●	●	●
	16ER/L08W	8						2.03	●	●	●	●
	22ER/L07W	7	60°	12.7	4.7	1.6	2.3	2.32	●	●	●	●
	22ER/L06W	6						2.71	●	●	●	●
	22ER/L05W	5				1.7	2.4	3.25	●	●	●	●
	27ER/L4.5W	4.5	60°	15.88	6.3	1.8	2.6	3.61	●	●	●	●
	27ER/L4W	4				2.0	2.9	4.07	●	●	●	●



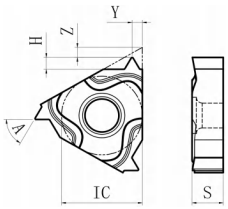
IRM-PT

Pipe Threading-Molded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel		✱	✱	
M	Stainless steel		✱	✱	
S	titanium alloy		✱	✱	
H	High hardness materials		✱	✱	
N	Non ferrous metals				

Shape	Model	PITCH tpi	Dimensions(mm)						Solid Carbide Inserts with Coatings			
			A	IC	S	Z	Y	H min	PVD			
										MZE30	MZC25	
Internal	11IRM28BSPT	28	55°	6.35	3.0	0.6	0.6	0.57		●	●	
	11IRM19BSPT	19				0.8	0.9	0.84		●	●	
	11IRM14BSPT	14				0.9	1.0	1.16		●	●	
	16IRM19BSPT	19	55°	9.53	3.5	0.8	0.9	0.84		●	●	
	16IRM14BSPT	14				1.0	1.2	1.16		●	●	
	16IRM11BSPT	11				1.1	1.3	1.48		●	●	
	11IRM27NPT	27	60°	6.35	3.0	0.7	0.8	0.71		●	●	
	11IRM18NPT	18				0.8	1.0	1.04		●	●	
	16IRM18NPT	18	60°	9.53	3.5	0.8	1.0	1.04		●	●	
	16IRM14NPT	14				0.9	1.2	1.38		●	●	
	16IRM11.5NPT	11.5				1.1	1.3	1.67		●	●	
	16IRM08NPT	8				1.3	1.7	2.42		●	●	
	16IRM14NPT-CH	14	60°	9.53	3.5	0.9	1.2	1.25		●	●	
	16IRM11.5NPT-CH	11.5				1.1	1.3	1.56		●	●	
	16IRM08NPT-CH	8				1.3	1.7	2.25		●	●	
	16IRM18NPTF	18	60°	6.35	3.0	0.8	1.0	1.00		●	●	
	16IRM18NPTF	18	60°	9.53	3.5	0.8	1.0	1.00		●	●	
	16IRM14NPTF	14				0.9	1.2	1.35		●	●	
	16IRM11.5NPTF	11.5				1.1	1.3	1.63		●	●	
	16IRM08NPTF	8				1.3	1.7	2.38		●	●	
	16IRM12NPS	12	60°	9.53	3.5	1.1	1.3	1.63		●	●	
	16IRM11.5NPS	11.5						1.71		●	●	
	16IRM09NPS	9				1.2	1.7	2.20		●	●	
	16IRM10APIRD	10	60°	9.53	3.5	1.2	1.3	1.38		●	●	
	16IRM08APIRD	8				1.3	1.7	1.78		●	●	
	16IRM10RD	10	30°	9.53	3.5	1.1	1.2	1.27		●	●	
	16IRM08RD	8				1.4	1.4	1.59		●	●	
	16IRM06RD	6				1.5	1.5	2.12		●	●	
	22IRM04RD	4	30°	12.7	4.7	2.2	2.2	3.18		●	●	



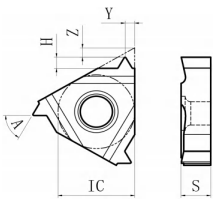
IR-PT

Pipe Threading-Periphery Grounded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel		✱	✱	
M	Stainless steel		✱	✱	
S	titanium alloy		✱	✱	
H	High hardness materials		✱	✱	
N	Non ferrous metals				

Shape	Model	PITCH tpi	Dimensions(mm)						Solid Carbide Inserts with Coatings			
									PVD			合金
			A	IC	S	Z	Y	H min	MZF30	MZE30	MZL25	QD20
Internal	11IR/L28BSPT	28	55°	6.35	3.0	0.6	0.6	0.57	●	●	●	●
	11IR/L19BSPT	19				0.8	0.9	0.84	●	●	●	●
	11IR/L14BSPT	14				0.9	1.0	1.16	●	●	●	●
	16IR/L19BSPT	19	55°	9.53	3.5	0.8	0.9	0.84	●	●	●	●
	16IR/L14BSPT	14				1.0	1.2	1.16	●	●	●	●
	16IR/11BSPT	11				1.1	1.3	1.48	●	●	●	●
	11IR/L27NPT	27	60°	6.35	3.0	0.7	0.8	0.71	●	●	●	●
	11IR/L18NPT	18				0.8	1.0	1.04	●	●	●	●
	16IR/L18NPT	18	60°	9.53	3.5	0.8	1.0	1.04	●	●	●	●
	16IR/L14NPT	14				0.9	1.2	1.38	●	●	●	●
	16IR/L11.5NPT	11.5				1.1	1.3	1.67	●	●	●	●
	16IR/L08NPT	8				1.3	1.7	2.42	●	●	●	●
	16IR/L14NPT-CH	14	60°	9.53	3.5	0.9	1.2	1.25	●	●	●	●
	16IR/L11.5NPT-CH	11.5				1.1	1.3	1.56	●	●	●	●
	16IR/L08NPT-CH	8				1.3	1.7	2.25	●	●	●	●
	11IR/L18NPTF	18	60°	6.35	3.0	0.8	1.0	1.00	●	●	●	●
	16IR/L18NPTF	18	60°	9.53	3.5	0.8	1.0	1.00	●	●	●	●
	16IR/L14NPTF	14				0.9	1.2	1.35	●	●	●	●
	16IR/L11.5NPTF	11.5				1.1	1.3	1.63	●	●	●	●
	16IR/L08NPTF	8				1.3	1.7	2.38	●	●	●	●
	16IR/L12NPS	12	60°	9.53	3.5	1.1	1.3	1.63	●	●	●	●
	16IR/L11.5NPS	11.5						1.71	●	●	●	●
	16IR/L09NPS	9				1.2	1.7	2.20	●	●	●	●
	16IR/L10APIRD	10	60°	9.53	3.5	1.2	1.3	1.38	●	●	●	●
	16IR/L08APIRD	8				1.3	1.7	1.78	●	●	●	●
	16IR/L10RD	10	30°	9.53	3.5	1.1	1.2	1.27	●	●	●	●
	16IR/L08RD	8				1.4	1.4	1.59	●	●	●	●
	16IR/L06RD	6				1.5	1.5	2.12	●	●	●	●
	22IR/L04RD	4	30°	12.7	4.7	2.2	2.2	3.18	●	●	●	●



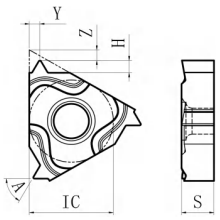
ERM-PT

Pipe Threading-Molded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel		✱	✱	
M	Stainless steel		✱	✱	
S	titanium alloy		✱	✱	
H	High hardness materials		✱	✱	
N	Non ferrous metals				

Shape	Model	PITCH tpi	Dimensions(mm)						Solid Carbide Inserts with Coatings		
			A	IC	S	Z	Y	H min	PVD		
										MZE30	MZC25
External	11IR/L19BSPT	19	55°	9.53	3.5	0.8	0.9	0.84		●	●
	11IR/L14BSPT	14				1.0	1.2	1.16		●	●
	11IR/L11BSPT	11				1.1	1.3	1.48		●	●
	16ERM18NPT	18	60°	9.53	3.5	0.8	1.0	1.04		●	●
	16ERM14NPT	14				0.9	1.2	1.38		●	●
	16ERM11.5NPT	11.5				1.1	1.3	1.67		●	●
	16ERM08NPT	8				1.3	1.7	2.42		●	●
	16ERM14NPT-CH	14	60°	9.53	3.5	0.9	1.2	1.25		●	●
	16ERM11.5NPT-CH	11.5				1.1	1.3	1.56		●	●
	16ERM08NPT-CH	8				1.3	1.7	2.25		●	●
	16ERM18NPTF	18	60°	9.53	3.5	0.8	1.0	1.00		●	●
	16ERM14NPTF	14				0.9	1.2	1.35		●	●
	16ERM11.5NPTF	11.5				1.1	1.3	1.63		●	●
	16ERM08NPTF	8				1.3	1.7	2.38		●	●
	16ERM12NPS	12	60°	9.53	3.5	1.1	1.3	1.63		●	●
	16ERM11.5NPS	11.5						1.71		●	●
	16ERM09NPS	9				1.2	1.7	2.20		●	●
	16ERM10APIRD	10	60°	9.53	3.5	1.2	1.3	2.20		●	●
	16ERM08APIRD	8				1.3	1.7	1.78		●	●
	16ERM10RD	10	30°	9.53	3.5	1.1	1.2	1.27		●	●
	16ERM08RD	8				1.4	1.4	1.59		●	●
	16ERM06RD	6				1.5	1.5	2.12		●	●
	22ERM04RD	4	30°	12.7	4.7	2.2	2.2	3.18		●	●



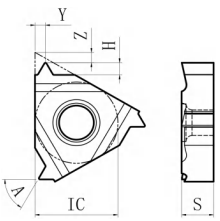
ER-PT

Pipe Threading-Periphery Grounded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱	✱	✱	
M	Stainless steel	✱	✱	✱	
S	titanium alloy	✱	✱	✱	
H	High hardness materials	✱	✱		
N	Non ferrous metals				✱

Shape	Model	PITCH tpi	Dimensions(mm)						Solid Carbide Inserts with Coatings			
									PVD			合金
			A	IC	S	Z	Y	H min	MZE30	MZE30	MZC25	MZE30
External	16ER/L19BSPT	19	55°	9.53	3.5	0.8	0.9	0.84	●	●	●	●
	16ER/L14BSPT	14				1.0	1.2	1.16	●	●	●	●
	16ER/L11BSPT	11				1.1	1.3	1.48	●	●	●	●
	16ER/L27NPT	27	60°	9.53	3.5	0.7	0.8	0.66	●	●	●	●
	16ER/L18NPT	18				0.8	1.0	1.04	●	●	●	●
	16ER/L14NPT	14				0.9	1.2	1.38	●	●	●	●
	16ER/L11.5NPT	11.5				1.1	1.3	1.67	●	●	●	●
	16ER/L08NPT	8				1.3	1.7	2.42	●	●	●	●
	16ER/L14NPT-CH	14	60°	9.53	3.5	0.9	1.2	1.25	●	●	●	●
	16ER/L11.5NPT-CH	11.5				1.1	1.3	1.56	●	●	●	●
	16ER/L08NPT-CH	8				1.3	1.7	2.25	●	●	●	●
	16ER/L18NPTF	18	60°	9.53	3.5	0.8	1.0	1.00	●	●	●	●
	16ER/L14NPTF	14				0.9	1.2	1.35	●	●	●	●
	16ER/L11.5NPTF	11.5				0.9	1.3	1.63	●	●	●	●
	16ER/L08NPTF	8				1.3	1.7	2.38	●	●	●	●
	16ER/L12NPS	12	60°	9.53	3.5	1.1	1.3	1.63	●	●	●	●
	16ER/L11.5NPS	11.5						1.71	●	●	●	●
	16ER/L09NPS	9				1.2	1.7	2.20	●	●	●	●
	16ER/L10APIRD	10	60°	9.53	3.5	1.2	1.3	1.38	●	●	●	●
	16ER/L08APIRD	8				1.3	1.7	1.78	●	●	●	●
	16ER/L10RD	10	30°	9.53	3.5	1.1	1.2	1.27	●	●	●	●
	16ER/L08RD	8				1.4	1.4	1.59	●	●	●	●
	16ER/L06RD	6				1.5	1.5	2.12	●	●	●	●
	22ER/L04RD	4	30°	12.7	4.7	2.2	2.2	3.18	●	●	●	●



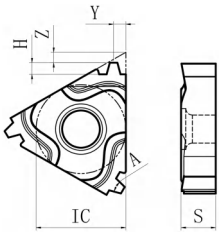
IRM-TP

T Threading-Molded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱			
M	Stainless steel	✱			
S	titanium alloy	✱			
H	High hardness materials	✱			
N	Non ferrous metals				

Shape	Model	PITCH mm	Dimensions(mm)						Solid Carbide Inserts with Coatings			
									PVD			
			A	IC	S	Z	Y	H min	MZC25			
Internal	11IRM1.5TR	1.5	30°	6.35	3.0	1.0	1.1	0.90	●			
	16IRM1.5TR	1.5		9.53	3.5							
	16IRM2.0TR	2.0				1.1	1.3	1.25	●			
	16IRM3.0TR	3.0				1.3	1.5	1.75	●			
	22IRM4.0TR	4.0		12.7	4.7	1.7	1.9	2.25	●			
	22IRM5.0TR	5.0				2.1	2.5	2.75	●			
	22IRM6.0TR	6.0				2.3	2.7	3.50	●			
		PITCH tpi										
	16IRM12ACME	12	29°	9.53	3.5	1.2	1.3	1.19	●			
	16IRM10ACME	10				1.3	1.4	1.52	●			
	16IRM8ACME	8				1.4	1.5	1.84	●			
	22IRM6ACME	6		12.7	4.7	1.8	2.1	2.37	●			
	22IRM5ACME	5				2.0	2.3	2.79	●			
		PITCH tpi										
	16IRM12STACME	12	29°	9.53	3.5	1.1	1.2	0.74	●			
	16IRM10STACME	10				1.2	1.3	1.00	●			
	16IRM8STACME	8				1.4	1.5	1.19	●			
	22IRM6STACME	6		12.7	4.7	1.7	1.8	1.50	●			
	22IRM5STACME	5				2.1	2.3	1.75	●			
	22IRM4STACME	4				2.3	2.3	2.12	●			



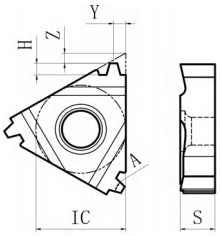
IR-TP

T Threading-Periphery Grounded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱			
M	Stainless steel	✱			
S	titanium alloy	✱			
H	High hardness materials	✱			
N	Non ferrous metals				

Shape	Model	PITCH mm	Dimensions(mm)						Solid Carbide Inserts with Coatings			
									PVD			
			A	IC	S	Z	Y	H min	MZF30			
Internal	11IR/L1.5TR	1.5	30°	6.35	3.0	1.0	1.1	0.90	●			
	16IR/L1.5TR	1.5		9.53	3.5				●			
	16IR/L2.0TR	2.0				1.1	1.3	1.25	●			
	16IR/L3.0TR	3.0				1.3	1.5	1.75	●			
	22IR/L4.0TR	4.0		12.7	4.7	1.7	1.9	2.25	●			
	22IR/L5.0TR	5.0				2.1	2.5	2.75	●			
	22IR/L6.0TR	6.0				2.3	2.7	3.5	●			
	27IR/L6.0TR	6.0		15.88	6.3	2.3	2.7	3.5	●			
	22UI6.0TR	6.0		12.7	4.7	2.0	11	3.5	●			
	22UI7.0TR	7.0				2.3	11	4.0	●			
	22UI8.0TR	8.0				2.6	11	4.5	●			
	27UI9.0TR	9.0		15.88	6.3	3.0	13.7	9.0	●			
		PITCH tpi										
	16IR/L12ACME	12	29°	9.53	3.5	1.2	1.3	1.19	●			
	16IR/L10ACME	10				1.3	1.4	1.52	●			
	16IR/L8ACME	8				1.4	1.5	1.84	●			
	22IR/L6ACME	6		12.7	4.7	1.8	2.1	2.37	●			
	22IR/L5ACME	5				2.0	2.3	2.79	●			
	27IR/L4ACME	4		15.88	6.3	2.3	2.6	3.43	●			
	22UI4ACME	4		12.7	4.7	2.3	11	3.43	●			
	22UI3ACME	3				2.9	11	4.49	●			
		PITCH tpi										
	16IR/L14STACME	14	29°	9.53	3.5	1.0	1.0	0.60	●			
	16IR/L12STACME	12				1.1	1.2	1.00	●			
	16IR/L10STACME	10				1.2	1.3	1.19	●			
	16IR/L8STACME	8				1.4	1.5	1.50	●			
	22IR/L6STACME	6		12.7	4.7	1.7	1.8	1.75	●			
	22IR/L5STACME	5				2.1	2.3	2.12	●			
	22IR/L4STACME	4				2.3	2.3	2.16	●			
	27IR/L3STACME	3		15.88	6.3	2.9	2.9	2.79	●			



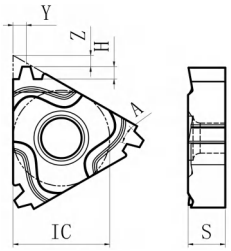
ERM-TP

T Threading-Molded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱			
M	Stainless steel	✱			
S	titanium alloy	✱			
H	High hardness materials	✱			
N	Non ferrous metals				

Shape	Model	PITCH mm	Dimensions(mm)						Solid Carbide Inserts with Coatings			
									PVD			
			A	IC	S	Z	Y	H min	MZC25			
External	11ERM1.5TR	1.5	30°	6.35	3.0	1.0	1.1	0.90	●			
	16ERM1.5TR	1.5		9.53	3.5				●			
	16ERM2.0TR	2.0				1.1	1.3	1.25	●			
	16ERM3.0TR	3.0				1.3	1.5	1.75	●			
	22ERM4.0TR	4.0		12.7	4.7	1.7	1.9	2.25	●			
	22ERM5.0TR	5.0				2.1	2.5	2.75	●			
	22ERM6.0TR	6.0				2.3	2.7	3.50	●			
		PITCH tpi										
	16ERM16ACME	16	29°	9.53	3.5	1.0	1.1	0.92	●			
	16ERM14ACME	14				1.1	1.2	1.03	●			
	16ERM12ACME	12				1.2	1.3	1.19	●			
	16ERM12ACME	10				1.3	1.4	1.52	●			
	16ERM8ACME	8				1.4	1.5	1.84	●			
	22ERM6ACME	6		12.7	4.7	1.8	2.1	2.37	●			
	22ERM5ACME	5				2.0	2.3	2.79	●			
		PITCH tpi										
	16ERM16STACME	16	29°	9.53	3.5	1.0	1.0	0.60	●			
	16ERM14STACME	14				1.1	1.1	0.67	●			
	16ERM12STACME	12				1.2	1.2	0.74	●			
	16ERM10STACME	10				1.2	1.3	1.00	●			
	16ERM8STACME	8				1.4	1.5	1.19	●			
	22ERM6STACME	6		12.7	4.7	1.7	1.8	1.50	●			
	22ERM5STACME	5				2.1	2.3	1.75	●			
	22ERM4STACME	4				2.3	2.3	2.12	●			



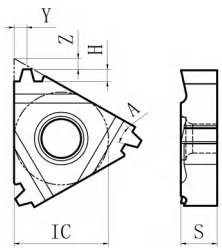
ER-TP

T Threading-Periphery Grounded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱			
M	Stainless steel	✱			
S	titanium alloy	✱			
H	High hardness materials	✱			
N	Non ferrous metals				

Shape	Model	PITCH mm	Dimensions(mm)						Solid Carbide Inserts with Coatings			
									PVD			
			A	IC	S	Z	Y	H min	MZF30			
External	11ER/L1.5TR	1.5	30°	6.35	3.0	1.0	1.1	0.90	●			
	16ER/L1.5TR	1.5		9.53	3.5				●			
	16ER/L2.0TR	2.0				1.1	1.3	1.25	●			
	16ER/L3.0TR	3.0				1.3	1.5	1.75	●			
	22ER/L4.0TR	4.0		12.7	4.7	1.7	1.9	2.25	●			
	22ER/L5.0TR	5.0				2.1	2.5	2.75	●			
	22ER/L6.0TR	6.0				2.3	2.7	3.50	●			
		PITCH tpi										
	16ER/L16ACME	16	29°	9.53	3.5	1.0	1.1	0.92	●			
	16ER/L14ACME	14				1.1	1.2	1.03	●			
	16ER/L12ACME	12				1.2	1.3	1.19	●			
	16ER/L10ACME	10				1.3	1.4	1.52	●			
	16ER/L8ACME	8				1.4	1.5	1.84	●			
	22ER/L6ACME	6		12.7	4.7	1.8	2.1	2.37	●			
	22ER/L5ACME	5				2.0	2.3	2.79	●			
		PITCH tpi										
	16ER/L16STACME	16	29°	9.53	3.5	1.0	1.0	0.60	●			
	16ER/L14STACME	14				1.1	1.1	0.67	●			
	16ER/L12STACME	12				1.2	1.2	0.74	●			
	16ER/L10STACME	10				1.2	1.3	1.00	●			
	16ER/L8STACME	8				1.4	1.5	1.19	●			
	22ER/L6STACME	6		12.7	4.7	1.7	1.8	1.50	●			
	22ER/L5STACME	5				2.1	2.3	1.75	●			
	22ER/L4STACME	4				2.3	2.3	2.12	●			

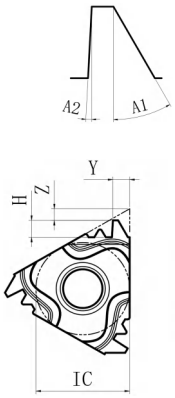


IRM-ST

Serrated Threading-Molded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱			
M	Stainless steel	✱			
S	titanium alloy	✱			
H	High hardness materials	✱			
N	Non ferrous metals				

Shape	Model	PITCH mm	Dimensions(mm)						Solid Carbide Inserts with Coatings			
									PVD			
			A1/A2	IC	S	Z	Y	H min	MZC25			
Internal	16IRM2.0SAGE	2.0	30°/3°	9.53	3.5	1.2	1.7	1.74	●			
	22IRM3.0SAGE	3.0		12.7	4.7	1.9	2.9	2.60	●			
	22IRM4.0SAGE	4.0				2.3	3.5	3.55	●			
		PITCH tpi										
	11IRM20ABUT	20	45°/7°	6.35	3.0	1.0	1.4	0.84	●			
	11IRM16ABUT	16				1.3	1.9	1.05	●			
	16IRM20ABUT	20		9.53	3.5	1.0	1.4	0.84	●			
	16IRM16ABUT	16				1.3	1.9	1.05	●			
	16IRM12ABUT	12				1.4	2.0	1.40	●			
	16IRM10ABUT	10				1.5	2.3	1.68	●			
	22IRM08ABUT	8		12.7	4.7	2.0	3.2	2.1	●			
	22IRM06ABUT	6				2.2	3.5	2.8	●			
		PITCH tpi										
	16IRM16BBUT	16	45°/7°	9.53	3.5	1.1	1.6	0.80	●			
	16IRM12BBUT	12				1.4	2.1	1.07	●			
	16IRM10BBUT	10				1.5	2.2	1.28	●			
	16IRM08BBUT	8				2.0	2.5	1.61	●			

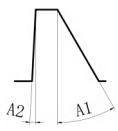
IR-ST

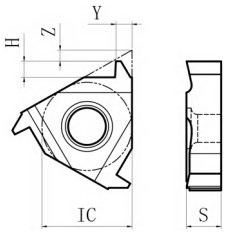
Serrated Threading-Periphery Grounded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱			
M	Stainless steel	✱			
S	titanium alloy	✱			
H	High hardness materials	✱			
N	Non ferrous metals				

Shape	Model	PITCH mm	Dimensions(mm)						Solid Carbide Inserts with Coatings			
									PVD			
			A1/A2	IC	S	Z	Y	H min	MZF30			
Internal	16IR/L2.0SAGE	2.0	30°/3°	9.53	3.5	1.2	1.7	1.74	●			
	22IR/L3.0SAGE	3.0		12.7	4.7	1.9	2.9	2.60	●			
	22IR/L4.0SAGE	4.0				2.3	3.5	3.55	●			
		PITCH tpi										
	11IR/L20ABUT	20	45°/7°	6.35	3.0	1.0	1.4	0.84	●			
	11IR/L16ABUT	16				1.3	1.9	1.05	●			
	16IR/L20ABUT	20		9.53	3.5	1.0	1.4	0.84	●			
	16IR/L16ABUT	16				1.3	1.9	1.05	●			
	16IR/L12ABUT	12				1.4	2.0	1.40	●			
	16IR/L10ABUT	10				1.5	2.3	1.68	●			
	22IR/L08ABUT	8		12.7	4.7	2.0	3.2	2.1	●			
	22IR/L06ABUT	6				2.2	3.5	2.8	●			
		PITCH tpi										
	16IR/L16BBUT	16	45°/7°	9.53	3.5	1.1	1.6	0.80	●			
	16IR/L12BBUT	12				1.4	2.1	1.07	●			
	16IR/L10BBUT	10				1.5	2.2	1.28	●			
	16IR/L08BBUT	8				2.0	2.5	1.61	●			





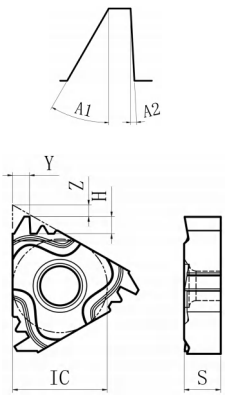
ERM-ST

Serrated Threading-Molded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱				
M	Stainless steel	✱				
S	titanium alloy	✱				
H	High hardness materials	✱				
N	Non ferrous metals					

Shape	Model	PITCH mm	Dimensions(mm)						Solid Carbide Inserts with Coatings			
									PVD			
			A1/A2	IC	S	Z	Y	H min	MZC25			
External	16ERM2.0SAGE	2.0	30°/3°	9.53	3.5	1.2	1.7	1.74				
	22ERM3.0SAGE	3.0		12.7	4.7	1.9	2.9	2.60	●			
	22ERM4.0SAGE	4.0				2.3	3.5	3.55	●			
		PITCH tpi										
	11ERM20ABUT	20	45°/7°	6.35	3.0	1.0	1.4	0.84	●			
	11ERM16ABUT	16				1.3	1.9	1.05	●			
	16ERM20ABUT	20		9.53	3.5	1.0	1.4	0.84	●			
	16ERM16ABUT	16				1.3	1.9	1.05	●			
	16ERM12ABUT	12				1.4	2.0	1.40	●			
	16ERM10ABUT	10				1.5	2.3	1.68	●			
	22ERM08ABUT	8		12.7	4.7	2.0	3.2	2.1	●			
	22ERM06ABUT	6				2.2	3.5	2.8	●			
		PITCH tpi										
	16ERM16BBUT	16	45°/7°	9.53	3.5	1.1	1.6	0.80	●			
	16ERM12BBUT	12				1.4	2.1	1.07	●			
	16ERM10BBUT	10				1.5	2.2	1.28	●			
	16ERM08BBUT	8				2.0	2.5	1.61	●			



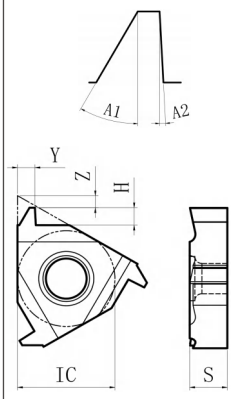
ER-ST

Serrated Threading -Periphery Grounded

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel	✱			
M	Stainless steel	✱			
S	titanium alloy	✱			
H	High hardness materials	✱			
N	Non ferrous metals				

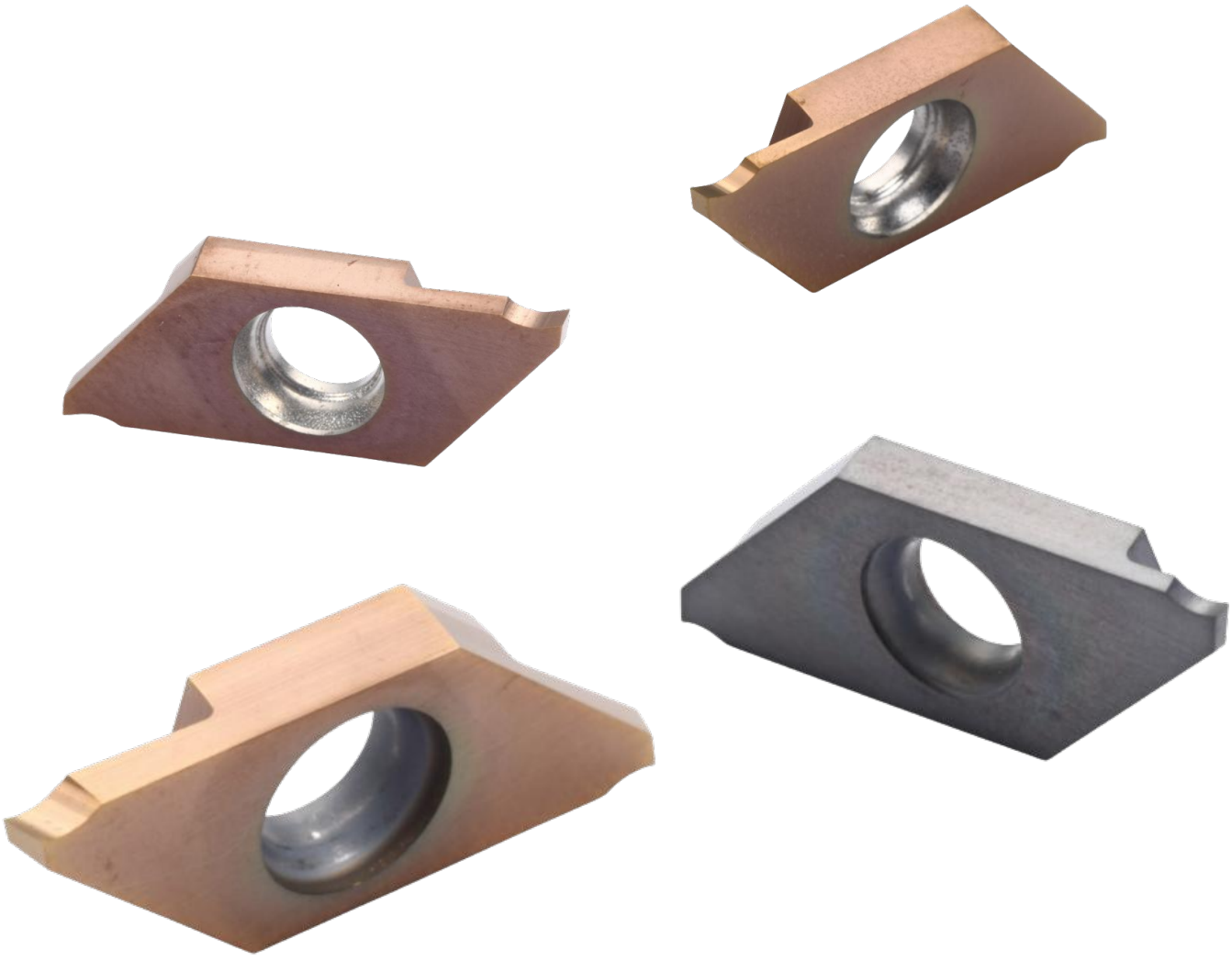
Shape	Model	PITCH mm	Dimensions(mm)						Solid Carbide Inserts with Coatings			
									PVD			
			A1/A2	IC	S	Z	Y	H min	MZF30			
External	16ER/L2.0SAGE	2.0	30°/3°	9.53	3.5	1.2	1.7	1.74	●			
	22ER/L3.0SAGE	3.0		12.7	4.7	1.9	2.9	2.60	●			
	22ER/L4.0SAGE	4.0				2.3	3.5	3.55	●			
		PITCH tpi										
	11ER/L20ABUT	20	45°/7°	6.35	3.0	1.0	1.4	0.84	●			
	11ER/L16ABUT	16				1.3	1.9	1.05	●			
	16ER/L20ABUT	20		9.53	3.5	1.0	1.4	0.84	●			
	16ER/L16ABUT	16				1.3	1.9	1.05	●			
	16ER/L12ABUT	12				1.4	2.0	1.40	●			
	16ER/L10ABUT	10				1.5	2.3	1.68	●			
	22ER/L08ABUT	8		12.7	4.7	2.0	3.2	2.1	●			
	22ER/L06ABUT	6				2.2	3.5	2.8	●			
		PITCH tpi										
	16ER/L16BBUT	16	45°/7°	9.53	3.5	1.1	1.6	0.80	●			
	16ER/L12BBUT	12				1.4	2.1	1.07	●			
	16ER/L10BBUT	10				1.5	2.2	1.28	●			
	16ER/L08BBUT	8				2.0	2.5	1.61	●			



PARTING & GROOVING INSERTS

edison@preciturntools.com

https://www.preciturntools.com



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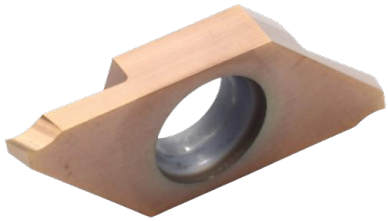
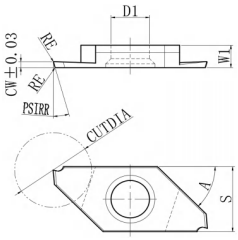
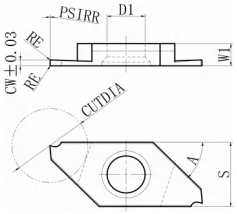


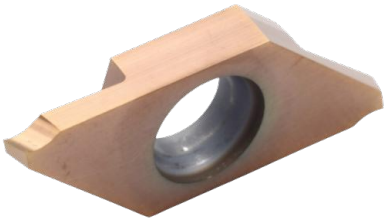
Use taxonomies	
●	: First choice/continuous cutting
○	: Option/continuous cutting
◐	: light interrupted cutting
✱	: interrupted cutting

P	Carbon steel/alloy steel			◐		◐		●					◐
M	Stainless steel	◐		●		●		◐					●
K	Cast iron	●				○		●					
N	Non ferrous metals	○				○							
S	titanium alloy	○				●		●					

Shape	Model	Dimensions(mm)								PVD Coated											
		CW	a	RE	w1	S	D1	PSIRA	A	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
	QKF12R/L-050-S-A1516R	0.5	0.5	0	3	8.7	5	16°	45°	□		□		□		□					□
	QKF12R/L-060-S-A1516R	0.6	8.0							□		□		□		□					□
	QKF12R/L-070-S-A1516R	0.7								□		□		□		□					□
	QKF12R/L-080-S-A1516R	0.8								○		●		●		●					●
	QKF12R/L-090-S-A1516R	0.9								□		□		□		□					□
	QKF12R/L-100-S-A1516R	1.0	12.0							○		●		●		●					●
	QKF12R/L-110-S-A1516R	1.1								□		□		□		□					□
	QKF12R/L-120-S-A1516R	1.2								○		●		●		●					●
	QKF12R/L-130-S-A1516R	1.3								□		□		□		□					□
	QKF12R/L-140-S-A1516R	1.4								□		□		□		□					□
	QKF12R/L-150-S-A1516R	1.5								○		●		●		●					●
	QKF12R/L-160-S-A1516R	1.6								□		□		□		□					□
	QKF12R/L-170-S-A1516R	1.7								□		□		□		□					□
	QKF12R/L-180-S-A1516R	1.8								□		□		□		□					□
	QKF12R/L-190-S-A1516R	1.9								□		□		□		□					□
	QKF12R/L-200-S-A1516R	2.0								○		●		●		●					●
	QKF12R/L-050-S-A1500R	0.5	5.0	0	3	8.7	5	0°	45°	□		□		□		□					□
	QKF12R/L-060-S-A1500R	0.6	8.0							□		□		□		□					□
	QKF12R/L-070-S-A1500R	0.7								□		□		□		□					□
	QKF12R/L-080-S-A1500R	0.8								○		●		●		●					●
	QKF12R/L-090-S-A1500R	0.9								□		□		□		□					□
	QKF12R/L-100-S-A1500R	1.0	12.0							○		●		●		●					●
	QKF12R/L-110-S-A1500R	1.1								□		□		□		□					□
	QKF12R/L-120-S-A1500R	1.2								○		●		●		●					●
	QKF12R/L-130-S-A1500R	1.3								□		□		□		□					□
	QKF12R/L-140-S-A1500R	1.4								□		□		□		□					□
	QKF12R/L-150-S-A1500R	1.5								○		●		●		●					●
	QKF12R/L-160-S-A1500R	1.6								□		□		□		□					□
	QKF12R/L-170-S-A1500R	1.7								□		□		□		□					□
	QKF12R/L-180-S-A1500R	1.8								□		□		□		□					□
	QKF12R/L-190-S-A1500R	1.9								□		□		□							□
	QKF12R/L-200-S-A1500R	2.0								○		●		●		●					●

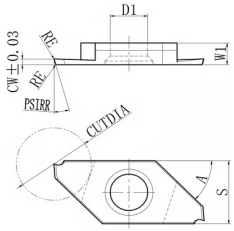
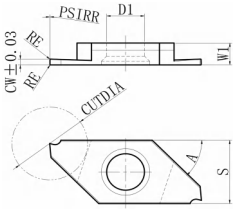
●:First choice ○:Option □:Customized

QKF12



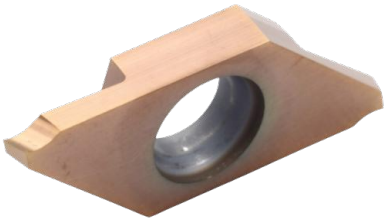
Use taxonomies	
●	: First choice/continuous cutting
○	: Option/continuous cutting
◐	: light interrupted cutting
✱	: interrupted cutting

P	Carbon steel/alloy steel			◐		◐		●					◐
M	Stainless steel	◐		●		●		◐					●
K	Cast iron	●				○		●					
N	Non ferrous metals	○				○							
S	titanium alloy	○				●		●					

Shape	Model	Dimensions(mm)								PVD Coated											
		CW	a	RE	w1	S	D1	PSIRA	A	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
	QKF12 R/L-050-E-A1516R	0.5	0.5	0.08	3	8.7	5	16°	45°	□		□		□		□					□
	QKF12 R/L-060-E-A1516R	0.6	8.0							□		□		□		□					□
	QKF12 R/L-070-E-A1516R	0.7								□		□		□		□					□
	QKF12 R/L-080-E-A1516R	0.8								○		●		●		●					●
	QKF12 R/L-090-E-A1516R	0.9								□		□		□		□					□
	QKF12 R/L-100-E-A1516R	1.0	12.0							○		●		●		●					●
	QKF12 R/L-110-E-A1516R	1.1								□		□		□		□					□
	QKF12 R/L-120-E-A1516R	1.2								○		●		●		●					●
	QKF12 R/L-130-E-A1516R	1.3								□		□		□		□					□
	QKF12 R/L-140-E-A1516R	1.4								□		□		□		□					□
	QKF12 R/L-150-E-A1516R	1.5								○		●		●		●					●
	QKF12 R/L-160-E-A1516R	1.6								□		□		□		□					□
	QKF12 R/L-170-E-A1516R	1.7								□		□		□		□					□
	QKF12 R/L-180-E-A1516R	1.8								□		□		□		□					□
	QKF12 R/L-190-E-A1516R	1.9								□		□		□		□					□
	QKF12 R/L-200-E-A1516R	2.0								○		●		●		●					●
	QKF12 R/L-050-E-A1500R	0.5	5.0	0.08	3	8.7	5	0°	45°	□		□		□		□					□
	QKF12 R/L-060-E-A1500R	0.6	8.0							□		□		□		□					□
	QKF12 R/L-070-E-A1500R	0.7								□		□		□		□					□
	QKF12 R/L-080-E-A1500R	0.8								○		●		●		●					●
	QKF12 R/L-090-E-A1500R	0.9								□		□		□		□					□
	QKF12 R/L-100-E-A1500R	1.0	12.0							○		●		●		●					●
	QKF12 R/L-110-E-A1500R	1.1								□		□		□		□					□
	QKF12 R/L-120-E-A1500R	1.2								○		●		●		●					●
	QKF12 R/L-130-E-A1500R	1.3								□		□		□		□					□
	QKF12 R/L-140-E-A1500R	1.4								□		□		□		□					□
	QKF12 R/L-150-E-A1500R	1.5								○		●		●		●					●
	QKF12 R/L-160-E-A1500R	1.6								□		□		□		□					□
	QKF12 R/L-170-E-A1500R	1.7								□		□		□		□					□
	QKF12 R/L-180-E-A1500R	1.8								□		□		□		□					□
	QKF12 R/L-190-E-A1500R	1.9								□		□		□		□					□
	QKF12 R/L-200-E-A1500R	2.0								○		●		●		●					●

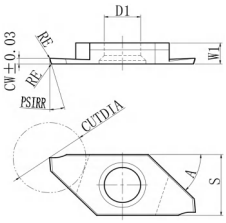
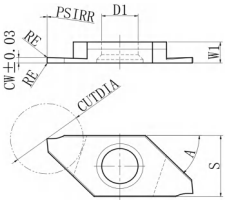
●:First choice ○:Option □:Customized

QKF12



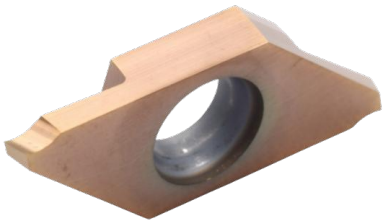
Use taxonomies	
●	: First choice/continuous cutting
○	: Option/continuous cutting
◐	: light interrupted cutting
✱	: interrupted cutting

P	Carbon steel/alloy steel			◐		◐		●					◐
M	Stainless steel	◐		●		●		◐					●
K	Cast iron	●				○		●					
N	Non ferrous metals	○				○							
S	titanium alloy	○				●		●					

Shape	Model	Dimensions(mm)								PVD Coated											
		CW	a	RE	w1	S	D1	PSIRA	A	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
	QKF12 R/L-050-F-A1516R	0.5	0.5	0.03	3	8.7	5	16°	45°	□		□		□		□					□
	QKF12 R/L-060-F-A1516R	0.6	8.0							□		□		□		□					□
	QKF12 R/L-070-E-A1516R	0.7								□		□		□		□					□
	QKF12 R/L-080-E-A1516R	0.8								○		●		●		●					●
	QKF12 R/L-090-E-A1516R	0.9								□		□		□		□					□
	QKF12 R/L-100-E-A1516R	1.0	12.0							○				●		●					●
	QKF12 R/L-110-E-A1516R	1.1								□		□		□		□					□
	QKF12 R/L-120-E-A1516R	1.2								○		●		●		●					●
	QKF12 R/L-130-E-A1516R	1.3								□		□		□		□					□
	QKF12 R/L-140-E-A1516R	1.4								□		□		□		□					□
	QKF12 R/L-150-E-A1516R	1.5								○		●		●		●					●
	QKF12 R/L-160-E-A1516R	1.6								□		□		□		□					□
	QKF12 R/L-170-E-A1516R	1.7								□		□		□		□					□
	QKF12 R/L-180-E-A1516R	1.8								□		□		□		□					□
	QKF12 R/L-190-E-A1516R	1.9								□		□		□		□					□
	QKF12 R/L-200-E-A1516R	2.0								○		●		●		●					●
	QKF12 R/L-050-F-A1500R	0.5	5.0	0.03	3	8.7	5	0°	45°	□		□		□		□					□
	QKF12 R/L-060-E-A1500R	0.6	8.0							□		□		□		□					□
	QKF12 R/L-070-E-A1500R	0.7								□		□		□		□					□
	QKF12 R/L-080-E-A1500R	0.8								○		●		●		●					●
	QKF12 R/L-090-E-A1500R	0.9								□		□		□		□					□
	QKF12 R/L-100-E-A1500R	1.0	12.0							○		●		●		●					●
	QKF12 R/L-110-E-A1500R	1.1								□		□		□		□					□
	QKF12 R/L-120-E-A1500R	1.2								○		●		●		●					●
	QKF12 R/L-130-E-A1500R	1.3								□		□		□		□					□
	QKF12 R/L-140-E-A1500R	1.4								□		□		□		□					□
	QKF12 R/L-150-E-A1500R	1.5								○		●		●		●					●
	QKF12 R/L-160-E-A1500R	1.6								□		□		□		□					□
	QKF12 R/L-170-E-A1500R	1.7								□		□		□		□					□
	QKF12 R/L-180-E-A1500R	1.8								□		□		□		□					□
	QKF12 R/L-190-E-A1500R	1.9								□		□		□		□					□
	QKF12 R/L-200-E-A1500R	2.0								○		●		●		●					●

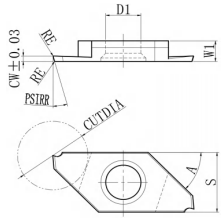
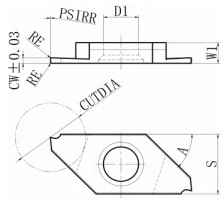
●:First choice ○:Option □:Customized

QKF16



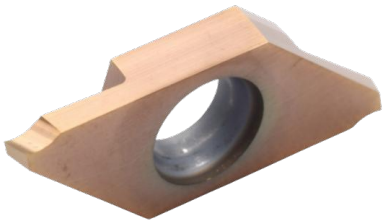
Use taxonomies	
●	: First choice/continuous cutting
○	: Option/continuous cutting
◐	: light interrupted cutting
✱	: interrupted cutting

P	Carbon steel/alloy steel			◐		◐		●					◐
M	Stainless steel	◐		●		●		◐					●
K	Cast iron	●				○		●					
N	Non ferrous metals	○				○							
S	titanium alloy	○				●		●					

Shape	Model	Dimensions(mm)								PVD Coated											
		CW	CUTDIA	RE	w1	S	D1	PSIRA	A	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
	QKF16R/L-050-S-A1516R	0.5	0.5	0	4	9.5	5	16°	45°	□		□		□		□					□
	QKF16R/L-060-S-A1516R	0.6	8.0							□		□		□		□					□
	QKF16R/L-070-S-A1516R	0.7								□		□		□		□					□
	QKF16R/L-080-S-A1516R	0.8								□		□		□		□					□
	QKF16R/L-090-S-A1516R	0.9								□		□		□		□					□
	QKF16R/L-100-S-A1516R	1.0	12.0							○		●		●		●					●
	QKF16R/L-110-S-A1516R	1.1								□		□		□		□					□
	QKF16R/L-120-S-A1516R	1.2								□		□		□		□					□
	QKF16R/L-130-S-A1516R	1.3								□		□		□		□					□
	QKF16R/L-140-S-A1516R	1.4								□		□		□		□					□
	QKF16R/L-150-S-A1516R	1.5	16.0							○		●		●		●					●
	QKF16R/L-160-S-A1516R	1.6								□		□		□		□					□
	QKF16R/L-170-S-A1516R	1.7								□		□		□		□					□
	QKF16R/L-180-S-A1516R	1.8								□		□		□		□					□
	QKF16R/L-190-S-A1516R	1.9								□		□		□		□					□
	QKF16R/L-200-S-A1516R	2.0								○		●		●		●					●
	QKF16 R/L-050-S-A1500R	0.5	5.0	0	4	9.5	5	0°	45°	□		□		□		□					□
	QKF16 R/L-060-S-A1500R	0.6	8.0							□		□		□		□					□
	QKF16 R/L-070-S-A1500R	0.7								□		□		□		□					□
	QKF16 R/L-080-S-A1500R	0.8								□		□		□		□					□
	QKF16 R/L-090-S-A1500R	0.9								□		□		□		□					□
	QKF16 R/L-100-S-A1500R	1.0	12.0							○		●		●		●					●
	QKF16 R/L-110-S-A1500R	1.1								□		□		□		□					□
	QKF16 R/L-120-S-A1500R	1.2								□		□		□		□					□
	QKF16 R/L-130-S-A1500R	1.3								□		□		□		□					□
	QKF16 R/L-140-S-A1500R	1.4								□		□		□		□					□
	QKF16 R/L-150-S-A1500R	1.5	16.0							○		●		●		●					●
	QKF16 R/L-160-S-A1500R	1.6								□		□		□		□					□
	QKF16 R/L-170-S-A1500R	1.7								□		□		□		□					□
	QKF16 R/L-180-S-A1500R	1.8								□		□		□		□					□
	QKF16 R/L-190-S-A1500R	1.9								□		□		□		□					□
	QKF16 R/L-200-S-A1500R	2.0								○		●		●		●					●

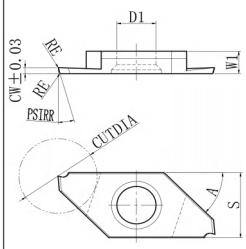
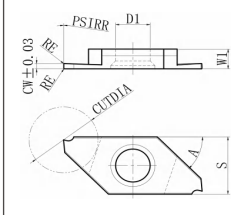
●:First choice ○:Option □:Customized

QKF16



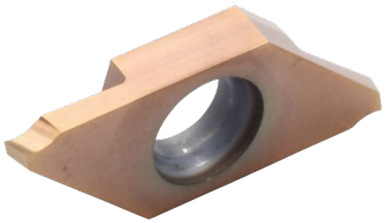
Use taxonomies	
●	: First choice/continuous cutting
○	: Option/continuous cutting
◐	: light interrupted cutting
✱	: interrupted cutting

P	Carbon steel/alloy steel			◐		◐		●					◐
M	Stainless steel	◐		●		●		◐					●
K	Cast iron	●				○		●					
N	Non ferrous metals	○				○							
S	titanium alloy	○				●		●					

Shape	Model	Dimensions(mm)								PVD Coated											
		CW	CUTDIA	RE	w1	S	D1	PSIRA	A	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
	QKF16 R/L-050-E-A1516R	0.5	0.5	0.08	4	9.5	5	16°	45°	□		□		□		□					□
	QKF16 R/L-060-E-A1516R	0.6	8.0							□		□		□		□					□
	QKF16 R/L-070-E-A1516R	0.7								□		□		□		□					□
	QKF16 R/L-080-E-A1516R	0.8								□		□		□		□					□
	QKF16 R/L-090-E-A1516R	0.9								□		□		□		□					□
	QKF16 R/L-100-E-A1516R	1.0	12.0							○		●		●		●					●
	QKF16 R/L-110-E-A1516R	1.1								□		□		□		□					□
	QKF16 R/L-120-E-A1516R	1.2								□		□		□		□					□
	QKF16 R/L-130-E-A1516R	1.3								□		□		□		□					□
	QKF16 R/L-140-E-A1516R	1.4								□		□		□		□					□
	QKF16 R/L-150-E-A1516R	1.5	16.0							○		●		●		●					●
	QKF16 R/L-160-E-A1516R	1.6								□		□		□		□					□
	QKF16 R/L-170-E-A1516R	1.7								□		□		□		□					□
	QKF16 R/L-180-E-A1516R	1.8								□		□		□		□					□
	QKF16 R/L-190-E-A1516R	1.9								□		□		□		□					□
	QKF16 R/L-200-E-A1516R	2.0								○		●		●		●					●
	QKF16 R/L-050-E-A1500R	0.5	5.0	0.08	4	9.5	5	0°	45°	□		□		□		□					□
	QKF16 R/L-060-E-A1500R	0.6	8.0							□		□		□		□					□
	QKF16 R/L-070-E-A1500R	0.7								□		□		□		□					□
	QKF16 R/L-080-E-A1500R	0.8								□		□		□		□					□
	QKF16 R/L-090-E-A1500R	0.9								□		□		□		□					□
	QKF16 R/L-100-E-A1500R	1.0	12.0							○		●		●		●					●
	QKF16 R/L-110-E-A1500R	1.1								□		□		□		□					□
	QKF16 R/L-120-E-A1500R	1.2								□		□		□		□					□
	QKF16 R/L-130-E-A1500R	1.3								□		□		□		□					□
	QKF16 R/L-140-E-A1500R	1.4								□		□		□		□					□
	QKF16 R/L-150-E-A1500R	1.5	16.0							○		●		●		●					●
	QKF16 R/L-160-E-A1500R	1.6								□		□		□		□					□
	QKF16 R/L-170-E-A1500R	1.7								□		□		□		□					□
	QKF16 R/L-180-E-A1500R	1.8								□		□		□		□					□
	QKF16 R/L-190-E-A1500R	1.9								□		□		□		□					□
	QKF16 R/L-200-E-A1500R	2.0								○		●		●		●					●

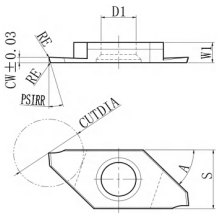
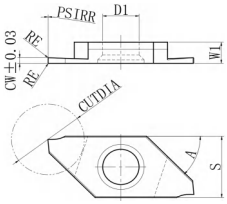
●:First choice ○:Option □:Customized

QKF16



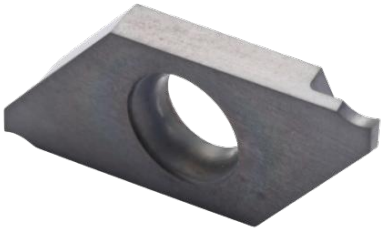
Use taxonomies	
●	: First choice/continuous cutting
○	: Option/continuous cutting
◐	: light interrupted cutting
✱	: interrupted cutting

P	Carbon steel/alloy steel			◐		◐		●					◐
M	Stainless steel	◐		●		●		◐					●
K	Cast iron	●				○		●					
N	Non ferrous metals	○				○							
S	titanium alloy	○				●		●					

Shape	Model	Dimensions(mm)								PVD Coated											
		CW	CUTDIA	RE	w1	S	D1	PSIRA	A	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
	QKF16 R/L-050-F-A1516R	0.5	0.5	0.03	4	9.5	5	16°	45°	□		□		□		□					□
	QKF16 R/L-060-F-A1516R	0.6	8.0							□		□		□		□					□
	QKF16 R/L-070-F-A1516R	0.7								□		□		□		□					□
	QKF16 R/L-080-F-A1516R	0.8								□		□		□		□					□
	QKF16 R/L-090-F-A1516R	0.9								□		□		□		□					□
	QKF16 R/L-100-F-A1516R	1.0	12.0							○		●		●		●					●
	QKF16 R/L-110-F-A1516R	1.1								□		□		□		□					□
	QKF16 R/L-120-F-A1516R	1.2								□		□		□		□					□
	QKF16 R/L-130-F-A1516R	1.3								□		□		□		□					□
	QKF16 R/L-140-F-A1516R	1.4								□		□		□		□					□
	QKF16 R/L-150-F-A1516R	1.5	16.0							○		●		●		●					●
	QKF16 R/L-160-F-A1516R	1.6								□		□		□		□					□
	QKF16 R/L-170-F-A1516R	1.7								□		□		□		□					□
	QKF16 R/L-180-F-A1516R	1.8								□		□		□		□					□
	QKF16 R/L-190-F-A1516R	1.9								□		□		□		□					□
	QKF16 R/L-200-F-A1516R	2.0								○		●		●		●					●
	QKF16 R/L-050-F-A1500R	0.5	5.0	0.03	4	9.5	5	0°	45°	□		□		□		□					□
	QKF16 R/L-060-F-A1500R	0.6	8.0							□		□		□		□					□
	QKF16 R/L-070-F-A1500R	0.7								□		□		□		□					□
	QKF16 R/L-080-F-A1500R	0.8								□		□		□		□					□
	QKF16 R/L-090-F-A1500R	0.9								□		□		□		□					□
	QKF16 R/L-100-F-A1500R	1.0	12.0							○		●		●		●					●
	QKF16 R/L-110-F-A1500R	1.1								□		□		□		□					□
	QKF16 R/L-120-F-A1500R	1.2								□		□		□		□					□
	QKF16 R/L-130-F-A1500R	1.3								□		□		□		□					□
	QKF16 R/L-140-F-A1500R	1.4								□		□		□		□					□
	QKF16 R/L-150-F-A1500R	1.5	16.0							○		●		●		●					●
	QKF16 R/L-160-F-A1500R	1.6								□		□		□		□					□
	QKF16 R/L-170-F-A1500R	1.7								□		□		□		□					□
	QKF16 R/L-180-F-A1500R	1.8								□		□		□		□					□
	QKF16 R/L-190-F-A1500R	1.9								□		□		□		□					□
	QKF16 R/L-200-F-A1500R	2.0								○		●		●		●					●

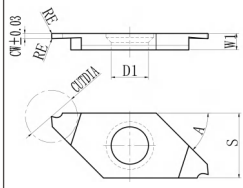
●:First choice ○:Option □:Customized

QKFS



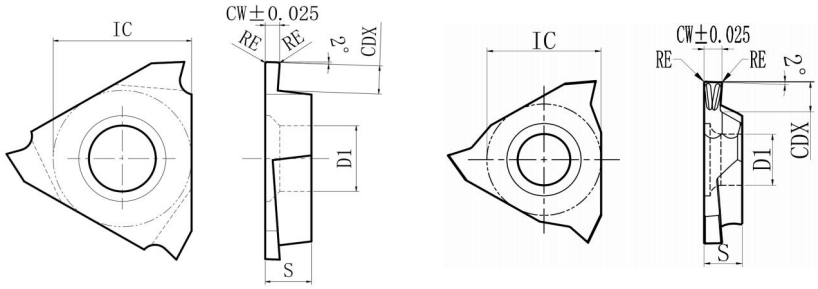
Use taxonomies	
●	: First choice/continuous cutting
○	: Option/continuous cutting
◐	: light interrupted cutting
✱	: interrupted cutting

P	Carbon steel/alloy steel	○		●		●		◐	
M	Stainless steel	●		◐	●	○		●	●
K	Cast iron			○				○	
N	Non ferrous metals			○					○
S	titanium alloy	○		●		○		●	

Shape	Model	Dimensions(mm)							PVD Coated							
		CW	CUTDIA	RE	w1	S	D1	A	BDG20	BAG20	SSG20	PAG20	BDG25	BAG25	SSG25	PAG20
	QKFS12L-050-S-A1500R	0.5	0.5	9.0	2.2	8.7	4.4	45°	□		□	□	□		□	□
	QKFS12L-060-S-A1500R	0.6	6.0						□		□	□	□		□	□
	QKFS12L-070-S-A1500R	0.7							□		□	□	□		□	□
	QKFS12L-080-S-A1500R	0.8							○		●	○	○		●	○
	QKFS12L-090-S-A1500R	0.9							□		□	□	□		□	□
	QKFS12L-100-S-A1500R	1.0							○		●	○	○		●	○
	QKFS12L-1110-S-A1500R	1.1	9.0						□		□	□	□		□	□
	QKFS12L-120-S-A1500R	1.2							○		●	○	○		●	○
	QKFS12L-130-S-A1500R	1.3							□		□	□	□		□	□
	QKFS12L-140-S-A1500R	1.4							□		□	□	□		□	□
	QKFS12L-150-S-A1500R	1.5							○		●	○	○		●	○
	QKFS12L-160-S-A1500R	1.6	12.0						□		□	□	□		□	□
	QKFS12L-170-S-A1500R	1.7							□		□	□	□		□	□
	QKFS12L-180-S-A1500R	1.8							□		□	□	□		□	□
	QKFS12L-190-S-A1500R	1.9							□		□	□	□		□	□
	QKFS12L-200-S-A1500R	2.0							○		●	○	○		●	○

●:First choice ○:Option □:Customized

QGF



Model	IC	S	D1
QGF32_	9.525	3.18	4.6

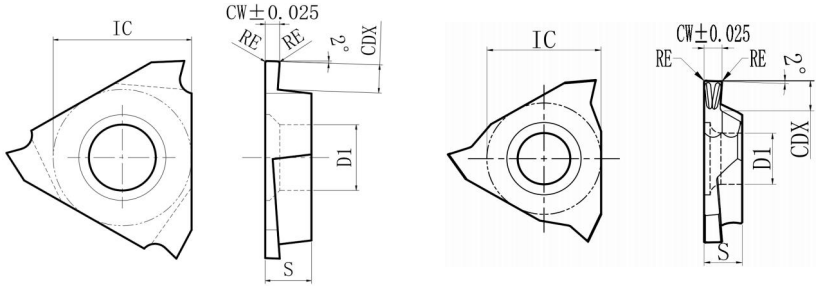
Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◖ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel			◖		◖	●	●					◖
M	Stainless steel	◖		●				◖	●				●
K	Cast iron	●				○	●	●	○				
N	Non ferrous metals	○				○			●				
S	titanium alloy	○				●		●	○				

Shape	Model	Dimensions(mm)			PVD Coated											
		CW	CDX	RE	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
	QGF32R/L-020-005	0.2	0.6	0.05	□		□		□		□					□
	QGF32R/L-030-005	0.3	0.8		□		□		□		□					□
	QGF32R/L-040-005	0.4			□		□		□		□					□
	QGF32R/L-050-005	0.5			○		●		○		●					●
	QGF32R/L-060-005	0.6	1.2		○		●		○		●					●
	QGF32R/L-070-010	0.7	2.0		○		●		○		●					●
	QGF32R/L-075-010	0.75		0.1	○		●		○		●					●
	QGF32R/L-080-010	0.8			□		□		□		□					□
	QGF32R/L-090-010	0.9			□		□		□		□					□
	QGF32R/L-095-010	0.95			□		□		□		□					□
	QGF32R/L-100-010	1.0			○		●		○		●					●
	QGF32R/L-110-010	1.1			□		□		□		□					□
	QGF32R/L-120-010	1.2			○		●		○		●					●
	QGF32R/L-125-010	1.25			□		□		□		□					□
	QGF32R/L-130-010	1.3			□		□		□		□					□
	QGF32R/L-140-010	1.4			□		□		□		□					□
	QGF32R/L-145-010	1.45			□		□		□		□					□
	QGF32R/L-150-010	1.5			○		●		○		●					●
	QGF32R/L-160-010	1.6			□		□		□		□					□
	QGF32R/L-170-010	1.7			□		□		□		□					□
	QGF32R/L-175-010	1.75			○		●		○		●					●
	QGF32R/L-180-010	1.8			□		□		□		□					□
	QGF32R/L-190-010	1.9			□		□		□		□					□
	QGF32R/L-200-010	2.0	2.5		○		●		○		●					●
	QGF32R/L-210-010	2.1			□		□		□		□					□
	QGF32R/L-220-010	2.2			○		●		○		●					●
	QGF32R/L-230-010	2.3			□		□		□		□					□
	QGF32R/L-240-010	2.4			□		□		□		□					□
	QGF32R/L-250-010	2.5			○		●		○		●					●

●:First choice ○:Option □:Customized

QGF



Model	IC	S	D1
QGF32_	9.525	3.18	4.6

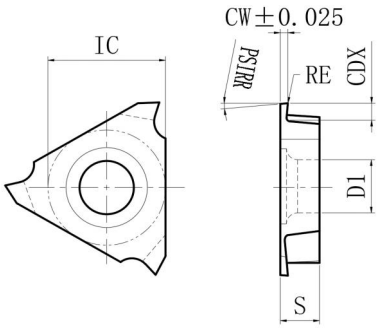
Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◖ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel			◖		◖	●	●					◖
M	Stainless steel	◖		●				◖	●				●
K	Cast iron	●				○	●	●	○				
N	Non ferrous metals	○				○			●				
S	titanium alloy	○				●		●	○				

Shape	Model	Dimensions(mm)			PVD Coated											
		CW	CDX	RE	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
	QGF32R-100-R005D	1.0	2.0	0.05					●	○	●	○				
	QGF32R-130-R010D	1.3	2.7	0.1					●	○	●	○				
	QGF32R-175-R010D	1.75	2.7						●	○	●	○				
	QGF32R-200-R010D	2.0	3.0						●	○	●	○				
	QGF32R-300-R010D	3.0	3.0						●	○	●	○				

●:First choice ○:Option □:Customized

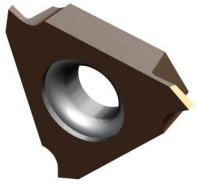
QGFC



Model	IC	S	D1
QGF32_	9.525	3.18	4.6

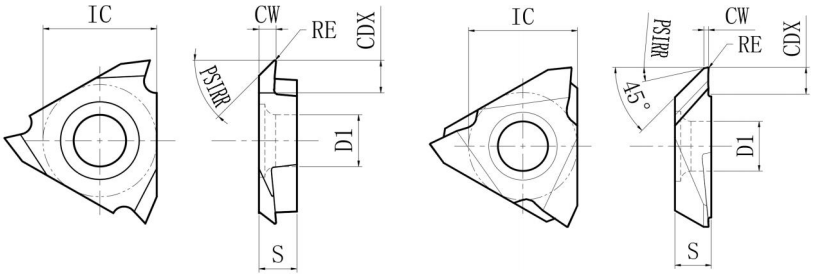
Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel			◔		◔		●					◔
M	Stainless steel	◔		●		●		◔					●
K	Cast iron	●				○		●					
N	Non ferrous metals	○				○							
S	titanium alloy	○				●		●					

Shape	Model	Dimensions(mm)				PVD Coated											
		CW	CDX	RE	PSIRR	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
	QGFC32R/L-050-A1705R	0.5	1.2	0	5°	○		●		○		●					●
	QGFC32R/L-060-A1705R	0.6	0.8			○		●		○		●					●
	QGFC32R/L-070-A1705R	0.7	1.5			○		●		○		●					●
	QGFC32R/L-080-A1705R	0.8				○		●		○		●					●
	QGFC32R/L-090-A1705R	0.9	2.0			□		□		□		□					□
	QGFC32R/L-100-A1705R	1.0				○		●		○		●					●
	QGFC32R/L-110-A1705R	1.1	2.5			□		□		□		□					□
	QGFC32R/L-120-A1705R	1.2				○		●		○		●					●
	QGFC32R/L-130-A1705R	1.3				□		□		□		□					□
	QGFC32R/L-140-A1705R	1.4				□		□		□		□					□
	QGFC32R/L-150-A1705R	1.5				○		●		○		●					●
	QGFC32R/L-160-A1705R	1.6				□		□		□		□					□
	QGFC32R/L-170-A1705R	1.7				□		□		□		□					□
	QGFC32R/L-180-A1705R	1.8				□		□		□		□					□
	QGFC32R/L-190-A1705R	1.9				□		□		□		□					□
	QGFC32R/L-200-A1705R	2.0				□		□		□		□					□

●:First choice ○:Option □:Customized

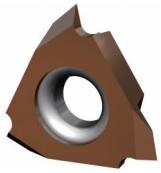
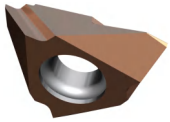
QGFB



Model	IC	S	D1
QGF32_	9.525	3.18	4.6

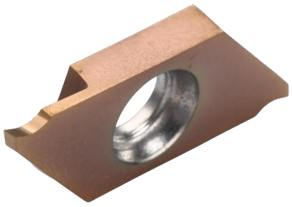
Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◔ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel			◔		◔		●					◔
M	Stainless steel	◔		●		●		◔					●
K	Cast iron	●				○		●					
N	Non ferrous metals	○				○							
S	titanium alloy	○				●		●					

Shape	Model	Dimensions(mm)				PVD Coated											
		CW	CDX	RE	PSIRR	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
	QGFB32R/L-050-005	0.5	1.2	0.05	45°	□		□		□		□					□
	QGFB32R/L-060-005	0.6	0.8			○		●		○		●					●
	QGFB32R/L-070-005	0.7	1.5			○		●		○		●					●
	QGFB32R/L-080-005	0.8				○		●		○		●					●
	QGFB32R/L-090-005	0.9	2.0			□		□		□		□					□
	QGFB32R/L-100-005	1.0				○		●		○		●					●
	QGFB32R/L-110-005	1.1	2.5			□		□		□		□					□
	QGFB32R/L-120-005	1.2				○		●		○		●					●
	QGFB32R/L-130-005	1.3				□		□		□		□					□
	QGFB32R/L-140-005	1.4				□		□		□		□					□
	QGFB32R/L-150-010	1.5				○		●		○		●					●
	QGFB32R/L-050-005D	0.5	3.0	0.05	13°	○		●		○		●					●
	QGFB32R/L-050-010D			0.1		○		●		○		●					●
	QGFB32R/L-050-015D			0.15		□		□		□		□					□
	QGFB32R/L-050-020D			0.2		○		●		○		●					●

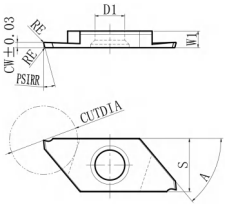
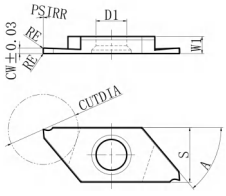
●:First choice ○:Option □:Customized

QTP



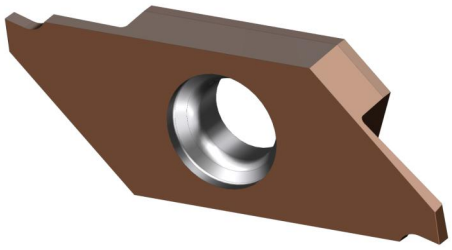
Use taxonomies	
●	: First choice/continuous cutting
○	: Option/continuous cutting
◐	: light interrupted cutting
✱	: interrupted cutting

P	Carbon steel/alloy steel			◐		◐		●					◐
M	Stainless steel	◐		●		●		◐					●
K	Cast iron	●				○		●					
N	Non ferrous metals	○				○							
S	titanium alloy	○				●		●					

Shape	Model	Dimensions(mm)								PVD Coated											
		CW	CUTDIA	RE	w1	S	D1	PSIRR	A	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
	QTPR/L-050-A1516R	0.5	0.5	0.08	2.5	8	4.5	16°	45°	□		□		□		□					□
	QTPR/L-060-A1516R	0.6	8.0							□		□		□		□					□
	QTPR/L-070-A1516R	0.7								□		□		□		□					□
	QTPR/L-080-A1516R	0.8								○		●		●		●					●
	QTPR/L-090-A1516R	0.9								□		□		□		□					□
	QTPR/L-100-A1516R	1.0	12.0							○		●		●		●					●
	QTPR/L-110-A1516R	1.1								□		□		□		□					□
	QTPR/L-120-A1516R	1.2								○		●		●		●					●
	QTPR/L-130-A1516R	1.3								□		□		□		□					□
	QTPR/L-140-A1516R	1.4								□		□		□		□					□
	QTPR/L-150-A1516R	1.5								○		●		●		●					●
	QTPR/L-160-A1516R	1.6								□		□		□		□					□
	QTPR/L-170-A1516R	1.7								□		□		□		□					□
	QTPR/L-180-A1516R	1.8								□		□		□		□					□
	QTPR/L-190-A1516R	1.9								□		□		□		□					□
	QTPR/L-200-A1516R	2.0								○		●		●		●					●
	QTPR/L-050-A1500R	0.5	5.0	0.03	2.5	8	4.5	0°	50°	□		□		□		□					□
	QTPR/L-060-A1500R	0.6	8.0							□		□		□		□					□
	QTPR/L-070-A1500R	0.7								□		□		□		□					□
	QTPR/L-080-A1500R	0.8								○		●		●		●					●
	QTPR/L-090-A1500R	0.9								□		□		□		□					□
	QTPR/L-100-A1500R	1.0	12.0							○		●		●		●					●
	QTPR/L-110-A1500R	1.1								□		□		□		□					□
	QTPR/L-120-A1500R	1.2								○		●		●		●					●
	QTPR/L-130-A1500R	1.3								□		□		□		□					□
	QTPR/L-140-A1500R	1.4								□		□		□		□					□
	QTPR/L-150-A1500R	1.5								○		●		●		●					●
	QTPR/L-160-A1500R	1.6								□		□		□		□					□
	QTPR/L-170-A1500R	1.7								□		□		□		□					□
	QTPR/L-180-A1500R	1.8								□		□		□		□					□
	QTPR/L-190-A1500R	1.9								□		□		□		□					□
	QTPR/L-200-A1500R	2.0								○		●		●		●					●

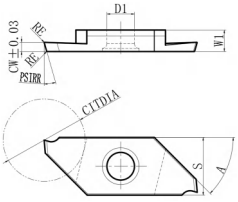
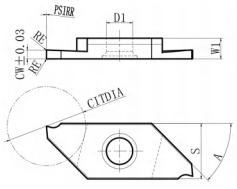
●:First choice ○:Option □:Customized

QTPA



Use taxonomies	
●	: First choice/continuous cutting
○	: Option/continuous cutting
◐	: light interrupted cutting
✱	: interrupted cutting

P	Carbon steel/alloy steel			◐		◐		●					◐
M	Stainless steel	◐		●		●		◐					●
K	Cast iron	●				○		●					
N	Non ferrous metals	○				○							
S	titanium alloy	○				●		●					

Shape	Model	Dimensions(mm)								PVD Coated											
		CW	CUTDIA	RE	w1	S	D1	PSIRR	A	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
	QTPAR/L-050-A1516R	0.5	0.5	0.05	3.5	9.4	4.5	16°	45°	□		□		□		□					□
	QTPAR/L-060-A1516R	0.6	8.0							□		□		□		□					□
	QTPAR/L-070-A1516R	0.7								□		□		□		□					□
	QTPAR/L-080-A1516R	0.8								○		●		●		●					●
	QTPAR/L-090-A1516R	0.9								□		□		□		□					□
	QTPAR/L-100-A1516R	1.0	12.0							○		●		●		●					●
	QTPAR/L-110-A1516R	1.1								□		□		□		□					□
	QTPAR/L-120-A1516R	1.2								○		●		●		●					●
	QTPAR/L-130-A1516R	1.3	16.0							□		□		□		□					□
	QTPAR/L-140-A1516R	1.4								□		□		□		□					□
	QTPAR/L-150-A1516R	1.5								○		●		●		●					●
	QTPAR/L-160-A1516R	1.6								□		□		□		□					□
	QTPAR/L-170-A1516R	1.7								□		□		□		□					□
	QTPAR/L-180-A1516R	1.8								□		□		□		□					□
	QTPAR/L-190-A1516R	1.9								□		□		□		□					□
	QTPAR/L-200-A1516R	2.0								○		●		●		●					●
	QTPAR/L-050-A1500R	0.5	5.0	0.05	3.5	9.4	4.5	0°	45°	□		□		□		□					□
	QTPAR/L-060-A1500R	0.6	8.0							□		□		□		□					□
	QTPAR/L-070-A1500R	0.7								□		□		□		□					□
	QTPAR/L-080-A1500R	0.8								○		●		●		●					●
	QTPAR/L-090-A1500R	0.9								□		□		□		□					□
	QTPAR/L-100-A1500R	1.0	12.0							○		●		●		●					●
	QTPAR/L-110-A1500R	1.1								□		□		□		□					□
	QTPAR/L-120-A1500R	1.2								○		●		●		●					●
	QTPAR/L-130-A1500R	1.3	16.0							□		□		□		□					□
	QTPAR/L-140-A1500R	1.4								□		□		□		□					□
	QTPAR/L-150-A1500R	1.5								○		●		●		●					●
	QTPAR/L-160-A1500R	1.6								□		□		□		□					□
	QTPAR/L-170-A1500R	1.7								□		□		□		□					□
	QTPAR/L-180-A1500R	1.8								□		□		□		□					□
	QTPAR/L-190-A1500R	1.9								□		□		□		□					□
	QTPAR/L-200-A1500R	2.0								○		●		●		●					●

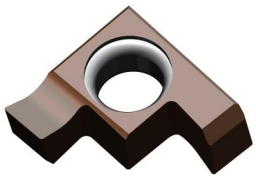
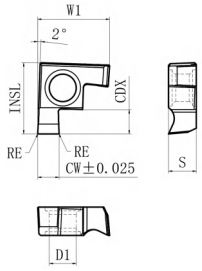
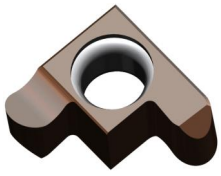
●:First choice ○:Option □:Customized

GE

Model	W1	INSL	S	DI
GER/L...-A GER...-AR	6.69	6.5	2.58	2.5
GER/L...-B GER...-BR	8.46	8.2	3.18	2.7

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◐ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel			◐	●	◐		●	●		◐	○	◐
M	Stainless steel	◐	●	●		●	●	◐		●	●	●	●
K	Cast iron			○		○		●				●	
N	Non ferrous metals	○				○							○
S	titanium alloy	○	○	◐		●	○	●	○			●	
H	高硬度材料（40HRC以下）												

Shape	Model	Dimensions(mm)			PVD Coated											
		CW	CDX	RE	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
	GER/L100-005A	1.0	1.5	0.05	○	○	●	○	○	○	●	○	○	○	●	○
	GER/L120-005A	1.2			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L125-005A	1.25			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L150-010A	1.5		0.1	○	○	●	○	○	○	●	○	○	○	●	○
	GER/L200-010A	2.0			○	○	●	○	○	○	●	○	○	○	●	○
	GER/L100-005B	1.0	2.2	0.05	○	○	●	○	○	○	●	○	○	○	●	○
	GER/L120-005B	1.2			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L125-005B	1.25			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L145-010B	1.45		0.1	□	□	□	□	□	□	□	□	□	□	□	□
	GER/L150-010B	1.5			○	○	●	○	○	○	●	○	○	○	●	○
	GER/L200-010B	2.0			○	○	●	○	○	○	●	○	○	○	●	○
	GER/L250-020B	2.5		0.2	□	□	□	□	□	□	□	□	□	□	□	□
	GER/L300-020B	3.0			□	□	□	□	□	□	□	□	□	□	□	□
	GER100-050AR	1.0	1.5	0.5	○	○	●	○	○	○	●	○	○	○	●	○
	GER200-100AR	2.0		1.0	○	○	●	○	○	○	●	○	○	○	●	○
	GER100-050BR	1.0	2.2	0.5	○	○	●	○	○	○	●	○	○	○	●	○
	GER200-100BR	2.0		1.0	○	○	●	○	○	○	●	○	○	○	●	○

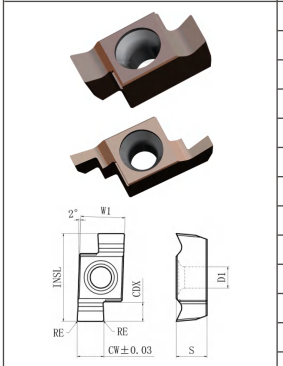
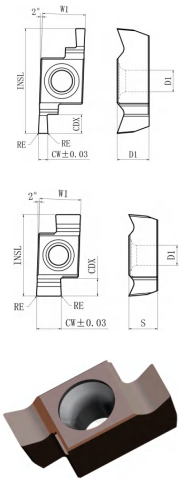
●:First choice ○:Option □:Customized

GE

Model	W1	INSL	S	DI
GER/L...-C GER...-CR	5.8	11.48	4.05	2.8
GER/L...-D GER...-DR	6.8	16.44	5.05	3.4
GER/L...-E	9.54	21.66	5.55	4.4

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◐ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel			◐	●	◐		●	●		◐	○	◐
M	Stainless steel	◐	●	●		●	●	◐		●	●	●	●
K	Cast iron			○		○		●				●	
N	Non ferrous metals	○				○							○
S	titanium alloy	○	○	◐		●	○	●	○			●	
H	高硬度材料（40HRC以下）												

Shape	Model	Dimensions(mm)			PVD Coated											
		CW	CDX	RE	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
	GER/L100-005C	1.0	2.5	0.05	○	○	●	○	○	○	●	○	○	○	●	○
	GER/L120-005C	1.2			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L125-005C	1.25			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L140-005C	1.4			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L145-010C	1.45		0.1	□	□	□	□	□	□	□	□	□	□	□	□
	GER/L150-010C	1.5			○	○	●	○	○	○	●	○	○	○	●	○
	GER/L170-010C	1.7			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L185-010C	1.85			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L195-010C	1.95			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L200-010C	2.0			○	○	●	○	○	○	●	○	○	○	●	○
	GER/L250-020C	2.5		0.2	□	□	□	□	□	□	□	□	□	□	□	□
	GER/L300-020C	3.0			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L350-020C	3.5			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L100-005D	1.0	2.5	0.05	○	○	●	○	○	○	●	○	○	○	●	○
	GER/L140-005D	1.4			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L145-010D	1.45		0.1	□	□	□	□	□	□	□	□	□	□	□	□
	GER/L150-010D	1.5	3.0		○	○	●	○	○	○	●	○	○	○	●	○
	GER/L170-010D	1.7			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L185-010D	1.85			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L195-010D	1.95			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L200-010D	2.0	3.2		○	○	●	○	○	○	●	○	○	○	●	○
	GER/L225-010D	2.25			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L230-020D	2.3		0.2	□	□	□	□	□	□	□	□	□	□	□	□
	GER/L250-020D	2.5			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L275-020D	2.75			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L280-020D	2.8			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L300-020D	3.0	4.5		○	○	●	○	○	○	●	○	○	○	●	○
	GER/L330-020D	3.3			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L350-020D	3.5			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L400-020D	4.0			□	□	□	□	□	□	□	□	□	□	□	□

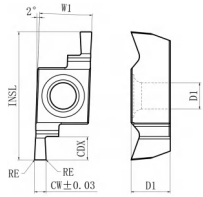
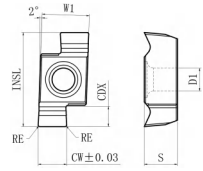
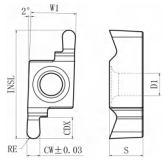
●:First choice ○:Option □:Customized

GE

Model	W1	INSL	S	DI
GER/L...-C GER...-CR	5.8	11.48	4.05	2.8
GER/L...-D GER...-DR	6.8	16.44	5.05	3.4
GER/L...-E	9.54	21.66	5.55	4.4

Use taxonomies			
● : First choice/continuous cutting	○ : Option/continuous cutting	◐ : light interrupted cutting	✱ : interrupted cutting

P	Carbon steel/alloy steel			◐	●	◐		●	●		◐	○	◐
M	Stainless steel	◐	●	●		●	●	◐		●	●	●	●
K	Cast iron			○		○		●				●	
N	Non ferrous metals	○				○							○
S	titanium alloy	○	○	◐		●	○	●	○			●	
H	高硬度材料（40HRC以下）												

Shape	Model	Dimensions(mm)			PVD Coated											
		CW	CDX	RE	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
	GER/L100-005E	1.0	2.5	0.05	○	○	●	○	○	○	●	○	○	○	●	○
	GER/L150-010E	1.5	3.0	0.1	○	○	●	○	○	○	●	○	○	○	●	○
	GER/L170-010E	1.7			□	□	□	□	□	□	□	□	□	□	□	□
	GER/185-010EL	1.85			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L195-010E	1.95			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L200-010E	2.0	3.2		○	○	●	○	○	○	●	○	○	○	●	○
	GER/L225-010E	2.25			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L230-020E	2.3		0.2	□	□	□	□	□	□	□	□	□	□	□	□
	GER/L250-020E	2.5	4.5		□	□	□	□	□	□	□	□	□	□	□	□
	GER/275-020EL	2.75			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L280-020E	2.8			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L300-020E	3.0			○	○	●	○	○	○	●	○	○	○	●	○
	GER/L330-020E	3.3			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L350-020E	3.5	5.5		□	□	□	□	□	□	□	□	□	□	□	□
	GER/L400-020E	4.0			○	○	●	○	○	○	●	○	○	○	●	○
	GER/L430-020E	4.3			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L450-020E	4.5	6.5		□	□	□	□	□	□	□	□	□	□	□	□
	GER/L460-020E	4.6			□	□	□	□	□	□	□	□	□	□	□	□
	GER/L500-020E	5.0			○	○	●	○	○	○	●	○	○	○	●	○
	GER200-100CR	2.0	2.5	1.0	○	○	●	○	○	○	●	○	○	○	●	○
	GER250-125CR	2.5		1.25	□	□	□	□	□	□	□	□	□	□	□	□
	GER300-150CR	3.0		1.5	○	○	●	○	○	○	●	○	○	○	●	○
	GER200-100DR	2.0	3.2	1.0	○	○	●	○	○	○	●	○	○	○	●	○
	GER300-150DR	3.0	4.5	1.5	○	○	●	○	○	○	●	○	○	○	●	○

●:First choice ○:Option □:Customized

SPECIAL FOR SWISS CAM-STYPE LATHES

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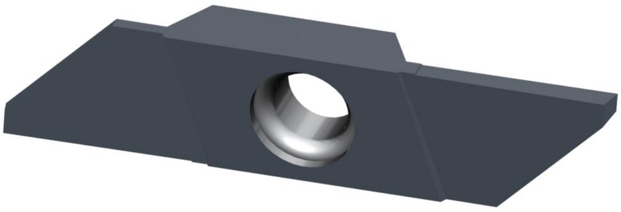
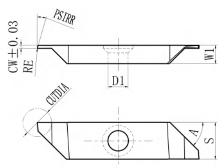
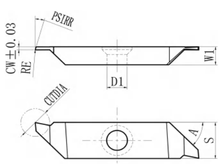
QLNCR/L



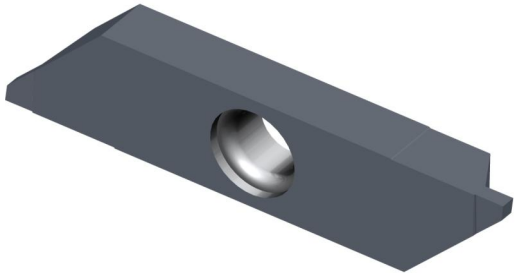
Use taxonomies	
●	: First choice/continuous cutting
○	: Option/continuous cutting
◐	: light interrupted cutting
✤	: interrupted cutting

		BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
P	Carbon steel/alloy steel					◐		●			◐	●	◐
M	Stainless steel					●	●	◐	○	●	●	○	●
K	Cast iron					○					○		
N	Non ferrous metals					○							
S	titanium alloy					●	○	●			◐		

Shape	Model	Dimensions(mm)								PVD Coated											
		CW	CUTDIA	RE	w1	S	D1	PSIRR	A	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
	QLNCR/L-050-R00-A0015	0.5	6											○	○	●	○	○	○	●	○
	QLNCR/L-060-R00-A0015	0.6	8											○	○	●	○	○	○	●	○
	QLNCR/L-070-R00-A0015	0.7	12											○	○	●	○	○	○	●	○
	QLNCR/L-080-R00-A0015	0.8												□	□	□	□	□	□	□	□
	QLNCR/L-090-R00-A0015	0.9												□	□	□	□	□	□	□	□
	QLNCR/L-100-R00-A0015	1.0												○	○	●	○	○	○	●	○
	QLNCR/L-110-R00-A0015	1.1												□	□	□	□	□	□	□	□
	QLNCR/L-120-R00-A0015	1.2		0	3	6	3.2	15°	45°					○	○	●	○	○	○	●	○
	QLNCR/L-130-R00-A0015	1.3												○	○	●	○	○	○	●	○
	QLNCR/L-140-R00-A0015	1.4	18											□	□	□	□	□	□	□	□
	QLNCR/L-150-R00-A0015	1.5												○	○	●	○	○	○	●	○
	QLNCR/L-160-R00-A0015	1.6												□	□	□	□	□	□	□	□
	QLNCR/L-170-R00-A0015	1.7												□	□	□	□	□	□	□	□
	QLNCR/L-180-R00-A0015	1.8												□	□	□	□	□	□	□	□
	QLNCR/L-190-R00-A0015	1.9												□	□	□	□	□	□	□	□
	QLNCR/L-200-R00-A0015	2.0												○	○	●	○	○	○	●	○
	QLNCR/L-050-R00-A1215	0.5	6											○	○	●	○	○	○	●	○
	QLNCR/L-060-R00-A1215	0.6	8											○	○	●	○	○	○	●	○
	QLNCR/L-070-R00-A1215	0.7	12											○	○	●	○	○	○	●	○
	QLNCR/L-080-R00-A1215	0.8												□	□	□	□	□	□	□	□
	QLNCR/L-090-R00-A1215	0.9												□	□	□	□	□	□	□	□
	QLNCR/L-100-R00-A1215	1.0												○	○	●	○	○	○	●	○
	QLNCR/L-110-R00-A1215	1.1												□	□	□	□	□	□	□	□
	QLNCR/L-120-R00-A1215	1.2		0	3	6	3.2	15°	45°					○	○	●	○	○	○	●	○
	QLNCR/L-130-R00-A1215	1.3												○	○	●	○	○	○	●	○
	QLNCR/L-140-R00-A1215	1.4	18											□	□	□	□	□	□	□	□
	QLNCR/L-150-R00-A1215	1.5												○	○	●	○	○	○	●	○
	QLNCR/L-160-R00-A1215	1.6												□	□	□	□	□	□	□	□
	QLNCR/L-170-R00-A1215	1.7												□	□	□	□	□	□	□	□
	QLNCR/L-180-R00-A1215	1.8												□	□	□	□	□	□	□	□
	QLNCR/L-190-R00-A1215	1.9												□	□	□	□	□	□	□	□
	QLNCR/L-200-R00-A1215	2.0												○	○	●	○	○	○	●	○

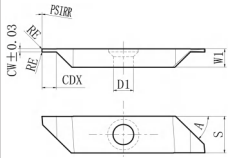
●:First choice ○:Option □:Customized

QLNGR/L



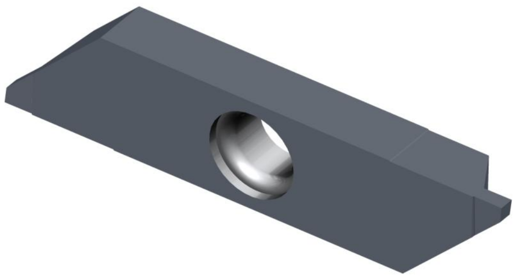
Use taxonomies	
●	: First choice/continuous cutting
○	: Option/continuous cutting
◐	: light interrupted cutting
✱	: interrupted cutting

P	Carbon steel/alloy steel					◐		●			◐	●	◐
M	Stainless steel					●	●	◐	○	●	●	○	●
K	Cast iron					○					○		
N	Non ferrous metals					○							
S	titanium alloy					●	○	●			◐		

Shape	Model	Dimensions(mm)								PVD Coated									
		CW	CDX	RE	w1	S	D1	PSIRR	A	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
	QLNGR/L-020-R005-A0000	0.2	0.6	0.05	3	6	3.2	0°	45°					□	□	□	□	□	□	□	□
	QLNGR/L-030-R005-A0000	0.3	0.8											□	□	□	□	□	□	□	□
	QLNGR/L-040-R005-A0000	0.4												□	□	□	□	□	□	□	□
	QLNGR/L-040-R005-A0000	0.5	1.2											○	○	●	○	○	○	●	○
	QLNGR/L-060-R005-A0000	0.6												○	○	●	○	○	○	●	○
	QLNGR/L-070-R010-A0000	0.7		0.1										○	○	●	○	○	○	●	○
	QLNGR/L-075-R010-A0000	0.75												○	○	●	○	○	○	●	○
	QLNGR/L-080-R010-A0000	0.8												□	□	□	□	□	□	□	□
	QLNGR/L-090-R010-A0000	0.9	2.0											□	□	□	□	□	□	□	□
	QLNGR/L-095-R010-A0000	0.95												□	□	□	□	□	□	□	□
	QLNGR/L-100-R010-A0000	1.0												○	○	●	○	○	○	●	○
	QLNGR/L-110-R010-A0000	1.1												□	□	□	□	□	□	□	□
	QLNGR/L-120-R010-A0000	1.2	5.0											○	○	●	○	○	○	●	○
	QLNGR/L-125-R010-A0000	1.25												□	□	□	□	□	□	□	□
	QLNGR/L-130-R010-A0000	1.3												□	□	□	□	□	□	□	□
	QLNGR/L-140-R010-A0000	1.4												□	□	□	□	□	□	□	□
	QLNGR/L-145-R010-A0000	1.45												□	□	□	□	□	□	□	□
	QLNGR/L-150-R010-A0000	1.5												○	○	●	○	○	○	●	○
	QLNGR/L-160-R010-A0000	1.6	6.0											□	□	□	□	□	□	□	□
	QLNGR/L-170-R010-A0000	1.7												□	□	□	□	□	□	□	□
	QLNGR/L-175-R010-A0000	1.75												○	○	●	○	○	○	●	○
	QLNGR/L-180-R010-A0000	1.8												□	□	□	□	□	□	□	□
	QLNGR/L-190-R010-A0000	1.9												□	□	□	□	□	□	□	□
	QLNGR/L-200-R010-A0000	2.0	7.0											○	○	●	○	○	○	●	○
	QLNGR/L-210-R010-A0000	2.1												□	□	□	□	□	□	□	□
	QLNGR/L-220-R010-A0000	2.2												○	○	●	○	○	○	●	○
	QLNGR/L-230-R010-A0000	2.3												□	□	□	□	□	□	□	□
	QLNGR/L-240-R010-A0000	2.4												□	□	□	□	□	□	□	□
	QLNGR/L-250-R010-A0000	2.5												○	○	●	○	○	○	●	○

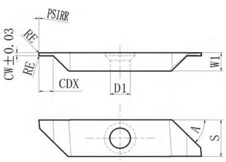
●:First choice ○:Option □:Customized

QLNGR/L



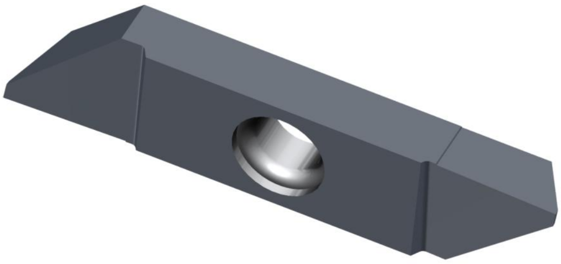
Use taxonomies	
●	: First choice/continuous cutting
○	: Option/continuous cutting
◐	: light interrupted cutting
✤	: interrupted cutting

		BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
P	Carbon steel/alloy steel					◐		●			◐	●	◐
M	Stainless steel					●	●	◐	○	●	●	○	●
K	Cast iron					○					○		
N	Non ferrous metals					○							
S	titanium alloy					●	○	●			◐		

Shape	Model	Dimensions(mm) CW	CDX	RE	W1	S	D1	PSIRR	A	PVD Coated BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
	QLNGR/L-020-R005-A1200	0.2	0.6	0.05	3	6	3.2	0°	45°					□	□	□	□	□	□	□	□
	QLNGR/L-030-R005-A1200	0.3	0.8											□	□	□	□	□	□	□	□
	QLNGR/L-040-R005-A1200	0.4												□	□	□	□	□	□	□	□
	QLNGR/L-050-R005-A1200	0.5	1.2											○	○	●	○	○	○	●	○
	QLNGR/L-060-R005-A1200	0.6												○	○	●	○	○	○	●	○
	QLNGR/L-070-R010-A1200	0.7		0.1										○	○	●	○	○	○	●	○
	QLNGR/L-075-R010-A1200	0.75												○	○	●	○	○	○	●	○
	QLNGR/L-080-R010-A1200	0.8												□	□	□	□	□	□	□	□
	QLNGR/L-090-R010-A1200	0.9	2.0											□	□	□	□	□	□	□	□
	QLNGR/L-095-R010-A1200	0.95												□	□	□	□	□	□	□	□
	QLNGR/L-100-R010-A1200	1.0												○	○	●	○	○	○	●	○
	QLNGR/L-110-R010-A1200	1.1												□	□	□	□	□	□	□	□
	QLNGR/L-120-R010-A1200	1.2	5.0											○	○	●	○	○	○	●	○
	QLNGR/L-125-R010-A1200	1.25												□	□	□	□	□	□	□	□
	QLNGR/L-130-R010-A1200	1.3												□	□	□	□	□	□	□	□
	QLNGR/L-140-R010-A1200	1.4												□	□	□	□	□	□	□	□
	QLNGR/L-145-R010-A1200	1.45												□	□	□	□	□	□	□	□
	QLNGR/L-150-R010-A1200	1.5												○	○	●	○	○	○	●	○
	QLNGR/L-160-R010-A1200	1.6	6.0											□	□	□	□	□	□	□	□
	QLNGR/L-170-R010-A1200	1.7												□	□	□	□	□	□	□	□
	QLNGR/L-175-R010-A1200	1.75												○	○	●	○	○	○	●	○
	QLNGR/L-180-R010-A1200	1.8												□	□	□	□	□	□	□	□
	QLNGR/L-190-R010-A1200	1.9												□	□	□	□	□	□	□	□
	QLNGR/L-200-R010-A1200	2.0	7.0											○	○	●	○	○	○	●	○
	QLNGR/L-210-R010-A1200	2.1												□	□	□	□	□	□	□	□
	QLNGR/L-220-R010-A1200	2.2												○	○	●	○	○	○	●	○
	QLNGR/L-230-R010-A1200	2.3												□	□	□	□	□	□	□	□
	QLNGR/L-240-R010-A1200	2.4												□	□	□	□	□	□	□	□
	QLNGR/L-250-R010-A1200	2.5												○	○	●	○	○	○	●	○

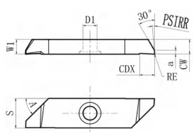
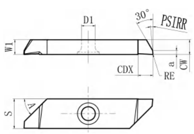
●:First choice ○:Option □:Customized

QLNFR/L



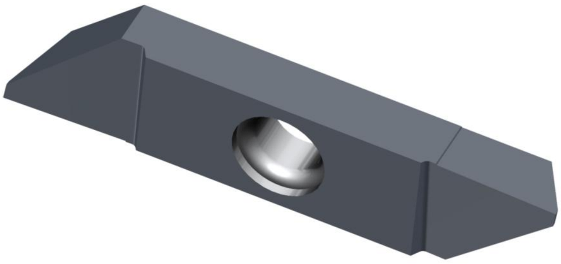
Use taxonomies	
●	: First choice/continuous cutting
○	: Option/continuous cutting
◐	: light interrupted cutting
✤	: interrupted cutting

		BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
P	Carbon steel/alloy steel					◐		●			◐	●	◐
M	Stainless steel					●	●	◐	○	●	●	○	●
K	Cast iron					○					○		
N	Non ferrous metals					○							
S	titanium alloy					●	○	●			◐		

Chipformer	Shape	Model	Dimensions(mm) CW	a	PSIRR	CDX	RE	wl	S	D1	A	PVD Coated BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
NO		QLNFR/L-030-R00-A0002	2.8	0.3	2°	4.5	0	3	6	3.2	45°					○	○	●	○	○	○	●	○
		QLNFR/L-030-R00-A0005			5°											○	○	●	○	○	○	●	○
		QLNFR/L-015-R00-A0002		0.15	2°											○	○	●	○	○	○	●	○
		QLNFR/L-015-R00-A0005			5°											○	○	●	○	○	○	●	○
YES		QLNFR/L-030-R00-A1202	2.8	0.3	2°	4.5	0	3	6	3.2	45°					○	○	●	○	○	○	●	○
		QLNFR/L-030-R00-A1205			5°											○	○	●	○	○	○	●	○
		QLNFR/L-015-R00-A1202		0.15	2°											○	○	●	○	○	○	●	○
		QLNFR/L-015-R00-A1205			5°											○	○	●	○	○	○	●	○

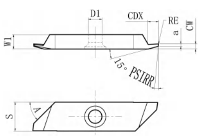
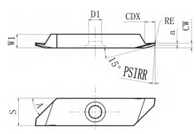
●:First choice ○:Option □:Customized

QLNBR/L



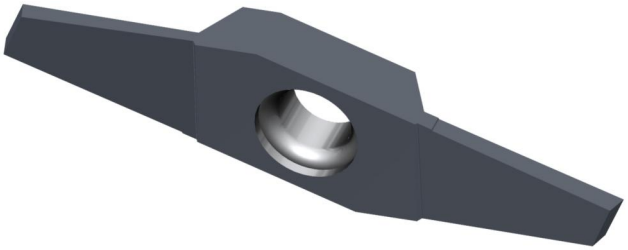
Use taxonomies	
●	: First choice/continuous cutting
○	: Option/continuous cutting
◐	: light interrupted cutting
✱	: interrupted cutting

		BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
P	Carbon steel/alloy steel					◐		●			◐	●	◐
M	Stainless steel					●	●	◐	○	●	●	○	●
K	Cast iron					○		●			○		
N	Non ferrous metals					○							
S	titanium alloy					●	○	●			◐		

Chipformer	Shape	Model	Dimensions(mm)									PVD Coated											
			CW	a	PSIRR	CDX	RE	w1	S	D1	A	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
NO		QLNBR/L-020-R00-A0002-10	1.0	0.2	2°	0.6	0	3	6	3.2	45°					○	○	●	○	○	○	●	○
		QLNBR/L-020-R00-A0005-10	1.0	0.2	5°											○	○	●	○	○	○	●	○
		QLNBR/L-050-R00-A0002-10	1.0	0.5	2°	2.0										○	○	●	○	○	○	●	○
		QLNBR/L-050-R00-A0005-10	1.0	0.5	5°											○	○	●	○	○	○	●	○
		QLNBR/L-050-R00-A0002-15	1.5	0.5	2°	3.5										○	○	●	○	○	○	●	○
		QLNBR/L-050-R00-A0005-15	1.5	0.5	5°											○	○	●	○	○	○	●	○
YES		QLNBR/L-020-R00-A1202-10	1.0	0.2	2°	0.6	0	3	6	3.2	45°					○	○	●	○	○	○	●	○
		QLNBR/L-020-R00-A1205-10	1.0	0.2	5°																		
		QLNBR/L-050-R00-A1202-10	1.0	0.5	2°	2.0										○	○	●	○	○	○	●	○
		QLNBR/L-050-R00-A1205-10	1.0	0.5	5°																		
		QLNBR/L-050-R00-A1202-15	1.5	0.5	2°	3.5										○	○	●	○	○	○	●	○
		QLNBR/L-050-R00-A1205-15	1.5	0.5	5°																		

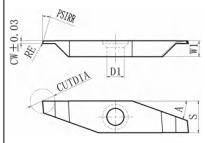
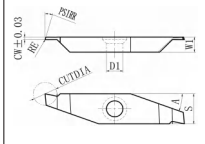
●:First choice ○:Option □:Customized

QSNCR/L



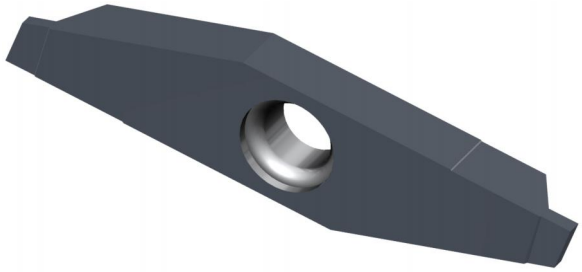
Use taxonomies	
●	: First choice/continuous cutting
○	: Option/continuous cutting
◐	: light interrupted cutting
⧓	: interrupted cutting

P	Carbon steel/alloy steel					◐		●			◐	●	◐
M	Stainless steel					●	●	◐	○	●	●	○	●
K	Cast iron					○		●			○		
N	Non ferrous metals					○							
S	titanium alloy					●	○	●			◐		

Chipformer	Shape	Model	Dimensions(mm)								PVD Coated											
			CW	CUTDIA	RE	w1	S	D1	PSIRR	A	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
NO		QSNCL-050-R00-A0015	0.5	6	0	3	6.1	3.2	15°	20°					○	○	●	○	○	○	●	○
		QSNCL-060-R00-A0015	0.6	8											○	○	●	○	○	○	●	○
		QSNCL-070-R00-A0015	0.7	12											○	○	●	○	○	○	●	○
		QSNCL-080-R00-A0015	0.8	18											□	□	□	□	□	□	□	□
		QSNCL-090-R00-A0015	0.9												□	□	□	□	□	□	□	□
		QSNCL-100-R00-A0015	1.0												○	○	●	○	○	○	●	○
		QSNCL-110-R00-A0015	1.1												□	□	□	□	□	□	□	□
		QSNCL-120-R00-A0015	1.2												○	○	●	○	○	○	●	○
		QSNCL-130-R00-A0015	1.3												○	○	●	○	○	○	●	○
		QSNCL-140-R00-A0015	1.4												□	□	□	□	□	□	□	□
		QSNCL-150-R00-A0015	1.5												○	○	●	○	○	○	●	○
		QSNCL-160-R00-A0015	1.6												□	□	□	□	□	□	□	□
		QSNCL-170-R00-A0015	1.7												□	□	□	□	□	□	□	□
		QSNCL-180-R00-A0015	1.8												□	□	□	□	□	□	□	□
		QSNCL-190-R00-A0015	1.9												□	□	□	□	□	□	□	□
		QSNCL-200-R00-A0015	2.0												○	○	●	○	○	○	●	○
YES		QSNCL-050-R00-A1215	0.5	6	0	3	6.1	3.2	15°	20°					○	○	●	○	○	○	●	○
		QSNCL-060-R00-A1215	0.6	8											○	○	●	○	○	○	●	○
		QSNCL-070-R00-A1215	0.7	12											○	○	●	○	○	○	●	○
		QSNCL-080-R00-A1215	0.8	18											□	□	□	□	□	□	□	□
		QSNCL-090-R00-A1215	0.9												□	□	□	□	□	□	□	□
		QSNCL-100-R00-A1215	1.0												○	○	●	○	○	○	●	○
		QSNCL-110-R00-A1215	1.1												□	□	□	□	□	□	□	□
		QSNCL-120-R00-A1215	1.2												○	○	●	○	○	○	●	○
		QSNCL-130-R00-A1215	1.3												○	○	●	○	○	○	●	○
		QSNCL-140-R00-A1215	1.4												□	□	□	□	□	□	□	□
		QSNCL-150-R00-A1215	1.5												○	○	●	○	○	○	●	○
		QSNCL-160-R00-A1215	1.6												□	□	□	□	□	□	□	□
		QSNCL-170-R00-A1215	1.7												□	□	□	□	□	□	□	□
		QSNCL-180-R00-A1215	1.8												□	□	□	□	□	□	□	□
		QSNCL-190-R00-A1215	1.9												□	□	□	□	□	□	□	□
		QSNCL-200-R00-A1215	2.0												○	○	●	○	○	○	●	○

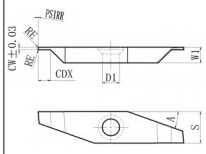
●:First choice ○:Option □:Customized

QSNGR/L



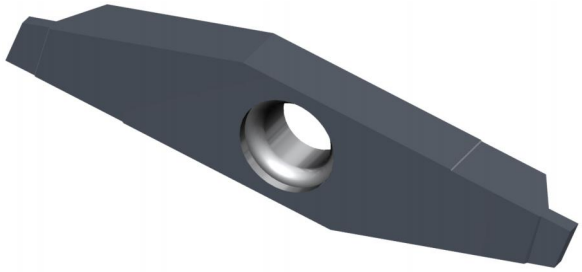
Use taxonomies	
●	: First choice/continuous cutting
○	: Option/continuous cutting
◐	: light interrupted cutting
✱	: interrupted cutting

P	Carbon steel/alloy steel					◐		●			◐	●	◐
M	Stainless steel					●	●	◐	○	●	●	○	●
K	Cast iron					○		●			○		
N	Non ferrous metals					○							
S	titanium alloy					●	○	●			◐		

Chipformer	Shape	Model	Dimensions(mm)								PVD Coated											
			CW	CDX	RE	w1	S	D1	PSIRR	A	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
NO		QLNGL-020-R005-A0000	0.2	0.6	0.05	3	6.1	3.2	0°	20°					□	□	□	□	□	□	□	□
		QLNGL-030-R005-A0000	0.3	0.8											□	□	□	□	□	□	□	□
		QLNGL-040-R005-A0000	0.4												□	□	□	□	□	□	□	□
		QLNGL-050-R005-A0000	0.5	1.2											○	○	●	○	○	○	●	○
		QLNGL-060-R005-A0000	0.6												○	○	●	○	○	○	●	○
		QLNGL-070-R010-A0000	0.7		0.1										○	○	●	○	○	○	●	○
		QLNGL-075-R010-A0000	0.75												○	○	●	○	○	○	●	○
		QLNGL-080-R010-A0000	0.8												□	□	□	□	□	□	□	□
		QLNGL-090-R010-A0000	0.9	2.0											□	□	□	□	□	□	□	□
		QLNGL-095-R010-A0000	0.95												□	□	□	□	□	□	□	□
		QLNGL-100-R010-A0000	1.00												○	○	●	○	○	○	●	○
		QLNGL-110-R010-A0000	1.1												□	□	□	□	□	□	□	□
		QLNGL-120-R010-A0000	1.2	5.0											○	○	●	○	○	○	●	○
		QLNGL-125-R010-A0000	1.25												□	□	□	□	□	□	□	□
		QLNGL-130-R010-A0000	1.3												□	□	□	□	□	□	□	□
		QLNGL-140-R010-A0000	1.4												□	□	□	□	□	□	□	□
		QLNGL-145-R010-A0000	1.45												□	□	□	□	□	□	□	□
		QLNGL-150-R010-A0000	1.5												○	○	●	○	○	○	●	○
		QLNGL-160-R010-A0000	1.6	6.0											□	□	□	□	□	□	□	□
		QLNGL-170-R010-A0000	1.7												□	□	□	□	□	□	□	□
		QLNGL-175-R010-A0000	1.75												○	○	●	○	○	○	●	○
		QLNGL-180-R010-A0000	1.8												□	□	□	□	□	□	□	□
		QLNGL-190-R010-A0000	1.9												□	□	□	□	□	□	□	□
		QLNGL-200-R010-A0000	2.0	7.0											○	○	●	○	○	○	●	○
		QLNGL-210-R010-A0000	2.1												□	□	□	□	□	□	□	□
		QLNGL-220-R010-A0000	2.2												○	○	●	○	○	○	●	○
		QLNGL-230-R010-A0000	2.3												□	□	□	□	□	□	□	□
		QLNGL-240-R010-A0000	2.4												□	□	□	□	□	□	□	□
		QLNGL-250-R010-A0000	2.5												○	○	●	○	○	○	●	○

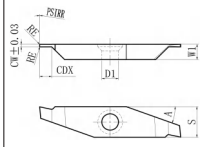
●:First choice ○:Option □:Customized

QSNGR/L



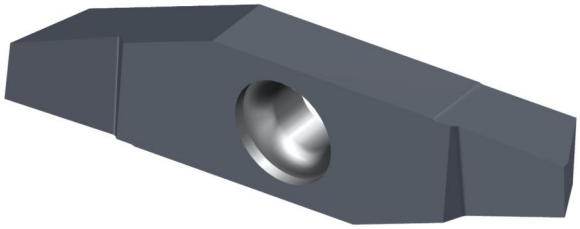
Use taxonomies	
●	: First choice/continuous cutting
○	: Option/continuous cutting
◐	: light interrupted cutting
✱	: interrupted cutting

P	Carbon steel/alloy steel					◐		●			◐	●	◐
M	Stainless steel					●	●	◐	○	●	●	○	●
K	Cast iron					○		●			○		
N	Non ferrous metals					○							
S	titanium alloy					●	○	●			◐		

Chipformer	Shape	Model	Dimensions(mm)								PVD Coated											
			CW	CDX	RE	w1	S	D1	PSIRR	A	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
NO		QLNGL-020-R005-A1200	0.2	0.6	0.05	3	6.1	3.2	0°	20°					□	□	□	□	□	□	□	□
		QLNGL-030-R005-A1200	0.3	0.8											□	□	□	□	□	□	□	□
		QLNGL-040-R005-A1200	0.4												□	□	□	□	□	□	□	□
		QLNGL-050-R005-A1200	0.5	1.2											○	○	●	○	○	○	●	○
		QLNGL-060-R005-A1200	0.6												○	○	●	○	○	○	●	○
		QLNGL-070-R010-A1200	0.7		0.1										○	○	●	○	○	○	●	○
		QLNGL-075-R010-A1200	0.75												○	○	●	○	○	○	●	○
		QLNGL-080-R010-A1200	0.8												□	□	□	□	□	□	□	□
		QLNGL-090-R010-A1200	0.9	2.0											□	□	□	□	□	□	□	□
		QLNGL-095-R010-A1200	0.95												□	□	□	□	□	□	□	□
		QLNGL-100-R010-A1200	1.00												○	○	●	○	○	○	●	○
		QLNGL-110-R010-A1200	1.1												□	□	□	□	□	□	□	□
		QLNGL-120-R010-A1200	1.2	5.0											○	○	●	○	○	○	●	○
		QLNGL-125-R010-A1200	1.25												□	□	□	□	□	□	□	□
		QLNGL-130-R010-A1200	1.3												□	□	□	□	□	□	□	□
		QLNGL-140-R010-A1200	1.4												□	□	□	□	□	□	□	□
		QLNGL-145-R010-A1200	1.45												□	□	□	□	□	□	□	□
		QLNGL-150-R010-A1200	1.5												○	○	●	○	○	○	●	○
		QLNGL-160-R010-A1200	1.6	6.0											□	□	□	□	□	□	□	□
		QLNGL-170-R010-A1200	1.7												□	□	□	□	□	□	□	□
		QLNGL-175-R010-A1200	1.75												○	○	●	○	○	○	●	○
		QLNGL-180-R010-A1200	1.8												□	□	□	□	□	□	□	□
		QLNGL-190-R010-A1200	1.9												□	□	□	□	□	□	□	□
		QLNGL-200-R010-A1200	2.0	7.0											○	○	●	○	○	○	●	○
		QLNGL-210-R010-A1200	2.1												□	□	□	□	□	□	□	□
		QLNGL-220-R010-A1200	2.2												○	○	●	○	○	○	●	○
		QLNGL-230-R010-A1200	2.3												□	□	□	□	□	□	□	□
		QLNGL-240-R010-A1200	2.4												□	□	□	□	□	□	□	□
		QLNGL-250-R010-A1200	2.5												○	○	●	○	○	○	●	○

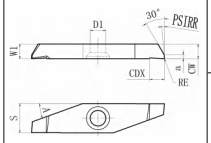
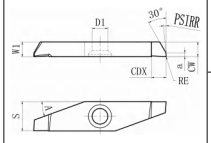
●:First choice ○:Option □:Customized

QSNCR/L



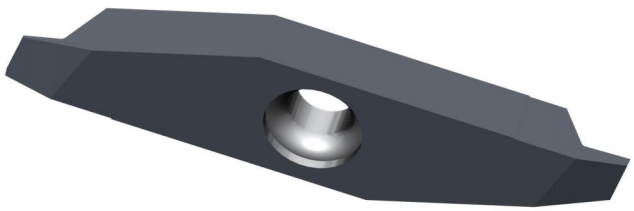
Use taxonomies	
●	: First choice/continuous cutting
○	: Option/continuous cutting
◐	: light interrupted cutting
⧓	: interrupted cutting

		BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
P	Carbon steel/alloy steel					◐		●			◐	●	◐
M	Stainless steel					●	●	◐	○	●	●	○	●
K	Cast iron					○		●			○		
N	Non ferrous metals					○							
S	titanium alloy					●	○	●			◐		

Chipformer	Shape	Model	Dimensions(mm)									PVD Coated											
			CW	a	PSIRR	CDX	RE	w1	S	D1	A	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
NO		QSNFL-030-R00-A0002	2.8	0.3	2°	4.5	0	3	6.1	3.2	20°					○	○	●	○	○	○	●	○
		QSNFL-030-R00-A0005			5°											○	○	●	○	○	○	●	○
		QSNFL-015-R00-A0002		0.15	2°											○	○	●	○	○	○	●	○
		QSNFL-015-R00-A0005			5°											○	○	●	○	○	○	●	○
YES		QSNFL-030-R00-A1202	2.8	0.3	2°	4.5	0	3	6.1	3.2	20°					○	○	●	○	○	○	●	○
		QSNFL-030-R00-A1202			5°											○	○	●	○	○	○	●	○
		QSNFL-015-R00-A1202		0.15	2°											○	○	●	○	○	○	●	○
		QSNFL-015-R00-A1202			5°											○	○	●	○	○	○	●	○

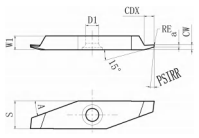
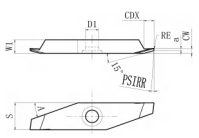
●:First choice ○:Option □:Customized

QSNBR/L



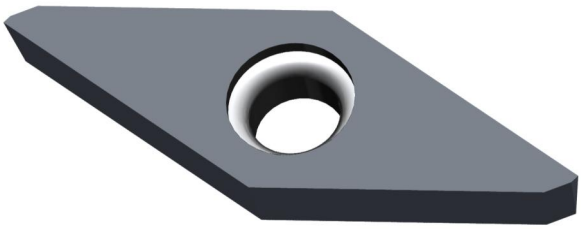
Use taxonomies	
●	: First choice/continuous cutting
○	: Option/continuous cutting
◐	: light interrupted cutting
⧓	: interrupted cutting

P	Carbon steel/alloy steel					◐		●			◐	●	◐		
M	Stainless steel					●	●	◐	○	●	●	○	●		
K	Cast iron					○		●			○				
N	Non ferrous metals					○									
S	titanium alloy					●	○	●			◐				

Chipformer	Shape	Model	Dimensions(mm)									PVD Coated												
			CW	a	PSIRR	CDX	RE	w1	S	D1	A	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20	
NO		QSNBL-020-R00-A0002-10	1.0	0.2	2°	0.6	0	3	6	3.2	20°					○	○	●	○	○	○	●	○	
		QSNBL-020-R00-A0005-10	1.0	0.2	5°											○	○	●	○	○	○	●	○	
		QSNBL-050-R00-A0002-10	1.0	0.5	2°	2.0										○	○	●	○	○	○	●	○	
		QSNBL-050-R00-A0005-10	1.0	0.5	5°											○	○	●	○	○	○	●	○	
		QSNBL-050-R00-A0002-15	1.5	0.5	2°	3.5										○	○	●	○	○	○	●	○	
		QSNBL-050-R00-A0005-15	1.5	0.5	5°											○	○	●	○	○	○	●	○	
YES		QSNBL-020-R00-A0002-10	1.0	0.2	2°	0.6	0	3	6	3.2	20°					○	○	●	○	○	○	●	○	
		QSNBL-020-R00-A0005-10	1.0	0.2	5°											○	○	●	○	○	○	●	○	
		QSNBL-050-R00-A0002-10	1.0	0.5	2°	2.0										○	○	●	○	○	○	●	○	
		QSNBL-050-R00-A0005-10	1.0	0.5	5°											○	○	●	○	○	○	●	○	
		QSNBL-050-R00-A0002-15	1.5	0.5	2°	3.5										○	○	●	○	○	○	●	○	
		QSNBL-050-R00-A0005-15	1.5	0.5	5°											○	○	●	○	○	○	●	○	

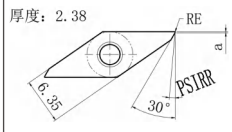
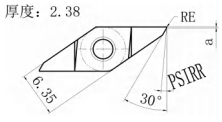
●:First choice ○:Option □:Customized

QSVFR/L



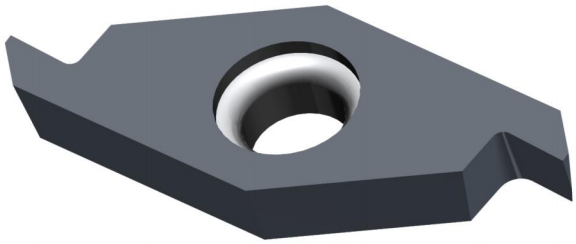
Use taxonomies	
●	: First choice/continuous cutting
○	: Option/continuous cutting
◐	: light interrupted cutting
⧓	: interrupted cutting

P	Carbon steel/alloy steel			◐	●	◐		●	●		◐	○	◐
M	Stainless steel	◐	●	●		●	●	◐		●	●	●	●
K	Cast iron			○		○		●				●	
N	Non ferrous metals	○				○							○
S	titanium alloy	○	○	◐		●	○	●	○			●	

Shape	Model	Dimensions(mm)				PVD Coated											
		a	PSIRR	RE	Chipformer	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
	QSVFR/L-030-R00-A0002	0.3	2°	0	NO	○	○	●	○	○	○	●	○	○	○	●	○
	QSVFR/L-030-R00-A0005		5°			○	○	●	○	○	○	●	○	○	○	●	○
	QSVFR/L-015-R00-A0002	0.15	2°			○	○	●	○	○	○	●	○	○	○	●	○
	QSVFR/L-015-R00-A0005		5°			○	○	●	○	○	○	●	○	○	○	●	○
	QSVFR/L-030-R00-A0402	0.3	2°	0	YES	○	○	●	○	○	○	●	○	○	○	●	○
	QSVFR/L-030-R00-A0402		5°			○	○	●	○	○	○	●	○	○	○	●	○
	QSVFR/L-015-R00-A0402	0.15	2°			○	○	●	○	○	○	●	○	○	○	●	○
	QSVFR/L-015-R00-A0402		5°			○	○	●	○	○	○	●	○	○	○	●	○

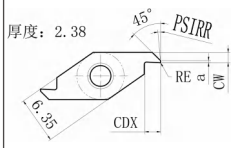
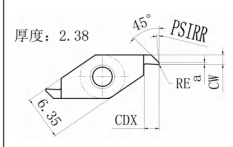
●:First choice ○:Option □:Customized

QSVBR/L



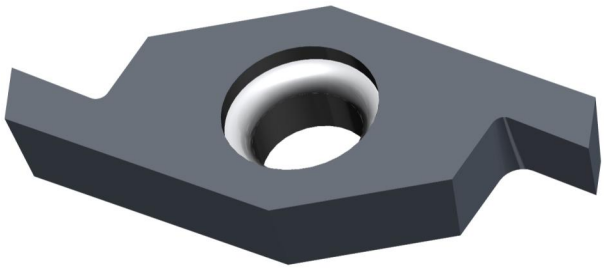
Use taxonomies	
●	: First choice/continuous cutting
○	: Option/continuous cutting
◐	: light interrupted cutting
✱	: interrupted cutting

P	Carbon steel/alloy steel			◐	●	◐		●	●		◐	○	◐
M	Stainless steel	◐	●	●		●	●	◐		●	●	●	●
K	Cast iron			○		○		●				●	
N	Non ferrous metals	○				○							○
S	titanium alloy	○	○	◐		●	○	●	○			●	

Shape	Model	Dimensions(mm)						PVD Coated											
		CW	a	PSIRR	CDX	RE	Chipformer	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
	QSVBR/L-030-R00-A0005-10	1.0	0.3	5°	2.0	0	NO	○	○	●	○	○	○	●	○	○	○	●	○
	QSVBR/L-030-R00-A0002-10	1.0	0.3	2°				○	○	●	○	○	○	●	○	○	○	●	○
	QSVBR/L-015-R00-A0002-10	1.0	0.15	2°				○	○	●	○	○	○	●	○	○	○	●	○
	QSVBR/L-015-R00-A0005-10	1.0	0.15	5°				○	○	●	○	○	○	●	○	○	○	●	○
	QSVBR/L-015-R00-A0005-10	1.2	0.3	5°				○	○	●	○	○	○	●	○	○	○	●	○
	QSVBR/L-030-R00-A0005-14	1.4	0.3	5°				○	○	●	○	○	○	●	○	○	○	●	○
	QSVBR/L-030-R00-A0405-10	1.0	0.3	5°	2.0	0	NO	○	○	●	○	○	○	●	○	○	○	●	○
	QSVBR/L-030-R00-A0402-10	1.0	0.3	2°				○	○	●	○	○	○	●	○	○	○	●	○
	QSVBR/L-015-R00-A0402-10	1.0	0.15	2°				○	○	●	○	○	○	●	○	○	○	●	○
	QSVBR/L-015-R00-A0405-10	1.0	0.15	5°				○	○	●	○	○	○	●	○	○	○	●	○
	QSVBR/L-030-R00-A0405-12	1.2	0.3	5°				○	○	●	○	○	○	●	○	○	○	●	○
	QSVBR/L-030-R00-A0405-14	1.4	0.3	5°				○	○	●	○	○	○	●	○	○	○	●	○

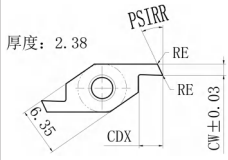
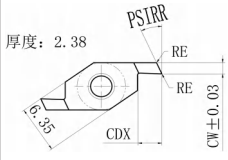
●:First choice ○:Option □:Customized

QSVCR/L



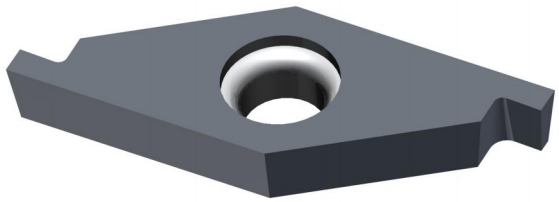
Use taxonomies	
●	: First choice/continuous cutting
○	: Option/continuous cutting
◐	: light interrupted cutting
✱	: interrupted cutting

P	Carbon steel/alloy steel			◐	●	◐		●	●		◐	○	◐
M	Stainless steel	◐	●	●		●	●	◐		●	●	●	●
K	Cast iron			○		○		●				●	
N	Non ferrous metals	○				○							○
S	titanium alloy	○	○	◐		●	○	●	○			●	

Shape	Model	Dimensions(mm)					PVD Coated										
		CW	PSIRR	CDX	RE	Chipformer	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
	QSVCR/L-060-R00-A0025	0.6	25°	1.5	0	NO	○	○	●	○	○	○	●	○	○	○	●	○
	QSVCR/L-070-R00-A0025	0.7		2			○	○	●	○	○	○	●	○	○	○	●	○
	QSVCR/L-080-R00-A0025	0.8		2			□	□	□	□	□	□	□	□	□	□	□	□
	QSVCR/L-090-R00-A0025	0.9		2			□	□	□	□	□	□	□	□	□	□	□	□
	QSVCR/L-100-R00-A0025	1.0		2.5			○	○	●	○	○	○	●	○	○	○	●	○
	QSVCR/L-130-R00-A0025	1.3		2.5			○	○	●	○	○	○	●	○	○	○	●	○
	QSVCR/L-150-R00-A0025	1.5		2.5			○	○	●	○	○	○	●	○	○	○	●	○
	QSVCR/L-060-R00-A0525	0.6	25°	1.5	0	YES	○	○	●	○	○	○	●	○	○	○	●	○
	QSVCR/L-070-R00-A0525	0.7		2			○	○	●	○	○	○	●	○	○	○	●	○
	QSVCR/L-080-R00-A0525	0.8		2			□	□	□	□	□	□	□	□	□	□	□	□
	QSVCR/L-090-R00-A0525	0.9		2			□	□	□	□	□	□	□	□	□	□	□	□
	QSVCR/L-100-R00-A0525	1.0		2.5			○	○	●	○	○	○	●	○	○	○	●	○
	QSVCR/L-130-R00-A0525	1.3		2.5			○	○	●	○	○	○	●	○	○	○	●	○
	QSVCR/L-150-R00-A0525	1.5		2.5			○	○	●	○	○	○	●	○	○	○	●	○

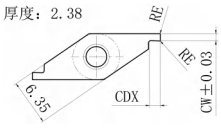
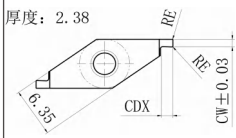
●:First choice ○:Option □:Customized

QSVGR/L



Use taxonomies	
●	: First choice/continuous cutting
○	: Option/continuous cutting
◐	: light interrupted cutting
⧓	: interrupted cutting

P	Carbon steel/alloy steel			◐	●	◐		●	●		◐	○	◐
M	Stainless steel	◐	●	●		●	●	◐		●	●	●	●
K	Cast iron			○		○		●				●	
N	Non ferrous metals	○				○							○
S	titanium alloy	○	○	◐		●	○	●	○			●	

Shape	Model	Dimensions(mm)				PVD Coated											
		CW	CDX	RE	Chipformer	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
	QSVGR/L-025-R00-A0000	0.25	0.15	0	1.4	○	○	●	○	○	○	●	○	○	○	●	○
	QSVGR/L-030-R00-A0000	0.3				□	□	□	□	□	□	□	□	□	□	□	□
	QSVGR/L-035-R00-A0000	0.35				○	○	●	○	○	○	●	○	○	○	●	○
	QSVGR/L-040-R00-A0000	0.4				□	□	□	□	□	□	□	□	□	□	□	□
	QSVGR/L-045-R00-A0000	0.45	0.45			□	□	□	□	□	□	□	□	□	□	□	□
	QSVGR/L-050-R00-A0000	0.5				○	○	●	○	○	○	●	○	○	○	●	○
	QSVGR/L-055-R00-A0000	0.55				□	□	□	□	□	□	□	□	□	□	□	□
	QSVGR/L-060-R00-A0000	0.6				□	□	□	□	□	□	□	□	□	□	□	□
	QSVGR/L-065-R00-A0000	0.65				□	□	□	□	□	□	□	□	□	□	□	□
	QSVGR/L-070-R00-A0000	0.7				□	□	□	□	□	□	□	□	□	□	□	□
	QSVGR/L-075-R00-A0000	0.75	1.4			○	○	●	○	○	○	●	○	○	○	●	○
	QSVGR/L-080-R00-A0000	0.8				□	□	□	□	□	□	□	□	□	□	□	□
	QSVGR/L-085-R00-A0000	0.85				□	□	□	□	□	□	□	□	□	□	□	□
	QSVGR/L-090-R00-A0000	0.9				□	□	□	□	□	□	□	□	□	□	□	□
	QSVGR/L-095-R00-A0000	0.95				□	□	□	□	□	□	□	□	□	□	□	□
	QSVGR/L-100-R00-A0000	1.0				○	○	●	○	○	○	●	○	○	○	●	○
	QSVGR/L-110-R00-A0000	1.1	2.6			□	□	□	□	□	□	□	□	□	□	□	□
	QSVGR/L-120-R00-A0000	1.2				□	□	□	□	□	□	□	□	□	□	□	□
	QSVGR/L-130-R00-A0000	1.3				□	□	□	□	□	□	□	□	□	□	□	□
	QSVGR/L-140-R00-A0000	1.4				□	□	□	□	□	□	□	□	□	□	□	□
	QSVGR/L-150-R00-A0000	1.5				○	○	●	○	○	○	●	○	○	○	●	○
	QSVGR/L-025-R05-A0000	0.25	0.3	0.05	NO	○	○	●	○	○	○	●	○	○	○	●	○
	QSVGR/L-050-R05-A0000	0.5	0.6			○	○	●	○	○	○	●	○	○	○	●	○
	QSVGR/L-075-R05-A0000	0.75	1.4			○	○	●	○	○	○	●	○	○	○	●	○
	QSVGR/L-095-R05-A0000	0.95	1.4			□	□	□	□	□	□	□	□	□	□	□	□
	QSVGR/L-100-R05-A0000	1.0	1.4			○	○	●	○	○	○	●	○	○	○	●	○
	QSVGR/L-150-R05-A0000	1.5	2.6			○	○	●	○	○	○	●	○	○	○	●	○
	QSVGR/L-025-R05-A0500	0.25	0.3	0.05	YES	○	○	●	○	○	○	●	○	○	○	●	○
	QSVGR/L-050-R05-A0500	0.5	0.6			○	○	●	○	○	○	●	○	○	○	●	○
	QSVGR/L-075-R05-A0500	0.75	1.4			○	○	●	○	○	○	●	○	○	○	●	○
	QSVGR/L-095-R05-A0500	0.95	1.4			□	□	□	□	□	□	□	□	□	□	□	□
	QSVGR/L-100-R05-A0500	1.0	1.4			○	○	●	○	○	○	●	○	○	○	●	○
	QSVGR/L-150-R05-A0500	1.5	2.6			○	○	●	○	○	○	●	○	○	○	●	○

●:First choice ○:Option □:Customized

QBS & QBW BACK TURNING

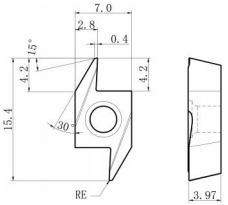
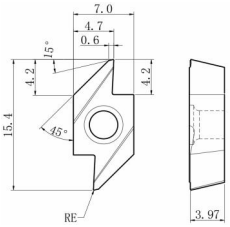
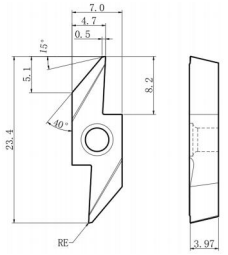
edison@preciturntools.com

https://www.preciturntools.com

QABS/QABW

Use taxonomies	
●	: First choice/continuous cutting
○	: Option/continuous cutting
◐	: light interrupted cutting
⌗	: interrupted cutting

P	Carbon steel/alloy steel			◐		◐		●				◐
M	Stainless steel	◐		●		●		◐				●
K	Cast iron	●				○		●				
N	Non ferrous metals	○				○						
S	titanium alloy	○				●		●				

Shape	Model	Dimensions(mm)	PVD Coated											
		RE	BDJ20	BAJ20	SSJ20	PAJ20	BDG20	BAG20	SSG20	PAG20	BDK20	BAK20	SSK20	PAK20
	QBS15R4005	0.05	○		●		○		●					●
	QBS15R4010	0.1	□		□		□		□					□
	QBS15R4015	0.15	○		●		○		●					●
	QBS15R4015	0.2	□		□		□		□					□
	QBS15R4025	0.25	□		□		□		□					□
	QBW15R4005	0.05	○		●		○		●					●
	QBW15R4010	0.1	□		□		□		□					□
	QBW15R4015	0.15	○		●		○		●					●
	QBW15R4020	0.2	□		□		□		□					□
	QBW15R4025	0.25	□		□		□		□					□
	QBW23R5005	0.05	○		●		○		●					●
	QBW23R5010	0.1	□		□		□		□					□
	QBW23R5015	0.15	○		●		○		●					●
	QBW23R5020	0.2	□		□		□		□					□
	QBW23R5025	0.25	□		□		□		□					□

●:First choice ○:Option □:Customized

tool holder

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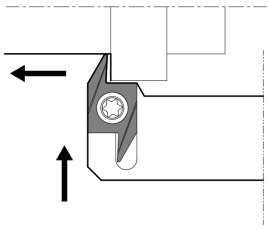
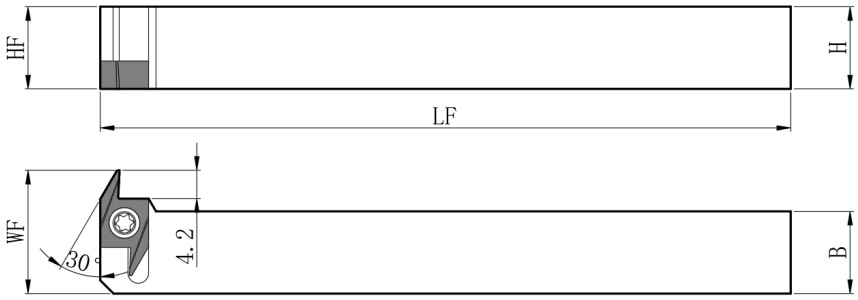
https://www.preciturntools.com

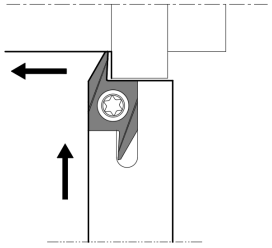
SQABSS-40F

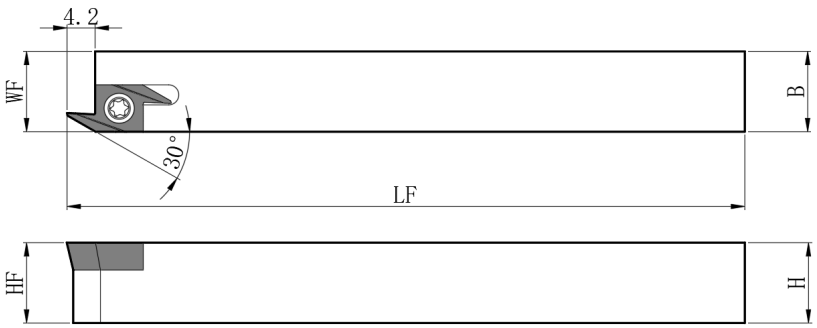




● left hand execution shown

SQABS-40F



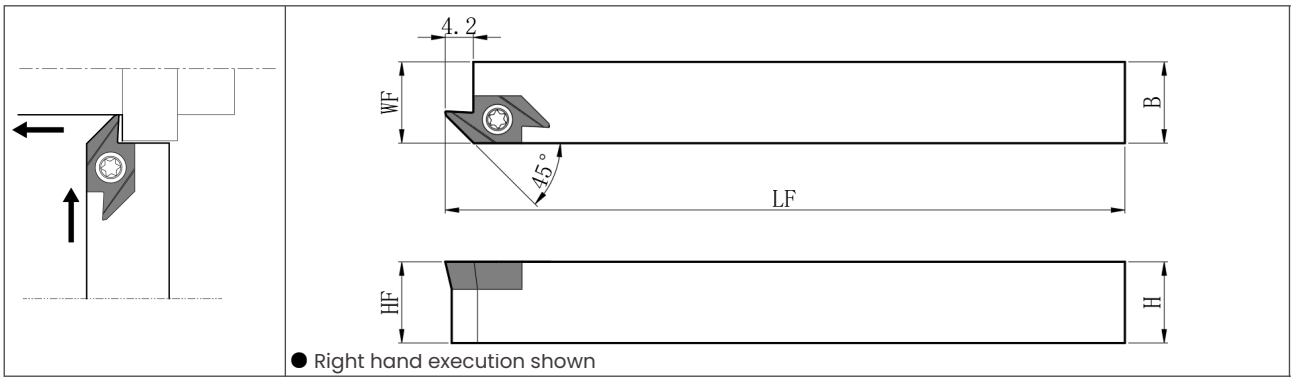


● Right hand execution shown

● Toolholder size

Model		in stock	Dimensions (mm)					R (RE)	inserts	Spare Parts	
			H	HF	B	LF	WF			screw	torx wrenchscrew
SQABSSL	1010JX-40F	●	10	10	10	125	14	0.15	QABS 15R40…	M3.0	T10
SQABSSL	1212JX-40F	●	12	12	12		18				
SQABSSL	1616JX-40F	●	16	16	16		22				
SQABSSL	2020JX-40F	●	20	20	20		26				
SQABSR	1010JX-40F	●	10	10	10	120	10.2	0.15	QABS 15R40…	M3.0	T10
SQABSR	1212JX-40F	●	12	12	12		12.2				
SQABSR	1616JX-40F	●	16	16	16		16.2				
SQABSR	1212F-40F	●	12	12	12						
SQABSR	2020K-40F	●	20		20	125	20.2				

■ SQABW-40F

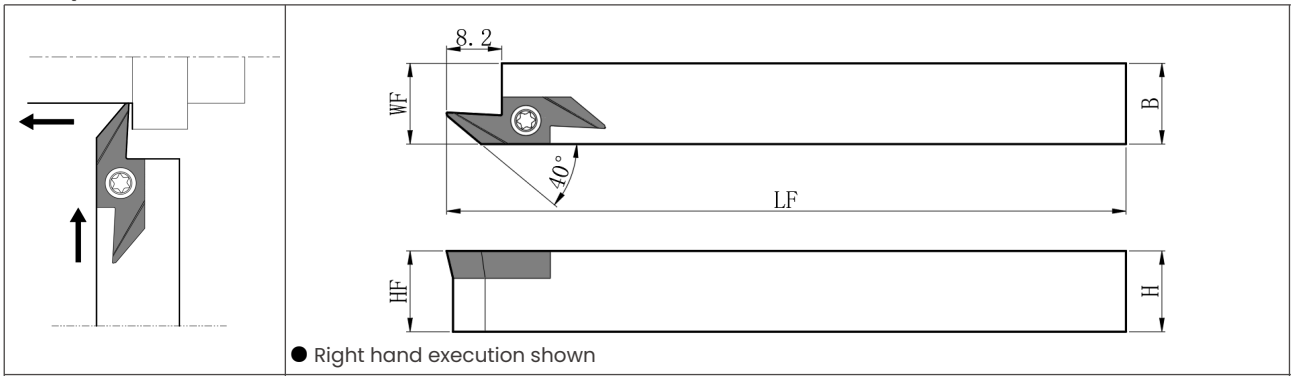


● Right hand execution shown

●Toolholder size

Model		in stock	Dimensions (mm)					R (RE)	inserts	Spare Parts	
			H	HF	B	LF	WF			screw	torx wrenchscrew
SQABWR	1010JX-40F	●	10	10	10	120	10.2	0.15	QABW 15R40…	M3.0	T10
SQABWR	1212JX-40F	●	12	12	12		12.2				
SQABWR	1616JX-40F	●	16	16	16		16.2				
SQABWR	2020K-40F	●	20	20	20	125	20.2				

■SQABW-50F

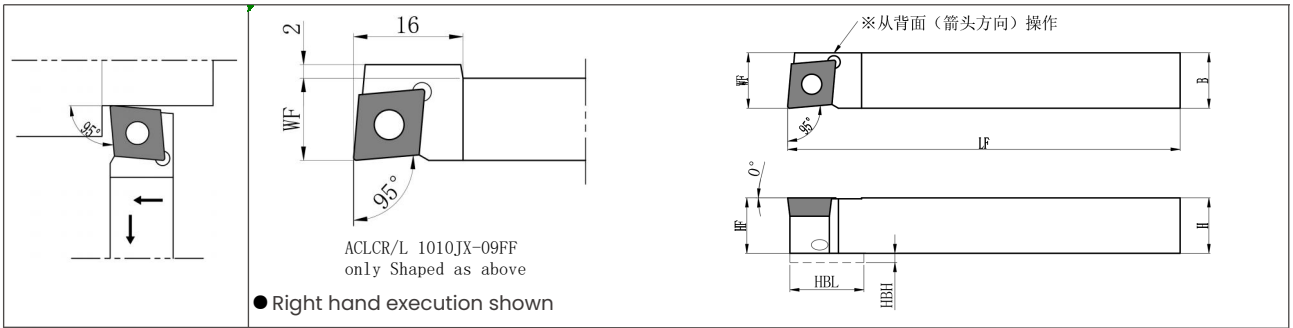


● Right hand execution shown

Toolholder size

Model		in stock	Dimensions (mm)					(RE)	inserts	Spare Parts	
			H	HF	B	LF	WF			screw	torx wrenchscrew
SQABWR	1010JX-50F	●	10	10	10	120	10.2	0.15	QABW 23R50…	M3.0	T10
SQABWR	1212JX-50F	●	12	12	12		12.2				
SQABWR	1616JX-50F	●	16	16	16		16.2				
SQABWR	2020K-50F	●	20	20	20	125	20.2				

ACLC-FF (without offset head) (OD/end face machining)

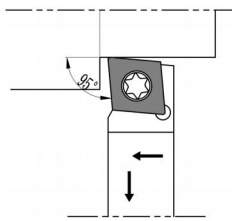


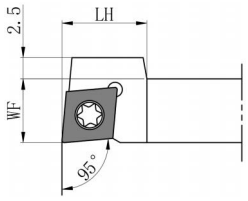
● Right hand execution shown

●Toolholder size

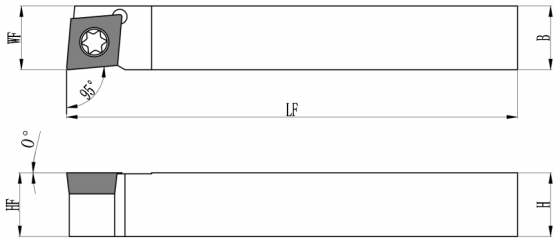
Model		In stock		Dimensions (mm)							(RE)	inserts	Spare Parts		
													tubular rivet	screw	torx wrench
		R	L	H	HF	HBH	B	LF	HBL	WF					
ACLCR/L	1010JX-06FF	●	●	10	10	—	10	120	—	10	0.2	CC…0602	LPF-11	HSBx8R/L	FH-2
ACLCR/L	1010JX-09FF	●	●	10	10	2	10		16	10		CC…09T3	LPF-13		
ACLCR/L	1212JX-09FF	●	●	12	12	—	12		—	12					
ACLCR/L	1616JX-09FF	●	●	16	16		16			16			LPF-17		

■ SCLC-FF (without offset head) (OD/end face machining)





SCLCR/L 1010JX-09FF
only for the above shape

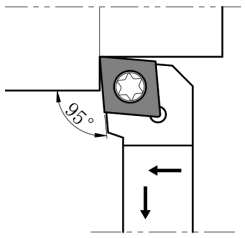


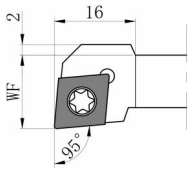
●Right hand execution shown

●Toolholder size

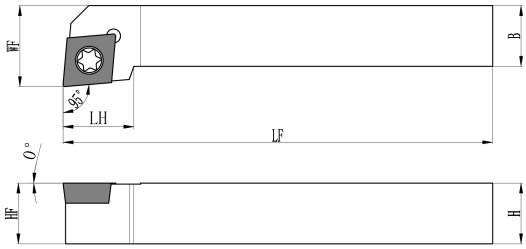
Model		In stock		Dimensions (mm)						(RE)	inserts	Spare Parts	
												screw	torx wrench
		R	L	H	HF	B	LF	LH	WF				
SCLCR/L	0808F-06FF	●	●	8	8	8	85	–	8	0.2	CC…0602	M2.5	T8
SCLCR/L	1010JX-06FF	●	●	10	10	10	120		10				
SCLCR/L	1010JX-09FF	●	●	10	10	10		15	10	0.2	CC…09T3	M4.0	T15
SCLCR/L	1212F-09FF	●	●	12	12	12	85	–	12				
SCLCR/L	1212JX-09FF	●	●	12	12	12	120		12				
SCLCR/L	1616JX-09FF	●	●	16	16	16			16				
SCLCR/L	2020JX-09FF	●	●	20	20	20			20				

A-SVUC(B)-AE General vibration-resistant toolholder (profiling)





SCLCR/L1010F-09
only is the above shape

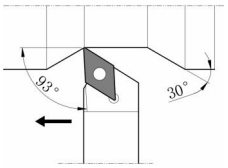


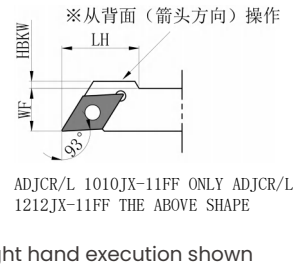
●Right hand execution shown

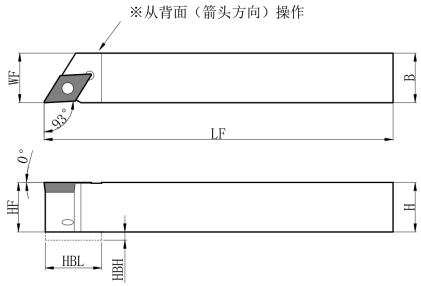
●Toolholder size

Model		in stock		Dimensions (mm)						R (RE)	inserts	Spare Parts		
												screw	torx wrench	Hex wrench
		R	L	H	HF	B	LF	LH	WF					
SCLCR/L	1010F-06	●	●	10	10	10	80	9	12	0.2	CC…0602	M2.5	T8	—
SCLCR/L	1010F-09	●	●	10	10	10	80	14	14	0.2	CC…09T3	M4.0	T15	—
SCLCR/L	1212H-09	●	●	12	12	12	100		16					
SCLCR/L	1616H-09	●	●	16	16	16		15	20					
SCLCR/L	2020K-09	●	●	20	20	20	125	20	25					
SCLCR/L	2525M-09	●	●	25	25	25	150	22	32					
SCLCR/L	1616H-12	●	●	16	16	16	100	20	20	0.4	CC…1204	M5.0	—	LTW-20
SCLCR/L	2020K-12	●	●	20	20	20	125	22	25					
SCLCR/L	2525M-12	●	●	25	25	25	150		32					

■ ADJC-FF (without offset head) (O.D. / profiling)





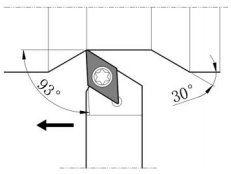


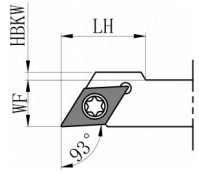
● Right hand execution shown

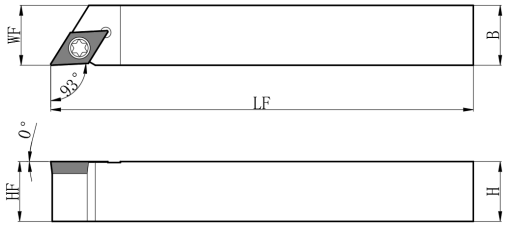
●Toolholder size

Model		in stock R	in stock L	Dimensions (mm) H	HF	HBH	B	LF	LH HBL	WF	HBKW	R (RE)	inserts	Component: tubular rivet	screw	torx wrench
ADJCR/L	1010JX-07FF	●	●	10	10	—	10	120	—	10	—	0.2	DC…0702	LPF-11	HSBx8R/L	FH-2
ADJCR/L	1010JX-11FF	●	●	10	10	2	10		20	10	3		DC…11T3	LPF-13		
ADJCR/L	1212JX-11FF	●	●	12	12	—	12			12	1					
ADJCR/L	1616JX-11FF	●	●	16	16		16		—	16	—			LPF-17		

■ SDJC-FF (without offset head) (O.D. / profiling)





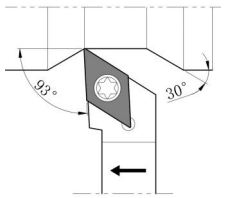


● Right hand execution shown

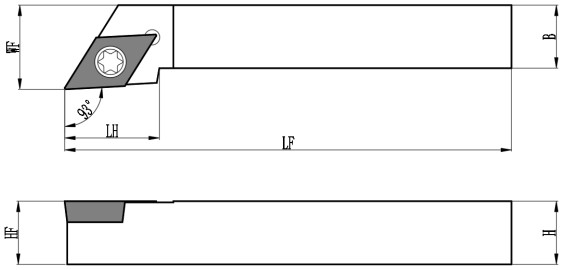
●Toolholder size

Model		in stock R	in stock L	Dimensions (mm) H	HF	B	LF	LH	WF	HBKW	R (RE)	inserts	Spare Parts: screw	torx wrench
SDJCR/L	0808F-07FF	●	●	8	8	8	85	14	8	0.5	0.2	DC…0702	M2.5	T8
SDJCR/L	1010JX-07FF	●	●	10	10	10	120	—	10	—				
SDJCR/L	1010JX-11FF	●	●	10	10	10		20	10	3		DC…11T3	M4.0	T15
SDJCR/L	1212F-11FF	●	●	12	12	12	85		12	1				
SDJCR/L	1212JX-11FF	●	●	12	12	12	120		12	1	0.2			
SDJCR/L	1616JX-11FF	●	●	16	16	16		—	16	—				
SDJCR/L	2020JX-11FF	●	●	20	20	20			20					

■SDJC (OD/Profiling)



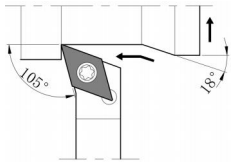
● Right hand execution shown

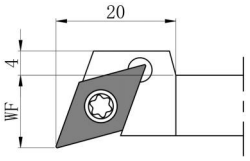


●Toolholder size

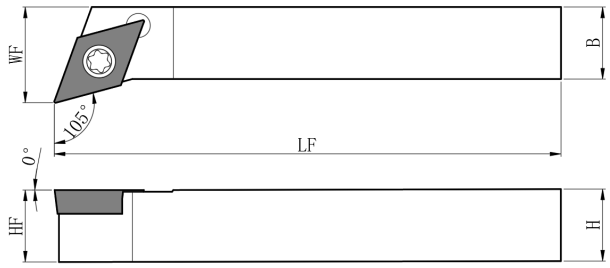
Model		in stock		Dimensions (mm)						R (RE)	inserts	Spare Parts	
												screw	torx wrench
		R	L	H	HF	B	LF	LH	WF				
SDJCR/L	1010F-07	●	●	10	10	10	80	12	12	0.2	DC…0702	M2.5	T8
SDJCR/L	1010F-11	●	●	10	10	10		18	12	0.2	DC…11T3	M4.0	T15
SDJCR/L	1212H-11	●	●	12	12	12	100		16				
SDJCR/L	1616H-11	●	●	16	16	16			20				
SDJCR/L	2020K-11	●	●	20	20	20	125		25				
SDJCR/L	2525M-11	●	●	25	25	25	150	23	32				

■SDXC (OD/Endface/Profiling)

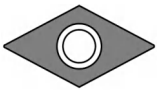
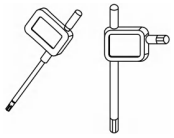




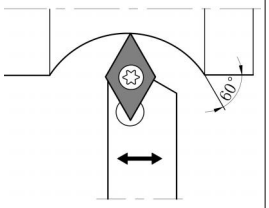
● Right hand execution shown

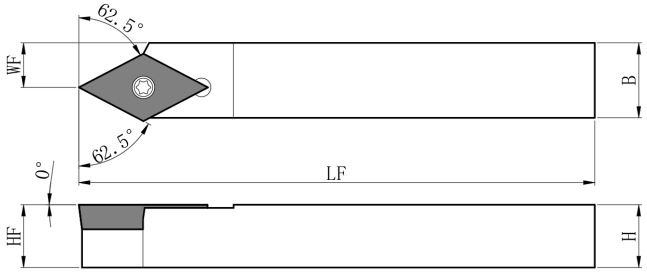


●Toolholder size

Model		in stock		Dimensions (mm)					R (RE)	inserts	Spare Parts	
											screw	torx wrench
		R	L	H	HF	B	LF	WF				
SDXCR/L	1010JX-07	●	●	10	10	10	120	12	0.2	DC…0702	M2.5	T8
SDXCR/L	1010JX-11	●	●	10	10	10			0.2	DC…11T3	M4.0	T15
SDXCR/L	1212JX-11	●	●	12	12	12		16				
SDXCR/L	1616JX-11	●	●	16	16	16		20				

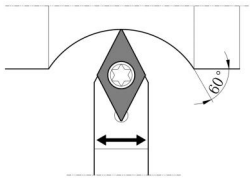
■SDNC-F (O.D. / Profiling)

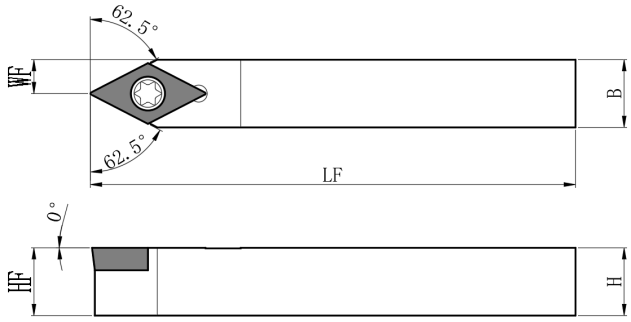




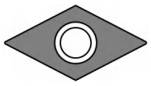
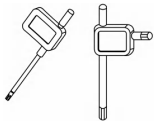
● Right hand execution shown

■SDUC (OD/Profiling)

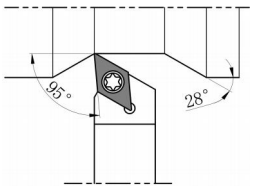


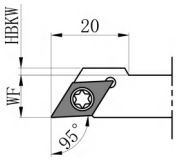


● Toolholder size

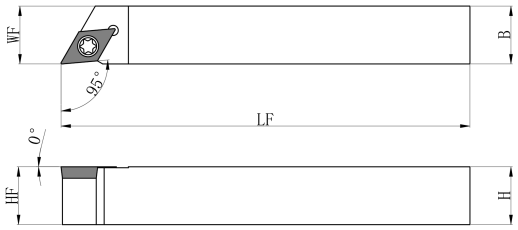
Model		in stock			Dimensions (mm)					R (RE)	inserts	Spare Parts	
												screw	torx wrench
		R	N	L	H	HF	B	LF	WF				
SDNCR/L	1010JX-07F	●		●	10	10	10	120	7	0.2	DC…0702	M2.5	T8
SDNCN	1010JX-07		●		10	10	10		5	0.2	DC…0702	M2.5	T8
SDNCN	1212JX-07		●		12	12	12		6				
SDNCN	1010JX-11		●		10	10	10	120	5	0.2	DC…11T3	M4.0	T15
SDNCN	1212JX-11		●		12	12	12		6				
SDNCN	1616JX-11		●		16	16	16		8				
SDNCN	0808F-07		●		8	8	8	85	4	0.2	DC…0702	M2.5	T8
SDNCN	1010F-11		●		10	10	10	80	5	0.2	DC…11T3	M4.0	T15
SDNCN	1212F-11		●		12	12	12	85	6				
SDNCN	1616H-11		●		16	16	16	100	8				

■SDLC-FF (without offset head) (O.D. / profiling)





仅 SDLCR/L 1010..-11FF
SDLCR/L 1212..-11FF
为上述形状

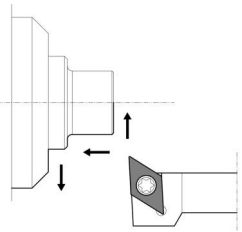


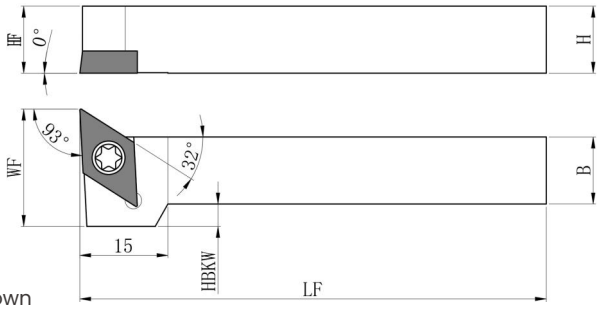
● Right hand execution shown

● Toolholder size

Model		in stock		Dimensions (mm)						R (RE)	inserts	Spare Parts	
												screw	torx wrench
		R	L	H	HF	B	LF	WF	HBKW				
SDLCR/L	1010JX-07FF	●	●	10	10	10	120	10	-	0.2	DC…0702	M2.5	T8
SDLCR/L	1212JX-07FF	●	●	12	12	12		12					
SDLCR/L	1616JX-07FF	●	●	16	16	16		16					
SDLCR/L	1010JX-11FF	●	●	10	10	10	120	10	4		DC…11T3	M4.0	T15
SDLCR/L	1212JX-11FF	●	●	12	12	12		12	2				
SDLCR/L	1616JX-11FF	●	●	16	16	16		16	-				
SDLCR/L	1212F-07F	●	●	12	12	12	85	12	-		DC…0702	M2.5	T8
SDLCR/L	1010F-11	●	●	10	10	10	80	10	4		DC…11T3	M4.0	T15
SDLCR/L	1212F-11	●		12	12	12	85	12	2				
SDLCR/L	1616H-11	●		16	16	16	100	16	-				

■SDUC (for row of tool holders) (O.D. / profiling)



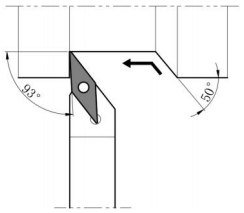


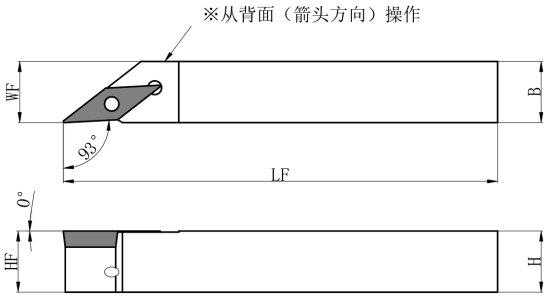
● Right hand execution shown

● Toolholder size

Model		in stock		Dimensions (mm)						R (RE)	inserts	Component	
												screw	torx wrench
		R	L	H	HF	B	LF	WF	HBKW				
SDUCR/L	1010K 11	●	●	10	10	10	120	15	6	0.2	DC…11T3	M4.0	T15
SDUCR/L	1212K 11	●	●	12	12	12		17	4				
SDUCR/L	1616K 11	●	●	16	16	16		20	0				
SDUCR/L	2020K 11	●	●	20	20	20		25	0				

■AVJB-FF (without offset head) (O.D. / profiling)



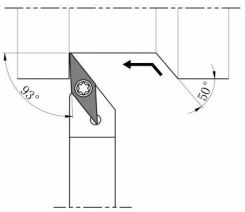


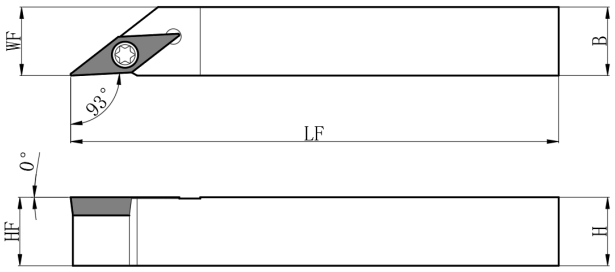
● Right hand execution shown

● Toolholder size

Model		in stock		Dimensions (mm)					R (RE)	inserts	Spare Parts		
		R	L	H	HF	B	LF	WF			tubular rivet	screw	torx wrench
AVJBR/L	1010JX-11FF	●	●	10	10	10	120	10	0.4	VB…1103	LPF-11	HSBx8R/L	FH-2
AVJBR/L	1212JX-11FF	●	●	12	12	12		12			LPF-1113		
AVJBR/L	1616JX-11FF	●	●	16	16	16		16			LPF-1117		

■SVJB-FF (without offset head) (O.D. / profiling)



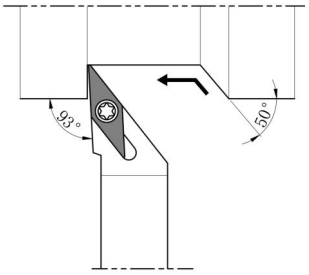


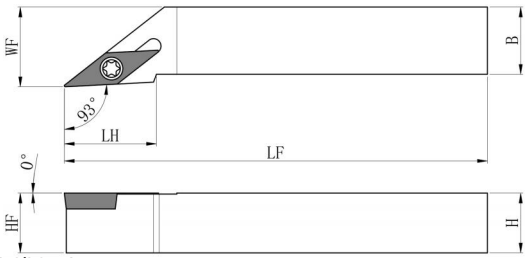
● Right hand execution shown

● Toolholder size

Model		in stock		Dimensions (mm)					R (RE)	inserts	Spare Parts	
		R	L	H	HF	B	LF	WF			screw	torx wrench
SVJBR/L	1010JX-11FF	●	●	10	10	10	120	10	0.4	VB…1103	M2.5	T8
SVJBR/L	1212JX-11FF	●	●	12	12	12		12				
SVJBR/L	1616JX-11FF	●	●	16	16	16		16				
SVJBR/L	2020JX-11FF	●	●	20	20	20		20				

■SVJB (OD/Profiling)



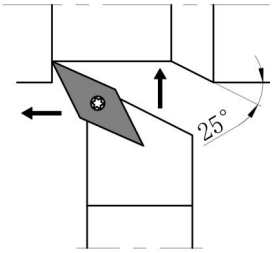


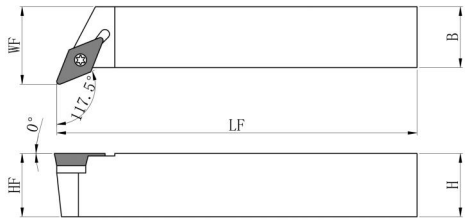
●Right hand execution shown

●Toolholder size

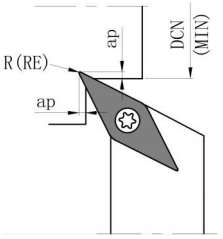
Model		in stock		Dimensions (mm)						R (RE)	inserts	Component				
												screw	torx wrench	SHIM	screw	Hex wrench
		R	L	H	HF	B	LF	LH	WF							
SVJBR/L	2020K-11	●	●	20	20	20	125	30	25	0.4	VB…1103	M2.5	T8	–	–	–
SVJBR/L	2525M-11	●	●	25	25	25	150	35	32							
SVJBR/L	2020K-16N	●	●	20	20	20	125	30	25	0.8	VB…1604	M4.0	T15	SVN-32N (SVN-32S)	SS-4N	LW-4
SVJBR/L	2525M-16N	●	●	25	25	25	150		32							

■SVPB (OD/end face/profiling/clearance machining)





●Right hand execution shown

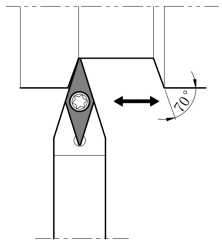


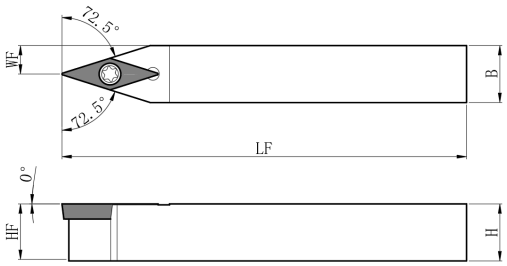
SVPB刀杆的清角加工径		
刀尖R (RE)	ap	DCN (MIN.)
0.4	0.5	φ25
	1	φ30
0.8	0.5	φ25
	1	φ30

●Toolholder size

Model		in stock		Dimensions (mm)					R (RE)	inserts	Spare Parts				
											screw	torx wrench	SHIM	screw	Hex wrench
		R	L	H	HF	B	LF	WF							
SVPBR/L	1010JX-11	●	●	10	10	10	120	15	0.4	VB…1103	M2.5	T8	–	–	–
SVPBR/L	1212JX-11	●	●	12	12	12		17							
SVPBR/L	1616JX-11	●	●	16	16	16		21							
SVPBR/L	2020K-11	●	●	20	20	20	125	25	0.4						
SVPBR/L	2525M-11	●	●	25	25	25	150	32							
SVPBR/L	2020K-16N	●	●	20	20	20	125	25	0.8	VB…1604	M4.0	T15	SVN-32N (SVN-32S)	SS-4N	LW-4
SVPBR/L	2525M-16N	●	●	25	25	25	150	32							

■SVVB (OD/Profiling)

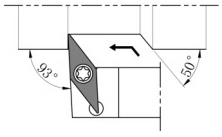


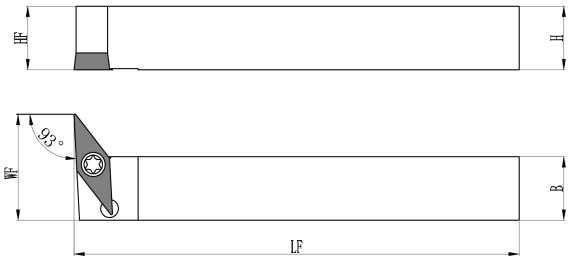


●Toolholder size

Model		in stock R	in stock L	Dimensions (mm) H	HF	B	LF	WF	R (RE)	inserts	Spare Parts screw	torx wrench	SHIM	screw	Hex wrench
SVVBN	1212F-11	●	●	12	12	12	85	6	0.4	VB…1103	M2.5	T8	-	-	-
SVVBN	1010JX-11	●	●	10	10	10	120	5	0.4						
SVVBN	1212JX-11	●	●	12	12	12		6							
SVVBN	1616JX-11	●	●	16	16	16		8							
SVVBN	1010F-11	●	●	10	10	10	80	5	0.4						
SVVBN	1616H-11	●	●	16	16	16	100	8							
SVVBN	2020K-11	●	●	20	20	20	125	10							
SVVBN	2525M-11	●	●	25	25	25	150	13							
SVVBN	2020K-16N	●	●	20	20	20	125	10	0.8	VB…1604	M4.0	T15	SVN-32N (SVN-32S)	SS-4N	LW-4
SVVBN	2525M-16N	●	●	25	25	25	150	13							

■SVUB (for row of tool holders) (O.D. / profiling)



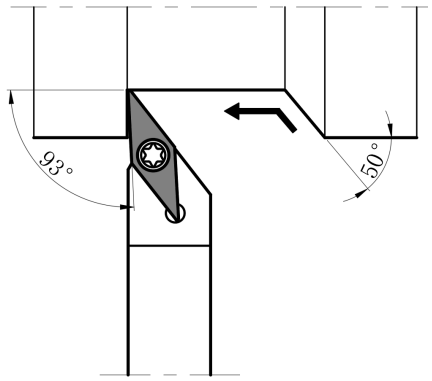


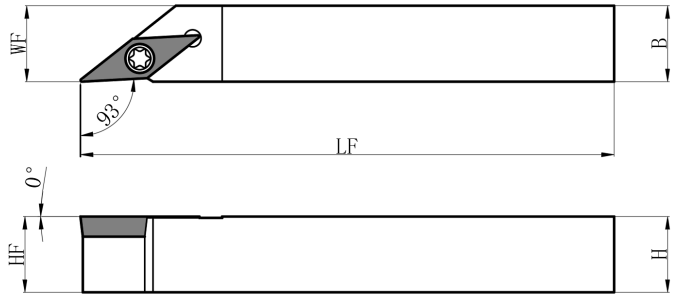
●Left hand (L) shown

●Toolholder size

Model		in stock R	in stock L	Dimensions (mm) H	HF	B	LF	WF	R (RE)	inserts	Spare Parts screw	torx wrench
SVUBR/L	1212JX-11	●	●	12	12	12	120	20	0.4	VB…1103	M2.5	T8
SVUBR/L	1616JX-11	●	●	16	16	16		25				
SVUBR/L	2020K-11	●	●	20	20	20		29				

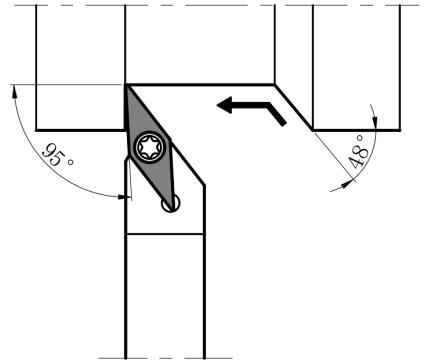
■SVJC-FF (without offset head) (O.D. / profiling)

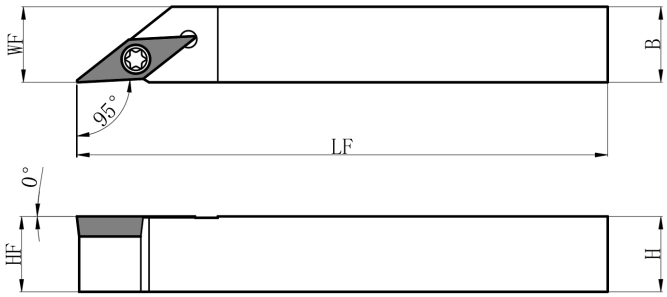




●Right hand execution shown

■SVLC-FF (without offset head) (O.D. / profiling)



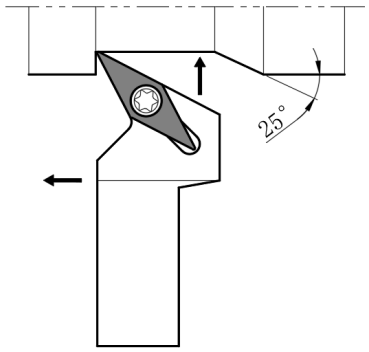


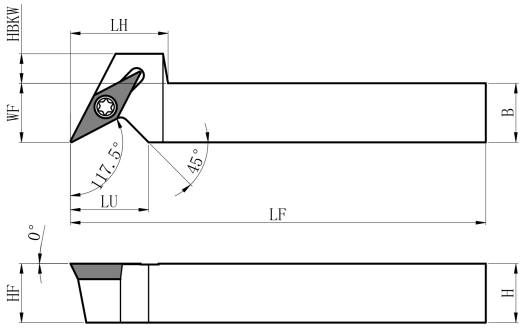
●Right hand execution shown

●Toolholder size

Model		in stock		Dimensions (mm)					R (RE)	inserts	Spare Parts	
											screw	torx wrench
		R	L	H	HF	B	LF	WF				
SVJCR/L	1010JX-11FF	●	●	10	10	10	120	10	0.2	VC···1103	M2.5	T8
SVJCR/L	1212F-11FF	●	●	12	12	12	85	12				
SVJCR/L	1212JX-11FF	●	●	12	12	12	120	12				
SVJCR/L	1616JX-11FF	●	●	16	16	16		16				
SVJCR/L	2020JX-11FF	●	●	20	20	20		20				
SVLCR/L	1212F-11FF	●	●	12	12	12	85	12	0.2	VC···1103	M2.5	T8
SVLCR/L	1212JX-11FF	●	●	12	12	12	120	12				
SVLCR/L	1616JX-11FF	●	●	16	16	16		16				

■SVPC-FF (without offset head) (OD/end face/profile/clearance machining)

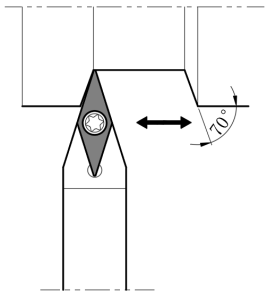


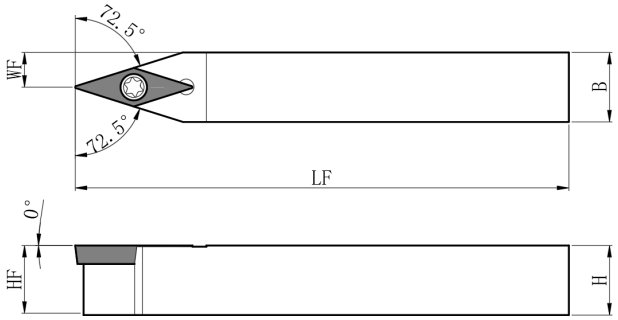


●Right hand execution shown

●Toolholder size

Model		in stock		Dimensions (mm)								R (RE)	inserts	Spare Parts	
														screw	torx wrench
		R	L	H	HF	B	LF	LU	LH	WF	HBKW				
SVPCR	1010JX-11FF	●	●	10	10	10	120	16	20	10	8	0.2	VB…1103	M2.5	T8
SVPCR	1212F-11FF	●	●	12	12	12	85			12	6				
SVPCR	1212JX-11FF	●	●	12	12	12	120								
SVPCR	1616JX-11FF	●	●	16	16	16		20		16	2				

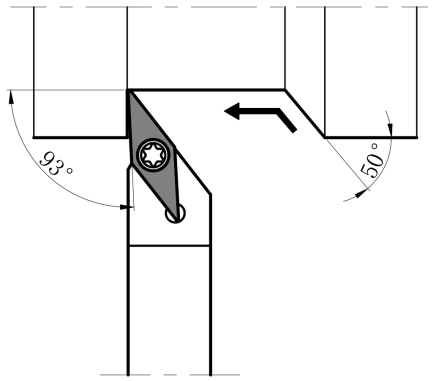


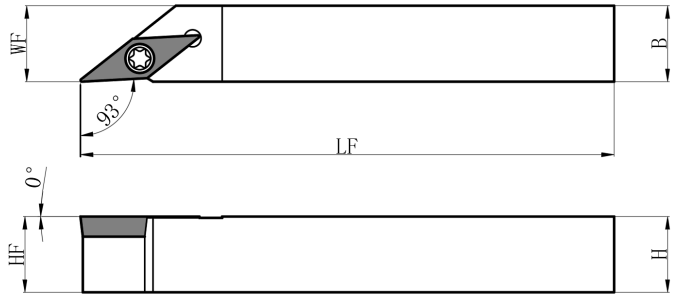


●Toolholder size

Model		in stock		Dimensions (mm)					标准刀尖R(RE)	inserts	Spare Parts		
											screw	torx wrench	
		R	L	H	HF	B	LF	WF					
SVVCN	1010JX-11	●	●	10	10	10	120	5	0.2	VB…1103	M2.5	T8	
SVVCN	1212JX-11	●	●	12	12	12		6					
SVVCN	1616JX-11	●	●	16	16	16		8					

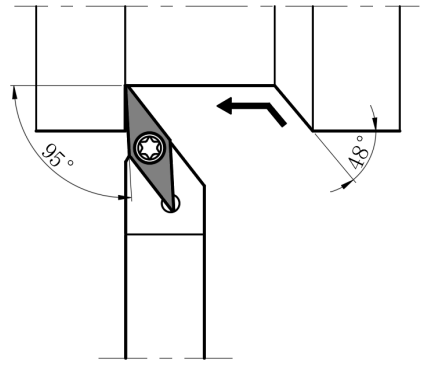
■SVJP-FF (without offset head) (O.D. / profiling)

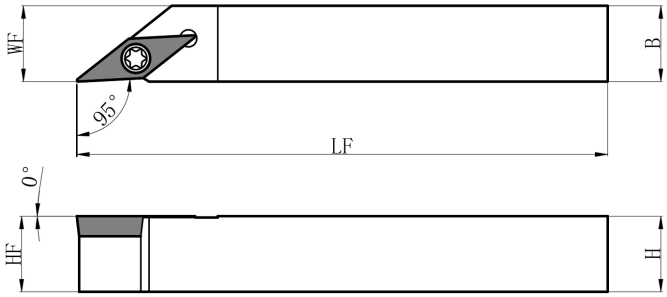




●Right hand execution shown

■SVLP-FF (without offset head) (O.D. / profiling)



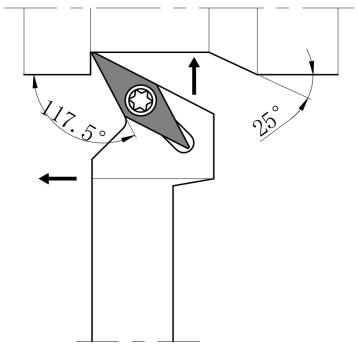


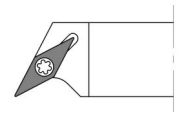
●Right hand execution shown

●Toolholder size

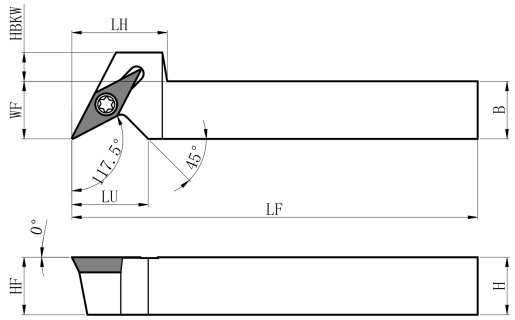
Model		in stock		Dimensions (mm)					R (RE)	inserts	Spare Parts	
											screw	torx wrench
		R	L	H	HF	B	LF	WF				
SVJPR/L	1212F-11FF	●	●	12	12	12	85	12	0.2	VP…1103	M2.5	T8
SVJPR/L	1212JX-11FF	●	●	12	12	12	120	12				
SVJPR/L	1616JX-11FF	●	●	16	16	16		16				
SVJPR/L	2020JX-11FF	●	●	20	20	20		20				
SVLPR/L	1010JX-08FF	●	●	10	10	10	120	10	0.1	VP…0802	M2.0	T6
SVJPR/L	1212JX-08FF	●	●	12	12	12		12				
SVJPR/L	1616JX-08FF	●	●	16	16	16		16				
SVLPR/L	1212JX-11FF	●	●	12	12	12	120	12	0.2	VP…1103	M2.5	T8
SVLPR/L	1616JX-11FF	●	●	16	16	16		16				
SVLPR/L	1212F-08FF	●	●	12	12	12	85	12	0.1	VP…0802	M2.0	T6
SVLPR/L	1212F-11FF	●	●	12	12	12	85	12	0.2	VP…1103	M2.5	T8

■SVPP-FF (without offset head) (OD/end face/profile/clearance machining)





仅 SVPPR1616..08FF
为上述形状

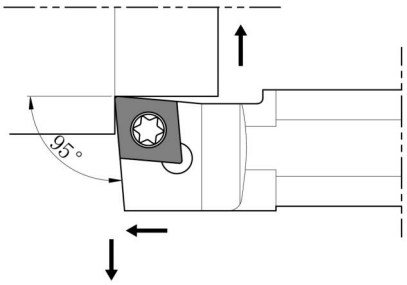


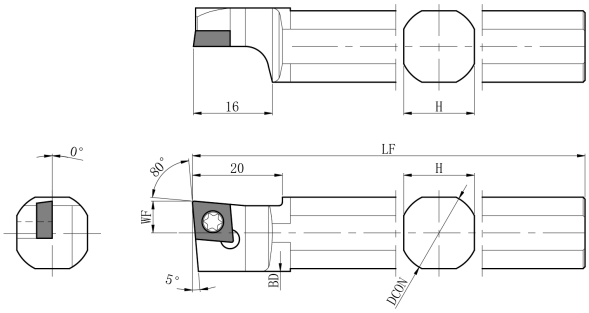
●Right hand execution shown

●Toolholder size

Model		in stock		Dimensions (mm)								R (RE)	inserts	Spare Parts	
														screw	torx wrench
		R	L	H	HF	B	LF	LU	LH	WF	HBKW				
SVPPR	1010JX-08FF	●	●	10	10	10	120	12	16	10	4	0.1	VP…0802	M2.0	T6
SVPPR	1212JX-08FF	●	●	12	12	12				12	2				
SVPPR	1616JX-08FF	●	●	16	16	16			–	16	–				
SVPPR	1010JX-11FF	●	●	10	10	10	120	16	20	10	8	0.2	VP…1103	M2.5	T8
SVPPR	1212JX-11FF	●	●	12	12	12				12	6				
SVPPR	1616JX-11FF	●	●	16	16	16				16	2				
SVPPR	1212F-08FF	●	●	12	12	12		12	16	12	2	0.1	VP…0802	M2.0	T6
SVPPR	1212F-11FF	●	●	12	12	12		16	20	12	6	0.2	VP…1103	M2.5	T8

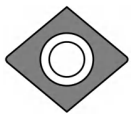
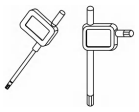
■S-SCLC (outer diameter/end face processing)



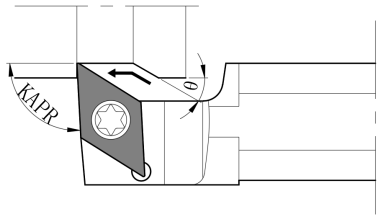


●Left hand execution shown | left-hand(L)holder for right-hand(R)insert.

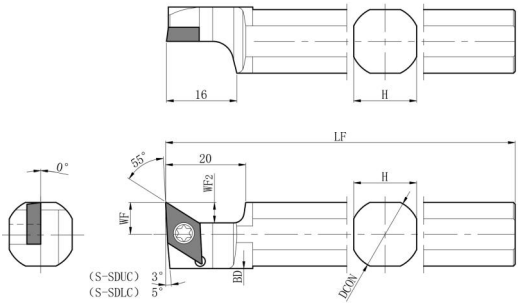
●刀杆尺寸

Model	in stock	Dimensions (mm)					R (RE)	inserts	Spare Parts	
		DCON	LF	WF	BD	H			screw	torx wrench
										
S12F-SCLCL06	●	12	80	6	13.4	11	0.4	CC…0602	M2.5	T8
S14H-SCLCL06	●	14	100			13				
S15F-SCLCL06	●	15.875	85		15.4	15				
S16F-SCLCL06	●	16								
S19G-SCLCL06	●	19.05	90		18.4	17				
S19K-SCLCL06	●		120							
S20G-SCLCL06	●	20	90		19.4	18				
S20K-SCLCL06	●		120							
S19G-SCLCL09	●	19.05	90	10	18.4	17	0.4	CC…09T3	M4.0	T15
S19K-SCLCL09	●		120							
S20G-SCLCL09	●	20	90		19.4	18				
S20K-SCLCL09	●		120							
S25.0H-SCLCL09	●	25	100		24.4	23				
S25K-SCLCL09	●	25.4	120		24.8					

■S-SDUC (outer diameter/profiling)/S-SDLC (outer diameter/profiling)



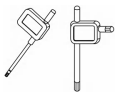
KAPR=93° (S-SDUC)
KAPR=95° (S-SDLC)
θ =30° (S-SDUC)
θ =28° (S-SDLC)



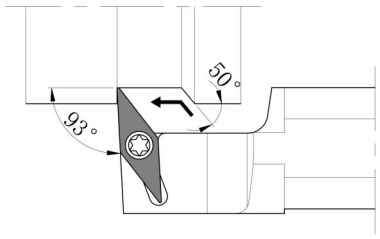
●Left hand execution shown

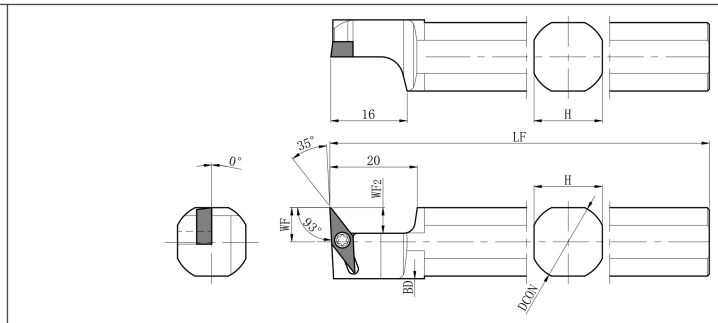
left-hand(L)holder for right-hand(R)insert.

Toolholder size

Model	in stock	Dimensions (mm)						R (RE)	inserts	Spare Parts	
										screw	torx wrench
		DCON	LF	WF	BD	H	WF2				
S14H-SDUCL07	●	14	100	6	13.4	13	3.8	0.4	DC...0702	M2.5	T8
S15F-SDUCL07	●	15.875	85		15.4	15					
S19G-SDUCL07	●	19.05	90		18.4	17					
S19K-SDUCL07	●		120								
S20G-SDUCL07	●	20	90		19.4	18					
S20K-SDUCL07	●		120								
S19G-SDUCL11	●	19.05	90	10	18.4	17	5.8	0.4	DC...11T3	M4.0	T15
S19K-SDUCL11	●		120								
S20G-SDUCL11	●	20	90		19.4	18					
S20K-SDUCL11	●		120								
S22K-SDUCL11	●	22	120		21.4	20					
S25.0H-SDUCL11	●	25	100		24.4	23					
S25K-SDUCL11	●	25.4	120		24.8						
S12F-SDLCL07	●	12	80	6	13.4	11	3.8	0.4	DC...0702	M2.5	T8
S14H-SDLCL07	●	14	100			13					
S15F-SDLCL07	●	15.875	85		15.4	15					
S16F-SDLCL07	●	16									
S19G-SDLCL07	●	19.05	90		18.4	17					
S19K-SDLCL07	●		120								
S20G-SDLCL07	●	20	90		19.4	18					
S20K-SDLCL07	●		120								
S19G-SDLCL11	●	19.05	90	10	18.4	17	5.8	0.4	DC...11T3	M4.0	T15
S19K-SDLCL11	●		120								
S20G-SDLCL11	●	20	90		19.4	18					
S20K-SDLCL11	●		120								
S22K-SDLCL11	●	22	120		21.4	20					
S25.0H-SDLCL11	●	25	100		24.4	23					
S25K-SDLCL11	●	25.4	120		24.8						

■S-SVUB(C) (outer diameter/profiling)





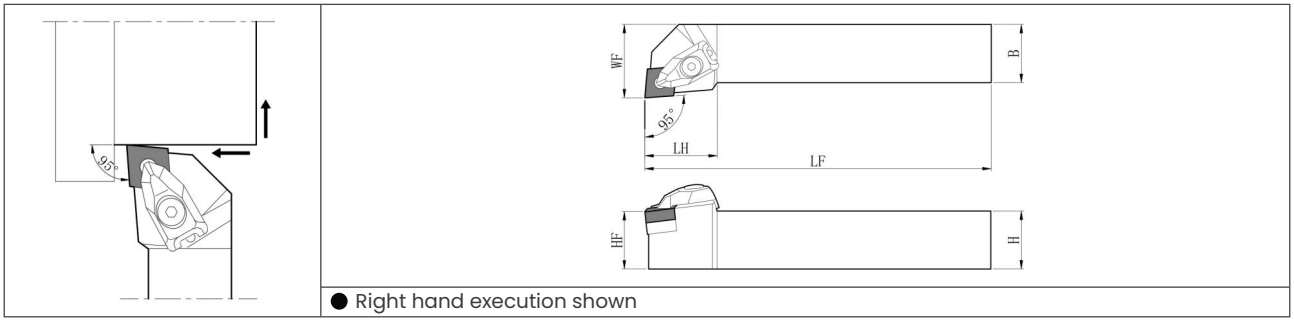
●Left hand execution shown

left-hand(L)holder for right-hand(R)insert.

●Toolholder size

Model	in stock	Dimensions (mm)						R (RE)	inserts	Spare Parts	
		DCON	LF	WF	BD	H	WF2			screw	torx wrench
S12F-SVUCL08	●	12	80	7.5	13.4	11	5.5	0.4	VC…0802	M2.0	T6
S14H-SVUCL08	●	14	100			13					
S15F-SVUCL08	●	15.875	85	8	15.4	15					
S16F-SVUCL08	●	16									
S19G-SVUBL11	●	19.05	90	10.5	18.4	17	8	0.4	VB…1103	M2.5	T8
S19K-SVUBL11	●		120								
S20G-SVUBL11	●	20	90		19.4	18					
S20K-SVUBL11	●		120								
S25.0H-SVUBL11	●	25	100		24.4	23					
S25K-SVUBL11	●	25.4	120		24.8						
S19G-SVUCL11	●	19.05	90	10.5	18.4	17	8	0.4	VC…1103	M2.5	T8
S19K-SVUCL11	●		120								
S20G-SVUCL11	●	20	90		19.4	18					
S20K-SVUCL11	●		120								
S25.0H-SVUCL11	●	25	100		24.4	23					
S25K-SVUCL11	●	25.4	120		24.8						

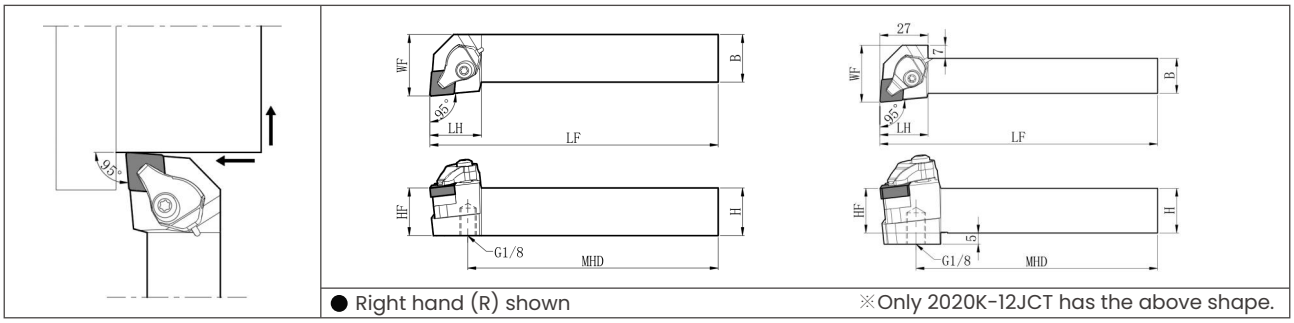
DCLN



● Right hand execution shown

Model	in stock		Dimensions (mm)							inserts	Spare Parts						
											clamp	screw	sprung	SHIM	screw	Hex wrench	torx wrench
	R	L	H	HF	B	LF	LH	WF	(RE)								
DCLNR/L2020K-12	●	●	20	20	20	125	33	25	0.8	CN..1204	CP-3D	CS-3D	SP-3D	DC-44 DC-44C	M4.0	LW-3	T15
DCLNR/2525M-12	●	●	25	25	25	150	32	32									

DCLN-JCT

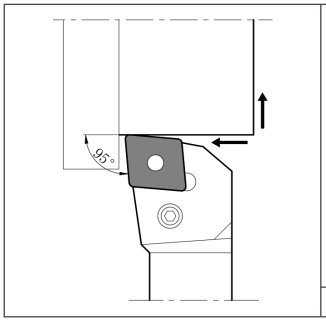


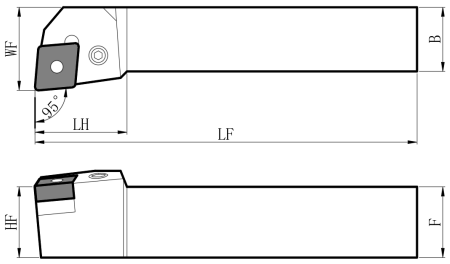
● Right hand (R) shown

※Only 2020K-12JCT has the above shape.

Model	in stock		Dimensions (mm)							Standard tip R (RE)	inserts	Spare Parts						
												clamp	lock pin	screw	sprung	SHIM	screw	torx wrench
	R	L	H	HF	B	LF	LH	WF	MDH									
DCLNR/L2020K-12	●	●	20	20	20	125	27	25	109	0.8	CN..1204	CP-3D-R/L-JCT	FP-12	SP-3D	DC-44 DC-44C	M4.0	LW-3	T15
DCLNR/2525M-12	●	●	25	25	25	150		32	134									

PCLN

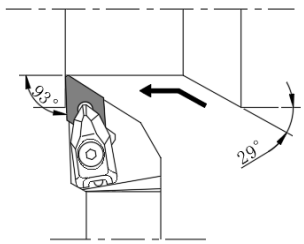


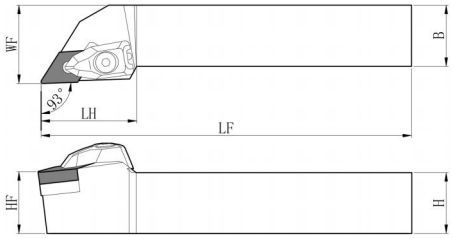


● Right hand execution shown

Model	in stock		Dimensions (mm)						Standard tip R (RE)	inserts	Spare Parts					
											lever	screw	SHIM	tubular rivet	punch	torx wrench
	R	L	H	HF	B	LF	LH	WF								
PCLNR/L1616H-09	●	●	16	16	16	100	22	20	0.8	CN...0904	LL-1N	LS-1N	LC-1N	LSP-1	PC-1	FH-2.5
PCLNR/L2020K-09	●	●	20	20	20	125		25								
PCLNR/L2525M-09	●	●	25	25	25	150		32								
PCLNR/L2020H-12	●		20	20	20	100	27	25	0.8	CN...1204	LL-2N	LS-2N	LC-2N	LSP-2	PC-2	LW-3
PCLNR/L2020K-12	●	●				125										
PCLNR/L2525M-12	●	●	25	25	25	150										
PCLNR/L3225P-12	●	●	32	32		170										
PCLNR/L2525M-16	●	●	25	25	25	150	32	32	0.8	CN...1606	LL-5N	LS-4N	LC-4N	LSP-3	-	LW-3
PCLNR/L3225P-16	●	●	32	32		170										
PCLNR/L3232P-16	●	●			32			40								
PCLNR/L4040S-16	●	●	40	40	40	250		50								
PCLNR/L3232P-19	●	●	32	32	40	250	38	40	1.2	CN...1906	LL-6	LS-5	LC-5	LSP-4	-	LW-4
PCLNR/L4040S-19	●	●	40	40	40	250		50								

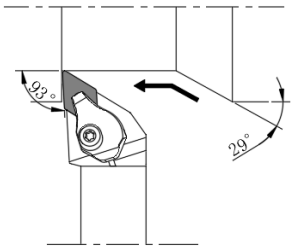
DDJN

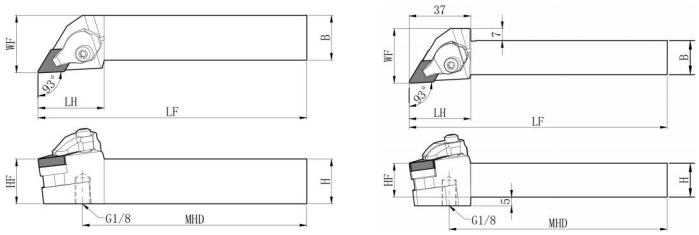




● Right hand execution shown

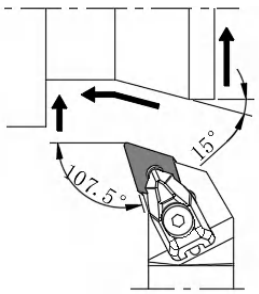
DDJN-JCT

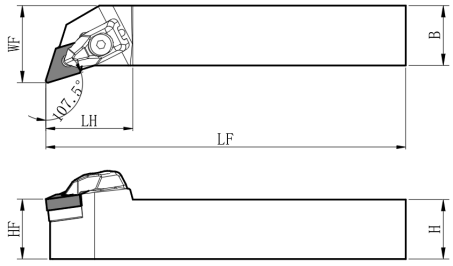




● Right hand execution shown ※Only 2020K-15JCT has the above shape.

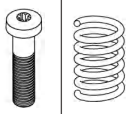
DDHN



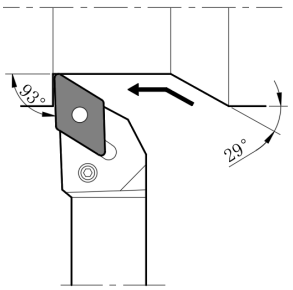


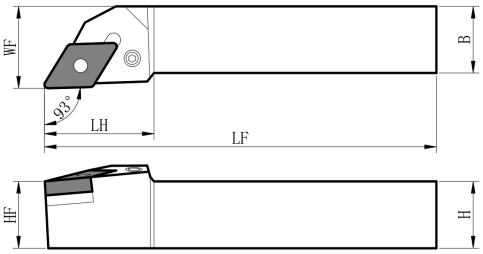
● Right hand execution shown

Toolholder size

Model	in stock		Dimensions (mm)							(RE)	inserts	Spare Parts							
												clamp	lock pin	screw	sprung	SHIM	screw	Hex wrench	torx wrench
	R	L	H	HF	B	LF	LH	WF	MDH										
DDJNR/L2020K-1504	●	●	20	20	20	125	39	25	-	0.8	DN...1504	CP-3D	-	CS-3D	SP-3D	DD-44 (DC-43)	M4.0	LW-3	T15
DDJNR/L2525M-1504	●	●	25	25	25	150		32											
DDJNR/L2020K-1506	●	●	20	20	20	125		25			DN...1506					DD-43 (DC-44)			
DDJNR/L2525M-1506	●	●	25	25	25	150		32											
DDJNR/L2020K-15JCT	●	●	20	20	20	125	37	25	101		DN...1504 (DN...1506)	CP-4D-R/L-JCT	FP-12	CS-3D-TR		DD-44 (DC-43)		-	T15
DDJNR/L2525M-15JCT	●	●	25	25	25	150		32	126										
DDJNR/L2020K-1504	●	●	20	20	20	125	37	25	-		DN...1504	CP-3D	-	CS-3D		DD-44 (DC-43)		LW-3	T15
DDJNR/L2525M-1504	●	●	25	25	25	150		32											
DDJNR/L2020K-1506	●	●	20	20	20	125		25			DN...1506					DD-43 (DC-44)			
DDJNR/L2525M-1506	●	●	25	25	25	150		32											

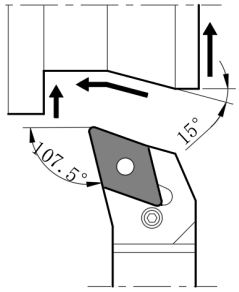
PDJN

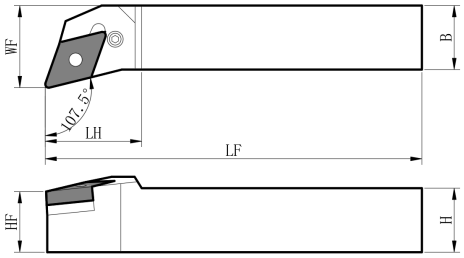




● Right hand execution shown

PDHN

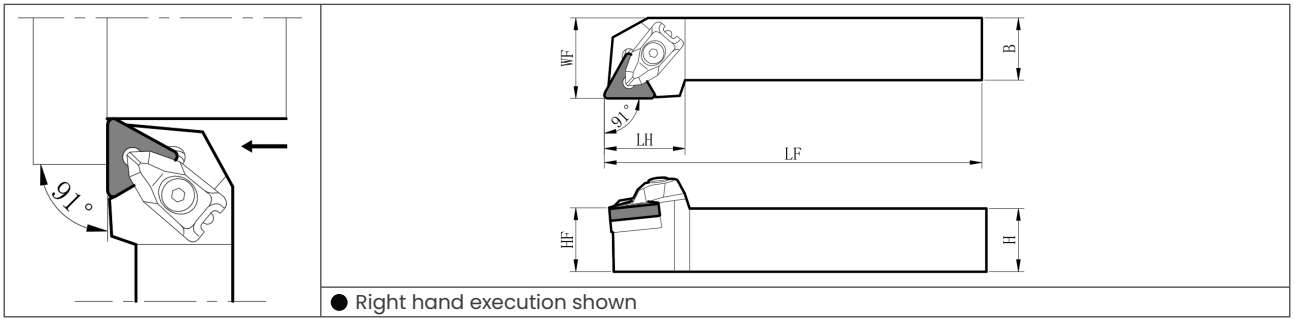




● Right hand execution shown

Model	in stock		Dimensions (mm)							inserts	Spare Parts					
											lever	screw	sprung	tubular rivet	punch	torx wrench
	R	L	H	HF	B	LF	LH	WF	(RE)							
PDJNR/L1616H-11	●	●	16	16	16	100	28	20	0.4	DN...1104	LL-1DN	LS-1N	LD-32N	LSP-1	PC-1	FH2.5
PDJNR/L2020K-11	●	●	20	20	20	125		25								
PDJNR/L2525M-11	●	●	25	25	25	150		32								
PDJNR/L2020H-15	●	●	20	20	20	100	36	25	0.8	DN...1504	LL-3N	LS-2N	LD-42 LD-42-20	LSP-2	PC-2	LW-3
PDJNR/L2020K-15	●	●				125										
PDJNR/L2525M-15	●	●	25	25	25	150		32								
PDJNR/L3225P-15	●	●	32	32		170										
PDJNR/L2525M-15U	●	●	25	25	25	150	34	32	0.8	DN...1506 (DN...1504)	LL-4	LS-3	LD-42 LD-42-20 (LD-43) (LD-43-20)	LSP-2	PC-2	LW-3
PDJNR/L3232P-15U	●	●	32	32	32	170	36	40								
PDHNR/LL2020K-15	●	●	20	20	20	125	35	25	0.8	DN...1504 (DN...1506)	LL-4	LS-3	LD-43 LD-43-20 (LD-42) (LD-42-20)	LSP-2	PC-2	LW-3
PDHNR/L2525M-15	●	●	25	25	25	150	34	32								

DTGN

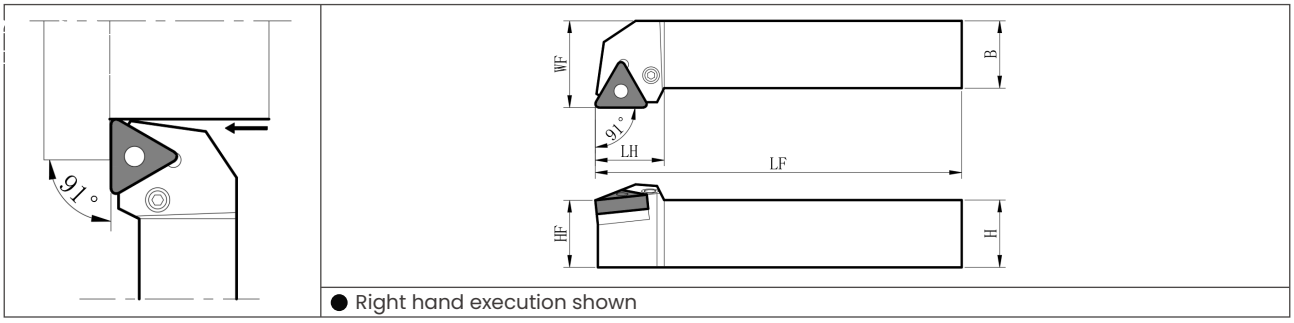


● Right hand execution shown

Toolholder size

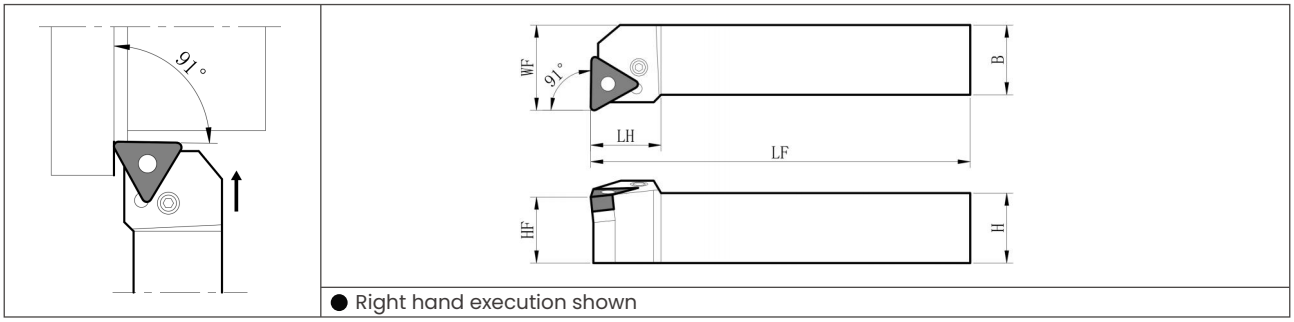
Model	in stock		Dimensions (mm)						(RE)	inserts	Spare Parts						
											clamp	screw	sprung	SHIM	screw	Hex wrench	torx wrench
	R	L	H	HF	B	LF	LH	WF									
DTGNR/L2020K-16	●	●	20	20	20	125	25	25	0.8	TN...1604	CP-2D	CS-2D	SP-2D	DT-32	M3.0	LW-2.5	T10
DTGNR/L2525M-16	●	●	25	25	25	150		32									

PTGN



● Right hand execution shown

PTFN

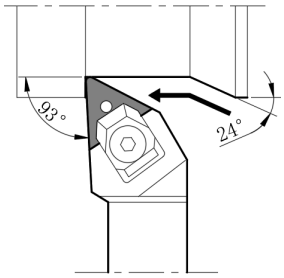


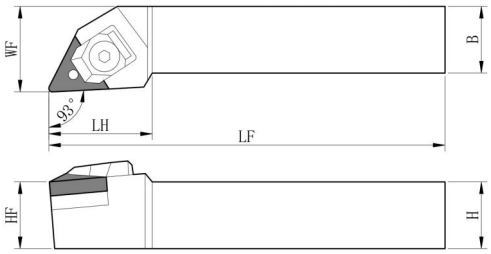
● Right hand execution shown

Toolholder size

Model	in stock		Dimensions (mm)							inserts	Spare Parts					
											lever	screw	SHIM	tubular rivet	punch	torx wrench
	R	L	H	HF	B	LF	LH	WF	(RE)							
PTGNR/L1212F-11	●	●	12	12	12	80	18	16	0.8	TN...1103	LL-03N	LS-03N	-	P-03	-	FH-2
PTGNR/L1616H-11	●	●	16	16	16	100	22	20	0.8	TN...1104	LL-03TN	LS-03SN	-	P-03S	-	FH-2.5
PTGNR/L2020K-11	●	●	20	20	20	125		25								
PTGNR/L2525M-11	●	●	25	25	25	150		32								
PTGNR/L1616H-16	●	●	16	16	16	100	24	20	0.8	TN...1604	LL-1N	LS-1N	LT-32N LT-32N-20	LSP-1	PC-1	FH-2.5
PTGNR/L2020H-16	●		20	20	20	100		25								
PTGNR/L2020K-16	●	●				125										
PTGNR/L2525M-16	●	●	25	25	25	150		32								
PTGNR/L2525M-22	●	●	25	25	25	150	29	32	0.8	TN...2204	LL-2N	LS-2N	LT-42N LT-42N-20	LSP-2	PC-2	LW-3
PTFNR/L1212F-11	●	●	12	12	12	80	15	16	0.8	TN...1103	LL-03N	LS-03N	-	P-03	-	FH-2
PTFNR/L1616H-11	●	●	16	16	16	100	22.5	20	0.8	TN...1104	LL-03TN	LS-03SN	-	P-03S	-	FH-2.5
PTFNR/L2020K-11	●	●	20	20	20	125		25								
PTFNR/L2525M-11	●	●	25	25	25	150		32								
PTFNR/L2020K-16	●	●	20	20	20	125	22	25	0.8	TN...1604	LL-1N	LS-1N	LT-32N LT-32N-20	LSP-1	PC-1	FH-2.5
PTFNR/L2525M-16	●	●	25	25	25	150	23	32	0.8							
PTFNR/L2525M-22	●	●	25	25	25	150	28	32	0.8	TN...2204	LL-2N	LS-2N	LT-42N LT-42N-20	LSP-2	PC-2	LW-3

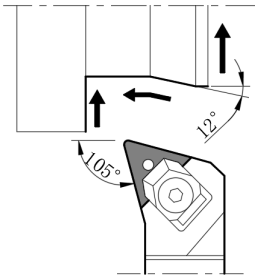
WTJN-N

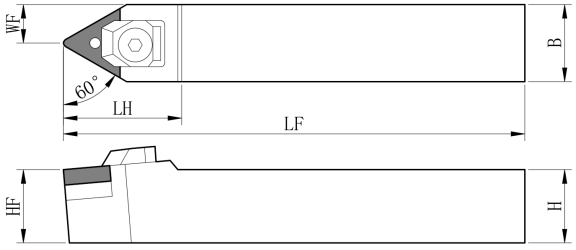




● Right hand execution shown

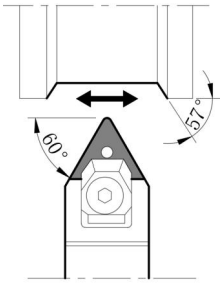
WTKN-N

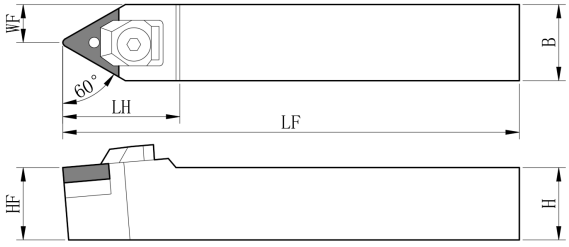




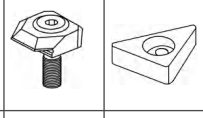
● Right hand execution shown

WTEN-N

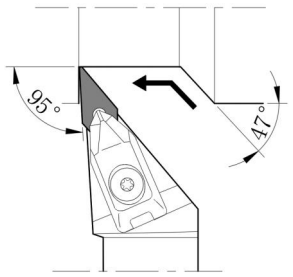


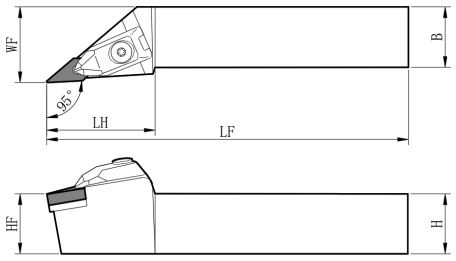


● Right hand execution shown

Model	in stock			Dimensions (mm)						(RE)	inserts	Spare Parts					
												clamp	SHIM	tubular rivet	screw	Hex wrench	spacer
	R	N	L	H	HF	B	LF	LH	WF							
WTJNR/L2020K-16N	●		●	20	20	20	125	32	25	0.8	TN...1604	WCS-1N	WTN-33 WTN-33-20	WP-1S	WN-1	LW-3	WSP-1
WTJNR/L2525M-16N	●		●	25	25	25	150		32								
WTKNR/L2020K-16N	●		●	20	20	20	125	32	25								
WTKNR/L2525M-16N	●		●	25	25	25	150		32								
WTENN2020K-16N		●		20	20	20	125	32	10								
WTENN2525M-16N		●		25	25	25	150		13								

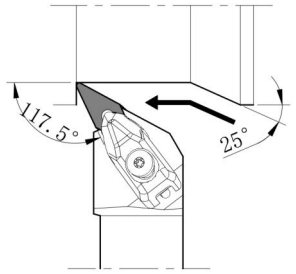
DVLN (OD/Profiling)

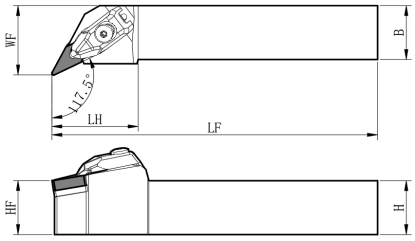


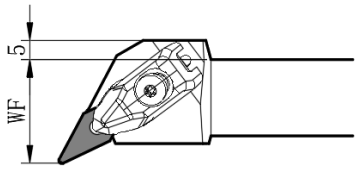


● Right hand execution shown

DVPN (OD/end face/profile/clearance machining)

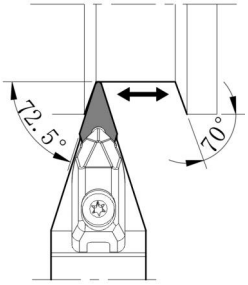


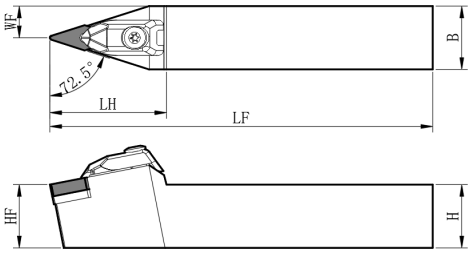




● Right hand execution shown ※Only 2020K-16 has the above shape

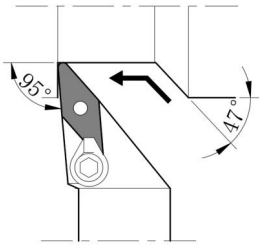
DVVN (OD/Profiling)

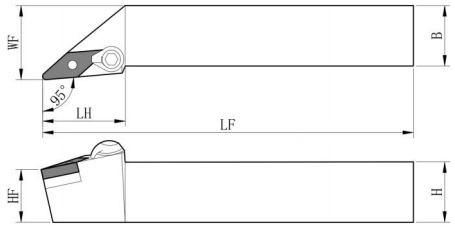




Model	in stock			Dimensions (mm)						Standard tip R (RE)	inserts	Spare Parts						
												clamp	screw	sprung	SHIM	screw	Hex wrench	torx wrench
	R	N	L	H	HF	B	LF	LH	WF									
DVLNR/L2020K-16N	●		●	20	20	20	125	45	25	0.8	VN...1604	CP-5D	CS-5D	SP-5D	DV-33	M4.0	LW-3	T15
DVLNR/L2525M-16N	●		●	25	25	25	150		32									
DVPNR/L2020K-16N	●		●	20	20	20	125	40	27									
DVPNR/L2525M-16N	●		●	25	25	25	150		32									
DVVNN2020K-16N		●		20	20	20	125	46	10									
DVVNN2525M-16N		●		25	25	25	150		13									

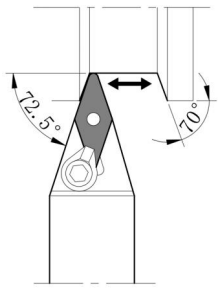
MVLN

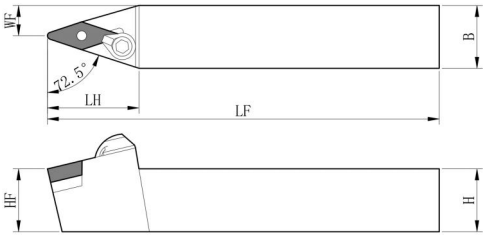




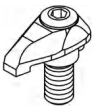
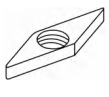
● Right hand execution shown

MVVN

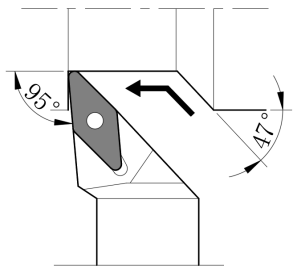


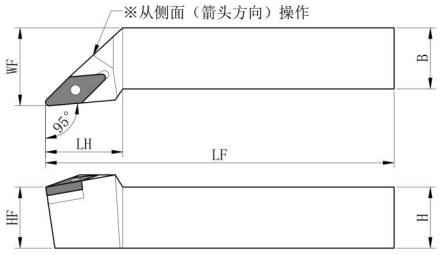


● Right hand execution shown

Model	in stock			Dimensions (mm)							inserts	Spare Parts				
												clamp	torx wrench	SHIM	tubular rivet	torx wrench
	R	N	L	H	HF	B	LF	LH	WF	(RE)						
MVLNR/L2020K-16	●		●	20	20	20	125	38	25	0.8	VN...1604	CPS-5R/L	FH-2.5	MVN-32	TS-3S	FH-2
MVLNR/L2525M-16	●		●	25	25	25	150		32							
MVVNN2020K-16		●		20	20	20	125	39				CPS-5R				
MVVNN2525M-16		●		25	25	25	150		12.5							

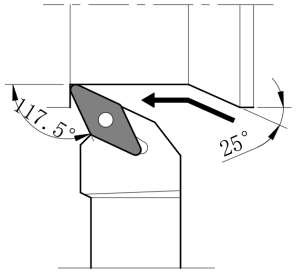
DVLN

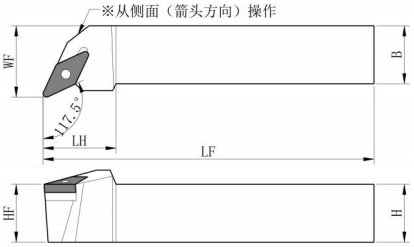




● Right hand execution shown

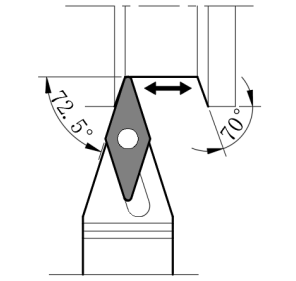
DVPN

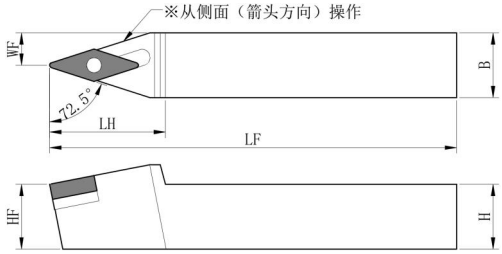




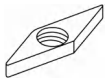
● Right hand execution shown

DVVN

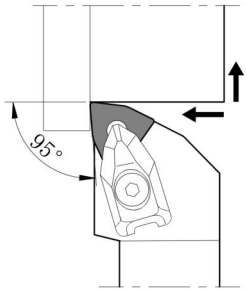


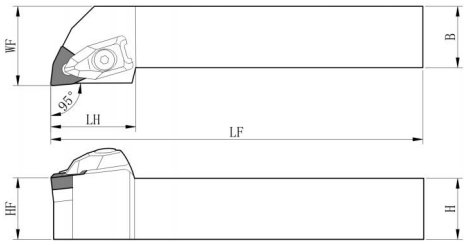


● Right hand execution shown

Model	in stock			Dimensions (mm)						(RE)	inserts	Spare Parts			
												tubular rivet	screw	SHIM	Hex wrench
	R	N	L	H	HF	B	LF	LH	WF						
PVLNR/L2525M-16Q	●		●	25	25	25	150	37	32	0.8	VN...1604	LP-6S	LS-15	KVN-32	LW-3
PVPNR/L2020K-16Q	●		●	20	20	20	125	30	25			LP-2S	LS-11	KVN-32	LW-3
PVPNR/L2525M-16Q	●		●	25	25	25	150		32			LP-6S			
PVVNN2020K-16Q		●		20	20	20	125	35	10			LP-2S	LS-15	KVN-32	LW-3
PVVNN2525M-16Q		●		25	25	25	150	40	12.5			LP-6S			

DWLN



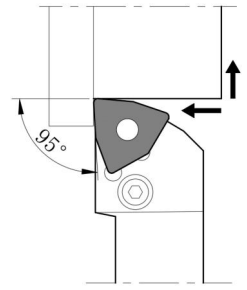


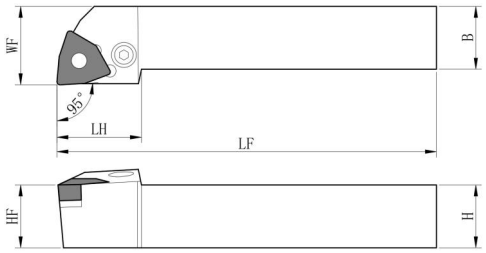
● Right hand execution shown

Toolholder size

Model	in stock		Dimensions (mm)							inserts	Spare Parts						
											clamp	screw	sprung	SHIM	screw	Hex wrench	torx wrench
	R	L	H	HF	B	LF	LH	WF	(RE)								
DWLNR/L2020K-08	●	●	20	20	20	125	34	25	0.8	WN...0804	CP-3D	CS-3D	SP-3D	DW-44	M4.0	LW-3	T15
DWLNR/L2525M-08	●	●	25	25	25	150		32									

PWLN

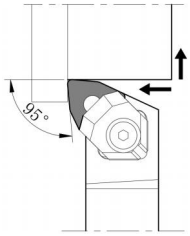


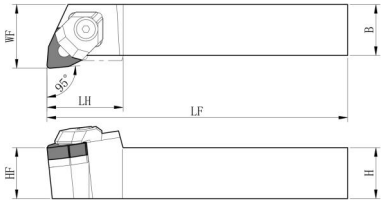


● Right hand execution shown

Model	in stock		Dimensions (mm)							inserts	Spare Parts					
											lever	screw	SHIM	tubular rivet	punch	torx wrench
	R	L	H	HF	B	LF	LH	WF	(RE)							
PWLNR/L1616H-06	●	●	16	16	16	100	22	20	0.8	WN...00604	LL-1N	LS-1N	LW-32N	LSP-1	PC-1	FH-2.5
PWLNR/L2020K-06	●	●	20	20	20	125		25								
PWLNR/L2525M-06	●	●	25	25	25	150		32								
PWLNR/L2020K-08	●		20	20	20	125	26	25	0.8	WN...0804	LL-2N	LS-2N	LW-42N	LSP-2	PC-2	LW-3
PWLNR/L2525M-08	●	●	25	25	25	150		32								

WWLN



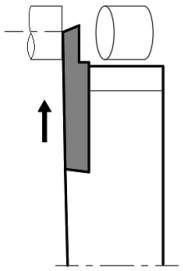


●Right hand execution shown

●Toolholder size

Model		in stock		Dimensions (mm)						(RE)	inserts	Spare Parts						
												clamp	SHIM	tubular rivet	screw	Hex wrench		
		R	L	H	HF	B	LF	LH	WF									
WWLNR/L	2020K-08	●	●	20	20	20	125	30	25	1.2	WN···0804	WCS-8	WWN-42	WP5X15	WN-1	LW-3		
WWLNR/L	2525M-08	●	●	25	25	25	150		32									

■KQTKF/KQTKF



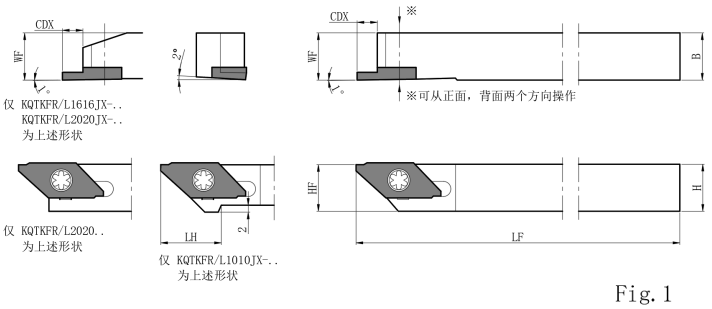


Fig. 1

●Right hand execution shown	right-hand(R)holder for right-hand (R)insert.

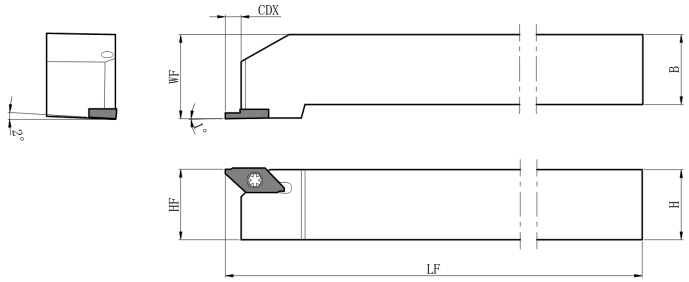
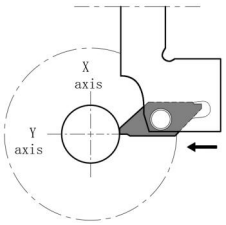


Fig. 2

●Right hand execution shown	right-hand(R)holder for right-hand (R)insert.



（Y轴刀杆）

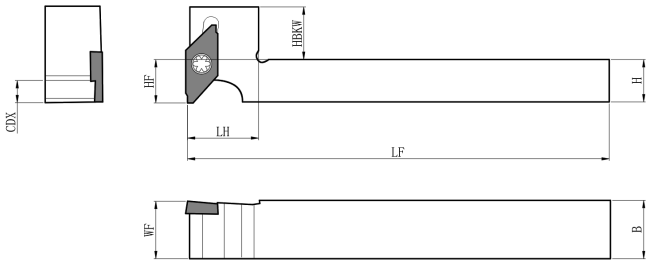
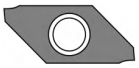


Fig. 3

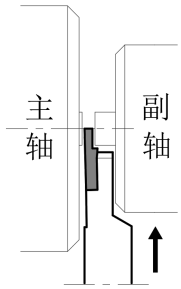
●Right hand execution shown	right-hand(R)holder for right-hand (R)insert.

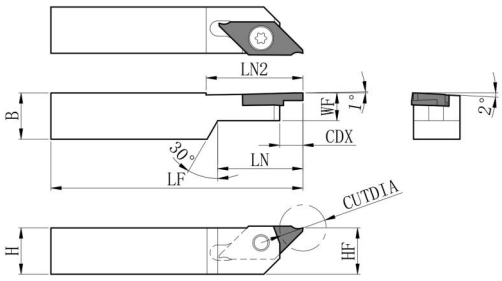
●Toolholder size

Model		in stock		Dimensions (mm)								shape	inserts	Spare Parts	
														screw	torx wrench
		R	L	H	HF	B	LF	LH	WF	CDX	HBKW				
KQTKFR/L	1010JX-12	●	●	10	10	10	120	15	10	6	–	Fig.1	QTKF12R/L	M4.0	T15
KQTKFR/L	1212JX-12	●	●	12	12	12		–	12						
KQTKFR/L	1616JX-12	●	●	16	16	16			16						
KQTKFR/L	2020JX-12	●	●	20	20	20			20						
KQTKFR	2525M-12	●		25	25	25	150	–	30	6	–	Fig.2	QTKF12R	M4.0	T15
KQTKFR/L	1010JX-16	●	●	10	10	10	120	20	10	8	–	Fig.1	QTKF16R/L	M4.0	T15
KQTKFR/L	1212JX-16	●	●	12	12	12		–	12						
KQTKFR/L	1616JX-16	●	●	16	16	16			16						
KQTKFR/L	2020JX-16	●	●	20	20	20			20						
KQTKFR	2525M-16	●		25	25	25	150	–	30	8	–	Fig.2	QTKF16R	M4.0	T15
KQTKFR/L	1212F-12	●	●	12	12	12	85	–	12	6	–	Fig.1	QTKF12R/L	M4.0	T15
KQTKFR/L	1212F-16	●	●							8			QTKF16R/L	M4.0	T15
KQTKFR	1216JX-12-Y		●	12	12	16	120	20	16	6	15	Fig.3	QTKF12R	M4.0	T15
KQTKFR	1616JX-12-Y		●	16	16			25			11				

■QKTKF-S

right-hand（R）

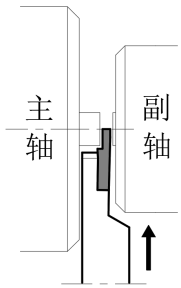


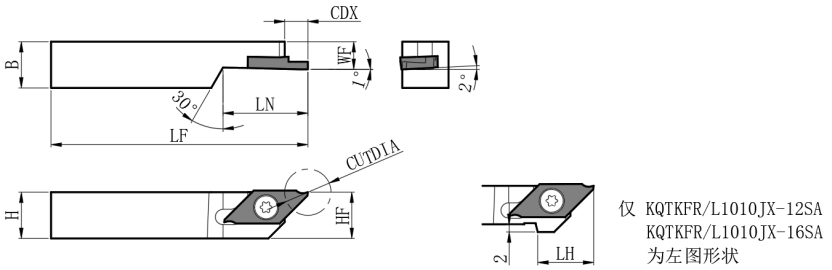


●Right hand execution shown

right-hand(R)holder for right-hand (R)insert.

left hand（L）



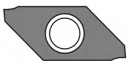


仅 KQTKFR/L1010JX-12SA
KQTKFR/L1010JX-16SA
为左图形状

●left hand execution shown

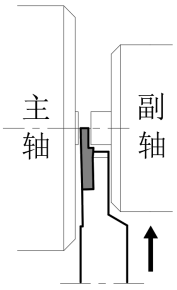
left-hand(L)holder for left-hand (L)insert.

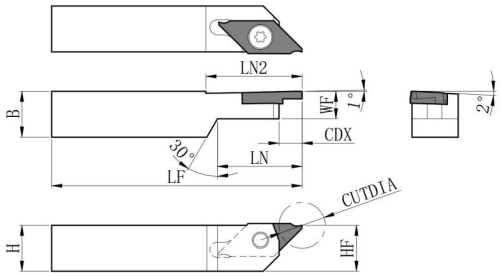
●Toolholder size

Model		in stock		Processing diameter	Dimensions (mm)									inserts	Spare Parts	
															screw	torx wrench
		R	L	CUTDIA	H	HF	B	LF	LH	LN	LN2	WF	CDX			
KQTKFR/L	1010JX-12SA	●	●	5～12	10	10	10	120	15	22	26	7.2	6	QTKF12R/L	M4.0	T15
KQTKFR/L	1212F-12SA	●	●		12	12	12	85	-							
KQTKFR/L	1212JX-12SB	●	●					120		26						
KQTKFR/L	1010JX-16SA	●	●	16	10	10	10	120	20	22	30	7.2	8	QTKF16R/L	M4.0	T15
KQTKFR/L	1212F-16SA	●	●		12	12	12	85	-							
KQTKFR/L	1212JX-16SB	●	●					120		26						

■QKTKF-S

right-hand（R）

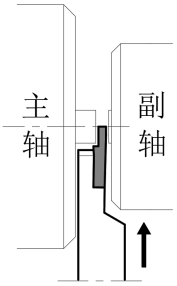


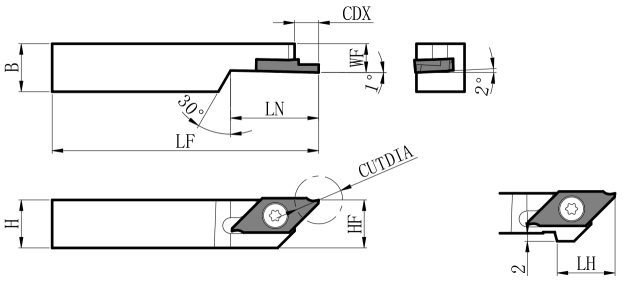


●Right hand execution shown

right-hand(R)holder for right-hand (R)insert.

left hand（L）



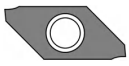


仅 KQTKFSR/L1010JX-12A
KQTKFSR/L1010JX-16A
为左图形状

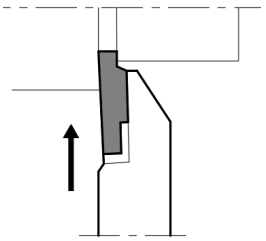
●left hand execution shown

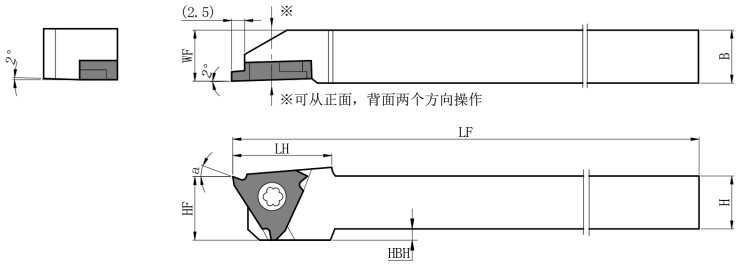
left-hand(L)holder for left-hand (L)insert.

●Toolholder size

Model		in stock		Processing diameter	Dimensions (mm)									inserts	Spare Parts	
															screw	torx wrench
		R	L	CUTDIA	H	HF	B	LF	LH	LN	LN2	WF	CDX			
KQTKFSR/L	1010JX-12A	●	●	6～12	10	10	10	120	15	22	26	5	6	QTKFS12R/L	M4.0	T15
	1212F-12A	●	●		12	12	12	85	–							
	1212JX-12B	●	●					120		26						
KQTKFSR/L	1010JX-16A	●	●	14～16	10	10	10	120	20	22	30	5	8	QTKFS16R/L	M4.0	T15
	1212F-16A	●	●		12	12	12	85	–							
	1212JX-16B	●	●					120		26						

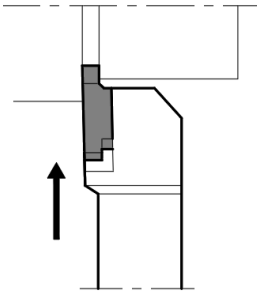
■KQTGF-F

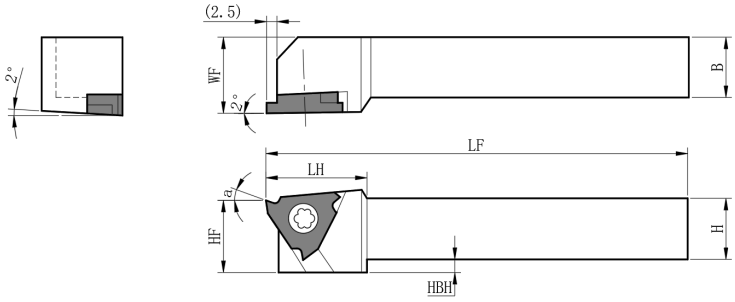




●Right hand execution shown | right-hand(R)holder for right-hand (R)insert，left-hand(L)holder for left-hand (L)insert.

■KQTGF



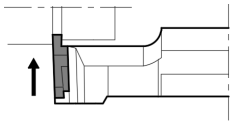


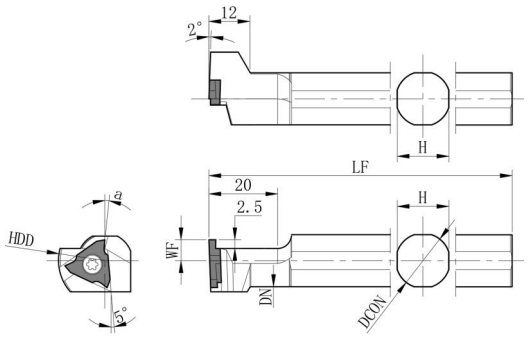
●Right hand execution shown | right-hand(R)holder for right-hand (R)insert，left-hand(L)holder for left-hand (L)insert.

●Toolholder size

Model		in stock		Dimensions (mm)							inserts	Spare Parts	
												screw	torx wrench
		R	L	H	HBH	HF	B	LF	LH	WF			
KQTGFR/L	1010JX-16F	●	●	10	2	10	10	120	18.5	10	QTGF32R/L	M4.0	T15
KQTGFR/L	1212JX-16F	●	●	12	–	12	12	120		12			
KQTGFR/L	1616JX-16F	●	●	16		16	16	120		16			
KQTGFR/L	1212F-16F	●	●	12	–	12	12	85	18.5	12	QTGF32R/L	M4.0	T15
KQTGFR/L	1010F-16	●	●	10	4	10	10	80	18.5	12	QTGF32R/L	M4.0	T15
KQTGFR/L	1212H-16	●	●	12	2	12	12	100		16			
KQTGFR/L	1616H-16	●	●	16	–	16	16	100		20			
KQTGFR/L	2020K-16	●	●	20		20	20	125	20	25			
KQTGFR/L	2525M-16	●	●	25		25	25	150		32			

■S-KQTGF



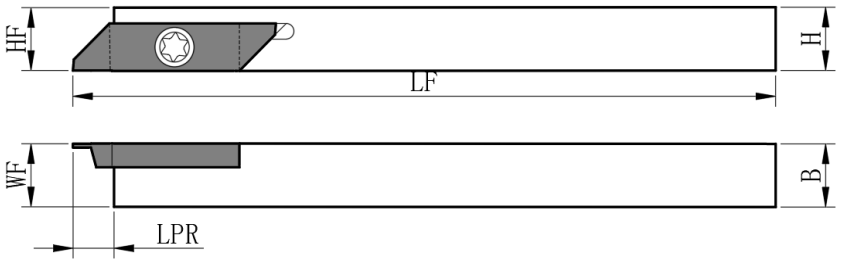


●left hand execution shown | left-hand(L)holder for right-hand(R)insert.

●Toolholder size

Model	in stock	Dimensions (mm)						inserts	Spare Parts	
									screw	torx wrench
	L	DCON	LF	WF	DN	HDD	H			
S12F-KQTGFL16	●	12	80	6	11.0	27	11	QTGF32R	M4.0	T15
S14H-KQTGFL16	●	14	100		13.0		13			
S15F-KQTGFL16	◐	15.875	85		14.6		15			
S16F-KQTGFL16	●	16						QTGF32R	M4.0	T15
S19G-KQTGFL16	●	19.05	90		17.6		17	QTGF32R	M4.0	T15
S19K-KQTGFL16	●		120							
S20G-KQTGFL16	●	20	90		18.6		18			
S20K-KQTGFL16	●		120							
S25.0H-KQTGFL16	●	25	100		23.6		23			
S25K-KQTGFL16	●	25.4	120	10		37				

■QLN

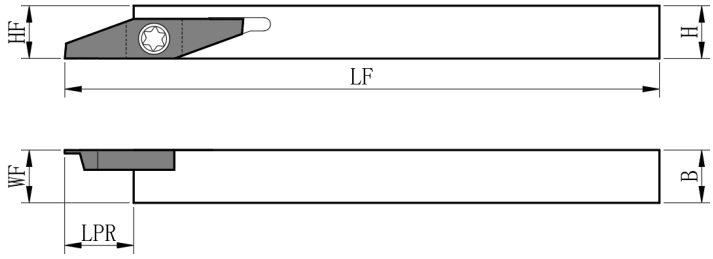


●left hand execution shown | left-hand(L)holder for left-hand (L)insert.

●Toolholder size

Model		in stock		Dimensions (mm)						inserts	Spare Parts	
											screw	torx wrench
		R	L	H	HF	B	LPR	LF	WF			
QLNR/L	08	●	●	8.0	8.0	8.0	5.0	120	7.9	QLNR/L···	M2.5	T8
QLNR/L	10	●	●	10.0	10.0	10.0			9.9			
QLNR/L	12	●	●	12.0	12.0	12.0			11.9			

■QSN

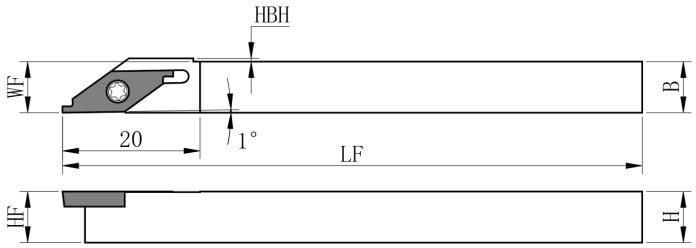


●left hand execution shown | left-hand(L)holder for left-hand (L)insert.

●Toolholder size

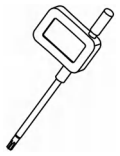
Model		in stock		Dimensions (mm)						inserts	Spare Parts	
											screw	torx wrench
		R	L	H	HF	B	LPR	LF	WF			
QSNR/L	08	●	●	8.0	8.0	8.0	10.0	120	7.9	QSNR/L···	M2.5	T8
QSNR/L	10	●	●	10.0	10.0	10.0			9.9			
QSNR/L	12	●	●	12.0	12.0	12.0			11.9			

■QCSV



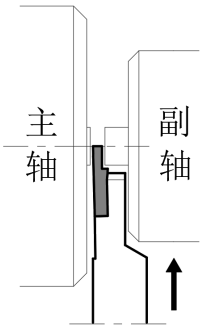
●left hand execution shown | left-hand(L)holder for left-hand (L)insert.

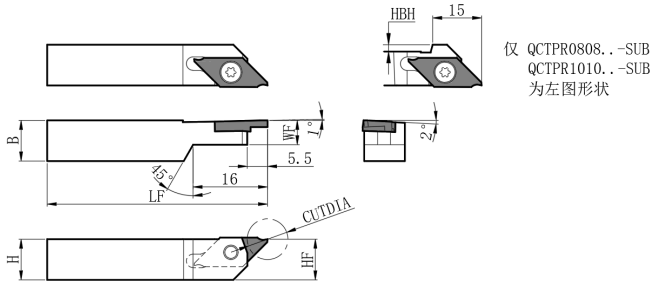
●Toolholder size

Model		in stock		Dimensions (mm)						inserts	Spare Parts	
											screw	torx wrench
		R	L	H	HF	B	HBH	LF	WF			
QCSVR/L	07	●	●	7.0	7.0	7.0	0.5	120	6.9	CSVR/L···	M2.5	T8
QCSVR/L	08	●	●	8.0	8.0	8.0	–		7.9			
QCSVR/L	10	●	●	10.0	10.0	10.0			9.9			
QCSVR/L	12	●	●	12.0	12.0	12.0			11.9			

■QCTP-SUB

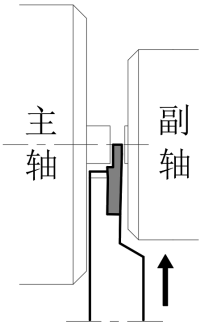
右手（R）

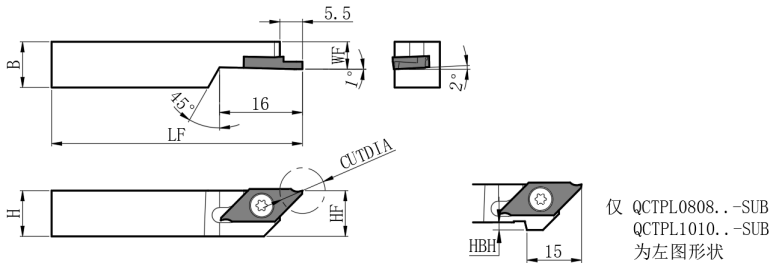




●Right hand execution shown | right-hand(R)holder for right-hand (R)insert.

左手（L）



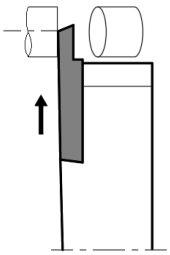


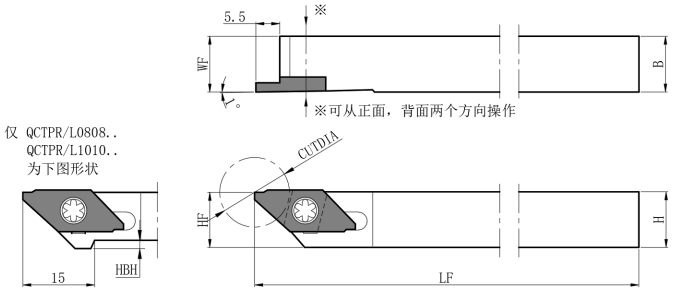
●left hand execution shown | left-hand(L)holder for left-hand (L)insert.

●Toolholder size

Model		in stock		processing diameter	Dimensions (mm)						inserts	Spare Parts	
												screw	torx wrench
		R	L	CUTDIA	H	HF	B	LF	HBH	WF			
QCTPR/L	08-SUB	●	●	12	8	8	8	120	4	5.5	QCTPR/L···	M4.0	T15
QCTPR/L	10-SUB	●	●		10	10	10	120	2				
QCTPR/L	12-SUB	●	●		12	12	12	120	–				

■QCTP





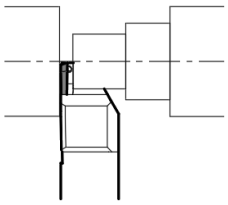
●Right hand execution shown

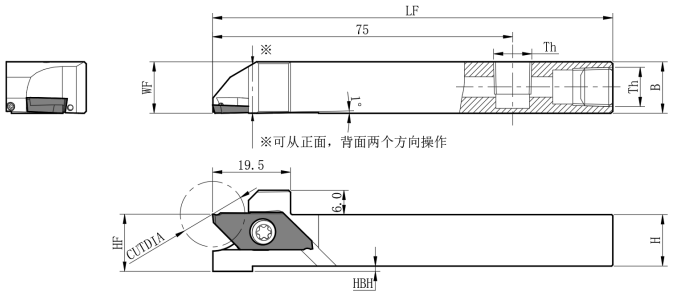
right-hand(R)holder for right-hand (R)insert.

●Toolholder size

Model		in stock		processing diameter	Dimensions (mm)						inserts	Spare Parts	
												screw	torx wrench
		R	L	CUTDIA	H	HF	B	LF	HBH	WF			
QCTPR/L	08	●	●	12	8	8	8	120	4	8	QCTPR/L···	M4.0	T15
QCTPR/L	10	●	●		10	10	10		2	10			
QCTPR/L	12	●	●		12	12	12		–	12			
QCTPR/L	16	●	●		16	16	16			16			
QCTPR/L	20	●	●		20	20	20			20			

■QCTP-OH





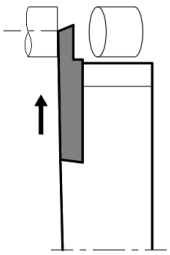
●Right hand execution shown

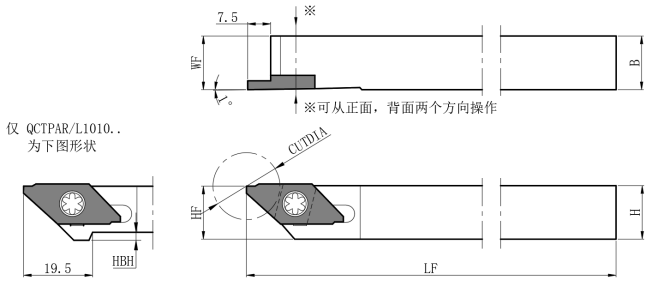
right-hand(R)holder for right-hand (R)insert.

●Toolholder size

Model		in stock		processing diameter	Dimensions (mm)							inserts	Spare Parts	
													screw	torx wrench
		R	L	CUTDIA	H	HF	B	LF	HBH	WF	Th			
QCTPR/L	1012H-OH	●	●	12	10	10	12	100	4	10	M6x1	QCTPR/L···	M4.0	T15
QCTPR/L	12H-OH	●	●		12	12	12		2	12	RC1/8 (PT1/8)			
QCTPR/L	16H-OH	●	●		16	16	16			16				

■QCTPA



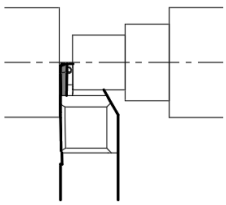


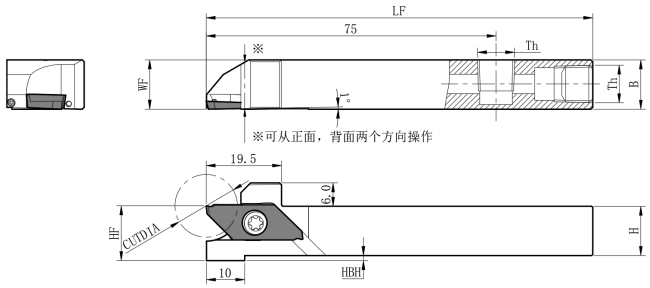
●Right hand execution shown | right-hand(R)holder for right-hand (R)insert.

●Toolholder size

Model		in stock		processing diameter	Dimensions (mm)						inserts	Spare Parts	
		R	L	CUTDIA	H	HF	B	LF	HBH	WF		screw	torx wrench
QCTPAR/L	10	●	●	16.0	10	10	10	120	2	10	QCTPAR/L···	M4.0	T15
QCTPAR/L	12	●	●		12	12	12		-	12			
QCTPAR/L	16	●	●		16	16	16			16			
QCTPAR/L	20	●	●		20	20	20			20			

■QCTPA-OH





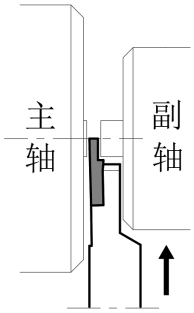
●Right hand (R) shown | Right-hand (R) tool holders are suitable for right-hand (R) inserts.

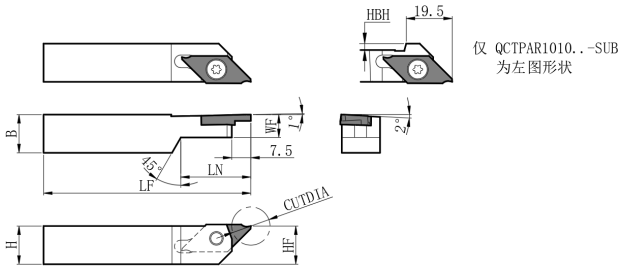
●Toolholder size

Model		in stock		processing diameter	Dimensions (mm)							inserts	Spare Parts	
		R	L	CUTDIA	H	HF	B	LF	HBH	WF	Th		screw	torx wrench
QCTPAR/L	12H-OH	●	●	16.0	12	12	12	100	2	12	RC1/8 (PT1/8)	QCTPR/L···	M4.0	T15
QCTPAR/L	16H-OH	●	●		16	16	16		-	16				

■QCTPA-SUB

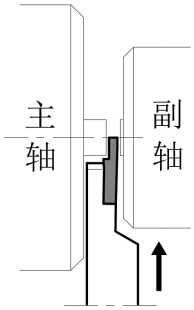
Right hand (R)

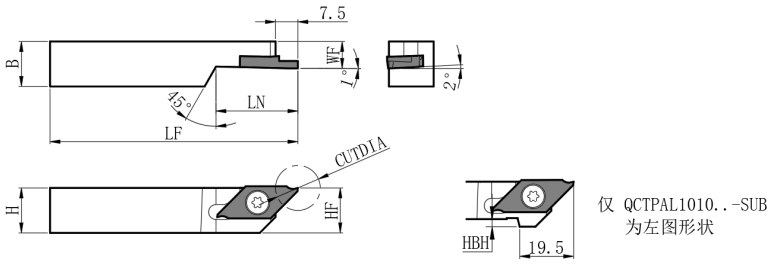




●Right hand execution shown | right-hand(R)holder for right-hand (R)insert.

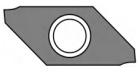
left hand(L)



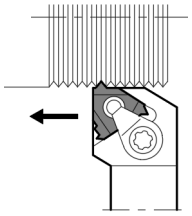


●left hand execution shown | left-hand(L)holder for left-hand (L)insert.

●Toolholder size

Model		in stock		processing diameter	Dimensions (mm)							inserts	Spare Parts	
													screw	torx wrench
		R	L	CUTDIA	H	HF	B	LF	HBH	LN	WF			
QCTPAR/L	10-SUB	●	●	16.0	10	10	10	120	2	20	5.5	QCTPAR/L···	M4.0	T15
QCTPAR/L	12-SUB	●	●		12	12	12		–	20				
QCTPAR/L	16-SUB		●		16	16	16		–	28				

■KTN/KTNS



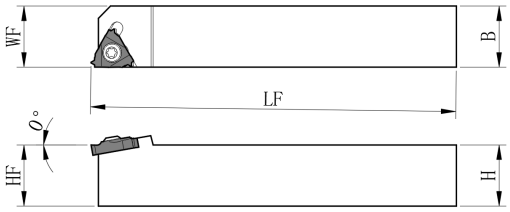


Fig. 1

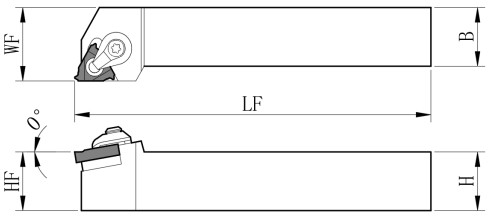
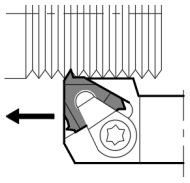


Fig. 2

●Right hand execution shown

right-hand(R)holder for right-hand (R)insert.left-hand(L)holder for left-hand (L)insert.



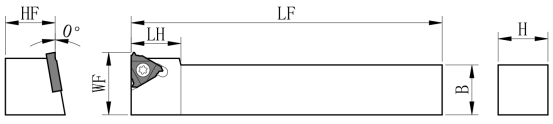


Fig. 3

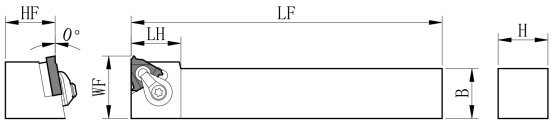


Fig. 4

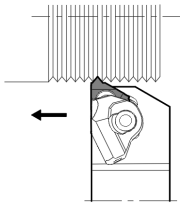
●Right hand execution shown

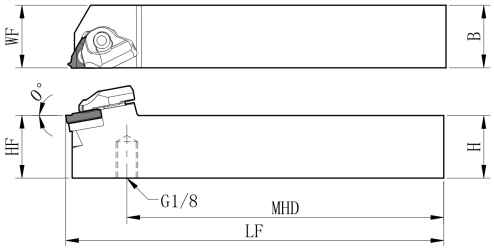
right-hand(R)holder for right-hand (R)insert.

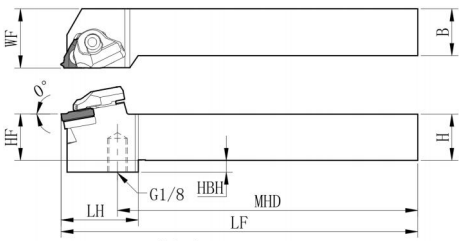
●Toolholder size

Model		in stock		Dimensions (mm)						shape	inserts	Spare Parts				
												clamp	screw	torx wrench	SHIM	screw
		R	L	H	HF	B	LF	LH	WF							
KTNR/L	1216JX-16F	●	●	12	12	16	120	–	16	Fig. 1	16ER/L···	–	M3.5	LTW-15S	–	–
KTNR/L	1616H-16	●	●	16	16	16	100	25	20	Fig. 2	16ER/L···	CPS-5S	–	T-15	TN-32	M3.0
KTNR/L	1616JX-16F	●	●	16	16	16	120	–	16	Fig. 1	16ER/L···	–	M3.5	LTW-15S	–	–
KTNR/L	2020H-16	●		20	20	20	100	25	25	Fig. 2	16ER···	CPS-5S	–	T-15	TN-32	M3.0
KTNR/L	2020JX-16F	●	●	20	20	20	120	–	20	Fig. 1	16ER/L···	–	M3.5	LTW-15S	–	–
KTNR/L	2020K-16	●	●	20	20	20	125	25	25	Fig. 2	16ER/L···	CPS-5S	–	T-15	TN-32	M3.0
KTNR/L	2525M-16	●	●	25	25	25	150	25	30	Fig. 2	16ER/L···	CPS-5S	–	T-15	TN-32	M3.0
KTNR/L	2525M-22	●		25	25	25	150	29	32	Fig. 2	22ER···	CPS-6S	–	LW-3	TN-43	M3.0
KTNR/L	3225P-22	●		32	32	25	170	34	32	Fig. 2	22ER···	CPS-6S	–	LW-3	TN-43	M3.0
KTNSR	1010H-16	●		10	10	10	100	16	16	Fig. 3	16ER···	–	M3.5	T-15	–	–
KTNSR	1212K-16	●		12	12	12	125	18	18	Fig. 3	16ER···	–	M3.5	T-15	–	–
KTNSR	1616K-16	●		16	16	16	125	18	22	Fig. 4	16ER···	CPS-5S	–	T-15	TN-32	M3.0
KTNSR	2020K-16	●		20	20	20	125	20	27.4	Fig. 4	16ER···	CPS-5S	–	T-15	TN-32	M3.0

■KTN-JCT







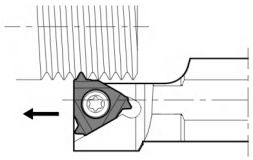
KTNR2020K-16JCT形状如上

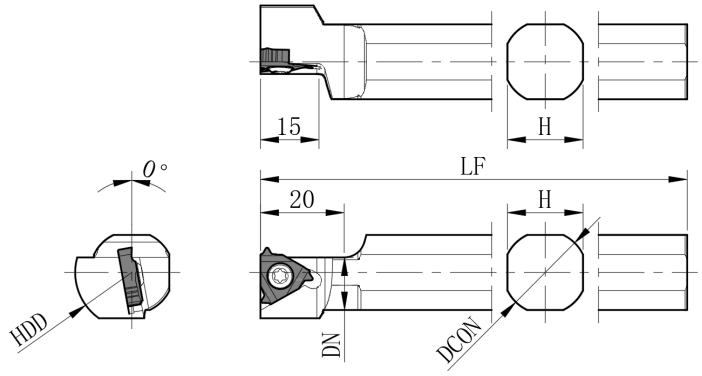
●Right hand execution shown

●Toolholder size

Model		in stock		Dimensions (mm)								inserts	Spare Parts				
													clamp	lock pin	torx wrench	SHIM	screw
		R	L	H	HF	HBH	B	WF	LF	LH	MHD						
KTNR	2020K-16JCT	●		20	20	5	20	25	125	33.3	100.7	16ER…	CPS-5S-R-JCT	FP-12	T-15	TN-32	SP3X8
KTNR	2525M-16JCT	●		25	25	–	25	25	150	–	125.7						

■S-KTN

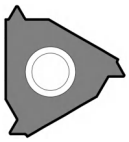
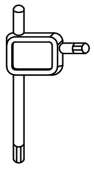




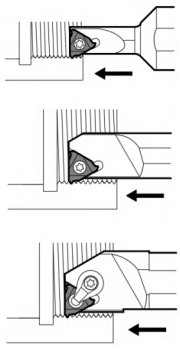
●Right hand execution shown

left-hand(L)holder for right-hand(R)insert.

●Toolholder size

Model	in stock		Dimensions (mm)						inserts	Spare Parts	
										screw	torx wrench
	R	L	DCON	LF	WF	DN	HDD	H			
S16F-KTNL16		●	16	85	6	15	27	15	16ER···	M3.5	T-15
S19K-KTNL16		●	19.05	120		18		17			
S20K-KTNL16		●	20			19		18			
S22K-KTNL16		●	22			21		20			
S25.0H-KTNL16		●	25	100	10	24	32	32			
S25K-KTNL16		●	25.4	120							

■SIN/CIN



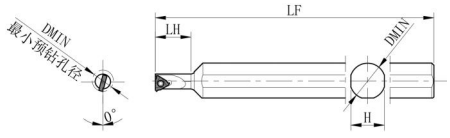


Fig. 1

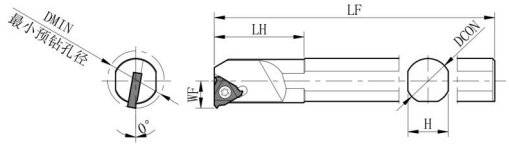


Fig. 3

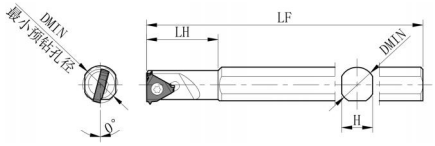


Fig. 2

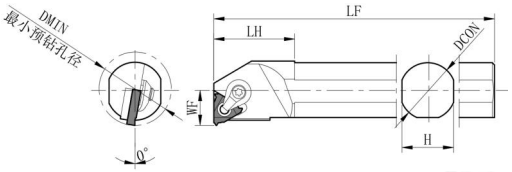


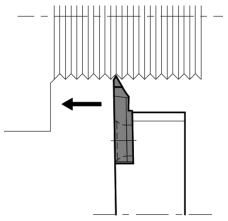
Fig. 4

●Right hand execution shown

●Toolholder size

Model		in stock		Minimum pre-drilled hole size	Dimensions (mm)					shape	inserts	Spare Parts				
												clamp	screw	torx wrench	SHIM	screw
		R	L	DMIN	DCON	H	LF	LH	WF							
SINR/L	0612S-06E	●		6.4	12	11	100	10	3.8	Fig. 1	06IR···	–	M2.0	T6	–	–
SINR/L	0816S-08E	●		7.8	16	15	125	16	4.0		08IR···	–	M2.0	T6	–	–
SINR/L	1216S-11E	●	●	12	16	14	150	25	6.3		11IR/L···	–	M2.0	T8	–	–
SINR/L	1516S-11	●	●	15				30	7.5							
SINR/L	1616S-16	●	●	16	16	14	150	32	8.6	Fig. 2	16IR/L···	–	M3.5	T15	–	–
SINR/L	2016S-16	●	●	20				37	10.0	Fig. 3						
SINR/L	2420S-16	●	●	24	20	18	180	40	12.0							
SINR/L	2420S-22	●		24	20	18	180	40	13.5		22IR···	–	M4.0	T15	–	–
CINR/L	3025S-16	●	●	30	25	23	200	36	15.0	Fig. 4	16IR/L···	CPS-5S	–	T15	TN-32	M3.0
CINR/L	3732S-16	●		37	32	30	250	45	18.5							
CINR/L	3025S-22	●		30	25	23	200	40	16.5		22IR···	CPS-6S	–	LW-3	TN-43	M3.0
CINR/L	3732S-22	●		37	32	30	250	45	20.0							

■KQTKF/KQTKF



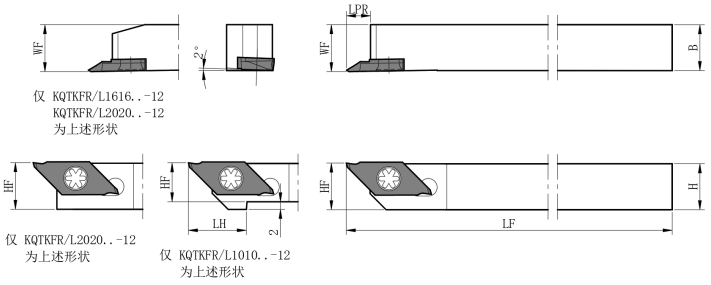


Fig. 1

●Right hand execution shown | right-hand(R)holder for right-hand (R)insert,left-hand(L)holder for left-hand (L)insert.

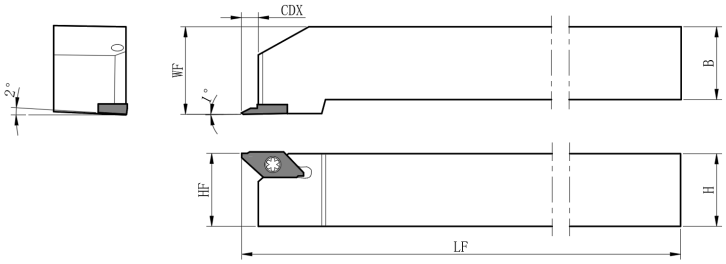
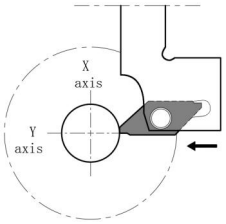


Fig. 2

●Right hand execution shown | right-hand(R)holder for right-hand (R)insert,left-hand(L)holder for left-hand (L)insert.

(Y-axis toolholder)



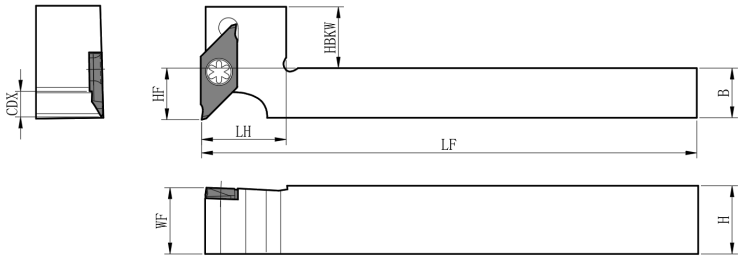
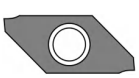


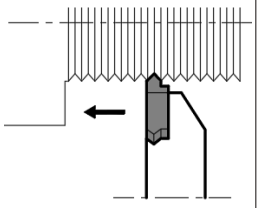
Fig. 3

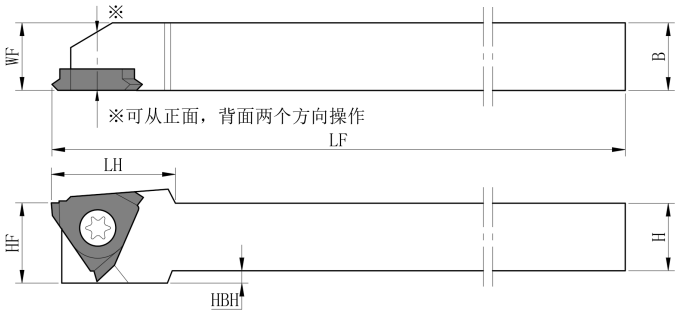
●Right hand execution shown | right-hand(R)holder for right-hand (R)insert.

●Toolholder size

Model		in stock		Dimensions (mm)								shape	inserts	Spare Parts	
														screw	torx wrench
		R	L	H	HF	B	LF	LH	WF	CDX	HBKW				
KQTKFR/L	1010JX-12	●	●	10	10	10	120	15	10	6	–	Fig. 1	QTKF12R/L	M4.0	T15
KQTKFR/L	1212JX-12	●	●	12	12	12		–	12						
KQTKFR/L	1616JX-12	●	●	16	16	16			16						
KQTKFR/L	2020JX-12	●	●	20	20	20			20						
KQTKFR	2525M-12	●		25	25	25	150	–	30	6	–	Fig. 2	QTKF12R	M4.0	T15
KQTKFR/L	1212F-12	●	●	12	12	12	85	–	12	6	–	Fig. 1	QTKF12R/L	M4.0	T15
KQTKFR	1216JX-12-Y	●		12	12	16	120	20	16	6	15	Fig. 3	QTKF12R	M4.0	T15
KQTKFR	1616JX-12-Y	●		16	16			25			11				

■KQTTX





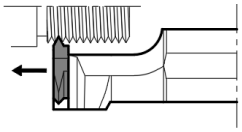
●Right hand execution shown

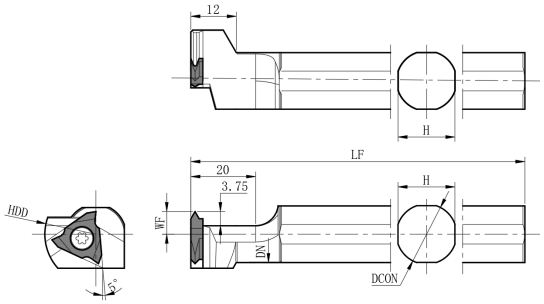
right-hand(R)holder for right-hand (R)insert.

●Toolholder size

Model		in stock	Dimensions (mm)							inserts	Spare Parts	
			H	HF	HBH	B	LF	LH	WF		screw	torx wrench
KQTTXR	1010JX-16F	●	10	10	2	10	120	17.6	10	QTTX32R…	M4.0	T15
KQTTXR	1212JX-16F	●	12	12	–	12			12			
KQTTXR	1616JX-16F	●	16	16		16			16			
KQTTXR	1212F-16F	●	12	12	–	12	85	17.6	12	QTTX32R…	M4.0	T15
KQTTXR	2020K-16F	●	20	20		20	125		20			

■S-KQTTX





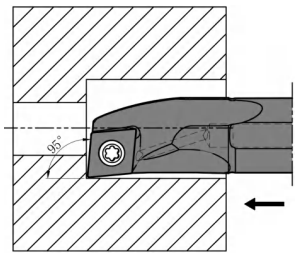
●left hand execution shown

left-hand(L)holder for right-hand(R)insert.

●Toolholder size

Model	in stock	Dimensions (mm)						inserts	Spare Parts	
		DCON	LF	WF	DN	HDD	H		screw	torx wrench
S12F-KTTXL16	●	12	80	6.0	11.0	27	11	QTTX32R···	M4.0	T15
S14H-KTTXL16	●	14	100		13.0		13			
S15F-KTTXL16	●	15.875	85		14.6		15			
S16F-KTTXL16	●	16								
S19G-KTTXL16	●	19.05	90		17.6		17			
S19K-KTTXL16	●		120							
S20G-KTTXL16	●	20	90		18.6		18			
S20K-KTTXL16	●		120							
S25.0H-KTTXL16	●	25	100	10.0	13.6	32	23			
S25K-KTTXL16	●	25.4	120							

A/S-SCLC-AE General anti-vibration tool holder



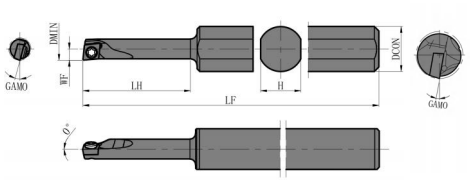


Fig. 1

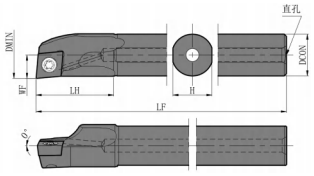


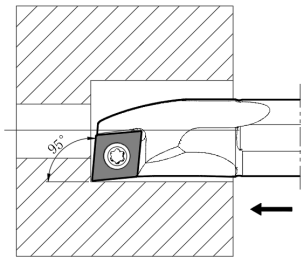
Fig. 2

刀杆径 DCON	直孔径
ϕ8	ϕ2.5
ϕ10	ϕ3
ϕ12	ϕ4
ϕ16	ϕ5
ϕ20	
ϕ25	

● Right hand execution shown

NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

C/E-SCLC-A



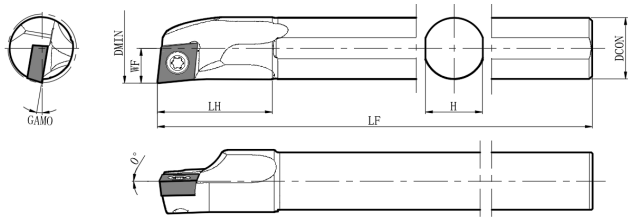
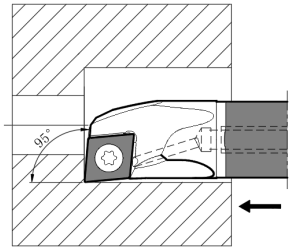


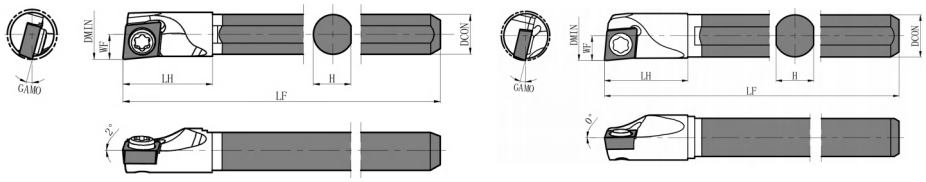
Fig. 3

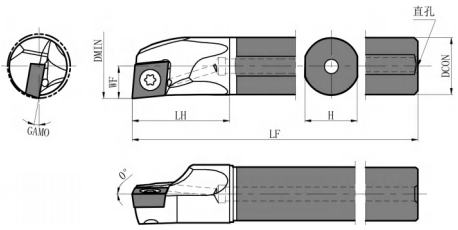
● Right hand execution shown

NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

C/E-SCLC-A(N) Carbide anti-vibration tool holder





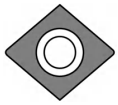
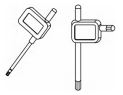


刀杆径 DCON	直孔径
ϕ8	ϕ3
ϕ10	
ϕ12	ϕ4
ϕ16	
ϕ20	ϕ6
ϕ25	

● Right hand execution shown

NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

Toolholder size

	Model	in stock		Minimum	Dimensions (mm)					GAMO	R (RE)	cooling holes	Shape	inserts	Spare Parts	
															SHIM screw	torx wrench
		R	L	DMIN	DCON	H	LF	LH	WF							
General vibration-resistant toolholder	S10H-SCLCR/L03-05AE	●	●	5	10	9	100	24	2.5	24	0.2	无	Fig.1	CC...0301	M1.6	T6
	S10H-SCLCR/L03-06AE	●	●	6				28	3	28						
	S10H-SCLCR/L04-07AE	●	●	7				32	3.5	32				CC...0401	M2.0	
	S10H-SCLCR/L04-08AE	●	●	8				37	4	37						
	A08X-SCLCR/L06-10AE	●	●	10	8	7	120	16	5	16	0.4	有	Fig.2	CC...0602	M2.5	T8
	A10L-SCLCR/L06-12AE	●	●	12	10	9	140	20	6	20						
	A12M-SCLCR/L06-14AE	●	●	14	12	11	150	24	7	30						
	A16Q-SCLCR/L09-18AE	●	●	18	16	15	180	30	9					CC...09T3	M4.0	T15
	A20R-SCLCR/L09-22AE	●	●	22	20	19	200	36	11	36						
	A25S-SCLCR/L09-27AE	●	●	27	25	24	250	46	13.5	46						
steels	S08X-SCLCR/L06-10A	●	●	10	8	7	120	16	5	16	0.4	无	Fig.3	CC...0602	M2.5	T8
	S10L-SCLCR/L06-12A	●	●	12	10	9	140	20	6	20						
	S12M-SCLCR/L06-14A	●	●	14	12	11	150	24	7	30						
	S16Q-SCLCR/L09-18A	●	●	18	16	15	180	30	9					CC...09T3	M4.0	T15
	S20R-SCLCR/L09-22A	●	●	22	20	19	200	36	11	36						
	S25S-SCLCR/L09-27A	●	●	27	25	24	250	46	13.5	46						
Cemented carbide	C04G-SCLCR/L03-05AN	●	●	5	4	3.8	90	7	2.5	7	0.2	无	Fig.4	CC...0301	M1.6	T6
	C05H-SCLCR/L03-06AN	●	●	6	5	4.4	100	9	3	10			Fig.5			
	C06J-SCLCR/L04-07AN	●	●	7	6	5.4	110	10	3.5					CC...0401	M2.0	
	C07K-SCLCR/L04-08AN	●	●	8	7	6.4	125	11	4	11						
	E08L-SCLCR/L06-10AN	●	●	10	8	7	140	14	5	14	0.4	有	Fig.6	CC...0602	M2.5	T8
	E08L-SCLCR06-10AN2/3	●					90									
	E10N-SCLCR/L06-12AN	●	●	12	10	9	160	18	6	18						
	E10N-SCLCR06-12AN2/3	●					105									
	E12Q-SCLCR/L06-14A	●	●	14	12	10	180	23	7	28						
	E12Q-SCLCR06-14A-2/3	●					120									
	E16X-SCLCR/L09-18A	●	●	18	16	15	220	28	9					CC...09T3	M4.0	T15
	E16X-SCLCR09-18A-2/3	●					145									
	E20S-SCLCR/L09-22A	●	●	22	20	19	250	32	11	32						
	E20S-SCLCR09-22A-2/3	●					165									
	E25T-SCLCR/L09-27A	●	●	27	25	24	300	38	13.5	38						
	E25T-SCLCR09-27A-2/3	●					200									

A/S-SCLP-AE General anti-vibration tool holder

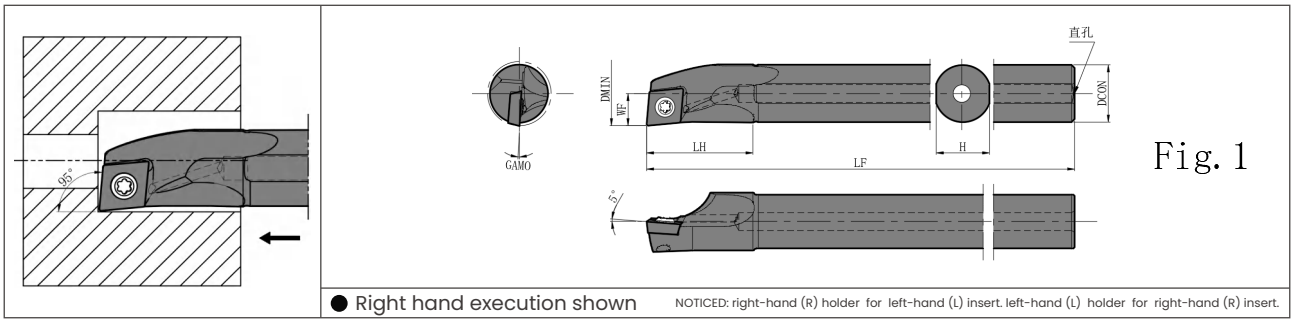


Fig. 1

● Right hand execution shown

NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

S-SCLP-A

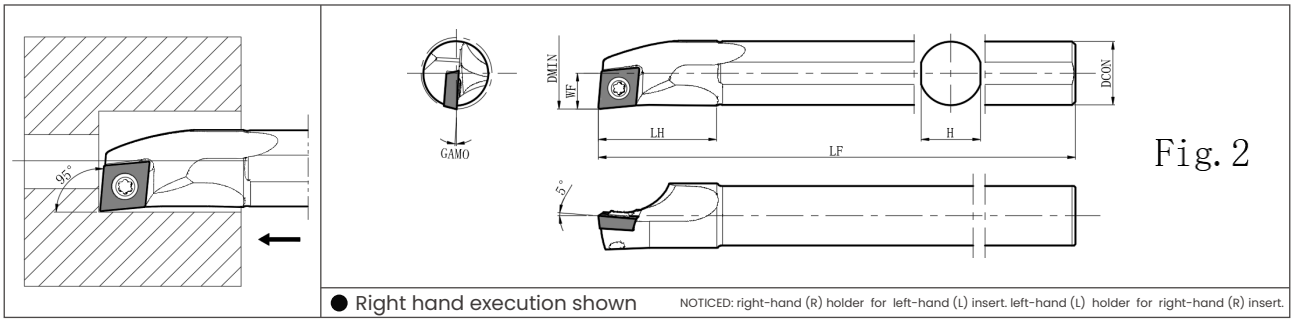


Fig. 2

● Right hand execution shown

NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

E-SCLP-A(N) General anti-vibration tool holder

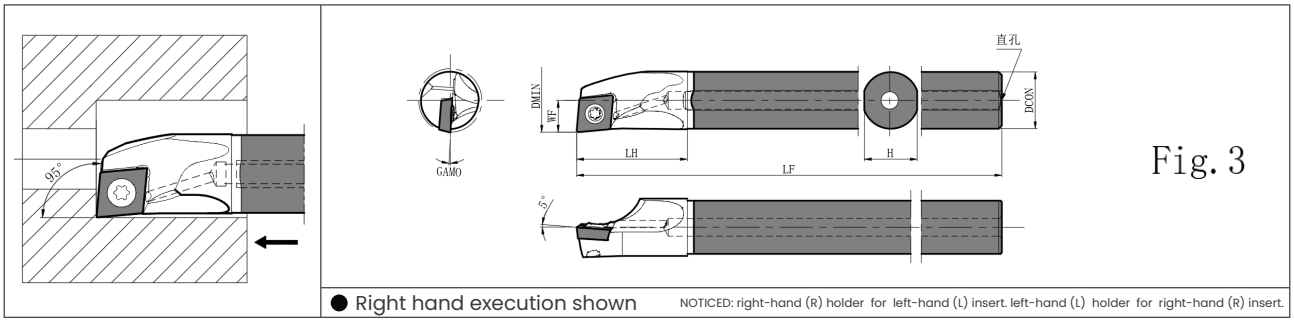
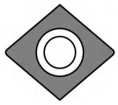
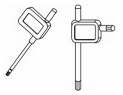


Fig. 3

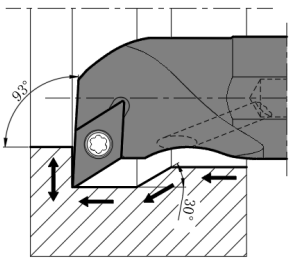
● Right hand execution shown

NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

Toolholder size

	Model	in stock		Minimum	Dimensions (mm)					GAMO	R (RE)	cooling holes	Shape	inserts	Spare Parts	
															screw	torx wrench
		R	L	DMIN	DCON	H	LF	LH	WF							
General vibration-resistant toolholder	A10L-SCLPR/L08-12AE	●	●	12	10	9	140	20	6	5°	0.4	有	Fig.1	CP...0802	M3.0	T10
	A12M-SCLPR/L08-14AE	●	●	14	12	11	150	24	7	4°						
	A12M-SCLPR/L09-16AE	●	●	16					8					CP...09T3	M4.0	T15
	A16Q-SCLPR/L09-18AE	●	●	18	16	15	180	30	9	3.5°						
	A20R-SCLPR/L09-22AE	●	●	22	20	19	200	36	11	2°						
	A25S-SCLPR/L09-27AE	●	●	27	25	24	250	46	13.5	0°						
steels	S10L-SCLPR/L08-12A	●	●	12	10	9	140	20	6	5°	0.4	无	Fig.2	CC...0301	M3.0	T10
	S12M-SCLPR/L08-14A	●	●	14	12	11	150	24	7	4°						
	S12M-SCLPR/L09-16A	●	●	16					8					CP...09T3	M4.0	T15
	S16Q-SCLPR/L09-18A	●	●	18	16	15	180	30	9	3.5°						
	S20R-SCLPR/L09-22A	●	●	22	20	19	200	36	11	2°						
	S25S-SCLPR/L09-27A	●	●	27	25	24	250	46	13.5	0°						
Cemented carbide	E10N-SCLPR/L08-12AN	●	●	12	10	9	160	18	6	5°	0.4	有	Fig.3	CP...0802	M3.0	T10
	E10N-SCLPR08-12AN2/3	●					105									
	E10N-SCLPR08-12AN1/2	●					80									
	E12Q-SCLPR/L08-14A	●	●	14	12	11	180	23	7	4°						
	E12Q-SCLPR08-14A-2/3	●					120									
	E12Q-SCLPR08-14A-1/2	●					90									
	E12Q-SCLPR/L09-16A	●	●	16	12	11	180	23	8	5°				CP...09T3	M4.0	T15
	E12Q-SCLPR09-16A-2/3	●					120									
	E12Q-SCLPR09-16A-1/2	●					90									
	E16X-SCLPR/L09-18A	●	●	18	16	15	220	28	9	3.5°						
	E16X-SCLPR09-18A-2/3	●					145									
	E16X-SCLPR09-18A-1/2	●					110									
	E20S-SCLPR/L09-22A	●	●	22	20	19	250	32	11	2°						
	E20S-SCLPR09-22A-2/3	●					165									
	E20S-SCLPR09-22A-1/2	●					125									
	E25T-SCLPR/L09-27A	●	●	27	25	24	300	38	13.5	0°						
	E25T-SCLPR09-27A-2/3	●					200									

A-SDUC-AE General anti-vibration tool holder



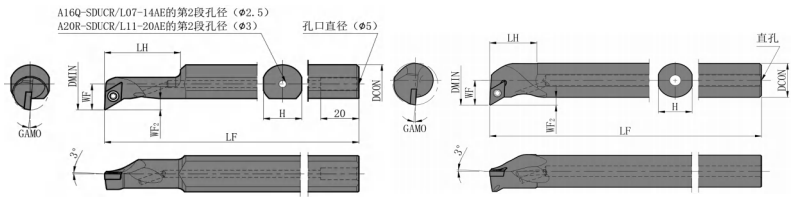
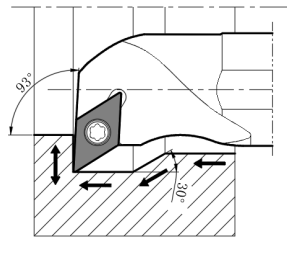


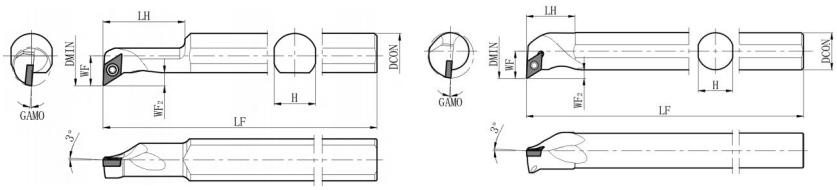
Fig. 1 Fig. 2

刀杆径 DCON	直孔径
Φ10	Φ3
Φ12	Φ4
Φ16	Φ5
Φ20	
Φ25	

● Right hand execution shown NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

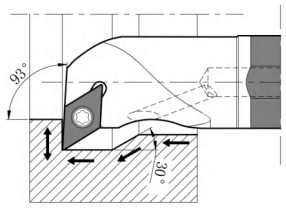
S-SDUC-A

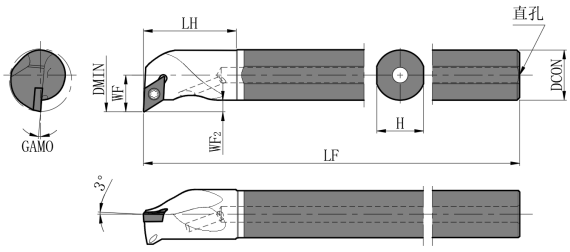




● Right hand execution shown NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

S-SDUC-A General anti-vibration tool holder

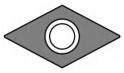
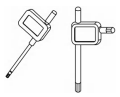




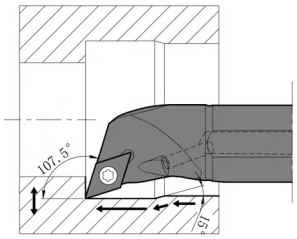
刀杆径 DCON	直孔径
Φ10	Φ3
Φ12	Φ4
Φ16	
Φ20	Φ6
Φ25	

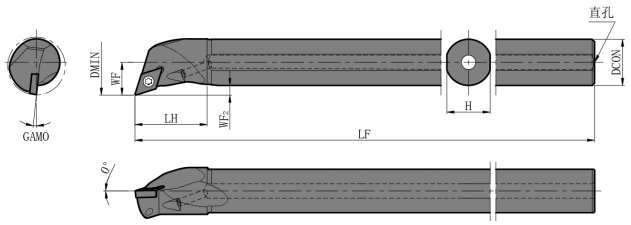
● Right hand execution shown NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

Toolholder size

	Model	in stock		Minimum	Dimensions (mm)						GAMO	R (RE)	cooling holes	Shape	inserts	Spare Parts	
																screw	torx wrench
		R	L	DMIN	DCON	H	LF	LH	WF	WF2							
General vibration-resistant toolholder	A10L-SCLPR/L08-12AE	●	●	14	10	9	140	19	8.7	3.3	5°	0.4	有	Fig.2	DC...0702	M2.5	T8
	A16Q-SDUCR/L07-14AE	●	●		16	15	180	28	10.8	4.4				Fig.1			
	A12M-SDUCR/L07-16AE	●	●	16	12	11	150	21	9.7	3.3				Fig.2			
	A16Q-SDUCR/L07-20AE	●	●	20	16	15	180		11.7								
	A20R-SDUCR/L11-20AE	●	●		20	19	200	48	15.6	6.1				Fig.1	DC...11T3	M4.0	T15
	A16Q-SDUCR/L11-23AE	●	●	23	16	15	180	21	14.5					Fig.2			
	A20R-SDUCR/L11-27AE	●	●	27	20	19	200	23	16.5								
	A25S-SDUCR/L11-32AE	●	●	32	25	24	250	24	19								
steels	S10L-SDUCR/L07-14A	●	●	14	10	9	140	19	8.7	3.3	5°	0.4	无	Fig.4	DC...0702	M2.5	T8
	S16Q-SDUCR/L07-14A	●	●		16	15	180	28	10.8	4.4				Fig.3			
	S12M-SDUCR/L07-16A	●	●	16	12	11	150	21	9.7	3.3				Fig.4			
	S16Q-SDUCR/L07-20A	●	●	20	16	15	180		11.7								
	S20R-SDUCR/L11-20A	●	●		20	19	200	48	15.6	6.1				Fig.3	DC...11T3	M4.0	T15
	S16Q-SDUCR/L11-23A	●	●	23	16	15	180	21	14.5					Fig.4			
	S20R-SDUCR/L11-27A	●	●	27	20	19	200	23	16.5								
	S25S-SDUCR/L11-32A	●	●	32	25	24	250	24	19								
Cemented carbide	E10N-SDUCR/L07-14A	●	●	14	10	9	160	20	8.7	3.3	5°	0.4	有	Fig.5	DC...0702	M2.5	T8
	E10N-SDUCR07-14A-2/3	●					105										
	E12Q-SDUCR/L07-16A	●	●	16	12	11	180	23	9.7								
	E12Q-SDUCR07-16A-2/3	●					120										
	E16X-SDUCR/L07-20A	●	●	20	16	15	220	28	11.7								
	E16X-SDUCR07-20A-2/3	●					145										
	E16X-SDUCR/L11-23A	●	●	23			220		14.5	6.1					DC...11T3	M4.0	T15
	E16X-SDUCR11-23A-2/3	●					145										
	E20S-SDUCR/L11-27A	●	●	27	20	19	250	32	16.5								
	E20S-SDUCR/L11-27A-2/3	●					165										
	E25T-SDUCR/L11-32A	●	●	32	25	24	300	38	19								
	E25T-SDUCR/L11-32A-2/3	●					200										

A-SDQC-AE General anti-vibration tool holder



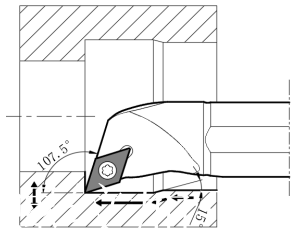


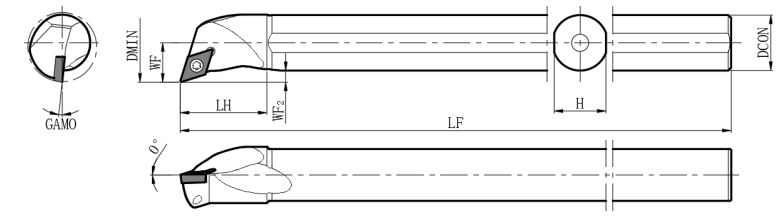
刀杆径 DCON	直孔径
ϕ10	ϕ3
ϕ12	ϕ4
ϕ16	ϕ5
ϕ20	
ϕ25	

● Right hand execution shown

NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

S-SDQC-A

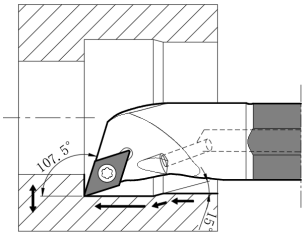


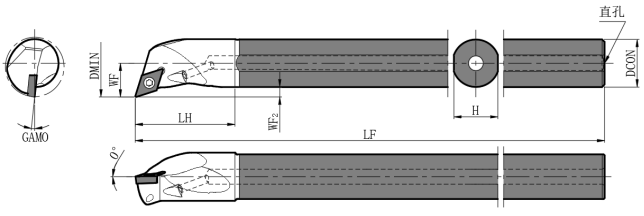


● Right hand execution shown

NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

E-SDQC-A Carbide anti-vibration tool holder



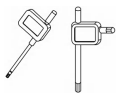


刀杆径 DCON	直孔径
ϕ10	ϕ3
ϕ12	ϕ4
ϕ16	
ϕ20	ϕ6
ϕ25	

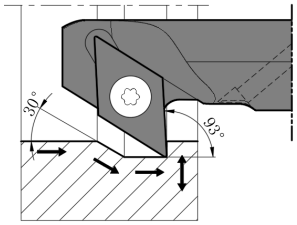
● Right hand execution shown

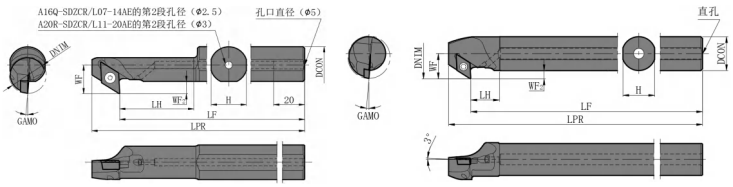
NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

Toolholder size

	Model	in stock		Minimum	Dimensions (mm)						GAMO	R (RE)	cooling holes	Shape	inserts	Spare Parts	
																screw	torx wrench
		R	L	DMIN	DCON	H	LF	LH	WF	WF2							
General vibration-resistant toolholder	A10L-SDQCR/L07-13AE	●	●	13	10	9	140	19	7.5	2.1	10°	0.4	有	Fig.1	DC...0702	M2.5	T8
	A12M-SDQCR/L07-16AE	●	●	16	12	11	150	22	9.25	2.6	8°						
	A16Q-SDQCR/L07-20AE	●	●	20	16	15	180	25	11.3		6°						
	A20R-SDQCR/L11-25AE	●	●	25	20	19	200	31	14.4	3.7	5°				DC...11T3	M4.0	T15
	A25S-SDQCR/L11-30AE	●	●	30	25	24	250	38	16.9		4°						
steels	S10L-SDQCR/L07-13A	●	●	13	10	9	140	19	7.5	2.1	10°	0.4	无	Fig.2	DC...0702	M2.5	T8
	S12M-SDQCR/L07-16A	●	●	16	12	11	150	22	9.25	2.6	8°						
	S16Q-SDQCR/L07-20A	●	●	20	16	15	180	25	11.3		6°						
	S20R-SDQCR/L11-25A	●	●	25	20	19	200	31	14.4	3.7	5°				DC...11T3	M4.0	T15
	S25S-SDQCR/L11-30A	●	●	30	25	24	250	38	16.9		4°						
Cemented carbide	E10N-SDUCR/L07-14A	●	●	13	10	9	160	20	7.5	2.1	10°	0.4	有	Fig.3	DC...0702	M2.5	T8
	E10N-SDUCR07-14A-2/3	●					105										
	E12Q-SDUCR/L07-16A	●	●	16	12	11	180	23	9.25	2.6	8°						
	E12Q-SDUCR07-16A-2/3	●					120										
	E16X-SDUCR/L07-20A	●	●	20	16	15	220	28	11.3	2.6	6°						
	E16X-SDUCR07-20A-2/3	●					145										
	E20S-SDUCR/L11-27A	●	●	25	20	19	250	32	14.4	3.7	5°				DC...11T3	M4.0	T15
	E20S-SDUCR/L11-27A-2/3	●					165										
	E25T-SDUCR/L11-32A	●	●	30	25	24	300	38	16.9	3.7	4°						
	E25T-SDUCR/L11-32A-2/3	●					200										

A-SDZC-AE General anti-vibration tool holder



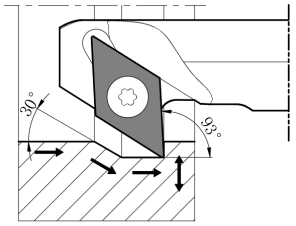


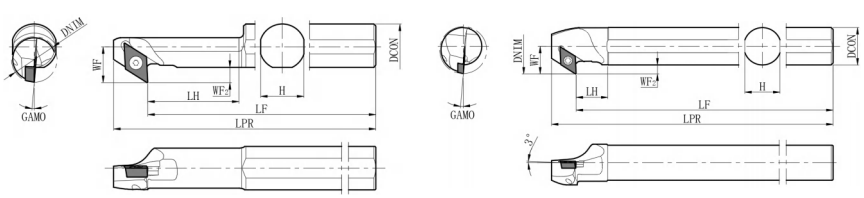
刀杆径 DCON	直孔径
Φ10	Φ3
Φ12	Φ4
Φ16	Φ5
Φ20	
Φ25	

● Right hand execution shown

NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

S-SDZC-A

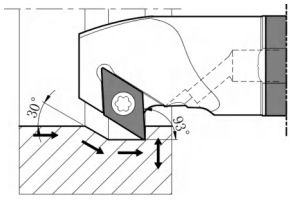


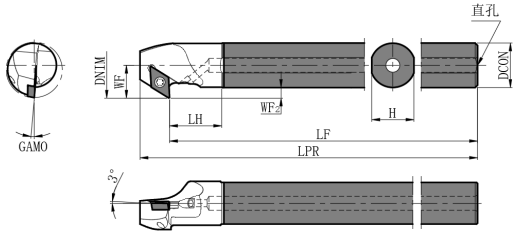


● Right hand execution shown

NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

E-SDZC-A Carbide anti-vibration tool holder



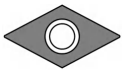
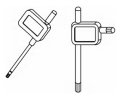


刀杆径 DCON	直孔径
Φ10	Φ3
Φ12	Φ4
Φ16	
Φ20	Φ6
Φ25	

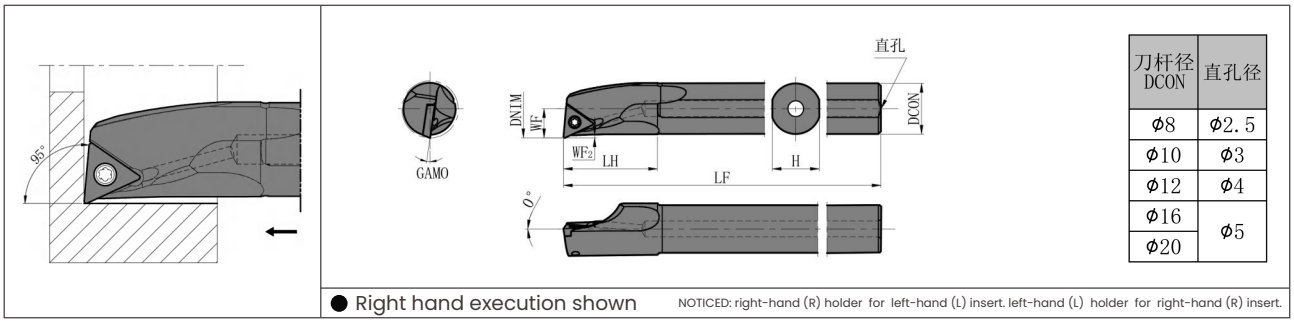
● Right hand execution shown

NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

Toolholder size

	Model	in stock		Minimum	Dimensions (mm)							GAMO	R (RE)	cooling holes	Shape	inserts	Spare Parts	
																	screw	torx wrench
		R	L	DMIN	DCON	H	LPR	LF	LH	WF	WF2							
General vibration-resistant toolholder	A10L-SDQCR/L07-13AE	●	●	14	10	9	140	130.5	14	8.7	3.3	5°	0.4	有	Fig.2	DC...0702	M2.5	T8
	A10L-SDQCR/L07-13AE	●	●		16	15	180	170	30	10.8	4.4				Fig.1			
	A10L-SDQCR/L07-13AE	●	●	16	12	11	150	139.5	14	9.7	3.3				Fig.2			
	A10L-SDQCR/L07-13AE	●	●	20	16	15	180	169.5		11.7								
	A10L-SDQCR/L07-13AE	●	●		20	19	200	185	40	15.6	6.1				Fig.1	DC...11T3	M4.0	T15
	A10L-SDQCR/L07-13AE	●	●	23	16	15	180	165	15	14.5					Fig.2			
	A10L-SDQCR/L07-13AE	●	●	27	20	19	200	185		16.5								
	A10L-SDQCR/L07-13AE	●	●	32	25	24	250	235		19								
steels	A10L-SDQCR/L07-13AE	●	●	14	10	9	140	130.5	14	8.7	3.3	5°	0.4	无	Fig.4	DC...0702	M2.5	T8
	A10L-SDQCR/L07-13AE	●	●		16	15	180	170	30	10.8	4.4				Fig.3			
	A10L-SDQCR/L07-13AE	●	●	16	12	11	150	139.5	14	9.7	3.3				Fig.4			
	A10L-SDQCR/L07-13AE	●	●	20	16	15	180	169.5		11.7								
	A10L-SDQCR/L07-13AE	●	●		20	19	200	185	40	15.6	6.1				Fig.3	DC...11T3	M4.0	T15
	A10L-SDQCR/L07-13AE	●	●	23	16	15	180	165	15	14.5					Fig.4			
	A10L-SDQCR/L07-13AE	●	●	27	20	19	200	185		16.5								
	A10L-SDQCR/L07-13AE	●	●	32	25	24	200	235		19								
Cemented carbide	A10L-SDQCR/L07-13AE	●		14	10	9	160	150.5	10.5	8.7	3.3	5°	0.4	有	Fig.5	DC...0702	M2.5	T8
	A10L-SDQCR/L07-13AE	●		16	12	11	180	169.5	12.5	9.7								
	A10L-SDQCR/L07-13AE	●		20	16	15	220	209.5	17.5	11.7								
	A10L-SDQCR/L07-13AE	●		23			220	205	13	14.5	6.1					DC...11T3	M4.0	T15
	A10L-SDQCR/L07-13AE	●		27	20	19	250	205	17	16.5								

A-STLC-AE General anti-vibration tool holder

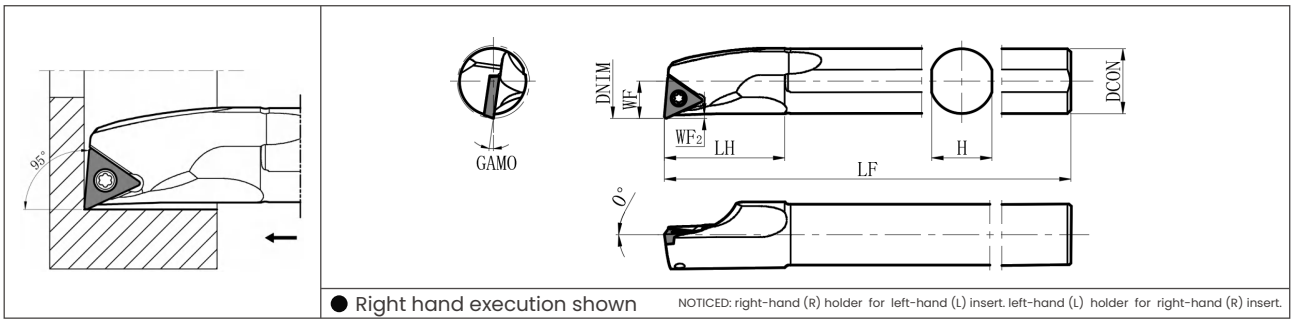


刀杆径 DCON	直孔径
ϕ8	ϕ2.5
ϕ10	ϕ3
ϕ12	ϕ4
ϕ16	ϕ5
ϕ20	

● Right hand execution shown

NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

S-STLC-A



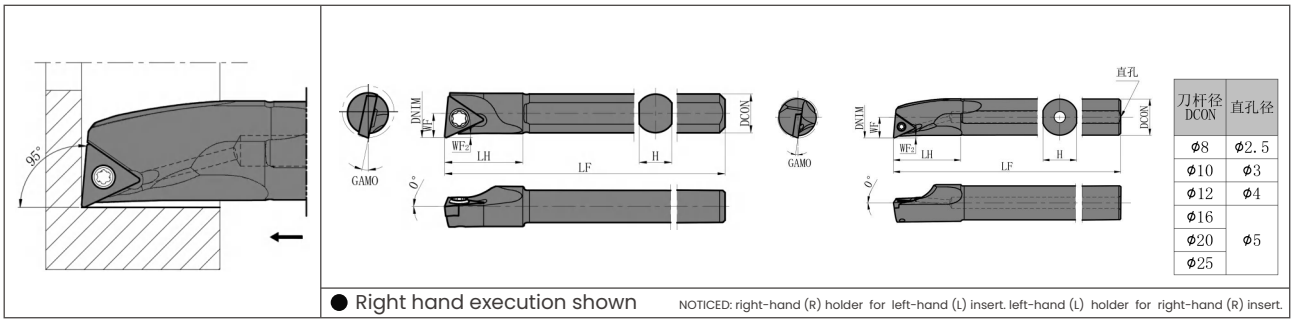
● Right hand execution shown

NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

Toolholder size

	Model	in stock R	in stock L	Minimum DMIN	Dimensions (mm) DCON	H	LF	LH	WF	WF2	GAMO	R (RE)	cooling holes	Shape	inserts	Spare Parts screw	Spare Parts torx wrenchscrew
General vibration-resistant toolholder	A08X-STLCR/L09-10AE	●	●	10	8	7	120	16	5	0.5	14°	10°	有	Fig.1	TC...0902	M2.2	T7
	A10L-STLCR/L09-12AE	●	●	12	10	9	140	20	6.2	0.9	12°						
	A10L-STLCR/L11-12AE	●	●												TC...1102	M2.5	T8
	A12M-STLCR/L11-14AE	●	●	14	12	11	150	24	7.2		10°						
	A16Q-STLCR/L11-18AE	●	●	18	16	15	180	30	9.2	0.7	8°						
	A20R-STLCR/L11-22AE	●	●	22	20	19	200	36	11.2		6°						
steels	S08X-STLCR/L09-10A	●	●	10	8	7	120	16	5	0.5	14°	10°	无	Fig.2	TC...0902	M2.2	T7
	S10L-STLCR/L09-12A	●	●	12	10	9	140	20	6.2	0.9	12°						
	S10L-STLCR/L11-12A	●	●												TC...1102	M2.5	T8
	S12M-STLCR/L11-14A	●	●	14	12	11	150	24	7.2		10°						
	S16Q-STLCR/L11-18A	●	●	18	16	15	180	30	9.2	0.7	8°						
	S20R-STLCR/L11-22A	●	●	22	20	19	200	36	11.2		6°						

A-STLB(P)-AE General anti-vibration tool holder

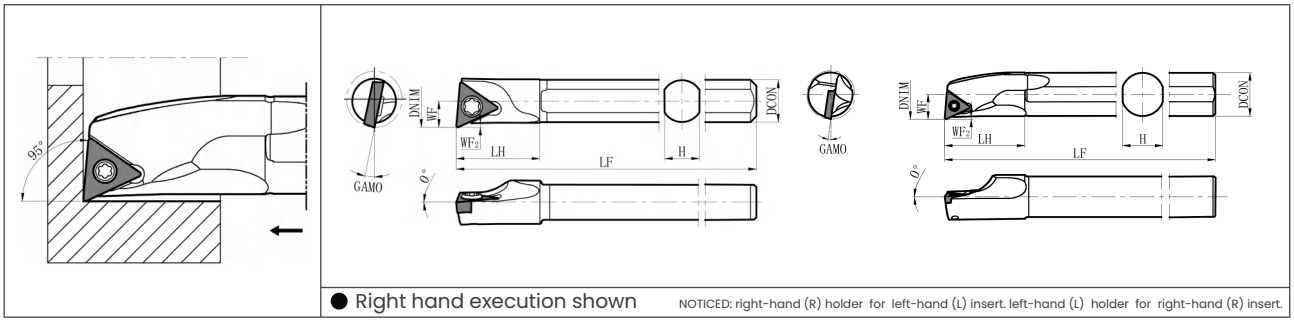


刀杆径 DCON	直孔径
ϕ8	ϕ2.5
ϕ10	ϕ3
ϕ12	ϕ4
ϕ16	ϕ5
ϕ20	
ϕ25	

● Right hand execution shown

NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

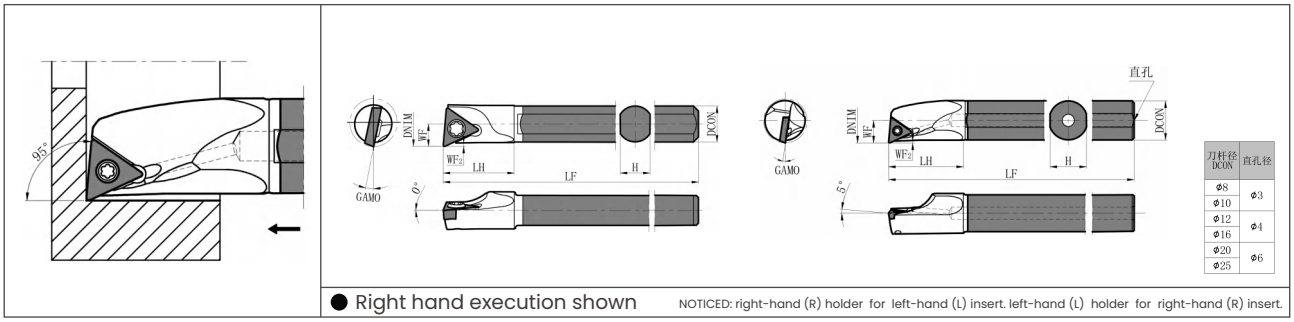
S-STLB(P)-A



● Right hand execution shown

NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

C/E-STLB(P)-A(N) Carbide anti-vibration tool holder

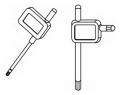


刀杆径 DCON	直孔径
ϕ8	ϕ3
ϕ10	
ϕ12	ϕ4
ϕ16	
ϕ20	ϕ6
ϕ25	

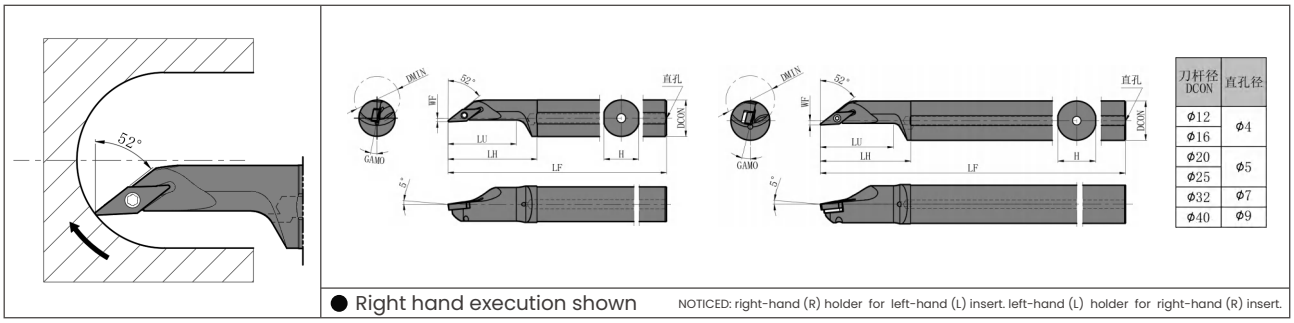
● Right hand execution shown

NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

Toolholder size

	Model	in stock		Minimum	Dimensions (mm)						GAMO	R (RE)	cooling holes	Shape	inserts	Spare Parts	
																screw	torx wrench
		R	L	DMIN	DCON	H	LF	LH	WF	WF2							
General vibration-resistant toolholder	S06H-STLBR/L06-08AE	●	●	8	6	5	100	12	3.8	0.5	12°	0.2	无	Fig.1	TB...0601	M2.0	T6
	A08X-STLPR/L08-10AE	●	●	10	8	7	120	16	5	0.5	10°	0.4	有	Fig.2	TP...0802		
	A08X-STLPR/L09-10AE	●	●												TP...0902	M2.5	T8
	A10L-STLPR/L09-12AE	●	●	12	10	9	140	20	6.2	0.9	8°						
	A10L-STLPR/L11-12AE	●	●						6	0.7	10°				TP...1103	M3.0	T10
	A12M-STLPR/L11-14AE	●	●	14	12	11	150	24	7.2	0.8	7°						
	A12M-STLPR/L09-16AE	●	●	16					8	0.6	5°				TP...0902	M2.5	T8
	A16Q-STLPR/L11-18AE	●	●	18	16	15	180	30	9.2	0.7	3.5°				TP...1103	M3.0	T10
	A20R-STLPR/L11-22AE	●	●	22	20	19	200	36	11.2		2°						
	A20R-STLPR/L16-25AE	●	●	25					13		0°				TP...1603	M4.0	T15
	A25S-STLPR/L16-27AE	●	●	27	25	24	250	46	13.7								
steels	S06H-STLBR/L06-08A	●	●	8	6	5	100	12	3.8	0.5	12°	0.2	无	Fig.1	TB...0601	M2.0	T6
	S08X-STLPR/L08-10A	●	●	10	8	7	120	16	5	0.5	10°	0.4	有	Fig.2	TP...0802		
	S08X-STLPR/L09-10A	●	●												TP...0902	M2.5	T8
	S10L-STLPR/L09-12A	●	●	12	10	9	140	20	6.2	0.9	8°						
	S10L-STLPR/L11-12A	●	●						6	0.7	10°				TP...1103	M3.0	T10
	S12M-STLPR/L11-14A	●	●	14	12	11	150	24	7.2	0.8	7°						
	S12M-STLPR/L09-16A	●	●	16					8	0.8	5°				TP...0902	M2.5	T8
	S16Q-STLPR/L11-18A	●	●	18	16	15	180	30	9.2	0.7	3.5°				TP...1103	M3.0	T10
	S20R-STLPR/L11-22A	●	●	22	20	19	200	36	11.2		2°						
	S25S-STLPR/L16-27A	●	●	27	25	24	250	46	13.7		0°				TP...1603	M4.0	T15
Cemented carbide	C06J-STLBR/L06-08AN	●	●	8	6	5.4	110	10	3.8	0.5	12°	0.2	无	Fig.5	TB...0601	M2.0	T6
	E08L-STLPR/L08-10AN	●	●	10	8	7	140	14	5	0.5	10°	0.4	有	Fig.6	TP...0802		
	E08L-STLPR/L09-10AN	●	●												TP...0902	M2.5	T8
	E10N-STLPR/L09-12AN	●		12	10	9	160	18	6.2	0.9	8°						
	E10N-STLPR09-12AN2/3	●					105										
	E10N-STLPR09-12AN1/2	●	●				80										
	E10N-STLPR/L11-12AN	●					160		6	0.7	10°				TP...1103	M3.0	T10
	E10N-STLPR11-12AN2/3	●					105										
	E10N-STLPR11-12AN1/2	●	●				80										
	E12Q-STLPR/L11-14A	●		14	12	11	180	23	7.2	0.8	7°						
	E12Q-STLPR11-14A-2/3	●					120										
	E12Q-STLPR11-14A-1/2	●	●				90										
	E12Q-STLPR/L09-16A	●		16			180		8	0.6	5°				TP...0902	M2.5	T8
	E12Q-STLPR09-16A-2/3	●					120										
	E12Q-STLPR09-16A-1/2	●	●				90										
	E16X-STLPR/L11-18A	●		18	16	15	220	28	9.2	0.7	3.5°				TP...1103	M3.0	T10
	E16X-STLPR11-18A-2/3	●					145										
	E16X-STLPR11-18A-1/2	●	●				110										
	E20S-STLPR/L11-22A	●		22	20	19	250	32	11.2		2°						
	E20S-STLPR11-22A-2/3	●					165										
	E20S-STLPR11-22A-1/2	●	●				125										
	E20S-STLPR/L16-25A	●		25			250		13		0°				TP...1603	M4.0	T15
	E20S-STLPR16-25A-2/3	●					165										
	E20S-STLPR16-25A-1/2	●	●				125										
	E25T-STLPR/L16-27A	●		27	25	24	300	38	13.7								
	E25T-STLPR/L16-27A-2/3	●					200										

A-SVJP(C)(B)-AE General anti-vibration tool holder

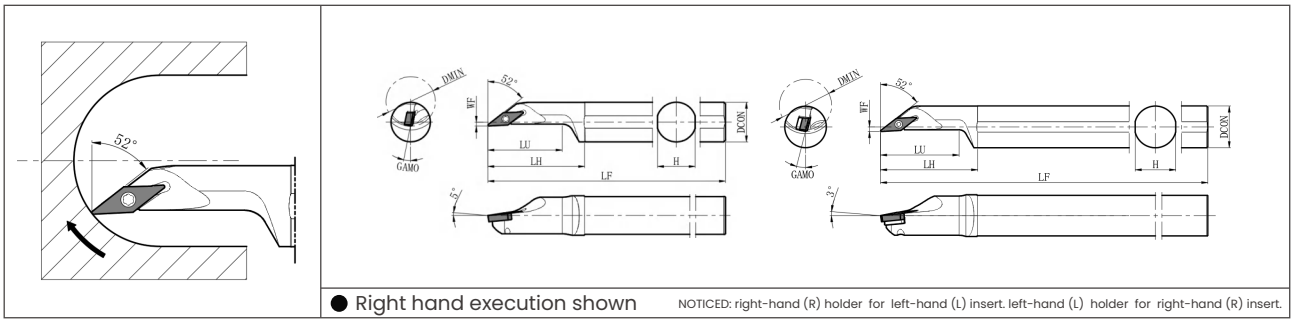


刀杆径 DCON	直孔径
Φ12	Φ4
Φ16	
Φ20	Φ5
Φ25	
Φ32	Φ7
Φ40	Φ9

● Right hand execution shown

NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

S-SVJP(C)(B)-A



● Right hand execution shown

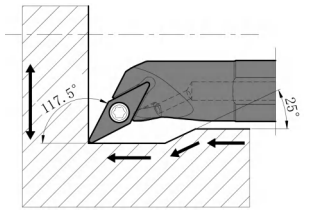
NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

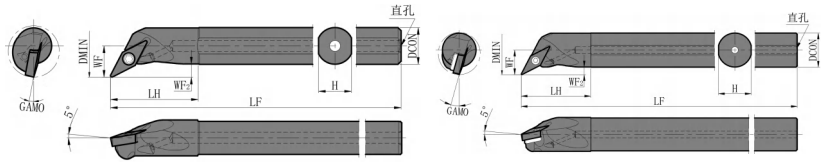
Toolholder size

	Model	in stock		Mini mum	Dimensions (mm)						GAMO	R (RE)	cooling holes	Shape	inserts	Spare Parts				
																screw	torx wrench	SHIM	screw	Hex wrench
		R	L	DMIN	DCON	H	LF	LU	LH	WF										
General vibration-resistant toolholder	A12M-SVJPR/L08-16AE	●	●	16	12	11	150	26	33	2	5°	0.2	有		VP...0802	M2.0	T6	-	-	-
	A12M-SVJCR/L08-16AE	●	●									0.4			VC...0802					
	A16Q-SVJCR/L08-20AE	●	●	20	16	15	180	36	43											
	A20R-SVJBR/L11-25AE	●	●	25	20	19	200	37.5	48						VB...1103	M2.5	T8	-	-	-
	A25S-SVJBR/L11-30AE	●	●	30	25	25	250	45	58	3.5										
	A32S-SVJBR/L16-40AE	●	●	40	32	31		60	74		8°			Fig.2	VB...1604	M4.0	T15	SVN-32N (SVN-32S)	SS-4N	LW-4
	A40S-SVJBR/L16-50AE	●	●	50	40	39	300	75	91	4.5	7°									
steels	A12M-SVJPR/L08-16AE	●	●	16	12	11	150	26	33	2	5°	0.2	无	Fig.3	VP...0802	M2.0	T6	-	-	-
	A12M-SVJCR/L08-16AE	●	●									0.4			VC...0802					
	A16Q-SVJCR/L08-20AE	●	●	20	16	15	180	36	43											
	A20R-SVJBR/L11-25AE	●	●	25	20	19	200	37.5	48						VB...1103	M2.5	T8	-	-	-
	A25S-SVJBR/L11-30AE	●	●	30	25	24	250	45	58	3.5										
	A32S-SVJBR/L16-40AE	●	●	40	32	31		60	74		8°			Fig.4	VB...1604	M4.0	T15	SVN-32N (SVN-32S)	SS-4N	LW-4
	A40S-SVJBR/L16-50AE	●	●	50	40	39	300	75	91	4.5	7°									

A-SVPC(B)-AE General anti-vibration tool holder

Maximum overhang L/D=～5.5



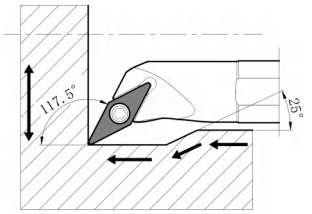


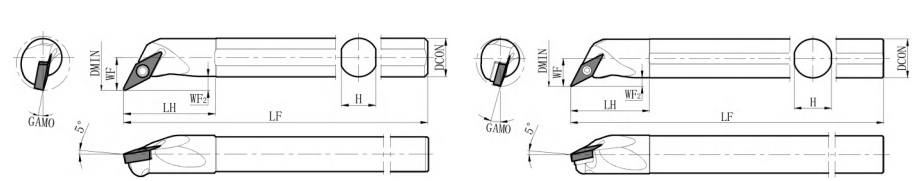
刀杆径 DCON	直孔径
φ10	φ3
φ12	φ4
φ16	φ5
φ20	
φ25	
φ32	

● Right hand execution shown

NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

A-SVPC(B)-AE

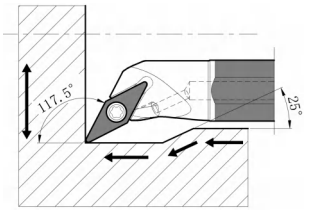


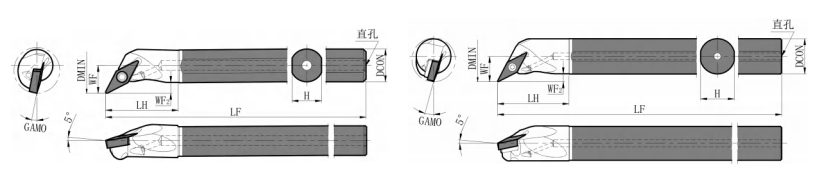


● Right hand execution shown

NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

S-SVPC(B)-A



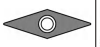


刀杆径 DCON	直孔径
φ10	φ3
φ12	φ4
φ16	
φ20	φ6
φ25	

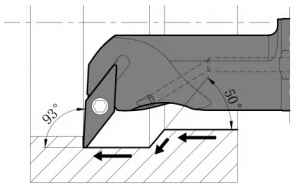
● Right hand execution shown

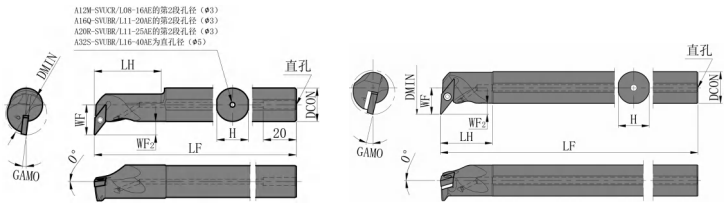
NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

Toolholder size

	Model	in stock		Mini mum	Dimensions (mm)						GAMO	R (RE)	cooling holes	Shape	in stock	Spare Parts				
																screw	torx wrench	SHIM	screw	Hex wrench
		R	L	DMIN	DCON	H	LF	LH	WF	WF2										
General vibration-resistant toolholder	A10L-SVPCR/L08-14AE	●	●	14	10	9	140	24	8.5	3	8°	0.4	有	Fig.1	VC...0802	M2.0	T6	-	-	-
	A12M-SVPBR/L11-18AE	●	●	18	12	11	150	29	11	4.5					VB...1103	M2.5	T8	-	-	-
	A16Q-SVPBR/L11-22AE	●	●	22	16	15	180	35	13.5	5	5°									
	A20R-SVPBR/L11-26AE	●	●	26	20	19	200	41	15.5											
	A25S-SVPBR/L16-31AE	●	●	31	25	24	250	51	18		13°			Fig.2	VB...1604	M4.0	T15	SVN-32N (SVN-32S)	SS-4N	LW-4
	A32S-SVPBR/L16-40AE	●	●	40	32	31		54	23	6.5	9°									
steels	A10L-SVPCR/L08-14AE	●	●	14	10	9	140	24	8.5	3	8°	0.4	无	Fig.3	VC...0802	M2.0	T6	-	-	-
	A12M-SVPBR/L11-18AE	●	●	18	12	11	150	29	11	4.5					VB...1103	M2.5	T8	-	-	-
	A16Q-SVPBR/L11-22AE	●	●	22	16	15	180	35	13.5	5	5°									
	A20R-SVPBR/L11-26AE	●	●	26	20	19	200	41	15.5											
	A25S-SVPBR/L16-31AE	●	●	31	25	24	250	51	18		13°			Fig.4	VB...1604	M4.0	T15	SVN-32N (SVN-32S)	SS-4N	LW-4
	A32S-SVPBR/L16-40AE	●	●	40	32	31		54	23	6.5	9°									
Cemented carbide	E10N-SVPCR/L08-14AE	●		14	10	9	160	20	8.5	3	8°	0.4	有	Fig.5	VC...0802	M2.0	T6	-	-	-
	E12Q-SVPBR/L11-18AE	●		18	12	11	180	23	11	4.5					VB...1103	M2.5	T8	-	-	-
	E16X-SVPBR/L11-22AE	●		22	16	15	220	28	13.5	5	5°									
	E20S-SVPBR/L11-26AE	●		26	20	19	250	32	15.5											
	E25T-SVPBR/L16-31AE	●		31	25	24	300	38	18		13°			Fig.6	VB...1604	M4.0	T15	SVN-32N (SVN-32S)	SS-4N	LW-4

A-SVUC(B)-AE General anti-vibration tool holder



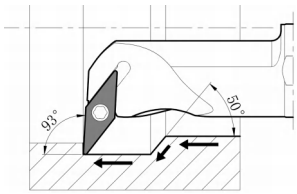


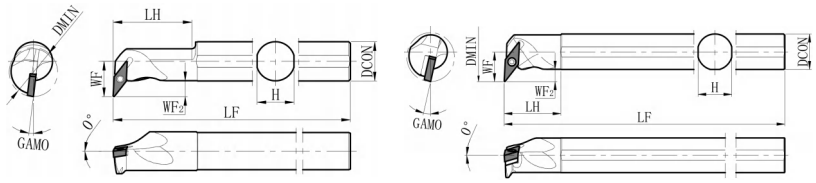
刀杆径 DCON	孔口孔径	直孔径
ϕ12	ϕ4	-
ϕ16	ϕ5	
ϕ20		
ϕ25	-	ϕ5
ϕ32		

● Right hand execution shown

NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

S-SVUC(B)-A

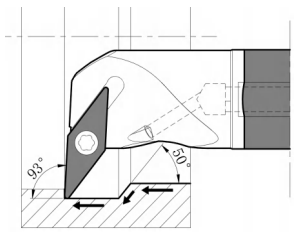


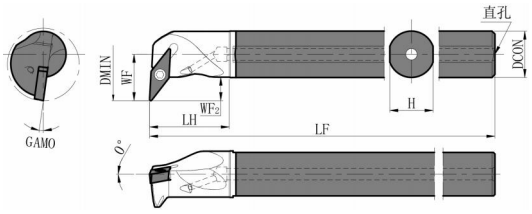


● Right hand execution shown

NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

S-SVUC(B)-A



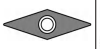


刀杆径 DCON	直孔径
ϕ12	ϕ4
ϕ16	
ϕ20	ϕ6
ϕ25	

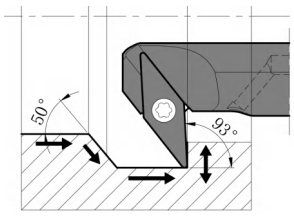
● Right hand execution shown

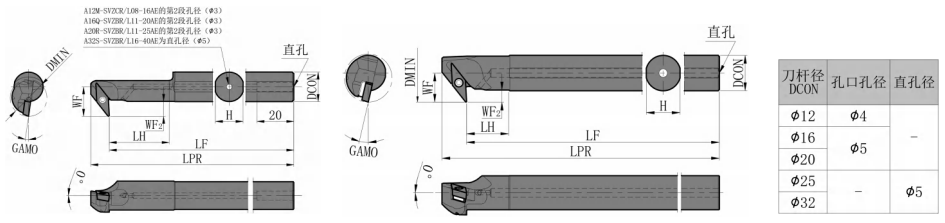
NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

Toolholder size

	Model	in stock		Mini mum	Dimensions (mm)						GAMO	R (RE)	cooling holes	Shape	inserts	Spare Parts				
																screw	torx wrench	SHIM	screw	Hex wrench
		R	L	DMIN	DCON	H	LF	LH	WF	WF2										
General vibration-resistant toolholder	A12M-SVUCR/L08-16AE	●	●	16	12	11	150	25.5	11.5	5.5	8°	0.4	有	Fig.1	VC...0802	M2.0	T6	-	-	-
	A16Q-SVUBR/L11-20AE	●	●	20	16	15	180	32.5	16	8	8°	0.4	有	Fig.1	VB...1103	M2.5	T8	-	-	-
	A20R-SVUBR/L11-25AE	●	●	25	20	19	200	40.5	18	8	7°	0.4	有	Fig.1	VB...1103	M2.5	T8	-	-	-
	A25S-SVUBR/L16-34AE	●	●	34	25	24	250	40	20.5	8.5	13°	0.4	有	Fig.2	VB...1604	M4.0	T15	SVN-32N (SVN-32S)	SS-4N	LW-4
	A32S-SVUBR/L16-40AE	●	●	40	32	31	250	84	28	12	9°	0.4	有	Fig.1	VB...1604	M4.0	T15	SVN-32N (SVN-32S)	SS-4N	LW-4
steels	S12M-SVUCR/L08-16A	●	●	16	12	11	150	25.5	11.5	5.5	8°	0.4	无	Fig.3	VC...0802	M2.0	T6	-	-	-
	S16Q-SVUBR/L11-20A	●	●	20	16	15	180	32.5	16	8	8°	0.4	无	Fig.3	VB...1103	M2.5	T8	-	-	-
	S20R-SVUBR/L11-25A	●	●	25	20	19	200	40.5	18	8	7°	0.4	无	Fig.3	VB...1103	M2.5	T8	-	-	-
	S25S-SVUBR/L16-34A	●	●	34	25	24	250	40	20.5	8.5	13°	0.4	无	Fig.4	VB...1604	M4.0	T15	SVN-32N (SVN-32S)	SS-4N	LW-4
	S32S-SVUBR/L16-40A	●	●	40	32	31	250	84	28	12	9°	0.4	无	Fig.3	VB...1604	M4.0	T15	SVN-32N (SVN-32S)	SS-4N	LW-4
Cemented carbide	E12Q-SVUCR08-18A	●		18	12	11	180	23	11.5	5.5	8°	0.4	有	Fig.5	VC...0802	M2.0	T6	-	-	-
	E16X-SVUBR11-25A	●		25	16	15	220	28	16	8	8°	0.4	有	Fig.5	VB...1103	M2.5	T8	-	-	-
	E20S-SVUBR11-29A	●		29	20	19	250	32	18	8	7°	0.4	有	Fig.5	VB...1103	M2.5	T8	-	-	-
	E25T-SVUBR16-34A	●		34	25	24	300	38	21	8.5	13°	0.4	有	Fig.5	VB...1604	M4.0	T15	SVN-32N (SVN-32S)	SS-4N	LW-4

A-SVZC(B)-AE General anti-vibration tool holder



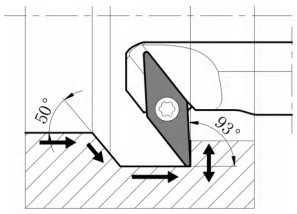


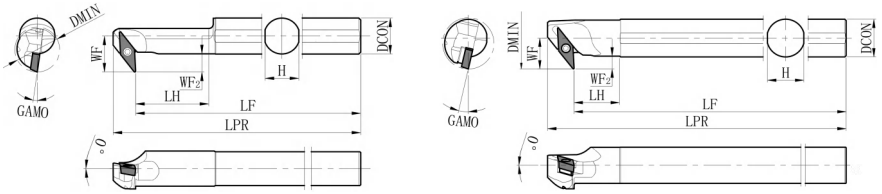
刀杆径 DCON	孔口孔径	直孔径
φ12	φ4	-
φ16	φ5	
φ20		
φ25	-	φ5
φ32		

● Right hand execution shown

NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

S-SVZC(B)-A





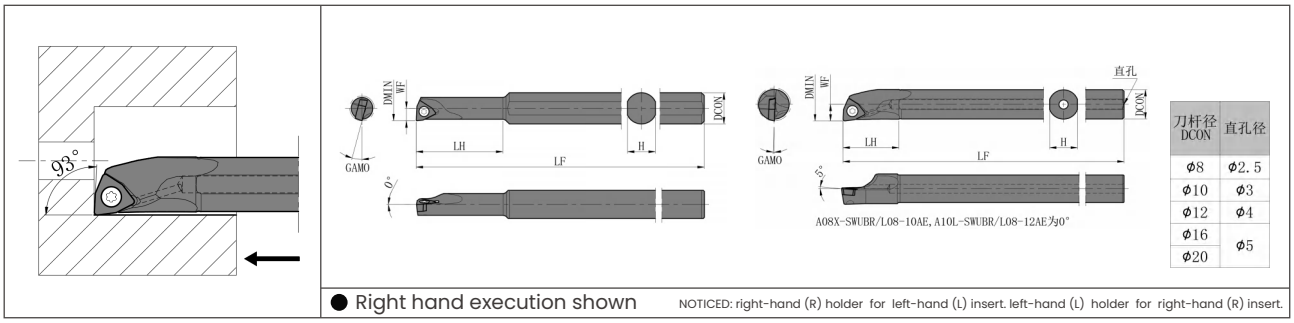
● Right hand execution shown

NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

Toolholder size

	Model	in stock R	in stock L	Minimum DMIN	Dimensions (mm) DCON	H	LPR	LF	LH	WF	WF2	GAMO	R (RE)	cooling holes	Shape	inserts	Spare Parts screw	torx wrench	SHIM	screw	Hex wrench
General vibration-resistant toolholder	A12M-SVZCR/L08-16AE	●	●	16	12	11	150	142.5	25.5	11.5	5.5	8°	0.4	有	Fig.1	VC...0802	M2.0	T6	-	-	-
	A16Q-SVZBR/L11-20AE	●	●	20	16	15	180	170	15	16	8					VB...1103	M2.5	T8	-	-	-
	A20R-SVZBR/L11-25AE	●	●	25	20	19	200	190	19	18		7°									
	A25S-SVZBR/L16-34AE	●	●	34	25	24	250	232.5	24	20.5	8.5	13°			Fig.2	VB...1604	M4.0	T15	SVN-32N (SVN-32S)	SS-4N	LW-4
	A32S-SVZBR/L16-40AE	●	●	40	32	31			31	28	12	9°			Fig.1						
steels	S12M-SVZCR/L08-16A	●	●	16	12	11	150	142.5	11	11.5	5.5	8°	0.4	无	Fig.3	VC...0802	M2.0	T6	-	-	-
	S16Q-SVZBR/L11-20A	●	●	20	16	15	180	170	15	16	8					VB...1103	M2.5	T8	-	-	-
	S20R-SVZBR/L11-25A	●	●	25	20	19	200	190	19	18		7°									
	S25S-SVZBR/L16-34A	●	●	34	25	24	250	232.5	24	20.5	8.5	13°			Fig.4	VB...1604	M4.0	T15	SVN-32N (SVN-32S)	SS-4N	LW-4
	S32S-SVZBR/L16-40A	●	●	40	32	31			31	28	12	9°			Fig.3						

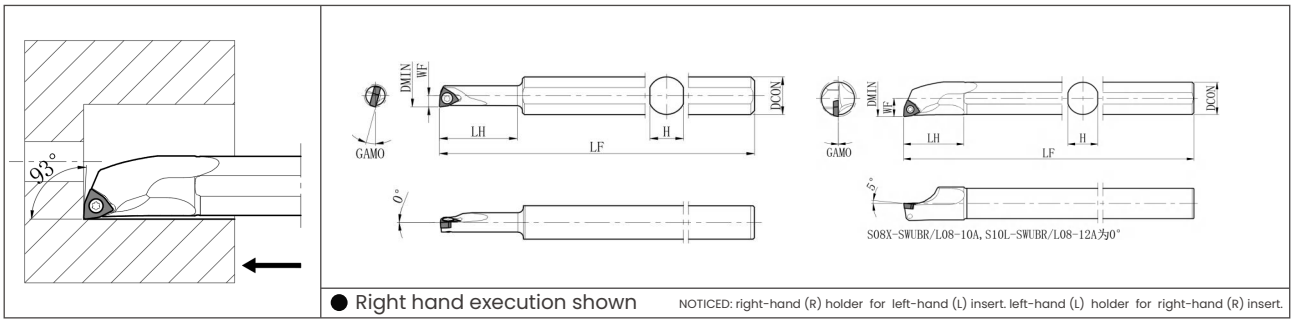
S/A-SWUB(P)-AE General anti-vibration tool holder



刀杆径 DCON	直孔径
ϕ8	ϕ2.5
ϕ10	ϕ3
ϕ12	ϕ4
ϕ16	ϕ5
ϕ20	

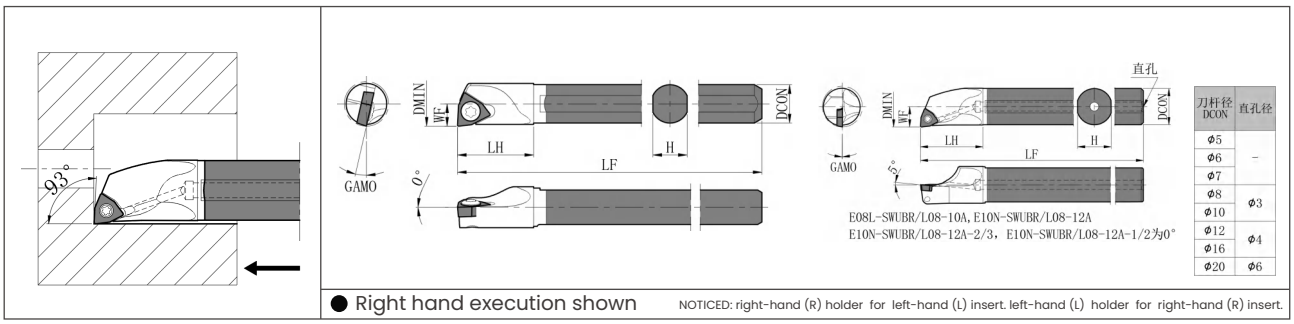
● Right hand execution shown NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

S-SWUB(P)-A



● Right hand execution shown NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

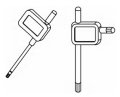
C/E-SWUB(P)-A(N) Carbide anti-vibration tool holder



刀杆径 DCON	直孔径
ϕ5	–
ϕ6	
ϕ7	
ϕ8	ϕ3
ϕ10	
ϕ12	ϕ4
ϕ16	
ϕ20	ϕ6

● Right hand execution shown NOTICED: right-hand (R) holder for left-hand (L) insert. left-hand (L) holder for right-hand (R) insert.

Toolholder size

	Model	in stock		Minimum	Dimensions (mm)					GAMO	R (RE)	cooling holes	Shape	inserts	Spare Parts	
															screw	torx wrenchscrew
		R	L	DMIN	DCON	H	LF	LH	WF							
General vibration-resistant toolholder	S10H-SWUBR/L06-06AE	●	●	6	10	9	100	21	3	3.5	0.2	无	Fig.1	WB...0601	M2.0	T6
	S10H-SWUBR/L06-07AE	●	●	7				25	3.5							
	S10H-SWUBR/L08-08AE	●	●	8				28	4							
	A08X-SWUBR/L08-10AE	●	●	10	8	7	120	16	5	3.5		有	Fig.2	WB...0802		
	A10L-SWUBR/L08-12AE	●	●	12	10	9	140	20	6	3.5						
	A12M-SWUPR/L11-14AE	●	●	14	12	11	150	24	7	3.5	0.4			WP...1102	M2.5	T8
	A16Q-SWUPR/L11-18AE	●	●	18	16	15	180	30	9	3.5						
	A16Q-SWUPR/L16-18AE	●	●	18						3.5	0.8			WP...1603	M4.0	T15
	A20R-SWUPR/L16-22AE	●	●	22	20	19	200	36	11	3.5						
steels	S10H-SWUBR/L06-06A	●	●	6	10	9	100	21	3	3.5	0.2	无	Fig.3	WB...0601	M2.0	T6
	S10H-SWUBR/L06-07A	●	●	7				25	3.5	3.5						
	S10H-SWUBR/L08-08A	●	●	8				28	4	3.5						
	S08X-SWUBR/L08-10A	●	●	10	8	7	120	16	5	3.5			Fig.4	WB...0802		
	S10L-SWUBR/L08-12A	●	●	12	10	9	140	20	6	3.5						
	S12M-SWUPR/L11-14A	●	●	14	12	11	150	24	7	3.5	0.4			WP...1102	M2.5	T8
	S16Q-SWUPR/L11-18A	●	●	18	16	15	180	30	9	3.5						
	S16Q-SWUPR/L16-18A	●	●	18						3.5	0.8			WP...1603	M4.0	T15
	S20R-SWUPR/L16-22A	●	●	22	20	19	200	36	11	3.5						
Cemented carbide	C05H-SWUBR/L06-06AN	●	●	6	5	4.4	100	9	3	3.5	0.2	无	Fig.5	WB...0601	M2.0	T6
	C06J-SWUBR/L06-07AN	●	●	7	6	5.4	110	10	3.5	3.5						
	C07K-SWUBR/L08-08AN	●	●	8	7	6.4	125	11	4	3.5						
	E08L-SWUBR/L08-10AN	●	●	10	8	7	140	14	5	3.5		有	有	WB...0802		
	E10N-SWUBR/L08-12AN	●	●	12	10	9	160	18	6	3.5						
	E10N-SWUBR/L08-12AN-2/3	●					105									
	E10N-SWUBR/L08-12AN-1/2	●					80									
	E12Q-SWUPR/L11-14A	●	●	14	12	11	180	23	7	3.5	0.4			WP...1102	M2.5	T8
	E12Q-SWUPR/L11-14A-2/3	●					120									
	E12Q-SWUPR/L11-14A-1/2	●					90									
	E16X-SWUPR/L11-18A	●	●	18	16	15	220	28	9	3.5						
	E16X-SWUPR/L11-18A-2/3	●					145									
	E16X-SWUPR/L11-18A-1/2	●					110									
	E16X-SWUPR/L16-18A	●	●				220			3.5	0.8			WP...1603	M4.0	T15
	E16X-SWUPR/L16-18A-2/3	●					145									
	E16X-SWUPR/L16-18A-1/2	●					110									
	E20S-SWUPR/L16-22A	●	●	22	20	19	250	32	11	3.5						
	E20S-SWUPR/L16-22A-2/3	●					165									
	E20S-SWUPR/L16-22A-1/2	●					125									

SOLID CARBIDE BORE TOOLS

edison@preciturntools.com

https://www.preciturntools.com

REPRESENTATION OF SMALL BORING CUTTERS

P	M	N	R	100	30	R005	PB10

1,Product Series
M- Tiny Bars

2,Application
N-Boring
T-Boring,Profiling
P-Boring,Profiling
Q-Boring,Profiling
U-Boring,Face Boring
G-Grooving
F-Face Grooving
I-Threading
TI-Type Threading
X-Back Boring
K-Radious,Groving
D-Boring,Chamfering,Grooving
C-Boring,Chamfering
V-Deep Face Grooving

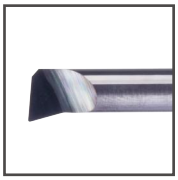
3,Direction Mark
R-Right Hand
L- Left Hand

4,Min.Dia
100=D1mm
150=D1.5mm
200=D2.0mm
251=D2.51mm
301=D3.01mm
351=D3.51mm

5,Effective Depth
L30=3mm
L50=5mm
L70=7mm
⋮
L100=10mm
L150=15mm
L200=20mm

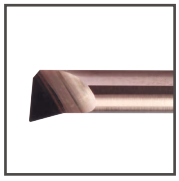
6,Tool Code
R-Arc Radius
W-Width

7,Coating Code



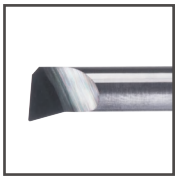
PB10

High performance with a wide range of Stainless
Include austenitic&Martensite,303,304,316,321,Nickel alloy.



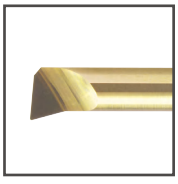
PB20

Universal use for ≤HRC55 material;
Extremely high heat resistance for high heat treated steel & High hardness steel
For example :Superalloy,Bearing steel,quenched steel,Cr-Mo stee,Mn steel.cast iron



PB30

Special for Koveralloy,titanium alloy and other difficult machine material.
Excellent wear resistant, high polish.

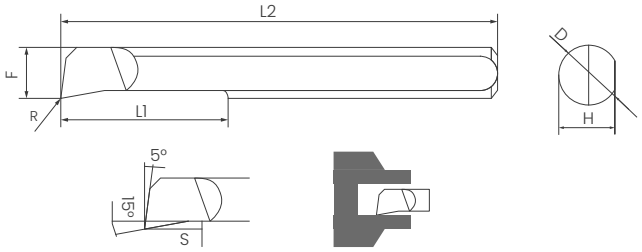


PB40

Universal use for ≤HRC35 material;
For example , genarally steel,copper.

PMNR

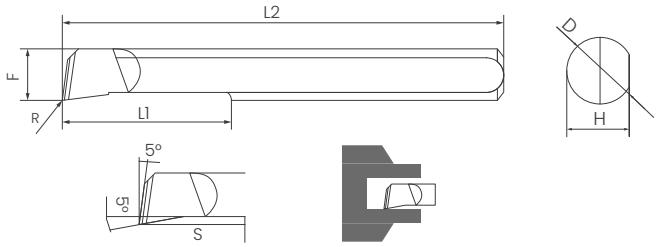
ID Micro Boring



Part No	F	L1	S	R	D	L2	H	Min.Dia	PB10	PB20	PB30	PB40
PMNR10030R005	0.8	3	0.2	0.05	D4	40	3.7	1mm	●	●	●	●
PMNR15050R010	1.2	5	0.2	0.1	D4	40	3.7	1.5mm	●	●	●	●
PMNR20070R010	1.7	7	0.2	0.1	D4	40	3.7	2mm	●	●	●	●
PMNR25070R010	2.3	7	0.4	0.1	D4	40	3.7	2.5mm	●	●	●	●
PMNR25120R010		12										
PMNR30100R010	2.7	10	0.4	0.1	D4	50	3.7	3mm	●	●	●	●
PMNR30150R010		15										
PMNR35100R015	3.2	10	0.5	0.15	D4	50	3.7	3.5mm	●	●	●	●
PMNR35150R015		15										
PMNR40100R015	3.7	10	0.5	0.15	D4	50	3.7	4mm	●	●	●	●
PMNR40150R015		15										
PMNR40200R015		20										
PMNR45150R015	4.0	15	0.5	0.15	D4	50	3.7	4.5mm	●	●	●	●
PMNR45200R015		20										
PMNR50150R020	4.7	15	0.9	0.2	D6	50	5.7	5mm	●	●	●	●
PMNR50200R020		20										
PMNR50250R020		25										
PMNR55150R020	5.2	15	0.9	0.2	D6	50	5.7	5.5mm	●	●	●	●
PMNR55200R020		20										
PMNR55250R020		25										
PMNR60150R020	5.7	15	0.9	0.2	D6	50	5.7	6mm	●	●	●	●
PMNR60200R020		20										
PMNR60250R020		25										

PMTR

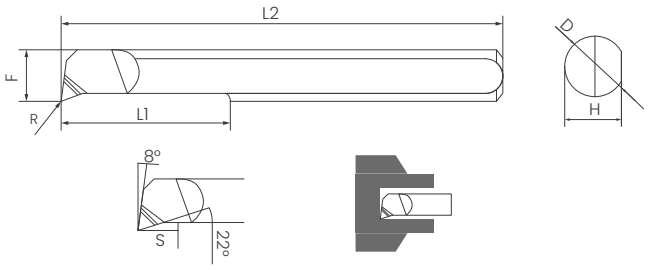
ID Micro Boring Profiling



Part No	F	L1	S	R	D	L2	H	Min.Dia	PB10	PB20	PB30	PB40
PMTR1.0L4R0	0.85	4	0.15	0	D4	40	3.7	1mm	●	●	●	●
PMTR1.0L4R0.1				0.1								
PMTR1.5L5R0.05	1.3	5	0.2	0.05	D4	40	3.7	1.5mm	●	●	●	●
PMTR1.5L5R0.1				0.1								
PMTR2.0L6R0.05	1.8	6	0.25	0.05	D4	40	3.7	2mm	●	●	●	●
PMTR2.0L6R0.1				0.1								
PMTR2.5L7R0.05	2.3	7	0.3	0.05	D4	40	3.7	2.5mm				
PMTR2.5L7R0.1				0.1								
PMTR3.0L6R0.05	2.7	6	0.3	0.05	D4	50	3.7	3mm	●	●	●	●
PMTR3.0L6R0.1				0.1								
PMTR3.0L6R0.2				0.2								
PMTR3.0L10R0.05		10	0.3	0.05								
PMTR3.0L10R0.1				0.1								
PMTR3.0L10R0.2				0.2								
PMTR3.0L15R0.1		15		0.1								
PMTR3L15R0.2				0.2								
PMTR3.5L12R0.1	3.3	12	0.3	0.1	D4	50	3.7	3.5mm	●	●	●	●
PMTR3.5L12R0.2				0.2								
PMTR4.0L8R0.05	3.7	8	0.4	0.05	D4	50	3.7	4mm	●	●	●	●
PMTR4.0L8R0.1				0.1								
PMTR4.0L8R0.2				0.2								
PMTR4.0L10R0.1		10		0.1								
PMTR4.0L10R0.2				0.2								
PMTR4.0L15R0.05	3.7	15	0.4	0.05	D4	50	3.7	4mm	●	●	●	●
PMTR4.0L15R0.1				0.1								
PMTR4.0L15R0.2				0.2								
PMTR4.0L22R0.1		22		0.1								
PMTR4.0L22R0.2				0.2								
PMTR5.0L12R0.1	4.7	12	0.5	0.1	D5	50	4.7	5mm	●	●	●	●
PMTR5.0L12R0.2				0.2								
PMTR5.0L20R0.1	4.7	20	0.5	0.1	D5	50	4.7	5mm	●	●	●	●
PMTR5.0L20R0.2				0.2								
PMTR5.0L22R0.1		22		0.1								
PMTR5.0L22R0.2				0.2								
PMTR6.0L12R0.1	5.7	12	0.5	0.1	D6	50	5.7	6mm	●	●	●	●
PMTR6.0L12R0.2				0.2								
PMTR6.0L20R0.1	5.7	20	0.5	0.1	D6	50	5.7	6mm	●	●	●	●
PMTR6.0L20R0.2				0.2								
PMTR6.0L20R0.4				0.4								
PMTR6.0L22R0.1		22		0.1								
PMTR6.0L22R0.2				0.2								
PMTR6.0L25R0.2	6.5	25	0.5	0.2	D7	50	6.7	7mm	●	●	●	●
PMTR6.0L30R0.2	7.5	30	0.5	0.2	D8	60	7.6	8mm	●	●	●	●
PMTR6.0L30R0.4				0.4								

PMPR

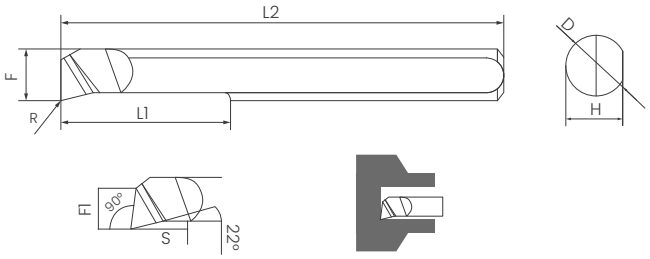
ID Micro Boring Profiling



Part No	F	L1	S	R	D	L2	H	Min.Dia	PB10	PB20	PB30	PB40
PMPR1.0L4R0	0.85	4	0.15	0	D4	40	3.7	1mm	●	●	●	●
PMPR1.0L4R0.05				0.05								
PMPR2.0L6R0.05	1.8	6	0.3	0.05	D4	40	3.7	2mm	●	●	●	●
PMPR2.0L6R0.1				0.1								
PMPR3.0L6R0.05	2.7	6	0.3	0.05	D4	50	3.7	3mm	●	●	●	●
PMPR3.0L6R0.1				0.1								
PMPR3.0L6R0.2				0.2								
PMPR3.0L10R0.05	2.7	10	0.3	0.05	D4	50	3.7	3mm	●	●	●	●
PMPR3.0L10R0.1				0.1								
PMPR3.0L10R2				0.2								
PMPR3.0L15R0.1		15		0.1								
PMPR3.0L15R0.2				0.2								
PMPR4.0L8R0.05	3.7	8	0.7	0.05	D4	50	3.7	4mm	●	●	●	●
PMPR4.0L8R0.1				0.1								
PMPR4.0L8R0.2				0.2								
PMPR4.0L15R0.05	3.7	15	0.7	0.05	D4	50	3.7	4mm	●	●	●	●
PMPR4.0L15R0.1				0.1								
PMPR4.0L15R0.2				0.2								
PMPR4.0L22R0.1		22		0.1								
PMPR4.0L22R02				0.2								
PMPR5.0L15R0.1	4.7	15	1.2	0.1	D5	50	4.7	5mm	●	●	●	●
PMPR5.0L15R0.2				0.2								
PMPR5.0L20R0.05		20		0.05								
PMPR5.0L20R0.1				0.1								
PMPR5.0L20R0.2				0.2								
PMPR5.0L22R0.1		22		0.1								
PMPR5.0L22R0.2				0.2								
PMPR6.0L15R0.1	5.7	15	1.2	0.1	D6	50	5.7	6mm	●	●	●	●
PMPR6.0L15R0.2				0.2								
PMPR6.0L20R0.05		20		0.05								
PMPR6.0L20R0.1				0.1								
PMPR6.0L20R0.2				0.2								
PMPR6.0L22R0.1		22		0.1								
PMPR6.0L22R0.2				0.2								
PMPR7.0L25R0.15	6.5	25	1.5	0.15	D7	50	6.7	7mm	●	●	●	●
PMPR8.0L22R0.2	7.5	22	1.5	0.2	D8	60	7.6	8mm	●	●	●	●
PMPR8.0L30R0.15		30		0.15								
PMPR8.0L30R0.3				0.3								

PMUR

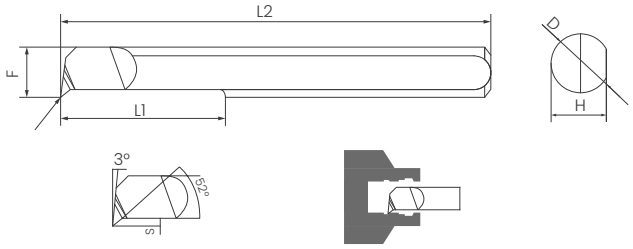
ID Micro Boring Profiling



Part No	F	L1	F1	S	R	D	L2	H	Min.Dia	PB10	PB20	PB30	PB40
PMUR3.0L10R0.1	2.7	10	1.3	0.4	0.1	D4	50	3.7	3mm		●		
PMUR4.0L15R0.1	3.7	15	1.7	0.5	0.1	D4	50	3.7	4mm		●		
PMUR5.0L20R0.2	4.7	20	2.1	0.7	0.2	D5	50	4.7	5mm		●		
PMUR6.0L20R0.2	5.7	20	2.8	1.0	0.2	D6	50	5.7	6mm		●		
PMUR7.0L25R0.2	6.7	25	3.2	1.0	0.2	D7	50	6.7	7mm		●		
PMUR8.0L30R0.2	7.7	30	3.8	1.0	0.2	D8	60	7.6	8mm		●		

PMQR

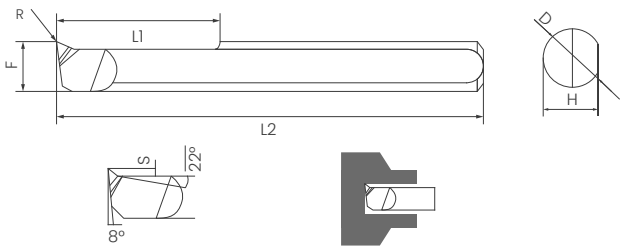
ID Micro Boring Profiling



Part No	F	L1	S	R	D	L2	H	Min.Dia	PB10	PB20	PB30	PB40
PMQR3.0L10R0.1	2.9	10	0.6	0.1	D4	50	3.7	3mm		●		
PMQR3.0L10R0.2				0.2								
PMQR4.0L10R0.1	3.9	10	0.8	0.1	D4	50	3.7	4mm		●		
PMQR4.0L10R0.2				0.2								
PMQR5.0L15R0.1	4.9	15	1.0	0.1	D5	50	4.7	5mm		●		
PMQR5.0L15R0.2				0.2								
PMQR6.0L15R0.1	5.9	15	1.0	0.1	D6	50	5.7	6mm		●		
PMQR6.0L15R0.2				0.2								
PMQR7.0L20R0.2	6.5	20	1.5	0.2	D7	50	6.7	7mm		●		
PMQR8.0L25R0.1	7.5	25	2.0	0.1	D8	60	7.6	8mm		●		
PMQR8.0L25R0.2				0.2								

PMPL

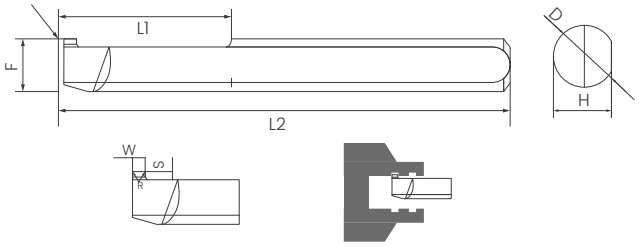
ID Micro Boring Profiling



Part No	F	L1	S	R	D	L2	H	Min.Dia	PB10	PB20	PB30	PB40
PMPL2.0L6R0.1	1.8	6	0.3	0.1	D4	40	3.7	2mm		●	●	●
PMPL3.0L10R0.1	2.7	10	0.3	0.1	D4	50	3.7	3mm		●	●	●
PMPL4.0L15R0.1	3.7	15	0.7	0.1	D4	50	3.7	4mm		●	●	●
PMPL5.0L20R0.2	4.7	20	1.2	0.2	D5	50	4.7	5mm		●	●	●
PMPL6.0L20R0.2	5.7	20	1.2	0.2	D6	50	5.7	6mm		●	●	●
PMPL7.0L25R0.2	6.5	25	1.5	0.2	D7	50	6.7	7mm		●	●	●
PMPL8.0L30R0.2	7.5	30	1.5	0.2	D8	60	7.6	8mm		●	●	●

PMGL

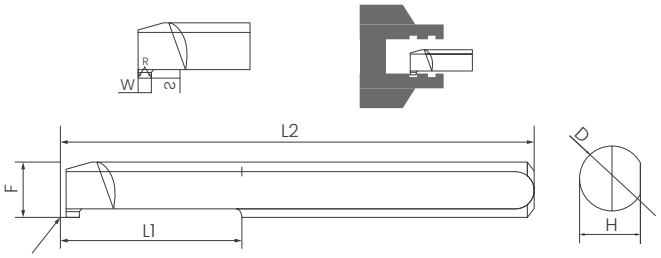
ID Micro inner Grooving



Part No	W	S	L1	R	F	D	L2	H	Min.Dia	PB10	PB20	PB30	PB40
PMGL05053R005	0.5	1.0	5	0.05	2.8	D3	40	2.7	3mm	●	●		
PMGL08053R005	0.8	1.0											
PMGL10053R005	1.0	1.0											
PMGL15053R005	1.5	1.0											
PMGL05054R005	0.5	1.0	5	0.05	3.8	D4	40	3.7	4mm	●	●		
PMGL08054R005	0.8	1.0											
PMGL10054R005	1.0	1.5											
PMGL15054R005	1.5	1.5											
PMGL10055R010	1.0	1.5	5	0.1	4.8	D5	40	4.7	5mm	●	●		
PMGL12055R010	1.2	1.5											
PMGL15055R010	1.5	2.0											
PMGL20055R010	2.0	2.0											
PMGL10066R015	1.0	2.0	6	0.15	5.8	D6	40	5.7	6mm	●	●		
PMGL15066R015	1.5	2.0											
PMGL20066R015	2.0	2.0											
PMGL25066R015	2.5	2.5											
PMGL10108R015	1.0	3.0	10	0.15	7.8	D8	50	7.6	8mm	●	●		
PMGL15108R015	1.5	3.0											
PMGL20108R015	2.0	3.0											
PMGL25108R015	2.5	3.0											

PMGR

ID Micro inner Grooving

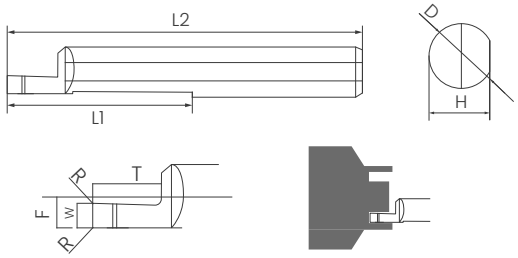


Part No	W	S	L1	R	F	D	L2	H	Min.Dia	PB10	PB20	PB30	PB40
PMGR05053R005	0.5	1.0	5	0.05	2.8	D3	40	2.7	3mm	●	●	●	●
PMGR08053R005	0.8	1.0											
PMGR10053R005	1.0	1.0											
PMGR15053R005	1.5	1.0											
PMGR05054R005	0.5	1.0	5	0.05	3.8	D4	40	3.7	4mm	●	●	●	●
PMGR08054R005	0.8	1.0											
PMGR10054R005	1.0	1.5											
PMGR15054R005	1.5	1.5											
PMGR10055R010	1.0	1.5	5	0.1	4.8	D5	40	4.7	5mm	●	●	●	●
PMGR12055R010	1.2	1.5											
PMGR15055R010	1.5	2.0											
PMGR2055R010	2.0	2.0											
PMGR10066R015	1.0	2.0	6	0.15	5.8	D6	40	5.7	6mm	●	●	●	●
PMGR15066R015	1.5	2.0											
PMGR20066R015	2.0	2.0											
PMGR25066R015	2.5	2.5											
PMGR10108R015	1.0	3.0	10	0.15	7.8	D8	50	7.6	8mm	●	●	●	●
PMGR15108R015	1.5	3.0											
PMGR20108R015	2.0	3.0											
PMGR25108R015	2.5	3.5											

PMGR05104R005	0.5	1.0	10	0.05	3.8	D4	50	3.7	4mm	●	●	●	●
PMGR08104R005	0.8	1.0											
PMGR10104R005	1.0	1.5											
PMGR15104R005	1.5	1.5											
PMGR10105R010	1.0	1.5	10	0.1	4.8	D5	50	4.7	5mm	●	●	●	●
PMGR12105R010	1.2	1.5											
PMGR15105R010	1.5	2.0											
PMGR20105R010	2.0	2.0											
PMGR10126R015	1.0	2.0	12	0.15	5.8	D6	50	5.7	6mm	●	●	●	●
PMGR15126R015	1.5	2.0											
PMGR20126R015	2.0	2.0											
PMGR25166R015	2.5	2.5	16										
PMGR10168R015	1.0	3.0	16	0.15	7.8	D8	50	7.6	8mm	●	●	●	●
PMGR15168R015	1.5	3.0											
PMGR20168R015	2.0	3.0											
PMGR25168R015	2.5	3.0											

PMFR

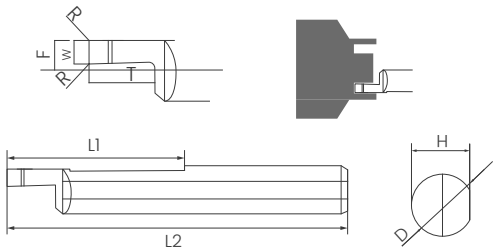
ID Micro face Grooving



Part No	F	L1	T	W	R	D	L2	H	Min.Dia	PB10	PB20	PB30	PB40
PMFR4.0L15W0.5	1.95	15	1.0	0.5	0.05	D4	50	3.5	6.0	●	●	●	●
PMFR4.0L15W0.75			1.5	0.75									
PMFR4.0L15W1.0			1.5	1.0									
PMFR4.0L15W1.5			2.8	1.5									
PMFR5.0L22W0.75	2.45	22	1.5	0.75	0.1	D5	50	4.5	6.0	●	●	●	●
PMFR5.0L22W1.0			1.5	1.0									
PMFR5.0L22W1.5			2.5	1.5									
PMFR5.0L22W2.0			4.0	2.0									
PMFR6.0L22W0.75	2.95	22	1.5	0.75	0.1	D6	50	5.5	8.0	●	●	●	●
PMFR6.0L22W1.0			2.0	1.0									
PMFR6.0L22W1.5			3.0	1.5									
PMFR6.0L22W2.0			4.0	2.0									
PMFR6.0L22W2.5			5.0	2.5									
PMFR8.0L20W1.5	3.95	20	4.0	1.5	0.2	D8	50	7.5	10.0	●	●	●	●
PMFR8.0L20W2.0			4.0	2.0									
PMFR8.0L20W2.5			5.0	2.5									
PMFR8.0L20W3.0			6.0	3.0									

PMFL

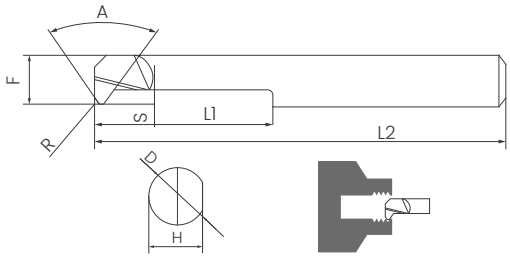
ID Micro face



Part No	F	L1	T	W	R	D	L2	H	Min.Dia	PB10	PB20	PB30	PB40
PMFL4.0L15W0.5	1.95	15	1.0	0.5	0.05	D4	50	3.5	6.0	●	●	●	●
PMFL4.0L15W0.75			1.5	0.75									
PMFL4.0L15W1.0			1.5	1.0									
PMFL4.0L15W1.5			2.8	1.5									
PMFL5.0L22W0.75	2.45	22	1.5	0.75	0.1	D5	50	4.5	6.0	●	●	●	●
PMFL5.0L22W1.0			1.5	1.0									
PMFL5.0L22W1.5			2.5	1.5									
PMFL5.0L22W2.0			4.0	2.0									
PMFL6.0L22W0.75	2.95	22	1.5	0.75	0.1	D6	50	5.5	8.0	●	●	●	●
PMFL6.0L22W1.0			2.0	1.0									
PMFL6.0L22W1.5			3.0	1.5									
PMFL6.0L22W2.0			4.0	2.0									
PMFL6.0L22W2.5			5.0	2.5									
PMFL8.0L20W1.5	3.95	20	4.0	1.5	0.2	D8	50	7.5	10.0	●	●	●	●
PMFL8.0L20W2.0			4.0	2.0									
PMFL8.0L20W2.5			5.0	2.5									
PMFL8.0L20W3.0			6.0	3.0									

PMIR/L

ID Micro Threading



Part No	F	L1	S	R	D	H	MM	Metric pitch MIN	Metric pitch MAX	Min.Dia	PB10	PB20	PB30	PB40
PMIR14050-60°	1.4	5	0.4	0	D4	3.7	M2	0.25	0.45	1.5	●	●	●	●
PMIR18070-60°	1.8	7	0.6	0	D4	3.7	M2.5	0.25	0.7	2.0	●	●	●	●
PMIR24070-60°	2.4	7	0.5	0	D4	3.7	M3	0.35	0.6	2.5	●	●	●	●
PMIR30120-60°	3.0	12	0.85	0.03	D4	3.7	M4	0.5	0.8	3.1	●	●	●	●
PMIR40100-60°	3.85	10	1.1	0.05	D4	3.7	M5/M6	0.5	1.0	4.0	●	●	●	●
PMIR40150-60°	3.85	15	1.1	0.05	D4	3.7	M5/M6	0.5	1.0	4.0	●	●	●	●
PMIR50150-60°	4.8	15	1.5	0.05	D5	4.7	M8	0.75	1.5	5.0	●	●	●	●
PMIR50220-60°	4.8	22	1.8	0.05	D5	4.7	M8	0.75	1.5	5.0	●	●	●	●
PMIR60150-60°	5.6	15	1.8	0.08	D6	5.7	M10	0.75	1.75	6.0	●	●	●	●
PMIR60200-60°	5.6	20	1.8	0.08	D6	5.7	M10	0.75	1.75	6.0	●	●	●	●
PMIR80220-60°	7.8	22	2.2	0.08	D8	7.6	M12	1.0	2.0	8.0	●	●	●	●

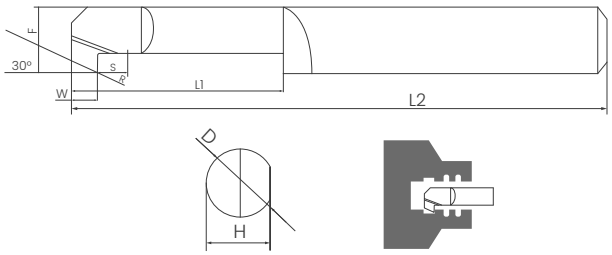
PMIL40150-60°	3.85	15	1.1	0.05	D4	3.7	M5/M6	0.5	1.0	4.1	●	●	●	●
PMIL50150-60°	4.8	15	1.5	0.05	D5	4.7	M8	0.75	1.5	5.1	●	●	●	●
PMIL60200-60°	5.6	20	1.8	0.08	D6	5.7	M10	0.75	1.75	6.0	●	●	●	●
PMIL80220-60°	7.8	22	2.2	0.08	D8	7.6	M12	1.0	2.0	8.0	●	●	●	●

PMIR40150-55°	3.85	15	1.1	0.05	D4	3.7				4.0	●	●	●	●
PMIR50150-55°	4.8	15	1.5	0.05	D5	4.7				5.0	●	●	●	●
PMIR60200-55°	5.6	20	1.8	0.08	D6	5.7				6.0	●	●	●	●
PMIR80220-55°	7.8	22	2.2	0.08	D8	7.6				8.0	●	●	●	●

PMIL40150-55°	3.85	15	1.1	0.05	D4	3.7				4.1	●	●	●	●
PMIL50150-55°	4.8	15	1.5	0.05	D5	4.7				5.1	●	●	●	●
PMIL60200-55°	5.6	20	1.8	0.08	D6	5.7				6.0	●	●	●	●
PMIL80220-55°	7.8	22	2.2	0.08	D8	7.6				8.0	●	●	●	●

PMXR

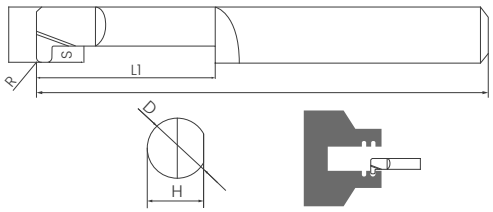
ID Micro Back Boring



Part No	F	W	S	L1	R	D	L2	H	Min.Dia	PB10	PB20	PB30	PB40
PMXR4.0R0.1L10	3.8	1.5	1.0	10	0.1	D4	50	3.7	4mm		●		
PMXR5.0R0.15L15	3.8	2.0	1.5	15	0.15	D5	50	4.7	5mm		●		
PMXR6.0R0.2L20	3.8	2.0	2.0	20	0.2	D6	50	5.7	6mm		●		

PMKR

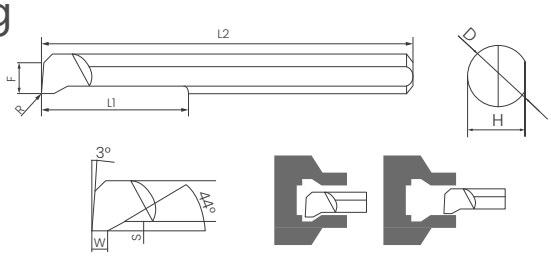
ID Micro Radious Grooving



Part No	F	S	L1	R	D	L2	H	Min.Dia	PB10	PB20	PB30	PB40
PMKR4.0R0.5L10	3.8	1.0	10	0.5	D4	50	3.7	4mm		●		
PMKR4.0R0.75L10	3.8	1.0	10	0.75								
PMKR6.0R0.5L15	5.8	1.5	15	0.5	D6		5.7	6mm				
PMKR6.0R0.75L15	5.8	1.5	15	0.75								
PMKR6.0R1.0L15	5.8	1.5	15	1.0								

PMDR

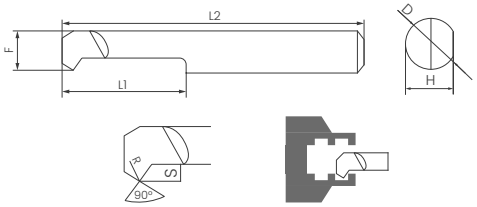
ID Micro Boring,chamfering,Grooving



Part No	F	L1	S	R	D	L2	H	W	Min.Dia	PB10	PB20	PB30	PB40
PMDR4.0L10R0.2	3.8	10	0.8	0.2	D4	50	3.7	1.5	4mm		●		
PMDR5.0L15R0.2	4.8	15	1.2	0.2	D5	50	4.7	1.5	5mm		●		
PMDR6.0L15R0.2	5.8	15	1.4	0.2	D6	50	5.7	1.5	6mm		●		

PMCR

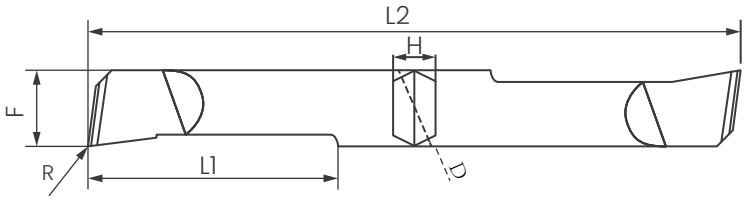
ID Micro Boring,Chamfering



Part No	F	L1	S	R	D	L2	H	PB10	PB20	PB30	PB40
PMCR3.0L10R0.2	2.8	10	0.5	0.2	D4	50	3.7		●		
PMCR4.0L15R0.2	3.7	15	0.8	0.2	D4	50	4.7		●		
PMCR5.0L15R0.2	4.7	15	1.2	0.2	D5	50	4.7		●		
PMCR6.0L15R0.2	5.7	15	1.5	0.2	D6	50	5.7		●		

PMTIR

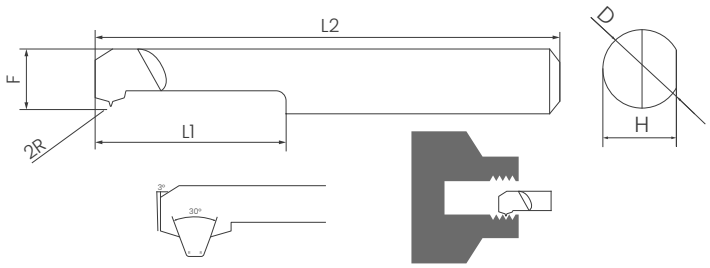
ID Micro TP-Threading



Part No	F	L1	S	R	D	L2	H	Min.Dia	PB10	PB20	PB30	PB40
2PMTR2.0L5R0.05	1.8	5	0.15	0.05	D3	50	2.7	2mm			●	●
2PMTR3.0L15R0.1	2.7	15	0.3	0.1				3mm			●	●
2PMTR4.0L15R0.15	3.7	15	0.4	0.15	D4	60	3.6	4mm			●	●
2PMTR5.0L25R0.1	4.7	25	0.5	0.1	D5	75	4.4	5mm			●	●
2PMTR5.0L25R0.2				0.2							●	●
2PMTR6.0L25R0.1	5.7	25	0.5	0.1	D6	75	5.4	6mm			●	●
2PMTR6.0L25R0.2				0.2							●	●

PMTIR

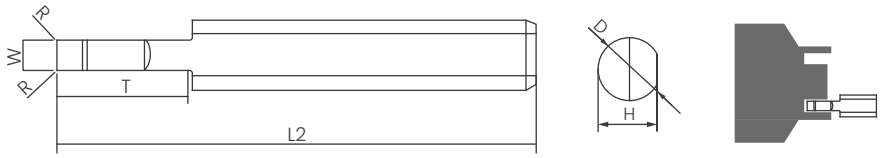
ID Micro TP-Threading



Part No	F	L1	R	D	L2	H	A	TR	PB10	PB20	PB30	PB40
PMTIR8.0x1.5L25	6.1	25	0.075	D8	60	7.6	30°	TR8×1.5 TR9×1.5 TR10×1.5	●			
PMTIR9.0x2L25	6.7	25	0.25	D8	60	7.6	30°	TR9×2.0 TR10×2.0 TR11×2.0	●			
PMTIR14.0x1.5L25	9.8	35	0.25	D10	75	9.5	30°	TR14×2.0 TR16×2.0	●			
PMTIR11.0x3L25	7.2	35	0.25	D8	75	7.6	30°	TR11×3.0 TR12×3.0	●			
PMTIR14.0x3L25	9.8	35	0.25	D10	75	9.5	30°	TR14×3.0 TR22×3.0	●			

PMVR

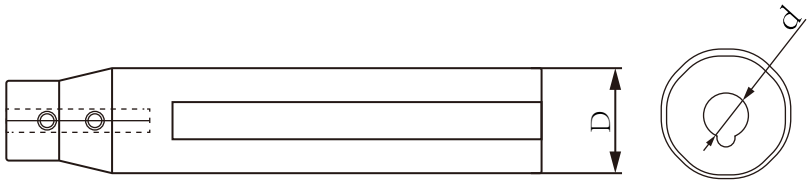
ID Mcro Deep Face Grooving



Part No	W	T	R	D	H	L2	Min.Dia	PB10	PB20	PB30	PB40
PMVR8.0L20W2.0	2.0	20	0.2	D8	7.5	50	D15	●			
PMVR8.0L20W3.0	3.0	25	0.2	D8	7.5	50	D15	●			
PMVR8.0L20W4.0	4.0	25	0.2	D8	7.5	50	D15	●			

PSHB

Tool-Holders



Part No	D	d
PSHB1603	16	3.0
PSHB1604		4.0
PSHB1605		5.0
PSHB1606		6.0
PSHB1607		7.0

Part No	D	d
PSHB2003	20	3.0
PSHB2004		4.0
PSHB2005		5.0
PSHB2006		6.0
PSHB2007		7.0
PSHB2008		8.0

Part No	D	d
PSHB2503	25	3.0
PSHB2504		4.0
PSHB2505		5.0
PSHB2506		6.0
PSHB2507		7.0
PSHB2508		8.0

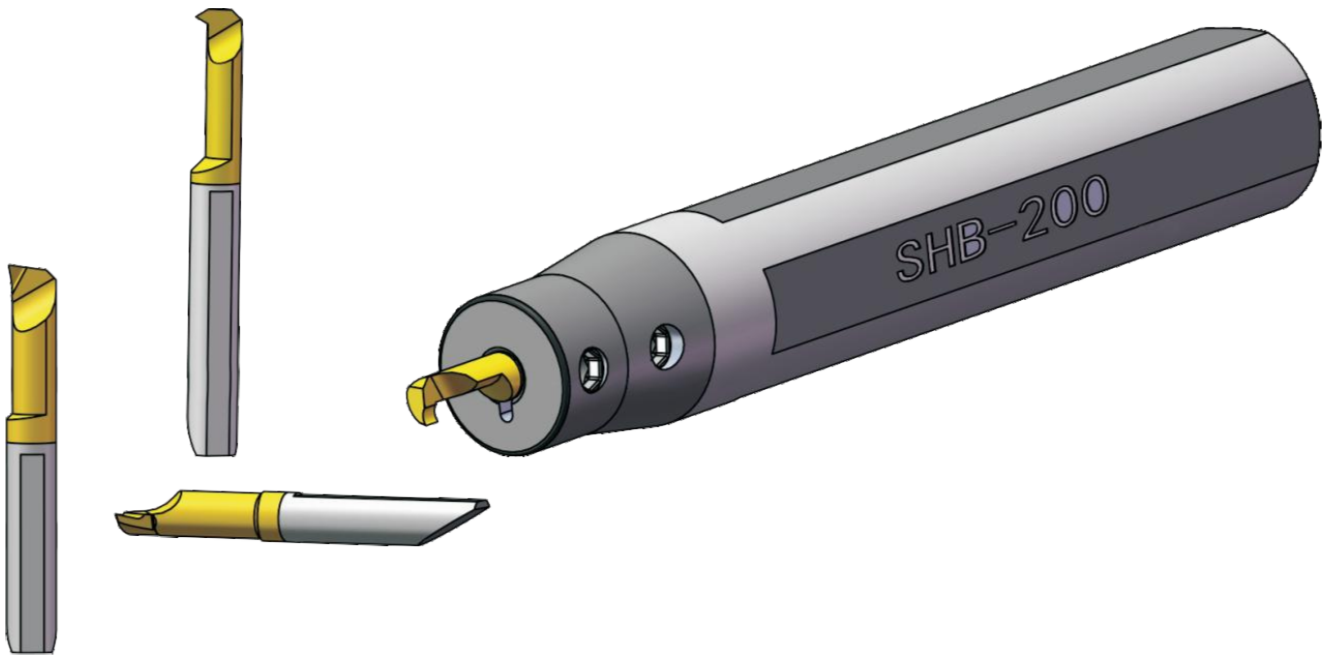
PSHB1905-03	19.05	3.0
PSHB1905-04		4.0
PSHB1905-05		5.0
PSHB1905-06		6.0
PSHB1905-07		7.0
PSHB1905-08		8.0

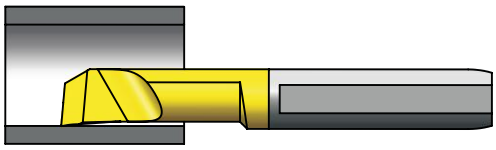
PSHB2203	22	3.0
PSHB2204		4.0
PSHB2205		5.0
PSHB2206		6.0
PSHB2207		7.0
PSHB2208		8.0

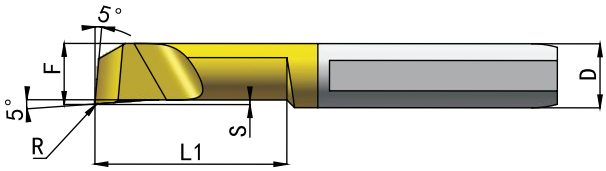
PSHB25.4-03	25.4	3.0
PSHB25.4-04		4.0
PSHB25.4-05		5.0
PSHB25.4-06		6.0
PSHB25.4-07		7.0
PSHB25.4-08		8.0

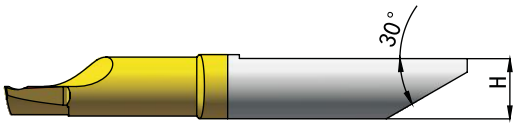
派斯泰顿
PRECITURN
Precision Turn

2024 News design of boring family

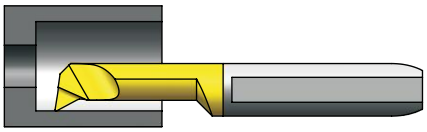


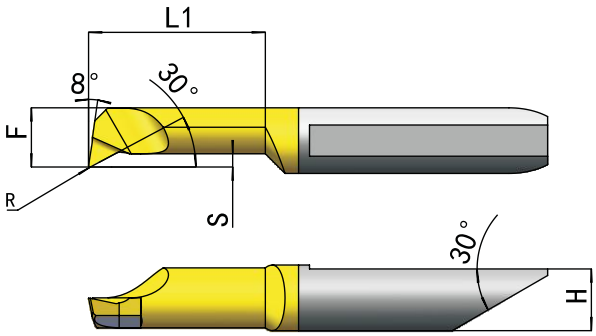




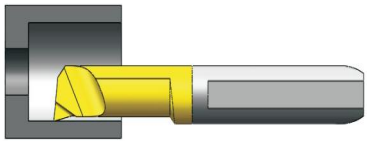


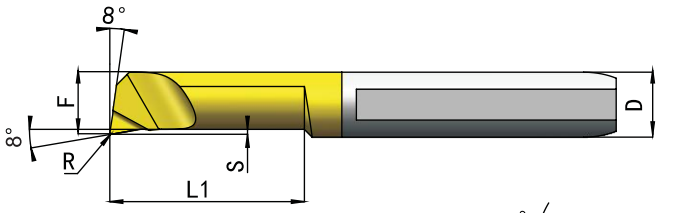
Part NO	F	L1	S	R	D	H	Min.Dia	PB40	PB20
SCTR1.5 5L R0.1	1.3	5	0.2	0.1	D4	3.7	1.5mm	●	●
SCTR2 5L R0.1	1.8	5	0.2	0.1	D4	3.7	2.0mm	●	●
SCTR2 10L R0.1	1.8	10	0.2	0.1				●	●
SCTR2.5 5L R0.1	2.3	5	0.2	0.1	D4	3.7	2.5mm	●	●
SCTR2.5 10L R0.1	2.3	10	0.2	0.1				●	●
SCTR3 10L R0.1	2.8	10	0.3	0.1	D4	3.7	3.0mm	●	●
SCTR3 15L R0.1	2.8	15	0.3	0.1				●	●
SCTR3 10L R0.2	2.8	10	0.3	0.2				●	●
SCTR3 15L R0.2	2.8	15	0.3	0.2				●	●
SCTR3.5 10L R0.1	3.3	10	0.3	0.1	D4	3.7	3.5mm	●	●
SCTR3.5 10L R0.2	3.3	10	0.3	0.2				●	●
SCTR3.5 15L R0.1	3.3	15	0.3	0.1				●	●
SCTR3.5 15L R0.2	3.3	15	0.3	0.2				●	●
SCTR4 10L R0.1	3.8	10	0.4	0.1	D4	3.7	4.0mm	●	●
SCTR4 15L R0.1	3.8	15	0.4	0.1				●	●
SCTR4 20L R0.1	3.8	20	0.4	0.1				●	●
SCTR4 10L R0.2	3.8	10	0.4	0.2				●	●
SCTR4 15L R0.2	3.8	15	0.4	0.2				●	●
SCTR4 20L R0.2	3.8	20	0.4	0.2				●	●
SCTR5 10L R0.1	4.8	10	0.4	0.1	D5	4.7	5.0mm	●	●
SCTR5 15L R0.1	4.8	15	0.4	0.1				●	●
SCTR5 20L R0.1	4.8	20	0.4	0.1				●	●
SCTR5 30L R0.1	4.8	30	0.4	0.1				●	●
SCTR5 10L R0.2	4.8	10	0.4	0.2				●	●
SCTR5 15L R0.2	4.8	15	0.4	0.2				●	●
SCTR5 20L R0.2	4.8	20	0.4	0.2				●	●
SCTR5 30L R0.2	4.8	30	0.4	0.2				●	●
SCTR6 10L R0.1	5.8	10	0.4	0.1	D6	5.7	6.0mm	●	●
SCTR6 15L R0.1	5.8	15	0.4	0.1				●	●
SCTR6 20L R0.1	5.8	20	0.4	0.1				●	●
SCTR6 30L R0.1	5.8	30	0.4	0.1				●	●
SCTR6 10L R0.2	5.8	10	0.4	0.2				●	●
SCTR6 15L R0.2	5.8	15	0.4	0.2				●	●
SCTR6 20L R0.2	5.8	20	0.4	0.2				●	●
SCTR6 30L R0.2	5.8	30	0.4	0.2				●	●
SCTR8 15L R0.2	7.8	15	0.5	0.2	D8	7.6	8.0mm	●	●
SCTR8 20L R0.2	7.8	20	0.5	0.2				●	●
SCTR8 30L R0.2	7.8	30	0.5	0.2				●	●

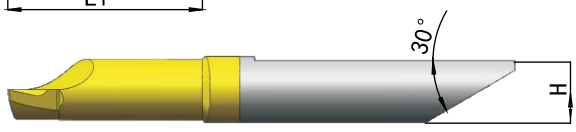




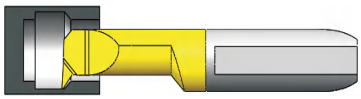
Part NO	F	L1	S	R	D	H	Min.Dia	PB40	PB20
SCNR1.5 5L R0.1	1.3	5	0.2	0.1	D4	3.7	1.5mm	●	●
SCNR2 5L R0.1	1.8	5	0.3	0.1	D4	3.7	2.0mm	●	●
SCNR2 10L R0.1	1.8	10	0.3	0.1				●	●
SCNR2.5 5L R0.1	2.3	5	0.3	0.1	D4	3.7	2.5mm	●	●
SCNR2.5 10L R0.1	2.3	10	0.3	0.1				●	●
SCNR3 10L R0.1	2.8	10	0.3	0.1	D4	3.7	3.0mm	●	●
SCNR3 15L R0.1	2.8	15	0.3	0.1				●	●
SCNR3 10L R0.2	2.8	10	0.3	0.2				●	●
SCNR3 15L R0.2	2.8	15	0.3	0.2				●	●
SCNR3.5 10L R0.1	3.3	10	0.4	0.1	D4	3.7	3.5mm	●	●
SCNR3.5 15L R0.1	3.3	15	0.4	0.1				●	●
SCNR3.5 10L R0.2	3.3	10	0.4	0.2				●	●
SCNR3.5 15L R0.2	3.3	15	0.4	0.2				●	●
SCNR4 10L R0.1	3.8	10	0.7	0.1	D4	3.7	4.0mm	●	●
SCNR4 15L R0.1	3.8	15	0.7	0.1				●	●
SCNR4 20L R0.1	3.8	20	0.7	0.1				●	●
SCNR4 10L R0.2	3.8	10	0.7	0.2				●	●
SCNR4 15L R0.2	3.8	15	0.7	0.2				●	●
SCNR4 20L R0.2	3.8	20	0.7	0.2				●	●
SCNR5 10L R0.1	4.8	10	1.2	0.1	D5	4.7	5.0mm	●	●
SCNR5 15L R0.1	4.8	15	1.2	0.1				●	●
SCNR5 20L R0.1	4.8	20	1.2	0.1				●	●
SCNR5 30L R0.1	4.8	30	1.2	0.1				●	●
SCNR5 10L R0.2	4.8	10	1.2	0.2				●	●
SCNR5 15L R0.2	4.8	15	1.2	0.2				●	●
SCNR5 20L R0.2	4.8	20	1.2	0.2				●	●
SCNR5 30L R0.2	4.8	30	1.2	0.2				●	●
SCNR6 10L R0.1	5.8	10	1.1	0.1	D6	5.7	6.0mm	●	●
SCNR6 15L R0.1	5.8	15	1.4	0.1				●	●
SCNR6 20L R0.1	5.8	20	1.4	0.1				●	●
SCNR6 30L R0.1	5.8	30	1.4	0.1				●	●
SCNR6 10L R0.2	5.8	10	1.4	0.2				●	●
SCNR6 15L R0.2	5.8	15	1.4	0.2				●	●
SCNR6 20L R0.2	5.8	20	1.4	0.2				●	●
SCNR6 30L R0.2	5.8	30	1.4	0.2				●	●
SCNR8 15L R0.2	7.8	15	1.7	0.2	D8	7.6	8.0mm	●	●
SCNR8 20L R0.2	7.8	20	1.7	0.2				●	●
SCNR8 30L R0.2	7.8	30	1.7	0.2				●	●

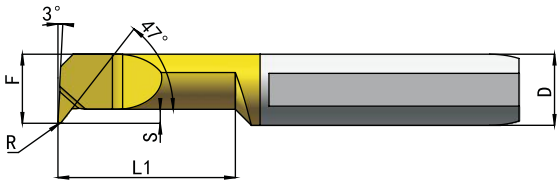


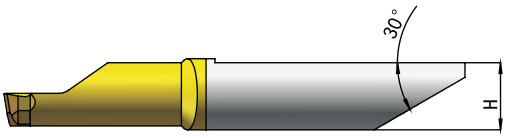




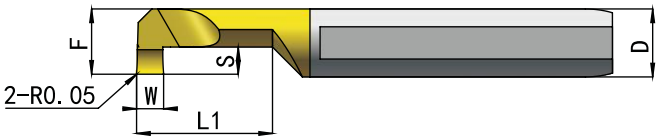
Part NO	F	L1	S	R	D	H	Min.Dia	PB40	PB20
SCPR1.5 5L R0.1	1.3	5	0.3	0.1	D4	3.7	1.5mm	●	●
SCPR2 5L R0.1	1.8	5	0.3	0.1	D4	3.7	2.0mm	●	●
SCPR2 10L R0.1	1.8	10	0.3	0.1				●	●
SCPR2.5 5L R0.1	2.3	5	0.3	0.1	D4	3.7	2.5mm	●	●
SCPR2.5 10L R0.1	2.3	10	0.3	0.1				●	●
SCPR3 10L R0.1	2.8	10	0.4	0.1	D4	3.7	3.0mm	●	●
SCPR3 15L R0.1	2.8	15	0.4	0.1				●	●
SCPR3 10L R0.2	2.8	10	0.4	0.2				●	●
SCPR3 15L R0.2	2.8	15	0.4	0.2				●	●
SCPR3.5 10L R0.1	3.3	10	0.4	0.1	D4	3.7	3.5mm	●	●
SCPR3.5 15L R0.1	3.3	15	0.4	0.1				●	●
SCPR3.5 10L R0.2	3.3	10	0.4	0.2				●	●
SCPR3.5 15L R0.2	3.3	15	0.4	0.2				●	●
SCPR4 10L R0.1	3.8	10	0.5	0.1	D4	3.7	4.0mm	●	●
SCPR4 15L R0.1	3.8	15	0.5	0.1				●	●
SCPR4 20L R0.1	3.8	20	0.5	0.1				●	●
SCPR4 10L R0.2	3.8	10	0.5	0.2				●	●
SCPR4 15L R0.2	3.8	15	0.5	0.2				●	●
SCPR4 20L R0.2	3.8	20	0.5	0.2				●	●
SCPR5 10L R0.1	4.8	10	0.5	0.1	D5	4.7	5.0mm	●	●
SCPR5 15L R0.1	4.8	15	0.5	0.1				●	●
SCPR5 20L R0.1	4.8	20	0.5	0.1				●	●
SCPR5 30L R0.1	4.8	30	0.5	0.1				●	●
SCPR5 10L R0.2	4.8	10	0.5	0.2				●	●
SCPR5 15L R0.2	4.8	15	0.5	0.2				●	●
SCPR5 20L R0.2	4.8	20	0.5	0.2				●	●
SCPR5 30L R0.2	4.8	30	0.5	0.2				●	●
SCPR6 10L R0.1	5.8	10	0.5	0.1	D6	5.7	6.0mm	●	●
SCPR6 15L R0.1	5.8	15	0.5	0.1				●	●
SCPR6 20L R0.1	5.8	20	0.5	0.1				●	●
SCPR6 30L R0.1	5.8	30	0.5	0.1				●	●
SCPR6 10L R0.2	5.8	10	0.5	0.2				●	●
SCPR6 15L R0.2	5.8	15	0.5	0.2				●	●
SCPR6 20L R0.2	5.8	20	0.5	0.2				●	●
SCPR6 30L R0.2	5.8	30	0.5	0.2				●	●
SCPR8 15L R0.2	7.8	15	0.6	0.2	D8	7.6	8.0mm	●	●
SCPR8 20L R0.2	7.8	20	0.6	0.2				●	●
SCPR8 30L R0.2	7.8	30	0.6	0.2				●	●

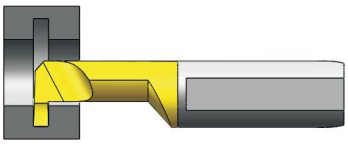




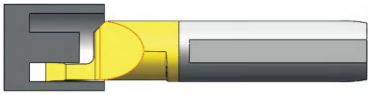


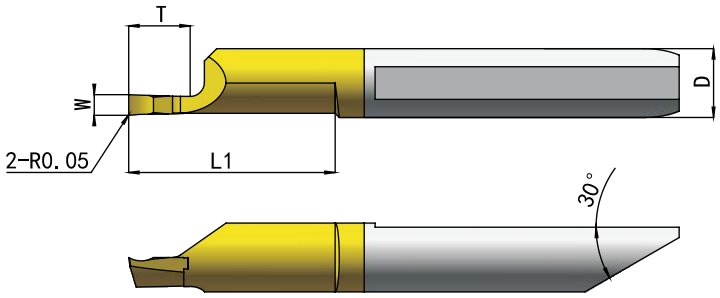
Part NO	F	L1	S	R	D	H	Min.Dia	PB40	PB20
SCQR1.5 5L R0.1	1.3	5	0.3	0.1	D4	3.7	1.5mm	●	●
SCQR2 5L R0.1	1.8	5	0.3	0.1	D4	3.7	2.0mm	●	●
SCQR2 10L R0.1	1.8	10	0.3	0.1				●	●
SCQR2.5 5L R0.1	2.3	5	0.3	0.1	D4	3.7	2.5mm	●	●
SCQR2.5 10L R0.1	2.3	10	0.3	0.1				●	●
SCQR3 10L R0.1	2.8	10	0.6	0.1	D4	3.7	3.0mm	●	●
SCQR3 15L R0.1	2.8	15	0.6	0.1				●	●
SCQR3 10L R0.2	2.8	10	0.6	0.2				●	●
SCQR3 15L R0.2	2.8	15	0.6	0.2				●	●
SCQR3.5 10L R0.1	3.3	10	0.8	0.1	D4	3.7	3.5mm	●	●
SCQR3.5 15L R0.1	3.3	15	0.8	0.1				●	●
SCQR3.5 15L R0.2	3.3	10	0.8	0.2				●	●
SCQR3.5 10L R0.2	3.3	15	0.8	0.2				●	●
SCQR4 10L R0.1	3.8	10	0.8	0.1	D4	3.7	4.0mm	●	●
SCQR4 15L R0.1	3.8	15	0.8	0.1				●	●
SCQR4 20L R0.1	3.8	20	0.8	0.1				●	●
SCQR4 10L R0.2	3.8	10	0.8	0.2				●	●
SCQR4 15L R0.2	3.8	15	0.8	0.2				●	●
SCQR4 20L R0.2	3.8	20	0.8	0.2				●	●
SCQR5 10L R0.1	4.8	10	1.2	0.1	D5	4.7	5.0mm	●	●
SCQR5 15L R0.1	4.8	15	1.2	0.1				●	●
SCQR5 20L R0.1	4.8	20	1.2	0.1				●	●
SCQR5 30L R0.1	4.8	30	1.2	0.1				●	●
SCQR5 10L R0.2	4.8	10	1.2	0.2				●	●
SCQR5 15L R0.2	4.8	15	1.2	0.2				●	●
SCQR5 20L R0.2	4.8	20	1.2	0.2				●	●
SCQR5 30L R0.2	4.8	30	1.2	0.2				●	●
SCQR6 10L R0.1	5.8	10	1.2	0.1	D6	5.7	6.0mm	●	●
SCQR6 15L R0.1	5.8	15	1.2	0.1				●	●
SCQR6 20L R0.1	5.8	20	1.2	0.1				●	●
SCQR6 30L R0.1	5.8	30	1.2	0.1				●	●
SCQR6 10L R0.2	5.8	10	1.2	0.2				●	●
SCQR6 15L R0.2	5.8	15	1.2	0.2				●	●
SCQR6 20L R0.2	5.8	20	1.2	0.2				●	●
SCQR6 30L R0.2	5.8	30	1.2	0.2				●	●
SCQR8 15L R0.2	7.8	15	1.6	0.2	D8	7.7	8.0mm	●	●
SCQR8 20L R0.2	7.8	20	1.6	0.2				●	●
SCQR8 30L R0.2	7.8	30	1.6	0.2				●	●



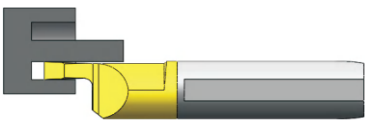


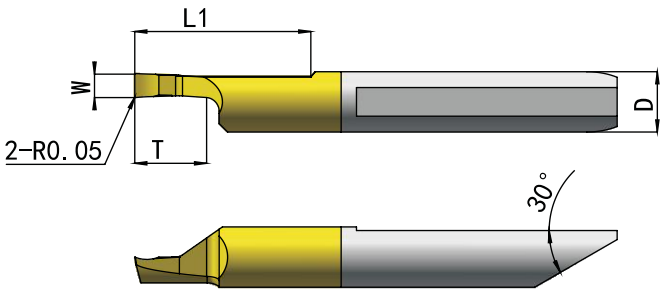
Part NO	W	S	L1	F	D	PB40	PB20
SCWR4 5L W0.5	0.5	1.0	5	3.8	D4	●	●
SCWR4 5L W1.0	1.0	1.0	5			●	●
SCWR4 10L W0.5	0.5	1.0	10			●	●
SCWR4 10L W1.0	1.0	1.0	10			●	●
SCWR5 10L W1.0	1.0	2.0	10	4.8	D5	●	●
SCWR5 10L W1.5	1.5	2.0	10			●	●
SCWR5 10L W2.0	2.0	2.0	10			●	●
SCWR5 20L W1.0	1.0	2.0	20			●	●
SCWR5 20L W1.5	1.5	2.0	20			●	●
SCWR5 20L W2.0	2.0	2.0	20			●	●
SCWR6 10L W1.0	1.0	2.5	10	5.8	D6	●	●
SCWR6 10L W1.5	1.5	2.5	10			●	●
SCWR6 10L W2.0	2.0	2.5	10			●	●
SCWR6 20L W1.0	1.0	2.5	20			●	●
SCWR6 20L W1.5	1.5	2.5	20			●	●
SCWR6 20L W2.0	2.0	2.5	20			●	●
SCWR8 10L W1.0	1.0	3.0	10	7.8	D8	●	●
SCWR8 10L W1.5	1.5	3.0	10			●	●
SCWR8 10L W2.0	2.0	3.0	10			●	●
SCWR8 10L W3.0	3.0	3.0	10			●	●
SCWR8 20L W1.0	1.0	3.0	20			●	●
SCWR8 20L W1.5	1.5	3.0	20			●	●
SCWR8 20L W2.0	2.0	3.0	20			●	●
SCWR8 20L W3.0	3.0	3.0	20			●	●



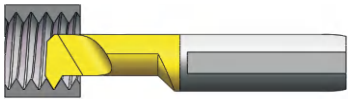


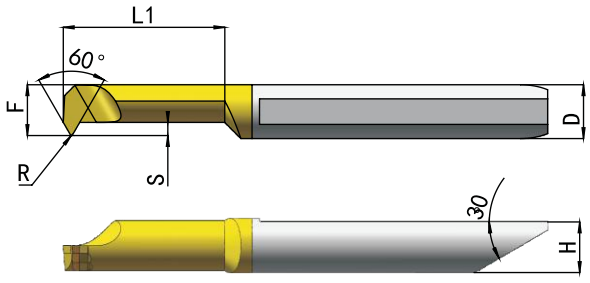
Part NO	W	T	L1	Min.Dia	D	PB40	PB20
SCFR4 15L W0.5	0.5	1.5	15	D6	D4	●	●
SCFR4 15L W0.75	0.75	2.5	15			●	●
SCFR4 15L W1.0	1.0	3.0	15			●	●
SCFR5 15L W1.0	1.0	3.0	15	D8	D5	●	●
SCFR5 15L W1.5	1.5	4.5	15			●	●
SCFR5 15L W2.0	2.0	6.0	15			●	●
SCFR6 15L W1.0	1.0	3.0	15	D10	D6	●	●
SCFR6 15L W1.5	1.5	4.5	15			●	●
SCFR6 15L W2.0	2.0	6.0	15			●	●
SCFR8 15L W1.0	1.0	3.0	15	D15	D8	●	●
SCFR8 15L W1.5	1.5	4.5	15			●	●
SCFR8 15L W2.0	2.0	6.0	15			●	●
SCFR8 15L W2.5	2.5	7.5	15			●	●
SCFR8 15L W3.0	3.0	9.0	15			●	●



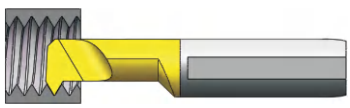


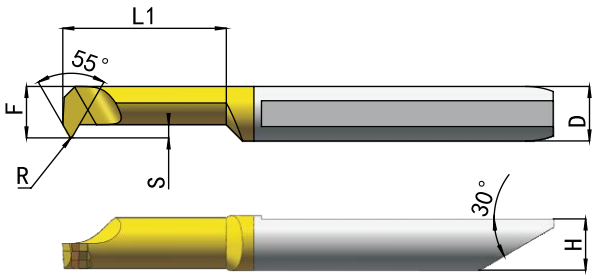
Part NO	W	T	L1	Min.Dia	D	PB40	PB20
SCFL4 15L W0.5	0.5	1.5	15	D6	D4	●	●
SCFL4 15L W0.75	0.75	2.0	15			●	●
SCFL4 15L W1.0	1.0	3.0	15			●	●
SCFL5 15L W1.0	1.0	3.0	15	D8	D5	●	●
SCFL5 15L W1.5	1.5	4.5	15			●	●
SCFL5 15L W2.0	2.0	6.0	15			●	●
SCFL6 15L W1.0	1.0	3.0	15	D10	D6	●	●
SCFL6 15L W1.5	1.5	4.5	15			●	●
SCFL6 15L W2.0	2.0	6.0	15			●	●
SCFL8 15L W1.0	1.0	3.0	15	D15	D8	●	●
SCFL8 15L W1.5	1.5	4.5	15			●	●
SCFL8 15L W2.0	2.0	6.0	15			●	●
SCFL8 15L W2.5	2.5	7.5	15			●	●
SCFL8 15L W3.0	3.0	9.0	15			●	●



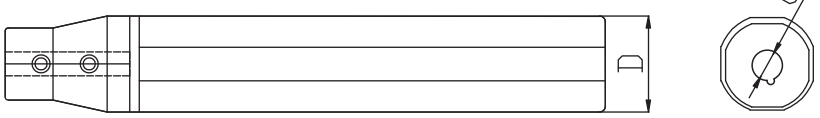


Part NO	F	S	L1	R	D	Pitch		PB40	PB20
						mm	inch		
SCIR2 5L A60	1.9	0.7	5	R0.05	D4	0.35-0.6	56-32	●	●
SCIR3 10L A60	3.0	1.0	10	R0.05		0.8-1.0	32-24	●	●
SCIR4 10L A60	3.8	1.0	10	R0.05				●	●
SCIR4 15L A60	3.8	1.0	15	R0.05				●	●
SCIR5 10L A60	4.8	1.3	10	R0.1	D5	1.0-1.25	24-20	●	●
SCIR5 15L A60	4.8	1.3	15	R0.1				●	●
SCIR6 10L A60	5.6	1.5	10	R0.1	D6	1.0-1.5	24-16	●	●
SCIR6 15L A60	5.6	1.5	15	R0.1				●	●
SCIR8 10L A60	7.6	1.8	10	R0.1	D8	1.0-2.0	24-13	●	●
SCIR8 20L A60	7.6	1.8	20	R0.1				●	●





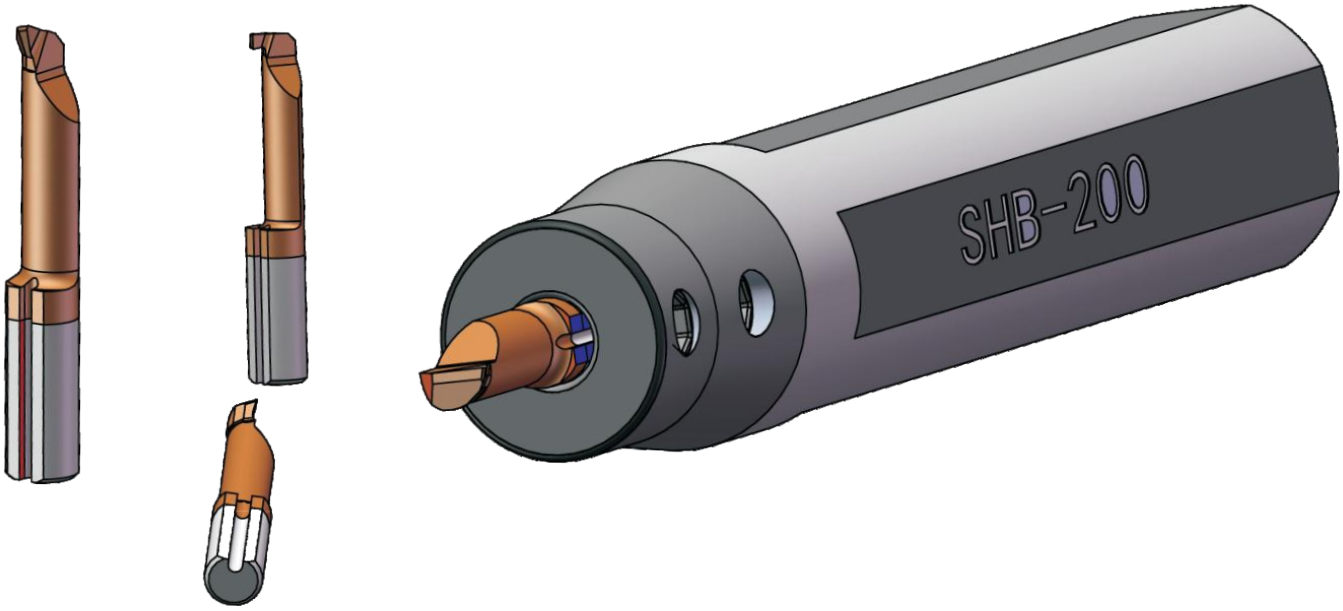
Part NO	F	S	L1	R	D	Pitch		PB40	PB20
						mm	inch		
SCIR3 10L A55	3.0	1.0	10	R0.05	D4	0.5-1.0	48-24	●	●
SCIR4 10L A55	3.8	1.0	10	R0.05				●	●
SCIR4 15L A55	3.8	1.0	15	R0.05				●	●
SCIR5 10L A55	4.8	1.3	10	R0.1	D5	0.5-1.25	48-20	●	●
SCIR5 15L A55	4.8	1.3	15	R0.1				●	●
SCIR6 10L A55	5.6	1.5	10	R0.1	D6	0.5-1.5	48-16	●	●
SCIR6 15L A55	5.6	1.5	15	R0.1				●	●
SCIR8 10L A55	7.6	1.8	10	R0.1	D8	1.0-2.0	48-14	●	●
SCIR8 20L A55	7.6	1.8	20	R0.1				●	●

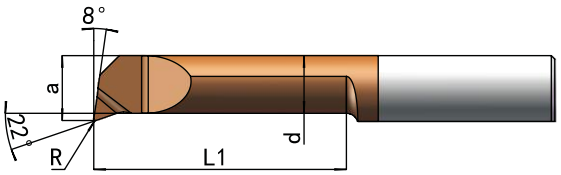


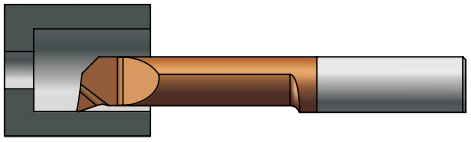
Part NO	D	d
XSHB1604	16	4.0
XSHB1605		5.0
XSHB1606		6.0
XSHB1608		8.0

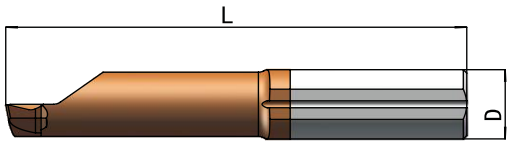
Part NO	D	d
XSHB2004	20	4.0
XSHB2005		5.0
XSHB2006		6.0
XSHB2008		8.0

Part NO	D	d
XSHB2204	22	4.0
XSHB2205		5.0
XSHB2206		6.0
XSHB2208		8.0

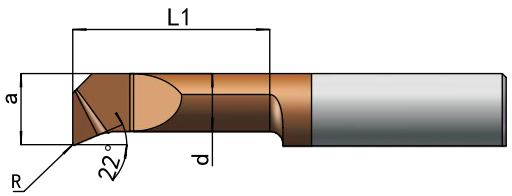

SHB-200

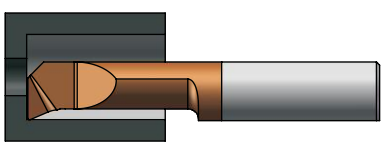


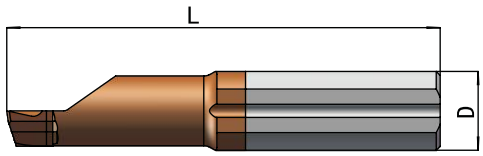




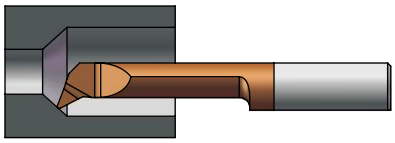
Part NO	a	d	L1	R	D	L	Min.Dia	PB20
YP1.4.008R/L	0.9	0.7	4	0.08	D4	20	1.0mm	●
YP1.6.008R/L	0.9	0.7	6	0.08	D4	22		●
YP2.6.010R/L	1.7	1.4	6	0.1	D4	22	2.0mm	●
YP2.11.010R/L	1.7	1.4	11	0.1	D4	27		●
YP3.11.015R/L	2.7	2.4	11	0.15	D4	27	3.0mm	●
YP3.16.015R/L	2.7	2.4	16	0.15	D4	32		●
YP3.21.015R/L	2.7	2.4	21	0.15	D4	37		●
YP4.11.005R/L	3.7	3.3	11	0.05	D4	27	4.0mm	●
YP4.16.005R/L	3.7	3.3	16	0.05	D4	32		●
YP4.21.005R/L	3.7	3.3	21	0.05	D4	37		●
YP4.11.020R/L	3.7	3.3	11	0.2	D4	27		●
YP4.16.020R/L	3.7	3.3	16	0.2	D4	32		●
YP4.21.020R/L	3.7	3.3	21	0.2	D4	37		●
YP5.11.020R/L	4.6	4.0	11	0.2	D5	27	5.0mm	●
YP5.16.020R/L	4.6	4.0	16	0.2	D5	32		●
YP5.21.020R/L	4.6	4.0	21	0.2	D5	37		●
YP5.31.020R/L	4.6	4.0	31	0.2	D5	47		●
YP6.16.020R/L	5.6	5.0	16	0.2	D6	32	6.0mm	●
YP6.21.020R/L	5.6	5.0	21	0.2	D6	37		●
YP6.26.020R/L	5.6	5.0	26	0.2	D6	42		●
YP6.36.020R/L	5.6	5.0	36	0.2	D6	52		●
YP7.21.020R/L	6.3	5.7	21	0.2	D7	37	6.8mm	●
YP7.26.020R/L	6.3	5.7	26	0.2	D7	42		●
YP7.31.020R/L	6.3	5.7	31	0.2	D7	47		●
YP7.41.020R/L	6.3	5.7	41	0.2	D7	57		●

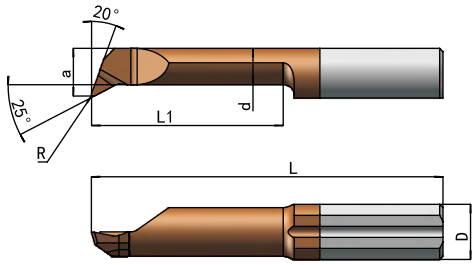




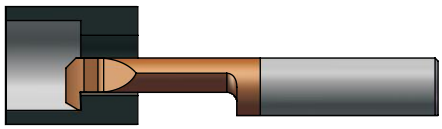


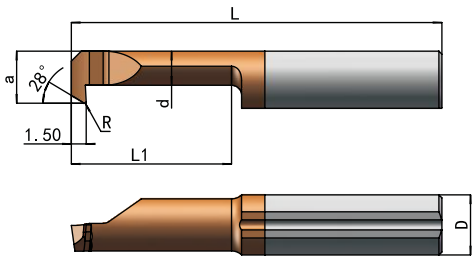
Part NO	a	d	L1	R	D	L	Min.Dia	PB20
YU4.11.015R/L	3.5	2.9	11	0.15	D4	27	4.0mm	●
YU4.16.015R/L	3.5	2.9	16	0.15	D4	32		●
YU5.11.015R/L	4.4	3.6	11	0.15	D5	27	5.0mm	●
YU5.11.015R/L	4.4	3.6	11	0.15	D5	32		●
YU5.21.015R/L	4.4	3.6	21	0.15	D5	37		●
YU6.16.015R/L	5.4	4.4	16	0.15	D6	32	6.0mm	●
YU6.21.015R/L	5.4	4.4	21	0.15	D6	37		●



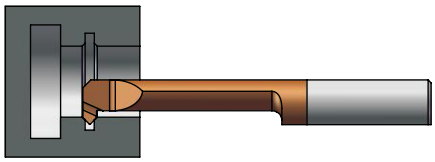


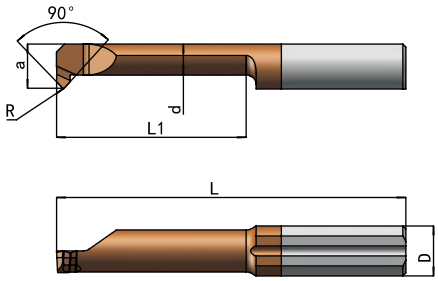
Part NO	a	d	L1	R	D	L	Min.Dia	PB20
YS3.06.010R/L	2.45	2.05	6	0.1	D4	22	2.7mm	●
YS3.11.010R/L	2.45	2.05	11	0.1	D4	27		●
YS3.16.010R/L	2.45	2.05	16	0.1	D4	32		●
YS4.11.015R/L	3.5	2.6	11	0.15	D4	27	4.0mm	●
YS4.16.015R/L	3.5	2.6	16	0.15	D4	32		●
YS4.21.015R/L	3.5	2.6	21	0.15	D4	37		●
YS5.11.020R/L	4.4	3.3	11	0.2	D5	27	5.0mm	●
YS5.26.020R/L	4.4	3.3	26	0.2	D5	42		●
YS6.21.020R/L	5.3	3.4	21	0.2	D6	37	6.0mm	●
YS6.31.020R/L	5.3	3.4	31	0.2	D6	47		●



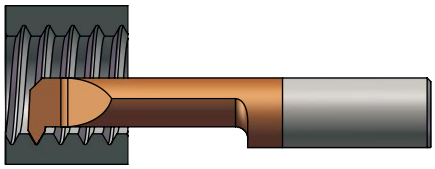


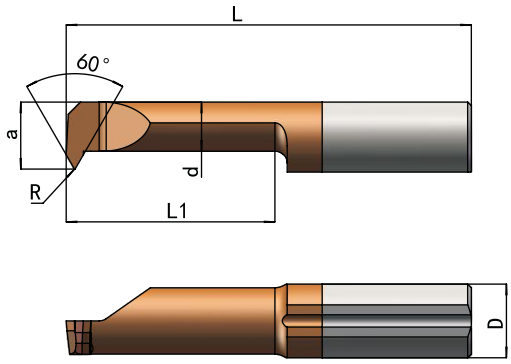
Part NO	a	d	R	L1	D	L	Min.Dia	PB20
YX3.16.005R/L	2.6	2	0.05	16	D4	32	3.0mm	●
YX4.21.010R/L	3.5	2.6	0.1	21	D4	37	4.0mm	●
YX5.31.015R/L	4.4	3.3	0.15	31	D5	47	5.0mm	●
YX6.31.015R/L	5.3	3.4	0.15	31	D6	47	6.0mm	●
YX7.31.015R/L	6.3	3.7	0.15	31	D7	47	7.0mm	●



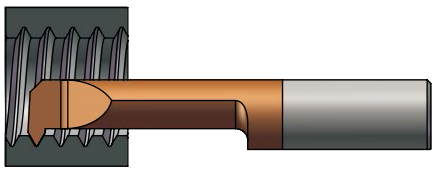


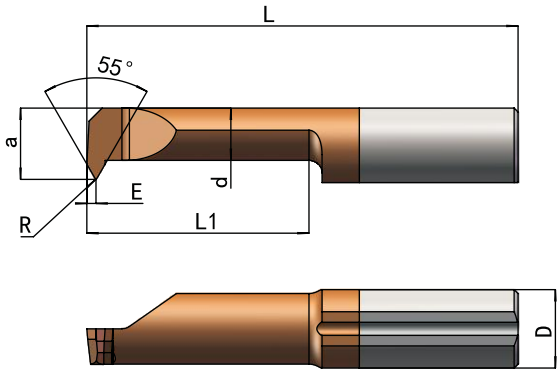
Part NO	a	d	L1	R	D	L	Min.Dia	PB20
YC4.16.005R/L	3.7	2.8	16	0.05	D4	32	4.0mm	●
YC5.21.010R/L	4.4	3.1	21	0.1	D5	37	5.0mm	●
YC6.26.015R/L	5.3	3.8	26	0.15	D6	42	6.0mm	●
YC7.41.020R/L	6.3	4.4	41	0.2	D7	57	7.0mm	●



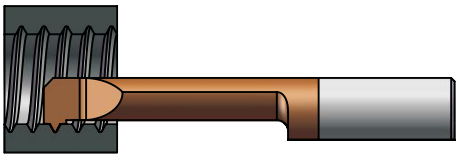


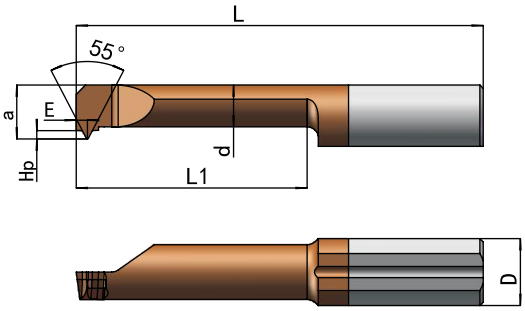
Part NO	a	d	L1	R	D	L	P	Min.Dia	PB20
YI2.4.11.A60 R/L	2.2	1.6	11	0.03	D4	27	0.5-0.7/48-36	2.4	●
YI3.8.16.A60R/L	3.7	2.8	16	0.03	D4	32	0.5-0.7/48-36	3.8	●
YI3.8.11.A60R/L	3.7	2.8	11	0.03	D4	27	0.5-1.0/48-24	3.8	●
YI4.8.16.A60R/L P1.0	4.7	3.2	16	0.03	D5	32	0.5-1.0/48-24	4.8	●
YI4.8.16.A60R/L P1.5	4.7	3.2	16	0.06	D5	32	1.0-1.5/24-16	4.8	●
YI5.8.21.A60R/L	5.5	4.0	21	0.03	D6	37	1.0-1.5/24-16	5.8	●



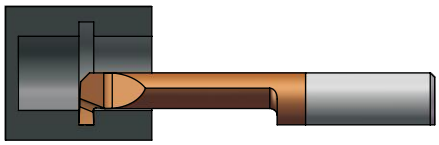


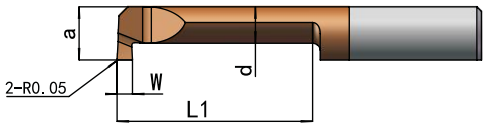
	a	d	L1	R	D	L	E	P	Min.Dia	PB20
YMI4.2.11.A55R/L	3.9	2.8	11	0.12	D4	27	0.5	28-24	4.2	●
YMI4.7.16.A55R/L	3.9	3.3	16	0.17	D5	32	0.35	20-16	4.7	●

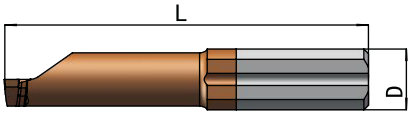




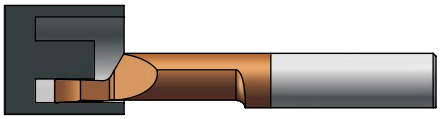
Part NO	a	d	L1	Hp	D	L	E	P	Min.Dia	PB20
YI5.2.16.A55R/L	4.95	3.75	11	0.58	D5	32	0.8	28	1/16-28BSP/G1/16	●
YI6.2.16.A55R/L	5.95	3.75	16	0.86	D6	32	1.0	19	1/4-19BSP/G1/4	●

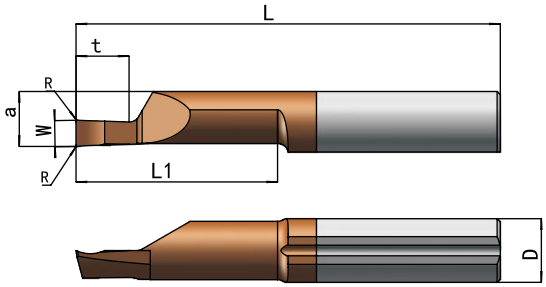




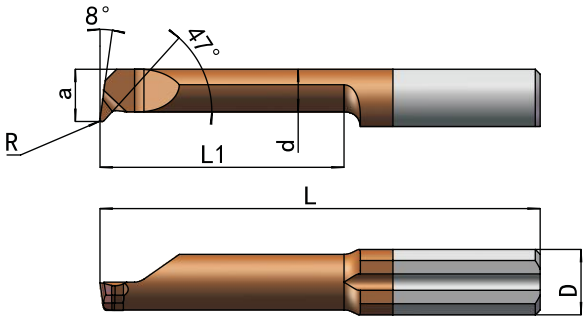


Part NO	W	a	d	L1	D	L	Min.Dia	PB20
YG2.06.05R/L	0.5	1.75	1.15	6	D4	22	2.0mm	●
YG2.11.05R/L				11		27		●
YG3.06.075R/L	0.75	2.7	1.9	6		22	3.0mm	●
YG3.11.075R/L				11		27		●
YG4.11.10R/L	1.0	3.5	2.4	11		27	4.0mm	●
YG4.16.10R/L				16		32		●
YG5.16.10R/L	1.0	4.4	3.2	16	D5	32	5.0mm	●
YG5.21.10R/L				21		37		●
YG5.26.10R/L				26		42		●
YG5.31.10R/L				31		47		●
YG5.16.15R/L	1.5	4.4	3.2	16		32		●
YG5.21.15R/L				21		37		●
YG5.26.15R/L				26		42		●
YG5.31.15R/L				31		47		●
YG5.16.20R/L	2.0	4.4	3.2	16		32		●
YG5.21.20R/L				21		37		●
YG5.26.20R/L				26		42		●
YG5.31.20R/L				31		47		●
YG6.16.10R/L	1.0	5.3	3.3	16	D6	32	6.0mm	●
YG6.21.10R/L				21		37		●
YG6.26.10R/L				26		42		●
YG6.36.10R/L				36		52		●
YG6.16.15R/L	1.5	5.3	3.3	16		32		●
YG6.21.15R/L				21		37		●
YG6.26.15R/L				26		42		●
YG6.36.15R/L				36		52		●
YG6.16.20R/L	2.0	5.3	3.3	16		32		●
YG6.21.20R/L				21		37		●
YG6.26.20R/L				26		42		●
YG6.31.20R/L				31		47		●
YG7.16.10R/L	1.0	6.3	3.6	16	D7	32	7.0mm	●
YG7.26.10R/L				26		42		●
YG7.31.10R/L				31		47		●
YG7.36.10R/L				36		52		●
YG7.46.10R/L				46		62		●
YG7.16.15R/L	1.5	6.3	3.6	16		32		●
YG7.26.15R/L				26		42		●
YG7.31.15R/L				31		47		●
YG7.36.15R/L				36		52		●
YG7.46.15R/L				46		62		●
YG7.16.20R/L	2.0	6.3	3.6	16		32		●
YG7.26.20R/L				26		42		●
YG7.31.20R/L				31		47		●
YG7.36.20R/L				36		52		●
YG7.41.20R/L				41		57		●

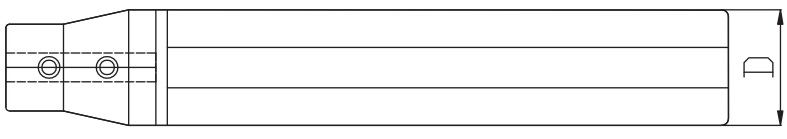


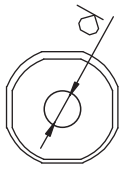


Part NO	R	W	t	a	L1	D	L	Min.Dia	PB20
YF5.21.003.10R/L	0.03	1.0	2.0	4.2	21	D6	37	5.0mm	●
YF5.21.005.15R/L	0.03	1.5	3.0						●
YF5.21.005.20R/L	0.03	2.0	5.0						●
YF6.21.005.10R/L	0.05	1.0	2.0	5.2	21	D6	37	6.0mm	●
YF6.21.005.15R/L	0.05	1.5	3.0						●
YF6.21.005.20R/L	0.05	2.0	5.0						●
YF6.16.005.25R/L	0.05	2.5	5.0		16		31		●
YF8.21.008.10R/L	0.08	1.0	2.0	5.9	21	D7	37	8.0mm	●
YF8.21.015.15R/L	0.15	1.5	3.0						●
YF8.21.015.20R/L	0.15	2.0	4.0						●
YF8.21.015.25R/L	0.15	2.5	5.0						●
YF8.21.015.30R/L	0.15	3.0	6.0						●



Part NO	a	d	L1	R	D	L	Min.Dia	PB20
YQ2.11.010R/L	1.95	1.45	11	0.1	D4	27	2.2mm	●
YQ3.16.010R/L	2.45	1.85	16	0.1	D4	32	2.7mm	●
YQ3.5.16.010R/L	2.95	2.25	16	0.1	D4	32	3.2mm	●
YQ4.11.015R/L	3.5	2.6	11	0.15	D4	27	4.0mm	●
YQ4.16.015R/L	3.5	2.6	16	0.15	D4	32		●
YQ4.21.015R/L	3.5	2.6	21	0.15	D4	37		●
YQ5.16.015R/L	4.4	3.3	16	0.15	D5	27	5.0mm	●
YQ5.26.015R/L	4.4	3.3	26	0.15	D5	42		●
YQ6.21.015R/L	5.3	3.4	21	0.15	D6	37	6.0mm	●
YQ6.31.015R/L	5.3	3.4	31	0.15	D6	47		●





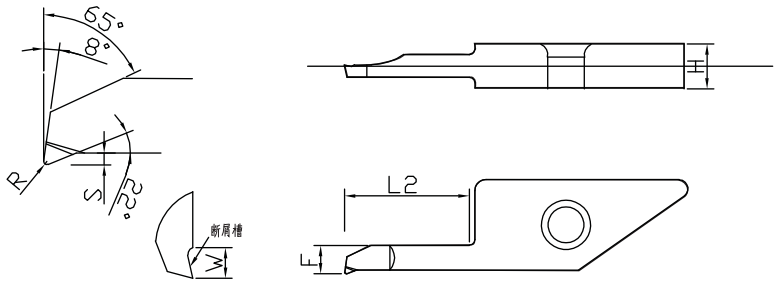
Part NO	D	d
YSK1604	16	4.0
YSK1605		5.0
YSK1606		6.0
YSK1607		7.0

Part NO	D	d
YSK2004	20	4.0
YSK2005		5.0
YSK2006		6.0
YSK2007		7.0

Part NO	D	d
YSK2204	22	4.0
YSK2205		5.0
YSK2206		6.0
YSK2207		7.0

unit : mm

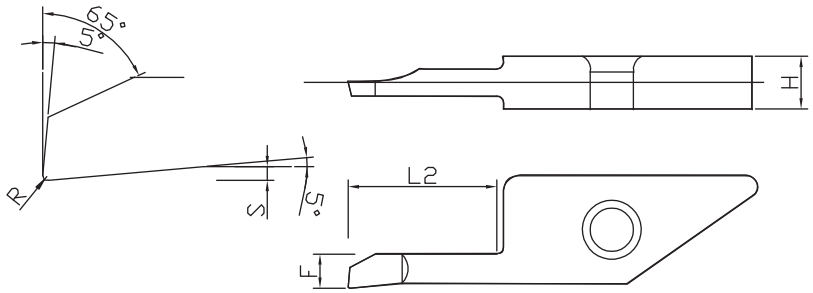

SVNBR1212-12



Part NO / VNBR	MMAP	H	W	L2	F	S	R	PB10	PB40
01505-005S	1.5	3.9	0.7	5.0	1.3	0.2	0.05	O	O
0206-01S	2.0	3.9	0.8	6.0	1.8	0.25	0.1	O	O
025085-01S	2.5	3.9	0.8	8.5	2.3	0.4	0.1	O	O
0311-01S	3.0	3.9	0.8	11.0	2.6	0.4	0.1	O	O
0311-02S							0.2	O	O
03515-01S	3.5	3.9	0.8	15.0	3.0	0.5	0.1	O	O
0415-01S	4.0	3.9	0.8	15.0	3.5	0.5	0.1	O	O
0415-02S							0.2	O	O
0515-01S	5.0	3.9	1.0	15.0	4.5	0.7	0.1	O	O
0515-02S							0.2	O	O
0615-01S	6.0	3.9	1.2	15.0	5.3	1.0	0.1	O	O
0615-02S							0.2	O	O

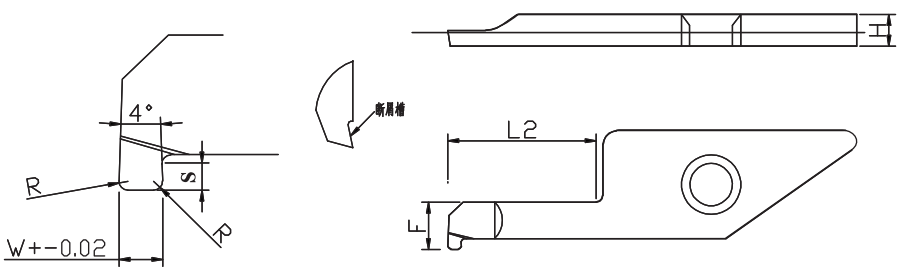
unit : mm

VNBR Boring



Part NO / VNBR (NB)	MMAP	H	L2	F	S	R	PB10	PB40
0206-01NB	2.0	3.9	6.0	1.8	0.2	0.1	O	O
0206-02NB						0.2	O	O
0311-01NB	3.0	3.9	11.0	2.6	0.25	0.1	O	O
0311-02NB						0.2	O	O
0415-01NB	4.0	3.9	15.0	3.5	0.25	0.1	O	O
0415-02NB						0.2	O	O
0515-01NB	5.0	3.9	15.0	4.5	0.25	0.1	O	O
0515-02NB						0.2	O	O
0615-01NB	6.0	3.9	15.0	5.3	0.25	0.1	O	O
0615-02NB						0.2	O	O

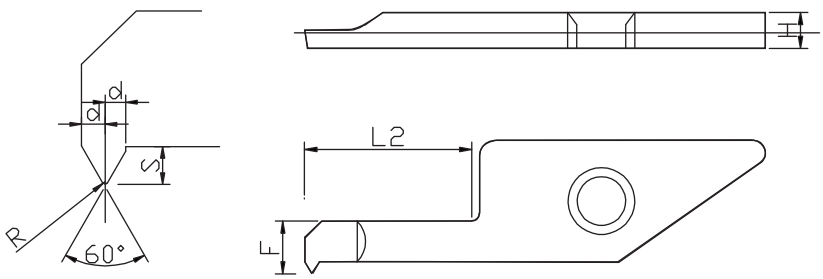
unit : mm



Part NO / VNGR	MMAP	H	W	L2	F	S	R	PB10	PB40
0410-11	4	3.9	1.0	11.0	3.5	0.8	0.05	O	O
0420-11	4		2.0					O	O
0510-11	5	3.9	1.0	11.0	4.4	1.2	0.05	O	O
0520-11	5		2.0					O	O
0610-15	6	3.9	1.0	15.0	5.2	2.0	0.05	O	O
0620-15	6		2.0					O	O
0710-15	7	3.9	1.0	15.0	6.2	2.0	0.05	O	O
0720-15	7		2.0					O	O

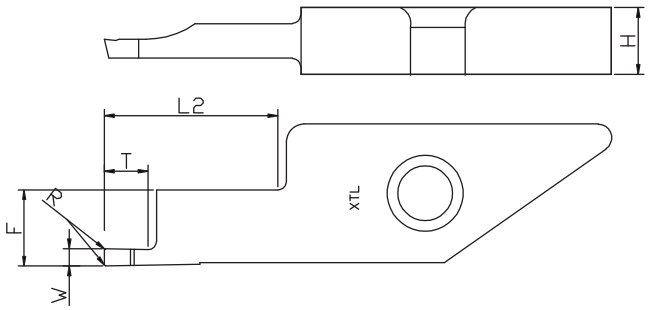
unit ： mm

VNTR Bore Tooth Cutter



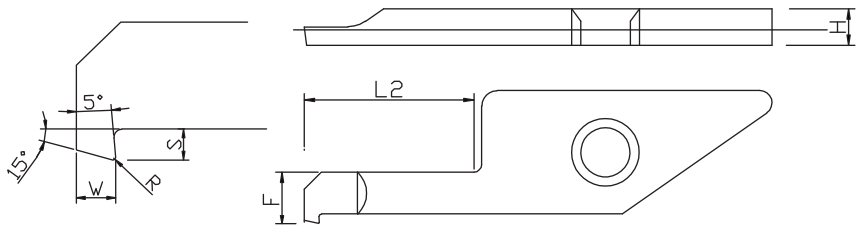
Part NO / VNTR	MMAP	H	L1	L2	F	S	d	R	Metric Thread		Imperial Thread		PB10	PB40
									Thread Name	Pitch (mm)	Thread Name	Pitch (mm)		
014-05	D1.6	3.9	25.8	5.0	1.4	0.5	0.4	0.05	M2	P0.4	NO.1-72UMF	1-72	O	O
018-06	D2.1		25.8	6.0	1.8	0.5	0.4	0.05	M2.5	P0.35-0.45	NO.2-64UMF NO.3-56UMF	2-64 3-56	O	O
024-06	D2.6		25.8	6.0	2.4	0.5			M3-M3.5	P0.35-0.6	NO.4-48UMF NO.5-44UMF	4-48 5-44	O	O
030-11	D3.3		30.8	11.0	3.0	0.8	0.5	0.05	M4-M5	P0.5-0.8	NO.6-40UMF NO.8-36UMF	6-40 8-36	O	O
045-11	D4.5		30.8	11.0	3.6	1.3	0.6		M6以上	P0.75~ P1.25	1/4-20UNC 1/4-28UNC 以上	28-20	O	O
060-11	D6.0		30.8	11.0	4.6	1.6	0.8		M8以上	P0.75~ P1.5	5/16-18UNC 5/16-24UNC 以上	24-18	O	O

unit ： mm



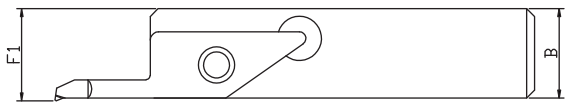
Part NO / VNFGR	MMAP	H	W	T	L2	F	R	PB10	PB40
0810-10	8	3.9	1.0	3.0	10.0	4.4	0.05	O	O
0820-10			2.0	5.0				O	O
0830-10			3.0	6.0				O	O
0840-12			4.0	12.0	12.0	4.0	0.3	O	O

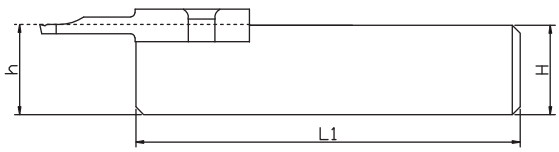
VNBTR Bore Grooving Tool



Part NO / VNBTR	MMAP	H	W	L2	F	S	R	PB10	PB40
04150-005	4	3.9	1.5	15.0	3.6	1.0	0.05	O	O
05150-005	5				4.6	1.3		O	O
06150-005	6				5.6	1.5		O	O

SVNR Tools-Holder

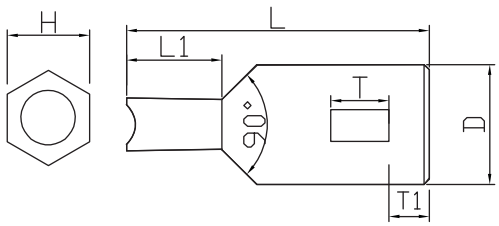




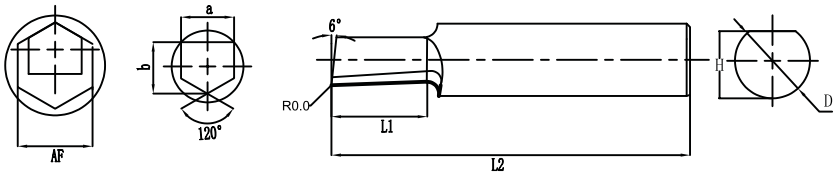
	specifications
square tool shank SVNBR1010	10x10
square tool shank SVNBR1212	12x12
square tool shank SVNBR1616	16x16
square tool shank SVNBR2020	20x20

Part NO	specifications
round tool shank SΦ12H-SVNBR	Φ12
round tool shank SΦ16H-SVNBR	Φ16
round tool shank SΦ19.05H-SVNBR	Φ19.05
round tool shank SΦ20H-SVNBR	Φ20
round tool shank SΦ22H-SVNBR	Φ22
round tool shank SΦ25.4H-SVNBR	Φ25.4

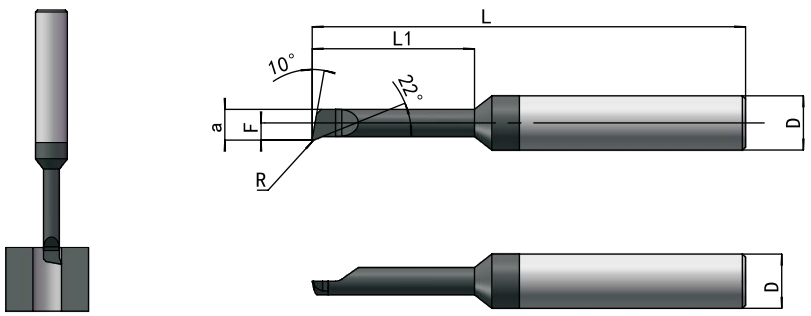
unit : mm



Part NO	H (±0.01)	L1	L	T1	T	D	corresponding hex wrench	material	
								M42	tungsten steel
对边2.05-D8	2.05	4.0	28.1	2.0	6.5	D8.0	M2.0	O	O
对边3.05-D8	3.05	5.5					M3.0	O	O
对边4.05-D8	4.05	7.0					M4.0	O	O
对边5.05-D8	5.05	8.5					M5.0	O	O
对边6.05-D8	6.05	10.0					M6.0	O	O
对边8.05-D8	8.05	13.0					M8.0	O	O
对边3.2-D8	3.2	6.0					M1/8	O	O
对边4.8-D8	4.8	8.0					M3/16	O	O
对边6.4-D8	6.4	10.0					M1/4	O	O
对边2.55-D8	2.55	4.5					M2.5	O	O
对边3.55-D8	3.55	6.5					M3.5	O	O
对边4.55-D8	4.55	7.5					M4.5	O	O
对边5.55-D8	5.55	9.5					M5.5	O	O



Part NO	AF(mm)	AF(mm)	AF (mm)	L1	a	b	L2	D	H
030N 1130H	HEX 1.5	HEX 1.5-2.0	1.4-2.0	3	1.1	0.8	50	3	2.8
030N 1430H	HEX 2.0	HEX 2.0-2.5	1.9-2.6	3	1.4	1.1	50	3	2.8
030N 1940H	HEX 3.0	HEX 2.5-3.5	2.4-3.6	4	1.9	1.6	50	3	2.8
040N 2450H	HEX 4.0	HEX 3.5-4.5	3.4-4.6	5	2.4	2.6	50	4	3.8
050N 3260H	HEX 5.0	HEX 4.5-6.0	4.4-6.2	6	3.2	3.4	50	5	4.8
060N 42120H	HEX 6.0	HEX 6.0-8.0	5.9-8.2	12	4.2	4.0	50	6	5.6
080N 62160H	HEX 8.0	HEX 8.0-12.0	7.9-12.2	16	6.2	4.7	50	8	7.5



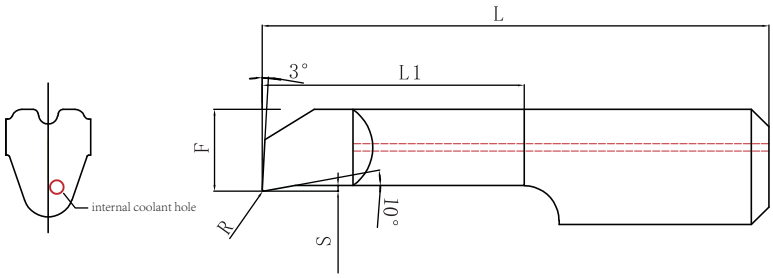
machining aperture	a	F (-0.02)	R	L1	D	L	PB10
Φ1.5	1.3	0.73	0.1	5.0	D4	50.0	•
Φ2.0	1.7	0.98	0.1	8.0	D4	50.0	•
Φ2.5	2.2	1.23	0.1	8.0	D4	50.0	•
Φ3.0	2.7	1.48	0.1	12.0	D6	50.0	•
Φ3.5	3.2	1.73	0.1	15.0	D6	50.0	•
Φ4.0	3.7	1.98	0.1	15.0	D6	50.0	•
Φ4.5	4.2	2.23	0.1	18.0	D6	50.0	•
Φ5.0	4.6	2.48	0.1	22.0	D6	50.0	•
Φ6.0	5.6	2.98	0.1	25.0	D6	50.0	•
Φ8.0	7.6	3.98	0.1	35.0	D8	75.0	•

unit : mm

Triangle positioning series

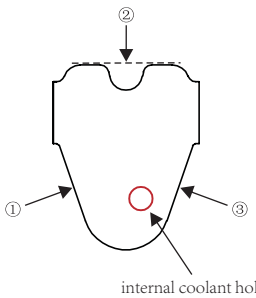
- Tool with Internal Coolant Outlet
- Three-point Clamping and Positioning, Enhancing Clamping Strength
- Eliminate Repetitive Positioning and Tool Setting
- Quick change of cutters
- High polish, Stable Lifespan

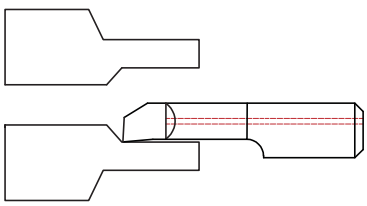
CB	F	R/L	100	050	R005
Product Code	Product Features	left/right	machining aperture	machining depth	cutting edge radius

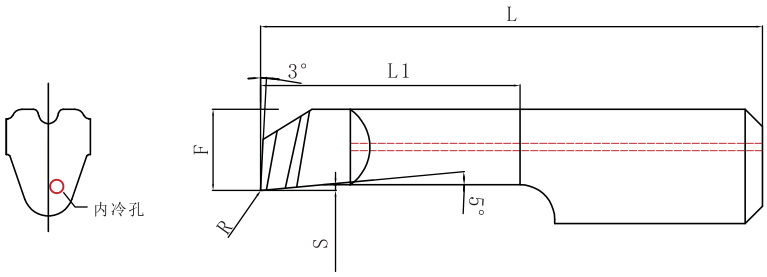


Part NO	F	S	L1	L	R	MMAP
CBFR100 050 R005	0.9	0.15	5.0	25	0.05	D1.0
CBFR150 060 R005	1.4	0.2	6.0	25	0.05	D1.5
CBFR150 060 R010					0.1	
CBFR200 060 R005	1.9	0.2	6.0	25	0.05	D2.0
CBFR200 060 R010					0.1	
CBFR200 100 R005			10.0		0.05	
CBFR200 100 R010					0.1	
CBFR250 100 R005	2.3	0.3	10.0	25	0.05	D2.5
CBFR250 100 R010					0.1	
CBFR250 150 R005			15.0	30	0.05	
CBFR250 150 R010					0.1	
CBFR300 100 R005	2.7	0.4	10.0	25	0.05	D3.0
CBFR300 100 R010					0.1	
CBFR300 100 R020					0.2	
CBFR300 150 R005			15.0	30	0.05	
CBFR300 150 R010					0.1	
CBFR300 150 R020					0.2	
CBFR300 200 R005			20.0	35	0.05	
CBFR300 200 R010					0.1	
CBFR300 200 R020					0.2	
CBFR350 100 R010	3.2	0.4	10.0	25	0.1	D3.5
CBFR350 100 R020					0.2	
CBFR350 150 R010			15.0	30	0.1	
CBFR350 150 R020					0.2	
CBFR400 100 R010	3.7	0.5	10.0	25	0.1	D4.0
CBFR400 100 R020					0.2	
CBFR400 150 R010			15.0	30	0.1	
CBFR400 150 R020					0.2	
CBFR400 200 R010			20.0	35	0.1	
CBFR400 200 R020					0.2	
CBFR500 150 R010	4.7	0.6	15.0	30	0.1	D5.0
CBFR500 150 R020					0.2	
CBFR500 200 R010			20.0	35	0.1	
CBFR500 200 R020					0.2	
CBFR500 300 R010			30.0	45	0.1	
CBFR500 300 R020					0.2	
CBFR600 150 R010	5.7	0.6	15.0	30	0.1	D6.0
CBFR600 150 R020					0.2	
CBFR600 200 R010			20.0	35	0.1	
CBFR600 200 R020					0.2	
CBFR600 300 R010			30.0	45	0.1	
CBFR600 300 R020					0.2	
CBFR680 150 R010	6.4	0.7	15.0	30	0.1	D7.0
CBFR680 150 R020					0.2	
CBFR680 200 R010			20.0	35	0.1	
CBFR680 200 R020					0.2	
CBFR680 300 R010			30.0	45	0.1	
CBFR680 300 R020					0.2	

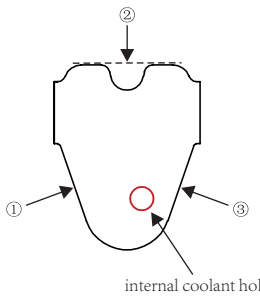
Three-Point Clamping and Positioning

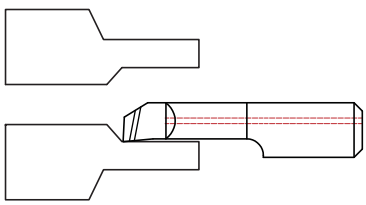






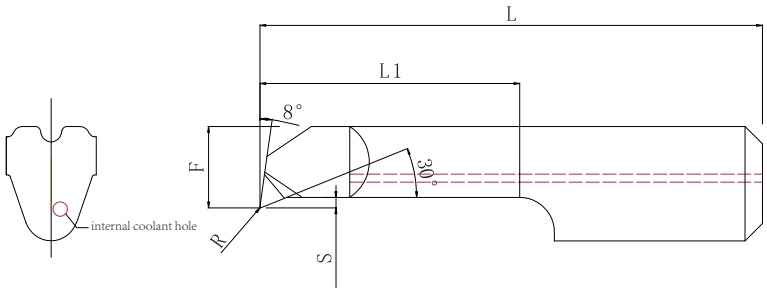
Three-Point Clamping and Positioning





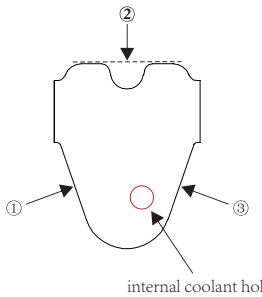
Part NO	F	S	L1	L	R	MMAP
CBTR100 050 R005	0.9	0.15	5.0	25	0.05	D1.0
CBTR150 060 R005	1.4	0.2	6.0	25	0.05	D1.5
CBTR150 060 R010					0.1	
CBTR200 060 R005	1.9	0.2	6.0	25	0.05	D2.0
CBTR200 060 R010					0.1	
CBTR200 100 R005			10.0		0.05	
CBTR200 100 R010					0.1	
CBTR250 100 R005	2.3	0.2	10.0	25	0.05	D2.5
CBTR250 100 R010					0.1	
CBTR250 150 R005			15.0	30	0.05	
CBTR250 150 R010					0.1	
CBTR300 100 R005	2.7	0.2	10.0	25	0.05	D3.0
CBTR300 100 R010					0.1	
CBTR300 100 R020					0.2	
CBTR300 150 R005			15.0	30	0.05	
CBTR300 150 R010					0.1	
CBTR300 150 R020					0.2	
CBTR300 200 R005			20.0	35	0.05	
CBTR300 200 R010					0.1	
CBTR300 200 R020					0.2	
CBTR350 100 R010	3.2	0.3	10.0	25	0.1	D3.5
CBTR350 100 R020					0.2	
CBTR350 150 R010			15.0	30	0.1	
CBTR350 150 R020					0.2	
CBTR400 100 R010	3.7	0.3	10.0	25	0.1	D4.0
CBTR400 100 R020					0.2	
CBTR400 150 R010			15.0	30	0.1	
CBTR400 150 R202					0.2	
CBTR400 200 R010			20.0	35	0.1	
CBTR400 200 R020					0.2	
CBTR500 150 R010	4.7	0.4	15.0	30	0.1	D5.0
CBTR500 150 R020					0.2	
CBTR500 200 R010			20.0	35	0.1	
CBTR500 200 R020					0.2	
CBTR500 300 R010			30.0	45	0.1	
CBTR500 300 R020					0.2	
CBTR600 150 R010	5.7	0.4	15.0	30	0.1	D6.0
CBTR600 150 R020					0.2	
CBTR600 200 R010			20.0	35	0.1	
CBTR600 200 R020					0.2	
CBTR600 300 R010			30.0	45	0.1	
CBTR600 300 R020					0.2	
CBTR680 150 R010	6.4	0.4	15.0	30	0.1	D7.0
CBTR680 150 R020					0.2	
CBTR680 200 R010			20.0	35	0.1	
CBTR680 200 R020					0.2	
CBTR680 300 R010			30.0	45	0.1	
CBTR680 300 R020					0.2	

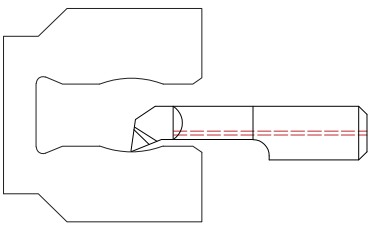
unit ： mm



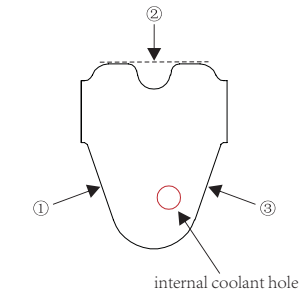
Part NO	F	S	L1	L	R	MMAP
CBPR100 040 R005	0.9	0.2	4.0	25	0.05	D1.0
CBPR150 050 R005	1.4	0.2	5.0	25	0.05	D1.5
CBPR150 050 R010					0.1	
CBPR200 080 R005	1.9	0.3	8.0	25	0.05	D2.0
CBPR200 080 R010					0.1	
CBPR250 080 R005	2.3	0.4	8.0	25	0.05	D2.5
CBPR250 080 R010					0.1	
CBPR300 100 R005	2.7	0.4	10.0	25	0.05	D3.0
CBPR300 100 R010					0.1	
CBPR300 100 R020					0.2	
CBPR300 150 R005			15.0	30	0.05	
CBPR300 150 R010					0.1	
CBPR300 150 R020					0.2	
CBPR300 200 R005			20.0	35	0.05	
CBPR300 200 R010					0.1	
CBPR300 200 R020					0.2	
CBPR350 100 R010	3.2	0.4	10.0	25	0.1	D3.5
CBPR350 100 R020					0.2	
CBPR350 150 R010			15.0	30	0.1	
CBPR350 150 R020					0.2	
CBPR400 100 R010	3.7	0.5	10.0	25	0.1	D4.0
CBPR400 100 R020					0.2	
CBPR400 150 R010			15.0	30	0.1	
CBPR400 150 R020					0.2	
CBPR400 200 R010			20.0	35	0.1	
CBPR400 200 R020					0.2	
CBPR500 150 R010	4.7	0.6	15.0	30	0.1	D5.0
CBPR500 150 R020					0.2	
CBPR500 200 R010			20.0	35	0.1	
CBPR500 200 R20					0.2	
CBPR500 300 R010			30.0	45	0.1	
CBPR500 300 R020					0.2	
CBPR600 150 R010	5.7	0.6	15.0	30	0.1	D6.0
CBPR600 150 R020					0.2	
CBPR600 200 R010			20.0	35	0.1	
CBPR600 200 R020					0.2	
CBPR600 300 R010			30.0	45	0.1	
CBPR600 300 R20					0.2	
CBPR680 150 R010	6.4	1.2	15.0	30	0.1	D7.0
CBPR680 150 R020					0.2	
CBPR680 200 R010			20.0	35	0.1	
CBPR680 200 R020					0.2	
CBPR680 300 R010			30.0	45	0.1	
CBPR680 300 R020					0.2	

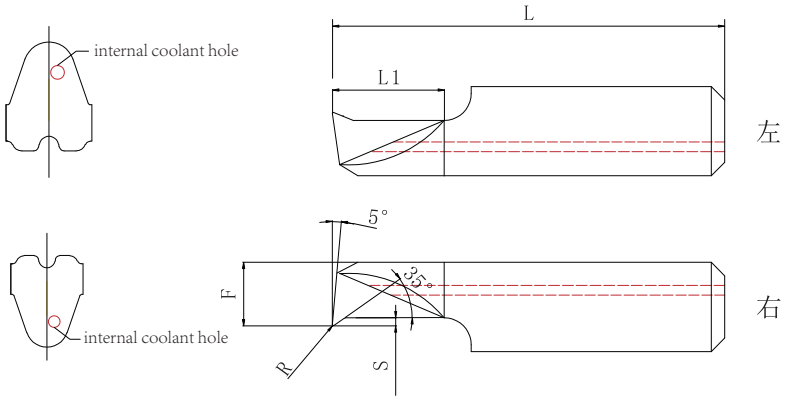
Three-Point Clamping and Positioning

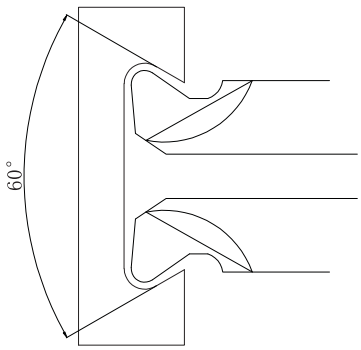




unit : mm

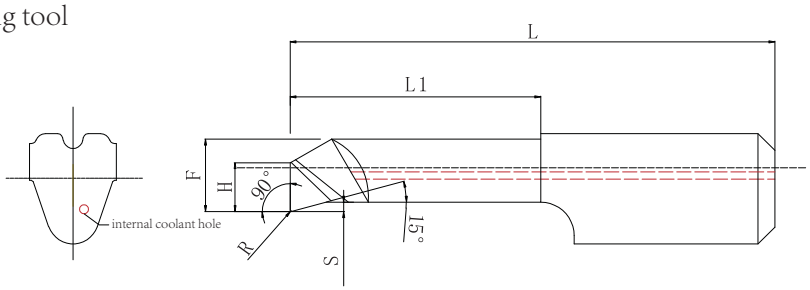


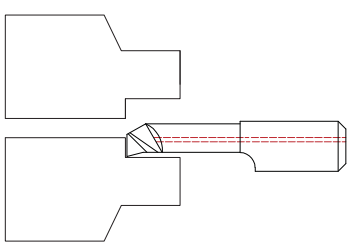




Part NO	F	S	L1	L	R	MMAP
CBNR300 060 R020（右）	2.7	1.2	6.0	25	0.2	D3.0
CBNL300 060 R020（左）						
CBNR400 060 R020（右）	3.7	1.6	6.0	25	0.2	D4.0
CBNL400 060 R020（左）						
CBNR500 080 R020（右）	4.7	2.0	8.0	25	0.2	D5.0
CBNL500 080 R020（左）						
CBNR500 150 R020（右）			15.0	30		
CBNL500 150 R020（左）						
CBNR600 080 R020（右）	5.7	2.3	9.0	25	0.2	D6.0
CBNL600 080 R020（左）						
CBNR600 200 R020（右）			20.0	35		
CBNL600 200 R020（左）						
CBNR700 080 R020（右）	6.4	2.6	8.0	25	0.2	D7.0
CBNL700 080 R020（左）						
CBNR700 200 R020（右）			20.0	35		
CBNL700 200 R020（左）						

CBUR end face internal bore boring tool

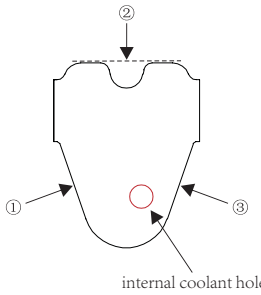


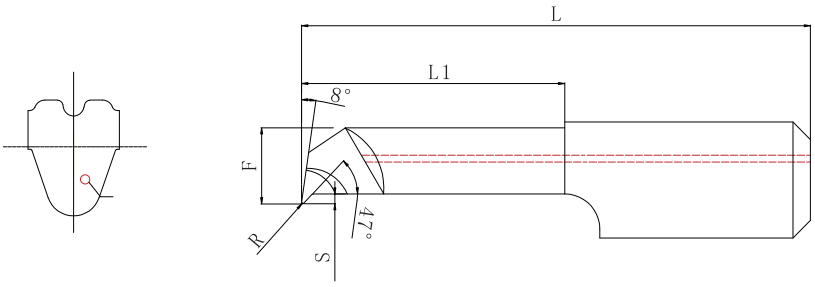


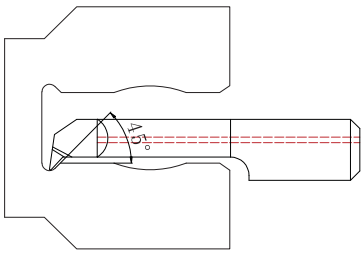
Part NO	F	S	H	L1	L	R	MMAP
CBUR300 100 R010	2.9	0.4	1.3	10.0	25	0.1	D3.0
CBUR300 150 R010				15.0	30		
CBUR400 100 R010	3.9	0.5	1.7	10.0	25	0.1	D4.0
CBUR400 150 R010				15.0	30		
CBUR500 100 R010	4.9	0.5	2.1	10.0	25	0.1	D5.0
CBUR500 200 R010				20.0	35		
CBUR600 100 R010	5.9	0.5	2.8	10.0	25	0.1	D6.0
CBUR600 200 R010				20.0	35		

unit ： mm

Three-Point Clamping and Positioning

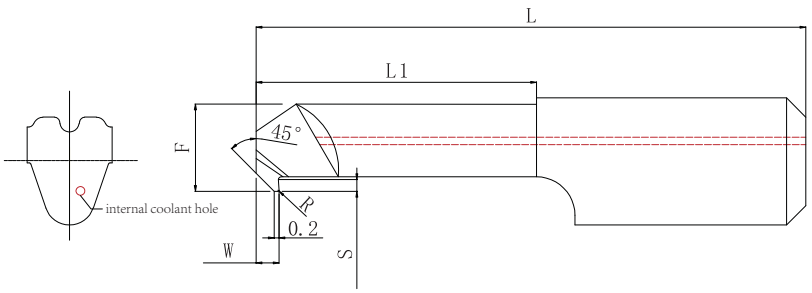


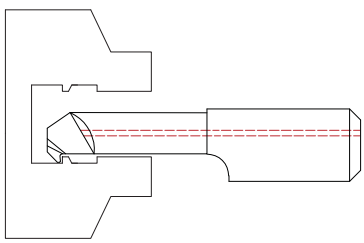




Part NO	F	S	L1	L	R	MMAP
CBQR300 100 R010	2.8	0.8	10.0	25	0.1	D3.0
CBQR300 100 R020					0.2	
CBQR350 100 R010	3.3	1.0	10.0	25	0.1	D3.5
CBQR350 100 R020					0.2	
CBQR400 100 R010	3.7	1.0	10.0	25	0.1	D4.0
CBQR400 100 R020					0.2	
CBQR400 200 R010			20.0	35	0.1	
CBQR400 200 R020					0.2	
CBQR500 100 R010	4.7	1.2	10.0	25	0.1	D5.0
CBQR500 100 R020					0.2	
CBQR500 200 R010			20.0	35	0.1	
CBQR500 200 R020					0.2	
CBQR600 150 R010	5.7	1.5	15.0	30	0.1	D6.0
CBQR600 150 R020					0.2	
CBQR600 300 R010			30.0	45	0.1	
CBQR600 300 R020					0.2	
CBQR700 150 R010	6.4	1.8	15.0	30	0.1	D7.0
CBQR700 150 R020					0.2	
CBQR700 300 R010			30.0	45	0.1	
CBOR700 300 R020					0.2	

CBXR internal groove cutter

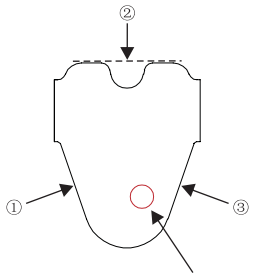


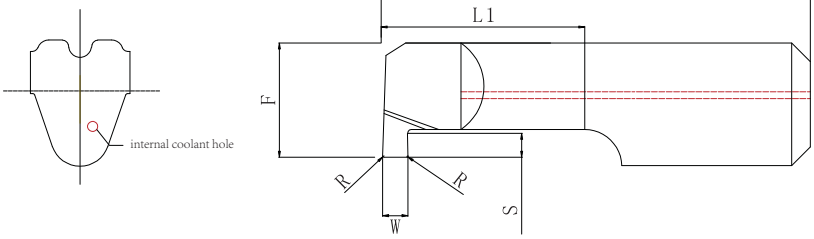


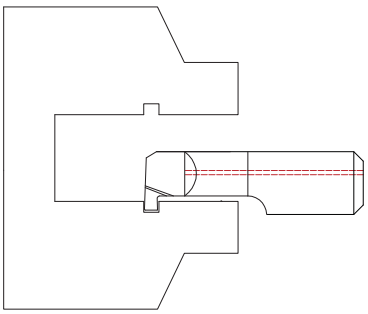
Part NO	F	S	H	L1	L	R	MMAP
CBXR300 100 R010	2.8	1.0	1.0	10.0	25	0.1	D3.0
CBXR400 100 R010	3.8	1.0	1.0	10.0	25	0.1	D4.0
CBXR400 200 R010				20.0	35		
CBXR500 150 R010	4.8	1.5	1.5	15.0	30	0.1	D5.0
CBXR500 300 R010				30.0	45		
CBXR600 150 R010	5.8	1.5	1.5	15.0	30	0.1	D6.0
CBXR600 300 R010				30.0	45		
CBXR700 150 R010	6.4	1.5	1.5	15.0	30	0.1	D7.0
CBXR700 300 R010				30.0	45		

unit : mm

Three-Point Clamping and Positioning

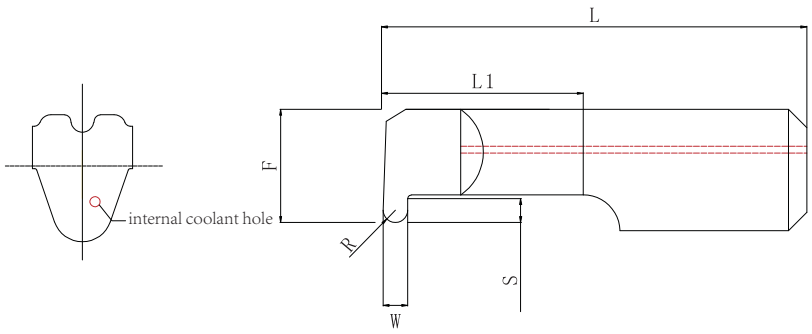


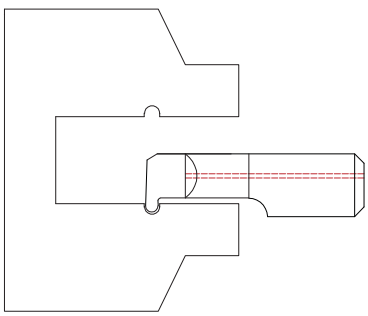




Part NO	F	S	W	L1	L	R	MMAP
CBGR030 100 D30	2.8	0.5	0.3	10.0	25	0.05	D3.0
CBGR100 100 D30		0.8	1.0				
CBGR050 100 D40	3.8	1.0	0.5	10.0	25	0.05	D4.0
CBGR100 100 D40			1.0				
CBGR150 100 D40			1.5				
CBGR100 100 D50	4.7	1.2	1.0	10.0	25	0.05	D5.0
CBGR150 100 D50			1.5				
CBGR200 100 D50			2.0				
CBGR100 100 D60	5.7	2.0	1.0	10.0	25	0.05	D6.0
CBGR150 100 D60			1.5				
CBGR200 100 D60			2.0				
CBGR250 100 D60			2.5				
CBGR100 100 D70	6.2	2.5	1.0	10.0	25	0.05	D7.0
CBGR150 100 D70			1.5				
CBGR200 100 D70			2.0				
CBGR100 200 D70			1.0	20.0	35		
CBGR150 200 D70			1.5				
CBGR200 200 D70			2.0				
CBGR100 300 D70			1.0	30.0	45		
CBGR150 300 D70			1.5				
CBGR200 300 D70			2.0				

CBKR internal hole circular groove cutter

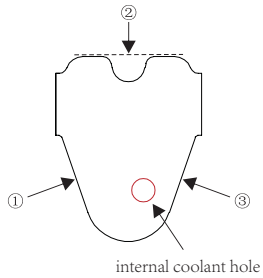


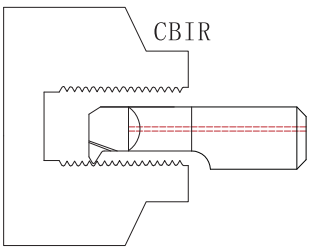


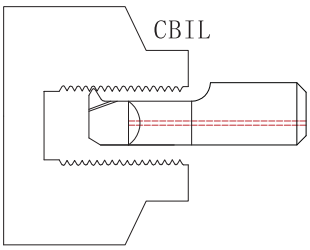
Part NO	F	S	W	L1	L	R	MMAP
CBKR400 100 R050	3.8	1.0	1.0	10.0	25	0.5	D4.0
CBKR400 100 R075			1.5			0.75	
CBKR500 150 R050	4.8	1.2	1.0	15.0	30	0.5	D5.0
CBKR500 150 R075			1.5			0.75	
CBKR500 150 R100			2.0			1.0	
CBKR600 150 R050	5.8	1.6	1.0	15.0	30	0.5	D6.0
CBKR600 150 R075			1.5			0.75	
CBKR600 150 R100			2.0			1.0	

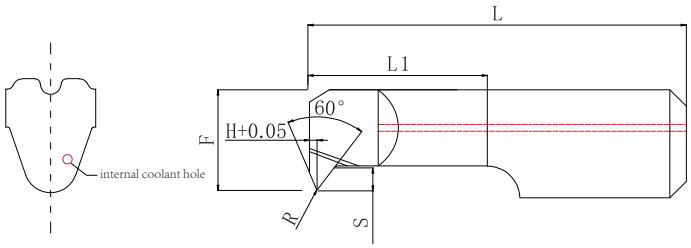
unit ： mm

Three-Point Clamping and Positioning







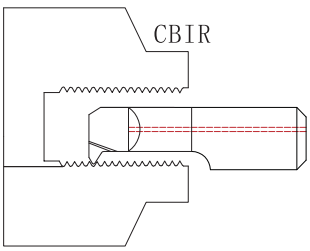


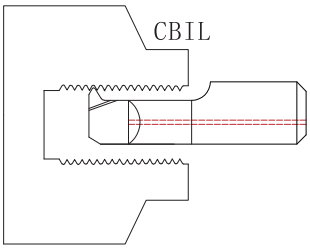
Part NO	F	S	H	L1	L	R	MMAP
CBIR300 100 A60 R005	2.8	0.7	0.5	10.0	25	0.05	D3.0
CBIR300 150 A60 R005				15.0	30		
CBIR400 100 A60 R005	3.7	1.1	0.6	10.0	25	0.05	D4.0
CBIR400 150 A60 R005				15.0	30		
CBIR500 100 A60 R010	4.7	1.3	0.6	10.0	25	0.1	D5.0
CBIR500 200 A60 R010				20.0	35		
CBIR500 300 A60 R010				30.0	45		
CBIR600 100 A60 R015	6.0	1.7	0.8	10.0	25	0.15	D7.0
CBIR600 200 A60 R015				20.0	35		
CBIR600 300 A60 R015				30.0	45		

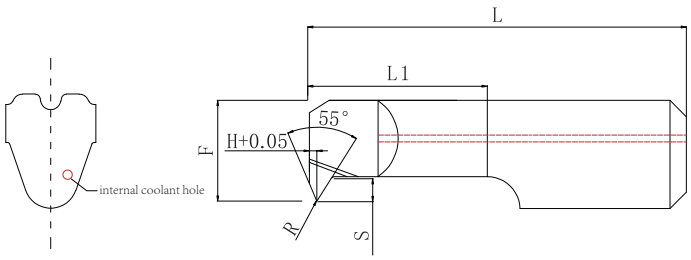
Left-hand thread 60 degrees

Part NO	F	S	H	L1	L	R	MMAP
CBIL300 100 A60 R005	2.8	0.7	0.5	10.0	25	0.05	D3.0
CBIL300 150 A60 R005				15.0	30		
CBIL400 100 A60 R005	3.7	1.1	0.6	10.0	25	0.05	D4.0
CBIL400 150 A60 R005				15.0	30		
CBIL500 100 A60 R010	4.7	1.3	0.6	10.0	25	0.1	D5.0
CBIL500 200 A60 R010				20.0	35		
CBIL500 300 A60 R010				30.0	45		
CBIL600 100 A60 R015	6.0	1.7	0.8	10.0	25	0.15	D7.0
CBIL600 200 A60 R015				20.0	35		
CBIL600 300 A60 R015				30.0	45		

CBIR internal threading tool 55°





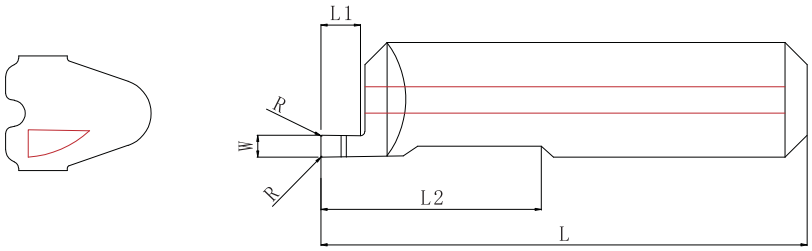


Part NO	F	S	H	L1	L	R	MMAP
CBIR300 100 A55 R010	2.8	0.7	0.5	10.0	25	0.1	D3.0
CBIR300 150 A55 R010				15.0	30		
CBIR400 100 A55 R010	3.7	1.1	0.6	10.0	25	0.1	D4.0
CBIR400 150 A55 R010				15.0	30		
CBIR500 100 A55 R020	4.7	1.3	0.6	10.0	25	0.2	D5.0
CBIR500 200 A55 R020				20.0	35		
CBIR500 300 A55 R020				30.0	45		
CBIR600 100 A55 R020	6.0	1.7	0.8	10.0	25	0.2	D7.0
CBIR600 200 A55 R020				20.0	35		
CBIR600 300 A55 R020				30.0	45		

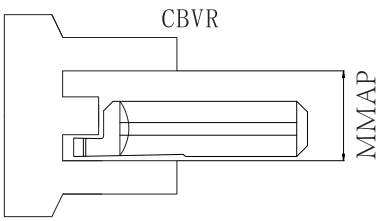
Left-hand thread 55 degrees

Part NO	F	S	H	L1	L	R	MMAP
CBIL300 100 A55 R010	2.8	0.7	0.5	10.0	25	0.1	D3.0
CBIL300 150 A55 R010				15.0	30		
CBIL400 100 A55 R010	3.7	1.1	0.6	10.0	25	0.1	D4.0
CBIL400 150 A55 R010				15.0	30		
CBIL500 100 A55 R020	4.7	1.3	0.6	10.0	25	0.2	D5.0
CBIL500 200 A55 R020				20.0	35		
CBIL500 300 A55 R020				30.0	45		
CBIL600 100 A55 R020	6.0	1.7	0.8	10.0	25	0.2	D7.0
CBIL600 200 A55 R020				20.0	35		
CBIL600 300 A55 R020				30.0	45		

unit : mm

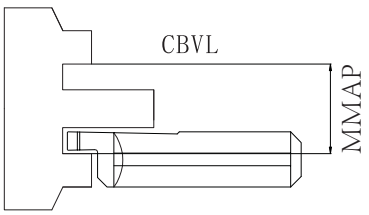


right-hand groove



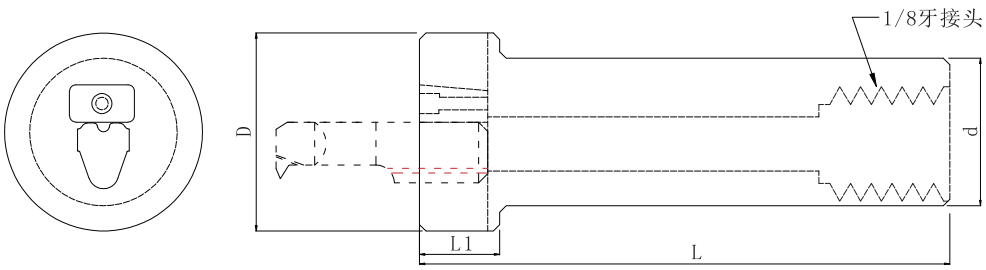
Part NO	W	L1	L2	L	R	MMAP
CBVR080 150 W0.5	0.5	1.5	15.0	30	0.05	D8.0
CBVR080 150 W1.0	1.0	4.0			0.1	
CBVR080 150 W1.5	1.5	5.0				
CBVR080 150 W2.0	2.0	8.0				
CBVR100 220 W1.0	1.0	4.0	22.0	35	0.1	D20.0
CBVR100 220 W1.5	1.5	6.0				
CBVR100 220 W2.0	2.0	10.0				
CBVR100 220 W2.5	2.5	10.0				
CBVR100 220 W3.0	3.0	12.0				
CBVR100 220 W4.0	4.0	15.0				

left-hand groove



Part NO	W	L1	L2	L	R	MMAP
CBVL080 150 W0.5	0.5	1.5	15.0	30	0.05	D8.0
CBVL080 150 W1.0	1.0	4.0			0.1	
CBVL080 150 W1.5	1.5	5.0				
CBVL080 150 W2.0	2.0	8.0				
CBVL100 220 W1.0	1.0	4.0	22.0	35	0.1	D20.0
CBVL100 220 W1.5	1.5	6.0				
CBVL100 220 W2.0	2.0	10.0				
CBVL100 220 W2.5	2.5	10.0				
CBVL100 220 W3.0	3.0	12.0				
CBVL100 220 W4.0	4.0	15.0				

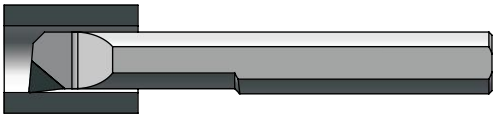
CBR heart-shaped boring tool set

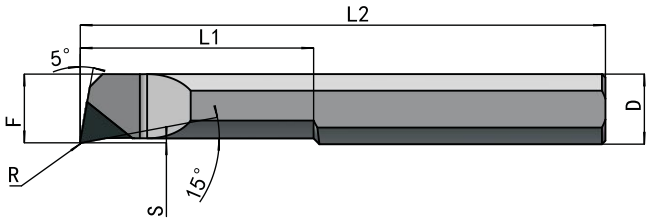


Part NO	d	D	L	L1	
CBR 16	16	24	80	15	
CBR 19.05	19.05				
CBR 20	20				
CBR 22	22				
CBR 25.4	25.4	25.4			

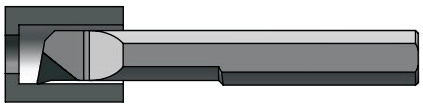
unit ： mm

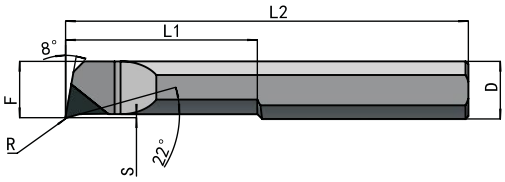

SHB-200



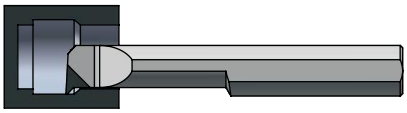


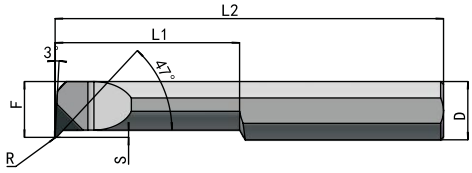
Part NO	F	L1	S	R	D	L2	
PCD FR1.5 4L R0.1	1.3	4.0	0.2	0.1	D4	40	1.5mm
PCD FR2 7L R0.1	1.8	7.0	0.2	0.1	D4	40	2.0mm
PCD FR2.5 7L R0.1	2.3	7.0	0.2	0.1	D4	40	2.5mm
PCD FR3 10L R0.1	2.8	10.0	0.4	0.1	D4	50	3.0mm
PCD FR3 10L R0.2	2.8	10.0	0.4	0.2	D4	50	
PCD FR3 15L R0.1	2.8	15.0	0.4	0.1	D4	50	
PCD FR3 15L R0.2	2.8	15.0	0.4	0.2	D4	50	
PCD FR3.4 25L R0.1-D3	3.4	30.0	0.4	0.1	D3	50	3.8mm
PCD FR3.4 25L R0.2-D3	3.4	30.0	0.4	0.2	D3	50	
PCD FR4 10L R0.1	3.7	10.0	0.5	0.1	D4	50	4.0mm
PCD FR4 10L R0.2	3.7	10.0	0.5	0.2	D4	50	
PCD FR4 20L R0.1	3.7	20.0	0.5	0.1	D4	50	
PCD FR4 20L R0.2	3.7	20.0	0.5	0.2	D4	50	
PCD FR4.5 40L R0.1-D4	4.5	40.0	0.5	0.1	D4	75	4.8mm
PCD FR4.5 40L R0.2-D4	4.5	40.0	0.5	0.2	D4	75	
PCD FR5 15L R0.1	4.7	15.0	0.9	0.1	D5	50	5.0mm
PCD FR5 15L R0.2	4.7	15.0	0.9	0.2	D5	50	
PCD FR5 25L R0.1	4.7	25.0	0.9	0.1	D5	50	
PCD FR5 25L R0.2	4.7	25.0	0.9	0.2	D5	50	
PCD FR5.5 45L R0.1-D5	5.5	45.0	0.5	0.1	D5	75	5.8mm
PCD FR5.5 45L R0.2-D5	5.5	45.0	0.5	0.2	D5	75	
PCD FR6 15L R0.1	5.7	15.0	0.9	0.1	D6	50	6.0mm
PCD FR6 15L R0.2	5.7	15.0	0.9	0.2	D6	50	
PCD FR6 25L R0.1	5.7	25.0	0.9	0.1	D6	50	
PCD FR6 25L R0.2	5.7	25.0	0.9	0.2	D6	50	
PCD FR6.5 45L R0.1-D6	6.5	45.0	0.5	0.1	D6	75	6.8mm
PCD FR6.5 45L R0.2-D6	6.5	45.0	0.5	0.2	D6	75	
PCD FR8.5 45L R0.1-D8	8.5	45.0	0.5	0.1	D8	75	8.8mm
PCD FR8.5 45L R0.2-D8	8.5	45.0	0.5	0.2	D8	75	
PCD FR10.5 45L R0.1-D10	10.5	45.0	0.5	0.1	D10	75	10.8mm
PCD FR10.5 45L R0.2-D10	10.5	45.0	0.5	0.2	D10	75	

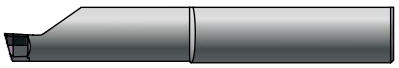




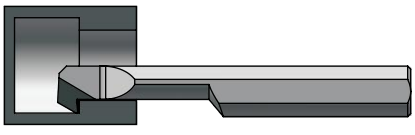
Part NO	F	L1	S	R	D	L2	MMAP
PCD PR4 22L R0.1	3.7	22.0	0.7	0.1	D4	50	4mm
PCD PR4 22L R0.2	3.7	22.0	0.7	0.2	D4	50	
PCD PR5 22L R0.1	4.7	22.0	1.2	0.1	D5	50	5mm
PCD PR5 22L R0.2	4.7	22.0	1.2	0.2	D5	50	
PCD PR6 22L R0.1	5.7	22.0	1.2	0.1	D6	50	6mm
PCD PR6 22L R0.2	5.7	22.0	1.2	0.2	D6	50	
PCD PR8 30L R0.1	7.5	30.0	1.5	0.1	D8	60	8mm
PCD PR8 30L R0.2	7.5	30.0	1.5	0.2	D8	60	

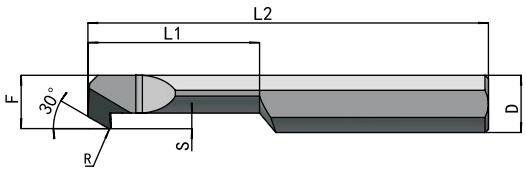


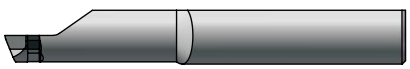




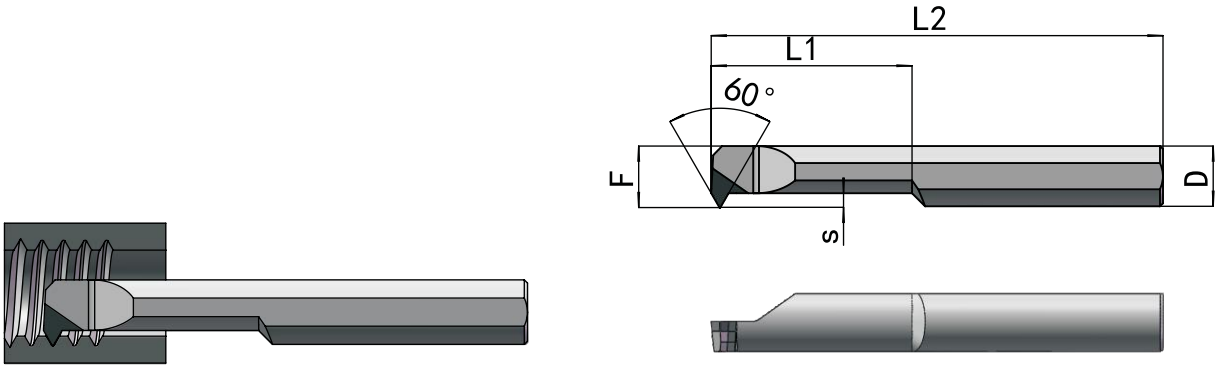
Part NO	F	L1	S	R	D	L2	MMAP
PCD QR4 10L R0.1	3.8	10.0	0.8	0.1	D4	50	4mm
PCD QR4 10L R0.2	3.8	10.0	0.8	0.2	D4	50	
PCD QR5 15L R0.1	4.8	15.0	1.0	0.1	D5	50	5mm
PCD QR5 15L R0.2	4.8	15.0	1.0	0.2	D5	50	
PCD QR6 15L R0.1	5.8	15.0	1.0	0.1	D6	50	6mm
PCD QR6 15L R0.2	5.8	15.0	1.0	0.2	D6	50	
PCD QR8 25L R0.1	7.5	25.0	2.0	0.1	D8	60	8mm
PCD QR8 25L R0.2	7.5	25.0	2.0	0.2	D8	60	



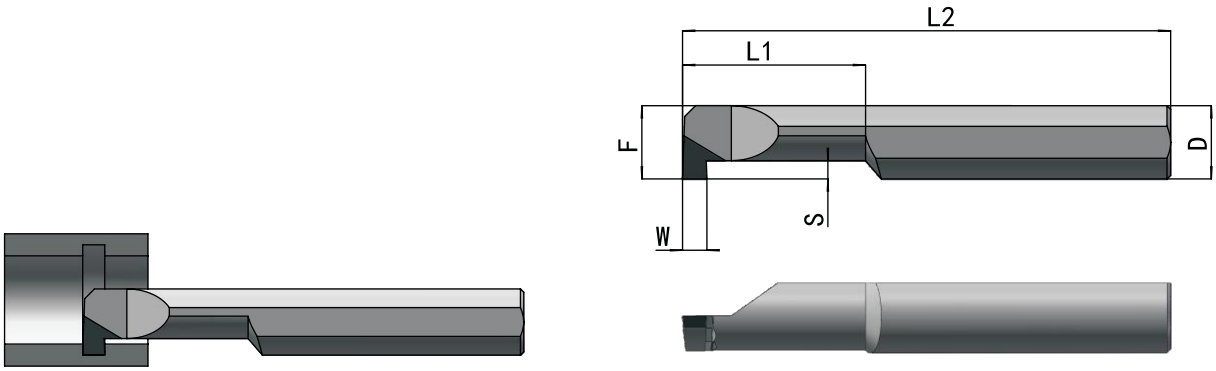




Part NO	F	L1	S	R	D	L2	MMAP
PCD XR4 10L R0.1	3.8	10.0	1.0	0.1	D4	50	4mm
PCD XR4 10L R0.2	3.8	10.0	1.0	0.2	D4	50	
PCD XR5 15L R0.1	4.8	15.0	1.5	0.1	D5	50	5mm
PCD XR5 15L R0.2	4.8	15.0	1.5	0.2	D5	50	
PCD XR6 20L R0.1	5.8	20.0	2.0	0.1	D6	50	6mm
PCD XR6 20L R0.2	5.8	20.0	2.0	0.2	D6	50	
PCD XR7 30L R0.1	7.8	30.0	2.0	0.1	D8	60	8mm
PCD XR7 30L R0.2	7.8	30.0	2.0	0.2	D8	60	

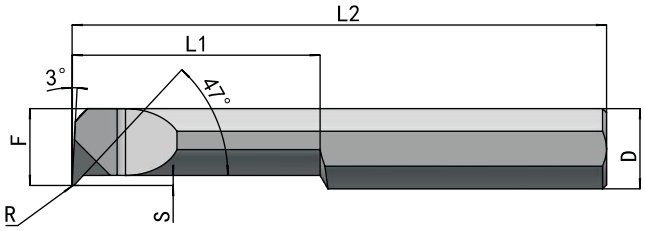


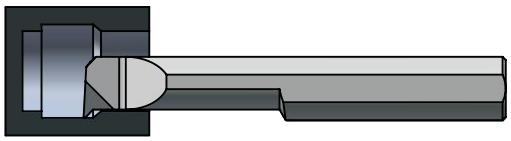
Part NO	F	L1	S	D	L2	MMAP
PCD IR3 12L A60	3.0	12.0	0.8	D4	50	3.5mm
PCD IR4 15L A60	3.8	15.0	1.0	D4	50	4.5mm
PCD IR5 22L A60	4.8	22.0	1.5	D5	50	5.5mm
PCD IR6 22L A60	5.8	22.0	1.8	D6	50	6.5mm

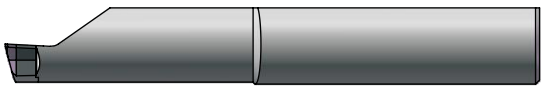


Part NO	W	S	L1	F	D	L2	MMAP
PCD WR4 10L W0.5	0.5	1.0	10.0	3.8	D4	50	4.0mm
PCD WR4 10L W0.8	0.8						
PCD WR4 10L W1.0	1.0	1.5					
PCD WR4 10L W1.5	1.5						
PCD WR5 10L W1.0	1.0	1.5	10.0	4.8	D5	50	5.0mm
PCD WR5 10L W1.2	1.2						
PCD WR5 10L W1.5	1.5	2.0					
PCD WR5 10L W2.0	2.0						
PCD WR6 12L W1.0	1.0	2.0	12.0	5.8	D6	50	6.0mm
PCD WR6 12L W1.5	1.5						
PCD WR6 12L W2.0	2.0						
PCD WR6 16L W2.5	2.5	2.5	16.0				
PCD WR8 16L W1.0	1.0	3.0	16.0	7.8	D8	50	8.0mm
PCD WR8 16L W1.5	1.5						
PCD WR8 16L W2.0	2.0						
PCD WR8 16L W2.5	2.5						

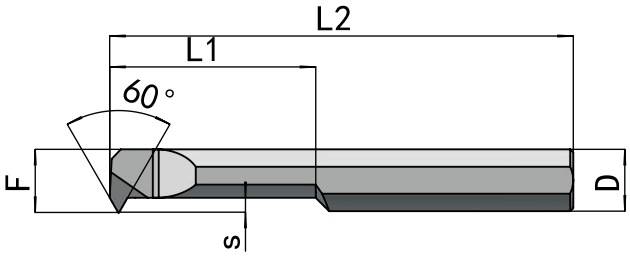
Part NO	F	L1	S	R	D	L2	MMAP
CBN FR1.5 4L R0.1	1.3	4.0	0.2	0.1	D4	40	1.5mm
CBN FR2 7L R0.1	1.8	7.0	0.2	0.1	D4	40	2.0mm
CBN FR2.5 7L R0.1	2.3	7.0	0.2	0.1	D4	40	2.5mm
CBN FR3 10L R0.1	2.8	10.0	0.4	0.1	D4	50	3.0mm
CBN FR3 10L R0.2	2.8	10.0	0.4	0.2	D4	50	
CBN FR3 15L R0.1	2.8	15.0	0.4	0.1	D4	50	
CBN FR3 15L R0.2	2.8	15.0	0.4	0.2	D4	50	
CBN FR3.4 25L R0.1-D3	3.4	30.0	0.4	0.1	D3	50	3.8mm
CBN FR3.4 25L R0.2-D3	3.4	30.0	0.4	0.2	D3	50	
CBN FR4 10L R0.1	3.7	10.0	0.5	0.1	D4	50	4.0mm
CBN FR4 10L R0.2	3.7	10.0	0.5	0.2	D4	50	
CBN FR4 20L R0.1	3.7	20.0	0.5	0.1	D4	50	
CBN FR4 20L R0.2	3.7	20.0	0.5	0.2	D4	50	
CBN FR4.5 40L R0.1-D4	4.5	40.0	0.5	0.1	D4	75	4.8mm
CBN FR4.5 40L R0.2-D4	4.5	40.0	0.5	0.2	D4	75	
CBN FR5 15L R0.1	4.7	15.0	0.9	0.1	D5	50	5.0mm
CBN FR5 15L R0.2	4.7	15.0	0.9	0.2	D5	50	
CBN FR5 25L R0.1	4.7	25.0	0.9	0.1	D5	50	
CBN FR5 25L R0.2	4.7	25.0	0.9	0.2	D5	50	
CBN FR5.5 45L R0.1-D5	5.5	45.0	0.5	0.1	D5	75	5.8mm
CBN FR5.5 45L R0.2-D5	5.5	45.0	0.5	0.2	D5	75	
CBN FR6 15L R0.1	5.7	15.0	0.9	0.1	D6	50	6.0mm
CBN FR6 15L R0.2	5.7	15.0	0.9	0.2	D6	50	
CBN FR6 25L R0.1	5.7	25.0	0.9	0.1	D6	50	
CBN FR6 25L R0.2	5.7	25.0	0.9	0.2	D6	50	
CBN FR6.5 45L R0.1-D6	6.5	45.0	0.5	0.1	D6	75	6.8mm
CBN FR6.5 45L R0.2-D6	6.5	45.0	0.5	0.2	D6	75	
CBN FR8.5 45L R0.1-D8	8.5	45.0	0.5	0.1	D8	75	8.8mm
CBN FR8.5 45L R0.2-D8	8.5	45.0	0.5	0.2	D8	75	
CBN FR10.5 45L R0.1-D10	10.5	45.0	0.5	0.1	D10	75	10.8mm
CBN FR10.5 45L R0.2-D10	10.5	45.0	0.5	0.2	D10	75	

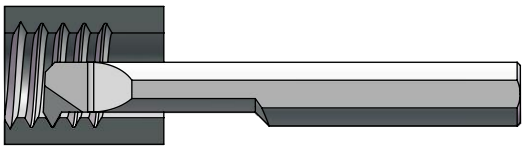


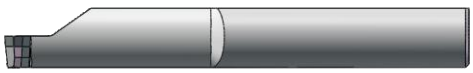




Part NO	F	L1	S	R	D	L2	MMAP
CBN QR4 10L R0.1	3.8	10.0	0.8	0.1	D4	50	4mm
CBN QR4 10L R0.2	3.8	10.0	0.8	0.2	D4	50	
CBN QR5 15L R0.1	4.8	15.0	1.0	0.1	D5	50	5mm
CBN QR5 15L R0.2	4.8	15.0	1.0	0.2	D5	50	
CBN QR6 15L R0.1	5.8	15.0	1.0	0.1	D6	50	6mm
CBN QR6 15L R0.2	5.8	15.0	1.0	0.2	D6	50	
CBN QR8 25L R0.1	7.5	25.0	2.0	0.1	D8	60	8mm
CBN QR8 25L R0.2	7.5	25.0	2.0	0.2	D8	60	







Part NO	F	L1	S	D	L2	MMAP
CBN IR3 12L A60	3.0	12.0	0.8	D4	50	3.5mm
CBN IR4 15L A60	3.8	15.0	1.0	D4	50	4.5mm
CBN IR5 22L A60	4.8	22.0	1.5	D5	50	5.5mm
CBN IR6 22L A60	5.8	22.0	1.8	D6	50	6.5mm

CARBIDE DRILLS

edison@preciturntools.com

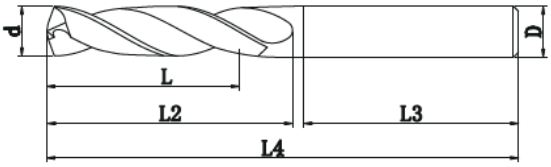
https://www.preciturntools.com

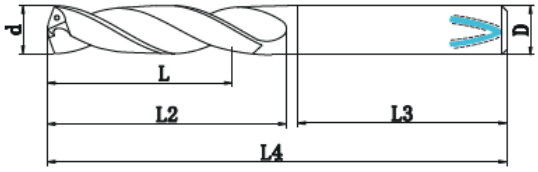
DIN6537

Dia.3.0-25mm 3XD

SHANK DIA. TOLERANCE

POINT ANGLE





Part No	d	L	L2	L4	L3	D
P3DE0300	3.0	14	20	62	36	6
P3DE0310	3.1	14	20	62	36	6
P3DE0320	3.2	14	20	62	36	6
P3DE0330	3.3	14	20	62	36	6
P3DE0340	3.4	14	20	62	36	6
P3DE0350	3.5	14	20	62	36	6
P3DE0360	3.6	14	20	62	36	6
P3DE0370	3.7	14	20	62	36	6
P3DE0380	3.8	17	24	66	36	6
P3DE0390	3.9	17	24	66	36	6
P3DE0400	4.0	17	24	66	36	6
P3DE0410	4.1	17	24	66	36	6
P3DE0420	4.2	17	24	66	36	6
P3DE0430	4.3	17	24	66	36	6
P3DE0440	4.4	17	24	66	36	6
P3DE0450	4.5	17	24	66	36	6
P3DE0460	4.6	17	24	66	36	6
P3DE0470	4.7	17	24	66	36	6
P3DE0480	4.8	20	28	66	36	6
P3DE0490	4.9	20	28	66	36	6
P3DE0500	5.0	20	28	66	36	6
P3DE0510	5.1	20	28	66	36	6
P3DE0520	5.2	20	28	66	36	6
P3DE0530	5.3	20	28	66	36	6
P3DE0540	5.4	20	28	66	36	6
P3DE0550	5.5	20	28	66	36	6
P3DE0560	5.6	20	28	66	36	6
P3DE0570	5.7	20	28	66	36	6

Part No	❄	d	L	L2	L4	L3	D
P3DI0300	❄	3.0	14	20	62	36	6
P3DI0310	❄	3.1	14	20	62	36	6
P3DI0320	❄	3.2	14	20	62	36	6
P3DI0330	❄	3.3	14	20	62	36	6
P3DI0340	❄	3.4	14	20	62	36	6
P3DI0350	❄	3.5	14	20	62	36	6
P3DI0360	❄	3.6	14	20	62	36	6
P3DI0370	❄	3.7	14	20	62	36	6
P3DI0380	❄	3.8	17	24	66	36	6
P3DI0390	❄	3.9	17	24	66	36	6
P3DI0400	❄	4.0	17	24	66	36	6
P3DI0410	❄	4.1	17	24	66	36	6
P3DI0420	❄	4.2	17	24	66	36	6
P3DI0430	❄	4.3	17	24	66	36	6
P3DI0440	❄	4.4	17	24	66	36	6
P3DI0450	❄	4.5	17	24	66	36	6
P3DI0460	❄	4.6	17	24	66	36	6
P3DI0470	❄	4.7	17	24	66	36	6
P3DI0480	❄	4.8	20	28	66	36	6
P3DI0490	❄	4.9	20	28	66	36	6
P3DI0500	❄	5.0	20	28	66	36	6
P3DI0510	❄	5.1	20	28	66	36	6
P3DI0520	❄	5.2	20	28	66	36	6
P3DI0530	❄	5.3	20	28	66	36	6
P3DI0540	❄	5.4	20	28	66	36	6
P3DI0550	❄	5.5	20	28	66	36	6
P3DI0560	❄	5.6	20	28	66	36	6
P3DI0570	❄	5.7	20	28	66	36	6

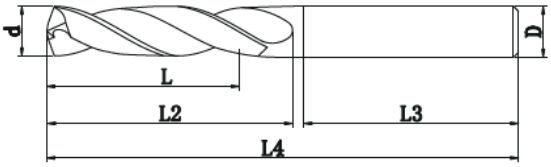
❄ :Internal cooling

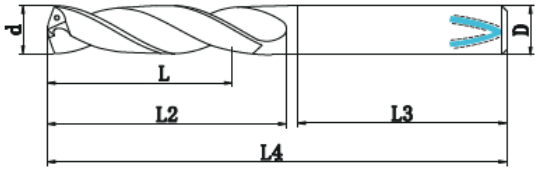
DIN6537

Dia.3.0-25mm 3XD

SHANK DIA. TOLERANCE

POINT ANGLE





Part No	d	L	L2	L4	L3	D
P3DE0580	5.8	20	28	66	36	6
P3DE0590	5.9	20	28	66	36	6
P3DE0600	6.0	20	28	66	36	6
P3DE0610	6.1	24	34	79	36	8
P3DE0620	6.2	24	34	79	36	8
P3DE0630	6.3	24	34	79	36	8
P3DE0640	6.4	24	34	79	36	8
P3DE0650	6.5	24	34	79	36	8
P3DE0660	6.6	24	34	79	36	8
P3DE0670	6.7	24	34	79	36	8
P3DE0680	6.8	24	34	79	36	8
P3DE0690	6.9	24	34	79	36	8
P3DE0700	7.0	24	34	79	36	8
P3DE0710	7.1	29	41	79	36	8
P3DE0720	7.2	29	41	79	36	8
P3DE0730	7.3	29	41	79	36	8
P3DE0740	7.4	29	41	79	36	8
P3DE0750	7.5	29	41	79	36	8
P3DE0760	7.6	29	41	79	36	8
P3DE0770	7.7	29	41	79	36	8
P3DE0780	7.8	29	41	79	36	8
P3DE0790	7.9	29	41	79	36	8
P3DE0800	8.0	29	41	79	36	8
P3DE0810	8.1	35	47	89	40	6
P3DE0820	8.2	35	47	89	40	6
P3DE0830	8.3	35	47	89	40	6
P3DE0840	8.4	35	47	89	40	6
P3DE0850	8.5	35	47	89	40	6

Part No	❄	d	L	L2	L4	L3	D
P3DI0580	❄	5.8	20	28	66	36	6
P3DI0590	❄	5.9	20	28	66	36	6
P3DI0600	❄	6.0	20	28	66	36	6
P3DI0610	❄	6.1	24	34	79	36	8
P3DI0620	❄	6.2	24	34	79	36	8
P3DI0630	❄	6.3	24	34	79	36	8
P3DI0640	❄	6.4	24	34	79	36	8
P3DI0650	❄	6.5	24	34	79	36	8
P3DI0660	❄	6.6	24	34	79	36	8
P3DI0670	❄	6.7	24	34	79	36	8
P3DI0680	❄	6.8	24	34	79	36	8
P3DI0690	❄	6.9	24	34	79	36	8
P3DI0700	❄	7.0	24	34	79	36	8
P3DI0710	❄	7.1	29	41	79	36	8
P3DI0720	❄	7.2	29	41	79	36	8
P3DI0730	❄	7.3	29	41	79	36	8
P3DI0740	❄	7.4	29	41	79	36	8
P3DI0750	❄	7.5	29	41	79	36	8
P3DI0760	❄	7.6	29	41	79	36	8
P3DI0770	❄	7.7	29	41	79	36	8
P3DI0780	❄	7.8	29	41	79	36	8
P3DI0790	❄	7.9	29	41	79	36	8
P3DI0800	❄	8.0	29	41	79	36	8
P3DI0810	❄	8.1	35	47	89	40	6
P3DI0820	❄	8.2	35	47	89	40	6
P3DI0830	❄	8.3	35	47	89	40	6
P3DI0840	❄	8.4	35	47	89	40	6
P3DI0850	❄	8.5	35	47	89	40	6

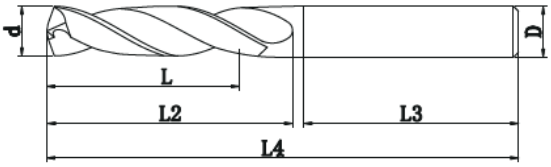
❄:Internal cooling

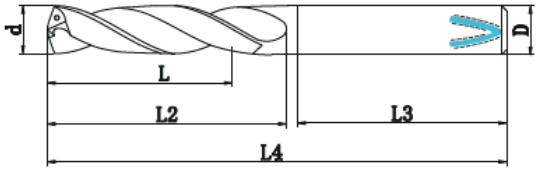
DIN6537

Dia.3.0-25mm 3XD

SHANK DIA. TOLERANCE

POINT ANGLE





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P3DE0870	8.7	35	47	89	40	10
P3DE0880	8.8	35	47	89	40	10
P3DE0890	8.9	35	47	89	40	10
P3DE0900	9.0	35	47	89	40	10
P3DE0910	9.1	35	47	89	40	10
P3DE0920	9.2	35	47	89	40	10
P3DE0930	9.3	35	47	89	40	10
P3DE0940	9.4	35	47	89	40	10
P3DE0950	9.5	35	47	89	40	10
P3DE0960	9.6	35	47	89	40	10
P3DE0970	9.7	35	47	89	40	10
P3DE0980	9.8	35	47	89	40	10
P3DE0990	9.9	35	47	89	40	10
P3DE1000	10.00	35	47	89	40	10
P3DE1010	10.10	40	55	102	45	12
P3DE1020	10.20	40	55	102	45	12
P3DE1030	10.30	40	55	102	45	12
P3DE1040	10.40	40	55	102	45	12
P3DE1050	10.50	40	55	102	45	12
P3DE1060	10.60	40	55	102	45	12
P3DE1070	10.70	40	55	102	45	12
P3DE1080	10.80	40	55	102	45	12
P3DE1090	10.90	40	55	102	45	12
P3DE1100	11.00	40	55	102	45	12
P3DE1110	11.10	40	55	102	45	12
P3DE1120	11.20	40	55	102	45	12
P3DE1130	11.30	40	55	102	45	12

Part No	❄	d	L	L2	L4	L3	D
P3DI0860	❄	8.6	35	47	89	40	10
P3DI0870	❄	8.7	35	47	89	40	10
P3DI0880	❄	8.8	35	47	89	40	10
P3DI0890	❄	8.9	35	47	89	40	10
P3DI0900	❄	9.0	35	47	89	40	10
P3DI0910	❄	9.1	35	47	89	40	10
P3DI0920	❄	9.2	35	47	89	40	10
P3DI0930	❄	9.3	35	47	89	40	10
P3DI0940	❄	9.4	35	47	89	40	10
P3DI0950	❄	9.5	35	47	89	40	10
P3DI0960	❄	9.6	35	47	89	40	10
P3DI0970	❄	9.7	35	47	89	40	10
P3DI0980	❄	9.8	35	47	89	40	10
P3DI0990	❄	9.9	35	47	89	40	10
P3DI1000	❄	10.00	35	47	89	40	10
P3DI1010	❄	10.10	40	55	102	45	12
P3DI1020	❄	10.20	40	55	102	45	12
P3DI1030	❄	10.30	40	55	102	45	12
P3DI1040	❄	10.40	40	55	102	45	12
P3DI1050	❄	10.50	40	55	102	45	12
P3DI1060	❄	10.60	40	55	102	45	12
P3DI1070	❄	10.70	40	55	102	45	12
P3DI1080	❄	10.80	40	55	102	45	12
P3DI1090	❄	10.90	40	55	102	45	12
P3DI1100	❄	11.00	40	55	102	45	12
P3DI1110	❄	11.10	40	55	102	45	12
P3DI1120	❄	11.20	40	55	102	45	12
P3DI1130	❄	11.30	40	55	102	45	12

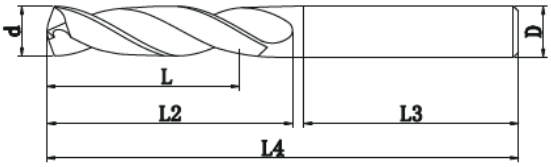
❄ :Internal cooling

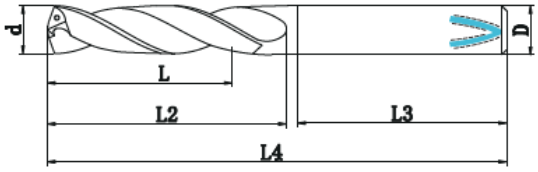
DIN6537

Dia.3.0-25mm 3XD

SHANK DIA. TOLERANCE

POINT ANGLE





Part No	d	L	L2	L4	L3	D
P3DE1140	11.40	40	55	102	45	12
P3DE1150	11.50	40	55	102	45	12
P3DE1160	11.60	40	55	102	45	12
P3DE1170	11.70	40	55	102	45	12
P3DE1180	11.80	40	55	102	45	12
P3DE1190	11.90	40	55	102	45	12
P3DE1200	12.00	40	55	102	45	12
P3DE1210	12.10	43	60	107	45	14
P3DE1220	12.20	43	60	107	40	14
P3DE1230	12.30	43	60	107	40	14
P3DE1240	12.40	43	60	107	40	14
P3DE1250	12.50	43	60	107	40	14
P3DE1260	12.60	43	60	107	40	14
P3DE1270	12.70	43	60	107	40	14
P3DE1280	12.80	43	60	107	40	14
P3DE1290	12.90	43	60	107	45	14
P3DE1300	13.00	43	60	107	45	14
P3DE1310	13.10	43	60	107	45	14
P3DE1320	13.20	43	60	107	45	14
P3DE1330	13.30	43	60	107	45	14
P3DE1340	13.40	43	60	107	45	14
P3DE1350	13.50	43	60	107	45	14
P3DE1360	13.60	43	60	107	45	14
P3DE1370	13.70	43	60	107	45	14
P3DE1380	13.80	43	60	107	45	14
P3DE1390	13.90	43	60	107	45	14
P3DE1400	14.00	43	60	107	45	14
P3DE1410	14.10	45	65	115	48	16

Part No	❄	d	L	L2	L4	L3	D
P3DI1140	❄	11.40	40	55	102	45	12
P3DI1150	❄	11.50	40	55	102	45	12
P3DI1160	❄	11.60	40	55	102	45	12
P3DI1170	❄	11.70	40	55	102	45	12
P3DI1180	❄	11.80	40	55	102	45	12
P3DI1190	❄	11.90	40	55	102	45	12
P3DI1200	❄	12.00	40	55	102	45	12
P3DI1210	❄	12.10	43	60	107	45	14
P3DI1220	❄	12.20	43	60	107	40	14
P3DI1230	❄	12.30	43	60	107	40	14
P3DI1240	❄	12.40	43	60	107	40	14
P3DI1250	❄	12.50	43	60	107	40	14
P3DI1260	❄	12.60	43	60	107	40	14
P3DI1270	❄	12.70	43	60	107	40	14
P3DI1280	❄	12.80	43	60	107	40	14
P3DI1290	❄	12.90	43	60	107	45	14
P3DI1300	❄	13.00	43	60	107	45	14
P3DI1310	❄	13.10	43	60	107	45	14
P3DI1320	❄	13.20	43	60	107	45	14
P3DI1330	❄	13.30	43	60	107	45	14
P3DI1340	❄	13.40	43	60	107	45	14
P3DI1350	❄	13.50	43	60	107	45	14
P3DI1360	❄	13.60	43	60	107	45	14
P3DI1370	❄	13.70	43	60	107	45	14
P3DI1380	❄	13.80	43	60	107	45	14
P3DI1390	❄	13.90	43	60	107	45	14
P3DI1400	❄	14.00	43	60	107	45	14
P3DI1410	❄	14.10	45	65	115	48	16

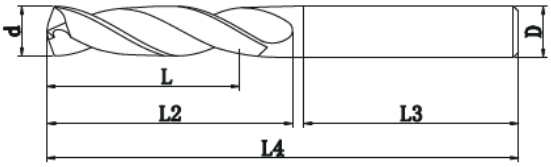
❄:Internal cooling

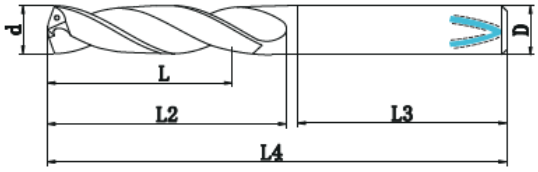
DIN6537

Dia.3.0-25mm 3XD

SHANK DIA. TOLERANCE

POINT ANGLE





Part No	d	L	L2	L4	L3	D
P3DE1420	14.20	45	65	115	48	16
P3DE1430	14.30	45	65	115	48	16
P3DE1440	14.40	45	65	115	48	16
P3DE1450	14.50	45	65	115	48	16
P3DE1460	14.60	45	65	115	48	16
P3DE1470	14.70	45	65	115	48	16
P3DE1480	14.80	45	65	115	48	16
P3DE1490	14.90	45	65	115	48	16
P3DE1500	15.00	45	65	115	48	16
P3DE1510	15.10	45	65	115	48	16
P3DE1520	15.20	45	65	115	48	16
P3DE1530	15.30	45	65	115	48	16
P3DE1540	15.40	45	65	115	48	16
P3DE1550	15.50	45	65	115	48	16
P3DE1560	15.60	45	65	115	48	16
P3DE1570	15.70	45	65	115	48	16
P3DE1580	15.80	45	65	115	48	16
P3DE1590	15.90	45	65	115	48	16
P3DE1600	16.00	45	65	115	48	16
P3DE1610	16.10	51	73	123	48	18
P3DE1620	16.20	51	73	123	48	18
P3DE1630	16.30	51	73	123	48	18
P3DE1640	16.40	51	73	123	48	18
P3DE1650	16.50	51	73	123	48	18
P3DE1660	16.60	51	73	123	48	18
P3DE1670	16.70	51	73	123	48	18
P3DE1680	16.80	51	73	123	48	18
P3DE1690	16.90	51	73	123	48	18

Part No	❄	d	L	L2	L4	L3	D
P3DI1420	❄	14.20	45	65	115	48	16
P3DI1430	❄	14.30	45	65	115	48	16
P3DI1440	❄	14.40	45	65	115	48	16
P3DI1450	❄	14.50	45	65	115	48	16
P3DI1460	❄	14.60	45	65	115	48	16
P3DI1470	❄	14.70	45	65	115	48	16
P3DI1480	❄	14.80	45	65	115	48	16
P3DI1490	❄	14.90	45	65	115	48	16
P3DI1500	❄	15.00	45	65	115	48	16
P3DI1510	❄	15.10	45	65	115	48	16
P3DI1520	❄	15.20	45	65	115	48	16
P3DI1530	❄	15.30	45	65	115	48	16
P3DI1540	❄	15.40	45	65	115	48	16
P3DI1550	❄	15.50	45	65	115	48	16
P3DI1560	❄	15.60	45	65	115	48	16
P3DI1570	❄	15.70	45	65	115	48	16
P3DI1580	❄	15.80	45	65	115	48	16
P3DI1590	❄	15.90	45	65	115	48	16
P3DI1600	❄	16.00	45	65	115	48	16
P3DI1610	❄	16.10	51	73	123	48	18
P3DI1620	❄	16.20	51	73	123	48	18
P3DI1630	❄	16.30	51	73	123	48	18
P3DI1640	❄	16.40	51	73	123	48	18
P3DI1650	❄	16.50	51	73	123	48	18
P3DI1660	❄	16.60	51	73	123	48	18
P3DI1670	❄	16.70	51	73	123	48	18
P3DI1680	❄	16.80	51	73	123	48	18
P3DI1690	❄	16.90	51	73	123	48	18

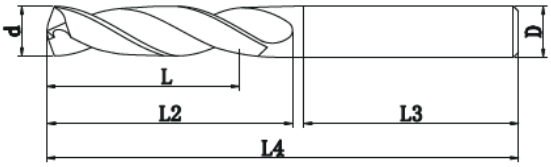
❄ :Internal cooling

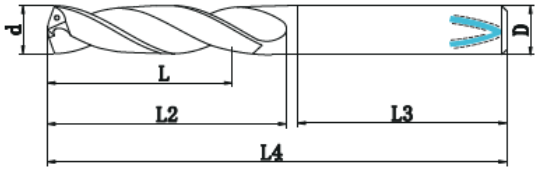
DIN6537

Dia.3.0-25mm 3XD

SHANK DIA. TOLERANCE

POINT ANGLE





Part No	d	L	L2	L4	L3	D
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P3DE1710	17.10	51	73	123	48	18
P3DE1720	17.20	51	73	123	48	18
P3DE1730	17.30	51	73	123	48	18
P3DE1740	17.40	51	73	123	48	18
P3DE1750	17.50	51	73	123	48	18
P3DE1760	17.60	51	73	123	48	18
P3DE1770	17.70	51	73	123	48	18
P3DE1780	17.80	51	73	123	48	18
P3DE1790	17.90	51	73	123	48	18
P3DE1800	18.00	51	73	123	48	18
P3DE1810	18.10	55	79	131	50	20
P3DE1820	18.20	55	79	131	50	20
P3DE1830	18.30	55	79	131	50	20
P3DE1840	18.40	55	79	131	50	20
P3DE1850	18.50	55	79	131	50	20
P3DE1860	18.60	55	79	131	50	20
P3DE1870	18.70	55	79	131	50	20
P3DE1880	18.80	55	79	131	50	20
P3DE1890	18.90	55	79	131	50	20
P3DE1900	19.00	55	79	131	50	20
P3DE1910	19.10	55	79	131	50	20
P3DE1920	19.20	55	79	131	50	20
P3DE1930	19.30	55	79	131	50	20
P3DE1940	19.40	55	79	131	50	20
P3DE1950	19.50	55	79	131	50	20
P3DE1960	19.60	55	79	131	50	20
P3DE1970	19.70	55	79	131	50	20

Part No	❄	d	L	L2	L4	L3	D
P3DI1700	❄	17.00	51	73	123	48	18
P3DI1710	❄	17.10	51	73	123	48	18
P3DI1720	❄	17.20	51	73	123	48	18
P3DI1730	❄	17.30	51	73	123	48	18
P3DI1740	❄	17.40	51	73	123	48	18
P3DI1750	❄	17.50	51	73	123	48	18
P3DI1760	❄	17.60	51	73	123	48	18
P3DI1770	❄	17.70	51	73	123	48	18
P3DI1780	❄	17.80	51	73	123	48	18
P3DI1790	❄	17.90	51	73	123	48	18
P3DI1800	❄	18.00	51	73	123	48	18
P3DI1810	❄	18.10	55	79	131	50	20
P3DI1820	❄	18.20	55	79	131	50	20
P3DI1830	❄	18.30	55	79	131	50	20
P3DI1840	❄	18.40	55	79	131	50	20
P3DI1850	❄	18.50	55	79	131	50	20
P3DI1860	❄	18.60	55	79	131	50	20
P3DI1870	❄	18.70	55	79	131	50	20
P3DI1880	❄	18.80	55	79	131	50	20
P3DI1890	❄	18.90	55	79	131	50	20
P3DI1900	❄	19.00	55	79	131	50	20
P3DI1910	❄	19.10	55	79	131	50	20
P3DI1920	❄	19.20	55	79	131	50	20
P3DI1930	❄	19.30	55	79	131	50	20
P3DI1940	❄	19.40	55	79	131	50	20
P3DI1950	❄	19.50	55	79	131	50	20
P3DI1960	❄	19.60	55	79	131	50	20
P3DI1970	❄	19.70	55	79	131	50	20

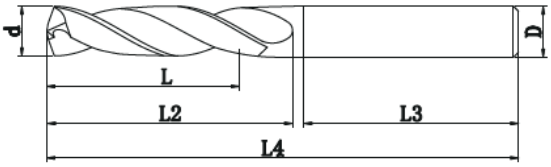
❄:Internal cooling

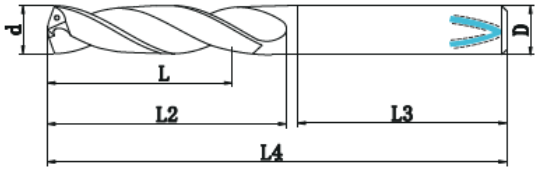
DIN6537

Dia.3.0-25mm 3XD

SHANK DIA. TOLERANCE

POINT ANGLE





Part No	d	L	L2	L4	L3	D
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P3DE1990	19.90	55	79	131	50	20
P3DE2000	20.00	55	79	131	50	20
P3DE2010	20.10	76	96	146	50	25
P3DE2020	20.20	76	96	146	50	25
P3DE2030	20.30	76	96	146	50	25
P3DE2040	20.40	76	96	146	50	25
P3DE2050	20.50	76	96	146	50	25
P3DE2060	20.60	76	96	146	50	25
P3DE2070	20.70	76	96	146	50	25
P3DE2080	20.80	76	96	146	50	25
P3DE2090	20.90	76	96	146	50	25
P3DE2100	21.00	76	96	146	50	25
P3DE2110	21.10	76	96	146	50	25
P3DE2120	21.20	76	96	146	50	25
P3DE2130	21.30	76	96	146	50	25
P3DE2140	21.40	76	96	146	50	25
P3DE2150	21.50	76	96	146	50	25
P3DE2160	21.60	76	96	146	50	25
P3DE2170	21.70	76	96	146	50	25
P3DE2180	21.80	76	96	146	50	25
P3DE2190	21.90	76	96	146	50	25
P3DE2200	22.00	76	96	146	50	25
P3DE2210	22.10	83	103	153	50	25
P3DE2220	22.20	83	103	153	50	25
P3DE2230	22.30	83	103	153	50	25
P3DE2240	22.40	83	103	153	50	25
P3DE2250	22.50	83	103	153	50	25

Part No	❄	d	L	L2	L4	L3	D
P3DI1980	❄	19.80	55	79	131	50	20
P3DI1990	❄	19.90	55	79	131	50	20
P3DI2000	❄	20.00	55	79	131	50	20
P3DI2010	❄	20.10	76	96	146	50	25
P3DI2020	❄	20.20	76	96	146	50	25
P3DI2030	❄	20.30	76	96	146	50	25
P3DI2040	❄	20.40	76	96	146	50	25
P3DI2050	❄	20.50	76	96	146	50	25
P3DI2060	❄	20.60	76	96	146	50	25
P3DI2070	❄	20.70	76	96	146	50	25
P3DI2080	❄	20.80	76	96	146	50	25
P3DI2090	❄	20.90	76	96	146	50	25
P3DI2100	❄	21.00	76	96	146	50	25
P3DI2110	❄	21.10	76	96	146	50	25
P3DI2120	❄	21.20	76	96	146	50	25
P3DI2130	❄	21.30	76	96	146	50	25
P3DI2140	❄	21.40	76	96	146	50	25
P3DI2150	❄	21.50	76	96	146	50	25
P3DI2160	❄	21.60	76	96	146	50	25
P3DI2170	❄	21.70	76	96	146	50	25
P3DI2180	❄	21.80	76	96	146	50	25
P3DI2190	❄	21.90	76	96	146	50	25
P3DI2200	❄	22.00	76	96	146	50	25
P3DI2210	❄	22.10	83	103	153	50	25
P3DI2220	❄	22.20	83	103	153	50	25
P3DI2230	❄	22.30	83	103	153	50	25
P3DI2240	❄	22.40	83	103	153	50	25
P3DI2250	❄	22.50	83	103	153	50	25

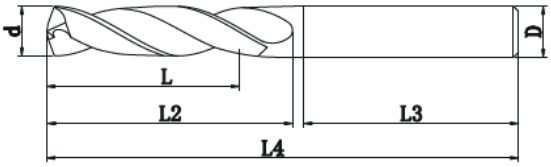
❄:Internal cooling

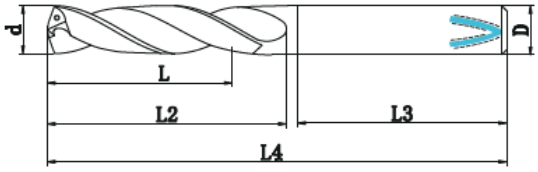
DIN6537

Dia.3.0-25mm 3XD

SHANK DIA. TOLERANCE

POINT ANGLE





Part No	d	L	L2	L4	L3	D
P3DE2260	22.60	83	103	153	50	20
P3DE2270	22.70	83	103	153	50	20
P3DE2280	22.80	83	103	153	50	20
P3DE2290	22.90	83	103	153	50	25
P3DE2300	23.00	83	103	153	50	25
P3DE2310	23.10	83	103	153	50	25
P3DE2320	23.20	83	103	153	50	25
P3DE2330	23.30	83	103	153	50	25
P3DE2340	23.40	83	103	153	50	25
P3DE2350	23.50	83	103	153	50	25
P3DE2360	23.60	83	103	153	50	25
P3DE2370	23.70	83	103	153	50	25
P3DE2380	23.80	83	103	153	50	25
P3DE2390	23.90	83	103	153	50	25
P3DE2400	24.00	83	103	153	50	25
P3DE2410	24.10	83	103	153	50	25
P3DE2420	24.20	83	103	153	50	25
P3DE2430	24.30	83	103	153	50	25
P3DE2440	24.40	83	103	153	50	25
P3DE2450	24.50	83	103	153	50	25
P3DE2460	24.60	83	103	153	50	25
P3DE2470	24.70	83	103	153	50	25
P3DE2480	24.80	83	103	153	50	25
P3DE2490	24.90	83	103	153	50	25
P3DE2500	25.00	83	103	153	50	25

Part No	❄	d	L	L2	L4	L3	D
P3DI2260	❄	22.60	83	103	153	50	20
P3DI2270	❄	22.70	83	103	153	50	20
P3DI2280	❄	22.80	83	103	153	50	20
P3DI2290	❄	22.90	83	103	153	50	25
P3DI2300	❄	23.00	83	103	153	50	25
P3DI2310	❄	23.10	83	103	153	50	25
P3DI2320	❄	23.20	83	103	153	50	25
P3DI2330	❄	23.30	83	103	153	50	25
P3DI2340	❄	23.40	83	103	153	50	25
P3DI2350	❄	23.50	83	103	153	50	25
P3DI2360	❄	23.60	83	103	153	50	25
P3DI2370	❄	23.70	83	103	153	50	25
P3DI2380	❄	23.80	83	103	153	50	25
P3DI2390	❄	23.90	83	103	153	50	25
P3DI2400	❄	24.00	83	103	153	50	25
P3DI2410	❄	24.10	83	103	153	50	25
P3DI2420	❄	24.20	83	103	153	50	25
P3DI2430	❄	24.30	83	103	153	50	25
P3DI2440	❄	24.40	83	103	153	50	25
P3DI2450	❄	24.50	83	103	153	50	25
P3DI2460	❄	24.60	83	103	153	50	25
P3DI2470	❄	24.70	83	103	153	50	25
P3DI2480	❄	24.80	83	103	153	50	25
P3DI2490	❄	24.90	83	103	153	50	25
P3DI2500	❄	25.00	83	103	153	50	25

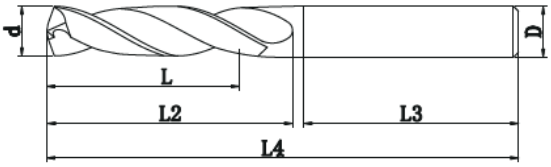
❄ :Internal cooling

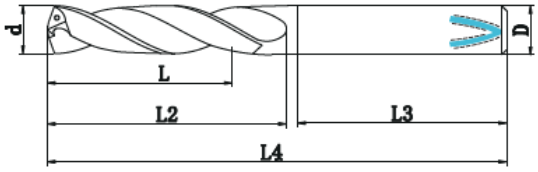
DIN6535

Dia.3.0-25mm 5XD

SHANK DIA. TOLERANCE

POINT ANGLE





Part No	d	L	L2	L4	L3	D
P5DE0300	3.0	23	28	66	36	6
P5DE0310	3.1	23	28	66	36	6
P5DE0320	3.2	23	28	66	36	6
P5DE0330	3.3	23	28	66	36	6
P5DE0340	3.4	23	28	66	36	6
P5DE0350	3.5	23	28	66	36	6
P5DE0360	3.6	23	28	66	36	6
P5DE0370	3.7	23	28	66	36	6
P5DE0380	3.8	29	36	74	36	6
P5DE0390	3.9	29	36	74	36	6
P5DE0400	4.0	29	36	74	36	6
P5DE0410	4.1	29	36	74	36	6
P5DE0420	4.2	29	36	74	36	6
P5DE0430	4.3	29	36	74	36	6
P5DE0440	4.4	29	36	74	36	6
P5DE0450	4.5	29	36	74	36	6
P5DE0460	4.6	29	36	74	36	6
P5DE0470	4.7	29	36	74	36	6
P5DE0480	4.8	35	44	82	36	6
P5DE0490	4.9	35	44	82	36	6
P5DE0500	5.0	35	44	82	36	6
P5DE0510	5.1	35	44	82	36	6
P5DE0520	5.2	35	44	82	36	6
P5DE0530	5.3	35	44	82	36	6
P5DE0540	5.4	35	44	82	36	6
P5DE0550	5.5	35	44	82	36	6
P5DE0560	5.6	35	44	82	36	6
P5DE0570	5.7	35	44	82	36	6

Part No	❄	d	L	L2	L4	L3	D
P5DI0300	❄	3.0	23	28	66	36	6
P5DI0310	❄	3.1	23	28	66	36	6
P5DI0320	❄	3.2	23	28	66	36	6
P5DI0330	❄	3.3	23	28	66	36	6
P5DI0340	❄	3.4	23	28	66	36	6
P5DI0350	❄	3.5	23	28	66	36	6
P5DI0360	❄	3.6	23	28	66	36	6
P5DI0370	❄	3.7	23	28	66	36	6
P5DI0380	❄	3.8	29	36	74	36	6
P5DI0390	❄	3.9	29	36	74	36	6
P5DI0400	❄	4.0	29	36	74	36	6
P5DI0410	❄	4.1	29	36	74	36	6
P5DI0420	❄	4.2	29	36	74	36	6
P5DI0430	❄	4.3	29	36	74	36	6
P5DI0440	❄	4.4	29	36	74	36	6
P5DI0450	❄	4.5	29	36	74	36	6
P5DI0460	❄	4.6	29	36	74	36	6
P5DI0470	❄	4.7	29	36	74	36	6
P5DI0480	❄	4.8	35	44	82	36	6
P5DI0490	❄	4.9	35	44	82	36	6
P5DI0500	❄	5.0	35	44	82	36	6
P5DI0510	❄	5.1	35	44	82	36	6
P5DI0520	❄	5.2	35	44	82	36	6
P5DI0530	❄	5.3	35	44	82	36	6
P5DI0540	❄	5.4	35	44	82	36	6
P5DI0550	❄	5.5	35	44	82	36	6
P5DI0560	❄	5.6	35	44	82	36	6
P5DI0570	❄	5.7	35	44	82	36	6

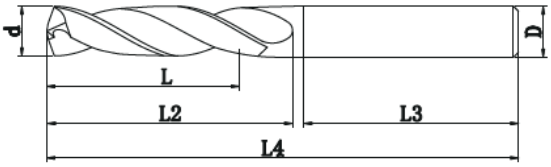
❄:Internal cooling

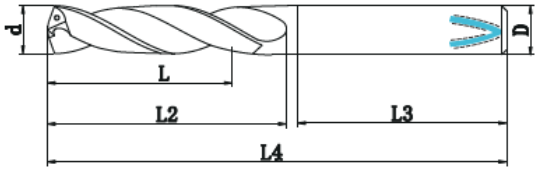
DIN6535

Dia.3.0-25mm 5XD

SHANK DIA. TOLERANCE

POINT ANGLE





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P5DE0590	5.9	35	44	82	36	6
P5DE0600	6.0	35	44	82	36	6
P5DE0610	6.1	43	53	91	36	8
P5DE0620	6.2	43	53	91	36	8
P5DE0630	6.3	43	53	91	36	8
P5DE0640	6.4	43	53	91	36	8
P5DE0650	6.5	43	53	91	36	8
P5DE0660	6.6	43	53	91	36	8
P5DE0670	6.7	43	53	91	36	8
P5DE0680	6.8	43	53	91	36	8
P5DE0690	6.9	43	53	91	36	8
P5DE0700	7.0	43	53	91	36	8
P5DE0710	7.1	43	53	91	36	8
P5DE0720	7.2	43	53	91	36	8
P5DE0730	7.3	43	53	91	36	8
P5DE0740	7.4	43	53	91	36	8
P5DE0750	7.5	43	53	91	36	8
P5DE0760	7.6	43	53	91	36	8
P5DE0770	7.7	43	53	91	36	8
P5DE0780	7.8	43	53	91	36	8
P5DE0790	7.9	43	53	91	36	8
P5DE0800	8.0	43	53	91	36	8
P5DE0810	8.1	49	61	103	40	10
P5DE0820	8.2	49	61	103	40	10
P5DE0830	8.3	49	61	103	40	10
P5DE0840	8.4	49	61	103	40	10
P5DE0850	8.5	49	61	103	40	10

Part No	❄	d	L	L2	L4	L3	D
P5DI0580	❄	5.8	35	44	82	36	6
P5DI0590	❄	5.9	35	44	82	36	6
P5DI0600	❄	6.0	35	44	82	36	6
P5DI0610	❄	6.1	43	53	91	36	8
P5DI0620	❄	6.2	43	53	91	36	8
P5DI0630	❄	6.3	43	53	91	36	8
P5DI0640	❄	6.4	43	53	91	36	8
P5DI0650	❄	6.5	43	53	91	36	8
P5DI0660	❄	6.6	43	53	91	36	8
P5DI0670	❄	6.7	43	53	91	36	8
P5DI0680	❄	6.8	43	53	91	36	8
P5DI0690	❄	6.9	43	53	91	36	8
P5DI0700	❄	7.0	43	53	91	36	8
P5DI0710	❄	7.1	43	53	91	36	8
P5DI0720	❄	7.2	43	53	91	36	8
P5DI0730	❄	7.3	43	53	91	36	8
P5DI0740	❄	7.4	43	53	91	36	8
P5DI0750	❄	7.5	43	53	91	36	8
P5DI0760	❄	7.6	43	53	91	36	8
P5DI0770	❄	7.7	43	53	91	36	8
P5DI0780	❄	7.8	43	53	91	36	8
P5DI0790	❄	7.9	43	53	91	36	8
P5DI0800	❄	8.0	43	53	91	36	8
P5DI0810	❄	8.1	49	61	103	40	10
P5DI0820	❄	8.2	49	61	103	40	10
P5DI0830	❄	8.3	49	61	103	40	10
P5DI0840	❄	8.4	49	61	103	40	10
P5DI0850	❄	8.5	49	61	103	40	10

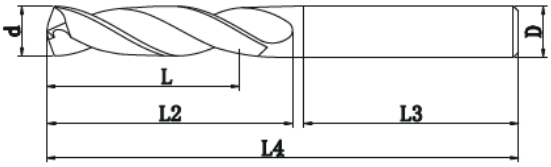
❄:Internal cooling

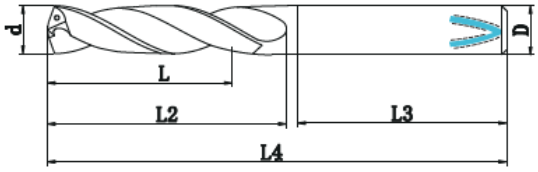
DIN6535

Dia.3.0-25mm 5XD

SHANK DIA. TOLERANCE

POINT ANGLE





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P5DE0870	8.7	49	61	103	40	10
P5DE0880	8.8	49	61	103	40	10
P5DE0890	8.9	49	61	103	40	10
P5DE0900	9.0	49	61	103	40	10
P5DE0910	9.1	49	61	103	40	10
P5DE0920	9.2	49	61	103	40	10
P5DE0930	9.3	49	61	103	40	10
P5DE0940	9.4	49	61	103	40	10
P5DE0950	9.5	49	61	103	40	10
P5DE0960	9.6	49	61	103	40	10
P5DE0970	9.7	49	61	103	40	10
P5DE0980	9.8	49	61	103	40	10
P5DE0990	9.9	49	61	103	40	10
P5DE1000	10.00	49	61	103	40	10
P5DE1010	10.10	56	71	118	45	12
P5DE1020	10.20	56	71	118	45	12
P5DE1030	10.30	56	71	118	45	12
P5DE1040	10.40	56	71	118	45	12
P5DE1050	10.50	56	71	118	45	12
P5DE1060	10.60	56	71	118	45	12
P5DE1070	10.70	56	71	118	45	12
P5DE1080	10.80	56	71	118	45	12
P5DE1090	10.90	56	71	118	45	12
P5DE1100	11.00	56	71	118	45	12
P5DE1110	11.10	56	71	118	45	12
P5DE1120	11.20	56	71	118	45	12
P5DE1130	11.30	56	71	118	45	12

Part No	❄	d	L	L2	L4	L3	D
P5DI0860	❄	8.6	49	61	103	40	10
P5DI0870	❄	8.7	49	61	103	40	10
P5DI0880	❄	8.8	49	61	103	40	10
P5DI0890	❄	8.9	49	61	103	40	10
P5DI0900	❄	9.0	49	61	103	40	10
P5DI0910	❄	9.1	49	61	103	40	10
P5DI0920	❄	9.2	49	61	103	40	10
P5DI0930	❄	9.3	49	61	103	40	10
P5DI0940	❄	9.4	49	61	103	40	10
P5DI0950	❄	9.5	49	61	103	40	10
P5DI0960	❄	9.6	49	61	103	40	10
P5DI0970	❄	9.7	49	61	103	40	10
P5DI0980	❄	9.8	49	61	103	40	10
P5DI0990	❄	9.9	49	61	103	40	10
P5DI1000	❄	10.00	49	61	103	40	10
P5DI1010	❄	10.10	56	71	118	45	12
P5DI1020	❄	10.20	56	71	118	45	12
P5DI1030	❄	10.30	56	71	118	45	12
P5DI1040	❄	10.40	56	71	118	45	12
P5DI1050	❄	10.50	56	71	118	45	12
P5DI1060	❄	10.60	56	71	118	45	12
P5DI1070	❄	10.70	56	71	118	45	12
P5DI1080	❄	10.80	56	71	118	45	12
P5DI1090	❄	10.90	56	71	118	45	12
P5DI1100	❄	11.00	56	71	118	45	12
P5DI1110	❄	11.10	56	71	118	45	12
P5DI1120	❄	11.20	56	71	118	45	12
P5DI1130	❄	11.30	56	71	118	45	12

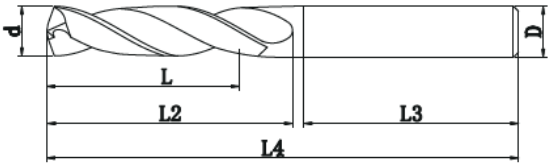
❄:Internal cooling

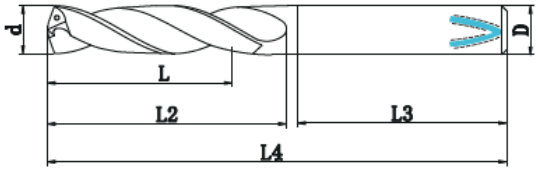
DIN6535

Dia.3.0-25mm 5XD

SHANK DIA. TOLERANCE

POINT ANGLE





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P5DE1150	11.50	56	71	118	45	12
P5DE1160	11.60	56	71	118	45	12
P5DE1170	11.70	56	71	118	45	12
P5DE1180	11.80	56	71	118	45	12
P5DE1190	11.90	56	71	118	45	12
P5DE1200	12.00	56	71	118	45	12
P5DE1210	12.10	60	77	124	45	14
P5DE1220	12.20	60	77	124	45	14
P5DE1230	12.30	60	77	124	45	14
P5DE1240	12.40	60	77	124	45	14
P5DE1250	12.50	60	77	124	45	14
P5DE1260	12.60	60	77	124	45	14
P5DE1270	12.70	60	77	124	45	14
P5DE1280	12.80	60	77	124	45	14
P5DE1290	12.90	60	77	124	45	14
P5DE1300	13.00	60	77	124	45	14
P5DE1310	13.10	60	77	124	45	14
P5DE1320	13.20	60	77	124	45	14
P5DE1330	13.30	60	77	124	45	14
P5DE1340	13.40	60	77	124	45	14
P5DE1350	13.50	60	77	124	45	14
P5DE1360	13.60	60	77	124	45	14
P5DE1370	13.70	60	77	124	45	14
P5DE1380	13.80	60	77	124	45	14
P5DE1390	13.90	60	77	124	45	14
P5DE1400	14.00	60	77	124	45	14
P5DE1410	14.10	63	83	133	45	16

Part No	❄	d	L	L2	L4	L3	D
P5DI1140	❄	11.40	56	71	118	45	12
P5DI1150	❄	11.50	56	71	118	45	12
P5DI1160	❄	11.60	56	71	118	45	12
P5DI1170	❄	11.70	56	71	118	45	12
P5DI1180	❄	11.80	56	71	118	45	12
P5DI1190	❄	11.90	56	71	118	45	12
P5DI1200	❄	12.00	56	71	118	45	12
P5DI1210	❄	12.10	60	77	124	45	14
P5DI1220	❄	12.20	60	77	124	45	14
P5DI1230	❄	12.30	60	77	124	45	14
P5DI1240	❄	12.40	60	77	124	45	14
P5DI1250	❄	12.50	60	77	124	45	14
P5DI1260	❄	12.60	60	77	124	45	14
P5DI1270	❄	12.70	60	77	124	45	14
P5DI1280	❄	12.80	60	77	124	45	14
P5DI1290	❄	12.90	60	77	124	45	14
P5DI1300	❄	13.00	60	77	124	45	14
P5DI1310	❄	13.10	60	77	124	45	14
P5DI1320	❄	13.20	60	77	124	45	14
P5DI1330	❄	13.30	60	77	124	45	14
P5DI1340	❄	13.40	60	77	124	45	14
P5DI1350	❄	13.50	60	77	124	45	14
P5DI1360	❄	13.60	60	77	124	45	14
P5DI1370	❄	13.70	60	77	124	45	14
P5DI1380	❄	13.80	60	77	124	45	14
P5DI1390	❄	13.90	60	77	124	45	14
P5DI1400	❄	14.00	60	77	124	45	14
P5DI1410	❄	14.10	63	83	133	45	16

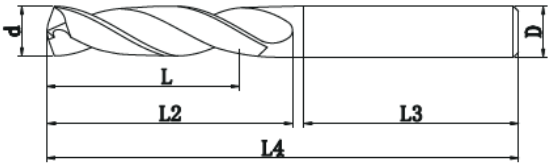
❄:Internal cooling

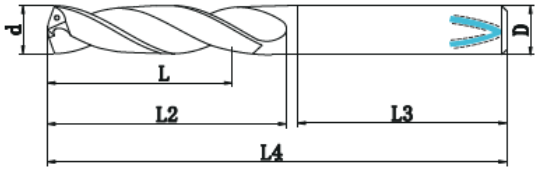
DIN6535

Dia.3.0-25mm 5XD

SHANK DIA. TOLERANCE

POINT ANGLE





Part No	d	L	L2	L4	L3	D
P5DE1420	14.20	63	83	133	48	16
P5DE1430	14.30	63	83	133	48	16
P5DE1440	14.40	63	83	133	48	16
P5DE1450	14.50	63	83	133	48	16
P5DE1460	14.60	63	83	133	48	16
P5DE1470	14.70	63	83	133	48	16
P5DE1480	14.80	63	83	133	48	16
P5DE1490	14.90	63	83	124	48	14
P5DE1500	15.00	63	83	133	48	16
P5DE1510	15.10	63	83	133	48	16
P5DE1520	15.20	63	83	133	48	16
P5DE1530	15.30	63	83	133	48	16
P5DE1540	15.40	63	83	133	48	16
P5DE1550	15.50	63	83	133	48	16
P5DE1560	15.60	63	83	133	48	16
P5DE1570	15.70	63	83	133	48	16
P5DE1580	15.80	63	83	133	48	16
P5DE1590	15.90	63	83	133	48	16
P5DE1600	16.00	63	83	133	48	16
P5DE1610	16.10	71	77	143	48	18
P5DE1620	16.20	71	77	143	48	18
P5DE1630	16.30	71	77	143	48	18
P5DE1640	16.40	71	77	143	48	18
P5DE1650	16.50	71	77	143	48	18
P5DE1660	16.60	71	77	143	48	18
P5DE1670	16.70	71	77	143	48	18
P5DE1680	16.80	71	77	143	48	18
P5DE1690	16.90	71	83	143	48	18

Part No	❄	d	L	L2	L4	L3	D
P5DI1420	❄	14.20	63	83	133	48	16
P5DI1430	❄	14.30	63	83	133	48	16
P5DI1440	❄	14.40	63	83	133	48	16
P5DI1450	❄	14.50	63	83	133	48	16
P5DI1460	❄	14.60	63	83	133	48	16
P5DI1470	❄	14.70	63	83	133	48	16
P5DI1480	❄	14.80	63	83	133	48	16
P5DI1490	❄	14.90	63	83	124	48	14
P5DI1500	❄	15.00	63	83	133	48	16
P5DI1510	❄	15.10	63	83	133	48	16
P5DI1520	❄	15.20	63	83	133	48	16
P5DI1530	❄	15.30	63	83	133	48	16
P5DI1540	❄	15.40	63	83	133	48	16
P5DI1550	❄	15.50	63	83	133	48	16
P5DI1560	❄	15.60	63	83	133	48	16
P5DI1570	❄	15.70	63	83	133	48	16
P5DI1580	❄	15.80	63	83	133	48	16
P5DI1590	❄	15.90	63	83	133	48	16
P5DI1600	❄	16.00	63	83	133	48	16
P5DI1610	❄	16.10	71	77	143	48	18
P5DI1620	❄	16.20	71	77	143	48	18
P5DI1630	❄	16.30	71	77	143	48	18
P5DI1640	❄	16.40	71	77	143	48	18
P5DI1650	❄	16.50	71	77	143	48	18
P5DI1660	❄	16.60	71	77	143	48	18
P5DI1670	❄	16.70	71	77	143	48	18
P5DI1680	❄	16.80	71	77	143	48	18
P5DI1690	❄	16.90	71	83	143	48	18

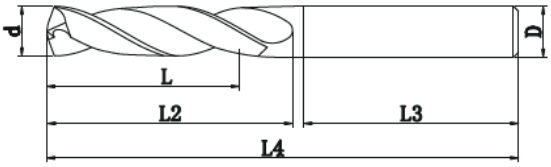
❄:Internal cooling

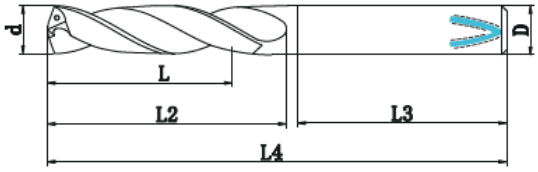
DIN6535

Dia.3.0-25mm 5XD

SHANK DIA. TOLERANCE

POINT ANGLE





Part No	d	L	L2	L4	L3	D
P5DE1700	17.00	71	93	133	48	16
P5DE1710	17.10	71	93	133	48	16
P5DE1720	17.20	71	93	133	48	16
P5DE1730	17.30	71	93	133	48	16
P5DE1740	17.40	71	93	133	48	16
P5DE1750	17.50	71	93	133	48	16
P5DE1760	17.60	71	93	133	48	16
P5DE1770	17.70	71	93	124	48	14
P5DE1780	17.80	71	93	133	48	16
P5DE1790	17.90	71	93	133	48	16
P5DE1800	18.00	71	93	133	48	16
P5DE1810	18.10	77	101	133	48	16
P5DE1820	18.20	77	101	133	48	16
P5DE1830	18.30	77	101	133	48	16
P5DE1840	18.40	77	101	133	48	16
P5DE1850	18.50	77	101	133	48	16
P5DE1860	18.60	77	101	133	48	16
P5DE1870	18.70	77	101	133	48	16
P5DE1880	18.80	77	101	133	48	16
P5DE1890	18.90	77	101	143	48	18
P5DE1900	19.00	77	101	143	48	18
P5DE1910	19.10	77	101	143	48	18
P5DE1920	19.20	77	101	143	48	18
P5DE1930	19.30	77	101	143	48	18
P5DE1940	19.40	77	101	143	48	18
P5DE1950	19.50	77	101	143	48	18
P5DE1960	19.60	77	101	143	48	18
P5DE1970	19.70	77	101	143	48	18

Part No	❄	d	L	L2	L4	L3	D
P5DI1700	❄	17.00	71	93	133	48	16
P5DI1710	❄	17.10	71	93	133	48	16
P5DI1720	❄	17.20	71	93	133	48	16
P5DI1730	❄	17.30	71	93	133	48	16
P5DI1740	❄	17.40	71	93	133	48	16
P5DI1750	❄	17.50	71	93	133	48	16
P5DI1760	❄	17.60	71	93	133	48	16
P5DI1770	❄	17.70	71	93	124	48	14
P5DI1780	❄	17.80	71	93	133	48	16
P5DI1790	❄	17.90	71	93	133	48	16
P5DI1800	❄	18.00	71	93	133	48	16
P5DI1810	❄	18.10	77	101	133	48	16
P5DI1820	❄	18.20	77	101	133	48	16
P5DI1830	❄	18.30	77	101	133	48	16
P5DI1840	❄	18.40	77	101	133	48	16
P5DI1850	❄	18.50	77	101	133	48	16
P5DI1860	❄	18.60	77	101	133	48	16
P5DI1870	❄	18.70	77	101	133	48	16
P5DI1880	❄	18.80	77	101	133	48	16
P5DI1890	❄	18.90	77	101	143	48	18
P5DI1900	❄	19.00	77	101	143	48	18
P5DI1910	❄	19.10	77	101	143	48	18
P5DI1920	❄	19.20	77	101	143	48	18
P5DI1930	❄	19.30	77	101	143	48	18
P5DI1940	❄	19.40	77	101	143	48	18
P5DI1950	❄	19.50	77	101	143	48	18
P5DI1960	❄	19.60	77	101	143	48	18
P5DI1970	❄	19.70	77	101	143	48	18

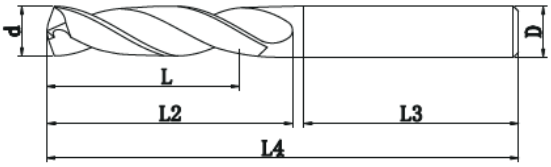
❄:Internal cooling

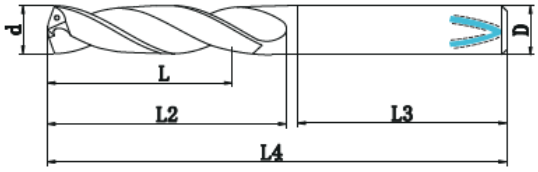
DIN6535

Dia.3.0-25mm 5XD

SHANK DIA. TOLERANCE

POINT ANGLE





Part No	d	L	L2	L4	L3	D
P5DE1980	19.80	77	101	153	50	20
P5DE1990	19.90	77	101	153	50	20
P5DE2000	20.00	77	101	153	50	20
P5DE2010	20.10	88	108	166	55	25
P5DE2020	20.20	88	108	166	55	25
P5DE2030	20.30	88	108	166	55	25
P5DE2040	20.40	88	108	166	55	25
P5DE2050	20.50	88	108	166	55	25
P5DE2060	20.60	88	108	166	55	25
P5DE2070	20.70	88	108	166	55	25
P5DE2080	20.80	88	108	166	55	25
P5DE2090	20.90	88	108	166	55	25
P5DE2100	21.00	88	108	166	55	25
P5DE2110	21.10	88	108	166	55	25
P5DE2120	21.20	88	108	166	55	25
P5DE2130	21.30	88	108	166	55	25
P5DE2140	21.40	88	108	166	55	25
P5DE2150	21.50	88	108	166	55	25
P5DE2160	21.60	88	108	166	55	25
P5DE2170	21.70	88	108	166	55	25
P5DE2180	21.80	88	108	166	55	25
P5DE2190	21.90	88	108	166	55	25
P5DE2200	22.00	88	108	166	55	25
P5DE2210	22.10	95	115	173	55	25
P5DE2220	22.20	95	115	173	55	25
P5DE2230	22.30	95	115	173	55	25
P5DE2240	22.40	95	115	173	55	25
P5DE2250	22.50	95	115	173	55	25

Part No	❄	d	L	L2	L4	L3	D
P5DI1980	❄	19.80	77	101	153	50	20
P5DI1990	❄	19.90	77	101	153	50	20
P5DI2000	❄	20.00	77	101	153	50	20
P5DI2010	❄	20.10	88	108	166	55	25
P5DI2020	❄	20.20	88	108	166	55	25
P5DI2030	❄	20.30	88	108	166	55	25
P5DI2040	❄	20.40	88	108	166	55	25
P5DI2050	❄	20.50	88	108	166	55	25
P5DI2060	❄	20.60	88	108	166	55	25
P5DI2070	❄	20.70	88	108	166	55	25
P5DI2080	❄	20.80	88	108	166	55	25
P5DI2090	❄	20.90	88	108	166	55	25
P5DI2100	❄	21.00	88	108	166	55	25
P5DI2110	❄	21.10	88	108	166	55	25
P5DI2120	❄	21.20	88	108	166	55	25
P5DI2130	❄	21.30	88	108	166	55	25
P5DI2140	❄	21.40	88	108	166	55	25
P5DI2150	❄	21.50	88	108	166	55	25
P5DI2160	❄	21.60	88	108	166	55	25
P5DI2170	❄	21.70	88	108	166	55	25
P5DI2180	❄	21.80	88	108	166	55	25
P5DI2190	❄	21.90	88	108	166	55	25
P5DI2200	❄	22.00	88	108	166	55	25
P5DI2210	❄	22.10	95	115	173	55	25
P5DI2220	❄	22.20	95	115	173	55	25
P5DI2230	❄	22.30	95	115	173	55	25
P5DI2240	❄	22.40	95	115	173	55	25
P5DI2250	❄	22.50	95	115	173	55	25

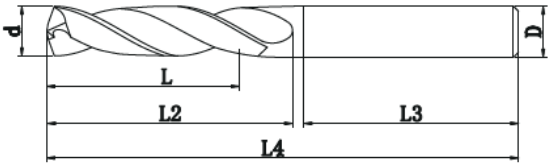
❄ :Internal cooling

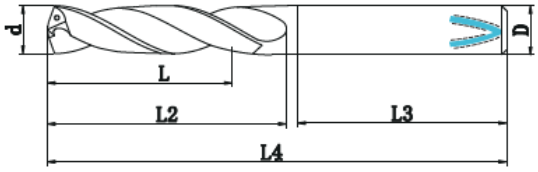
DIN6535

Dia.3.0-25mm 5XD

SHANK DIA. TOLERANCE

POINT ANGLE





Part No	d	L	L2	L4	L3	D
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P5DE2270	22.70	95	115	173	55	25
P5DE2280	22.80	95	115	173	55	25
P5DE2290	22.90	95	115	173	55	25
P5DE2300	23.00	95	115	173	55	25
P5DE2310	23.10	95	115	173	55	25
P5DE2320	23.20	95	115	173	55	25
P5DE2330	23.30	95	115	173	55	25
P5DE2340	23.40	95	115	173	55	25
P5DE2350	23.50	95	115	173	55	25
P5DE2360	23.60	95	115	173	55	25
P5DE2370	23.70	95	115	173	55	25
P5DE2380	23.80	95	115	173	55	25
P5DE2390	23.90	95	115	173	55	25
P5DE2400	24.00	95	115	173	55	25
P5DE2410	24.10	100	122	180	55	25
P5DE2420	24.20	100	122	180	55	25
P5DE2430	24.30	100	122	180	55	25
P5DE2440	24.40	100	122	180	55	25
P5DE2450	24.50	100	122	180	55	25
P5DE2460	24.60	100	122	180	55	25
P5DE2470	24.70	100	122	180	55	25
P5DE2480	24.80	100	122	180	55	25
P5DE2490	24.90	100	122	180	55	25
P5DE2500	25.00	100	122	180	55	25

Part No		d	L	L2	L4	L3	D
P5DI2260	❄	22.60	95	115	173	55	25
P5DI2270	❄	22.70	95	115	173	55	25
P5DI2280	❄	22.80	95	115	173	55	25
P5DI2290	❄	22.90	95	115	173	55	25
P5DI2300	❄	23.00	95	115	173	55	25
P5DI2310	❄	23.10	95	115	173	55	25
P5DI2320	❄	23.20	95	115	173	55	25
P5DI2330	❄	23.30	95	115	173	55	25
P5DI2340	❄	23.40	95	115	173	55	25
P5DI2350	❄	23.50	95	115	173	55	25
P5DI2360	❄	23.60	95	115	173	55	25
P5DI2370	❄	23.70	95	115	173	55	25
P5DI2380	❄	23.80	95	115	173	55	25
P5DI2390	❄	23.90	95	115	173	55	25
P5DI2400	❄	24.00	95	115	173	55	25
P5DI2410	❄	24.10	100	122	180	55	25
P5DI2420	❄	24.20	100	122	180	55	25
P5DI2430	❄	24.30	100	122	180	55	25
P5DI2440	❄	24.40	100	122	180	55	25
P5DI2450	❄	24.50	100	122	180	55	25
P5DI2460	❄	24.60	100	122	180	55	25
P5DI2470	❄	24.70	100	122	180	55	25
P5DI2480	❄	24.80	100	122	180	55	25
P5DI2490	❄	24.90	100	122	180	55	25
P5DI2500	❄	25.00	100	122	180	55	25

❄ :Internal cooling

PDS SERIES

With coolant supply

MAX 50D

Advantages:

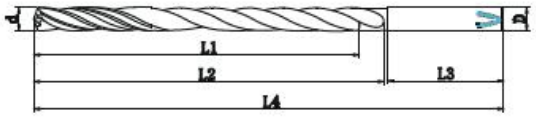
- Double margin design,stability for deep hole drilling.
- Fine polishing chip flute,excellent in chip removal,sufficient cooling.
- Strong cutting edge,Improve process reliability

PDS SERIES

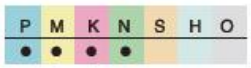
With coolant supply

SHANK DIA. TOLERANCE

POINT ANGLE



8D



Part No	❄	d	L1	L2	L4	L3	D
P8DI0060	❄	0.6	8	10	50	25	3
P8DI0070	❄	0.7	8	10	50	25	3
P8DI0075	❄	0.75	8.5	10	50	25	3
P8DI0080	❄	0.80	8.5	10	50	25	3
P8DI0088	❄	0.88	8.5	10	50	25	3
P8DI0090	❄	0.90	8.5	10	50	25	3
P8DI0095	❄	0.95	8.5	10	50	25	3
P8DI0100	❄	1.00	12	15	55	36	3
P8DI0105	❄	1.05	12	15	55	36	3
P8DI0108	❄	1.08	12	15	55	36	3
P8DI0110	❄	1.10	12	15	55	36	3
P8DI0115	❄	1.15	12	15	55	36	3
P8DI0120	❄	1.20	12	15	55	36	3
P8DI0125	❄	1.25	12	15	55	36	3
P8DI0135	❄	1.35	12	15	55	36	3
P8DI0140	❄	1.40	12	15	55	36	3
P8DI0145	❄	1.45	12	15	55	36	3
P8DI0150	❄	1.50	17	20	68	36	3
P8DI0155	❄	1.55	17	20	68	36	3
P8DI0160	❄	1.60	17	20	68	36	3
P8DI0165	❄	1.65	17	20	68	36	3
P8DI0170	❄	1.70	17	20	68	36	3
P8DI0175	❄	1.75	17	20	68	36	3
P8DI0180	❄	1.80	17	20	68	36	3
P8DI0182	❄	1.82	17	20	68	36	3
P5DI0185	❄	1.85	17	20	68	36	3
P5DI0190	❄	1.90	17	20	68	36	3
P5DI0195	❄	1.95	17	20	68	36	3

Part No	❄	d	L1	L2	L4	L3	D
P5DI0200	❄	2.00	20	23	63	36	3
P5DI0205	❄	2.05	20	24	63	36	3
P5DI0210	❄	2.10	20	24	63	36	3
P5DI0215	❄	2.15	21	25	63	36	3
P5DI0220	❄	2.20	21	25	63	36	3
P5DI0225	❄	2.25	22	26	67	36	3
P5DI0230	❄	2.30	22	26	67	36	3
P5DI0235	❄	2.35	24	28	67	36	3
P5DI0240	❄	2.40	24	28	67	36	3
P5DI0245	❄	2.45	25	29	67	36	3
P5DI0250	❄	2.50	25	29	67	36	3
P5DI0255	❄	2.55	26	30	71	36	3
P5DI0260	❄	2.60	26	30	71	36	3
P5DI0265	❄	2.65	26	31	71	36	3
P5DI0270	❄	2.70	26	31	71	36	3
P5DI0275	❄	2.75	27	32	71	36	3
P5DI0280	❄	2.80	27	32	71	36	3
P5DI0285	❄	2.85	28	33	71	36	3
P5DI0290	❄	2.90	28	33	71	36	3
P5DI0295	❄	2.95	29	34	71	36	3

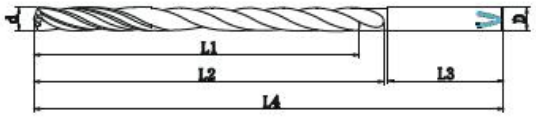
❄ :Internal cooling

PDS SERIES

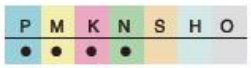
With coolant supply

SHANK DIA. TOLERANCE

POINT ANGLE



8D



Part No	❄	d	L1	L2	L4	L3	D
P8DI0300	❄	3.0	28	34	80	36	6
P8DI0310	❄	3.1	28	34	80	36	6
P8DI0320	❄	3.2	28	34	80	36	6
P8DI0330	❄	3.3	28	34	80	36	6
P8DI0340	❄	3.4	28	34	80	36	6
P8DI0350	❄	3.5	28	34	80	36	6
P8DI0360	❄	3.6	28	34	80	36	6
P8DI0370	❄	3.7	28	34	80	36	6
P8DI0380	❄	3.8	37	45	85	36	6
P8DI0390	❄	3.9	37	45	85	36	6
P8DI0400	❄	4.0	37	45	85	36	6
P8DI0410	❄	4.1	37	45	85	36	6
P8DI0420	❄	4.2	37	45	85	36	6
P8DI0430	❄	4.3	37	45	85	36	6
P8DI0440	❄	4.4	37	45	85	36	6
P8DI0450	❄	4.5	37	45	85	36	6
P8DI0460	❄	4.6	37	45	85	36	6
P8DI0470	❄	4.7	37	45	85	36	6
P8DI0480	❄	4.8	48	57	97	36	6
P8DI0490	❄	4.9	48	57	97	36	6
P8DI0500	❄	50	48	57	97	36	6
P8DI0510	❄	5.1	48	57	97	36	6
P8DI0520	❄	5.2	48	57	97	36	6
P8DI0530	❄	5.3	48	57	97	36	6
P8DI0540	❄	5.4	48	57	97	36	6
P5DI0550	❄	5.5	48	57	97	36	6
P5DI0560	❄	5.6	48	57	97	36	6
P5DI0570	❄	5.7	48	57	97	36	6

Part No	❄	d	L1	L2	L4	L3	D
P5DI0580	❄	5.8	48	57	97	36	6
P5DI0590	❄	5.9	48	57	97	36	6
P5DI0600	❄	6.0	48	57	97	36	6
P5DI0610	❄	6.1	55	66	106	36	8
P5DI0620	❄	6.2	55	66	106	36	8
P5DI0630	❄	6.3	55	66	106	36	8
P5DI0640	❄	6.4	55	66	106	36	8
P5DI0650	❄	6.5	55	66	106	36	8
P5DI0660	❄	6.6	55	66	106	36	8
P5DI0670	❄	6.7	55	66	106	36	8
P5DI0680	❄	6.8	55	66	106	36	8
P5DI0690	❄	6.9	55	66	106	36	8
P5DI0700	❄	7.0	55	66	106	36	8
P5DI0710	❄	7.1	64	76	116	36	8
P5DI0720	❄	7.2	64	76	116	36	8
P5DI0730	❄	7.3	64	76	116	36	8
P5DI0740	❄	7.4	64	76	116	36	8
P5DI0750	❄	7.5	64	76	116	36	8
P5DI0760	❄	7.6	64	76	116	36	8
P5DI0770	❄	7.7	64	76	116	36	8
P5DI0780	❄	7.8	64	76	116	36	8
P5DI0790	❄	7.9	64	76	116	36	8
P5DI0800	❄	8.0	64	76	116	36	8
P5DI0810	❄	8.1	80	95	139	40	10
P5DI0820	❄	82	80	95	139	40	10
P5DI0830	❄	8.3	80	95	139	40	10
P5DI0840	❄	8.4	80	95	139	40	10
P5DI0850	❄	8.5	80	95	139	40	10

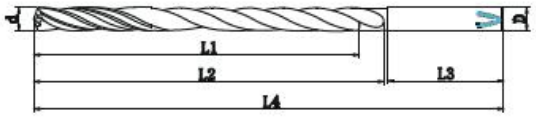
❄ :Internal cooling

PDS SERIES

With coolant supply

SHANK DIA. TOLERANCE

POINT ANGLE



8D

P M K N S H O

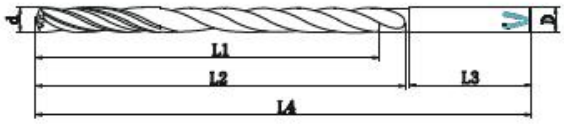
Part No	❄	d	L1	L2	L4	L3	D
P8DI0860	❄	8.6	80	34	80	36	6
P8DI0870	❄	8.7	80	34	80	36	6
P8DI0880	❄	8.8	80	34	80	36	6
P8DI0890	❄	8.9	80	34	80	36	6
P8DI0900	❄	9.0	80	34	80	36	6
P8DI0910	❄	9.1	80	34	80	36	6
P8DI0920	❄	9.2	80	34	80	36	6
P8DI0930	❄	9.3	80	34	80	36	6
P8DI0940	❄	9.4	80	45	85	36	6
P8DI0950	❄	9.5	80	45	85	36	6
P8DI0960	❄	9.6	80	45	85	36	6
P8DI0970	❄	9.7	80	45	85	36	6
P8DI0980	❄	9.8	80	45	85	36	6
P8DI0990	❄	9.9	80	45	85	36	6
P8DI1000	❄	10.0	80	45	85	36	6
P8DI1010	❄	10.1	96	45	85	36	6
P8DI1020	❄	10.2	96	45	85	36	6
P8DI1030	❄	10.3	96	45	85	36	6
P8DI1040	❄	10.4	96	57	97	36	6
P8DI1050	❄	10.5	96	57	97	36	6
P8DI1060	❄	10.6	96	57	97	36	6
P8DI1070	❄	10.7	96	57	97	36	6
P8DI1080	❄	10.8	96	57	97	36	6
P8DI1090	❄	10.9	96	57	97	36	6
P8DI1100	❄	11.0	96	57	97	36	6
P5DI1110	❄	11.1	96	57	97	36	6
P5DI1120	❄	11.2	96	57	97	36	6
P5DI1130	❄	11.3	96	57	97	36	6

Part No	❄	d	L1	L2	L4	L3	D
P5DI1140	❄	11.4	96	57	97	36	6
P5DI1150	❄	11.5	96	57	97	36	6
P5DI1160	❄	11.6	96	57	97	36	6
P5DI1170	❄	11.7	96	66	106	36	8
P5DI1180	❄	11.8	96	66	106	36	8
P5DI1190	❄	11.9	96	66	106	36	8
P5DI1200	❄	12.0	96	66	106	36	8
P5DI1250	❄	12.5	119	66	106	36	8
P5DI1270	❄	12.7	119	66	106	36	8
P5DI1300	❄	13.0	119	66	106	36	8
P5DI1350	❄	13.5	119	66	106	36	8
P5DI1400	❄	14.0	119	66	106	36	8
P5DI1450	❄	14.5	136	66	106	36	8
P5DI1500	❄	15.0	136	76	116	36	8
P5DI1550	❄	15.5	136	76	116	36	8
P5DI1600	❄	16.0	136	76	116	36	8
P5DI1650	❄	16.5	153	76	116	36	8
P5DI1700	❄	17.0	153	76	116	36	8
P5DI1750	❄	17.5	153	76	116	36	8
P5DI1800	❄	18.0	153	76	116	36	8
P5DI1850	❄	18.5	170	76	116	36	8
P5DI1900	❄	19.0	170	76	116	36	8
P5DI1950	❄	19.5	170	76	116	36	8
P5DI2000	❄	20.0	170	95	139	40	10

❄ :Internal cooling

PDS SERIES

With coolant supply



12D

P	M	K	N	S	H	O
●	●	●	●			

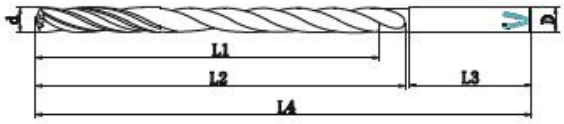
Part No	❄	d	L1	L2	L4	L3	D
P12DI0060	❄	0.6	10	13	180	40	10
P12DI0070	❄	0.7	10	13	180	40	10
P12DI0080	❄	0.8	13	16	180	40	10
P12DI0090	❄	0.9	13	16	180	40	10
P12DI0100	❄	1.0	15	18	180	40	10
P12DI0110	❄	1.1	15	18	180	40	10
P12DI0120	❄	1.2	18	21	180	40	10
P12DI0130	❄	1.3	18	21	180	40	10
P12DI0140	❄	1.4	18	21	180	40	10
P12DI0150	❄	1.5	22	25	180	40	10
P12DI0160	❄	1.6	22	25	180	40	10
P12DI0170	❄	1.7	25	28	180	40	10
P12DI0180	❄	1.8	25	28	180	40	10
P12DI0190	❄	1.9	25	28	180	40	10
P12DI0200	❄	2.0	28	31	180	40	10
P12DI0210	❄	2.1	29	33	206	45	12
P12DI0220	❄	2.2	30	34	206	45	12
P12DI0230	❄	2.3	32	36	206	45	12
P12DI0240	❄	2.4	33	37	206	45	12
P12DI0250	❄	2.5	35	39	206	45	12
P12DI0260	❄	2.6	36	40	206	45	12
P12DI0270	❄	2.7	37	42	206	45	12
P12DI0280	❄	2.8	38	43	206	45	12
P12DI0290	❄	2.9	40	45	206	45	12
P12DI0300	❄	3.0	48	54	92	36	6
P12DI0310	❄	3.1	48	54	92	36	6
P12DI0320	❄	3.2	48	54	92	36	6
P12DI0330	❄	3.3	48	54	92	36	6

Part No	❄	d	L1	L2	L4	L3	D
P12DI0340	❄	3.4	48	54	92	36	6
P12DI0350	❄	3.5	48	54	92	36	6
P12DI0360	❄	3.6	48	54	92	36	6
P12DI0370	❄	3.7	48	54	92	36	6
P12DI0380	❄	3.8	56	64	102	36	6
P12DI0390	❄	3.9	56	64	102	36	6
P12DI0400	❄	4.0	56	64	102	36	6
P12DI0410	❄	4.1	56	64	102	36	6
P12DI0420	❄	4.2	56	64	102	36	6
P12DI0430	❄	4.3	56	64	102	36	6
P12DI0440	❄	4.4	56	64	102	36	6
P12DI0450	❄	4.5	56	64	102	36	6
P12DI0460	❄	4.6	56	64	102	36	6
P12DI0470	❄	4.7	56	64	102	36	6
P12DI0480	❄	4.8	74	83	121	36	6
P12DI0490	❄	4.9	74	83	121	36	6
P12DI0500	❄	5.0	74	83	121	36	6
P12DI0510	❄	5.1	74	83	121	36	6
P12DI0520	❄	5.2	74	83	121	36	6
P12DI0530	❄	5.3	74	83	121	36	6
P12DI0540	❄	5.4	74	83	121	36	6
P12DI0550	❄	5.5	74	83	121	36	6
P12DI0560	❄	5.6	74	83	121	36	6
P12DI0570	❄	5.7	74	83	121	36	6
P12DI0580	❄	5.8	74	83	121	36	6
P12DI0590	❄	5.9	74	83	121	36	6
P12DI0600	❄	6.0	74	83	121	36	6
P12DI0610	❄	6.1	98	110	148	36	8

❄:Internal cooling

PDS SERIES

With coolant supply



12D

P	M	K	N	S	H	O
●	●	●	●			

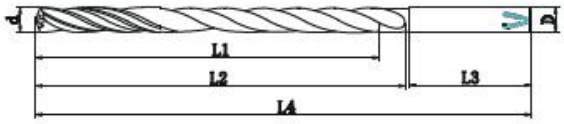
Part No	❄	d	L1	L2	L4	L3	D
P12DI0620	❄	6.2	98	110	148	36	8
P12DI0630	❄	6.3	98	110	148	36	8
P12DI0640	❄	6.4	98	110	148	36	8
P12DI0650	❄	6.5	98	110	148	36	8
P12DI0660	❄	6.6	98	110	148	36	8
P12DI0670	❄	6.7	98	110	148	36	8
P12DI0680	❄	6.8	98	110	148	36	8
P12DI0690	❄	6.9	98	110	148	36	8
P12DI0700	❄	7.0	98	110	148	36	8
P12DI0710	❄	7.1	98	110	148	36	8
P12DI0720	❄	7.2	98	110	148	36	8
P12DI0730	❄	7.3	98	110	148	36	8
P12DI0740	❄	7.4	98	110	148	36	8
P12DI0750	❄	7.5	98	110	148	36	8
P12DI0760	❄	7.6	98	110	148	36	8
P12DI0770	❄	7.7	98	110	148	36	8
P12DI0780	❄	7.8	98	110	148	36	8
P12DI0790	❄	7.9	98	110	148	36	8
P12DI0800	❄	8.0	98	110	148	36	8
P12DI0810	❄	8.1	123	138	180	40	10
P12DI0820	❄	8.2	123	138	180	40	10
P12DI0830	❄	8.3	123	138	180	40	10
P12DI0840	❄	8.4	123	138	180	40	10
P12DI0850	❄	8.5	123	138	180	40	10
P12DI0860	❄	8.6	123	138	180	40	10
P12DI0870	❄	8.7	123	138	180	40	10
P12DI0880	❄	8.8	123	138	180	40	10
P12DI0890	❄	8.9	123	138	180	40	10

Part No	❄	d	L1	L2	L4	L3	D
P12DI0900	❄	9.0	123	138	180	40	10
P12DI0910	❄	9.1	123	138	180	40	10
P12DI0920	❄	9.2	123	138	180	40	10
P12DI0930	❄	9.3	123	138	180	40	10
P12DI0940	❄	9.4	123	138	180	40	10
P12DI0950	❄	9.5	123	138	180	40	10
P12DI0960	❄	9.6	123	138	180	40	10
P12DI0970	❄	9.7	123	138	180	40	10
P12DI0980	❄	9.8	123	138	180	40	10
P12DI0990	❄	9.9	123	138	180	40	10
P12DI1000	❄	10.00	123	138	180	40	10
P12DI1010	❄	10.10	140	158	206	45	12
P12DI1020	❄	10.20	140	158	206	45	12
P12DI1030	❄	10.30	140	158	206	45	12
P12DI1040	❄	10.40	140	158	206	45	12
P12DI1050	❄	10.50	140	158	206	45	12
P12DI1060	❄	10.60	140	158	206	45	12
P12DI1070	❄	10.70	140	158	206	45	12
P12DI1080	❄	10.80	140	158	206	45	12
P12DI1090	❄	10.90	140	158	206	45	12
P12DI1100	❄	11.00	140	158	206	45	12
P12DI1110	❄	11.10	140	158	206	45	12
P12DI1120	❄	11.20	140	158	206	45	12
P12DI 1130	❄	11.30	140	158	206	45	12
P12DI1140	❄	11.40	140	158	206	45	12
P12DI1150	❄	11.50	140	158	206	45	12
P12DI1160	❄	11.60	140	158	206	45	12
P12DI1170	❄	11.70	140	158	206	45	12

❄ :Internal cooling

PDS SERIES

With coolant supply



12D

P	M	K	N	S	H	O
●	●	●	●			

Part No	❄	d	L1	L2	L4	L3	D
P12DI1180	❄	11.80	140	158	206	45	12
P12DI1190	❄	11.90	140	158	206	45	12
P12DI1200	❄	12.00	140	158	206	45	12
P12DI1210	❄	12.10	168	182	230	45	14
P12DI1220	❄	12.20	168	182	230	40	14
P12DI1230	❄	12.30	168	182	230	40	14
P12DI1240	❄	12.40	168	182	230	40	14
P12DI1250	❄	12.50	168	182	230	40	14
P12DI1260	❄	12.60	168	182	230	40	14
P12DI1270	❄	12.70	168	182	230	40	14
P12DI1280	❄	12.80	168	182	230	40	14
P12DI1290	❄	12.90	168	182	230	45	14
P12DI1300	❄	13.00	168	182	230	45	14
P12DI1350	❄	13.50	168	182	230	45	14
P12DI1400	❄	14.00	168	182	230	45	14
P12DI1450	❄	14.50	168	208	260	48	16
P12DI1500	❄	15.00	168	208	260	48	16
P12DI1550	❄	15.50	168	208	260	48	16
P12DI1600	❄	16.00	168	208	260	48	16
P12DI1650	❄	16.50	216	234	285	48	18
P12DI1700	❄	17.00	216	234	285	48	18
P12DI1750	❄	17.50	216	234	285	48	18
P12DI1800	❄	18.00	216	234	285	48	18
P12DI1850	❄	18.50	238	258	310	50	20
P12DI1900	❄	19.00	238	258	310	50	20
P12DI1950	❄	19.50	238	258	310	50	20
P12DI2000	❄	20.00	238	258	310	50	20

❄ :Internal cooling

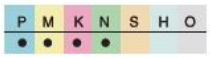
PDS SERIES

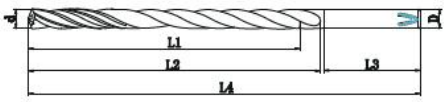
With coolant supply

SHANK DIA. TOLERANCE

POINT ANGLE

16D





20D

Part No	❄	d	L1	L2	L4	L3	D
P16DI0060	❄	0.6	13	16	60	36	3
P16DI0070	❄	0.7	13	16	60	36	3
P16DI0080	❄	0.8	17	20	65	36	3
P16DI0090	❄	0.9	17	20	65	36	3
P16DI0100	❄	1.0	20	23	65	36	3
P16DI0110	❄	1.1	20	23	65	36	3
P16DI0120	❄	1.2	24	27	70	36	3
P16DI0130	❄	1.3	24	27	70	36	3
P16DI0140	❄	1.4	24	27	70	36	3
P16DI0150	❄	1.5	28	31	75	36	3
P16DI0160	❄	1.6	28	31	75	36	3
P16DI0170	❄	1.7	32	35	75	36	3
P16DI0180	❄	1.8	32	35	75	36	3
P16DI0190	❄	1.9	32	35	75	36	3
P16DI0200	❄	2.0	36	39	81	36	3
P16DI0210	❄	2.1	37	41	81	36	3
P16DI0220	❄	2.2	39	43	81	36	3
P16DI0230	❄	2.3	39	45	87	36	3
P16DI0240	❄	2.4	43	47	87	36	3
P16DI0250	❄	2.5	45	49	87	36	3
P16DI0260	❄	2.6	47	51	95	36	3
P16DI0270	❄	2.7	48	53	95	36	3
P16DI0280	❄	2.8	50	55	95	36	3
P16DI0290	❄	2.9	52	57	95	36	3

Part No	❄	d	L1	L2	L4	L3	D
P20DI0060	❄	0.6	16	19	60	36	3
P20DI0070	❄	0.7	16	19	60	36	3
P20DI0080	❄	0.8	20	23	65	36	3
P20DI0090	❄	0.9	20	23	65	36	3
P20DI0100	❄	1.0	24	27	70	36	3
P20DI0110	❄	1.1	24	27	70	36	3
P20DI0120	❄	1.2	28	30	70	36	3
P20DI0130	❄	1.3	28	30	70	36	3
P20DI0140	❄	1.4	28	30	70	36	3
P20DI0150	❄	1.5	34	37	80	36	3
P20DI0160	❄	1.6	34	37	80	36	3
P20DI0170	❄	1.7	40	43	85	36	3
P20DI0180	❄	1.8	40	43	85	36	3
P20DI0190	❄	1.9	40	43	85	36	3
P20DI0200	❄	2.0	44	47	90	36	3
P20DI0210	❄	2.1	45	49	90	36	3
P20DI0220	❄	2.2	48	52	90	36	3
P20DI0230	❄	2.3	50	54	97	36	3
P20DI0240	❄	2.4	52	56	97	36	3
P20DI0250	❄	2.5	55	59	97	36	3
P20DI0260	❄	2.6	57	61	107	36	3
P20DI0270	❄	2.7	58	63	107	36	3
P20DI0280	❄	2.8	61	66	107	36	3
P20DI0290	❄	2.9	63	68	107	36	3

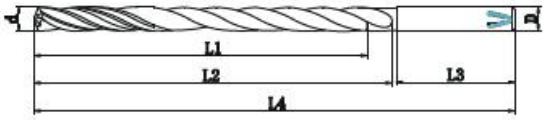
❄ :Internal cooling

PDS SERIES

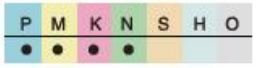
With coolant supply

SHANK DIA. TOLERANCE

POINT ANGLE



16D



20D

Part No	❄	d	L1	L2	L4	L3	D
P16DI0300	❄	3.0	52	57	100	36	6
P16DI0350	❄	3.5	72	78	120	36	6
P16DI0400	❄	4.0	72	78	120	36	6
P16DI0450	❄	4.5	92	100	140	36	6
P16DI0480	❄	4.8	92	100	140	36	6
P16DI0500	❄	5.0	92	100	140	36	6
P16DI0550	❄	5.5	101	110	150	36	6
P16DI0580	❄	5.8	111	120	160	36	6
P16DI0600	❄	6.0	111	120	175	36	6
P16DI0610	❄	6.1	124	135	175	36	8
P16DI0650	❄	6.5	124	135	175	36	8
P16DI0680	❄	6.8	124	135	175	36	8
P16DI0700	❄	7.0	124	135	175	36	8
P16DI0740	❄	7.4	140	152	192	36	8
P16DI0750	❄	7.5	140	152	192	36	8
P16DI0800	❄	8.0	140	152	192	36	8
P16DI0830	❄	8.3	148	162	206	40	10
P16DI0850	❄	8.5	148	162	206	40	10
P16DI0900	❄	9.0	148	162	206	40	10
P16DI0980	❄	9.8	165	180	224	40	10
P16DI1000	❄	10.0	165	180	224	40	10
P16DI1020	❄	10.2	181	198	247	45	12
P16DI1100	❄	11.0	181	198	247	45	12
P16DI1150	❄	11.5	198	216	265	45	12
P16DI1180	❄	11.8	198	216	265	45	12
P16DI1200	❄	12.0	198	216	265	45	12
P16DI1270	❄	12.7	238	252	301	45	14
P16DI1300	❄	13.0	238	252	301	45	14
P16DI1400	❄	14.0	238	252	301	45	14
P16DI1500	❄	15.0	272	288	340	48	16
P16DI1600	❄	16.0	272	288	340	48	16

Part No	❄	d	L1	L2	L4	L3	D
P20DI0300	❄	3.0	60	65	110	36	6
P20DI0350	❄	3.5	86	92	135	36	6
P20DI0400	❄	4.0	86	92	135	36	6
P20DI0450	❄	4.5	110	118	160	36	6
P20DI0480	❄	4.8	110	118	160	36	6
P20DI0500	❄	5.0	110	118	160	36	6
P20DI0550	❄	5.5	123	132	175	36	6
P20DI0580	❄	5.8	135	144	185	36	6
P20DI0600	❄	6.0	135	144	185	36	6
P20DI0610	❄	6.1	151	162	200	36	8
P20DI0650	❄	6.5	151	162	200	36	8
P20DI0680	❄	6.8	151	162	200	36	8
P20DI0700	❄	7.0	151	162	200	36	8
P20DI0740	❄	7.4	172	184	222	36	8
P20DI0750	❄	7.5	172	184	222	36	8
P20DI0800	❄	8.0	172	184	222	36	8
P20DI0830	❄	8.3	184	198	240	40	10
P20DI0850	❄	8.5	184	198	240	40	10
P20DI0900	❄	9.0	184	198	240	40	10
P20DI0980	❄	9.8	205	220	262	40	10
P20DI1000	❄	10.0	205	220	262	40	10
P20DI1020	❄	10.2	225	242	289	45	12
P20DI1100	❄	11.0	225	242	289	45	12
P20DI1150	❄	11.5	246	264	311	45	12
P20DI1180	❄	11.8	246	264	311	45	12
P20DI1200	❄	12.0	246	264	311	45	12
P20DI1270	❄	12.7	294	308	357	45	14
P20DI1300	❄	13.0	294	308	357	45	14
P20DI1400	❄	14.0	294	308	357	45	14
P20DI1500	❄	15.0	336	352	404	48	16
P20DI1600	❄	16.0	336	352	404	48	16

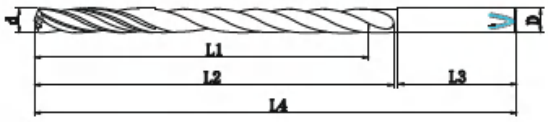
❄ :Internal cooling

PDS SERIES

With coolant supply

SHANK DIA. TOLERANCE

POINT ANGLE



25D

30D

Part No	❄	d	L1	L2	L4	L3	D
P25DI0060	❄	0.6	20	23	65	36	3
P25DI0070	❄	0.7	20	23	65	36	3
P25DI0080	❄	0.8	25	28	70	36	3
P25DI0090	❄	0.9	25	28	70	36	3
P25DI0100	❄	1.0	30	33	75	36	3
P25DI0110	❄	1.1	35	38	75	36	3
P25DI0120	❄	1.2	35	38	75	36	3
P25DI0130	❄	1.3	37	40	80	36	3
P25DI0140	❄	1.4	37	40	80	36	3
P25DI0150	❄	1.5	43	46	85	36	3
P25DI0160	❄	1.6	43	46	85	36	3
P25DI0170	❄	1.7	50	53	95	36	3
P25DI0180	❄	1.8	50	53	95	36	3
P25DI0190	❄	1.9	50	53	95	36	3
P25DI0200	❄	2.0	54	57	101	36	3
P25DI0210	❄	2.1	56	60	101	36	3
P25DI0220	❄	2.2	59	63	101	36	3
P25DI0230	❄	2.3	62	66	107	36	3
P25DI0240	❄	2.4	64	68	107	36	3
P25DI0250	❄	2.5	67	71	107	36	3
P25DI0260	❄	2.6	70	74	122	36	3
P25DI0270	❄	2.7	72	77	122	36	3
P25DI0280	❄	2.8	75	80	122	36	3
P25DI0290	❄	2.9	78	83	122	36	3

Part No	❄	d	L1	L2	L4	L3	D
P30DI0060	❄	0.6	23	26	65	36	3
P30DI0070	❄	0.7	23	26	65	36	3
P30DI0080	❄	0.8	30	33	75	36	3
P30DI0090	❄	0.9	30	33	75	36	3
P30DI0100	❄	1.0	35	38	85	36	3
P30DI0110	❄	1.1	35	38	85	36	3
P30DI0120	❄	1.2	40	43	85	36	3
P30DI0130	❄	1.3	40	43	85	36	3
P30DI0140	❄	1.4	47	50	90	36	3
P30DI0150	❄	1.5	47	50	90	36	3
P30DI0160	❄	1.6	55	58	100	36	3
P30DI0170	❄	1.7	55	58	100	36	3
P30DI0180	❄	1.8	60	63	105	36	3
P30DI0190	❄	1.9	60	63	105	36	3
P30DI0200	❄	2.0	64	67	112	36	3
P30DI0210	❄	2.1	66	70	112	36	3
P30DI0220	❄	2.2	70	74	112	36	3
P30DI0230	❄	2.3	73	77	122	36	3
P30DI0240	❄	2.4	76	80	122	36	3
P30DI0250	❄	2.5	80	84	122	36	3
P30DI0260	❄	2.6	83	87	136	36	3
P30DI0270	❄	2.7	85	90	136	36	3
P30DI0280	❄	2.8	89	94	136	36	3
P30DI0290	❄	2.9	92	97	136	36	3

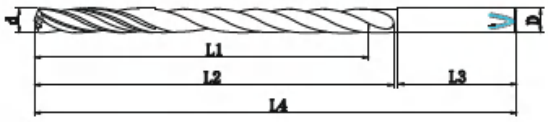
❄ :Internal cooling

PDS SERIES

With coolant supply

SHANK DIA. TOLERANCE

POINT ANGLE



25D

P	M	K	N	S	H	O
●	●	●	●			

30D

Part No	❄	d	L1	L2	L4	L3	D
P25DI0300	❄	3.0	79	84	125	36	6
P25DI0350	❄	3.5	108	114	155	36	6
P25DI0400	❄	4.0	108	114	155	36	6
P25DI0450	❄	4.5	137	145	185	36	6
P25DI0480	❄	4.8	137	145	185	36	6
P25DI0500	❄	5.0	137	145	185	36	6
P25DI0550	❄	5.5	151	160	200	36	6
P25DI0600	❄	6.0	165	174	214	36	6
P25DI0610	❄	6.1	183	194	234	36	8
P25DI0650	❄	6.5	183	194	234	36	8
P25DI0680	❄	6.8	183	194	234	36	8
P25DI0700	❄	7.0	183	194	234	36	8
P25DI0800	❄	8.0	209	220	260	36	8
P25DI0850	❄	8.5	229	243	289	40	10
P25DI0900	❄	9.0	229	243	289	40	10
P25DI0980	❄	9.8	255	270	314	40	10
P25DI1000	❄	10.0	255	270	314	40	12
P25DI1020	❄	10.2	280	297	346	45	12
P25DI1100	❄	11.0	280	297	346	45	12
P25DI1150	❄	11.5	306	324	373	45	12
P25DI1200	❄	12.0	306	324	373	45	12

Part No	❄	d	L1	L2	L4	L3	D
P30DI0300	❄	3.0	92	97	135	36	6
P30DI0350	❄	3.5	127	133	166	36	6
P30DI0400	❄	4.0	127	133	166	36	6
P30DI0450	❄	4.5	162	169	210	36	6
P30DI0480	❄	4.8	162	169	210	36	6
P30DI0500	❄	5.0	162	169	210	36	6
P30DI0550	❄	5.5	178	187	230	36	6
P30DI0600	❄	6.0	195	204	245	36	6
P30DI0650	❄	6.5	217	228	268	36	8
P30DI0680	❄	6.8	217	228	268	36	8
P30DI0700	❄	7.0	244	228	268	36	8
P30DI0740	❄	7.4	244	256	294	36	8
P30DI0800	❄	8.0	273	256	294	36	8
P30DI0850	❄	8.5	273	287	330	40	10
P30DI0900	❄	9.0	305	287	330	40	10
P30DI1000	❄	10.0	335	320	364	40	10
P30DI1020	❄	10.2	335	352	401	45	12
P30DI1100	❄	11.0	335	352	401	45	12
P30DI1200	❄	12.0	364	382	430	45	12

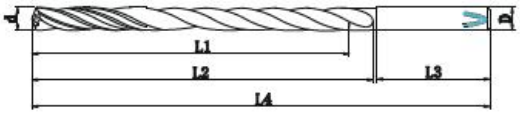
❄ :Internal cooling

PDS SERIES

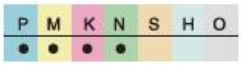
With coolant supply

SHANK DIA. TOLERANCE

POINT ANGLE



40D



Part No	❄	d	L1	L2	L4	L3	D
P40DI0300	❄	3.0	134	139	180	36	6
P40DI0350	❄	3.5	150	156	198	36	6
P40DI0400	❄	4.0	168	174	215	36	6
P40DI0450	❄	4.5	188	195	236	36	6
P40DI0480	❄	4.8	209	217	258	36	6
P40DI0500	❄	5.0	209	217	258	36	6
P40DI0550	❄	5.5	248	257	300	36	6
P40DI0580	❄	5.8	248	257	300	36	6
P40DI0600	❄	6.0	248	257	300	36	6
P40DI0610	❄	6.1	272	282	324	36	8
P40DI0650	❄	6.5	272	282	324	36	8
P40DI0680	❄	6.8	287	298	339	36	8
P40DI0700	❄	7.0	287	298	339	36	8
P40DI0750	❄	7.5	313	325	366	36	8
P40DI0800	❄	8.0	330	342	382	36	8
P40DI0850	❄	8.5	356	369	415	40	10
P40DI0900	❄	9.0	371	385	430	40	10
P40DI0950	❄	9.5	418	433	477	40	10
P40DI1000	❄	10.0	418	433	477	40	10
P40DI1050	❄	10.5	460	477	528	45	12
P40DI1100	❄	11.0	460	477	528	45	12

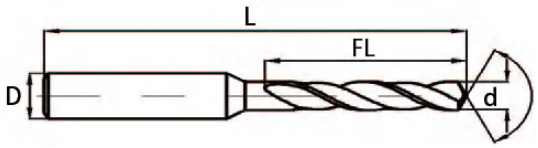
50D

Part No	❄	d	L1	L2	L4	L3	D
P50DI0300	❄	3.0	166	171	215	36	6
P50DI0350	❄	3.5	186	192	235	36	6
P50DI0400	❄	4.0	208	214	255	36	6
P50DI0450	❄	4.5	233	240	283	36	6
P50DI0480	❄	4.8	259	267	310	36	6
P50DI0500	❄	5.0	259	267	310	36	6
P50DI0550	❄	5.5	308	317	358	36	6
P50DI0600	❄	6.0	308	317	358	36	6
P50DI0610	❄	6.1	337	347	389	36	8
P50DI0650	❄	6.5	337	347	389	36	8
P50DI0680	❄	6.8	337	368	409	36	8
P50DI0700	❄	7.0	357	368	409	36	8
P50DI0740	❄	7.4	388	400	441	36	8
P50DI0750	❄	7.5	388	400	441	36	8
P50DI0800	❄	8.0	410	422	462	36	8
P50DI0830	❄	8.3	441	454	500	40	10
P50DI0850	❄	8.5	441	454	500	45	10
P50DI0900	❄	9.0	466	480	525	45	10

❄:Internal cooling

EMD/R 0.01

Fixed Shank Right-Handed
0.01 increments

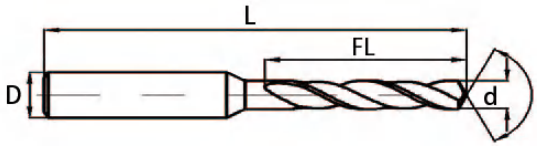


Part No	d	FL	D	L
PDRF00100153	0.15	3	3.0	38
PDRF00100173	0.17	3	3.0	38
PDRF00100193	0.19	3	3.0	38
PDRF00100273	0.27	3	3.0	38
PDRF00100293	0.29	3	3.0	38
PDRF00100323	0.32	3	3.0	38
PDRF00100343	0.34	3	3.0	38
PDRF00100363	0.36	3	3.0	38
PDRF00100383	0.38	3	3.0	38
PDRF00100413	0.41	4	3.0	38
PDRF00100433	0.43	4	3.0	38
PDRF00100463	0.46	4	3.0	38
PDRF00100483	0.48	4	3.0	38
PDRF00100513	0.51	4	3.0	38
PDRF00100533	0.53	4	3.0	38
PDRF00100563	0.56	5	3.0	38
PDRF00100583	0.58	5	3.0	38
PDRF00100613	0.61	6	3.0	38
PDRF00100633	0.63	6	3.0	38
PDRF00100663	0.66	6	3.0	38
PDRF00100683	0.68	6	3.0	38
PDRF00100713	0.71	6	3.0	38
PDRF00100733	0.73	6	3.0	38
PDRF00100763	0.76	6	3.0	38
PDRF00100783	0.78	6	3.0	38
PDRF00100813	0.81	6	3.0	38
PDRF00100833	0.83	6	3.0	38
PDRF00100863	0.86	6	3.0	38

Part No	d	FL	D	L
PDRF00100163	0.16	3	3.0	38
PDRF00100183	0.18	3	3.0	38
PDRF00100263	0.26	3	3.0	38
PDRF00100283	0.28	3	3.0	38
PDRF00100313	0.31	3	3.0	38
PDRF00100333	0.33	3	3.0	38
PDRF00100353	0.35	3	3.0	38
PDRF00100373	0.37	3	3.0	38
PDRF00100393	0.39	3	3.0	38
PDRF00100423	0.42	4	3.0	38
PDRF00100443	0.44	4	3.0	38
PDRF00100473	0.47	4	3.0	38
PDRF00100493	0.49	4	3.0	38
PDRF00100523	0.52	4	3.0	38
PDRF00100543	0.54	4	3.0	38
PDRF00100573	0.57	5	3.0	38
PDRF00100593	0.59	5	3.0	38
PDRF00100623	0.62	6	3.0	38
PDRF00100643	0.64	6	3.0	38
PDRF00100673	0.67	6	3.0	38
PDRF00100693	0.69	6	3.0	38
PDRF00100723	0.72	6	3.0	38
PDRF00100743	0.74	6	3.0	38
PDRF00100773	0.77	6	3.0	38
PDRF00100793	0.79	6	3.0	38
PDRF00100823	0.82	6	3.0	38
PDRF00100843	0.84	6	3.0	38
PDRF00100873	0.87	6	3.0	38

EMD/R 0.01

Fixed Shank Right-Handed
0.01 increments

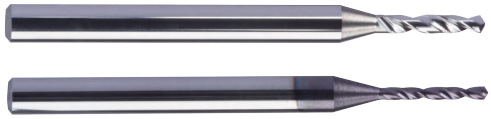


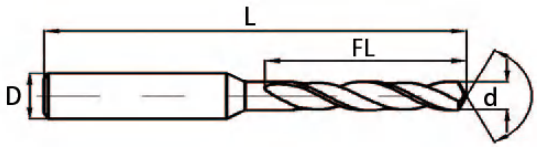
Part No	d	FL	D	L
PDRF00100883	0.88	6	3.0	38
PDRF00100913	0.91	6	3.0	38
PDRF00100933	0.93	6	3.0	38
PDRF00100963	0.96	6	3.0	38
PDRF00100983	0.98	6	3.0	38
PDRF00101013	1.01	7	3.0	38
PDRF00101033	1.03	7	3.0	38
PDRF00101063	1.06	7	3.0	38
PDRF00101083	1.08	7	3.0	38
PDRF00101113	1.11	7	3.0	38
PDRF00101133	1.13	7	3.0	38
PDRF00101163	1.16	7	3.0	38
PDRF00101183	1.18	7	3.0	38
PDRF00101213	1.21	7	3.0	38
PDRF00101233	1.23	7	3.0	38
PDRF00101263	1.26	8	3.0	38
PDRF00101283	1.28	8	3.0	38
PDRF00101313	1.31	8	3.0	38
PDRF00101333	1.33	8	3.0	38
PDRF00101363	1.36	8	3.0	38
PDRF00101383	1.38	8	3.0	38
PDRF00101413	1.41	8	3.0	38
PDRF00101433	1.43	8	3.0	38
PDRF00101463	1.46	8	3.0	38
PDRF00101483	1.48	8	3.0	38
PDRF00101513	1.51	8	3.0	38
PDRF00101533	1.53	8	3.0	38
PDRF00101563	1.56	8	3.0	38

Part No	d	FL	D	L
PDRF00100893	0.89	6	3.0	38
PDRF00100923	0.92	6	3.0	38
PDRF00100943	0.94	6	3.0	38
PDRF00100973	0.97	6	3.0	38
PDRF00100993	0.99	6	3.0	38
PDRF00101023	1.02	7	3.0	38
PDRF00101043	1.04	7	3.0	38
PDRF00101073	1.07	7	3.0	38
PDRF00101093	1.09	7	3.0	38
PDRF00101123	1.12	7	3.0	38
PDRF00101143	1.14	7	3.0	38
PDRF00101173	1.17	7	3.0	38
PDRF00101193	1.19	7	3.0	38
PDRF00101223	1.22	7	3.0	38
PDRF00101243	1.24	7	3.0	38
PDRF00101273	1.27	8	3.0	38
PDRF00101293	1.29	8	3.0	38
PDRF00101323	1.32	8	3.0	38
PDRF00101343	1.34	8	3.0	38
PDRF00101373	1.37	8	3.0	38
PDRF00101393	1.39	8	3.0	38
PDRF00101423	1.42	8	3.0	38
PDRF00101443	1.44	8	3.0	38
PDRF00101473	1.47	8	3.0	38
PDRF00101493	1.49	8	3.0	38
PDRF00101523	1.52	8	3.0	38
PDRF00101543	1.54	8	3.0	38
PDRF00101573	1.57	8	3.0	38

EMD/R 0.01

Fixed Shank Right-Handed
0.01 increments



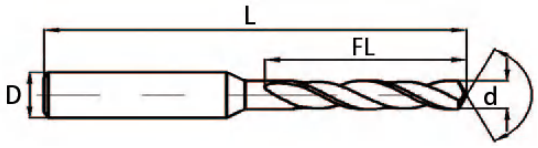


Part No	d	FL	D	L
PDRF00101583	1.58	8	3.0	38
PDRF00101613	1.61	9	3.0	38
PDRF00101633	1.63	9	3.0	38
PDRF00101663	1.66	9	3.0	38
PDRF00101683	1.68	9	3.0	38
PDRF00101713	1.71	9	3.0	38
PDRF00101733	1.73	9	3.0	38
PDRF00101763	1.76	9	3.0	38
PDRF00101783	1.78	9	3.0	38
PDRF00101813	1.81	9	3.0	38
PDRF00101833	1.83	9	3.0	38
PDRF00101863	1.86	9	3.0	38
PDRF00101883	1.88	9	3.0	38
PDRF00101913	1.91	9	3.0	38
PDRF00101933	1.93	9	3.0	38
PDRF00101963	1.96	9	3.0	38
PDRF00101983	1.98	12	3.0	38
PDRF00102013	2.01	12	3.0	38
PDRF00102033	2.03	12	3.0	38
PDRF00102063	2.06	12	3.0	38
PDRF00102083	2.08	12	3.0	38
PDRF00102113	2.11	12	3.0	38
PDRF00102133	2.13	12	3.0	38
PDRF00102163	2.16	12	3.0	38
PDRF00102183	2.18	12	3.0	38
PDRF00102213	2.21	12	3.0	38
PDRF00102233	2.23	12	3.0	38
PDRF00102263	2.26	12	3.0	38

Part No	d	FL	D	L
PDRF00101593	1.59	8	3.0	38
PDRF00101623	1.62	9	3.0	38
PDRF00101643	1.64	9	3.0	38
PDRF00101673	1.67	9	3.0	38
PDRF00101693	1.69	9	3.0	38
PDRF00101723	1.72	9	3.0	38
PDRF00101743	1.74	9	3.0	38
PDRF00101773	1.77	9	3.0	38
PDRF00101793	1.79	9	3.0	38
PDRF00101823	1.82	9	3.0	38
PDRF00101843	1.84	9	3.0	38
PDRF00101873	1.87	9	3.0	38
PDRF00101893	1.89	9	3.0	38
PDRF00101923	1.92	9	3.0	38
PDRF00101943	1.94	9	3.0	38
PDRF00101973	1.97	12	3.0	38
PDRF00101993	1.99	12	3.0	38
PDRF00102023	2.02	12	3.0	38
PDRF00102043	2.04	12	3.0	38
PDRF00102073	2.07	12	3.0	38
PDRF00102093	2.09	12	3.0	38
PDRF00102123	2.12	12	3.0	38
PDRF00102143	2.14	12	3.0	38
PDRF00102173	2.17	12	3.0	38
PDRF00102193	2.19	12	3.0	38
PDRF00102223	2.22	12	3.0	38
PDRF00102243	2.24	12	3.0	38
PDRF00102273	2.27	12	3.0	38

EMD/R 0.01

Fixed Shank Right-Handed
0.01 increments

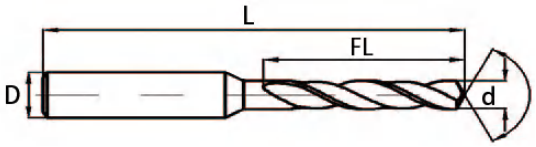


Part No	d	FL	D	L
PDRF00102283	2.28	12	3.0	38
PDRF00102313	2.31	12	3.0	38
PDRF00102333	2.33	12	3.0	38
PDRF00102363	2.36	12	3.0	38
PDRF00102383	2.38	12	3.0	38
PDRF00102413	2.41	12	3.0	38
PDRF00102433	2.43	12	3.0	38
PDRF00102463	2.46	12	3.0	38
PDRF00102483	2.48	12	3.0	38
PDRF00102513	2.51	12	3.0	38
PDRF00102533	2.53	12	3.0	38
PDRF00102563	2.56	12	3.0	38
PDRF00102583	2.58	12	3.0	38
PDRF00102613	2.61	12	3.0	38
PDRF00102633	2.63	12	3.0	38
PDRF00102663	2.66	12	3.0	38
PDRF00102683	2.68	12	3.0	38
PDRF00102713	2.71	12	3.0	38
PDRF00102733	2.73	12	3.0	38
PDRF00102763	2.76	12	3.0	38
PDRF00102783	2.78	12	3.0	38
PDRF00102813	2.81	12	3.0	38
PDRF00102833	2.83	12	3.0	38
PDRF00102863	2.86	12	3.0	38
PDRF00102883	2.88	12	3.0	38
PDRF00102913	2.91	12	3.0	38
PDRF00102933	2.93	12	3.0	38
PDRF00102963	2.96	12	3.0	38

Part No	d	FL	D	L
PDRF00102293	2.29	12	3.0	38
PDRF00102323	2.32	12	3.0	38
PDRF00102343	2.34	12	3.0	38
PDRF00102373	2.37	12	3.0	38
PDRF00102393	2.39	12	3.0	38
PDRF00102423	2.42	12	3.0	38
PDRF00102443	2.44	12	3.0	38
PDRF00102473	2.47	12	3.0	38
PDRF00102493	2.49	12	3.0	38
PDRF00102523	2.52	12	3.0	38
PDRF00102543	2.54	12	3.0	38
PDRF00102573	2.57	12	3.0	38
PDRF00102593	2.59	12	3.0	38
PDRF00102623	2.62	12	3.0	38
PDRF00102643	2.64	12	3.0	38
PDRF00102673	2.67	12	3.0	38
PDRF00102693	2.69	12	3.0	38
PDRF00102723	2.72	12	3.0	38
PDRF00102743	2.74	12	3.0	38
PDRF00102773	2.77	12	3.0	38
PDRF00102793	2.79	12	3.0	38
PDRF00102823	2.82	12	3.0	38
PDRF00102843	2.84	12	3.0	38
PDRF00102873	2.87	12	3.0	38
PDRF00102893	2.89	12	3.0	38
PDRF00102923	2.92	12	3.0	38
PDRF00102943	2.94	12	3.0	38
PDRF00102973	2.97	12	3.0	38

EMD/R 0.01

Fixed Shank Right-Handed
0.01 increments

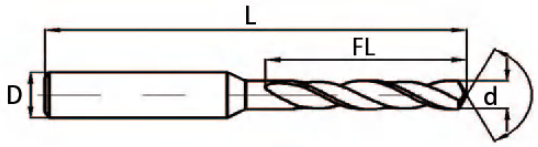


Part No	d	FL	D	L
PDRF00102983	2.98	12	3.0	38
PDRF00103013	3.01	18	4.0	50
PDRF00103033	3.03	18	4.0	50
PDRF00103063	3.06	18	4.0	50
PDRF00103083	3.08	18	4.0	50
PDRF00103113	3.11	18	4.0	50
PDRF00103133	3.13	18	4.0	50
PDRF00103163	3.16	18	4.0	50
PDRF00103183	3.18	18	4.0	50
PDRF00103213	3.21	18	4.0	50
PDRF00103233	3.23	18	4.0	50
PDRF00103263	3.26	18	4.0	50
PDRF00103283	3.28	18	4.0	50
PDRF00103313	3.31	18	4.0	50
PDRF00103333	3.33	18	4.0	50
PDRF00103363	3.36	18	4.0	50
PDRF00103383	3.38	18	4.0	50
PDRF00103413	3.41	18	4.0	50
PDRF00103433	3.43	18	4.0	50
PDRF00103463	3.46	18	4.0	50
PDRF00103483	3.48	18	4.0	50
PDRF00103513	3.51	18	4.0	50
PDRF00103533	3.53	18	4.0	50
PDRF00103563	3.56	18	4.0	50
PDRF00103583	3.58	18	4.0	50
PDRF00103613	3.61	18	4.0	50
PDRF00103633	3.63	18	4.0	50
PDRF00103663	3.66	18	4.0	50

Part No	d	FL	D	L
PDRF00102293	2.99	12	3.0	38
PDRF00103023	3.02	18	4.0	50
PDRF00103043	3.04	18	4.0	50
PDRF00103073	3.07	18	4.0	50
PDRF00103093	3.09	18	4.0	50
PDRF00103123	3.12	18	4.0	50
PDRF00103143	3.14	18	4.0	50
PDRF00103173	3.17	18	4.0	50
PDRF00103193	3.19	18	4.0	50
PDRF00103223	3.22	18	4.0	50
PDRF00103243	3.24	18	4.0	50
PDRF00103273	3.27	18	4.0	50
PDRF00103293	3.29	18	4.0	50
PDRF00103323	3.32	18	4.0	50
PDRF00103343	3.34	18	4.0	50
PDRF00103373	3.37	18	4.0	50
PDRF00103393	3.39	18	4.0	50
PDRF00103423	3.42	18	4.0	50
PDRF00103443	3.44	18	4.0	50
PDRF00103473	3.47	18	4.0	50
PDRF00103493	3.49	18	4.0	50
PDRF00103523	3.52	18	4.0	50
PDRF00103543	3.54	18	4.0	50
PDRF00103573	3.57	18	4.0	50
PDRF00103593	3.59	18	4.0	50
PDRF00103623	3.62	18	4.0	50
PDRF00103643	3.64	18	4.0	50
PDRF00103673	3.67	18	4.0	50

EMD/R 0.01

Fixed Shank Right-Handed
0.01 increments

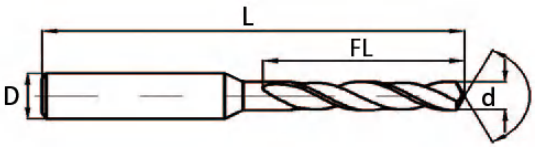


Part No	d	FL	D	L
PDRF00103683	3.68	18	4.0	50
PDRF00103713	3.71	18	4.0	50
PDRF00103733	3.73	18	4.0	50
PDRF00103763	3.76	18	4.0	50
PDRF00103783	3.78	18	4.0	50
PDRF00103813	3.81	18	4.0	50
PDRF00103833	3.83	18	4.0	50
PDRF00103863	3.86	18	4.0	50
PDRF00103883	3.88	18	4.0	50
PDRF00103913	3.91	18	4.0	50
PDRF00103933	3.93	18	4.0	50
PDRF00103963	3.96	18	4.0	50
PDRF00103983	3.98	18	4.0	50

Part No	d	FL	D	L
PDRF00103693	3.69	18	4.0	50
PDRF00103723	3.72	18	4.0	50
PDRF00103743	3.74	18	4.0	50
PDRF00103773	3.77	18	4.0	50
PDRF00103793	3.79	18	4.0	50
PDRF00103823	3.82	18	4.0	50
PDRF00103843	3.84	18	4.0	50
PDRF00103873	3.87	18	4.0	50
PDRF00103893	3.89	18	4.0	50
PDRF00103923	3.92	18	4.0	50
PDRF00103943	3.94	18	4.0	50
PDRF00103973	3.97	18	4.0	50
PDRF00103993	3.99	18	4.0	50

EMD/R-3 0.05

Fixed Shank Right-Handed
0.05 increments Shank Dia.3.0

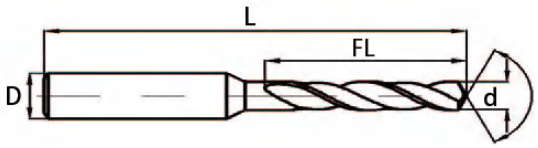


Part No	d	FL	D	L
PDRF0020338	0.20	3	3.0	38
PDRF0030338	0.30	3	3.0	38
PDRF0040338	0.40	3	3.0	38
PDRF0050338	0.50	4	3.0	38
PDRF0060338	0.60	5	3.0	38
PDRF0070338	0.70	5	3.0	38
PDRF0080338	0.80	5	3.0	38
PDRF0090338	0.90	5	3.0	38
PDRF0100338	1.00	6	3.0	38
PDRF0110338	1.10	6	3.0	38
PDRF0120338	1.20	6	3.0	38
PDRF0130338	1.30	8	3.0	38
PDRF0140338	1.40	8	3.0	38
PDRF0150338	1.50	8	3.0	38
PDRF0160338	1.60	8	3.0	38
PDRF0170338	1.70	8	3.0	38
PDRF0180338	1.80	10	3.0	38
PDRF0190338	1.90	10	3.0	38
PDRF0200338	2.00	10	3.0	38
PDRF0210338	2.10	10	3.0	38
PDRF0220338	2.20	10	3.0	38
PDRF0230338	2.30	12	3.0	38
PDRF0240338	2.40	12	3.0	38
PDRF0250338	2.50	12	3.0	38
PDRF0260338	2.60	12	3.0	38
PDRF0270338	2.70	12	3.0	38
PDRF0280338	2.80	12	3.0	38
PDRF0290338	2.90	12	3.0	38
PDRF0300338	3.00	12	3.0	38

Part No	d	FL	D	L
PDRF0250338	0.25	3	3.0	38
PDRF0350338	0.35	3	3.0	38
PDRF0450338	0.45	4	3.0	38
PDRF0550338	0.55	4	3.0	38
PDRF0650338	0.65	5	3.0	38
PDRF0750338	0.75	5	3.0	38
PDRF0850338	0.85	5	3.0	38
PDRF0950338	0.95	5	3.0	38
PDRF1050338	1.05	6	3.0	38
PDRF1150338	1.15	6	3.0	38
PDRF1250338	1.25	8	3.0	38
PDRF1350338	1.35	8	3.0	38
PDRF1450338	1.45	8	3.0	38
PDRF1550338	1.55	8	3.0	38
PDRF1650338	1.65	8	3.0	38
PDRF1750338	1.75	8	3.0	38
PDRF1850338	1.85	10	3.0	38
PDRF1950338	1.95	10	3.0	38
PDRF2050338	2.05	10	3.0	38
PDRF2150338	2.15	10	3.0	38
PDRF2250338	2.25	12	3.0	38
PDRF2350338	2.35	12	3.0	38
PDRF2450338	2.45	12	3.0	38
PDRF2550338	2.55	12	3.0	38
PDRF2650338	2.65	12	3.0	38
PDRF2750338	2.75	12	3.0	38
PDRF2850338	2.85	12	3.0	38
PDRF2950338	2.95	12	3.0	38

EMD/R-3 0.05

Fixed Shank Right-Handed
0.05 increments Shank Dia.3.0

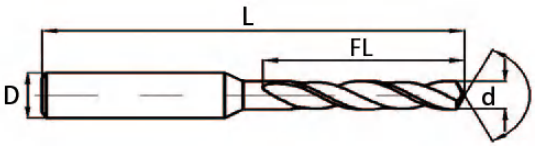


Part No	d	FL	D	L
PDRF0030350	0.30	3	3.0	50
PDRF0040350	0.40	3	3.0	50
PDRF0050350	0.50	4	3.0	50
PDRF0060350	0.60	5	3.0	50
PDRF0070350	0.70	5	3.0	50
PDRF0080350	0.80	5	3.0	50
PDRF0090350	0.90	5	3.0	50
PDRF0100350	1.00	6	3.0	50
PDRF0110350	1.10	6	3.0	50
PDRF0120350	1.20	6	3.0	50
PDRF0130350	1.30	8	3.0	50
PDRF0140350	1.40	8	3.0	50
PDRF0150350	1.50	8	3.0	50
PDRF01600350	1.60	8	3.0	50
PDRF0170350	1.70	8	3.0	50
PDRF0180350	1.80	10	3.0	50
PDRF0190350	1.90	10	3.0	50
PDRF0200350	2.00	10	3.0	50
PDRF0210350	2.10	10	3.0	50
PDRF0220350	2.20	10	3.0	50
PDRF0230350	2.30	12	3.0	50
PDRF0240350	2.40	12	3.0	50
PDRF0250350	2.50	12	3.0	50
PDRF0260350	2.60	12	3.0	50
PDRF0270350	2.70	12	3.0	50
PDRF0280350	2.80	12	3.0	50
PDRF0290350	2.90	12	3.0	50
PDRF0300350	3.00	12	3.0	50

Part No	d	FL	D	L
PDRF0035350	0.35	3	3.0	50
PDRF0045350	0.45	4	3.0	50
PDRF0055350	0.55	4	3.0	50
PDRF0065350	0.65	5	3.0	50
PDRF0075350	0.75	5	3.0	50
PDRF0085350	0.85	5	3.0	50
PDRF0095350	0.95	5	3.0	50
PDRF0105350	1.05	6	3.0	50
PDRF0115350	1.15	6	3.0	50
PDRF0125350	1.25	8	3.0	50
PDRF0135350	1.35	8	3.0	50
PDRF0145350	1.45	8	3.0	50
PDRF0155350	1.55	8	3.0	50
PDRF0165350	1.65	8	3.0	50
PDRF0175350	1.75	8	3.0	50
PDRF0185350	1.85	10	3.0	50
PDRF0195350	1.95	10	3.0	50
PDRF0205350	2.05	10	3.0	50
PDRF0215350	2.15	10	3.0	50
PDRF0225350	2.25	12	3.0	50
PDRF0235350	2.35	12	3.0	50
PDRF0245350	2.45	12	3.0	50
PDRF0255350	2.55	12	3.0	50
PDRF0265350	2.65	12	3.0	50
PDRF0275350	2.75	12	3.0	50
PDRF0285350	2.85	12	3.0	50
PDRF0295350	2.95	12	3.0	50

EMD/R-1/8 0.05

Fixed Shank Right-Handed
0.05 increments Shank Dia.3.175

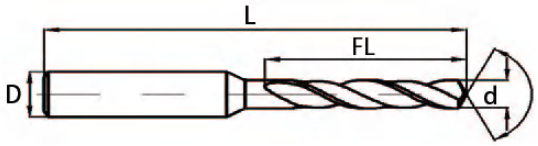


Part No	d	FL	D	L
PDRFA003038	0.30	3	3.175	38
PDRFA004038	0.40	3	3.175	38
PDRFA005038	0.50	4	3.175	38
PDRFA006038	0.60	5	3.175	38
PDRFA007038	0.70	5	3.175	38
PDRFA008038	0.80	5	3.175	38
PDRFA009038	0.90	5	3.175	38
PDRFA010038	1.00	6	3.175	38
PDRFA011038	1.10	6	3.175	38
PDRFA012038	1.20	6	3.175	38
PDRFA013038	1.30	8	3.175	38
PDRFA014038	1.40	8	3.175	38
PDRFA015038	1.50	8	3.175	38
PDRFA016038	1.60	8	3.175	38
PDRFA017038	1.70	8	3.175	38
PDRFA018038	1.80	10	3.175	38
PDRFA019038	1.90	10	3.175	38
PDRFA020038	2.00	10	3.175	38
PDRFA021038	2.10	10	3.175	38
PDRFA022038	2.20	10	3.175	38
PDRFA023038	2.30	12	3.175	38
PDRFA024038	2.40	12	3.175	38
PDRFA025038	2.50	12	3.175	38
PDRFA026038	2.60	12	3.175	38
PDRFA027038	2.70	12	3.175	38
PDRFA028038	2.80	12	3.175	38
PDRFA029038	2.90	12	3.175	38
PDRFA030038	3.00	12	3.175	38

Part No	d	FL	D	L
PDRFA003538	0.35	3	3.175	38
PDRFA004538	0.45	4	3.175	38
PDRFA005538	0.55	4	3.175	38
PDRFA006538	0.65	5	3.175	38
PDRFA007538	0.75	5	3.175	38
PDRFA008538	0.85	5	3.175	38
PDRFA009538	0.95	5	3.175	38
PDRFA010538	1.05	6	3.175	38
PDRFA011538	1.15	6	3.175	38
PDRFA012538	1.25	8	3.175	38
PDRFA013538	1.35	8	3.175	38
PDRFA014538	1.45	8	3.175	38
PDRFA015538	1.55	8	3.175	38
PDRFA016538	1.65	8	3.175	38
PDRFA017538	1.75	8	3.175	38
PDRFA018538	1.85	10	3.175	38
PDRFA019538	1.95	10	3.175	38
PDRFA020538	2.05	10	3.175	38
PDRFA021538	2.15	10	3.175	38
PDRFA022538	2.25	12	3.175	38
PDRFA023538	2.35	12	3.175	38
PDRFA024538	2.45	12	3.175	38
PDRFA025538	2.55	12	3.175	38
PDRFA026538	2.65	12	3.175	38
PDRFA027538	2.75	12	3.175	38
PDRFA028538	2.85	12	3.175	38
PDRFA029538	2.95	12	3.175	38

EMD/R-1/8 0.05

Fixed Shank Right-Handed
0.05 increments Shank Dia.3.175

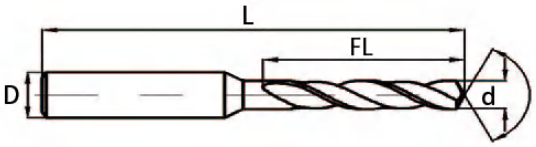


Part No	d	FL	D	L
PDRFA003050	0.30	3	3.175	50
PDRFA004050	0.40	3	3.175	50
PDRFA005050	0.50	4	3.175	50
PDRFA006050	0.60	5	3.175	50
PDRFA007050	0.70	5	3.175	50
PDRFA008050	0.80	5	3.175	50
PDRFA009050	0.90	5	3.175	50
PDRFA010050	1.00	6	3.175	50
PDRFA011050	1.10	6	3.175	50
PDRFA012050	1.20	6	3.175	50
PDRFA013050	1.30	8	3.175	50
PDRFA014050	1.40	8	3.175	50
PDRFA015050	1.50	8	3.175	50
PDRFA016050	1.60	8	3.175	50
PDRFA017050	1.70	8	3.175	50
PDRFA018050	1.80	10	3.175	50
PDRFA019050	1.90	10	3.175	50
PDRFA020050	2.00	10	3.175	50
PDRFA021050	2.10	10	3.175	50
PDRFA022050	2.20	10	3.175	50
PDRFA023050	2.30	12	3.175	50
PDRFA024050	2.40	12	3.175	50
PDRFA025050	2.50	12	3.175	50
PDRFA026050	2.60	12	3.175	50
PDRFA027050	2.70	12	3.175	50
PDRFA028050	2.80	12	3.175	50
PDRFA029050	2.90	12	3.175	50
PDRFA030050	3.00	12	3.175	50

Part No	d	FL	D	L
PDRFA035050	0.35	3	3.175	50
PDRFA045050	0.45	4	3.175	50
PDRFA055050	0.55	4	3.175	50
PDRFA065050	0.65	5	3.175	50
PDRFA075050	0.75	5	3.175	50
PDRFA085050	0.85	5	3.175	50
PDRFA095050	0.95	5	3.175	50
PDRFA010550	1.05	6	3.175	50
PDRFA0115050	1.15	6	3.175	50
PDRFA012550	1.25	8	3.175	50
PDRFA013550	1.35	8	3.175	50
PDRFA014550	1.45	8	3.175	50
PDRFA015550	1.55	8	3.175	50
PDRFA016550	1.65	8	3.175	50
PDRFA017550	1.75	8	3.175	50
PDRFA018550	1.85	10	3.175	50
PDRFA019550	1.95	10	3.175	50
PDRFA020550	2.05	10	3.175	50
PDRFA021550	2.15	10	3.175	50
PDRFA022550	2.25	12	3.175	50
PDRFA023550	2.35	12	3.175	50
PDRFA024550	2.45	12	3.175	50
PDRFA025550	2.55	12	3.175	50
PDRFA026550	2.65	12	3.175	50
PDRFA027550	2.75	12	3.175	50
PDRFA028550	2.85	12	3.175	50
PDRFA029550	2.95	12	3.175	50

EMD/R 0.05

Fixed Shank Right-Handed
0.05 increments Shank Dia.4.0

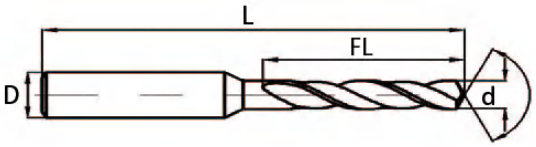


Part No	d	FL	D	L
PDRF0030450	0.30	3	4.0	50
PDRF0040450	0.40	3	4.0	50
PDRF0050450	0.50	4	4.0	50
PDRF0060450	0.60	5	4.0	50
PDRF0070450	0.70	5	4.0	50
PDRF0080450	0.80	5	4.0	50
PDRF0090450	0.90	5	4.0	50
PDRF0100450	1.00	6	4.0	50
PDRF0110450	1.10	6	4.0	50
PDRF0120450	1.20	6	4.0	50
PDRF0130450	1.30	8	4.0	50
PDRF0140450	1.40	8	4.0	50
PDRF0150450	1.50	8	4.0	50
PDRF0160450	1.60	8	4.0	50
PDRF0170450	1.70	8	4.0	50
PDRF0180450	1.80	10	4.0	50
PDRF0190450	1.90	10	4.0	50
PDRF0200450	2.00	10	4.0	50
PDRF0210450	2.10	10	4.0	50
PDRF0220450	2.20	10	4.0	50
PDRF0230450	2.30	12	4.0	50
PDRF0240450	2.40	12	4.0	50
PDRF0250450	2.50	12	4.0	50
PDRF0260450	2.60	12	4.0	50
PDRF0270450	2.70	12	4.0	50
PDRF0280450	2.80	12	4.0	50
PDRF0290450	2.90	12	4.0	50
PDRF0300450	3.00	12	4.0	50
PDRF0310450	3.10	12	4.0	50
PDRF0320450	3.20	18	4.0	50
PDRF0330450	3.30	18	4.0	50
PDRF0340450	3.40	18	4.0	50
PDRF0350450	3.50	18	4.0	50
PDRF0360450	3.60	18	4.0	50
PDRF0370450	3.70	18	4.0	50
PDRF0380450	3.80	18	4.0	50
PDRF0390450	3.90	18	4.0	50
PDRF0400450	4.00	18	4.0	50

Part No	d	FL	D	L
PDRF0035450	0.35	3	4.0	50
PDRF0045450	0.45	4	4.0	50
PDRF0055450	0.55	4	4.0	50
PDRF0065450	0.65	5	4.0	50
PDRF0075450	0.75	5	4.0	50
PDRF0085450	0.85	5	4.0	50
PDRF0095450	0.95	5	4.0	50
PDRF0105450	1.05	6	4.0	50
PDRF0115450	1.15	6	4.0	50
PDRF0125450	1.25	8	4.0	50
PDRF0135450	1.35	8	4.0	50
PDRF0145450	1.45	8	4.0	50
PDRF0155450	1.55	8	4.0	50
PDRF0165450	1.65	8	4.0	50
PDRF0175450	1.75	8	4.0	50
PDRF0185450	1.85	10	4.0	50
PDRF0195450	1.95	10	4.0	50
PDRF0205450	2.05	10	4.0	50
PDRF0215450	2.15	10	4.0	50
PDRF0225450	2.25	12	4.0	50
PDRF0235450	2.35	12	4.0	50
PDRF0245450	2.45	12	4.0	50
PDRF0255450	2.55	12	4.0	50
PDRF0265450	2.65	12	4.0	50
PDRF0275450	2.75	12	4.0	50
PDRF0285450	2.85	12	4.0	50
PDRF0295450	2.95	12	4.0	50
PDRF0305450	3.05	12	4.0	50
PDRF0315450	3.15	12	4.0	50
PDRF0325450	3.25	18	4.0	50
PDRF0335450	3.35	18	4.0	50
PDRF0345450	3.45	18	4.0	50
PDRF0355450	3.55	18	4.0	50
PDRF0365450	3.65	18	4.0	50
PDRF0375450	3.75	18	4.0	50
PDRF0385450	3.85	18	4.0	50
PDRF0395450	3.95	18	4.0	50

EMD/R 0.05

Fixed Shank Right-Handed
0.05 increments Shank Dia.5.0

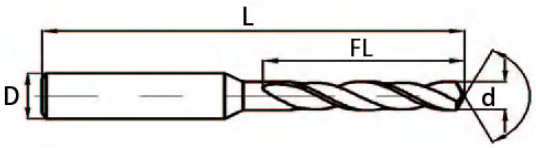


Part No	d	FL	D	L
PDRF0405550	4.05	25	5.0	50
PDRF0415550	4.15	25	5.0	50
PDRF0425550	4.25	25	5.0	50
PDRF0435550	4.35	25	5.0	50
PDRF0445550	4.45	25	5.0	50
PDRF0455550	4.55	25	5.0	50
PDRF0465550	4.65	25	5.0	50
PDRF0475550	4.75	25	5.0	50
PDRF0485550	4.85	25	5.0	50
PDRF0495550	4.95	25	5.0	50

Part No	d	FL	D	L
PDRF0410550	4.10	25	5.0	50
PDRF0420550	4.20	25	5.0	50
PDRF0430550	4.30	25	5.0	50
PDRF0440550	4.40	25	5.0	50
PDRF0450550	4.50	25	5.0	50
PDRF0460550	4.60	25	5.0	50
PDRF0470550	4.70	25	5.0	50
PDRF0480550	4.80	25	5.0	50
PDRF0490550	4.90	25	5.0	50
PDRF0500550	5.00	25	5.0	50

EMD/R 0.05

Fixed Shank Right-Handed
0.05 increments Shank Dia.6.0

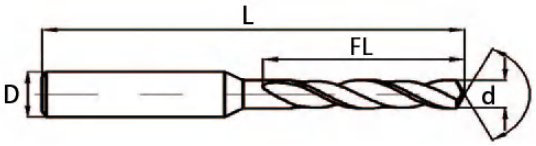


Part No	d	FL	D	L
PDRF0505650	5.05	25	6.0	50
PDRF0515650	5.15	25	6.0	50
PDRF0525650	5.25	25	6.0	50
PDRF0535650	5.35	25	6.0	50
PDRF0545650	5.45	25	6.0	50
PDRF0555650	5.55	25	6.0	50
PDRF0565650	5.65	25	6.0	50
PDRF0575650	5.75	25	6.0	50
PDRF0585650	5.85	25	6.0	50
PDRF0595650	5.95	25	6.0	50

Part No	d	FL	D	L
PDRF0510650	5.10	25	6.0	50
PDRF0520650	5.20	25	6.0	50
PDRF0530650	5.30	25	6.0	50
PDRF0540650	5.40	25	6.0	50
PDRF0550650	5.50	25	6.0	50
PDRF0560650	5.60	25	6.0	50
PDRF0570650	5.70	25	6.0	50
PDRF0580650	5.80	25	6.0	50
PDRF0590650	5.90	25	6.0	50
PDRF0600650	6.00	25	6.0	50

EMD/R 0.05

Fixed Shank Right-Handed
0.05 increments Shank Dia.8.0

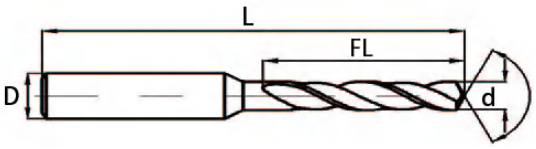


Part No	d	FL	D	L
PDRF0605860	6.05	30	8.0	60
PDRF0615860	6.15	30	8.0	60
PDRF0625860	6.25	30	8.0	60
PDRF0635860	6.35	30	8.0	60
PDRF0645860	6.45	30	8.0	60
PDRF0655860	6.55	30	8.0	60
PDRF0665860	6.65	30	8.0	60
PDRF0675860	6.75	30	8.0	60
PDRF0685860	6.85	30	8.0	60
PDRF0695860	6.95	30	8.0	60
PDRF0705860	7.05	32	8.0	60
PDRF0715860	7.15	32	8.0	60
PDRF0725860	7.25	32	8.0	60
PDRF0735860	7.35	32	8.0	60
PDRF0745860	7.45	32	8.0	60
PDRF0755860	7.55	32	8.0	60
PDRF0765860	7.65	32	8.0	60
PDRF0775860	7.75	32	8.0	60
PDRF0785860	7.85	32	8.0	60
PDRF0795860	7.95	32	8.0	60

Part No	d	FL	D	L
PDRF0610860	6.10	30	8.0	60
PDRF0620860	6.20	30	8.0	60
PDRF0630860	6.30	30	8.0	60
PDRF0640860	6.40	30	8.0	60
PDRF0650860	6.50	30	8.0	60
PDRF0660860	6.60	30	8.0	60
PDRF0670860	6.70	30	8.0	60
PDRF0680860	6.80	30	8.0	60
PDRF0690860	6.90	30	8.0	60
PDRF0700860	7.00	30	8.0	60
PDRF0710860	7.10	32	8.0	60
PDRF0720860	7.20	32	8.0	60
PDRF0730860	7.30	32	8.0	60
PDRF0740860	7.40	32	8.0	60
PDRF0750860	7.50	32	8.0	60
PDRF0760860	7.60	32	8.0	60
PDRF0770860	7.70	32	8.0	60
PDRF0780860	7.80	32	8.0	60
PDRF0790860	7.90	32	8.0	60
PDRF0800860	8.00	32	8.0	60

EMD/R 0.05

Fixed Shank Right-Handed
0.05 increments Shank Dia.10.0

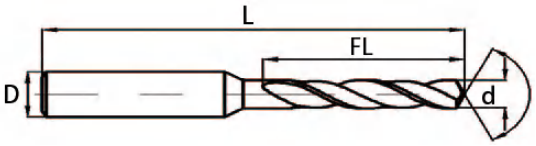


Part No	d	FL	D	L
PDRF08051075	8.05	40	10.0	75
PDRF08151075	8.15	40	10.0	75
PDRF08251075	8.25	40	10.0	75
PDRF08351075	8.35	40	10.0	75
PDRF08451075	8.45	40	10.0	75
PDRF08551075	8.55	45	10.0	75
PDRF08651075	8.65	45	10.0	75
PDRF08751075	8.75	45	10.0	75
PDRF08851075	8.85	45	10.0	75
PDRF08951075	8.95	45	10.0	75
PDRF09051075	9.05	45	10.0	75
PDRF09151075	9.15	45	10.0	75
PDRF09251075	9.25	45	10.0	75
PDRF09351075	9.35	45	10.0	75
PDRF09451075	9.45	45	10.0	75
PDRF09551075	9.55	45	10.0	75
PDRF09651075	9.65	45	10.0	75
PDRF09751075	9.75	45	10.0	75
PDRF09851075	9.85	45	10.0	75
PDRF09951075	9.95	45	10.0	75

Part No	d	FL	D	L
PDRF08101075	8.1	40	10.0	75
PDRF08201075	8.2	40	10.0	75
PDRF08301075	8.3	40	10.0	75
PDRF08401075	8.4	40	10.0	75
PDRF08501075	8.5	40	10.0	75
PDRF08601075	8.6	45	10.0	75
PDRF08701075	8.7	45	10.0	75
PDRF08801075	8.8	45	10.0	75
PDRF08901075	8.9	45	10.0	75
PDRF09001075	9.0	45	10.0	75
PDRF09101075	9.1	45	10.0	75
PDRF09201075	9.2	45	10.0	75
PDRF09301075	9.3	45	10.0	75
PDRF09401075	9.4	45	10.0	75
PDRF09501075	9.5	45	10.0	75
PDRF09601075	9.6	45	10.0	75
PDRF09701075	9.7	45	10.0	75
PDRF09801075	9.8	45	10.0	75
PDRF09901075	9.9	45	10.0	75
PDRF01001075	10.0	45	10.0	75

EMD/R 0.05

Fixed Shank Right-Handed
0.05 increments Shank Dia.12.0

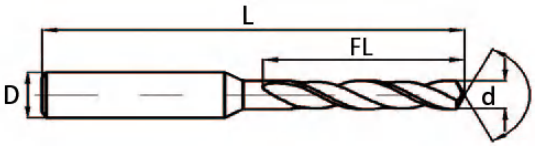


Part No	d	FL	D	L
PDRF100512100	10.05	50	12.0	100
PDRF101512100	10.15	50	12.0	100
PDRF102512100	10.25	50	12.0	100
PDRF103512100	10.35	50	12.0	100
PDRF104512100	10.45	50	12.0	100
PDRF105512100	10.55	60	12.0	100
PDRF106512100	10.65	60	12.0	100
PDRF107512100	10.75	60	12.0	100
PDRF108512100	10.85	60	12.0	100
PDRF109512100	10.95	60	12.0	100
PDRF110512100	11.05	60	12.0	100
PDRF111512100	11.15	60	12.0	100
PDRF112512100	11.25	60	12.0	100
PDRF113512100	11.35	60	12.0	100
PDRF114512100	11.45	60	12.0	100
PDRF115512100	11.55	60	12.0	100
PDRF116512100	11.65	60	12.0	100
PDRF117512100	11.75	60	12.0	100
PDRF118512100	11.85	60	12.0	100
PDRF119512100	11.95	60	12.0	100

Part No	d	FL	D	L
PDRF101012100	10.10	50	12.0	100
PDRF102012100	10.20	50	12.0	100
PDRF103012100	10.30	50	12.0	100
PDRF104012100	10.40	50	12.0	100
PDRF105012100	10.50	50	12.0	100
PDRF106012100	10.60	60	12.0	100
PDRF107012100	10.70	60	12.0	100
PDRF108012100	10.80	60	12.0	100
PDRF109012100	10.90	60	12.0	100
PDRF110012100	11.00	60	12.0	100
PDRF111012100	11.10	60	12.0	100
PDRF112012100	11.20	60	12.0	100
PDRF113012100	11.30	60	12.0	100
PDRF114012100	11.40	60	12.0	100
PDRF115012100	11.50	60	12.0	100
PDRF116012100	11.60	60	12.0	100
PDRF117012100	11.70	60	12.0	100
PDRF118012100	11.80	60	12.0	100
PDRF119012100	11.90	60	12.0	100
PDRF120012100	12.00	60	12.0	100

SD/R 0.05

Straight Shank Right-Handed
0.05 increments

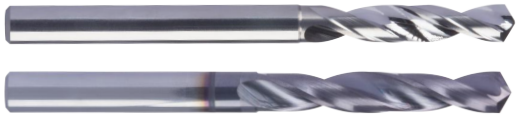


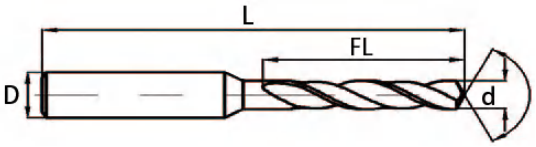
Part No	d	FL	D	L
PDRS007012	0.70	12	0.70	50
PDRS008012	0.80	12	0.80	50
PDRS009012	0.90	12	0.90	50
PDRS010012	1.00	12	1.00	50
PDRS011014	1.10	14	1.10	50
PDRS012014	1.20	14	1.20	50
PDRS013014	1.30	14	1.30	50
PDRS014014	1.40	14	1.40	50
PDRS015014	1.50	14	1.50	50
PDRS016018	1.60	18	1.60	50
PDRS017018	1.70	18	1.70	50
PDRS018018	1.80	18	1.80	50
PDRS019018	1.90	18	1.90	50
PDRS020018	2.00	18	2.00	50
PDRS210020	2.10	20	2.10	50
PDRS220020	2.20	20	2.20	50
PDRS230020	2.30	20	2.30	50
PDRS240020	2.40	20	2.40	50
PDRS250020	2.50	20	2.50	50
PDRS260025	2.60	25	2.60	50
PDRS270025	2.70	25	2.70	50
PDRS280025	2.80	25	2.80	50
PDRS290025	2.90	25	2.90	50
PDRS300025	3.00	25	3.00	50
PDRS310025	3.10	25	3.10	50
PDRS320025	3.20	25	3.20	50
PDRS330025	3.30	25	3.30	50
PDRS340025	3.40	25	3.40	50

Part No	d	FL	D	L
PDRS007512	0.75	12	0.75	50
PDRS008512	0.85	12	0.85	50
PDRS009512	0.95	12	0.95	50
PDRS010514	1.05	14	1.05	50
PDRS011514	1.15	14	1.15	50
PDRS012514	1.25	14	1.25	50
PDRS013514	1.35	14	1.35	50
PDRS014514	1.45	14	1.45	50
PDRS015518	1.55	18	1.55	50
PDRS016518	1.65	18	1.65	50
PDRS017518	1.75	18	1.75	50
PDRS018518	1.85	18	1.85	50
PDRS019518	1.95	18	1.95	50
PDRS020520	2.05	20	2.05	50
PDRS021520	2.15	20	2.15	50
PDRS022520	2.25	20	2.25	50
PDRS023520	2.35	20	2.35	50
PDRS024520	2.45	20	2.45	50
PDRS025525	2.55	25	2.55	50
PDRS026525	2.65	25	2.65	50
PDRS027525	2.75	25	2.75	50
PDRS028525	2.85	25	2.85	50
PDRS029525	2.95	25	2.95	50
PDRS030525	3.05	25	3.05	50
PDRS031525	3.15	25	3.15	50
PDRS032525	3.25	25	3.25	50
PDRS033525	3.35	25	3.35	50
PDRS034525	3.45	25	3.45	50

SD/R 0.05

Straight Shank Right-Handed
0.05 increments



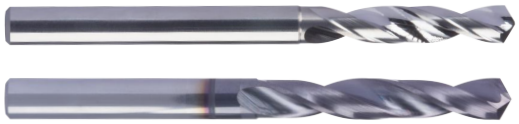


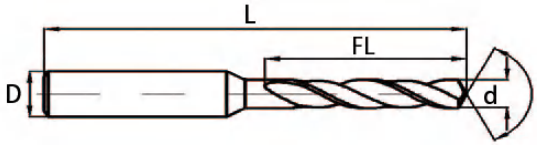
Part No	d	FL	D	L
PDRS035025	3.50	25	3.50	50
PDRS034525	3.60	25	3.60	50
PDRS034525	3.70	25	3.70	50
PDRS034525	3.80	25	3.80	50
PDRS034525	3.90	25	3.90	50
PDRS034525	4.00	25	4.00	50
PDRS034525	4.10	25	4.10	50
PDRS034525	4.20	25	4.20	50
PDRS043025	4.30	25	4.30	50
PDRS044025	4.40	25	4.40	50
PDRS045025	4.50	25	4.50	50
PDRS046025	4.60	25	4.60	50
PDRS047025	4.70	25	4.70	50
PDRS048025	4.80	25	4.80	50
PDRS049025	4.90	25	4.90	50
PDRS050025	5.00	25	5.00	50
PDRS051025	5.10	25	5.10	50
PDRS052025	5.20	25	5.20	50
PDRS053025	5.30	25	5.30	50
PDRS054025	5.40	25	5.40	50
PDRS055025	5.50	25	5.50	50
PDRS056025	5.60	25	5.60	50
PDRS057025	5.70	25	5.70	50
PDRS058025	5.80	25	5.80	50
PDRS059025	5.90	25	5.90	50
PDRS060025	6.00	25	6.00	50
PDRS061030	6.10	30	6.10	60
PDRS062030	6.20	30	6.20	60

Part No	d	FL	D	L
PDRS035525	3.55	25	3.55	50
PDRS036525	3.65	25	3.65	50
PDRS037525	3.75	25	3.75	50
PDRS038525	3.85	25	3.85	50
PDRS039525	3.95	25	3.95	50
PDRS040525	4.05	25	4.05	50
PDRS041525	4.15	25	4.15	50
PDRS042525	4.25	25	4.25	50
PDRS043525	4.35	25	4.35	50
PDRS044525	4.45	25	4.45	50
PDRS045525	4.55	25	4.55	50
PDRS046525	4.65	25	4.65	50
PDRS047525	4.75	25	4.75	50
PDRS048525	4.85	25	4.85	50
PDRS049525	4.95	25	4.95	50
PDRS050525	5.05	25	5.05	50
PDRS051525	5.15	25	5.15	50
PDRS052525	5.25	25	5.25	50
PDRS053525	5.35	25	5.35	50
PDRS054525	5.45	25	5.45	50
PDRS055525	5.55	25	5.55	50
PDRS056525	5.65	25	5.65	50
PDRS057525	5.75	25	5.75	50
PDRS058525	5.85	25	5.85	50
PDRS059525	5.95	25	5.95	50
PDRS060530	6.05	30	6.05	60
PDRS061530	6.15	30	6.15	60
PDRS062530	6.25	30	6.25	60

SD/R 0.05

Straight Shank Right-Handed
0.05 increments



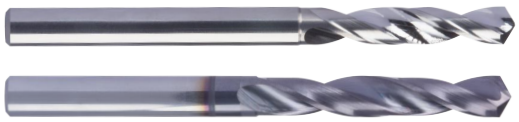


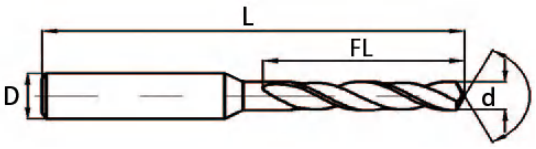
Part No	d	FL	D	L
PDRS063030	6.30	30	6.30	60
PDRS064030	6.40	30	6.40	60
PDRS065030	6.50	30	6.50	60
PDRS066030	6.60	30	6.60	60
PDRS067030	6.70	30	6.70	60
PDRS068030	6.80	30	6.80	60
PDRS069030	6.90	30	6.90	60
PDRS070030	7.00	30	7.00	60
PDRS071040	7.10	40	7.10	75
PDRS072040	7.20	40	7.20	75
PDRS073040	7.30	40	7.30	75
PDRS074040	7.40	40	7.40	75
PDRS075040	7.50	40	7.50	75
PDRS076040	7.60	40	7.60	75
PDRS077040	7.70	40	7.70	75
PDRS078040	7.80	40	7.80	75
PDRS079040	7.90	40	7.90	75
PDRS080040	8.00	40	8.00	75

Part No	d	FL	D	L
PDRS063530	6.35	30	6.35	60
PDRS064530	6.45	30	6.45	60
PDRS065530	6.55	30	6.55	60
PDRS066530	6.65	30	6.65	60
PDRS067530	6.75	30	6.75	60
PDRS068530	6.85	30	4.05	60
PDRS069530	6.95	30	6.95	60
PDRS070540	7.05	40	7.05	75
PDRS071540	7.15	40	7.15	75
PDRS072540	7.25	40	7.25	75
PDRS073540	7.35	40	7.35	75
PDRS074540	7.45	40	7.45	75
PDRS075540	7.55	40	7.55	75
PDRS076540	7.65	40	7.65	75
PDRS077540	7.75	40	7.75	75
PDRS078540	7.85	40	7.85	75
PDRS079540	7.95	40	7.95	75

SD/R 0.05

Straight Shank Right-Handed
0.05 increments



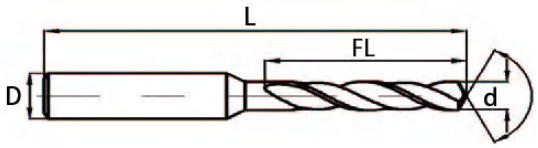


Part No	d	FL	D	L
PDRS080540	8.05	40	8.05	75
PDRS081540	8.15	40	8.15	75
PDRS082540	8.25	40	8.25	75
PDRS083540	8.35	40	8.35	75
PDRS084540	8.45	40	8.45	75
PDRS085540	8.55	40	8.55	75
PDRS086540	8.65	40	8.65	75
PDRS087540	8.75	40	8.75	75
PDRS088540	8.85	40	8.85	75
PDRS089540	8.95	40	8.95	75
PDRS090540	9.05	40	9.05	75
PDRS091540	9.15	40	9.15	75
PDRS092540	9.25	40	9.25	75
PDRS093540	9.35	40	9.35	75
PDRS094540	9.45	40	9.45	75
PDRS095540	9.55	40	9.55	75
PDRS096540	9.65	40	9.65	75
PDRS097540	9.75	40	9.75	75
PDRS098540	9.85	40	9.85	75
PDRS099540	9.95	40	9.95	75
PDRS100545	10.05	45	10.05	100
PDRS101545	10.15	45	10.15	100
PDRS102545	10.25	45	10.25	100
PDRS103545	10.35	45	10.35	100
PDRS104545	10.45	45	10.45	100
PDRS105545	10.55	45	10.55	100
PDRS106545	10.65	45	10.65	100
PDRS107545	10.75	45	10.75	100

Part No	d	FL	D	L
PDRS081040	8.10	40	8.10	75
PDRS082040	8.20	40	8.20	75
PDRS083040	8.30	40	8.30	75
PDRS084040	8.40	40	8.40	75
PDRS085040	8.50	40	8.50	75
PDRS086040	8.60	40	8.60	75
PDRS087040	8.70	40	8.70	75
PDRS088040	8.80	40	8.80	75
PDRS089040	8.90	40	8.90	75
PDRS090040	9.00	40	9.00	75
PDRS091040	9.10	40	9.10	75
PDRS092045	9.20	45	9.20	75
PDRS093040	9.30	40	9.30	75
PDRS094040	9.40	40	9.40	75
PDRS095040	9.50	40	9.50	75
PDRS096040	9.60	40	9.60	75
PDRS097040	9.70	40	9.70	75
PDRS098040	9.80	40	9.80	75
PDRS099040	9.90	40	9.90	75
PDRS100040	10.00	40	10.00	75
PDRS101045	10.10	45	10.10	100
PDRS102050	10.20	50	10.20	100
PDRS103050	10.30	50	10.30	100
PDRS104050	10.40	50	10.40	100
PDRS105050	10.50	50	10.50	100
PDRS106050	10.60	50	10.60	100
PDRS107050	10.70	50	10.70	100
PDRS108050	10.80	50	10.80	100

SD/R 0.05

Straight Shank Right-Handed
0.05 increments

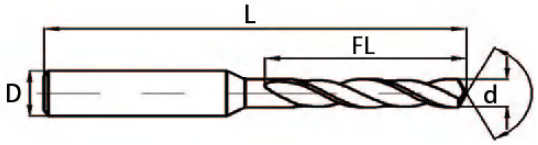


Part No	d	FL	D	L
PDRS108545	10.85	45	10.85	100
PDRS109545	10.95	45	10.95	100
PDRS110550	11.05	50	11.05	100
PDRS111550	11.15	50	11.15	100
PDRS112550	11.25	50	11.25	100
PDRS113550	11.35	50	11.35	100
PDRS114550	11.45	50	11.45	100
PDRS115550	11.55	50	11.55	100
PDRS116550	11.65	50	11.65	100
PDRS117550	11.75	50	11.75	100
PDRS18550	11.85	50	11.85	100
PDRS119550	11.95	50	11.95	100
PDRS120565	12.05	65	12.05	110
PDRS121565	12.15	65	12.15	110
PDRS122565	12.25	65	12.25	110
PDRS123565	12.35	65	12.35	110
PDRS124565	12.45	65	12.45	110
PDRS125565	12.55	65	12.55	110
PDRS126565	12.65	65	12.65	110
PDRS127565	12.75	65	12.75	110
PDRS128565	12.85	65	12.85	110
PDRS129565	12.95	65	12.95	110
PDRS130565	13.05	65	13.05	110
PDRS131565	13.15	65	13.15	110
PDRS11565	13.15	65	13.15	110
PDRS133565	13.35	65	13.35	110
PDRS134565	13.45	65	13.45	110
PDRS135565	13.55	65	13.55	110

Part No	d	FL	D	L
PDRS109045	10.90	45	10.9	100
PDRS110045	11.00	45	11.00	100
PDRS111050	11.10	50	11.10	100
PDRS112050	11.20	50	11.20	100
PDRS113050	11.30	50	11.30	100
PDRS114050	11.40	50	11.40	100
PDRS115050	11.50	50	11.50	100
PDRS116050	11.60	50	11.60	100
PDRS117050	11.70	50	11.70	100
PDRS118050	11.80	50	11.80	100
PDRS119050	11.90	50	11.90	100
PDRS120050	12.00	50	12.00	100
PDRS121065	12.10	65	12.10	110
PDRS122065	12.20	65	12.20	110
PDRS123065	12.30	65	12.30	110
PDRS124065	12.40	65	12.40	110
PDRS125065	12.50	65	12.50	110
PDRS126065	12.60	65	12.60	110
PDRS127065	12.70	65	12.70	110
PDRS128065	12.80	65	12.80	110
PDRS129065	12.90	65	12.90	110
PDRS130065	13.00	65	13.00	110
PDRS131065	13.10	65	13.10	110
PDRS132065	13.20	65	13.20	110
PDRS133065	13.30	65	13.30	110
PDRS134065	13.40	65	13.40	110
PDRS135065	13.50	65	13.50	110
PDRS136065	13.60	65	13.60	110

SD/R 0.05

Straight Shank Right-Handed
0.05 increments

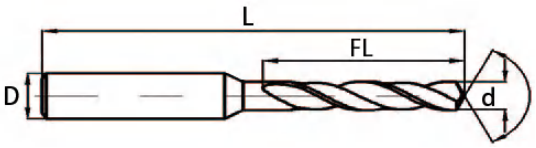


Part No	d	FL	D	L
PDRS136565	13.65	65	13.65	110
PDRS137565	13.75	65	13.75	110
PDRS138565	13.85	65	13.85	110
PDRS139565	13.95	65	13.95	110
PDRS140575	14.05	75	14.05	150
PDRS141575	14.15	75	14.15	150
PDRS142575	14.25	75	14.25	150
PDRS143575	14.35	75	14.35	150
PDRS144575	14.45	75	14.45	150
PDRS145575	14.55	75	14.55	150
PDRS146575	14.65	75	14.65	150
PDRS147575	14.75	75	14.75	150
PDRS148575	14.85	75	14.85	150
PDRS149575	14.95	75	14.95	150
PDRS150575	15.05	75	15.05	150
PDRS151575	15.15	75	15.15	150
PDRS152575	15.25	75	15.25	150
PDRS153575	15.35	75	15.35	150
PDRS154575	15.45	75	15.45	150
PDRS155575	15.55	75	15.55	150
PDRS156575	15.65	75	15.65	150
PDRS157575	15.75	75	15.75	150
PDRS158575	15.85	75	15.85	150
PDRS159575	15.95	75	15.95	150

Part No	d	FL	D	L
PDRS137065	13.70	65	13.7	110
PDRS138065	13.80	65	13.8	110
PDRS139065	13.90	65	13.9	110
PDRS140065	14.00	65	14.0	110
PDRS141075	14.10	75	14.1	150
PDRS142075	14.20	75	14.2	150
PDRS143075	14.30	75	14.3	150
PDRS144075	14.40	75	14.4	150
PDRS145075	14.50	75	14.5	150
PDRS146075	14.60	75	14.6	150
PDRS147075	14.70	75	14.7	150
PDRS148075	14.80	75	14.8	150
PDRS149075	14.90	75	14.9	150
PDRS150075	15.00	75	15.0	150
PDRS151075	15.10	75	15.1	150
PDRS152075	15.20	75	15.2	150
PDRS153075	15.30	75	15.3	150
PDRS154075	15.40	75	15.4	150
PDRS155075	15.50	75	15.5	150
PDRS156075	15.60	75	15.6	150
PDRS157075	15.70	75	15.7	150
PDRS158075	15.80	75	15.8	150
PDRS159075	15.90	75	15.9	150
PDRS160075	16.00	75	16.0	150

EMD/L-1/8 0.05

Fixed Shank Left-Handed
0.05 increments Shank Dia.3.175

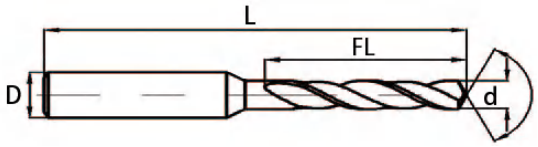


Part No	d	FL	D	L
PDLFA003038	0.30	3	3.175	38
PDLFA004038	0.40	3	3.175	38
PDLFA005038	0.50	3	3.175	38
PDLFA006038	0.60	4	3.175	38
PDLFA007038	0.70	4	3.175	38
PDLFA008038	0.80	4	3.175	38
PDLFA009038	0.90	5	3.175	38
PDLFA010038	1.00	5	3.175	38
PDLFA011038	1.10	5	3.175	38
PDLFA012038	1.20	6	3.175	38
PDLFA013038	1.30	6	3.175	38
PDLFA014038	1.40	8	3.175	38
PDLFA015038	1.50	8	3.175	38
PDLFA016038	1.60	8	3.175	38
PDLFA017038	1.70	8	3.175	38
PDLFA018038	1.80	8	3.175	38
PDLFA019038	1.90	14	3.175	38
PDLFA020038	2.00	14	3.175	38
PDLFA021038	2.10	18	3.175	38
PDLFA022038	2.20	18	3.175	38
PDLFA023038	2.30	18	3.175	38
PDLFA024038	2.40	18	3.175	38
PDLFA025038	2.50	18	3.175	38
PDLFA026038	2.60	18	3.175	38
PDLFA027038	2.70	18	3.175	38
PDLFA028038	2.80	18	3.175	38
PDLFA029038	2.90	18	3.175	38
PDLFA030038	3.00	18	3.175	38
PDLFA031038	3.10	18	3.175	38
PDLFAA38	3.175	18	3.175	38

Part No	d	FL	D	L
PDLFA003538	0.35	3	3.175	38
PDLFA004538	0.45	3	3.175	38
PDLFA005538	0.55	4	3.175	38
PDLFA006538	0.65	4	3.175	38
PDLFA007538	0.75	4	3.175	38
PDLFA008538	0.85	4	3.175	38
PDLFA009538	0.95	5	3.175	38
PDLFA010538	1.05	5	3.175	38
PDLFA011538	1.15	5	3.175	38
PDLFA012538	1.25	6	3.175	38
PDLFA013538	1.35	6	3.175	38
PDLFA014538	1.45	8	3.175	38
PDLFA015538	1.55	8	3.175	38
PDLFA016538	1.65	8	3.175	38
PDLFA017538	1.75	8	3.175	38
PDLFA018538	1.85	14	3.175	38
PDLFA019538	1.95	14	3.175	38
PDLFA020538	2.05	18	3.175	38
PDLFA021538	2.15	18	3.175	38
PDLFA022538	2.25	18	3.175	38
PDLFA023538	2.35	18	3.175	38
PDLFA024538	2.45	18	3.175	38
PDLFA025538	2.55	18	3.175	38
PDLFA026538	2.65	18	3.175	38
PDLFA027538	2.75	18	3.175	38
PDLFA028538	2.85	18	3.175	38
PDLFA029538	2.95	18	3.175	38
PDLFA030538	3.05	18	3.175	38
PDLFAA38	3.15	18	3.175	38

EMD/L-1/8 0.05

Fixed Shank Left-Handed
0.05 increments Shank Dia.3.175

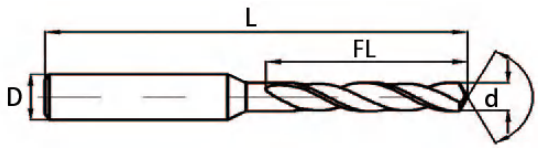


Part No	d	FL	D	L
PDLFA003050	0.30	3	3.175	50
PDLFA004050	0.40	3	3.175	50
PDLFA005050	0.50	3	3.175	50
PDLFA006050	0.60	4	3.175	50
PDLFA007050	0.70	4	3.175	50
PDLFA008050	0.80	4	3.175	50
PDLFA009050	0.90	5	3.175	50
PDLFA010050	1.00	5	3.175	50
PDLFA011050	1.10	5	3.175	50
PDLFA012050	1.20	6	3.175	50
PDLFA013050	1.30	6	3.175	50
PDLFA014050	1.40	8	3.175	50
PDLFA015050	1.50	8	3.175	50
PDLFA016050	1.60	8	3.175	50
PDLFA017050	1.70	8	3.175	50
PDLFA018050	1.80	8	3.175	50
PDLFA019050	1.90	14	3.175	50
PDLFA020050	2.00	14	3.175	50
PDLFA021050	2.10	18	3.175	50
PDLFA022050	2.20	18	3.175	50
PDLFA023050	2.30	18	3.175	50
PDLFA024050	2.40	18	3.175	50
PDLFA025050	2.50	18	3.175	50
PDLFA026050	2.60	18	3.175	50
PDLFA027050	2.70	18	3.175	50
PDLFA028050	2.80	18	3.175	50
PDLFA029050	2.90	18	3.175	50
PDLFA030050	3.00	18	3.175	50
PDLFA031050	3.10	18	3.175	50
PDLFAA50	3.175	18	3.175	50

Part No	d	FL	D	L
PDLFA003550	0.35	3	3.175	50
PDLFA004550	0.45	3	3.175	50
PDLFA005550	0.55	4	3.175	50
PDLFA006550	0.65	4	3.175	50
PDLFA007550	0.75	4	3.175	50
PDLFA008550	0.85	4	3.175	50
PDLFA009550	0.95	5	3.175	50
PDLFA010550	1.05	5	3.175	50
PDLFA011550	1.15	5	3.175	50
PDLFA012550	1.25	6	3.175	50
PDLFA013550	1.35	6	3.175	50
PDLFA014550	1.45	8	3.175	50
PDLFA015550	1.55	8	3.175	50
PDLFA016550	1.65	8	3.175	50
PDLFA017550	1.75	8	3.175	50
PDLFA018550	1.85	14	3.175	50
PDLFA019550	1.95	14	3.175	50
PDLFA020550	2.05	18	3.175	50
PDLFA021550	2.15	18	3.175	50
PDLFA022550	2.25	18	3.175	50
PDLFA023550	2.35	18	3.175	50
PDLFA024550	2.45	18	3.175	50
PDLFA025550	2.55	18	3.175	50
PDLFA026550	2.65	18	3.175	50
PDLFA027550	2.75	18	3.175	50
PDLFA028550	2.85	18	3.175	50
PDLFA029550	2.95	18	3.175	50
PDLFA030550	3.05	18	3.175	50
PDLFAA50	3.15	18	3.175	50

EMD/L-3 0.05

Fixed Shank Left-Handed
0.05 increments Shank Dia.3.0

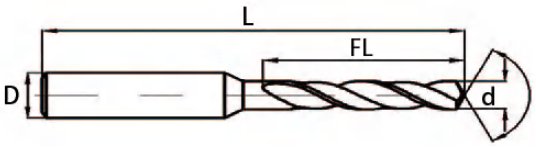


Part No	d	FL	D	L
PDLF0030338	0.30	3	3.0	38
PDLF0040338	0.40	3	3.0	38
PDLF0050338	0.50	3	3.0	38
PDLF0060338	0.60	4	3.0	38
PDLF0070338	0.70	4	3.0	38
PDLF0080338	0.80	4	3.0	38
PDLF0090338	0.90	5	3.0	38
PDLF0100338	1.00	5	3.0	38
PDLF0110338	1.10	5	3.0	38
PDLF0120338	1.20	6	3.0	38
PDLF0130338	1.30	6	3.0	38
PDLF0140338	1.40	8	3.0	38
PDLF0150338	1.50	8	3.0	38
PDLF0160338	1.60	8	3.0	38
PDLF0170338	1.70	8	3.0	38
PDLF0180338	1.80	8	3.0	38
PDLF0190338	1.90	14	3.0	38
PDLF0200338	2.00	14	3.0	38
PDLF0210338	2.10	18	3.0	38
PDLF0220338	2.20	18	3.0	38
PDLF0230338	2.30	18	3.0	38
PDLF0240338	2.40	18	3.0	38
PDLF0250338	2.50	18	3.0	38
PDLF0260338	2.60	18	3.0	38
PDLF0270338	2.70	18	3.0	38
PDLF0280338	2.80	18	3.0	38
PDLF0290338	2.90	18	3.0	38
PDLF0300338	3.00	18	3.0	38

Part No	d	FL	D	L
PDLF0035338	0.35	3	3.0	38
PDLF0045338	0.45	3	3.0	38
PDLF0055338	0.55	4	3.0	38
PDLF0065338	0.65	4	3.0	38
PDLF0075338	0.75	4	3.0	38
PDLF0085338	0.85	4	3.0	38
PDLF0095338	0.95	5	3.0	38
PDLF0105338	1.05	5	3.0	38
PDLF0115338	1.15	5	3.0	38
PDLF0125338	1.25	6	3.0	38
PDLF0135338	1.35	6	3.0	38
PDLF0145338	1.45	8	3.0	38
PDLF0155338	1.55	8	3.0	38
PDLF0165338	1.65	8	3.0	38
PDLF0175338	1.75	8	3.0	38
PDLF0185338	1.85	14	3.0	38
PDLF0195338	1.95	14	3.0	38
PDLF0205338	2.05	18	3.0	38
PDLF0215338	2.15	18	3.0	38
PDLF0225338	2.25	18	3.0	38
PDLF0235338	2.35	18	3.0	38
PDLF0245338	2.45	18	3.0	38
PDLF0255338	2.55	18	3.0	38
PDLF0265338	2.65	18	3.0	38
PDLF0275338	2.75	18	3.0	38
PDLF0285338	2.85	18	3.0	38
PDLF0295338	2.95	18	3.0	38

EMD/L-3 0.05

Fixed Shank Left-Handed
0.05 increments Shank Dia.3.0

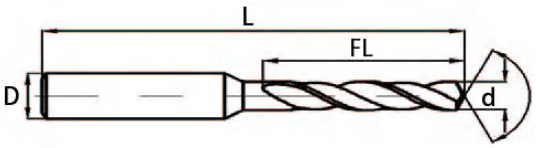


Part No	d	FL	D	L
PDLF0030350	0.30	3	3.0	50
PDLF0040350	0.40	3	3.0	50
PDLF0050350	0.50	3	3.0	50
PDLF0060350	0.60	4	3.0	50
PDLF0070350	0.70	4	3.0	50
PDLF0080350	0.80	4	3.0	50
PDLF0090350	0.90	5	3.0	50
PDLF0100350	1.00	5	3.0	50
PDLF0110350	1.10	5	3.0	50
PDLF0120350	1.20	6	3.0	50
PDLF0130350	1.30	6	3.0	50
PDLF0140350	1.40	8	3.0	50
PDLF0150350	1.50	8	3.0	50
PDLF0160350	1.60	8	3.0	50
PDLF0170350	1.70	8	3.0	50
PDLF0180350	1.80	8	3.0	50
PDLF0190350	1.90	14	3.0	50
PDLF0200350	2.00	14	3.0	50
PDLF0210350	2.10	18	3.0	50
PDLF0220350	2.20	18	3.0	50
PDLF0230350	2.30	18	3.0	50
PDLF0240350	2.40	18	3.0	50
PDLF0250350	2.50	18	3.0	50
PDLF0260350	2.60	18	3.0	50
PDLF0270350	2.70	18	3.0	50
PDLF0280350	2.80	18	3.0	50
PDLF0290350	2.90	18	3.0	50
PDLF0300350	3.00	18	3.0	50
PDLF0310350	3.10	18	3.0	50
PDLFA350	3.175	18	3.0	50

Part No	d	FL	D	L
PDLF0035350	0.35	3	3.0	50
PDLF0045350	0.45	3	3.0	50
PDLF0055350	0.55	4	3.0	50
PDLF0065350	0.65	4	3.0	50
PDLF0075350	0.75	4	3.0	50
PDLF0085350	0.85	4	3.0	50
PDLF0095350	0.95	5	3.0	50
PDLF0105350	1.05	5	3.0	50
PDLF0115350	1.15	5	3.0	50
PDLF0125350	1.25	6	3.0	50
PDLF0135350	1.35	6	3.0	50
PDLF0145350	1.45	8	3.0	50
PDLF0155350	1.55	8	3.0	50
PDLF0165350	1.65	8	3.0	50
PDLF0175350	1.75	8	3.0	50
PDLF0185350	1.85	14	3.0	50
PDLF0195350	1.95	14	3.0	50
PDLF0205350	2.05	18	3.0	50
PDLF0215350	2.15	18	3.0	50
PDLF0225350	2.25	18	3.0	50
PDLF0235350	2.35	18	3.0	50
PDLF0245350	2.45	18	3.0	50
PDLF0255350	2.55	18	3.0	50
PDLF0265350	2.65	18	3.0	50
PDLF0275350	2.75	18	3.0	50
PDLF0285350	2.85	18	3.0	50
PDLF0295350	2.95	18	3.0	50
PDLF0305350	3.05	18	3.0	50
PDLF0315350	3.15	18	3.0	50

EMD/L 0.05

Fixed Shank Left-Handed
0.05 increments Shank Dia.4.0

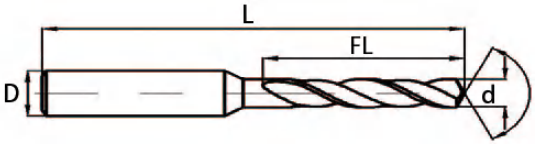


Part No	d	FL	D	L
PDLF0305450	3.05	18	4.0	50
PDLF0315450	3.15	18	4.0	50
PDLF0325450	3.25	22	4.0	50
PDLF0335450	3.35	22	4.0	50
PDLF0345450	3.45	22	4.0	50
PDLF0355450	3.55	22	4.0	50
PDLF0365450	3.65	22	4.0	50
PDLF0375450	3.75	22	4.0	50
PDLF0385450	3.85	22	4.0	50
PDLF0395450	3.95	22	4.0	50

Part No	d	FL	D	L
PDLF0310450	3.10	18	4.0	50
PDLF0320450	3.2	22	4.0	50
PDLF0330450	3.3	22	4.0	50
PDLF0340450	3.4	22	4.0	50
PDLF0350450	3.5	22	4.0	50
PDLF0360450	3.6	22	4.0	50
PDLF0370450	3.7	22	4.0	50
PDLF0380450	3.8	22	4.0	50
PDLF0390450	3.9	22	4.0	50
PDLF0400450	4.0	22	4.0	50

EMD/L 0.05

Fixed Shank Left-Handed
0.05 increments Shank Dia.5.0

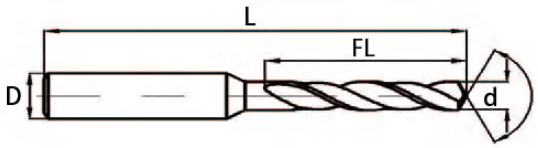


Part No	d	FL	D	L
PDLF0405650	4.05	25	6.0	50
PDLF0415650	4.15	25	6.0	50
PDLF0425650	4.25	25	6.0	50
PDLF0435650	4.35	25	6.0	50
PDLF0445650	4.45	25	6.0	50
PDLF0455650	4.55	25	6.0	50
PDLF0465650	4.65	25	6.0	50
PDLF0475650	4.75	25	6.0	50
PDLF0485650	4.85	25	6.0	50
PDLF0495650	4.95	25	6.0	50

Part No	d	FL	D	L
PDLF0410650	4.10	25	5.0	50
PDLF0420650	4.20	25	5.0	50
PDLF0430650	4.30	25	5.0	50
PDLF0440650	4.40	25	5.0	50
PDLF0450650	4.50	25	5.0	50
PDLF0460650	4.60	25	5.0	50
PDLF0470650	4.70	25	5.0	50
PDLF0480650	4.80	25	5.0	50
PDLF0490650	4.90	25	5.0	50
PDLF0500650	5.00	25	5.0	50

EMD/L 0.05

Fixed Shank Left-Handed
0.05 increments Shank Dia.6.0

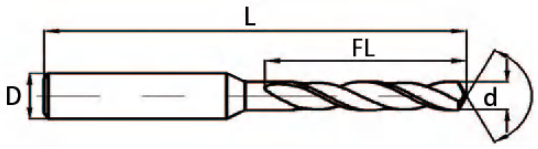


Part No	d	FL	D	L
PDLF0505650	5.05	25	6.0	50
PDLF0515650	5.15	25	6.0	50
PDLF0525650	5.25	25	6.0	50
PDLF0535650	5.35	25	6.0	50
PDLF0545650	5.45	25	6.0	50
PDLF0555650	5.55	25	6.0	50
PDLF0565650	5.65	25	6.0	50
PDLF0575650	5.75	25	6.0	50
PDLF0585650	5.85	25	6.0	50
PDLF0595650	5.95	25	6.0	50

Part No	d	FL	D	L
PDLF0510650	5.10	25	6.0	50
PDLF0520650	5.20	25	6.0	50
PDLF0530650	5.30	25	6.0	50
PDLF0540650	5.40	25	6.0	50
PDLF0550650	5.50	25	6.0	50
PDLF0560650	5.60	25	6.0	50
PDLF0570650	5.70	25	6.0	50
PDLF0580650	5.80	25	6.0	50
PDLF0590650	5.90	25	6.0	50
PDLF0600650	6.00	25	6.0	50

EMD/L 0.05

Fixed Shank Left-Handed
0.05 increments Shank Dia.7.0

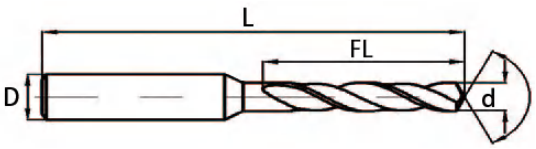


Part No	d	FL	D	L
PDLF0605755	6.05	28	7.0	55
PDLF0615755	6.15	28	7.0	55
PDLF0625755	6.25	28	7.0	55
PDLF0635755	6.35	28	7.0	55
PDLF0645755	6.45	28	7.0	55
PDLF0655755	6.55	28	7.0	55
PDLF0665755	6.65	28	7.0	55
PDLF0675755	6.75	28	7.0	55
PDLF0685755	6.85	28	7.0	55
PDLF0695755	6.95	28	7.0	55

Part No	d	FL	D	L
PDLF0610755	6.10	28	7.0	55
PDLF0620755	6.20	28	7.0	55
PDLF0630755	6.30	28	7.0	55
PDLF0640755	6.40	28	7.0	55
PDLF0650755	6.50	28	7.0	55
PDLF0660755	6.60	28	7.0	55
PDLF0670755	6.70	28	7.0	55
PDLF0680755	6.80	28	7.0	55
PDLF0690755	6.90	28	7.0	55
PDLF0700755	7.00	28	7.0	55

SD/L 0.05

Straight Shank Left-Handed
0.05 increments

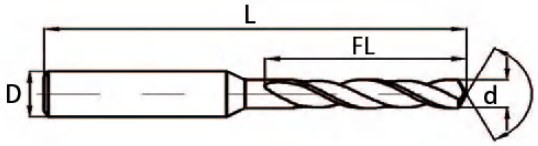


Part No	d	FL	D	L
PDLS008010	0.80	10	0.80	50
PDLS009010	0.90	10	0.90	50
PDLS010010	1.00	10	1.00	50
PDLS011010	1.10	10	1.10	50
PDLS012010	1.20	10	1.20	50
PDLS013010	1.30	10	1.30	50
PDLS014010	1.40	10	1.40	50
PDLS015010	1.50	10	1.50	50
PDLS016015	1.60	15	1.60	50
PDLS017015	1.70	15	1.70	50
PDLS018015	1.80	15	1.80	50
PDLS019015	1.90	15	1.90	50
PDLS020015	2.00	15	2.00	50
PDLS021018	2.10	18	2.10	50
PDLS022018	2.20	18	2.20	50
PDLS023018	2.30	18	2.30	50
PDLS024018	2.40	18	2.40	50
PDLS025018	2.50	18	2.50	50
PDLS026018	2.60	18	2.60	50
PDLS027018	2.70	18	2.70	50
PDLS028018	2.80	18	2.80	50
PDLS029018	2.90	18	2.90	50
PDLS030018	3.00	18	3.00	50
PDLS031022	3.10	22	3.10	50
PDLS032022	3.20	22	3.20	50
PDLS033022	3.30	22	3.30	50
PDLS034022	3.40	22	3.40	50
PDLS035022	3.50	22	3.50	50

Part No	d	FL	D	L
PDLS008510	0.85	10	0.85	50
PDLS009510	0.95	10	0.95	50
PDLS010510	1.05	10	1.05	50
PDLS011510	1.15	10	1.15	50
PDLS012510	1.25	10	1.25	50
PDLS013510	1.35	10	1.35	50
PDLS014510	1.45	10	1.45	50
PDLS015515	1.55	15	1.55	50
PDLS016515	1.65	15	1.65	50
PDLS017515	1.75	15	1.75	50
PDLS018515	1.85	15	1.85	50
PDLS019515	1.95	15	1.95	50
PDLS020518	2.05	18	2.05	50
PDLS021518	2.15	18	2.15	50
PDLS022518	2.25	18	2.25	50
PDLS023518	2.35	18	2.35	50
PDLS024518	2.45	18	2.45	50
PDLS025518	2.55	18	2.55	50
PDLS026518	2.65	18	2.65	50
PDLS027518	2.75	18	2.75	50
PDLS028518	2.85	18	2.85	50
PDLS029518	2.95	18	2.95	50
PDLS030522	3.05	22	3.05	50
PDLS031522	3.15	22	3.15	50
PDLS032522	3.25	22	3.25	50
PDLS033522	3.35	22	3.35	50
PDLS034522	3.45	22	3.45	50
PDLS035525	3.55	25	3.55	50

SD/L 0.05

Straight Shank Left-Handed
0.05 increments

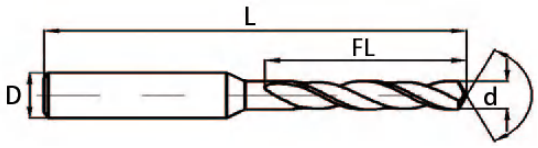


Part No	d	FL	D	L
PDLS036025	3.60	25	3.60	50
PDLS037025	3.70	25	3.70	50
PDLS038025	3.80	25	3.80	50
PDLS039025	3.90	25	3.90	50
PDLS040025	4.00	25	4.00	50
PDLS041025	4.10	25	4.10	50
PDLS042025	4.20	25	4.20	50
PDLS043025	4.30	25	4.30	50
PDLS044025	4.40	25	4.40	50
PDLS045025	4.50	25	4.50	50
PDLS046025	4.60	25	4.60	50
PDLS047025	4.70	25	4.70	50
PDLS048025	4.80	25	4.80	50
PDLS049025	4.90	25	4.90	50
PDLS050025	5.00	25	5.00	50
PDLS051025	5.10	25	5.10	50
PDLS052025	5.20	25	5.20	50
PDLS053025	5.30	25	5.30	50
PDLS054025	5.40	25	5.40	50
PDLS055025	5.50	25	5.50	50
PDLS056025	5.60	25	5.60	50
PDLS057025	5.70	25	5.70	50
PDLS058025	5.80	25	5.80	50
PDLS059025	5.90	25	5.90	50
PDLS060025	6.00	25	6.00	50
PDLS061028	6.10	28	6.10	60
PDLS062028	6.20	28	6.20	60
PDLS063028	6.30	28	6.30	60

Part No	d	FL	D	L
PDLS036025	3.65	25	3.65	50
PDLS037525	3.75	25	3.75	50
PDLS038525	3.85	25	3.85	50
PDLS039525	3.95	25	3.95	50
PDLS040525	4.05	25	4.05	50
PDLS041525	4.15	25	4.15	50
PDLS042525	4.25	25	4.25	50
PDLS043525	4.35	25	4.35	50
PDLS044525	4.45	25	4.45	50
PDLS045525	4.55	25	4.55	50
PDLS046525	4.65	25	4.65	50
PDLS047525	4.75	25	4.75	50
PDLS048525	4.85	25	4.85	50
PDLS049525	4.95	25	4.95	50
PDLS050525	5.05	25	5.05	50
PDLS051525	5.15	25	5.15	50
PDLS052525	5.25	25	5.25	50
PDLS053525	5.35	25	5.35	50
PDLS054525	5.45	25	5.45	50
PDLS055525	5.55	25	5.55	50
PDLS056525	5.65	25	5.65	50
PDLS057525	5.75	25	5.75	50
PDLS058525	5.85	25	5.85	50
PDLS059525	5.95	25	5.95	50
PDLS060528	6.05	28	6.05	60
PDLS061528	6.15	28	6.15	60
PDLS062528	6.25	28	6.25	60
PDLS063528	6.35	28	6.35	60

SD/L 0.05

Straight Shank Left-Handed
0.05 increments

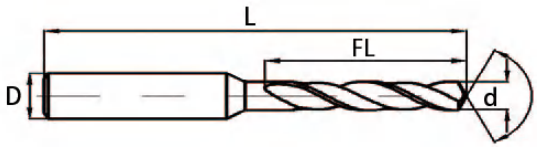


Part No	d	FL	D	L
PDLS064028	6.40	28	6.40	60
PDLS065028	6.50	28	6.50	60
PDLS066028	6.60	28	6.60	60
PDLS067028	6.70	28	6.70	60
PDLS068028	6.80	28	6.80	60
PDLS069028	6.90	28	6.90	60
PDLS070028	7.00	28	7.00	60

Part No	d	FL	D	L
PDLS064528	6.45	28	6.45	60
PDLS065560	6.55	60	6.55	60
PDLS066560	6.65	60	6.65	60
PDLS067560	6.75	60	6.75	60
PDLS068560	6.85	60	6.85	60
PDLS069560	6.95	60	6.95	60

EMD/R 0.01

Fixed Shank Right-Handed
0.01 increments

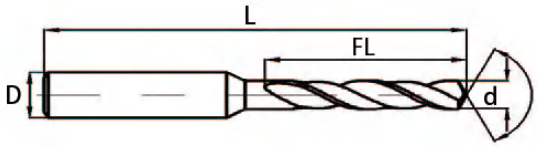


Part No	d	FL	D	L
PDRF00100153	0.15	3	3.0	38
PDRF00100173	0.17	3	3.0	38
PDRF00100193	0.19	3	3.0	38
PDRF00100273	0.27	3	3.0	38
PDRF00100293	0.29	3	3.0	38
PDRF00100323	0.32	3	3.0	38
PDRF00100343	0.34	3	3.0	38
PDRF00100363	0.36	3	3.0	38
PDRF00100383	0.38	3	3.0	38
PDRF00100413	0.41	4	3.0	38
PDRF00100433	0.43	4	3.0	38
PDRF00100463	0.46	4	3.0	38
PDRF00100483	0.48	4	3.0	38
PDRF00100513	0.51	4	3.0	38
PDRF00100533	0.53	4	3.0	38
PDRF00100563	0.56	5	3.0	38
PDRF00100583	0.58	5	3.0	38
PDRF00100613	0.61	6	3.0	38
PDRF00100633	0.63	6	3.0	38
PDRF00100663	0.66	6	3.0	38
PDRF00100683	0.68	6	3.0	38
PDRF00100713	0.71	6	3.0	38
PDRF00100733	0.73	6	3.0	38
PDRF00100763	0.76	6	3.0	38
PDRF00100783	0.78	6	3.0	38
PDRF00100813	0.81	6	3.0	38
PDRF00100833	0.83	6	3.0	38
PDRF00100863	0.86	6	3.0	38

Part No	d	FL	D	L
PDRF00100163	0.16	3	3.0	38
PDRF00100183	0.18	3	3.0	38
PDRF00100263	0.26	3	3.0	38
PDRF00100283	0.28	3	3.0	38
PDRF00100313	0.31	3	3.0	38
PDRF00100333	0.33	3	3.0	38
PDRF00100353	0.35	3	3.0	38
PDRF00100373	0.37	3	3.0	38
PDRF00100393	0.39	3	3.0	38
PDRF00100423	0.42	4	3.0	38
PDRF00100443	0.44	4	3.0	38
PDRF00100473	0.47	4	3.0	38
PDRF00100493	0.49	4	3.0	38
PDRF00100523	0.52	4	3.0	38
PDRF00100543	0.54	4	3.0	38
PDRF00100573	0.57	5	3.0	38
PDRF00100593	0.59	5	3.0	38
PDRF00100623	0.62	6	3.0	38
PDRF00100643	0.64	6	3.0	38
PDRF00100673	0.67	6	3.0	38
PDRF00100693	0.69	6	3.0	38
PDRF00100723	0.72	6	3.0	38
PDRF00100743	0.74	6	3.0	38
PDRF00100773	0.77	6	3.0	38
PDRF00100793	0.79	6	3.0	38
PDRF00100823	0.82	6	3.0	38
PDRF00100843	0.84	6	3.0	38
PDRF00100873	0.87	6	3.0	38

EMD/R 0.01

Fixed Shank Right-Handed
0.01 increments

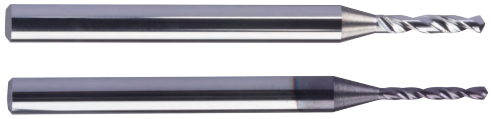


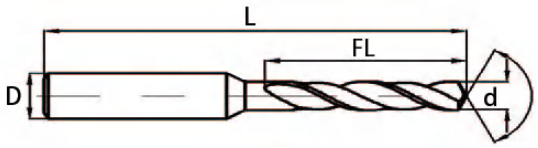
Part No	d	FL	D	L
PDRF00100883	0.88	6	3.0	38
PDRF00100913	0.91	6	3.0	38
PDRF00100933	0.93	6	3.0	38
PDRF00100963	0.96	6	3.0	38
PDRF00100983	0.98	6	3.0	38
PDRF00101013	1.01	7	3.0	38
PDRF00101033	1.03	7	3.0	38
PDRF00101063	1.06	7	3.0	38
PDRF00101083	1.08	7	3.0	38
PDRF00101113	1.11	7	3.0	38
PDRF00101133	1.13	7	3.0	38
PDRF00101163	1.16	7	3.0	38
PDRF00101183	1.18	7	3.0	38
PDRF00101213	1.21	7	3.0	38
PDRF00101233	1.23	7	3.0	38
PDRF00101263	1.26	8	3.0	38
PDRF00101283	1.28	8	3.0	38
PDRF00101313	1.31	8	3.0	38
PDRF00101333	1.33	8	3.0	38
PDRF00101363	1.36	8	3.0	38
PDRF00101383	1.38	8	3.0	38
PDRF00101413	1.41	8	3.0	38
PDRF00101433	1.43	8	3.0	38
PDRF00101463	1.46	8	3.0	38
PDRF00101483	1.48	8	3.0	38
PDRF00101513	1.51	8	3.0	38
PDRF00101533	1.53	8	3.0	38
PDRF00101563	1.56	8	3.0	38

Part No	d	FL	D	L
PDRF00100893	0.89	6	3.0	38
PDRF00100923	0.92	6	3.0	38
PDRF00100943	0.94	6	3.0	38
PDRF00100973	0.97	6	3.0	38
PDRF00100993	0.99	6	3.0	38
PDRF00101023	1.02	7	3.0	38
PDRF00101043	1.04	7	3.0	38
PDRF00101073	1.07	7	3.0	38
PDRF00101093	1.09	7	3.0	38
PDRF00101123	1.12	7	3.0	38
PDRF00101143	1.14	7	3.0	38
PDRF00101173	1.17	7	3.0	38
PDRF00101193	1.19	7	3.0	38
PDRF00101223	1.22	7	3.0	38
PDRF00101243	1.24	7	3.0	38
PDRF00101273	1.27	8	3.0	38
PDRF00101293	1.29	8	3.0	38
PDRF00101323	1.32	8	3.0	38
PDRF00101343	1.34	8	3.0	38
PDRF00101373	1.37	8	3.0	38
PDRF00101393	1.39	8	3.0	38
PDRF00101423	1.42	8	3.0	38
PDRF00101443	1.44	8	3.0	38
PDRF00101473	1.47	8	3.0	38
PDRF00101493	1.49	8	3.0	38
PDRF00101523	1.52	8	3.0	38
PDRF00101543	1.54	8	3.0	38
PDRF00101573	1.57	8	3.0	38

EMD/R 0.01

Fixed Shank Right-Handed
0.01 increments



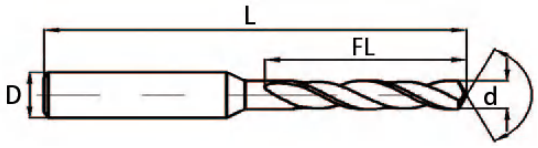


Part No	d	FL	D	L
PDRF00101583	1.58	8	3.0	38
PDRF00101613	1.61	9	3.0	38
PDRF00101633	1.63	9	3.0	38
PDRF00101663	1.66	9	3.0	38
PDRF00101683	1.68	9	3.0	38
PDRF00101713	1.71	9	3.0	38
PDRF00101733	1.73	9	3.0	38
PDRF00101763	1.76	9	3.0	38
PDRF00101783	1.78	9	3.0	38
PDRF00101813	1.81	9	3.0	38
PDRF00101833	1.83	9	3.0	38
PDRF00101863	1.86	9	3.0	38
PDRF00101883	1.88	9	3.0	38
PDRF00101913	1.91	9	3.0	38
PDRF00101933	1.93	9	3.0	38
PDRF00101963	1.96	9	3.0	38
PDRF00101983	1.98	12	3.0	38
PDRF00102013	2.01	12	3.0	38
PDRF00102033	2.03	12	3.0	38
PDRF00102063	2.06	12	3.0	38
PDRF00102083	2.08	12	3.0	38
PDRF00102113	2.11	12	3.0	38
PDRF00102133	2.13	12	3.0	38
PDRF00102163	2.16	12	3.0	38
PDRF00102183	2.18	12	3.0	38
PDRF00102213	2.21	12	3.0	38
PDRF00102233	2.23	12	3.0	38
PDRF00102263	2.26	12	3.0	38

Part No	d	FL	D	L
PDRF00101593	1.59	8	3.0	38
PDRF00101623	1.62	9	3.0	38
PDRF00101643	1.64	9	3.0	38
PDRF00101673	1.67	9	3.0	38
PDRF00101693	1.69	9	3.0	38
PDRF00101723	1.72	9	3.0	38
PDRF00101743	1.74	9	3.0	38
PDRF00101773	1.77	9	3.0	38
PDRF00101793	1.79	9	3.0	38
PDRF00101823	1.82	9	3.0	38
PDRF00101843	1.84	9	3.0	38
PDRF00101873	1.87	9	3.0	38
PDRF00101893	1.89	9	3.0	38
PDRF00101923	1.92	9	3.0	38
PDRF00101943	1.94	9	3.0	38
PDRF00101973	1.97	12	3.0	38
PDRF00101993	1.99	12	3.0	38
PDRF00102023	2.02	12	3.0	38
PDRF00102043	2.04	12	3.0	38
PDRF00102073	2.07	12	3.0	38
PDRF00102093	2.09	12	3.0	38
PDRF00102123	2.12	12	3.0	38
PDRF00102143	2.14	12	3.0	38
PDRF00102173	2.17	12	3.0	38
PDRF00102193	2.19	12	3.0	38
PDRF00102223	2.22	12	3.0	38
PDRF00102243	2.24	12	3.0	38
PDRF00102273	2.27	12	3.0	38

EMD/R 0.01

Fixed Shank Right-Handed
0.01 increments

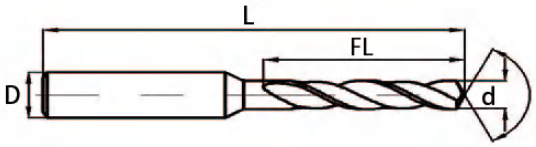


Part No	d	FL	D	L
PDRF00102283	2.28	12	3.0	38
PDRF00102313	2.31	12	3.0	38
PDRF00102333	2.33	12	3.0	38
PDRF00102363	2.36	12	3.0	38
PDRF00102383	2.38	12	3.0	38
PDRF00102413	2.41	12	3.0	38
PDRF00102433	2.43	12	3.0	38
PDRF00102463	2.46	12	3.0	38
PDRF00102483	2.48	12	3.0	38
PDRF00102513	2.51	12	3.0	38
PDRF00102533	2.53	12	3.0	38
PDRF00102563	2.56	12	3.0	38
PDRF00102583	2.58	12	3.0	38
PDRF00102613	2.61	12	3.0	38
PDRF00102633	2.63	12	3.0	38
PDRF00102663	2.66	12	3.0	38
PDRF00102683	2.68	12	3.0	38
PDRF00102713	2.71	12	3.0	38
PDRF00102733	2.73	12	3.0	38
PDRF00102763	2.76	12	3.0	38
PDRF00102783	2.78	12	3.0	38
PDRF00102813	2.81	12	3.0	38
PDRF00102833	2.83	12	3.0	38
PDRF00102863	2.86	12	3.0	38
PDRF00102883	2.88	12	3.0	38
PDRF00102913	2.91	12	3.0	38
PDRF00102933	2.93	12	3.0	38
PDRF00102963	2.96	12	3.0	38

Part No	d	FL	D	L
PDRF00102293	2.29	12	3.0	38
PDRF00102323	2.32	12	3.0	38
PDRF00102343	2.34	12	3.0	38
PDRF00102373	2.37	12	3.0	38
PDRF00102393	2.39	12	3.0	38
PDRF00102423	2.42	12	3.0	38
PDRF00102443	2.44	12	3.0	38
PDRF00102473	2.47	12	3.0	38
PDRF00102493	2.49	12	3.0	38
PDRF00102523	2.52	12	3.0	38
PDRF00102543	2.54	12	3.0	38
PDRF00102573	2.57	12	3.0	38
PDRF00102593	2.59	12	3.0	38
PDRF00102623	2.62	12	3.0	38
PDRF00102643	2.64	12	3.0	38
PDRF00102673	2.67	12	3.0	38
PDRF00102693	2.69	12	3.0	38
PDRF00102723	2.72	12	3.0	38
PDRF00102743	2.74	12	3.0	38
PDRF00102773	2.77	12	3.0	38
PDRF00102793	2.79	12	3.0	38
PDRF00102823	2.82	12	3.0	38
PDRF00102843	2.84	12	3.0	38
PDRF00102873	2.87	12	3.0	38
PDRF00102893	2.89	12	3.0	38
PDRF00102923	2.92	12	3.0	38
PDRF00102943	2.94	12	3.0	38
PDRF00102973	2.97	12	3.0	38

EMD/R 0.01

Fixed Shank Right-Handed
0.01 increments

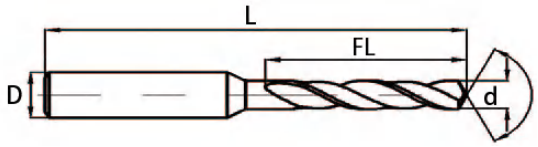


Part No	d	FL	D	L
PDRF00102983	2.98	12	3.0	38
PDRF00103013	3.01	18	4.0	50
PDRF00103033	3.03	18	4.0	50
PDRF00103063	3.06	18	4.0	50
PDRF00103083	3.08	18	4.0	50
PDRF00103113	3.11	18	4.0	50
PDRF00103133	3.13	18	4.0	50
PDRF00103163	3.16	18	4.0	50
PDRF00103183	3.18	18	4.0	50
PDRF00103213	3.21	18	4.0	50
PDRF00103233	3.23	18	4.0	50
PDRF00103263	3.26	18	4.0	50
PDRF00103283	3.28	18	4.0	50
PDRF00103313	3.31	18	4.0	50
PDRF00103333	3.33	18	4.0	50
PDRF00103363	3.36	18	4.0	50
PDRF00103383	3.38	18	4.0	50
PDRF00103413	3.41	18	4.0	50
PDRF00103433	3.43	18	4.0	50
PDRF00103463	3.46	18	4.0	50
PDRF00103483	3.48	18	4.0	50
PDRF00103513	3.51	18	4.0	50
PDRF00103533	3.53	18	4.0	50
PDRF00103563	3.56	18	4.0	50
PDRF00103583	3.58	18	4.0	50
PDRF00103613	3.61	18	4.0	50
PDRF00103633	3.63	18	4.0	50
PDRF00103663	3.66	18	4.0	50

Part No	d	FL	D	L
PDRF00102293	2.99	12	3.0	38
PDRF00103023	3.02	18	4.0	50
PDRF00103043	3.04	18	4.0	50
PDRF00103073	3.07	18	4.0	50
PDRF00103093	3.09	18	4.0	50
PDRF00103123	3.12	18	4.0	50
PDRF00103143	3.14	18	4.0	50
PDRF00103173	3.17	18	4.0	50
PDRF00103193	3.19	18	4.0	50
PDRF00103223	3.22	18	4.0	50
PDRF00103243	3.24	18	4.0	50
PDRF00103273	3.27	18	4.0	50
PDRF00103293	3.29	18	4.0	50
PDRF00103323	3.32	18	4.0	50
PDRF00103343	3.34	18	4.0	50
PDRF00103373	3.37	18	4.0	50
PDRF00103393	3.39	18	4.0	50
PDRF00103423	3.42	18	4.0	50
PDRF00103443	3.44	18	4.0	50
PDRF00103473	3.47	18	4.0	50
PDRF00103493	3.49	18	4.0	50
PDRF00103523	3.52	18	4.0	50
PDRF00103543	3.54	18	4.0	50
PDRF00103573	3.57	18	4.0	50
PDRF00103593	3.59	18	4.0	50
PDRF00103623	3.62	18	4.0	50
PDRF00103643	3.64	18	4.0	50
PDRF00103673	3.67	18	4.0	50

EMD/R 0.01

Fixed Shank Right-Handed
0.01 increments

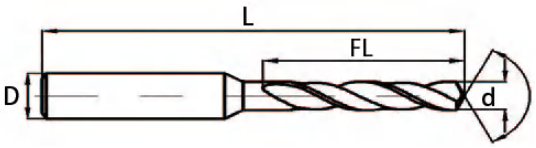


Part No	d	FL	D	L
PDRF00103683	3.68	18	4.0	50
PDRF00103713	3.71	18	4.0	50
PDRF00103733	3.73	18	4.0	50
PDRF00103763	3.76	18	4.0	50
PDRF00103783	3.78	18	4.0	50
PDRF00103813	3.81	18	4.0	50
PDRF00103833	3.83	18	4.0	50
PDRF00103863	3.86	18	4.0	50
PDRF00103883	3.88	18	4.0	50
PDRF00103913	3.91	18	4.0	50
PDRF00103933	3.93	18	4.0	50
PDRF00103963	3.96	18	4.0	50
PDRF00103983	3.98	18	4.0	50

Part No	d	FL	D	L
PDRF00103693	3.69	18	4.0	50
PDRF00103723	3.72	18	4.0	50
PDRF00103743	3.74	18	4.0	50
PDRF00103773	3.77	18	4.0	50
PDRF00103793	3.79	18	4.0	50
PDRF00103823	3.82	18	4.0	50
PDRF00103843	3.84	18	4.0	50
PDRF00103873	3.87	18	4.0	50
PDRF00103893	3.89	18	4.0	50
PDRF00103923	3.92	18	4.0	50
PDRF00103943	3.94	18	4.0	50
PDRF00103973	3.97	18	4.0	50
PDRF00103993	3.99	18	4.0	50

EMD/R-3 0.05

Fixed Shank Right-Handed
0.05 increments Shank Dia.3.0

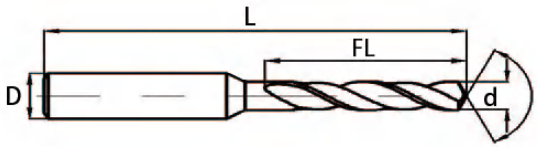


Part No	d	FL	D	L
PDRF0020338	0.20	3	3.0	38
PDRF0030338	0.30	3	3.0	38
PDRF0040338	0.40	3	3.0	38
PDRF0050338	0.50	4	3.0	38
PDRF0060338	0.60	5	3.0	38
PDRF0070338	0.70	5	3.0	38
PDRF0080338	0.80	5	3.0	38
PDRF0090338	0.90	5	3.0	38
PDRF0100338	1.00	6	3.0	38
PDRF0110338	1.10	6	3.0	38
PDRF0120338	1.20	6	3.0	38
PDRF0130338	1.30	8	3.0	38
PDRF0140338	1.40	8	3.0	38
PDRF0150338	1.50	8	3.0	38
PDRF0160338	1.60	8	3.0	38
PDRF0170338	1.70	8	3.0	38
PDRF0180338	1.80	10	3.0	38
PDRF0190338	1.90	10	3.0	38
PDRF0200338	2.00	10	3.0	38
PDRF0210338	2.10	10	3.0	38
PDRF0220338	2.20	10	3.0	38
PDRF0230338	2.30	12	3.0	38
PDRF0240338	2.40	12	3.0	38
PDRF0250338	2.50	12	3.0	38
PDRF0260338	2.60	12	3.0	38
PDRF0270338	2.70	12	3.0	38
PDRF0280338	2.80	12	3.0	38
PDRF0290338	2.90	12	3.0	38
PDRF0300338	3.00	12	3.0	38

Part No	d	FL	D	L
PDRF0250338	0.25	3	3.0	38
PDRF0350338	0.35	3	3.0	38
PDRF0450338	0.45	4	3.0	38
PDRF0550338	0.55	4	3.0	38
PDRF0650338	0.65	5	3.0	38
PDRF0750338	0.75	5	3.0	38
PDRF0850338	0.85	5	3.0	38
PDRF0950338	0.95	5	3.0	38
PDRF1050338	1.05	6	3.0	38
PDRF1150338	1.15	6	3.0	38
PDRF1250338	1.25	8	3.0	38
PDRF1350338	1.35	8	3.0	38
PDRF1450338	1.45	8	3.0	38
PDRF1550338	1.55	8	3.0	38
PDRF1650338	1.65	8	3.0	38
PDRF1750338	1.75	8	3.0	38
PDRF1850338	1.85	10	3.0	38
PDRF1950338	1.95	10	3.0	38
PDRF2050338	2.05	10	3.0	38
PDRF2150338	2.15	10	3.0	38
PDRF2250338	2.25	12	3.0	38
PDRF2350338	2.35	12	3.0	38
PDRF2450338	2.45	12	3.0	38
PDRF2550338	2.55	12	3.0	38
PDRF2650338	2.65	12	3.0	38
PDRF2750338	2.75	12	3.0	38
PDRF2850338	2.85	12	3.0	38
PDRF2950338	2.95	12	3.0	38

EMD/R-3 0.05

Fixed Shank Right-Handed
0.05 increments Shank Dia.3.0

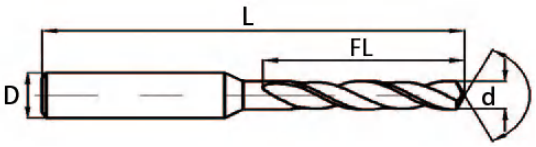


Part No	d	FL	D	L
PDRF0030350	0.30	3	3.0	50
PDRF0040350	0.40	3	3.0	50
PDRF0050350	0.50	4	3.0	50
PDRF0060350	0.60	5	3.0	50
PDRF0070350	0.70	5	3.0	50
PDRF0080350	0.80	5	3.0	50
PDRF0090350	0.90	5	3.0	50
PDRF0100350	1.00	6	3.0	50
PDRF0110350	1.10	6	3.0	50
PDRF0120350	1.20	6	3.0	50
PDRF0130350	1.30	8	3.0	50
PDRF0140350	1.40	8	3.0	50
PDRF0150350	1.50	8	3.0	50
PDRF01600350	1.60	8	3.0	50
PDRF0170350	1.70	8	3.0	50
PDRF0180350	1.80	10	3.0	50
PDRF0190350	1.90	10	3.0	50
PDRF0200350	2.00	10	3.0	50
PDRF0210350	2.10	10	3.0	50
PDRF0220350	2.20	10	3.0	50
PDRF0230350	2.30	12	3.0	50
PDRF0240350	2.40	12	3.0	50
PDRF0250350	2.50	12	3.0	50
PDRF0260350	2.60	12	3.0	50
PDRF0270350	2.70	12	3.0	50
PDRF0280350	2.80	12	3.0	50
PDRF0290350	2.90	12	3.0	50
PDRF0300350	3.00	12	3.0	50

Part No	d	FL	D	L
PDRF0035350	0.35	3	3.0	50
PDRF0045350	0.45	4	3.0	50
PDRF0055350	0.55	4	3.0	50
PDRF0065350	0.65	5	3.0	50
PDRF0075350	0.75	5	3.0	50
PDRF0085350	0.85	5	3.0	50
PDRF0095350	0.95	5	3.0	50
PDRF0105350	1.05	6	3.0	50
PDRF0115350	1.15	6	3.0	50
PDRF0125350	1.25	8	3.0	50
PDRF0135350	1.35	8	3.0	50
PDRF0145350	1.45	8	3.0	50
PDRF0155350	1.55	8	3.0	50
PDRF0165350	1.65	8	3.0	50
PDRF0175350	1.75	8	3.0	50
PDRF0185350	1.85	10	3.0	50
PDRF0195350	1.95	10	3.0	50
PDRF0205350	2.05	10	3.0	50
PDRF0215350	2.15	10	3.0	50
PDRF0225350	2.25	12	3.0	50
PDRF0235350	2.35	12	3.0	50
PDRF0245350	2.45	12	3.0	50
PDRF0255350	2.55	12	3.0	50
PDRF0265350	2.65	12	3.0	50
PDRF0275350	2.75	12	3.0	50
PDRF0285350	2.85	12	3.0	50
PDRF0295350	2.95	12	3.0	50

EMD/R-1/8 0.05

Fixed Shank Right-Handed
0.05 increments Shank Dia.3.175

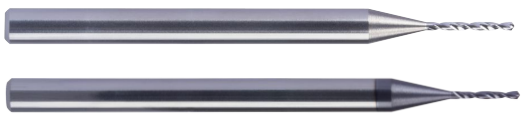


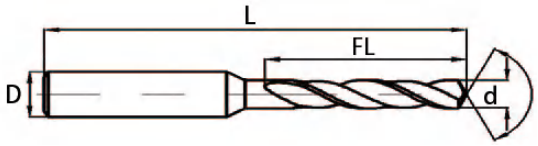
Part No	d	FL	D	L
PDRFA003038	0.30	3	3.175	38
PDRFA004038	0.40	3	3.175	38
PDRFA005038	0.50	4	3.175	38
PDRFA006038	0.60	5	3.175	38
PDRFA007038	0.70	5	3.175	38
PDRFA008038	0.80	5	3.175	38
PDRFA009038	0.90	5	3.175	38
PDRFA010038	1.00	6	3.175	38
PDRFA011038	1.10	6	3.175	38
PDRFA012038	1.20	6	3.175	38
PDRFA013038	1.30	8	3.175	38
PDRFA014038	1.40	8	3.175	38
PDRFA015038	1.50	8	3.175	38
PDRFA016038	1.60	8	3.175	38
PDRFA017038	1.70	8	3.175	38
PDRFA018038	1.80	10	3.175	38
PDRFA019038	1.90	10	3.175	38
PDRFA020038	2.00	10	3.175	38
PDRFA021038	2.10	10	3.175	38
PDRFA022038	2.20	10	3.175	38
PDRFA023038	2.30	12	3.175	38
PDRFA024038	2.40	12	3.175	38
PDRFA025038	2.50	12	3.175	38
PDRFA026038	2.60	12	3.175	38
PDRFA027038	2.70	12	3.175	38
PDRFA028038	2.80	12	3.175	38
PDRFA029038	2.90	12	3.175	38
PDRFA030038	3.00	12	3.175	38

Part No	d	FL	D	L
PDRFA003538	0.35	3	3.175	38
PDRFA004538	0.45	4	3.175	38
PDRFA005538	0.55	4	3.175	38
PDRFA006538	0.65	5	3.175	38
PDRFA007538	0.75	5	3.175	38
PDRFA008538	0.85	5	3.175	38
PDRFA009538	0.95	5	3.175	38
PDRFA010538	1.05	6	3.175	38
PDRFA011538	1.15	6	3.175	38
PDRFA012538	1.25	8	3.175	38
PDRFA013538	1.35	8	3.175	38
PDRFA014538	1.45	8	3.175	38
PDRFA015538	1.55	8	3.175	38
PDRFA016538	1.65	8	3.175	38
PDRFA017538	1.75	8	3.175	38
PDRFA018538	1.85	10	3.175	38
PDRFA019538	1.95	10	3.175	38
PDRFA020538	2.05	10	3.175	38
PDRFA021538	2.15	10	3.175	38
PDRFA022538	2.25	12	3.175	38
PDRFA023538	2.35	12	3.175	38
PDRFA024538	2.45	12	3.175	38
PDRFA025538	2.55	12	3.175	38
PDRFA026538	2.65	12	3.175	38
PDRFA027538	2.75	12	3.175	38
PDRFA028538	2.85	12	3.175	38
PDRFA029538	2.95	12	3.175	38

EMD/R-1/8 0.05

Fixed Shank Right-Handed
0.05 increments Shank Dia.3.175



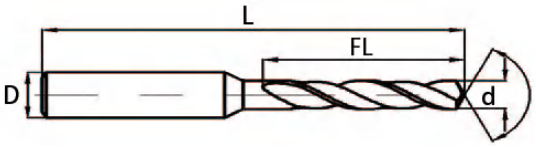


Part No	d	FL	D	L
PDRFA003050	0.30	3	3.175	50
PDRFA004050	0.40	3	3.175	50
PDRFA005050	0.50	4	3.175	50
PDRFA006050	0.60	5	3.175	50
PDRFA007050	0.70	5	3.175	50
PDRFA008050	0.80	5	3.175	50
PDRFA009050	0.90	5	3.175	50
PDRFA010050	1.00	6	3.175	50
PDRFA011050	1.10	6	3.175	50
PDRFA012050	1.20	6	3.175	50
PDRFA013050	1.30	8	3.175	50
PDRFA014050	1.40	8	3.175	50
PDRFA015050	1.50	8	3.175	50
PDRFA016050	1.60	8	3.175	50
PDRFA017050	1.70	8	3.175	50
PDRFA018050	1.80	10	3.175	50
PDRFA019050	1.90	10	3.175	50
PDRFA020050	2.00	10	3.175	50
PDRFA021050	2.10	10	3.175	50
PDRFA022050	2.20	10	3.175	50
PDRFA023050	2.30	12	3.175	50
PDRFA024050	2.40	12	3.175	50
PDRFA025050	2.50	12	3.175	50
PDRFA026050	2.60	12	3.175	50
PDRFA027050	2.70	12	3.175	50
PDRFA028050	2.80	12	3.175	50
PDRFA029050	2.90	12	3.175	50
PDRFA030050	3.00	12	3.175	50

Part No	d	FL	D	L
PDRFA035050	0.35	3	3.175	50
PDRFA045050	0.45	4	3.175	50
PDRFA055050	0.55	4	3.175	50
PDRFA065050	0.65	5	3.175	50
PDRFA075050	0.75	5	3.175	50
PDRFA085050	0.85	5	3.175	50
PDRFA095050	0.95	5	3.175	50
PDRFA010550	1.05	6	3.175	50
PDRFA0115050	1.15	6	3.175	50
PDRFA012550	1.25	8	3.175	50
PDRFA013550	1.35	8	3.175	50
PDRFA014550	1.45	8	3.175	50
PDRFA015550	1.55	8	3.175	50
PDRFA016550	1.65	8	3.175	50
PDRFA017550	1.75	8	3.175	50
PDRFA018550	1.85	10	3.175	50
PDRFA019550	1.95	10	3.175	50
PDRFA020550	2.05	10	3.175	50
PDRFA021550	2.15	10	3.175	50
PDRFA022550	2.25	12	3.175	50
PDRFA023550	2.35	12	3.175	50
PDRFA024550	2.45	12	3.175	50
PDRFA025550	2.55	12	3.175	50
PDRFA026550	2.65	12	3.175	50
PDRFA027550	2.75	12	3.175	50
PDRFA028550	2.85	12	3.175	50
PDRFA029550	2.95	12	3.175	50

EMD/R 0.05

Fixed Shank Right-Handed
0.05 increments Shank Dia.4.0

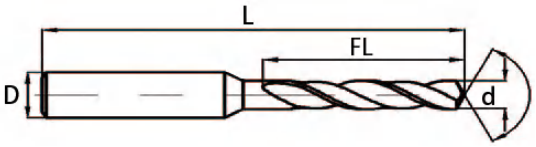


Part No	d	FL	D	L
PDRF0030450	0.30	3	4.0	50
PDRF0040450	0.40	3	4.0	50
PDRF0050450	0.50	4	4.0	50
PDRF0060450	0.60	5	4.0	50
PDRF0070450	0.70	5	4.0	50
PDRF0080450	0.80	5	4.0	50
PDRF0090450	0.90	5	4.0	50
PDRF0100450	1.00	6	4.0	50
PDRF0110450	1.10	6	4.0	50
PDRF0120450	1.20	6	4.0	50
PDRF0130450	1.30	8	4.0	50
PDRF0140450	1.40	8	4.0	50
PDRF0150450	1.50	8	4.0	50
PDRF0160450	1.60	8	4.0	50
PDRF0170450	1.70	8	4.0	50
PDRF0180450	1.80	10	4.0	50
PDRF0190450	1.90	10	4.0	50
PDRF0200450	2.00	10	4.0	50
PDRF0210450	2.10	10	4.0	50
PDRF0220450	2.20	10	4.0	50
PDRF0230450	2.30	12	4.0	50
PDRF0240450	2.40	12	4.0	50
PDRF0250450	2.50	12	4.0	50
PDRF0260450	2.60	12	4.0	50
PDRF0270450	2.70	12	4.0	50
PDRF0280450	2.80	12	4.0	50
PDRF0290450	2.90	12	4.0	50
PDRF0300450	3.00	12	4.0	50
PDRF0310450	3.10	12	4.0	50
PDRF0320450	3.20	18	4.0	50
PDRF0330450	3.30	18	4.0	50
PDRF0340450	3.40	18	4.0	50
PDRF0350450	3.50	18	4.0	50
PDRF0360450	3.60	18	4.0	50
PDRF0370450	3.70	18	4.0	50
PDRF0380450	3.80	18	4.0	50
PDRF0390450	3.90	18	4.0	50
PDRF0400450	4.00	18	4.0	50

Part No	d	FL	D	L
PDRF0035450	0.35	3	4.0	50
PDRF0045450	0.45	4	4.0	50
PDRF0055450	0.55	4	4.0	50
PDRF0065450	0.65	5	4.0	50
PDRF0075450	0.75	5	4.0	50
PDRF0085450	0.85	5	4.0	50
PDRF0095450	0.95	5	4.0	50
PDRF0105450	1.05	6	4.0	50
PDRF0115450	1.15	6	4.0	50
PDRF0125450	1.25	8	4.0	50
PDRF0135450	1.35	8	4.0	50
PDRF0145450	1.45	8	4.0	50
PDRF0155450	1.55	8	4.0	50
PDRF0165450	1.65	8	4.0	50
PDRF0175450	1.75	8	4.0	50
PDRF0185450	1.85	10	4.0	50
PDRF0195450	1.95	10	4.0	50
PDRF0205450	2.05	10	4.0	50
PDRF0215450	2.15	10	4.0	50
PDRF0225450	2.25	12	4.0	50
PDRF0235450	2.35	12	4.0	50
PDRF0245450	2.45	12	4.0	50
PDRF0255450	2.55	12	4.0	50
PDRF0265450	2.65	12	4.0	50
PDRF0275450	2.75	12	4.0	50
PDRF0285450	2.85	12	4.0	50
PDRF0295450	2.95	12	4.0	50
PDRF0305450	3.05	12	4.0	50
PDRF0315450	3.15	12	4.0	50
PDRF0325450	3.25	18	4.0	50
PDRF0335450	3.35	18	4.0	50
PDRF0345450	3.45	18	4.0	50
PDRF0355450	3.55	18	4.0	50
PDRF0365450	3.65	18	4.0	50
PDRF0375450	3.75	18	4.0	50
PDRF0385450	3.85	18	4.0	50
PDRF0395450	3.95	18	4.0	50

EMD/R 0.05

Fixed Shank Right-Handed
0.05 increments Shank Dia.5.0

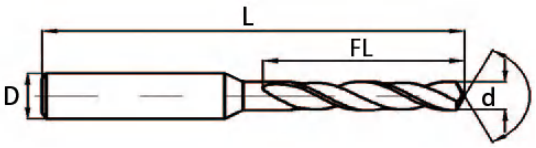


Part No	d	FL	D	L
PDRF0405550	4.05	25	5.0	50
PDRF0415550	4.15	25	5.0	50
PDRF0425550	4.25	25	5.0	50
PDRF0435550	4.35	25	5.0	50
PDRF0445550	4.45	25	5.0	50
PDRF0455550	4.55	25	5.0	50
PDRF0465550	4.65	25	5.0	50
PDRF0475550	4.75	25	5.0	50
PDRF0485550	4.85	25	5.0	50
PDRF0495550	4.95	25	5.0	50

Part No	d	FL	D	L
PDRF0410550	4.10	25	5.0	50
PDRF0420550	4.20	25	5.0	50
PDRF0430550	4.30	25	5.0	50
PDRF0440550	4.40	25	5.0	50
PDRF0450550	4.50	25	5.0	50
PDRF0460550	4.60	25	5.0	50
PDRF0470550	4.70	25	5.0	50
PDRF0480550	4.80	25	5.0	50
PDRF0490550	4.90	25	5.0	50
PDRF0500550	5.00	25	5.0	50

EMD/R 0.05

Fixed Shank Right-Handed
0.05 increments Shank Dia.6.0

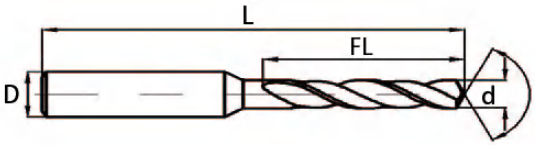


Part No	d	FL	D	L
PDRF0505650	5.05	25	6.0	50
PDRF0515650	5.15	25	6.0	50
PDRF0525650	5.25	25	6.0	50
PDRF0535650	5.35	25	6.0	50
PDRF0545650	5.45	25	6.0	50
PDRF0555650	5.55	25	6.0	50
PDRF0565650	5.65	25	6.0	50
PDRF0575650	5.75	25	6.0	50
PDRF0585650	5.85	25	6.0	50
PDRF0595650	5.95	25	6.0	50

Part No	d	FL	D	L
PDRF0510650	5.10	25	6.0	50
PDRF0520650	5.20	25	6.0	50
PDRF0530650	5.30	25	6.0	50
PDRF0540650	5.40	25	6.0	50
PDRF0550650	5.50	25	6.0	50
PDRF0560650	5.60	25	6.0	50
PDRF0570650	5.70	25	6.0	50
PDRF0580650	5.80	25	6.0	50
PDRF0590650	5.90	25	6.0	50
PDRF0600650	6.00	25	6.0	50

EMD/R 0.05

Fixed Shank Right-Handed
0.05 increments Shank Dia.8.0

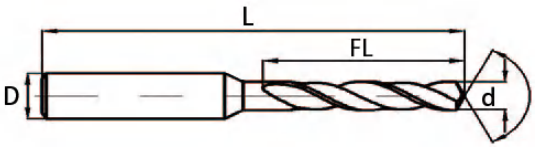


Part No	d	FL	D	L
PDRF0605860	6.05	30	8.0	60
PDRF0615860	6.15	30	8.0	60
PDRF0625860	6.25	30	8.0	60
PDRF0635860	6.35	30	8.0	60
PDRF0645860	6.45	30	8.0	60
PDRF0655860	6.55	30	8.0	60
PDRF0665860	6.65	30	8.0	60
PDRF0675860	6.75	30	8.0	60
PDRF0685860	6.85	30	8.0	60
PDRF0695860	6.95	30	8.0	60
PDRF0705860	7.05	32	8.0	60
PDRF0715860	7.15	32	8.0	60
PDRF0725860	7.25	32	8.0	60
PDRF0735860	7.35	32	8.0	60
PDRF0745860	7.45	32	8.0	60
PDRF0755860	7.55	32	8.0	60
PDRF0765860	7.65	32	8.0	60
PDRF0775860	7.75	32	8.0	60
PDRF0785860	7.85	32	8.0	60
PDRF0795860	7.95	32	8.0	60

Part No	d	FL	D	L
PDRF0610860	6.10	30	8.0	60
PDRF0620860	6.20	30	8.0	60
PDRF0630860	6.30	30	8.0	60
PDRF0640860	6.40	30	8.0	60
PDRF0650860	6.50	30	8.0	60
PDRF0660860	6.60	30	8.0	60
PDRF0670860	6.70	30	8.0	60
PDRF0680860	6.80	30	8.0	60
PDRF0690860	6.90	30	8.0	60
PDRF0700860	7.00	30	8.0	60
PDRF0710860	7.10	32	8.0	60
PDRF0720860	7.20	32	8.0	60
PDRF0730860	7.30	32	8.0	60
PDRF0740860	7.40	32	8.0	60
PDRF0750860	7.50	32	8.0	60
PDRF0760860	7.60	32	8.0	60
PDRF0770860	7.70	32	8.0	60
PDRF0780860	7.80	32	8.0	60
PDRF0790860	7.90	32	8.0	60
PDRF0800860	8.00	32	8.0	60

EMD/R 0.05

Fixed Shank Right-Handed
0.05 increments Shank Dia.10.0

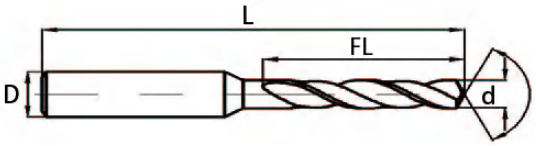


Part No	d	FL	D	L
PDRF08051075	8.05	40	10.0	75
PDRF08151075	8.15	40	10.0	75
PDRF08251075	8.25	40	10.0	75
PDRF08351075	8.35	40	10.0	75
PDRF08451075	8.45	40	10.0	75
PDRF08551075	8.55	45	10.0	75
PDRF08651075	8.65	45	10.0	75
PDRF08751075	8.75	45	10.0	75
PDRF08851075	8.85	45	10.0	75
PDRF08951075	8.95	45	10.0	75
PDRF09051075	9.05	45	10.0	75
PDRF09151075	9.15	45	10.0	75
PDRF09251075	9.25	45	10.0	75
PDRF09351075	9.35	45	10.0	75
PDRF09451075	9.45	45	10.0	75
PDRF09551075	9.55	45	10.0	75
PDRF09651075	9.65	45	10.0	75
PDRF09751075	9.75	45	10.0	75
PDRF09851075	9.85	45	10.0	75
PDRF09951075	9.95	45	10.0	75

Part No	d	FL	D	L
PDRF08101075	8.1	40	10.0	75
PDRF08201075	8.2	40	10.0	75
PDRF08301075	8.3	40	10.0	75
PDRF08401075	8.4	40	10.0	75
PDRF08501075	8.5	40	10.0	75
PDRF08601075	8.6	45	10.0	75
PDRF08701075	8.7	45	10.0	75
PDRF08801075	8.8	45	10.0	75
PDRF08901075	8.9	45	10.0	75
PDRF09001075	9.0	45	10.0	75
PDRF09101075	9.1	45	10.0	75
PDRF09201075	9.2	45	10.0	75
PDRF09301075	9.3	45	10.0	75
PDRF09401075	9.4	45	10.0	75
PDRF09501075	9.5	45	10.0	75
PDRF09601075	9.6	45	10.0	75
PDRF09701075	9.7	45	10.0	75
PDRF09801075	9.8	45	10.0	75
PDRF09901075	9.9	45	10.0	75
PDRF01001075	10.0	45	10.0	75

EMD/R 0.05

Fixed Shank Right-Handed
0.05 increments Shank Dia.12.0

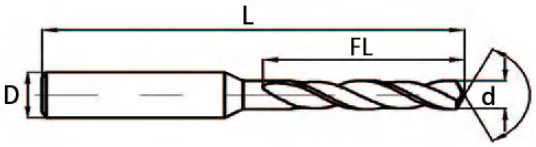


Part No	d	FL	D	L
PDRF100512100	10.05	50	12.0	100
PDRF101512100	10.15	50	12.0	100
PDRF102512100	10.25	50	12.0	100
PDRF103512100	10.35	50	12.0	100
PDRF104512100	10.45	50	12.0	100
PDRF105512100	10.55	60	12.0	100
PDRF106512100	10.65	60	12.0	100
PDRF107512100	10.75	60	12.0	100
PDRF108512100	10.85	60	12.0	100
PDRF109512100	10.95	60	12.0	100
PDRF110512100	11.05	60	12.0	100
PDRF111512100	11.15	60	12.0	100
PDRF112512100	11.25	60	12.0	100
PDRF113512100	11.35	60	12.0	100
PDRF114512100	11.45	60	12.0	100
PDRF115512100	11.55	60	12.0	100
PDRF116512100	11.65	60	12.0	100
PDRF117512100	11.75	60	12.0	100
PDRF118512100	11.85	60	12.0	100
PDRF119512100	11.95	60	12.0	100

Part No	d	FL	D	L
PDRF101012100	10.10	50	12.0	100
PDRF102012100	10.20	50	12.0	100
PDRF103012100	10.30	50	12.0	100
PDRF104012100	10.40	50	12.0	100
PDRF105012100	10.50	50	12.0	100
PDRF106012100	10.60	60	12.0	100
PDRF107012100	10.70	60	12.0	100
PDRF108012100	10.80	60	12.0	100
PDRF109012100	10.90	60	12.0	100
PDRF110012100	11.00	60	12.0	100
PDRF111012100	11.10	60	12.0	100
PDRF112012100	11.20	60	12.0	100
PDRF113012100	11.30	60	12.0	100
PDRF114012100	11.40	60	12.0	100
PDRF115012100	11.50	60	12.0	100
PDRF116012100	11.60	60	12.0	100
PDRF117012100	11.70	60	12.0	100
PDRF118012100	11.80	60	12.0	100
PDRF119012100	11.90	60	12.0	100
PDRF120012100	12.00	60	12.0	100

SD/R 0.05

Straight Shank Right-Handed
0.05 increments

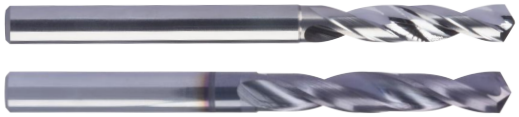


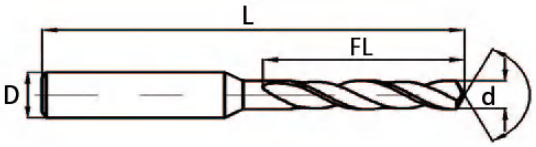
Part No	d	FL	D	L
PDRS007012	0.70	12	0.70	50
PDRS008012	0.80	12	0.80	50
PDRS009012	0.90	12	0.90	50
PDRS010012	1.00	12	1.00	50
PDRS011014	1.10	14	1.10	50
PDRS012014	1.20	14	1.20	50
PDRS013014	1.30	14	1.30	50
PDRS014014	1.40	14	1.40	50
PDRS015014	1.50	14	1.50	50
PDRS016018	1.60	18	1.60	50
PDRS017018	1.70	18	1.70	50
PDRS018018	1.80	18	1.80	50
PDRS019018	1.90	18	1.90	50
PDRS020018	2.00	18	2.00	50
PDRS210020	2.10	20	2.10	50
PDRS220020	2.20	20	2.20	50
PDRS230020	2.30	20	2.30	50
PDRS240020	2.40	20	2.40	50
PDRS250020	2.50	20	2.50	50
PDRS260025	2.60	25	2.60	50
PDRS270025	2.70	25	2.70	50
PDRS280025	2.80	25	2.80	50
PDRS290025	2.90	25	2.90	50
PDRS300025	3.00	25	3.00	50
PDRS310025	3.10	25	3.10	50
PDRS320025	3.20	25	3.20	50
PDRS330025	3.30	25	3.30	50
PDRS340025	3.40	25	3.40	50

Part No	d	FL	D	L
PDRS007512	0.75	12	0.75	50
PDRS008512	0.85	12	0.85	50
PDRS009512	0.95	12	0.95	50
PDRS010514	1.05	14	1.05	50
PDRS011514	1.15	14	1.15	50
PDRS012514	1.25	14	1.25	50
PDRS013514	1.35	14	1.35	50
PDRS014514	1.45	14	1.45	50
PDRS015518	1.55	18	1.55	50
PDRS016518	1.65	18	1.65	50
PDRS017518	1.75	18	1.75	50
PDRS018518	1.85	18	1.85	50
PDRS019518	1.95	18	1.95	50
PDRS020520	2.05	20	2.05	50
PDRS021520	2.15	20	2.15	50
PDRS022520	2.25	20	2.25	50
PDRS023520	2.35	20	2.35	50
PDRS024520	2.45	20	2.45	50
PDRS025525	2.55	25	2.55	50
PDRS026525	2.65	25	2.65	50
PDRS027525	2.75	25	2.75	50
PDRS028525	2.85	25	2.85	50
PDRS029525	2.95	25	2.95	50
PDRS030525	3.05	25	3.05	50
PDRS031525	3.15	25	3.15	50
PDRS032525	3.25	25	3.25	50
PDRS033525	3.35	25	3.35	50
PDRS034525	3.45	25	3.45	50

SD/R 0.05

Straight Shank Right-Handed
0.05 increments



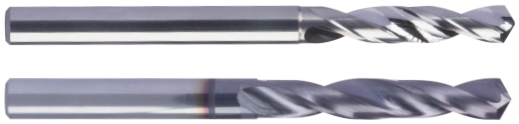


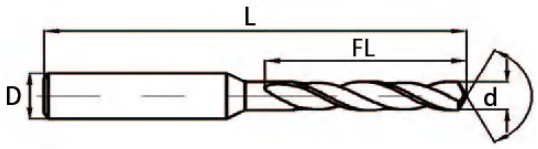
Part No	d	FL	D	L
PDRS035025	3.50	25	3.50	50
PDRS034525	3.60	25	3.60	50
PDRS034525	3.70	25	3.70	50
PDRS034525	3.80	25	3.80	50
PDRS034525	3.90	25	3.90	50
PDRS034525	4.00	25	4.00	50
PDRS034525	4.10	25	4.10	50
PDRS034525	4.20	25	4.20	50
PDRS043025	4.30	25	4.30	50
PDRS044025	4.40	25	4.40	50
PDRS045025	4.50	25	4.50	50
PDRS046025	4.60	25	4.60	50
PDRS047025	4.70	25	4.70	50
PDRS048025	4.80	25	4.80	50
PDRS049025	4.90	25	4.90	50
PDRS050025	5.00	25	5.00	50
PDRS051025	5.10	25	5.10	50
PDRS052025	5.20	25	5.20	50
PDRS053025	5.30	25	5.30	50
PDRS054025	5.40	25	5.40	50
PDRS055025	5.50	25	5.50	50
PDRS056025	5.60	25	5.60	50
PDRS057025	5.70	25	5.70	50
PDRS058025	5.80	25	5.80	50
PDRS059025	5.90	25	5.90	50
PDRS060025	6.00	25	6.00	50
PDRS061030	6.10	30	6.10	60
PDRS062030	6.20	30	6.20	60

Part No	d	FL	D	L
PDRS035525	3.55	25	3.55	50
PDRS036525	3.65	25	3.65	50
PDRS037525	3.75	25	3.75	50
PDRS038525	3.85	25	3.85	50
PDRS039525	3.95	25	3.95	50
PDRS040525	4.05	25	4.05	50
PDRS041525	4.15	25	4.15	50
PDRS042525	4.25	25	4.25	50
PDRS043525	4.35	25	4.35	50
PDRS044525	4.45	25	4.45	50
PDRS045525	4.55	25	4.55	50
PDRS046525	4.65	25	4.65	50
PDRS047525	4.75	25	4.75	50
PDRS048525	4.85	25	4.85	50
PDRS049525	4.95	25	4.95	50
PDRS050525	5.05	25	5.05	50
PDRS051525	5.15	25	5.15	50
PDRS052525	5.25	25	5.25	50
PDRS053525	5.35	25	5.35	50
PDRS054525	5.45	25	5.45	50
PDRS055525	5.55	25	5.55	50
PDRS056525	5.65	25	5.65	50
PDRS057525	5.75	25	5.75	50
PDRS058525	5.85	25	5.85	50
PDRS059525	5.95	25	5.95	50
PDRS060530	6.05	30	6.05	60
PDRS061530	6.15	30	6.15	60
PDRS062530	6.25	30	6.25	60

SD/R 0.05

Straight Shank Right-Handed
0.05 increments



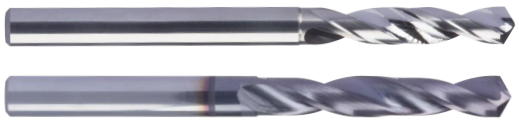


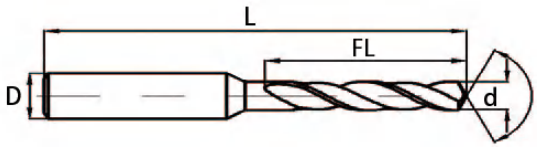
Part No	d	FL	D	L
PDRS063030	6.30	30	6.30	60
PDRS064030	6.40	30	6.40	60
PDRS065030	6.50	30	6.50	60
PDRS066030	6.60	30	6.60	60
PDRS067030	6.70	30	6.70	60
PDRS068030	6.80	30	6.80	60
PDRS069030	6.90	30	6.90	60
PDRS070030	7.00	30	7.00	60
PDRS071040	7.10	40	7.10	75
PDRS072040	7.20	40	7.20	75
PDRS073040	7.30	40	7.30	75
PDRS074040	7.40	40	7.40	75
PDRS075040	7.50	40	7.50	75
PDRS076040	7.60	40	7.60	75
PDRS077040	7.70	40	7.70	75
PDRS078040	7.80	40	7.80	75
PDRS079040	7.90	40	7.90	75
PDRS080040	8.00	40	8.00	75

Part No	d	FL	D	L
PDRS063530	6.35	30	6.35	60
PDRS064530	6.45	30	6.45	60
PDRS065530	6.55	30	6.55	60
PDRS066530	6.65	30	6.65	60
PDRS067530	6.75	30	6.75	60
PDRS068530	6.85	30	4.05	60
PDRS069530	6.95	30	6.95	60
PDRS070540	7.05	40	7.05	75
PDRS071540	7.15	40	7.15	75
PDRS072540	7.25	40	7.25	75
PDRS073540	7.35	40	7.35	75
PDRS074540	7.45	40	7.45	75
PDRS075540	7.55	40	7.55	75
PDRS076540	7.65	40	7.65	75
PDRS077540	7.75	40	7.75	75
PDRS078540	7.85	40	7.85	75
PDRS079540	7.95	40	7.95	75

SD/R 0.05

Straight Shank Right-Handed
0.05 increments



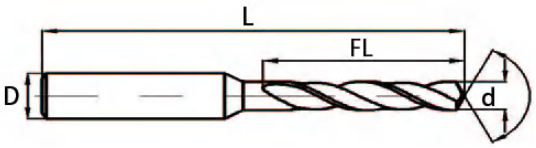


Part No	d	FL	D	L
PDRS080540	8.05	40	8.05	75
PDRS081540	8.15	40	8.15	75
PDRS082540	8.25	40	8.25	75
PDRS083540	8.35	40	8.35	75
PDRS084540	8.45	40	8.45	75
PDRS085540	8.55	40	8.55	75
PDRS086540	8.65	40	8.65	75
PDRS087540	8.75	40	8.75	75
PDRS088540	8.85	40	8.85	75
PDRS089540	8.95	40	8.95	75
PDRS090540	9.05	40	9.05	75
PDRS091540	9.15	40	9.15	75
PDRS092540	9.25	40	9.25	75
PDRS093540	9.35	40	9.35	75
PDRS094540	9.45	40	9.45	75
PDRS095540	9.55	40	9.55	75
PDRS096540	9.65	40	9.65	75
PDRS097540	9.75	40	9.75	75
PDRS098540	9.85	40	9.85	75
PDRS099540	9.95	40	9.95	75
PDRS100545	10.05	45	10.05	100
PDRS101545	10.15	45	10.15	100
PDRS102545	10.25	45	10.25	100
PDRS103545	10.35	45	10.35	100
PDRS104545	10.45	45	10.45	100
PDRS105545	10.55	45	10.55	100
PDRS106545	10.65	45	10.65	100
PDRS107545	10.75	45	10.75	100

Part No	d	FL	D	L
PDRS081040	8.10	40	8.10	75
PDRS082040	8.20	40	8.20	75
PDRS083040	8.30	40	8.30	75
PDRS084040	8.40	40	8.40	75
PDRS085040	8.50	40	8.50	75
PDRS086040	8.60	40	8.60	75
PDRS087040	8.70	40	8.70	75
PDRS088040	8.80	40	8.80	75
PDRS089040	8.90	40	8.90	75
PDRS090040	9.00	40	9.00	75
PDRS091040	9.10	40	9.10	75
PDRS092045	9.20	45	9.20	75
PDRS093040	9.30	40	9.30	75
PDRS094040	9.40	40	9.40	75
PDRS095040	9.50	40	9.50	75
PDRS096040	9.60	40	9.60	75
PDRS097040	9.70	40	9.70	75
PDRS098040	9.80	40	9.80	75
PDRS099040	9.90	40	9.90	75
PDRS100040	10.00	40	10.00	75
PDRS101045	10.10	45	10.10	100
PDRS102050	10.20	50	10.20	100
PDRS103050	10.30	50	10.30	100
PDRS104050	10.40	50	10.40	100
PDRS105050	10.50	50	10.50	100
PDRS106050	10.60	50	10.60	100
PDRS107050	10.70	50	10.70	100
PDRS108050	10.80	50	10.80	100

SD/R 0.05

Straight Shank Right-Handed
0.05 increments

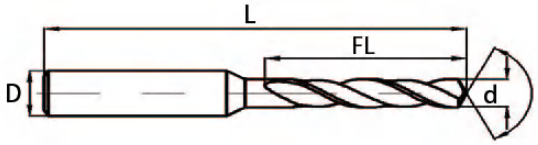


Part No	d	FL	D	L
PDRS108545	10.85	45	10.85	100
PDRS109545	10.95	45	10.95	100
PDRS110550	11.05	50	11.05	100
PDRS111550	11.15	50	11.15	100
PDRS112550	11.25	50	11.25	100
PDRS113550	11.35	50	11.35	100
PDRS114550	11.45	50	11.45	100
PDRS115550	11.55	50	11.55	100
PDRS116550	11.65	50	11.65	100
PDRS117550	11.75	50	11.75	100
PDRS18550	11.85	50	11.85	100
PDRS119550	11.95	50	11.95	100
PDRS120565	12.05	65	12.05	110
PDRS121565	12.15	65	12.15	110
PDRS122565	12.25	65	12.25	110
PDRS123565	12.35	65	12.35	110
PDRS124565	12.45	65	12.45	110
PDRS125565	12.55	65	12.55	110
PDRS126565	12.65	65	12.65	110
PDRS127565	12.75	65	12.75	110
PDRS128565	12.85	65	12.85	110
PDRS129565	12.95	65	12.95	110
PDRS130565	13.05	65	13.05	110
PDRS131565	13.15	65	13.15	110
PDRS11565	13.15	65	13.15	110
PDRS133565	13.35	65	13.35	110
PDRS134565	13.45	65	13.45	110
PDRS135565	13.55	65	13.55	110

Part No	d	FL	D	L
PDRS109045	10.90	45	10.9	100
PDRS110045	11.00	45	11.00	100
PDRS111050	11.10	50	11.10	100
PDRS112050	11.20	50	11.20	100
PDRS113050	11.30	50	11.30	100
PDRS114050	11.40	50	11.40	100
PDRS115050	11.50	50	11.50	100
PDRS116050	11.60	50	11.60	100
PDRS117050	11.70	50	11.70	100
PDRS118050	11.80	50	11.80	100
PDRS119050	11.90	50	11.90	100
PDRS120050	12.00	50	12.00	100
PDRS121065	12.10	65	12.10	110
PDRS122065	12.20	65	12.20	110
PDRS123065	12.30	65	12.30	110
PDRS124065	12.40	65	12.40	110
PDRS125065	12.50	65	12.50	110
PDRS126065	12.60	65	12.60	110
PDRS127065	12.70	65	12.70	110
PDRS128065	12.80	65	12.80	110
PDRS129065	12.90	65	12.90	110
PDRS130065	13.00	65	13.00	110
PDRS131065	13.10	65	13.10	110
PDRS132065	13.20	65	13.20	110
PDRS133065	13.30	65	13.30	110
PDRS134065	13.40	65	13.40	110
PDRS135065	13.50	65	13.50	110
PDRS136065	13.60	65	13.60	110

SD/R 0.05

Straight Shank Right-Handed
0.05 increments

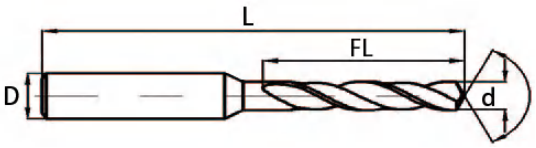


Part No	d	FL	D	L
PDRS136565	13.65	65	13.65	110
PDRS137565	13.75	65	13.75	110
PDRS138565	13.85	65	13.85	110
PDRS139565	13.95	65	13.95	110
PDRS140575	14.05	75	14.05	150
PDRS141575	14.15	75	14.15	150
PDRS142575	14.25	75	14.25	150
PDRS143575	14.35	75	14.35	150
PDRS144575	14.45	75	14.45	150
PDRS145575	14.55	75	14.55	150
PDRS146575	14.65	75	14.65	150
PDRS147575	14.75	75	14.75	150
PDRS148575	14.85	75	14.85	150
PDRS149575	14.95	75	14.95	150
PDRS150575	15.05	75	15.05	150
PDRS151575	15.15	75	15.15	150
PDRS152575	15.25	75	15.25	150
PDRS153575	15.35	75	15.35	150
PDRS154575	15.45	75	15.45	150
PDRS155575	15.55	75	15.55	150
PDRS156575	15.65	75	15.65	150
PDRS157575	15.75	75	15.75	150
PDRS158575	15.85	75	15.85	150
PDRS159575	15.95	75	15.95	150

Part No	d	FL	D	L
PDRS137065	13.70	65	13.7	110
PDRS138065	13.80	65	13.8	110
PDRS139065	13.90	65	13.9	110
PDRS140065	14.00	65	14.0	110
PDRS141075	14.10	75	14.1	150
PDRS142075	14.20	75	14.2	150
PDRS143075	14.30	75	14.3	150
PDRS144075	14.40	75	14.4	150
PDRS145075	14.50	75	14.5	150
PDRS146075	14.60	75	14.6	150
PDRS147075	14.70	75	14.7	150
PDRS148075	14.80	75	14.8	150
PDRS149075	14.90	75	14.9	150
PDRS150075	15.00	75	15.0	150
PDRS151075	15.10	75	15.1	150
PDRS152075	15.20	75	15.2	150
PDRS153075	15.30	75	15.3	150
PDRS154075	15.40	75	15.4	150
PDRS155075	15.50	75	15.5	150
PDRS156075	15.60	75	15.6	150
PDRS157075	15.70	75	15.7	150
PDRS158075	15.80	75	15.8	150
PDRS159075	15.90	75	15.9	150
PDRS160075	16.00	75	16.0	150

EMD/L-1/8 0.05

Fixed Shank Left-Handed
0.05 increments Shank Dia.3.175

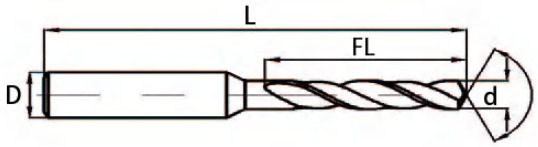


Part No	d	FL	D	L
PDLFA003038	0.30	3	3.175	38
PDLFA004038	0.40	3	3.175	38
PDLFA005038	0.50	3	3.175	38
PDLFA006038	0.60	4	3.175	38
PDLFA007038	0.70	4	3.175	38
PDLFA008038	0.80	4	3.175	38
PDLFA009038	0.90	5	3.175	38
PDLFA010038	1.00	5	3.175	38
PDLFA011038	1.10	5	3.175	38
PDLFA012038	1.20	6	3.175	38
PDLFA013038	1.30	6	3.175	38
PDLFA014038	1.40	8	3.175	38
PDLFA015038	1.50	8	3.175	38
PDLFA016038	1.60	8	3.175	38
PDLFA017038	1.70	8	3.175	38
PDLFA018038	1.80	8	3.175	38
PDLFA019038	1.90	14	3.175	38
PDLFA020038	2.00	14	3.175	38
PDLFA021038	2.10	18	3.175	38
PDLFA022038	2.20	18	3.175	38
PDLFA023038	2.30	18	3.175	38
PDLFA024038	2.40	18	3.175	38
PDLFA025038	2.50	18	3.175	38
PDLFA026038	2.60	18	3.175	38
PDLFA027038	2.70	18	3.175	38
PDLFA028038	2.80	18	3.175	38
PDLFA029038	2.90	18	3.175	38
PDLFA030038	3.00	18	3.175	38
PDLFA031038	3.10	18	3.175	38
PDLFAA38	3.175	18	3.175	38

Part No	d	FL	D	L
PDLFA003538	0.35	3	3.175	38
PDLFA004538	0.45	3	3.175	38
PDLFA005538	0.55	4	3.175	38
PDLFA006538	0.65	4	3.175	38
PDLFA007538	0.75	4	3.175	38
PDLFA008538	0.85	4	3.175	38
PDLFA009538	0.95	5	3.175	38
PDLFA010538	1.05	5	3.175	38
PDLFA011538	1.15	5	3.175	38
PDLFA012538	1.25	6	3.175	38
PDLFA013538	1.35	6	3.175	38
PDLFA014538	1.45	8	3.175	38
PDLFA015538	1.55	8	3.175	38
PDLFA016538	1.65	8	3.175	38
PDLFA017538	1.75	8	3.175	38
PDLFA018538	1.85	14	3.175	38
PDLFA019538	1.95	14	3.175	38
PDLFA020538	2.05	18	3.175	38
PDLFA021538	2.15	18	3.175	38
PDLFA022538	2.25	18	3.175	38
PDLFA023538	2.35	18	3.175	38
PDLFA024538	2.45	18	3.175	38
PDLFA025538	2.55	18	3.175	38
PDLFA026538	2.65	18	3.175	38
PDLFA027538	2.75	18	3.175	38
PDLFA028538	2.85	18	3.175	38
PDLFA029538	2.95	18	3.175	38
PDLFA030538	3.05	18	3.175	38
PDLFAA38	3.15	18	3.175	38

EMD/L-1/8 0.05

Fixed Shank Left-Handed
0.05 increments Shank Dia.3.175

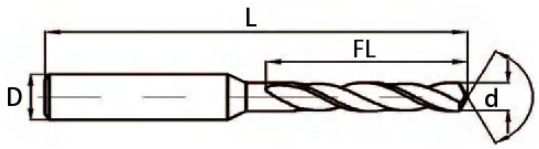


Part No	d	FL	D	L
PDLFA003050	0.30	3	3.175	50
PDLFA004050	0.40	3	3.175	50
PDLFA005050	0.50	3	3.175	50
PDLFA006050	0.60	4	3.175	50
PDLFA007050	0.70	4	3.175	50
PDLFA008050	0.80	4	3.175	50
PDLFA009050	0.90	5	3.175	50
PDLFA010050	1.00	5	3.175	50
PDLFA011050	1.10	5	3.175	50
PDLFA012050	1.20	6	3.175	50
PDLFA013050	1.30	6	3.175	50
PDLFA014050	1.40	8	3.175	50
PDLFA015050	1.50	8	3.175	50
PDLFA016050	1.60	8	3.175	50
PDLFA017050	1.70	8	3.175	50
PDLFA018050	1.80	8	3.175	50
PDLFA019050	1.90	14	3.175	50
PDLFA020050	2.00	14	3.175	50
PDLFA021050	2.10	18	3.175	50
PDLFA022050	2.20	18	3.175	50
PDLFA023050	2.30	18	3.175	50
PDLFA024050	2.40	18	3.175	50
PDLFA025050	2.50	18	3.175	50
PDLFA026050	2.60	18	3.175	50
PDLFA027050	2.70	18	3.175	50
PDLFA028050	2.80	18	3.175	50
PDLFA029050	2.90	18	3.175	50
PDLFA030050	3.00	18	3.175	50
PDLFA031050	3.10	18	3.175	50
PDLFAA50	3.175	18	3.175	50

Part No	d	FL	D	L
PDLFA003550	0.35	3	3.175	50
PDLFA004550	0.45	3	3.175	50
PDLFA005550	0.55	4	3.175	50
PDLFA006550	0.65	4	3.175	50
PDLFA007550	0.75	4	3.175	50
PDLFA008550	0.85	4	3.175	50
PDLFA009550	0.95	5	3.175	50
PDLFA010550	1.05	5	3.175	50
PDLFA011550	1.15	5	3.175	50
PDLFA012550	1.25	6	3.175	50
PDLFA013550	1.35	6	3.175	50
PDLFA014550	1.45	8	3.175	50
PDLFA015550	1.55	8	3.175	50
PDLFA016550	1.65	8	3.175	50
PDLFA017550	1.75	8	3.175	50
PDLFA018550	1.85	14	3.175	50
PDLFA019550	1.95	14	3.175	50
PDLFA020550	2.05	18	3.175	50
PDLFA021550	2.15	18	3.175	50
PDLFA022550	2.25	18	3.175	50
PDLFA023550	2.35	18	3.175	50
PDLFA024550	2.45	18	3.175	50
PDLFA025550	2.55	18	3.175	50
PDLFA026550	2.65	18	3.175	50
PDLFA027550	2.75	18	3.175	50
PDLFA028550	2.85	18	3.175	50
PDLFA029550	2.95	18	3.175	50
PDLFA030550	3.05	18	3.175	50
PDLFAA50	3.15	18	3.175	50

EMD/L-3 0.05

Fixed Shank Left-Handed
0.05 increments Shank Dia.3.0

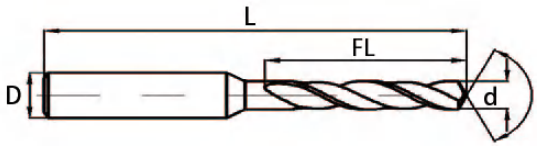


Part No	d	FL	D	L
PDLF0030338	0.30	3	3.0	38
PDLF0040338	0.40	3	3.0	38
PDLF0050338	0.50	3	3.0	38
PDLF0060338	0.60	4	3.0	38
PDLF0070338	0.70	4	3.0	38
PDLF0080338	0.80	4	3.0	38
PDLF0090338	0.90	5	3.0	38
PDLF0100338	1.00	5	3.0	38
PDLF0110338	1.10	5	3.0	38
PDLF0120338	1.20	6	3.0	38
PDLF0130338	1.30	6	3.0	38
PDLF0140338	1.40	8	3.0	38
PDLF0150338	1.50	8	3.0	38
PDLF0160338	1.60	8	3.0	38
PDLF0170338	1.70	8	3.0	38
PDLF0180338	1.80	8	3.0	38
PDLF0190338	1.90	14	3.0	38
PDLF0200338	2.00	14	3.0	38
PDLF0210338	2.10	18	3.0	38
PDLF0220338	2.20	18	3.0	38
PDLF0230338	2.30	18	3.0	38
PDLF0240338	2.40	18	3.0	38
PDLF0250338	2.50	18	3.0	38
PDLF0260338	2.60	18	3.0	38
PDLF0270338	2.70	18	3.0	38
PDLF0280338	2.80	18	3.0	38
PDLF0290338	2.90	18	3.0	38
PDLF0300338	3.00	18	3.0	38

Part No	d	FL	D	L
PDLF0035338	0.35	3	3.0	38
PDLF0045338	0.45	3	3.0	38
PDLF0055338	0.55	4	3.0	38
PDLF0065338	0.65	4	3.0	38
PDLF0075338	0.75	4	3.0	38
PDLF0085338	0.85	4	3.0	38
PDLF0095338	0.95	5	3.0	38
PDLF0105338	1.05	5	3.0	38
PDLF0115338	1.15	5	3.0	38
PDLF0125338	1.25	6	3.0	38
PDLF0135338	1.35	6	3.0	38
PDLF0145338	1.45	8	3.0	38
PDLF0155338	1.55	8	3.0	38
PDLF0165338	1.65	8	3.0	38
PDLF0175338	1.75	8	3.0	38
PDLF0185338	1.85	14	3.0	38
PDLF0195338	1.95	14	3.0	38
PDLF0205338	2.05	18	3.0	38
PDLF0215338	2.15	18	3.0	38
PDLF0225338	2.25	18	3.0	38
PDLF0235338	2.35	18	3.0	38
PDLF0245338	2.45	18	3.0	38
PDLF0255338	2.55	18	3.0	38
PDLF0265338	2.65	18	3.0	38
PDLF0275338	2.75	18	3.0	38
PDLF0285338	2.85	18	3.0	38
PDLF0295338	2.95	18	3.0	38

EMD/L-3 0.05

Fixed Shank Left-Handed
0.05 increments Shank Dia.3.0

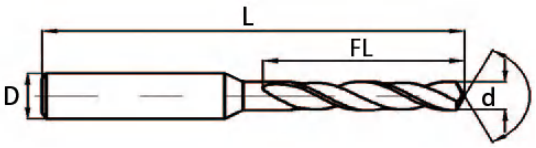


Part No	d	FL	D	L
PDLF0030350	0.30	3	3.0	50
PDLF0040350	0.40	3	3.0	50
PDLF0050350	0.50	3	3.0	50
PDLF0060350	0.60	4	3.0	50
PDLF0070350	0.70	4	3.0	50
PDLF0080350	0.80	4	3.0	50
PDLF0090350	0.90	5	3.0	50
PDLF0100350	1.00	5	3.0	50
PDLF0110350	1.10	5	3.0	50
PDLF0120350	1.20	6	3.0	50
PDLF0130350	1.30	6	3.0	50
PDLF0140350	1.40	8	3.0	50
PDLF0150350	1.50	8	3.0	50
PDLF0160350	1.60	8	3.0	50
PDLF0170350	1.70	8	3.0	50
PDLF0180350	1.80	8	3.0	50
PDLF0190350	1.90	14	3.0	50
PDLF0200350	2.00	14	3.0	50
PDLF0210350	2.10	18	3.0	50
PDLF0220350	2.20	18	3.0	50
PDLF0230350	2.30	18	3.0	50
PDLF0240350	2.40	18	3.0	50
PDLF0250350	2.50	18	3.0	50
PDLF0260350	2.60	18	3.0	50
PDLF0270350	2.70	18	3.0	50
PDLF0280350	2.80	18	3.0	50
PDLF0290350	2.90	18	3.0	50
PDLF0300350	3.00	18	3.0	50
PDLF0310350	3.10	18	3.0	50
PDLFA350	3.175	18	3.0	50

Part No	d	FL	D	L
PDLF0035350	0.35	3	3.0	50
PDLF0045350	0.45	3	3.0	50
PDLF0055350	0.55	4	3.0	50
PDLF0065350	0.65	4	3.0	50
PDLF0075350	0.75	4	3.0	50
PDLF0085350	0.85	4	3.0	50
PDLF0095350	0.95	5	3.0	50
PDLF0105350	1.05	5	3.0	50
PDLF0115350	1.15	5	3.0	50
PDLF0125350	1.25	6	3.0	50
PDLF0135350	1.35	6	3.0	50
PDLF0145350	1.45	8	3.0	50
PDLF0155350	1.55	8	3.0	50
PDLF0165350	1.65	8	3.0	50
PDLF0175350	1.75	8	3.0	50
PDLF0185350	1.85	14	3.0	50
PDLF0195350	1.95	14	3.0	50
PDLF0205350	2.05	18	3.0	50
PDLF0215350	2.15	18	3.0	50
PDLF0225350	2.25	18	3.0	50
PDLF0235350	2.35	18	3.0	50
PDLF0245350	2.45	18	3.0	50
PDLF0255350	2.55	18	3.0	50
PDLF0265350	2.65	18	3.0	50
PDLF0275350	2.75	18	3.0	50
PDLF0285350	2.85	18	3.0	50
PDLF0295350	2.95	18	3.0	50
PDLF0305350	3.05	18	3.0	50
PDLF0315350	3.15	18	3.0	50

EMD/L 0.05

Fixed Shank Left-Handed
0.05 increments Shank Dia.4.0

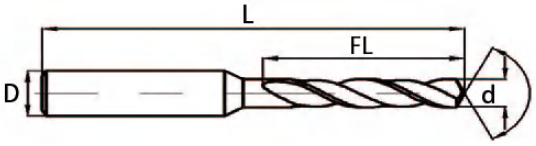


Part No	d	FL	D	L
PDLF0305450	3.05	18	4.0	50
PDLF0315450	3.15	18	4.0	50
PDLF0325450	3.25	22	4.0	50
PDLF0335450	3.35	22	4.0	50
PDLF0345450	3.45	22	4.0	50
PDLF0355450	3.55	22	4.0	50
PDLF0365450	3.65	22	4.0	50
PDLF0375450	3.75	22	4.0	50
PDLF0385450	3.85	22	4.0	50
PDLF0395450	3.95	22	4.0	50

Part No	d	FL	D	L
PDLF0310450	3.10	18	4.0	50
PDLF0320450	3.2	22	4.0	50
PDLF0330450	3.3	22	4.0	50
PDLF0340450	3.4	22	4.0	50
PDLF0350450	3.5	22	4.0	50
PDLF0360450	3.6	22	4.0	50
PDLF0370450	3.7	22	4.0	50
PDLF0380450	3.8	22	4.0	50
PDLF0390450	3.9	22	4.0	50
PDLF0400450	4.0	22	4.0	50

EMD/L 0.05

Fixed Shank Left-Handed
0.05 increments Shank Dia.5.0

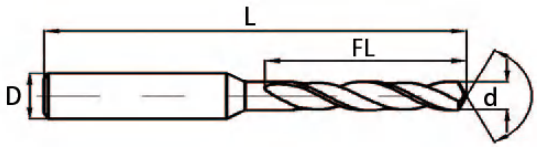


Part No	d	FL	D	L
PDLF0405650	4.05	25	6.0	50
PDLF0415650	4.15	25	6.0	50
PDLF0425650	4.25	25	6.0	50
PDLF0435650	4.35	25	6.0	50
PDLF0445650	4.45	25	6.0	50
PDLF0455650	4.55	25	6.0	50
PDLF0465650	4.65	25	6.0	50
PDLF0475650	4.75	25	6.0	50
PDLF0485650	4.85	25	6.0	50
PDLF0495650	4.95	25	6.0	50

Part No	d	FL	D	L
PDLF0410650	4.10	25	5.0	50
PDLF0420650	4.20	25	5.0	50
PDLF0430650	4.30	25	5.0	50
PDLF0440650	4.40	25	5.0	50
PDLF0450650	4.50	25	5.0	50
PDLF0460650	4.60	25	5.0	50
PDLF0470650	4.70	25	5.0	50
PDLF0480650	4.80	25	5.0	50
PDLF0490650	4.90	25	5.0	50
PDLF0500650	5.00	25	5.0	50

EMD/L 0.05

Fixed Shank Left-Handed
0.05 increments Shank Dia.6.0

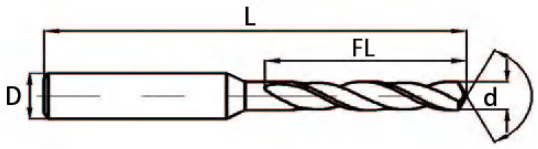


Part No	d	FL	D	L
PDLF0505650	5.05	25	6.0	50
PDLF0515650	5.15	25	6.0	50
PDLF0525650	5.25	25	6.0	50
PDLF0535650	5.35	25	6.0	50
PDLF0545650	5.45	25	6.0	50
PDLF0555650	5.55	25	6.0	50
PDLF0565650	5.65	25	6.0	50
PDLF0575650	5.75	25	6.0	50
PDLF0585650	5.85	25	6.0	50
PDLF0595650	5.95	25	6.0	50

Part No	d	FL	D	L
PDLF0510650	5.10	25	6.0	50
PDLF0520650	5.20	25	6.0	50
PDLF0530650	5.30	25	6.0	50
PDLF0540650	5.40	25	6.0	50
PDLF0550650	5.50	25	6.0	50
PDLF0560650	5.60	25	6.0	50
PDLF0570650	5.70	25	6.0	50
PDLF0580650	5.80	25	6.0	50
PDLF0590650	5.90	25	6.0	50
PDLF0600650	6.00	25	6.0	50

EMD/L 0.05

Fixed Shank Left-Handed
0.05 increments Shank Dia.7.0

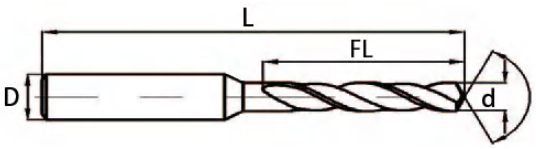


Part No	d	FL	D	L
PDLF0605755	6.05	28	7.0	55
PDLF0615755	6.15	28	7.0	55
PDLF0625755	6.25	28	7.0	55
PDLF0635755	6.35	28	7.0	55
PDLF0645755	6.45	28	7.0	55
PDLF0655755	6.55	28	7.0	55
PDLF0665755	6.65	28	7.0	55
PDLF0675755	6.75	28	7.0	55
PDLF0685755	6.85	28	7.0	55
PDLF0695755	6.95	28	7.0	55

Part No	d	FL	D	L
PDLF0610755	6.10	28	7.0	55
PDLF0620755	6.20	28	7.0	55
PDLF0630755	6.30	28	7.0	55
PDLF0640755	6.40	28	7.0	55
PDLF0650755	6.50	28	7.0	55
PDLF0660755	6.60	28	7.0	55
PDLF0670755	6.70	28	7.0	55
PDLF0680755	6.80	28	7.0	55
PDLF0690755	6.90	28	7.0	55
PDLF0700755	7.00	28	7.0	55

SD/L 0.05

Straight Shank Left-Handed
0.05 increments

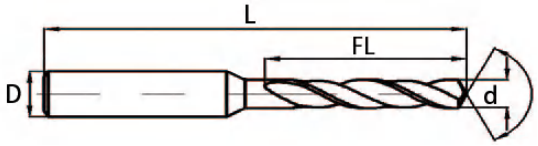


Part No	d	FL	D	L
PDLS008010	0.80	10	0.80	50
PDLS009010	0.90	10	0.90	50
PDLS010010	1.00	10	1.00	50
PDLS011010	1.10	10	1.10	50
PDLS012010	1.20	10	1.20	50
PDLS013010	1.30	10	1.30	50
PDLS014010	1.40	10	1.40	50
PDLS015010	1.50	10	1.50	50
PDLS016015	1.60	15	1.60	50
PDLS017015	1.70	15	1.70	50
PDLS018015	1.80	15	1.80	50
PDLS019015	1.90	15	1.90	50
PDLS020015	2.00	15	2.00	50
PDLS021018	2.10	18	2.10	50
PDLS022018	2.20	18	2.20	50
PDLS023018	2.30	18	2.30	50
PDLS024018	2.40	18	2.40	50
PDLS025018	2.50	18	2.50	50
PDLS026018	2.60	18	2.60	50
PDLS027018	2.70	18	2.70	50
PDLS028018	2.80	18	2.80	50
PDLS029018	2.90	18	2.90	50
PDLS030018	3.00	18	3.00	50
PDLS031022	3.10	22	3.10	50
PDLS032022	3.20	22	3.20	50
PDLS033022	3.30	22	3.30	50
PDLS034022	3.40	22	3.40	50
PDLS035022	3.50	22	3.50	50

Part No	d	FL	D	L
PDLS008510	0.85	10	0.85	50
PDLS009510	0.95	10	0.95	50
PDLS010510	1.05	10	1.05	50
PDLS011510	1.15	10	1.15	50
PDLS012510	1.25	10	1.25	50
PDLS013510	1.35	10	1.35	50
PDLS014510	1.45	10	1.45	50
PDLS015515	1.55	15	1.55	50
PDLS016515	1.65	15	1.65	50
PDLS017515	1.75	15	1.75	50
PDLS018515	1.85	15	1.85	50
PDLS019515	1.95	15	1.95	50
PDLS020518	2.05	18	2.05	50
PDLS021518	2.15	18	2.15	50
PDLS022518	2.25	18	2.25	50
PDLS023518	2.35	18	2.35	50
PDLS024518	2.45	18	2.45	50
PDLS025518	2.55	18	2.55	50
PDLS026518	2.65	18	2.65	50
PDLS027518	2.75	18	2.75	50
PDLS028518	2.85	18	2.85	50
PDLS029518	2.95	18	2.95	50
PDLS030522	3.05	22	3.05	50
PDLS031522	3.15	22	3.15	50
PDLS032522	3.25	22	3.25	50
PDLS033522	3.35	22	3.35	50
PDLS034522	3.45	22	3.45	50
PDLS035525	3.55	25	3.55	50

SD/L 0.05

Straight Shank Left-Handed
0.05 increments

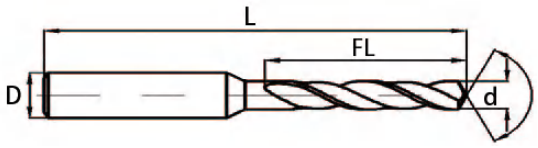


Part No	d	FL	D	L
PDLS036025	3.60	25	3.60	50
PDLS037025	3.70	25	3.70	50
PDLS038025	3.80	25	3.80	50
PDLS039025	3.90	25	3.90	50
PDLS040025	4.00	25	4.00	50
PDLS041025	4.10	25	4.10	50
PDLS042025	4.20	25	4.20	50
PDLS043025	4.30	25	4.30	50
PDLS044025	4.40	25	4.40	50
PDLS045025	4.50	25	4.50	50
PDLS046025	4.60	25	4.60	50
PDLS047025	4.70	25	4.70	50
PDLS048025	4.80	25	4.80	50
PDLS049025	4.90	25	4.90	50
PDLS050025	5.00	25	5.00	50
PDLS051025	5.10	25	5.10	50
PDLS052025	5.20	25	5.20	50
PDLS053025	5.30	25	5.30	50
PDLS054025	5.40	25	5.40	50
PDLS055025	5.50	25	5.50	50
PDLS056025	5.60	25	5.60	50
PDLS057025	5.70	25	5.70	50
PDLS058025	5.80	25	5.80	50
PDLS059025	5.90	25	5.90	50
PDLS060025	6.00	25	6.00	50
PDLS061028	6.10	28	6.10	60
PDLS062028	6.20	28	6.20	60
PDLS063028	6.30	28	6.30	60

Part No	d	FL	D	L
PDLS036025	3.65	25	3.65	50
PDLS037525	3.75	25	3.75	50
PDLS038525	3.85	25	3.85	50
PDLS039525	3.95	25	3.95	50
PDLS040525	4.05	25	4.05	50
PDLS041525	4.15	25	4.15	50
PDLS042525	4.25	25	4.25	50
PDLS043525	4.35	25	4.35	50
PDLS044525	4.45	25	4.45	50
PDLS045525	4.55	25	4.55	50
PDLS046525	4.65	25	4.65	50
PDLS047525	4.75	25	4.75	50
PDLS048525	4.85	25	4.85	50
PDLS049525	4.95	25	4.95	50
PDLS050525	5.05	25	5.05	50
PDLS051525	5.15	25	5.15	50
PDLS052525	5.25	25	5.25	50
PDLS053525	5.35	25	5.35	50
PDLS054525	5.45	25	5.45	50
PDLS055525	5.55	25	5.55	50
PDLS056525	5.65	25	5.65	50
PDLS057525	5.75	25	5.75	50
PDLS058525	5.85	25	5.85	50
PDLS059525	5.95	25	5.95	50
PDLS060528	6.05	28	6.05	60
PDLS061528	6.15	28	6.15	60
PDLS062528	6.25	28	6.25	60
PDLS063528	6.35	28	6.35	60

SD/L 0.05

Straight Shank Left-Handed
0.05 increments



Part No	d	FL	D	L
PDLS064028	6.40	28	6.40	60
PDLS065028	6.50	28	6.50	60
PDLS066028	6.60	28	6.60	60
PDLS067028	6.70	28	6.70	60
PDLS068028	6.80	28	6.80	60
PDLS069028	6.90	28	6.90	60
PDLS070028	7.00	28	7.00	60

Part No	d	FL	D	L
PDLS064528	6.45	28	6.45	60
PDLS065560	6.55	60	6.55	60
PDLS066560	6.65	60	6.65	60
PDLS067560	6.75	60	6.75	60
PDLS068560	6.85	60	6.85	60
PDLS069560	6.95	60	6.95	60

TAPS

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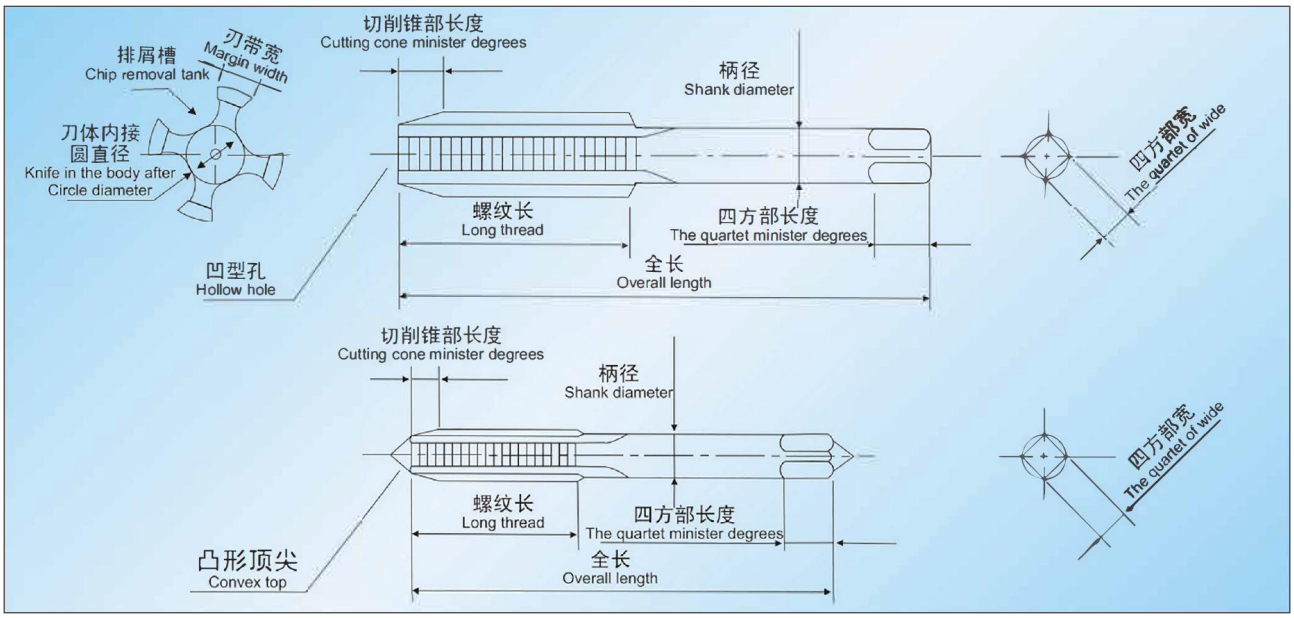
https://www.preciturntools.com

Tap,shapes and features

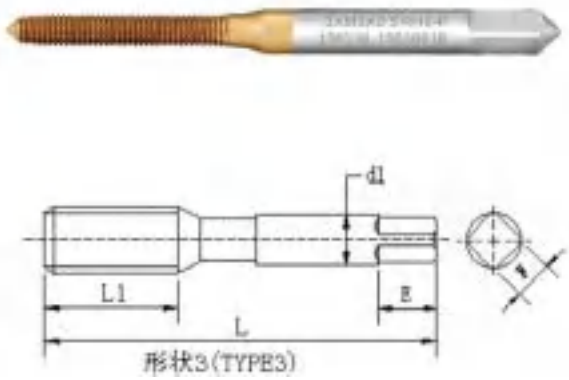
◎ By the name of the

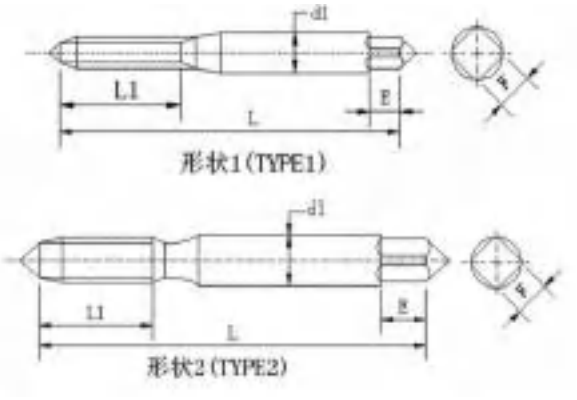


◎ The main chip groove shape and its special features

Classification	Specialty	Use
Spiral tap 	◆spiral groove ◆The bottom of the tapping blind hole ◆Chip cannot remain ◆Eat into the bottom hole easily ◆Good machinability	◆Chip in curls of materials ◆Blind hole ◆The lining with axial cutting slot hole
Tap the blade Angle 	◆Blade Angle groove ◆Chip from the front ◆No chip congestion ◆The fracture strength ◆Sharp chip performance	◆Chip in curls of materials ◆Hote ◆The lining with axial cutting slot hole ◆High speed machining
Extrusion tap 	◆By using the theory of plasticityprocessing internal thread ◆No scraps discharge ◆Internal thread accuray stabiliy ◆The fracture strength	◆Extensibility of good material ◆Hole,blind hole combination
Straight flute tap 	◆Straight flute ◆Blade is strength ◆Cutting cone length selection easier ◆After grinding easily	◆High hardness materials ◆Easy cause tool wear of materials ◆Chip powder materials ◆Tapping depth short hole,blind hole

Standard metric extrusion screw tap size table (NRT)

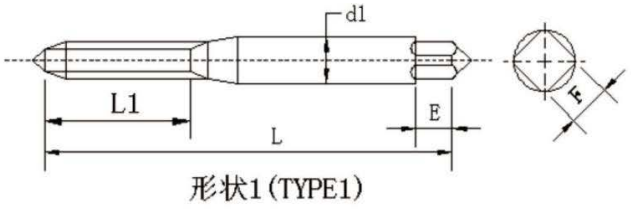


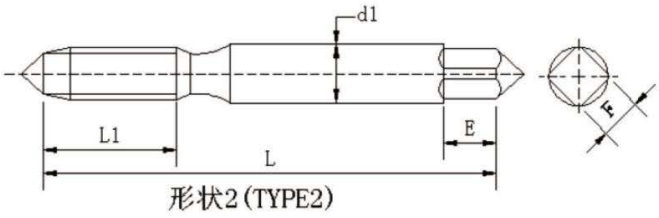


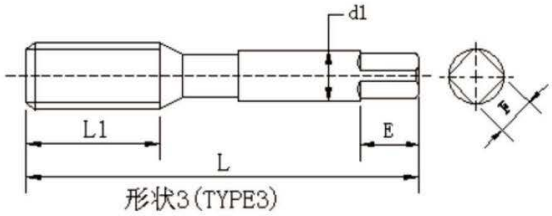
Thread types:M

Nominal Size	Pitch	Thread Limit	Overall length	Length of thread	Shaft diameter	Square head length	Square head ply	Type
M1.0	0.25	RH4	32	4	3.0	5.0	2.5	1
M1.2	0.25	RH4	34	4	3.0	5.0	2.5	1
M1.4	0.3	RH4	36	5	3.0	5.0	2.5	1
M1.6	0.35	RH4	37	6.5	3.0	5.0	2.5	1
M1.8	0.35	RH4	37	6.5	3.0	5.0	2.5	1
M2	0.4	RH4	40	11	3.0	5.0	2.5	2
M2.3	0.4	RH4	42	11	3.0	5.0	2.5	2
M2.5	0.45	RH4	44	15	3.0	5.0	2.5	2
M2.6	0.45	RH4	44	15	3.0	5.0	2.5	2
M3	0.5	RH5	46	18	4.0	6.0	3.2	2
M3.5	0.6	RH5	48	18	4.0	6.0	3.2	2
M4	0.7	RH6	52	20	5.0	7.0	4.0	2
M5	0.8	RH6	60	22	5.5	7.0	4.5	2
M6	1.0	RH7	62	24	6.0	7.0	4.5	2
M8	1.25	RH7	70	18	6.2	8.0	5.0	3
M10	1.5	RH7	75	20	7.0	8.0	5.5	3
M12	1.75	RH8	82	25	8.5	9.0	6.5	3

Standard American extrusion screw tap size (NRT)



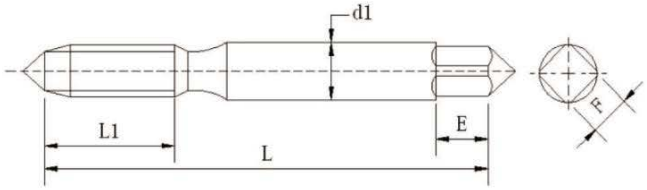




Thread types:M

Nominal Size	Thread Limit	Overall length	Length of thread mm	Shaft diameter	Square head length	Square head ply	Type
1-64	RH4	36	6.5	3.0	5.0	2.5	1
1-72	RH4	36	6.5	3.0	5.0	2.5	1
2-56	RH4	42	14	3.0	5.0	2.5	2
4-40	RH5	44	15	3.0	5.0	2.5	2
6-32	RH5	48	18	4.0	6.0	3.2	2
8-32	RH5	52	20	5.0	7.0	4.0	2
10-24	RH6	60	22	5.5	7.0	4.5	2
10-32	RH5	60	22	5.5	7.0	4.5	2
1/4-20	RH6	62	24	6.0	7.0	4.5	2
1/4-28	RH6	62	24	6.0	7.0	4.5	2
5/16-24	RH7	70	18	6.1	8.0	5.0	3
3/8-16	RH7	75	20	7.0	8.0	5.5	3
7/16-20	RH7	80	25	8.0	9.0	6.0	3
1/2-13	RH8	82	25	9.0	10.0	7.0	3

Short tooth extrusion screw tap size table (NRT -S)



Thread types:M

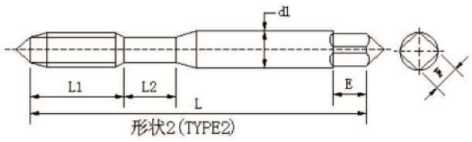
Nominal Size	Pitch	Thread Limit	Overall length	Length of thread mm	Shaft diameter	Square head length	Square head ply
M2	0.4	RH4	40	9	3.0	5.0	2.5
M2.3	0.4	RH4	42	9	3.0	5.0	2.5
M2.5	0.45	RH4	44	10	3.0	5.0	2.5
M2.6	0.45	RH4	44	10	3.0	5.0	2.5
M3	0.5	RH5	46	12	4.0	6.0	3.2
M3.5	0.6	RH5	48	12	4.0	6.0	3.2
M4	0.7	RH6	52	12	5.0	7.0	4.0
M5	0.8	RH6	60	13	5.5	7.0	4.5
M6	1.0	RH7	62	14	6.0	7.0	4.5

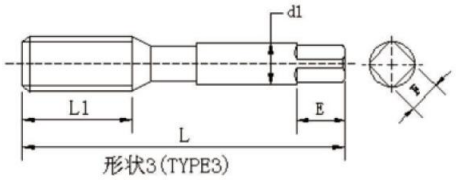
Short tooth american-made extrusion screw tap size (NRT-S)

Thread types:U

Nominal Size	Thread Limit	Overall length mm	Length of thread mm	Shaft diameter	Square head length	Square head ply
2-56	RH4	42	9	3.0	5.0	2.5
4-40	RH5	44	10	3.0	5.0	2.5
6-32	RH5	48	11	4.0	6.0	3.2
8-32	RH5	52	12	5.0	7.0	4.0
10-24	RH6	60	13	5.5	7.0	4.5
10-32	RH5	60	13	5.5	7.0	4.5
1/4-20	RH6	62	14	6.0	7.0	4.5

Extended metric extrusion screw tap size table (NRT-L)





Thread types:M

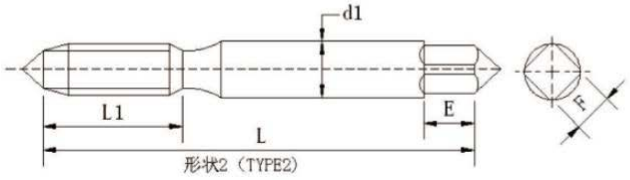
Nominal Size	Pitch	Thread Limit	Overall length	Length of thread mm	Avoid empty length	Shaft diameter	Square head length	Square head ply	Type
M3	0.5	RH5	80	9	9	4.0	6.0	3.2	2
			100						
			120						
M4	0.7	RH6	80	10	10	5.0	7.0	4.0	2
			100						
			120						
M5	0.8	RH6	100	11	11	5.5	7.0	4.5	2
			150						
M6	1.0	RH7	100	12	12	6.0	7.0	4.5	2
			150						
M8	1.25	RH7	100	18	/	6.2	8.0	5.0	3
			150						
M10	1.5	RH7	100	20	/	7.0	8.0	5.5	3
			150						
M12	1.75	RH8	100	25	/	8.5	9.0	6.5	3
			150						

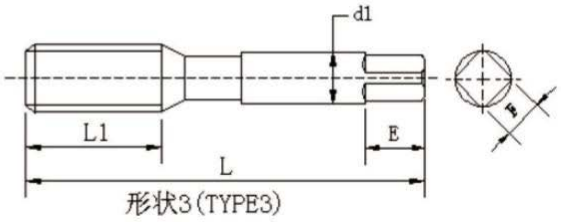
Extended american-made extrusion screw tap size (NRT-L)

Thread types:U

Nominal Size	Thread Limit	Overall length mm	Length of thread mm	Avoid empty length	Shaft diameter	Square head length	Square head ply	Type
6-32UNC	RH5	80	9	9	4.0	6.0	3.2	2
		100						
		120						
8-32UNC	RH5	80	10	10	5.0	7.0	4.0	2
		100						
		120						
10-32UNF	RH5	100	11	11	5.5	7.0	4.5	2
		150						
1/4-20UNC	RH6	100		12	6.0	7.0	4.5	2
		150						
5/16-18UNC	RH7	100	18	/	6.1	8.0	5.0	3
		150						
3/8-16UNC	RH7	100		/	7.0	8.0	5.5	3
		150						
1/2-13UNC	RH8	100	25	/	9.0	10.0	7.0	3
		150						

Fine thread extrusion screw tap size table (NRTF)

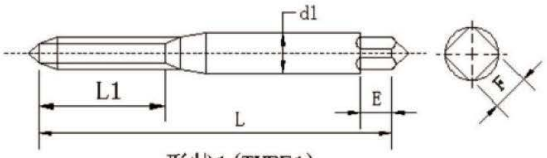


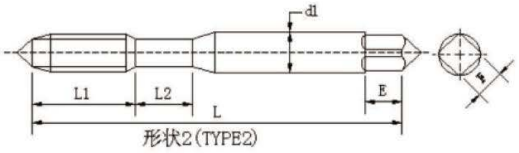


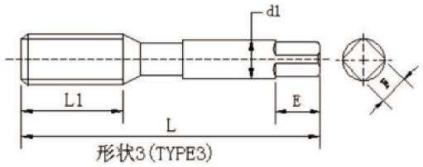
Thread types:M

Nominal Size	Pitch	Thread Limit	Overall length	Length of thread	Shaft diameter	Square head length	Square head ply	Type
M2	0.25	RH4	40	8	3.0	5	2.5	2
M3.0	0.35	RH5	46	10	4.0	6	3.2	2
M3.5	0.35	RH5	48	10	4.0	6	3.2	2
M4	0.35	RH5	52	10	5.0	7	4.0	2
M4	0.5	RH5	52	15	5.0	7	4.0	2
M4.5	0.35	RH5	52	10	5.0	7	4.0	2
M4.5	0.5	RH5	52	15	5.0	7	4.0	2
M5	0.35	RH5	60	10	5.5	7	4.5	2
M5	0.5	RH5	60	15	5.5	7	4.5	2
M5.5	0.5	RH5	60	15	5.5	7	4.5	2
M6	0.5	RH6	62	15	6.0	7	4.5	2
M6	0.75	RH6	62	20	6.0	7	4.5	2
M7	0.5	RH6	62	15	6.2	8	4.5	2
M8	1.0	RH7	70	18	6.2	8	4.5	3
M10	1.25	RH7	75	20	7.0	8	5.5	3
M10	1.0	RH7	75	20	7.0	8	5.5	3
M12	1.5	RH7	82	25	8.5	9	6.5	3
M12	1.25	RH7	82	25	8.5	9	6.5	3
M12	1.0	RH7	82	25	8.5	9	6.5	3

Spiral screw tap size (SP)



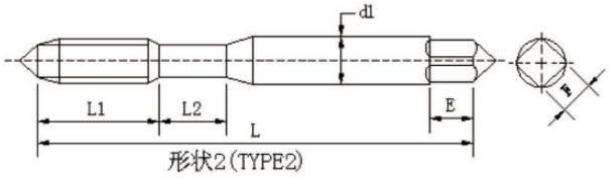


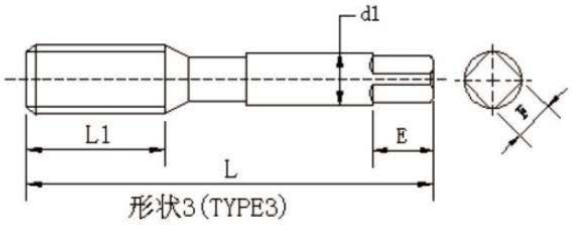


Thread types:M

Nominal Size	Pitch	Thread Limit	Overall length	Length of thread	Avoid empty length	Shaft diameter	Square head length	Square head ply	Flutes	Type
M1.0	0.25	P1	32	5.5	5.5	/	3.0	5	2	1
M1.2	0.25	P1	32	5.5	3.0	/	3.0	5	2	1
M1.4	0. 3	P1	36	8	3.0	/	3.0	5	2	1
M1.6	0. 35	P1	36	8	3.0	/	3.0	5	2	1
M1. 7	0. 35	P1	36	8	3.0	/	3.0	5	2	1
M2	o. 4	P1	42	9.5	3.0	5	3.0	5	2	2
M2	0.25	P1	42	7	3.0	5	3.0	5	2	2
M2. 2	0.45	P1	42	9.5	3.0	5	3.0	5	2	2
M2. 3	0. 4	P1	42	9.5	3.0	5	3.0	5	2	2
M2. 5	0.45	P1	44	9.5	3.0	6	3.0	5	2	2
M2. 5	0. 35	P1	44	8	3.0	6	3.0	5	2	2
M2. 6	0.45	P1	44	9.5	3.0	6	3.0	5	2	2
M3	0. 5	P1	46	11	3.0	7	4.0	6	3	2
M3	0. 35	P1	46	9.5	3.0	8	4.0	6	3	2
M3. 5	0. 6	P1	48	13	3.0	7	4.0	6	3	2
M4	0. 7	P2	52	13	3.0	7	5.0	7	3	2
M4	0. 5	P1	52	13	3.0	7	5.0	7	3	2
M5	0. 8	P2	60	16	3.0	9	5.5	7	3	2
M5	0.5	P1	60	13	3.0	12	5.5	7	3	2
M6	1.0	P2	62	19	3.0	9	6.0	7	3	2
M6	0.75	P2	62	19	3.0	9	6.0	7	3	2
M7	1.0	P2	65	19	3.0	10	6.2	8	3	3
M8	1.25	P2	70	22	3.0	/	6.2	8	3	3
M8	1. 0	P2	70	22	3.0	/	6.2	8	3	3
M9	1. 0	P2	72	22	3.0	/	7.0	8	3	3
M10	1. 5	P2	75	24	3.0	/	7.0	8	3	3
M10	1. 25	P2	75	24	3.0	/	7.0	8	3	3
M12	1. 75	P2	82	29	3.0	/	8.5	9	3	3
M12	1. 5	P2	82	29	3.0	/	8.5	9	3	3
M14	2. 0	P2	88	30	3.0	/	10.5	11	3	3
M16	2. 0	P2	95	32	3.0	/	12.5	13	3	3
M18	2. 5	P3	100	37	3.0	/	14.0	14	4	3
M20	2. 5	P3	105	37	3.0	/	15.0	15	4	3
M22	2. 5	P3	115	38	3.0	/	17.0	16	4	3
M24	3.0	P3	120	45	3.0	/	19.0	18	4	3

American-made spiral screw tap size table (SP)

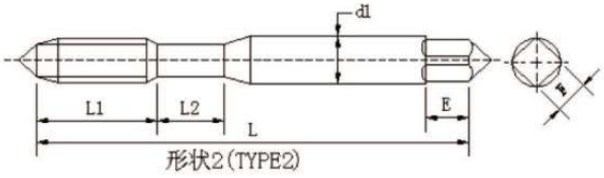


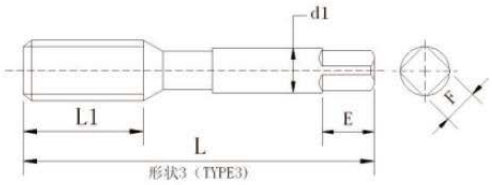


Thread types:U

Nominal Size	Thread Limit	Overall length	Length of thread	Avoid empty length	Shaft diameter	Square head length	Square head ply	Flutes	Type
4-40UNC	P1	44	9.5	7	3.0	3.0	5	2	2
5-40UNC	P1	46	11	7	4.0	3.0	6	3	2
6-32UNC	P2	48	13	7	4.0	3.0	6	3	2
8-32UNC	P2	52	13	8	5.0	3.0	7	3	2
10-24UNC	P2	60	16	9	5.5	3.0	7	3	2
10-32UNF	P2	60	16	9	5.5	3.0	7	3	2
1/4-20UNC	P2	62	19	10	6.0	3.0	7	3	2
1/4-28UNF	P2	62	19	10	6.0	3.0	7	3	2
5/16-18UNC	P2	70	22	/	6.1	3.0	8	3	3
5/16-24UNF	P2	70	22	/	6.1	3.0	8	3	3
3/8-16UNC	P2	75	24	/	7.0	3.0	8	3	3
3/8-24UNF	P2	75	24	/	7.0	3.0	8	3	3
7/16-14UNC	P3	80	25	/	8.0	3.0	9	3	3
7/16-20UNF	P2	80	25	/	8.0	3.0	9	3	3
1/2-13UNC	P3	85	29	/	9.0	3.0	10	3	3
1/2-20UNF	P2	85	29	/	9.0	3.0	10	3	3
9/16-18UNF	P2	90	30	/	10.5	3.0	11	3	3
5/8-11UNC	P3	95	32	/	12.0	3.0	12	3	3
5/8-18UNF	P2	95	32	/	12.0	3.0	12	3	3
3/4-10UNC	P3	105	37	/	14.0	3.0	14	4	3
3/4-16UNF	P3	105	37	/	14.0	3.0	14	4	3
7/8-9UNC	P3	115	38	/	17.0	3.0	16	4	3
7/8-14UNF	P3	115	38	/	17.0	3.0	16	4	3
1-8UNC	P3	125	45	/	20.0	3.0	18	4	3

Extension spiral screw tap size (LS-SP)

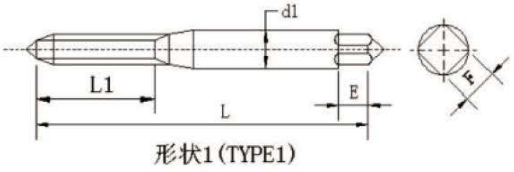


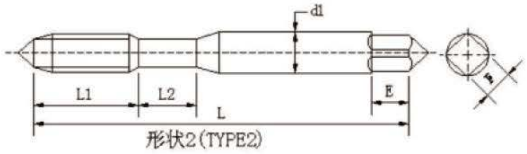


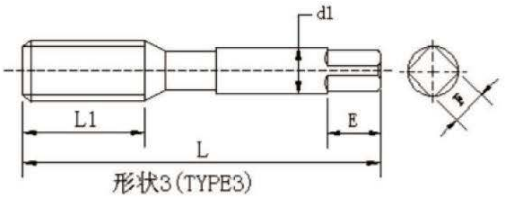
Thread types:M

Nominal Size	Pitch	Thread Limit	Overall length	Length of thread	Avoid empty length	Shaft diameter	Square head length	Square head ply	Flutes	Type
M3	0.5	P1	100 150	11	7	4.0	6	3.2	3	2
M4	0.7	P2	100 150	13	7	5.0	7	4	3	2
M5	0.8	P2	100 150	16	8	5.5	7	4.5	3	2
M6	1.0	P2	100 150	19	8	6.0	7	4.5	3	2
M8	1.25	P2	100 150	22	/	6.2	8	5	3	3
M10	1.5	P2	100 150	24	/	7.0	8	5.5	3	3
M10	1.25	P2	100 150	24	/	7.0	8	5.5	3	3
M12	1.75	P2	150 200	29	/	8.5	9	6.5	3	3
M12	1.25	P2	150	29	/	8.5	9	6.5	3	3
M14	2.0	P2	150 200	30	/	10.5	11	8	3	3
M14	1.5	P2	150	30	/	10.5	11	8	3	3
M16	2.0	P2	150 200	32	/	12.5	13	10	3	3
M16	1.5	P2	150	32	/	12.5	13	10	3	3
M18	2.5	P3	150	37	/	14	14	11	4	3
M18	1.5	P2	150	37	/	14	14	11	4	3
M20	2.5	P3	150 200	37	/	15	15	12	4	3
M20	1.5	P3	150	37	/	15	15	12	4	3
M22	1.5	P3	150	38	/	17	16	13	4	3
M24	3.0	P3	150 200	45	/	15	15	12	4	3
M24	1.5	P3	150	45	/	19	18	15	4	3

Apex tap size (PO)



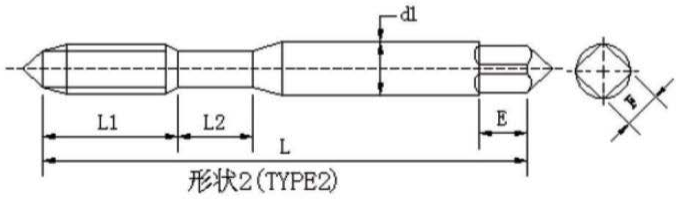


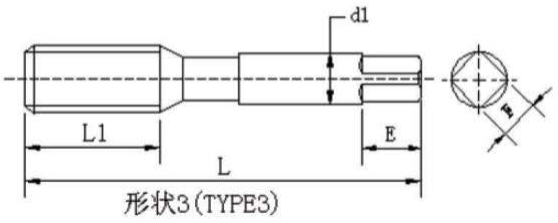


Thread types:M

Nominal Size	Pitch	Thread Limit	Overall length	Length of thread	Avoid empty length	Shaft diameter	Square head length	Square head ply	Flutes	Type
M1.0	0.25	P1	32	5.5	/	3.0	5	2.5	2	1
M1.2	0.25	P1	32	5.5	/	3.0	5	2.5	2	1
M1.4	0.3	P1	36	8	/	3.0	5	2.5	2	1
M1.6	0.35	P2	36	8	/	3.0	5	2.5	2	1
M1.7	0.35	P2	36	8	/	3.0	5	2.5	2	1
M2	0.4	P2	42	9.5	5	3.0	5	2.5	3	2
M2.2	0.45	P2	42	9.5	5	3.0	5	2.5	3	2
M2.3	0.4	P2	42	9.5	5	3.0	5	2.5	3	2
M2.5	0.45	P2	44	9.5	6	3.0	5	2.5	3	2
M2.6	0.45	P2	44	9.5	6	3.0	5	2.5	3	2
M3	0.5	P2	46	11	7	4.0	6	3.2	3	2
M3.5	0.6	P2	48	13	7	4.0	6	3.2	3	2
M4	0.7	P2	52	13	7	5.0	7	4	3	2
M4	0.5	P2	52	13	7	5.0	7	4	3	2
M5	0.8	P2	60	16	9	5.5	7	4.5	3	2
M5	0.5	P2	60	13	12	5.5	7	4.5	3	2
M6	1	P2	62	19	9	6.0	7	4.5	3	2
M6	0.75	P2	62	19	9	6.0	7	4.5	3	2
M7	1.0	P2	65	19	/	6.2	8	5	3	3
M8	1.25	P3	70	22	/	6.2	8	5	3	3
M8	1.0	P3	70	22	/	6.2	8	5	3	3
M10	1.5	P3	75	24	/	7.0	8	5.5	3	3
M10	1.25	P3	75	24	/	7.0	8	5.5	3	3
M12	1.75	P4	82	29	/	8.5	9	6.5	3	3
M12	1.5	P3	82	29	/	8.5	9	6.5	3	3
M14	2.0	P4	88	30	/	10.5	11	8	3	3
M14	1.5	P3	88	30	/	10.5	11	8	3	3
M16	2.0	P4	95	32	/	12.5	13	10	3	3
M18	2.5	P4	100	37	/	14	14	11	3	3
M20	2.5	P4	105	37	/	15	15	12	3	3
M22	2.5	P4	115	38	/	17	16	13	3	3
M24	3.0	P4	120	45	/	19	18	15	3	3

American-made apex tap size table (PO)

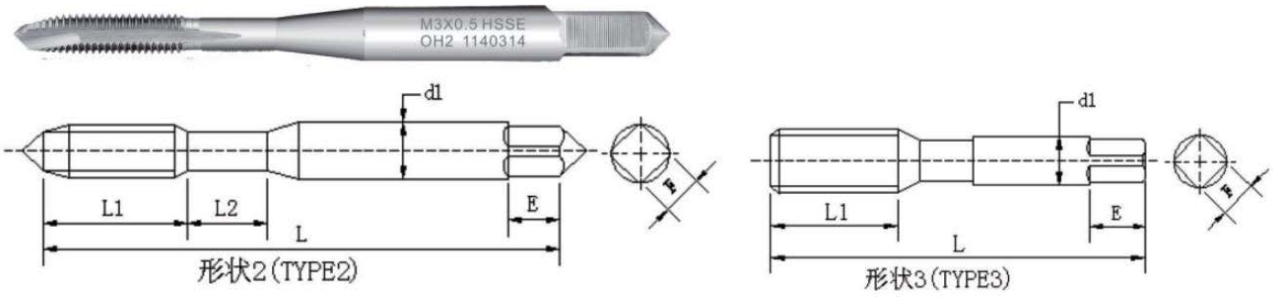




Thread types:U

Nominal Size	Thread Limit	Overall length	Length of thread	Avoid empty length	Shaft diameter	Square head length	Square head ply	Flutes	Type
2-56UNC	P1	42	9.5	5	3.0	5	2.5	3	2
4-40UNC	P2	44	9.5	7	3.0	5	2.5	3	2
6-32UNC	P2	48	13	7	4.0	6	3.2	3	2
8-32UNC	P2	52	13	8	5.0	7	4	3	2
10-24UNC	P2	60	16	9	5.5	7	4.5	3	2
10-32UNC	P2	60	16	9	5.5	7	4.5	3	2
1/4-20UNC	P2	62	19	10	6.0	7	4.5	3	2
1/4-28UNC	P2	62	19	10	6.0	7	4.5	3	2
5/16-18UNC	P3	70	22	/	6.1	8	5	3	3
5/16-18UNC	P2	70	22	/	6.1	8	5	3	3
3/8-16UNC	P3	75	24	/	7.0	8	5.5	3	3
3/8-24UNC	P2	75	24	/	7.0	8	5.5	3	3
7/16-20UNC	P3	80	25	/	8.0	9	6	3	3
1/2-13UNC	P3	85	29	/	9.0	10	7	3	3
1/2-20UNF	P3	85	29	/	9.0	10	7	3	3
9/16-18UNF	P3	90	30	/	10.5	11	8	3	3
3/4-16UNF	P3	105	37	/	14.0	14	11	3	3

Extended apex tap size (LS-PO)



Thread types:M

Nominal Size	Pitch	Thread Limit	Overall length	Length of thread	Avoid empty length	Shaft diameter	Square head length	Square head ply	Flutes	Type
M3	0.5	P2	100 150	11	7	4.0	6	3.2	3	2
M4	0.7	P2	100 150	13	7	5.0	7	4	3	2
M5	0.8	P2	100 150	16	8	5.5	7	4.5	3	2
M6	1.0	P2	100 150	19	8	6.0	7	4.5	3	2
M8	1.25	P3	100 150	22	/	6.2	8	5	3	3
M10	1.5	P3	100 150	24	/	7.0	8	5.5	3	3
M10	1.25	P3	100 150	24	/	7.0	8	5.5	3	3
M12	1.75	P4	150 200	29	/	8.5	9	6.5	2	3
M14	2.0	P4	150	30	/	10.5	11	8	3	3
M16	2.0	P4	150 200	32	/	12.5	13	10	3	3
M16	1.5	P3	150	32	/	12.5	13	10	3	3
M18	2.5	P4	150	37	/	14	14	11	3	3
M20	2.5	P4	150 200	37	/	15	15	12	3	3
M20	1.5	P4	150	37	/	15	15	12	3	3
M22	1.5	P4	150	38	/	17	16	13	3	3
M24	3.0	P4	150 200	45	/	19	18	15	3	3

The corresponding relation of JIS accuracy and precision of old JIS

◎ JIS and old JIS in thread precision grade differences

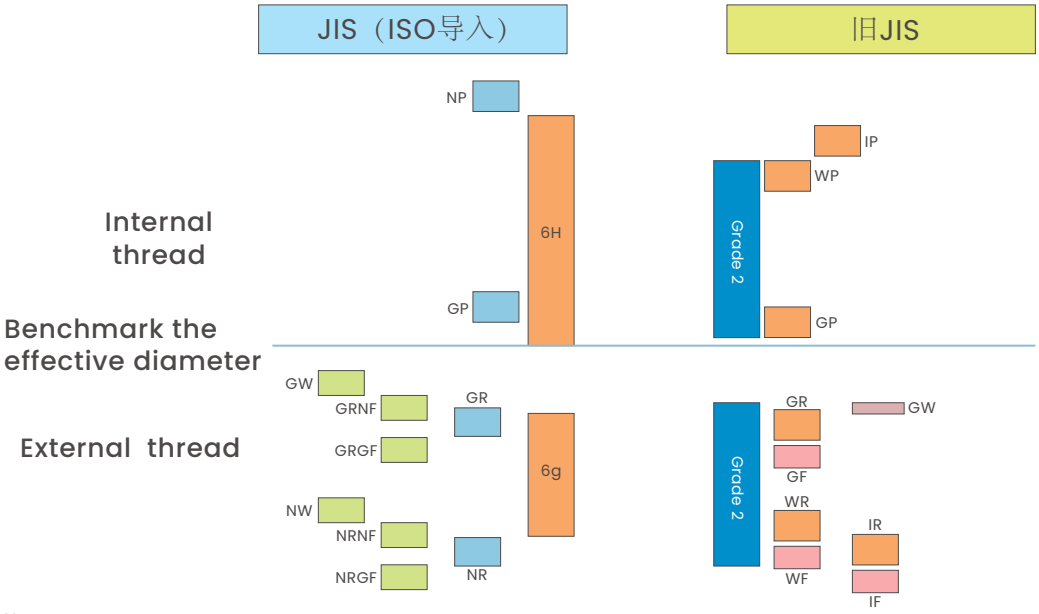
JIS corresponding relationship with the old JIS precision tables

	JIS（ISO导入）	旧JIS
External thread	4h 6g 8g	Grade 1 Grade 2 Grade 3
Internal thread	5H 7H	Grade 1 Grade 2 Grade 3

◆ Japan's JIS specifications,many titles since the ISO,they generate Such as JIS(ISO import),JIS(ISO),current new JIS,ISO,etc.;
And the old original JIS JIS,former JIS,never JIS,etc.

◆ M3-M30 (a total of 74 precision produce differences;
The coarse thread gauge 20 54,fine thread gauge.

◎ JIS(ISO import)and old JIS standard of the thread gauge precision position difference



Note:

◆ ISO JIS and old JIS,the types of the thread gauge,mark is different.

◆ Thread gauge has different allowable precision;Therefore,the old and the new JIS thread gauge absolutely not common.

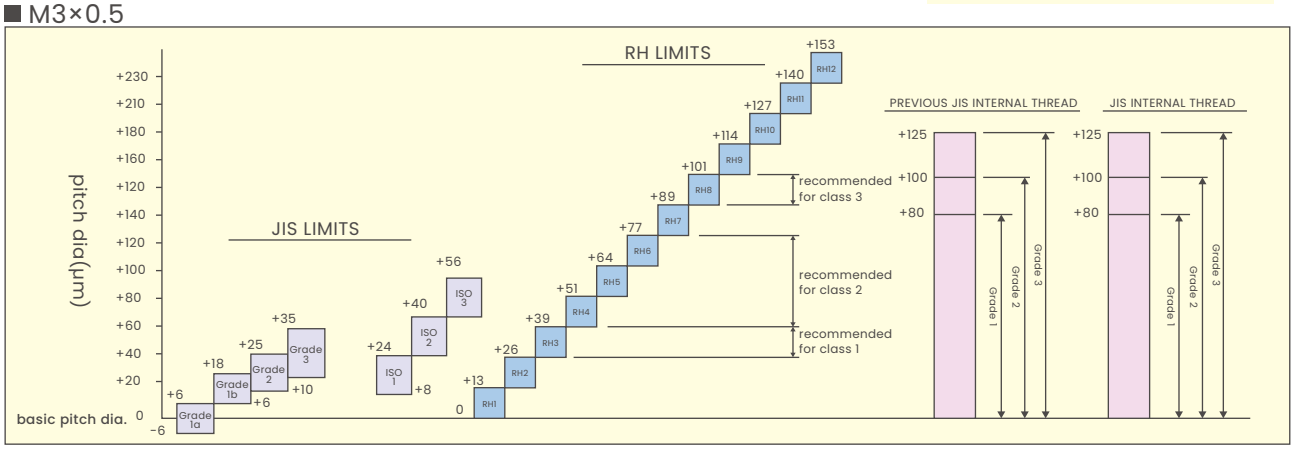
Extended apex tap size (LS-PO)

PRECITURN chipless tap series(NRT,HRT)is based on the principle of the plastic deformation of machining internal thread.

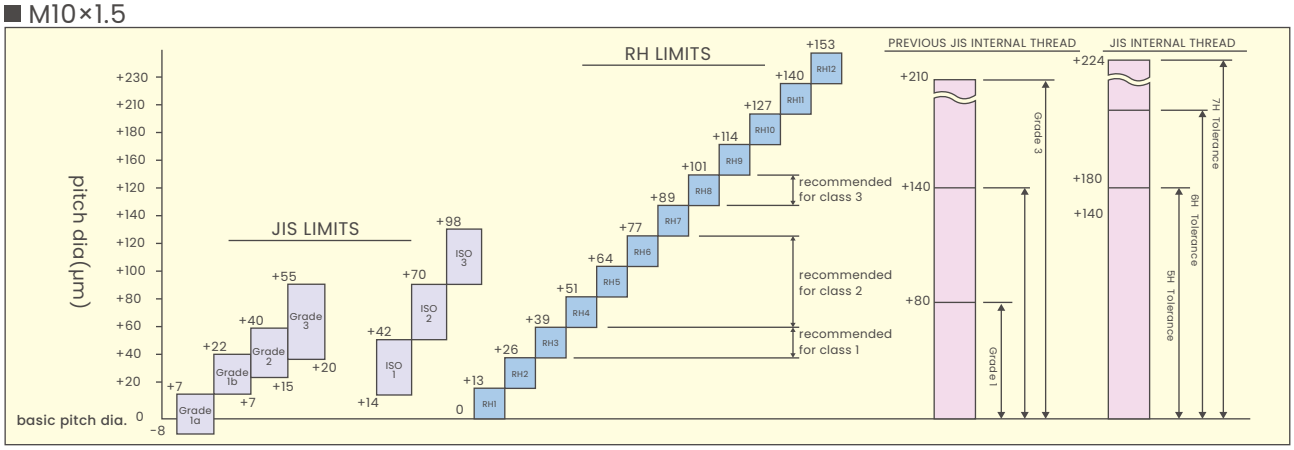
The cutting tap is different and must be strictly control the aperture.Therefore the accuracy of tap Is quite strict.Adopted by the PRECITURN phased accuracy tolerance of 12.7 microns(0.0005")

"Upper tolerance: 0.0127*n
Lower tolerance: Upper tolerance - 0.0127"

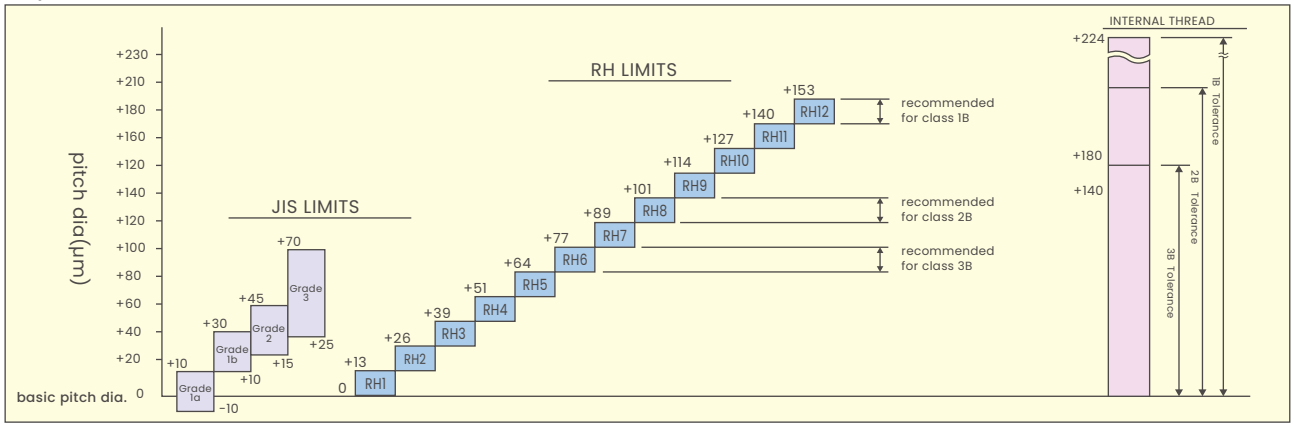
■ M3×0.5



■ M10×1.5



■ 1/2-13UNC



About Ozzie and Harriet precision

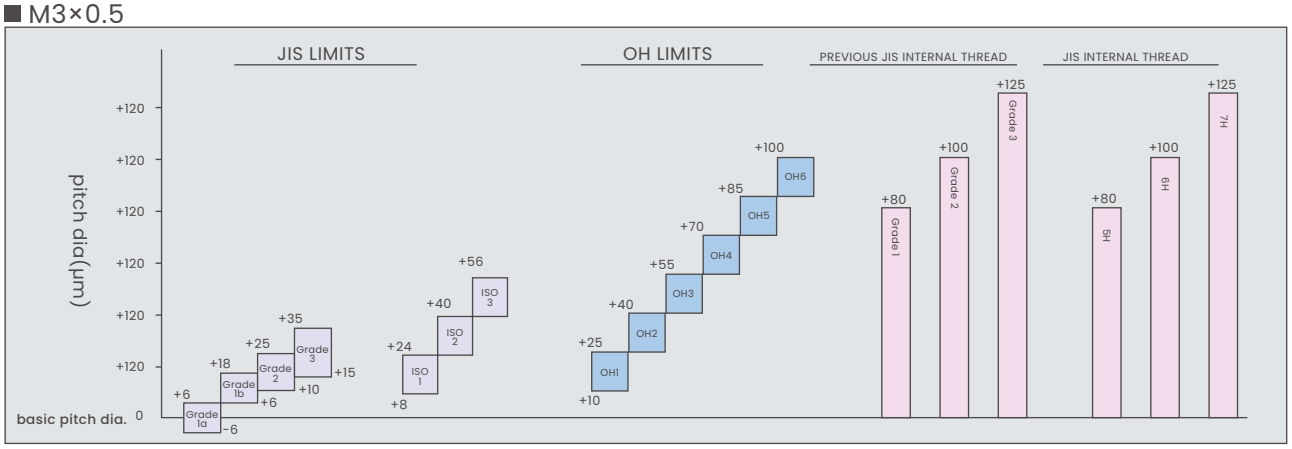
The setting mode is suitable for most of the grinding precision machining screw tap,and JIS2 level and the precision of the level or above, in accordance with different specifications to distinguish the effective diameter.The following cases:

PRECITURN don't use silk attack in order to meet the accuracy of the parameters set by the internal thread USES phase type precision Can cooperate with selected OH precision machining conditions.

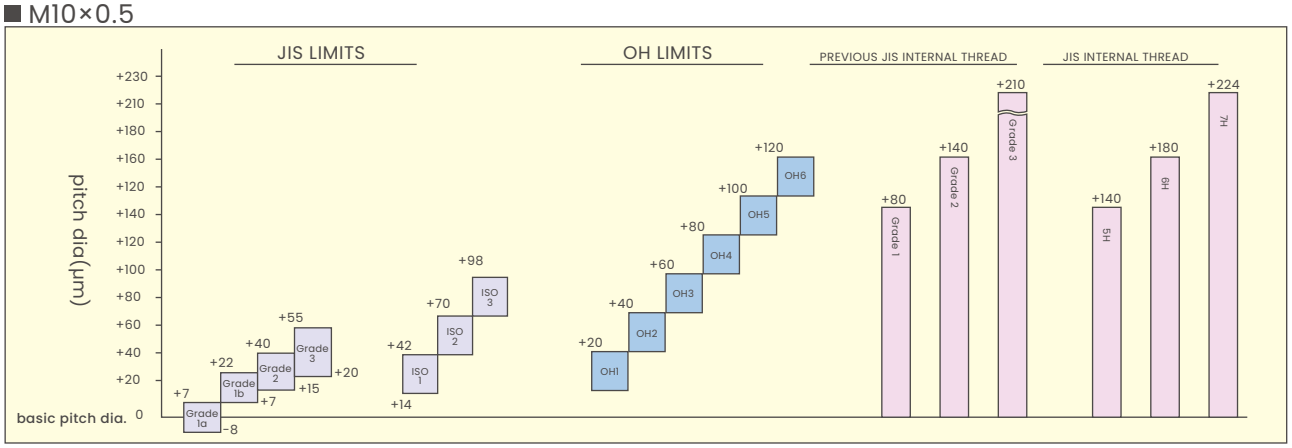
1. P ≤ 0.6 (Above 40 teeth)
   Upper tolerance: 0.010 + 0.015 * n
   Lower tolerance: Upper tolerance - 0.015
   Unit: mm

2. P ≥ 0.7 (Above 36 teeth)
   Upper tolerance: 0.020 * n
   Lower tolerance: Upper tolerance - 0.020
   Unit: mm

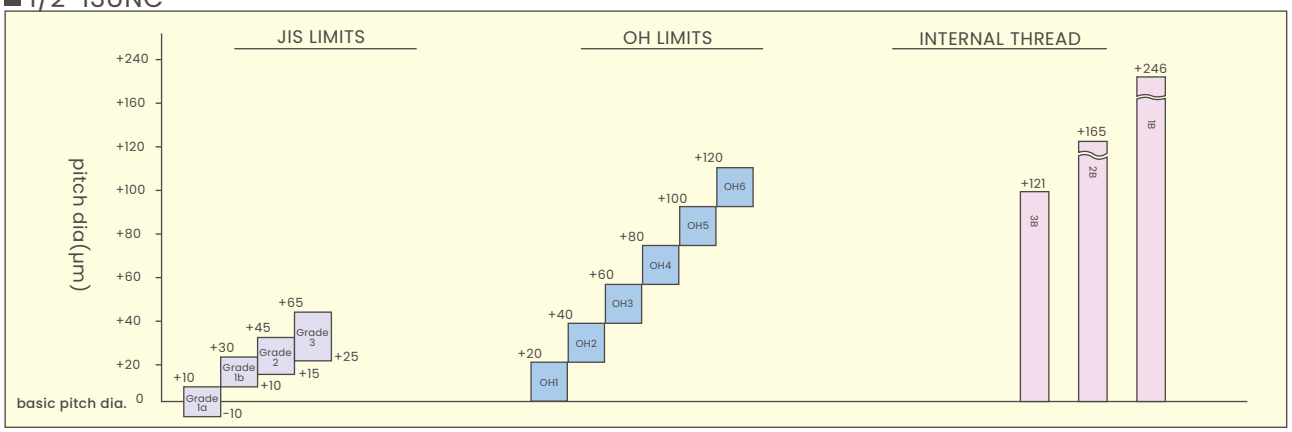
■ M3×0.5



■ M10×0.5



■ 1/2-13UNC



Tooth tapping operation abnormity countermeasure

Abnormal phenomenon	reason	countermeasures
Internal thread hole reaming	Tap the selected is not appropriate	☐ Selecting the appropriate precision of screw tap
		☐ Increased pay minister degrees
		☐ Choose the eccentric Angle goods thick
		☐ Reduce the cutting Angle
		☐ Increase with otimista dental department
		☐ Modified food pay of Angle
	Chip blocking	☐ Using POT,the SFT,NRT
		☐ Use with oil hole of the screw tap
		☐ Reduce number of groove,groove width
		☐ Change the types of cutting oil or oil method
		☐ Increase the aperture
		☐ The blind hole processing,you can under the deep hole
	Use conditions are not appropriate	☐ Adjust the mechanical power
		☐ Switch to floating fixture
		☐ To prevent the deflection of the spindle
		☐ Adjust the cutting speed
		☐ Adjust the feed speed,prevent m.in deformation
		☐ Adopt compulsory feed way
		☐ To prevent the eccentric hole
		☐ The inlet do face processing
	Dissolve the	☐ Use a surface treatment(HOMO,titanium plating)of tap
		☐ Use with oil hole of the screw tap
		☐ Tap and oxidation treatment
		☐ Cutting Angle by cutting material
		☐ Shorten the dental department
		☐ Lower cutting speed
		☐ Using the solution with high cutting oil
	Tap to grinding is not appropriate	☐ Groove divided equally
		☐ The deflection of inhibiting food pay department
		☐ Cutting Angle and feed pay flight Angle not too big
		☐ Avoid blade thickness is too small
		☐ Remove the grinding burrs

Tooth tapping operation abnormity countermeasure

Abnormal phenomenon	reason	countermeasures
Internal thread shrinkage cavity	Tap the selected is not appropriate	☐ Using precision of screw tap
		☐ Adjust the feed pay of Angle
		☐ Increase the cutting Angle
		☐ Grinding cycle again ahead of time
		☐ Increase the slot number
	Internal thread trauma	☐ Adjust the rotation speed of quitting to avoid inlet under damage
	Internal thread cutting	☐ Improve the tap sharpness,prevent the hair must be shaped chip
		☐ Completely remove chip before tooth gauge checks
Internal thread split or bite	Tap the selected is not appropriate	☐ Increased pay minister degrees
		☐ Cutting Angle by cutting material
		☐ Close to otimista
		☐ Shorten the effective teeth
	Dissolve the	☐ There are from the gap of screw tap using dental department
		☐ The use of surface treatment(HOMO,titanium plating)of tap
		☐ Use with oil hole of the screw tap
		☐ Reduce the blade thickness
		☐ Shorten the effective teeth
		☐ Groove divided equally
		☐ Stable cutting Angle value
		☐ Pay attention to haircuts hot point of research
		☐ Lower cutting speed
		☐ Change the types of cutting oil or oil method
		☐ Adjust the oil change period and supplement the cutting oil cycle
		☐ To prevent oil mixed with other cutting oil
		☐ Cutting oil filter
		☐ Increase the aperture
		☐ Remove scraps before the project
	Chip blocking	☐ Using POT,the SFT,NRT
		☐ Increase the aperture
		☐ Change the types of cutting oil or oil method
	Use conditions are not appropriate	☐ To prevent the deflection of the spindle
		☐ Switch to floating fixture
		☐ Change the types of cutting oil or oil method
		☐ Pay attention to the material,hardness,data changes of the organization
		☐ To prevent the eccentric hole
		☐ To prevent the hole work hardening

Tooth tapping operation abnormity countermeasure

Abnormal phenomenon	reason	countermeasures
Internal thread split or bite	Tap on the grinding is not appropriate	☐ Groove divided equally
		☐ To prevent the deflection of food pay department
		☐ Remove the abrasion of
		☐ Grinding cycle again ahead of time
Internal thread of vibration wave	Shred selected is not appropriate	☐ Reduce the cutting Angle
		☐ Reduce the dental department from the gap
		☐ Avoid blade thickness is too small
		☐ Groove don't grinding
		☐ To prevent the deflection of the spindle
		☐ Switch to floating fixture
		☐ Lower cutting speed
		☐ Change the types of cutting oil or oil method
		☐ Keep the workpiece solid
		☐ Pay attention to workpiece thick meat
Tap wreck	Cutting block	☐ Using POT,the SFT,NRT
		☐ Increase the slot width
		☐ Increased pay minister degrees
		☐ The blind hole processing,you can under the deep hole
		☐ To prevent the eccentric hole
		☐ To prevent the hole around the chip
	Dissolve the	☐ Use a surface treatment(HOMO,titanium plating)of tap
		☐ Remove the abrasion of
	Cutting force is too large	☐ Using food to pay long goods
		☐ Increase the cutting Angle
		☐ To reduce the friction torque,the teeth of relief,the blade thickness thinning
		☐ Remove the abrasion of
		☐ Grinding cycle again ahead of time
	Use conditions are not appropriate	☐ Use in a fixture with torque adjustment function
		☐ Using floating fixture
		☐ Lower cutting speed
		☐ Prevent tap and eccentric hole
		☐ Don't under through aperture,avoid tap run into the bottom of the hole
		☐ Pay attention to the material,hardness,data changes of the organization
		☐ To prevent the hole work hardening

Tooth tapping operation abnormity countermeasure

Abnormal phenomenon	reason	countermeasures
Blade is collapse owe	Tap the selected is not appropriate	☐ To prevent the chip block
		☐ Change of tool material
		☐ Shorten the teeth
		☐ Lower hardness
		☐ Longer pay minister degrees
		☐ Remove the abrasion of
		☐ Avoid blade thickness is too small
	Use conditions are not appropriate	☐ When the blind hole processing,avoid sudden turn
		☐ Using floating fixture
		☐ Lower cutting speed
		☐ Prevent tap and eccentric hole
		☐ Using the soluble cutting oil
		☐ Pay attention to the material,hardness,data changes of the organization
		☐ To prevent the hole work hardening
Tap wear big	Tap the selected is not appropriate	☐ Use a surface treatment(N,titanium plating)of tap
		☐ Use the EX HSS screw tap or powder
		☐ If processing hard by cutting wood,please raise tool material or additional surface treatment
		☐ The cutting Angle is not too big
		☐ Prevent grind cutting overheating
	Tap the selected is not appropriate	☐ Lower cutting speed
		☐ To prevent the hole work hardening
		☐ Change the types of cutting oil or oil method
		☐ Pay attention to the material,hardness,data changes of the organization
		☐ Increase the aperture
		☐ Blind hole processing,can deepen the hole
Tap to dissolve the	Friction heat is too large	☐ The increase from the tooth gap
		☐ To reduce the blade thickness
		☐ Lower cutting speed
		☐ Change the types of cutting oil or oil method
		☐ Adjust the oil change period and supplement the cutting oil cycle
		☐ To prevent oil mixed with other cutting oil
		☐ Cutting oil filter

Cutting speed and cutting oil

◎ The cutting speed and cutting oil

Cutting speed to receive food FuShan tap material,type and number,the hole shape,by cutting material and cutting oil and so on conditions of use.

Cutting oil on the machining plays the role of lubrication,cooling,the dissolved with

◎ Standard cutting speed and is suitable for cutting speed

By cutting material		Cutting speed (m/min)							Cutting oil			
		SKH SKS	N-SP	N-PO	Superhard tap	No crumbs screw tap	High speed wire tapping	Pipe screw tap	insoluble in water	Water-soluble (Emulsion)	Half dry	Dry
Low carbon steel	Less than 0.25%	8~13	8~13	15~25	-	8~13	27~32	3~6	◎	○	-	-
Medium carbon steel	C0.25~0.45%	7~12	7~12	10~15	-	7~10	27~32	3~6	◎	○	-	-
High carbon steel	More than 0.45%	6~9	6~9	8~13	-	5~8	27~32	2~5	◎	○	-	-
Alloy steel	SCM	7~12	7~12	10~15	-	5~8	27~32	2~5	◎	△	-	-
Quenched and tempered steel	25~45HRC	3~5 (4-8)	3~5 (4-8)	4~6 (6-10)	-	-	-	2~5	◎	△	-	-
Stainless steel	SUS	4~7	5~8	8~13	-	5~10	-	3~6	◎	○	-	-
Precipitation hardening stainless steel	SUS 630 SUS 631	3~5	3~5	4~6	-	-	-	2~5	◎	-	-	-
Tool steel	SKD	6~9	6~9	7~10	-	-	-	2~5	◎	-	-	-
Cast steel	SC	6~11	6~11	10~15	-	-	17~22	2~5	◎	○	-	-
Cast iron	FC	10~15	-	-	10~20	-	-	2~5	◎	○	○	○
Spheroidal graphite cast iron	FCD	7~12	7~12	10~20	10~20	-	-	4~8	◎	○	○	-
Copper	Cu	6~9	6~11	7~12	10~20	7~12	27~32	2~5	○	○	-	-
Brass casting	Bs·Bsc	10~15	10~20	15~25	15~25	7~12	27~32	5~10	○	○	○	○
Bronze casting	PB·PBC	6~11	6~11	10~20	10~20	7~12	-	6~11	○	○	-	-
Aluminum alloy rolling material	AL	10~20	10~20	15~25	15~25	10~20	100~300	5~10	◎	○	-	-
Aluminum alloy castings	AC·ADC	10~15	10~15	15~20	15~20	10~15	80~300	10~15	◎	○	-	-
Magnesium castings	MC	7~12	7~12	10~15	10~15	-	-	10~15	◎	○	-	-
Zinc casting	ZDC	7~12	7~12	10~15	10~15	7~12	27~100	10~15	◎	○	-	-
Hot hard plastic	epoxy resin	10~20	-	-	-	-	-	5~10	-	○	○	○
Hot plasticity plastic	PVC Nylon POM	10~20	10~15	10~20	10~20	-	27~32	5~10	-	○	-	

◎The most suitable ○Apply △ In commission-Unavailable

1.This form is for general selected benchmark,will change because of the conditions of use value.

2.Tap the selected refer to tap the selected table.

3.The quenched and tempered steel column internal security CPM series of cutting speed.

*have surface treatment values refer to the table above 30%to +50%.Except oxidation,smothering treatment

◎ The formula of cutting condition

◎ 注：（+）外螺纹、（-）内螺纹
D:加工径（mm） V:切削速度（m/min）
d:工具径径（mm） N:回转数（min-1）
Z:刃数 π:圆周率（3.1415）
f:回转之进刀量（mm）

Number of rotary tool(N)

$$N=\frac{1{,}000\times V}{\pi\times d}\ (\text{min-1})$$

Cutting speed(V)

$$V=\frac{\pi\times d\times N}{1{,}000}\ (\text{m/min})$$

Tool feed(F)

$$F=\frac{f\times Z\times N(D\pm d)}{D}\ (\text{mm/min})$$

Thread Bore Path Technique Parameter

Metric coarse thread	unit:mm	
Of screw	Level 2 female thread diameter	
	Minimum	Biggest
M 1×0.25	0.729	0.785
1.1×0.25	0.829	0.885
1.2×0.25	0.929	0.985
1.4×0.3	1.075	1.142
1.6×0.35	1.221	1.320
1.7×0.35	1.321	1.421
1.8×0.35	1.421	1.521
2×0.4	1.567	1.679
2.2×0.45	1.713	1.838
2.3×0.4	1.867	1.979
2.5×0.45	2.013	2.138
2.6×0.45	2.113	2.238
3×0.6	2.280	2.440
3×0.5	2.459	2.599
3.5×0.6	2.850	3.010
4×0.75	3.106	3.326
4×0.7	3.242	3.422
4.5×0.75	3.688	3.878
5×0.9	3.930	4.170
5×0.8	4.134	4.334
5.5×0.9	4.430	4.670
6×1	4.917	5.153
7×1	5.917	6.153
8×1.25	6.647	6.912
9×1.25	7.647	7.912
10×1.5	8.376	8.676
11×1.5	9.376	9.676
12×1.75	10.106	10.441
14×2	11.835	12.210
16×2	13.835	14.210
18×2.5	15.294	15.744
20×2.5	17.294	17.744
22×2.5	19.294	19.744
24×3	20.752	21.252
27×3	23.752	24.252
30×3.5	26.211	26.771
33×3.5	29.211	29.771
36×4	31.670	32.270
39×4	34.670	35.270
42×4.5	37.129	37.799
45×4.5	40.129	40.799
48×5	42.587	43.297

Metric fine thread	unit:mm	
Of screw	Level 2 female thread diameter	
	Minimum	Biggest
M2.5×0.35	2.121	2.221
3×0.35	2.621	2.721
3.5×0.35	3.121	3.221
4×0.5	3.459	3.599
4.5×0.5	3.959	4.099
5×0.5	4.459	4.599
5.5×0.5	4.959	5.099
6×0.75	5.188	5.378
7×0.75	6.188	6.378
8×1	6.917	7.153
8×0.75	7.188	7.378
9×1	7.917	8.153
9×0.75	8.188	8.378
10×1.25	8.647	8.912
10×1	8.917	9.153
10×0.75	9.188	9.378

American fine thread	unit:mm	
Of screw	Level 2 female thread diameter	
	Minimum	Biggest
NO0-80UNC	1.182	1.305
1-72	1.474	1.612
2-64	1.756	1.912
3-56	2.025	2.197
4-48	2.271	2.458
5-44	2.551	2.740
6-40	2.820	3.022
8-36	3.404	3.606
10-32	3.963	4.165
12-28	4.496	4.724
1/4-28	5.360	5.588
5/16-24	6.782	7.035
3/8-24	8.382	8.636
7/16-20	9.729	10.033
1/2-20	11.329	11.607
9/16-18	12.751	13.081
5/8-18	14.351	14.681
3/4-16	17.323	17.678
7/8-14	20.270	20.675
1-12	23.114	23.571
11/8-12	26.289	26.746
11/4-12	29.454	29.921
13/8-12	32.639	33.096
11/2-12	35.814	36.271

Metric coarse thread	unit:mm	
Of screw	Level 2 female thread diameter	
	Minimum	Biggest
NO1-64UNC	1.425	1.528
2-56	1.695	1.871
3-48	1.941	2.146
4-40	2.157	2.385
5-50	2.487	2.697
6-32	2.642	2.895
8-32	3.302	3.530
10-24	3.683	3.962
10-24	4.344	4.597
1/4-20	4.979	5.257
5/16-18	6.401	6.731
3/8-16	7.798	8.153
7/16-14	9.144	9.550
1/2-13	10.592	11.023
9/16-12	11.989	12.466
5/8-11	13.385	13.386
3/4-10	16.307	16.307
7/8-9	19.177	19.177
1-8	21.971	21.971
1 8/1-7	24.638	24.638
1 1/4-7	27.813	27.813
1 3/8-6	30.353	30.353
1 1/2-6	33.528	33.528
1 3/4-5	38.964	38.964
2-4 1/2	44.679	44.679

Metric coarse thread	unit:mm	
Of screw	Level 2 female thread diameter	
	Minimum	Biggest
PF1/8	6	9.24~9.35
1/4	7	12.41~12.62
3/8	7	15.92~16.12
1/2	8	19.30~20.15
3/4	8	25.41~25.64

Thread Bore Path Technique Parameter

American coarse,fine thread (extrusion screw tap) unit:mm

Of screw	3B female thread with the aperture		2B female thread with the aperture	
	RH	The minimum and maximum	RH	The minimum and maximum
NO2-56UNC -64UNF	3 2	1.95~2.01 1.97~2.03	4 3	1.96~2.02 1.98~2.04
NO3-48UNC -56UNF	3 3	2.23~2.31 2.28~2.34	4 4	2.25~2.32 2.29~2.35
NO4-40UNC -56UNF	3 3	2.50~2.58 2.56~2.63	5 4	2.52~2.60 2.57~2.64
NO5-40UNC -44UNF	3 3	2.83~2.91 2.87~2.94	5 4	2.86~2.93 2.88~2.95
NO6-32UNC -36UNF	3 3	3.06~3.14 3.16~3.22	5 5	3.09~3.17 3.19~3.26
NO8-32UNC -36UNF	4 4	3.74~3.82 3.79~3.86	6 5	3.76~3.84 3.80~3.88
NO10-24UNC -32UNF	4 4	4.24~4.32 4.40~4.46	6 5	4.26~4.35 4.41~4.48
NO12-24UNC -28UNF	4 4	4.90~4.96 4.99~5.06	6 5	4.92~5.01 5.00~5.08
1/4-20UNC -28UNF	4 4	5.64~5.74 5.95~9.02	6 5	5.66~5.76 5.86~5.93
5/16-18UNC -24UNF	5 5	1.95~2.01 1.97~2.03	7 6	7.18~7.26 T38~7.29
3/8-16UNC -24UNF	5 5	1.95~2.01 1.97~2.03	7 6	8.66~8.78 8.96~9.05
7/16-14UNC -20UNF	5 5	1.95~2.01 1.97~2.03	7 7	10.11~10.25 10.44~10.54
1/2-13UNC -20UNF	6 5	1.95~2.01 1.97~2.03	8 7	11.62~11.78 12.02~12.12
9/16-12UNC -18UNF	8 7	1.95~2.01 1.97~2.03	10 9	13.14~13.27 13.55~13.66
5/8-11UNC -18UNF	8 7	1.95~2.01 1.97~2.03	11 9	14.62~14.76 15.14~15.25
3/4-10UNC -18UNF	9 7	1.95~2.01 1.97~2.03	12 10	17.67~17.88 18.22~18.32
7/8-9UNC -14UNF	9 8	1.95~2.01 1.97~2.03	12 11	20.68~20.85 21.27~21.38
1-8UNC -12UNF	10 9	1.95~2.01 1.97~2.03	13 12	23.65~23.84 24.28~24.41

Metric thread (extrusion screw tap) unit:mm

Of screw	Level 1 female thread with the aperture		Level 2 female thread with the aperture	
	RH	The minimum and maximum	RH	The minimum and maximum
M1.4×0.3	2	1.244~1.263	4	1.270~1.294
1.7×0.35	2	1.51~1.54	4	1.54~1.58
2×0.4	2	1.78~1.82	4	1.81~1.85
2.3×0.4	2	2.08~2.12	4	2.11~2.15
2.5×0.45	2	2.25~2.29	4	2.28~2.33
2.6×0.45	2	2.35~2.39	4	2.38~2.43
3×0.5	3	2.74~2.78	5	2.76~2.81
3.5×0.6	3	3.18~3.21	5	3.20~3.26
4×0.7	4	3.63~3.67	6	3.65~3.70
5×0.8	4	4.57~4.62	6	4.59~4.66
6×1	4	5.45~5.51	7	5.48~5.57
7×1	4	6.45~6.51	7	6.48~6.57
8×1.25	5	7.31~7.38	7	7.34~7.41
8×1	4	7.45~7.51	7	7.48~7.57
10×1.5		9.16~9.22	7	9.18~9.28
10×1.25	5	9.31~9.38	7	9.34~9.41
10×1	5	9.46~9.52	7	9.48~9.57
12×1.75	5	11.01~11.08	8	11.05~11.11
12×1.5	5	11.16~11.22	7	11.18~11.28
12×1.25	5	11.31~11.38	7	11.34~11.41
12×1	5	11.46~11.52	7	11.48~11.57
14×2	6	12.83~12.95	10	12.92~13.04
14×1.5	5	13.16~13.22	9	13.21~13.30
16×2	6	14.87~14.95	10	14.92~15.04
16×1.5	5	15.16~15.22	9	15.21~15.30
18×2.5	6	16.57~16.67	11	16.63~16.78
18×1.5	6	17.17~17.23	10	17.22~17.31
20×2.5	6	18.57~18.67	11	18.63~18.78
20×1.5	6	19.17~19.23	10	19.22~19.31

Inch tube teeth screw tap				American-made tube teeth screw tap		
specifications	Blanking aperture			specifications	Blanking aperture	
	PT(RC)	PS(RP)	PF(G)		NPT	PF(G)
1/16-28	6.30	6.50	6.70	1/16-27	6.30	6.35
1/8-28	8.60	8.50	8.80	1/8-27	8.50	8.90
1/4-19	11.50	11.00	11.80	1/4-18	11.00	11.50
3/8-19	15.00	14.50	15.30	3/8-18	14.50	15.00
1/2-14	18.50	18.10	19.00	1/2-14	18.00	18.50
5/8-14			21.00	3/4-14	23.00	24.00
3/4-14	24.00	23.50	24.50	1″ 111/2	29.00	30.00
7/8-14			28.25	1-1/4-11 1/2	38.00	39.00
1″ -11	30.25	29.60	30.75	1-1/2-11 1/2	44.00	45.00
1-1/8-11			35.50	2″ 11 1/2	56.00	57.00
1-1/4-11	39.00	38.10	39.50			
1-1/2-11	45.00	44.00	45.00			
1-3/4-11			51.00			
2″ -11	56.50	55.60	57.00			
2-1/2-11	71.40		72.80			

Taps of surface treatment

◎ Tap the surface treatment

Tap cutting performance mainly depends on the shape,material and heat treatment,surface treatment is an effective method to improve the performance of tap

Especially the affinity strong times processing materials like stainless steel,surface treatment is an indispensable tool

◎ On tap for the purpose of surface treatment are:

- To improve the surface hardness of the tool,in order to enhance its wear resistance.
- To prevent the bonding between the tool and the cutting materials
- Reduce the cutting tool and the cutting material friction coefficient

Surface tratment method are many,but because of the high speed steel tempering temperature is 550-580℃, so its surface treatment temperature must be lower than the temperature value.The following table lists the commonly used the processing methods and their characteristics and app;ocation of the cutting tool.

Methods	Peculiarity	Purpose	Use
Oxidation treatment (high pressure steam processing)	■ Surface layer 1-3 um ■ Fe34 oxide film ■ Porous surface and good adsorption cooling fluid ■ Reduce the friction coefficient ■ To prevent caking ■ Not suitable for nonferrous metals	Anti caking	Bonding is seen by cutting material Stainless steel Titanium alloy Mild steel
Nitriding treatment	■ 30-50 um processing layer ■ Surface hardness is 1000-1300 hv ■ Improve the wear resistance ■ High hard nitride particles spreading in the womb	Stand wear and tear	Larger by cutting material sealing knife up to wear and tear Cast iron Silicon alloy Thermosetting resin
TiN coating	■ Processing layer 1-3 um ■ Surface hardness is 2000 hv ■ Improve the wear resistance ■ Reduce the friction coefficient ■ The viscous ■ Improve the heat resistance	Anti caking Stand wear and tear	Easy to bond and seal cutting tool wear and tear "larger Cutting material Mild steel Hard steel Tool steel Quenched and tempered steel
V coating	■ Conditioning copper ■ Surface hardness is 3000 hv ■ Improve the wear resistance ■ Reduce the friction coefficient ■ The viscous ■ Improve the heat resistance	Anti caking Stand wear and tear	Easy to bond and seal cutting tool wear and tear "larger Cutting material Mild steel Hard steel Tool steel Quenched and tempered steel

SOLID CARBIDE END MILLS

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https://www.preciturntools.com

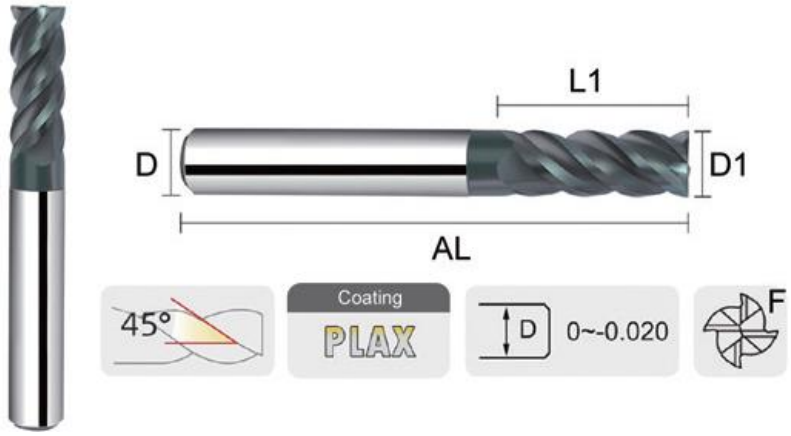
G Series

HRC 55° END Mills

- Applicable materials: ≤HRC55,nonferrous alloy, steel, pre hardened steel, quenched and tempered steel, stainless steel and other materials.

- Characteristic:Realize finishing from high metal removal to high precision and high surface quality.

Square End Mill ▶



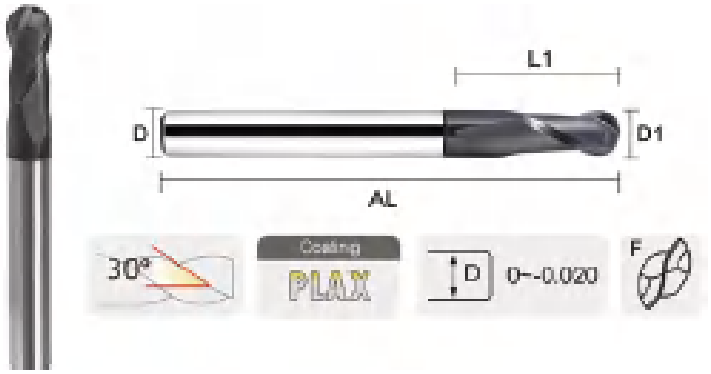
Part No	D1	R	L1	F	D	AL
PEM010-G	D1.0	/	3	4F	4D	50
PEM020-G	D2.0	/	6	4F	4D	50
PEM030-G	D3.0	/	8	4F	4D	50
PEM040-G	D4.0	/	11	4F	4D	50
PEM050-G	D5.0	/	13	4F	6D	50
PEM060-G	D6.0	/	16	4F	6D	50
PEM080-G	D8.0	/	20	4F	8D	60
PEM100-G	D10.0	/	25	4F	10D	75
PEM120-G	D12.0	/	30	4F	12D	75
PEM140-G	D14.0	/	35	4F	14D	80
PEM160-G	D16.0	/	36	4F	16D	100
PEM180-G	D18.0	/	38	4F	18D	100
PEM200-G	D20.0	/	45	4F	20D	100

G Series

HRC 55° Ball Nose End Mill

- Applicable materials: ≤HRC55,nonferrous alloy, steel, pre hardened steel, quenched and tempered steel, stainless steel and other materials.
- Characteristic:Realize finishing from high metal removal to high precision and high surface quality.

Ball Nose End Mill ▶



Part No	D1	R	L1	F	D	AL
PBM010-G	D1.0	R0.5	2	2F	4D	50
PBM015-G	D1.5	R0.75	2	2F	4D	50
PBM020-G	D2.0	R1.0	4	2F	4D	50
PBM030-G	D3.0	R1.5	6	2F	4D	50
PBM040-G	D4.0	R2.0	8	2F	4D	50
PBM050-G	D5.0	R2.5	10	2F	6D	50
PBM060-G	D6.0	R3.0	12	2F	6D	50
PBM080-G	D8.0	R4.0	16	2F	8D	60
PBM100-G	D10.0	R5.0	20	2F	10D	75
PBM120-G	D12.0	R6.0	24	2F	12D	75
PBM140-G	D14.0	R7.0	28	2F	14D	80
PBM160-G	D16.0	R8.0	32	2F	16D	100
PBM200-G	D20.0	R10.0	40	2F	20D	100

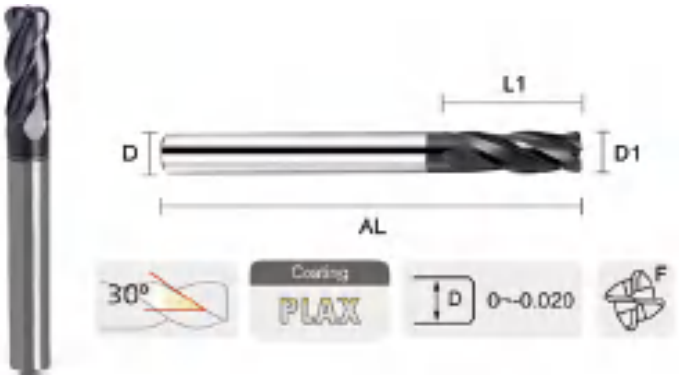
G Series

HRC 55° Corner Radius End Mill

- Applicable materials: ≤HRC55,nonferrous alloy, steel, pre hardened steel, quenched and tempered steel, stainless steel and other materials.

- Characteristic:Realize finishing from high metal removal to high precision and high surface quality.

Corner Radius End Mill ▶



Part No	D1	R	L1	F	D	AL
PRM0402-G	D4.0	R0.2	11	4F	4D	50
PRM0405-G	D4.0	R0.5	11	4F	4D	50
PRM0602-G	D6.0	R0.2	16	4F	6D	50
PRM0605-G	D6.0	R0.5	16	4F	6D	50
PRM0805-G	D8.0	R0.5	20	4F	8D	60
PRM0810-G	D8.0	R1.0	20	4F	8D	60
PRM1005-G	D10.0	R0.5	25	4F	10D	75
PRM1010-G	D10.0	R1.0	25	4F	10D	75
PRM1205-G	D12.0	R0.5	30	4F	12D	75
PRM1210-G	D12.0	R1.0	30	4F	12D	75

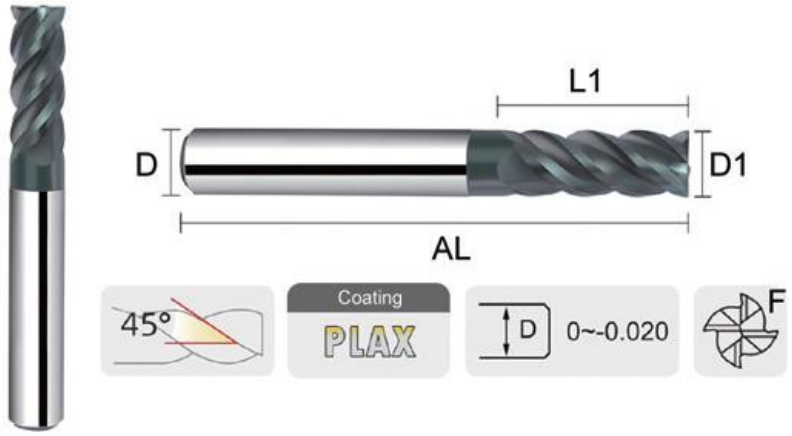
P Series

HRC 63° END Mills

- Applicable materials:HRC50-68,pre hardened steel, hardened steel, cast iron, ductile iron, etc.

- Characteristic:The high coating hardness and excellent high-temperature oxidation resistance are more suitable for high hardness materials and high-speed machining fields. Antique copper dot matrix heterogeneous coating, higher coating hardness and excellent high temperature oxidation resistance, more closely combined with the substrate. Special surface post-treatment can effectively reduce friction, discharge chips more smoothly, and the quality of machined surface is better.

Square End Mill ▶



Part No	D1	R	L1	F	D	AL
PEM010-P	D1.0	/	3	4F	4D	50
PEM020-P	D2.0	/	6	4F	4D	50
PEM030-P	D3.0	/	8	4F	4D	50
PEM040-P	D4.0	/	11	4F	4D	50
PEM050-P	D5.0	/	13	4F	6D	50
PEM060-P	D6.0	/	16	4F	6D	50
PEM080-P	D8.0	/	20	4F	8D	60
PEM100-P	D10.0	/	25	4F	10D	75
PEM120-P	D12.0	/	30	4F	12D	75
PEM160-P	D16.0	/	36	4F	16D	100

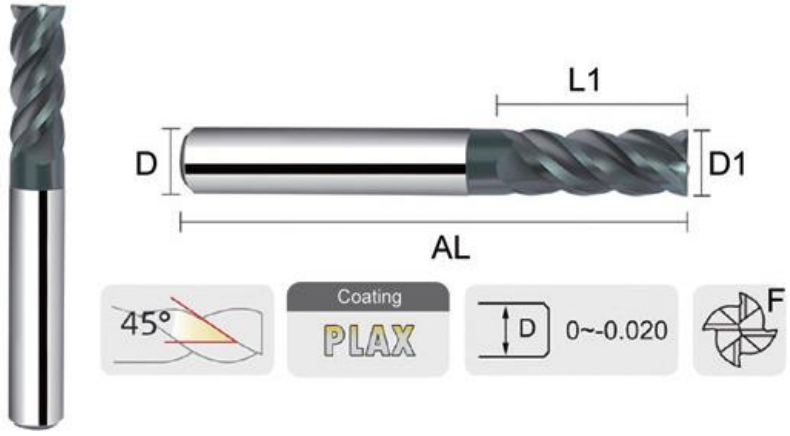
SUS Series

Speicidl for Stainless steel

- Applicable materials: stainless steel SUS303, SUS304, SUS316L, etc. (<280HB).

- Characteristic:The high coating hardness and excellent high-temperature oxidation resistance are more suitable for high hardness materials and high-speed machining fields. Antique copper dot matrix heterogeneous coating, higher coating hardness and excellent high temperature oxidation resistance, more closely combined with the substrate. Special surface post-treatment can effectively reduce friction, discharge chips more smoothly, and the quality of machined surface is better.

Square End Mill ▶



Part No	D1	R	L1	F	D	AL
PEM010-SUS	D1.0	/	3	4F	4D	50
PEM020-SUS	D2.0	/	6	4F	4D	50
PEM030-SUS	D3.0	/	8	4F	4D	50
PEM040-SUS	D4.0	/	11	4F	4D	50
PEM050-SUS	D5.0	/	13	4F	6D	50
PEM060-SUS	D6.0	/	16	4F	6D	50
PEM080-SUS	D8.0	/	20	4F	8D	60
PEM100-SUS	D10.0	/	25	4F	10D	75
PEM120-SUS	D12.0	/	30	4F	12D	75

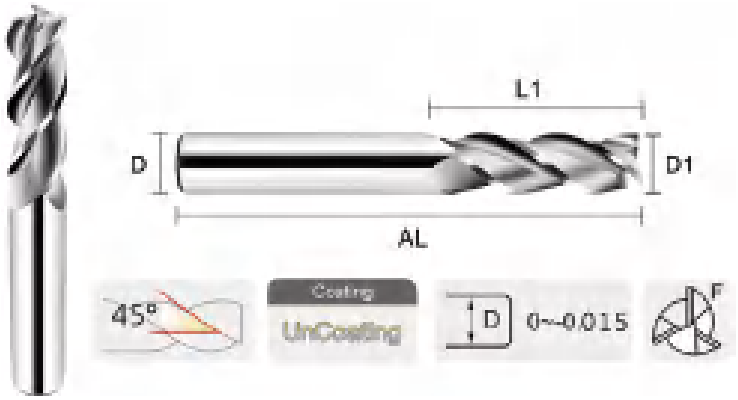
AL Series

Speicidl for Aluminm End Mill

● Applicable materials:aluminum alloy AL5052, AL6063, AL6061, AL7075, etc; General processing of aluminum alloy (Si ≤ 12%) and copper alloy (<200HB).

● Characteristic:The special cutting edge design effectively prevents vibration and solves the problem of chip sticking on the cutting edge; Water cooling is the best cooling method.

Square End Mill ▶



Part No	D1	R	L1	F	D	AL
PEM010-AL	D1.0	/	3	3F	4D	50
PEM020-AL	D2.0	/	6	3F	4D	50
PEM030-AL	D3.0	/	8	3F	4D	50
PEM040-AL	D4.0	/	11	3F	4D	50
PEM050-AL	D5.0	/	13	3F	6D	50
PEM060-AL	D6.0	/	16	3F	6D	50
PEM080-AL	D8.0	/	20	3F	8D	60
PEM100-AL	D10.0	/	25	3F	10D	75
PEM120-AL	D12.0	/	30	3F	12D	75
PEM140-AL	D14.0	/	35	3F	14D	80
PEM160-AL	D16.0	/	36	3F	16D	100
PEM180-AL	D18.0	/	38	3F	18D	100
PEM200-AL	D20.0	/	45	3F	20D	100

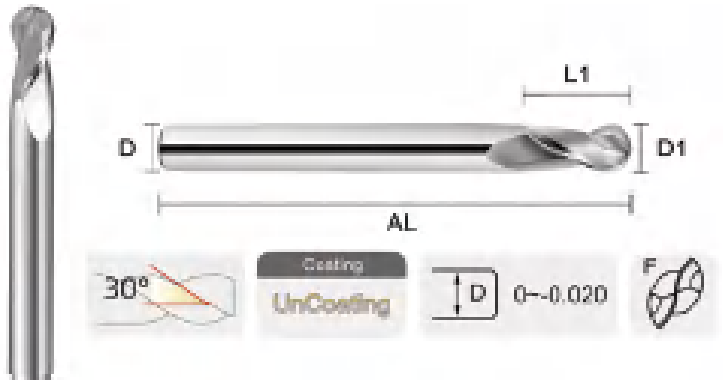
AL Series

Speicidl for Aluminm Ball Nose End Mill

- Applicable materials:aluminum alloy AL5052, AL6063, AL6061, AL7075, etc; General processing of aluminum alloy (Si ≤ 12%) and copper alloy (<200HB).

- Characteristic:The special cutting edge design effectively prevents vibration and solves the problem of chip sticking on the cutting edge; Water cooling is the best cooling method.

Ball Nose End Mill ▶



Part No	D1	R	L1	F	D	AL
PBM010-AL	D1.0	R0.5	2	2F	4D	50
PBM015-AL	D1.5	R0.75	2	2F	4D	50
PBM020-AL	D2.0	R1.0	4	2F	4D	50
PBM030-AL	D3.0	R1.5	6	2F	4D	50
PBM040-AL	D4.0	R2.0	8	2F	4D	50
PBM050-AL	D5.0	R2.5	10	2F	6D	50
PBM060-AL	D6.0	R3.0	12	2F	6D	50
PBM080-AL	D8.0	R4.0	16	2F	8D	60
PBM100-AL	D10.0	R5.0	20	2F	10D	75
PBM120-AL	D12.0	R6.0	24	2F	12D	75

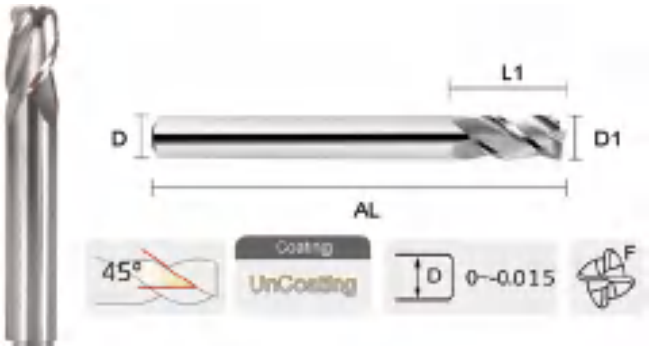
AL Series

Speicidl for Aluminm Corner Radius End Mill

- Applicable materials:aluminum alloy AL5052, AL6063, AL6061, AL7075, etc; General processing of aluminum alloy (Si ≤ 12%) and copper alloy (<200HB).

- Characteristic:The special cutting edge design effectively prevents vibration and solves the problem of chip sticking on the cutting edge; Water cooling is the best cooling method.

Corner Radius End Mill ▶



Part No	D1	R	L1	F	D	AL
PRM0402-AL	D4.0	R0.2	11	4F	4D	50
PRM0405-AL	D4.0	R0.5	11	4F	4D	50
PRM0602-AL	D6.0	R0.2	16	4F	6D	50
PRM0605-AL	D6.0	R0.5	16	4F	6D	50
PRM0805-AL	D8.0	R0.5	20	4F	8D	60
PRM0810-AL	D8.0	R1.0	20	4F	8D	60
PRM1005-AL	D10.0	R0.5	25	4F	10D	75
PRM1010-AL	D10.0	R1.0	25	4F	10D	75
PRM1205-AL	D12.0	R0.5	30	4F	12D	75
PRM1210-AL	D12.0	R1.0	30	4F	12D	75

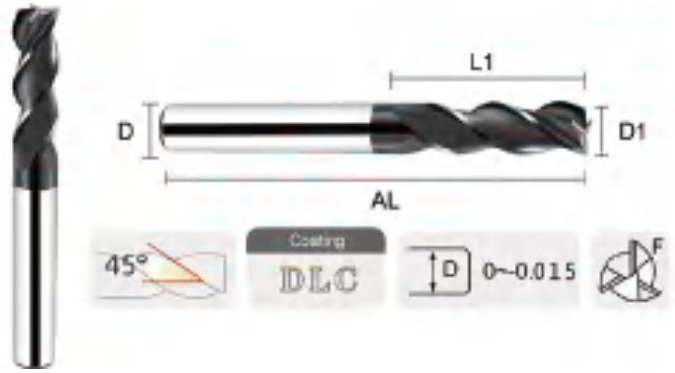
AL-C Series

Speicidl for Aluminm End Mill

- Applicable materials:aluminum alloy AL5052, AL6063, AL6061, AL7075, etc; General processing of aluminum alloy (Si ≤ 12%) and copper alloy (<200HB).

- Characteristic:The special cutting edge design effectively prevents vibration and solves the problem of chip sticking on the cutting edge; Water cooling is the best cooling method.

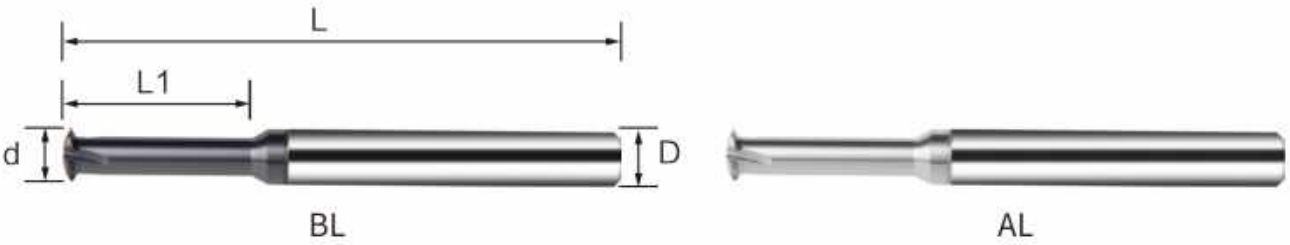
Square End Mill ▶



Part No	D1	R	L1	F	D	AL
PEM010-AL-C	D1.0	/	3	3F	4D	50
PEM020-AL-C	D2.0	/	6	3F	4D	50
PEM030-AL-C	D3.0	/	8	3F	4D	50
PEM040-AL-C	D4.0	/	11	3F	4D	50
PEM050-AL-C	D5.0	/	13	3F	6D	50
PEM060-AL-C	D6.0	/	16	3F	6D	50
PEM080-AL-C	D8.0	/	20	3F	8D	60
PEM100-AL-C	D10.0	/	25	3F	10D	75
PEM120-AL-C	D12.0	/	30	3F	12D	75
PEM140-AL-C	D14.0	/	35	3F	14D	80
PEM160-AL-C	D16.0	/	36	3F	16D	100

CARBIDE THREADING MILLING ISO A60/A55 SINGLE TOOTH

- AL APPLICABLE MATERIALS:ALUMINUM,NON -FERROUS METALS.NON -METALLIC.(UN COATED TOOLS)
- BL Swiss Balzar Coating APPLICABLE MATERIALS:CARBON STEEI,ALLOY STEEL,QUENCHEDANDTEM-PERED STEEL,SUS,MOLD STEEL,TITANIUM ALLOY， OTHER STEEL,DUCTILE IRON.



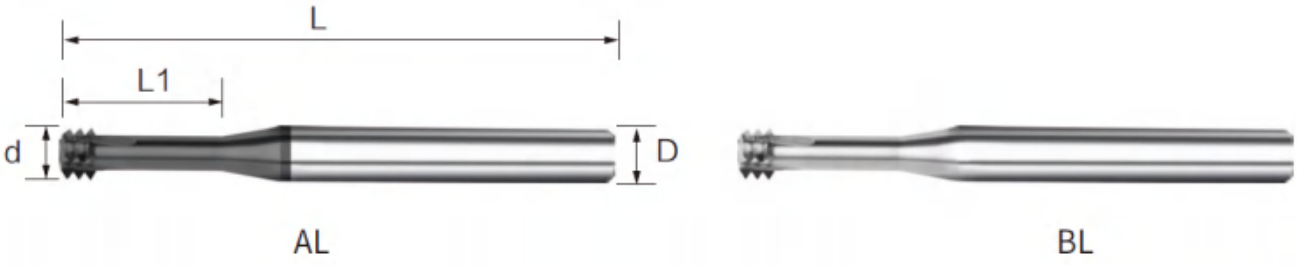
ISO-A60

Part No	Model	PITCH	d	L1	D	L	Flutes
PTM-ST-A60-01-AL/BL	M0.8*0.2	0.2-0.225	0.55	1.6	4	50	3
PTM-ST-A60-02-AL/BL	M0.9*0.225	0.225-0.3	0.6	1.8	4	50	3
PTM-ST-A60-03-AL/BL	M1*0.25	0.25-0.35	0.73	2.3	4	50	3
PTM-ST-A60-04-AL/BL	M1.2*0.25	0.25-0.35	0.92	2.8	4	50	3
PTM-ST-A60-05-AL/BL	M1.4*0.3	0.3-0.4	1.05	3.2	4	50	3
PTM-ST-A60-06-AL/BL	M1.6*0.35	0.35-0.4	1.2	4	4	50	3
PTM-ST-A60-07-AL/BL	M2*0.4	0.4-0.5	1.54	4.4	4	50	3
PTM-ST-A60-08-AL/BL	M2.5*0.45	0.45-0.5	1.96	5	4	50	3
PTM-ST-A60-09-AL/BL	M3*0.5	0.5-0.6	2.4	7.5	4	50	3
PTM-ST-A60-10-AL/BL	M5*0.8	0.5-0.8	3	12	4	50	4
PTM-ST-A60-11-AL/BL	M4*0.7	0.5-0.8	3.15	10	4	50	3
PTM-ST-A60-12-AL/BL	M5*0.8	0.5-1.0	4	12	4	50	4
PTM-ST-A60-13-AL/BL	M5*0.8	0.5-1.0	4	13	6	50	3
PTM-ST-A60-14-AL/BL	M6*1.0	0.5-1.0	4.75	16	6	50	3
PTM-ST-A60-15-AL/BL	M8*1.25	0.5-1.25	5	16	6	50	4
PTM-ST-A60-16-AL/BL	M8*1.25	0.5-1.25	6	20	6	60	3
PTM-ST-A60-17-AL/BL	M10*1.5	0.8-1.5	7.9	25	8	60	4
PTM-ST-A60-18-AL/BL	M10*1.5	0.8-1.5	8	20	8	75	4
PTM-ST-A60-19-AL/BL	M12*1.5	1.25-2.0	9.4	28	10	75	4
PTM-ST-A60-20-AL/BL	M12*1.75	1.0-3.0	9.9	30	10	75	4
PTM-ST-A60-21-AL/BL	M12*2.0	1.25-2.0	10	28	10	75	4
PTM-ST-A60-22-AL/BL	M16*2.0	2.0-5.0	12	30	12	75	4
PTM-ST-A60-23-AL/BL	M16*2.0	1.0-5.0	12	30	12	83	4
PTM-ST-A60-24-AL/BL	M18*2.5	1.0-5.0 14	14	35	14	100	5
PTM-ST-A60-25-AL/BL	M22*3.0	2.0-5.0	16	40	16	100	5

ISO-A60

Part No	Model	PITCH	d	L1	D	L	Flutes
PTM-ST-A55-01-AL/BL	d3.0*A55	0.5-1.0	4	8	4	50	3
PTM-ST-A55-02-AL/BL	d4.0*A55	0.5-1.0	4	10	6	50	3
PTM-STA55-03-AL/BL	d5.0*A55	0.5-1.25	5	11	6	50	3
PTM-ST-A55-04-AL/BL	d5.0*A55	0.5-1.25	5	16	6	50	4
PTM-ST-A55-05-AL/BL	d6.0*A55	0.5-1.25	6	14	6	50	3
PTM-ST-A55-06-AL/BL	d7.9*A55	1.0-2.0	7.9	21	8	75	4
PTM-ST-A55-07-AL/BL	d9.9*A55	1.0-2.5	9.9	26	10	75	3

CARBIDE THREADING MILLING ISO THREE TEETH



- AL APPLICABLE MATERIALS:ALUMINUM,NON -FERROUS METALS.NON -METALLIC.(UN COATED TOOLS)

- BL Swiss Balzar Coating APPLICABLE MATERIALS:CARBON STEEI,ALLOY STEEL,QUENCHEDANDTEM-PERED STEEL,SUS,MOLD STEEL,TITANIUM ALLOY, OTHER STEEL,DUCTILE IRON.

Part No	Model	PITCH	d	L1	D	L	Flutes
PTM-TT-ISO-01-AL/BL	M1*0.25	0.25	0.73	2.3	4	50	3
PTM-TT-ISO-02-AL/BL	M1.2*0.25	0.25	0.92	3.3	4	50	3
PTM-TT-ISO-03-AL/BL	M1.4*0.3	0.3	1.05	3.2	4	50	3
PTM-TT-ISO-04-AL/BL	M1.6*0.35	0.35	1.21	3.6	4	50	3
PTM-TT-ISO-05-AL/BL	M1.8*0.35	0.35	1.4	4	4	50	3
PTM-TT-ISO-06-AL/BL	M2*0.4	0.4	1.54	4.6	4	50	3
PTM-TT-ISO-07-AL/BL	M2.2*0.45	0.45	1.63	5	4	50	3
PTM-TT-ISO-08-AL/BL	M2.5*0.45	0.45	1.96	5.6	4	50	3
PTM-TT-ISO-09-AL/BL	M3*0.5	0.5	2.42	7.1	4	50	3
PTM-TT-ISO-10-AL/BL	M3.5*0.6	0.6	2.75	7.4	4	50	3
PTM-TT-ISO-11-AL/BL	M4*0.7	0.7	3.15	8.8	4	50	3
PTM-TT-ISO-12-AL/BL	M5*0.8	0.8	4	12	6	50	3
PTM-TT-ISO-13-AL/BL	M6*0.5	0.5	5	13	6	50	3

Part No	Model	PITCH	d	L1	D	L	Flutes
PTM-TT-ISO-14-AL/BL	M6*1.0	1	4.75	12.9	6	50	3
PTM-TT-ISO-15-AL/BL	M8*1.25	1.25	6	17.6	6	60	3
PTM-TT-ISO-16-AL/BL	M10*1.25	1.25	7.9	25	8	62	4
PTM-TT-ISO-17-AL/BL	M10*1.5	1.5	7.9	21	8	62	4
PTM-TT-ISO-18-AL/BL	M12*1.25	1.25	9.9	30	10	75	4
PTM-TT-ISO-19-AL/BL	M12*1.75	1.75	9.9	25	10	75	4
PTM-TT-ISO-20-AL/BL	M14*2.0	2	9.9	27	10	75	4
PTM-TT-ISO-21-AL/BL	M16*2.0	2	11.9	35	12	75	4
PTM-TT-ISO-22-AL/BL	M22*2.5	2.5	14	40	14	100	5
PTM-TT-ISO-23-AL/BL	M22*2.6	2.5	16	40	16	100	5
PTM-TT-ISO-24-AL/BL	M24*3.0	3	16	50	16	100	5

CARBIDE THREADING MILLING ISO FULL TEETH

BL

AL

- AL APPLICABLE MATERIALS:ALUMINUM,NON -FERROUS METALS.NON -METALLIC.(UN COATED TOOLS).

- BL Swiss Balzar Coating APPLICABLE MATERIALS:CARBON STEEI,ALLOY STEEL,QUENCHEDANDTEM-PERED STEEL,SUS,MOLD STEEL,TITANIUM ALLOY， OTHER STEEL,DUCTILE IRON.

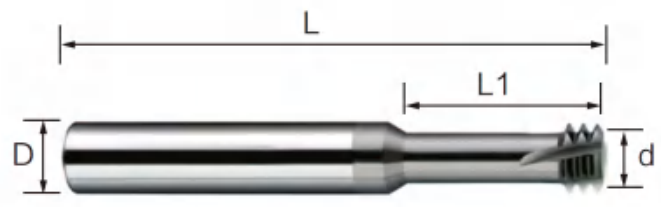
Part No	Model	PITCH	d	L1	D	L	Flutes
PTM-FT-ISO-01-AL/BL	M1.6*0.35	0.35	1.2	3.4	4	50	3
PTM-FT-ISO-02-AL/BL	M2*0.4	0.4	1.54	5	4	50	3
PTM-FT-ISO-03-AL/BL	M2.5*0.45-d1.96-D4	0.45	1.96	5.3	4	50	3
PTM-FT-ISO-04-AL/BL	M3*0.5-d2.4-D4	0.5	2.4	6	4	50	3
PTM-FT-ISO-04-AL/BL	M4*0.5-d3-D4	0.5	3	10	4	50	3
PTM-FT-ISO-06-AL/BL	M4*0.7-d3.15-D4	0.7	3.15	10	4	50	3
PTM-FT-ISO-07-AL/BL	M5*0.5-d3.9-D4	0.5	3.9	12	4	50	3
PTM-FT-ISO-08-AL/BL	M5*0.8-d3.5-D4	0.8	3.5	11	4	50	3
PTM-FT-ISO-09-AL/BL	M5*0.8-d3.9-D6	0.8	3.9	10	6	50	3
PTM-FT-ISO-10-AL/BL	M6*0.5-d4.8-D6	0.5	4.8	13	6	50	3
PTM-FT-ISO-11-AL/BL	M6*0.75-d3.9-D4	0.75	3.9	12	4	50	3
PTM-FT-ISO-12-AL/BL	M6*0.75-d4.8-D6	0.75	4.8	15	4	50	3
PTM-FT-ISO-13-AL/BL	M6*d1.0-d3.9-D4	1	3.9	12	4	50	3
PTM-FT-ISO-13-AL/BL	M6*d1.0-4.75-D6	1	4.75	14	6	50	3

Part No	Model	PITCH	d	L1	D	L	Flutes
PTM-FT-ISO-15-AL/BL	M8*0.5-d6.0-D6	0.5	6	17	6	60	3
PTM-FT-ISO-16-AL/BL	M8*0.75-d5.9-D6	0.75	5.9	20	6	60	3
PTM-FT-ISO-17-AL/BL	M8*1.0-d5.9-D6	1	5.9	16	6	60	3
PTM-FT-ISO-18-AL/BL	M8*1.25-d5.9-D6	1.25	5.9	16	6	60	3
PTM-FT-ISO-19-AL/BL	M10*0.5-d7.9-D8	0.5	7.9	21	8	65	3
PTM-FT-ISO-20-AL/BL	M10*0.75-d7.9-D8	0.75	7.9	20	8	65	4
PTM-FT-ISO-21-AL/BL	M10*d1.0-d7.9-D8	1	7.9	22	8	65	3
PTM-FT-ISO-22-AL/BL	M10*1.0-d7.9-D10	1	7.9	22	8	65	3
PTM-FT-ISO-23-AL/BL	M10*1.25-d7.7-D8	1.25	7.7	20	8	75	3
PTM-FT-ISO-24-AL/BL	M10*1.5-d7.7-D8	1.5	7.7	20	8	75	3
PTM-FT-ISO-25-AL/BL	M12*0.5-d9.9-D10	0.5	9.9	30	10	75	3
PTM-FT-ISO-26-AL/BL	M12*0.75-d10.0-D10	0.75	10	28	10	75	4
PTM-FT-ISO-27-AL/BL	M12*d1.0-d9.9-D10	1	9.9	25	10	75	4
PTM-FT-ISO-28-AL/BL	M12*1.25-d9.9-D10	1.25	9.9	25	10	75	4
PTM-FT-ISO-29-AL/BL	M12*1.5-d9.4-D10	1.5	9.4	24	10	75	4
PTM-FT-ISO-30-AL/BL	M12*1.75-d8.5-D10	1.75	8.5/9.5	25	10	75	4
PTM-FT-ISO-31-AL/BL	M14*1.0-d11.9*D12	1	11.9	30	12	75	4
PTM-FT-ISO-32-AL/BL	M14*1.5-d11.2-D12	1.5	11.2	30	12	75	4
PTM-FT-ISO-33-AL/BL	M16*1.0*d13.9*D14	1	13.9	30	14	100	4
PTM-FT-ISO-34-AL/BL	M16*1.5-d11.9-D12	1.5	11.9	33	12	75	4
PTM-FT-ISO-35-AL/BL	M20*1.5-d16.0-D16	1.5	16	40	16	100	5
PTM-FT-ISO-36-AL/BL	M14*2.0-d9.9-D10	2	9.9	28	10	75	4
PTM-FT-ISO-37-AL/BL	M16*2-d12-D12	2	12	30	12	75	4
PTM-FT-ISO-38-AL/BL	M20*2.0-d16.0-D16	2	16	40	16	100	5
PTM-FT-ISO-39-AL/BL	M18*2.5-d13.9-D16	2.5	13.9	32	16	100	5
PTM-FT-ISO-40-AL/BL	M22*2.5-d16.0-D16	2.5	16	40	16	100	5
PTM-FT-ISO-41-AL/BL	M24*3.0-d16-D16	3	16	40	16	100	5

CARBIDE THREADING MILLING BRITISH SYSTEM AND THE U.S.SYSTEM

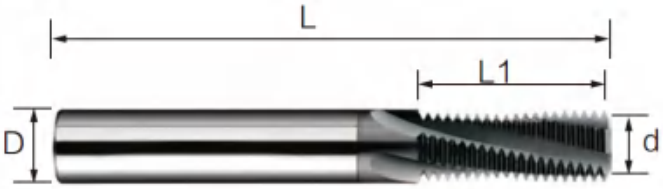
- AL APPLICABLE MATERIALS:ALUMINUM,NON -FERROUS METALS.NON -METALLIC.(UN COATED TOOLS).

- BL Swiss Balzar Coating APPLICABLE MATERIALS:CARBON STEEI,ALLOY STEEL,QUENCHEDANDTEM-PERED
STEEL,SUS,MOLD STEEL,TITANIUM ALLOY， OTHER STEEL,DUCTILE IRON.



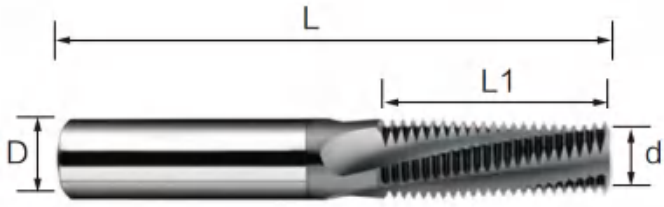
◀ UNC(THREE TEETH)

Part No	Model	D	d	L1	Flutes	L
PTM-TT-UNC-01-AL/BL	UNC5/16-24	4	3.5	10	3	50
PTM-TT-UNC-02-AL/BL	UNC10-32	4	3.8	10	3	50
PTM-TT-UNC-03-AL/BL	UNC2-56	4	1.65	4.75	3	50
PTM-TT-UNC-04-AL/BL	UNC6-32	4	2.56	7.4	3	50
PTM-TT-UNC-05-AL/BL	UNC4-40	4	2.13	8.2	3	50
PTM-TT-UNC-06-AL/BL	UNC8-32	4	3.2	10.7	3	50
PTM-TT-UNC-07-AL/BL	UNC10-24	4	3.58	7	3	50
PTM-TT-UNC-08-AL/BL	UNC1/4-20	6	3.58	13.75	3	50
PTM-TT-UNC-09-AL/BL	UNC1/4-28	6	5.2	15	3	50
PTM-TT-UNC-10-AL/BL	UNC3/8-16	8	7.65	23	3	65



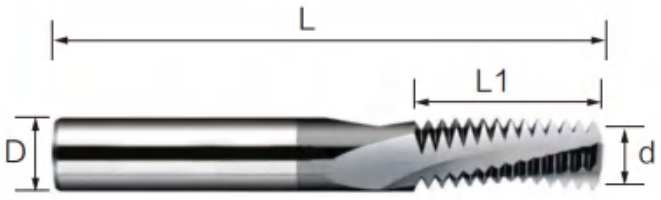
◀ UNC(FULL TEETH)

Part No	Model	D	d	L1	Flutes	L
PTM-FT-UNC-01-AL/BL	UNC8-32	4	3.1	10	3	50
PTM-FT-UNC-02-AL/BL	UNC1/4-20	6	4.9	13	3	50
PTM-FT-UNC-03-AL/BL	UNC5/16-18	6	6	17	3	60
PTM-FT-UNC-04-AL/BL	UNC1/4-28	6	4.6	15	3	50
PTM-FT-UNC-05-AL/BL	UNC10-48	6	4.1	12	3	65
PTM-FT-UNC-06-AL/BL	UNC3/8-16	8	7.65	20	3	65
PTM-FT-UNC-07-AL/BL	UNC1/2-20	10	9.9	26	4	75
PTM-FT-UNC-08-AL/BL	UNC5/8-11	12	11	33	4	75
PTM-FT-UNC-09-AL/BL	UNC9/16-18	12	11.3	30	4	75
PTM-FT-UNC-10-AL/BL	UNC3/4-16	12	11.9	12.7	4	90
PTM-FT-UNC-11-AL/BL	UNC3/4-10	16	14.5	40	5	100
PTM-FT-UNC-12-AL/BL	UNC7/8-9	16	15.2	45	4	100



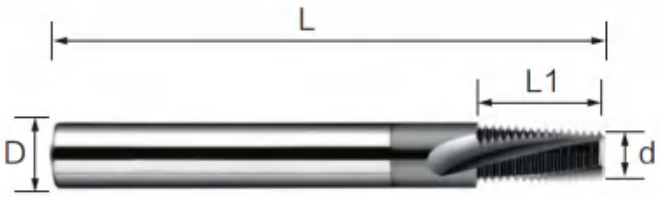
◀ RC(FULL TEETH)

Part No	Model	D	d	L1	Flutes	L
PTM-FT-RC-01-AL/BL	RC1/16-28	6	5.8	16	3	60
PTM-FT-RC-02-AL/BL	RC1/8-28	8	7	16	3	65
PTM-FT-RC-03-AL/BL	RC1/4-19	10	8.8	20	4	75
PTM-FT-RC-04-AL/BL	RC3/8-19	12	11.4	35	4	75
PTM-FT-RC-05-AL/BL	RC1/2-14	16	13.6	40	5	100
PTM-FT-RC-06-AL/BL	RC1-11	20	19.9	41.6	5	100



◀ G (FULL TEETH)

Part No	Model	D	d	L1	Flutes	L
PTM-FT-G-01-AL/BL	G1/16-28	6	5.8	16.5	3	60
PTM-FT-G-02-AL/BL	G1/8-28	8	7.7	21	3	65
PTM-FT-G-03-AL/BL	G1/4-19	10	9.9	26	4	75
PTM-FT-G-04-AL/BL	G3/8-19	12	11.9	26.7	4	75
PTM-FT-G-05-AL/BL	G1/2-14	16	15.7	40	5	100
PTM-FT-G-06-AL/BL	G1-11	20	19.9	42	5	100

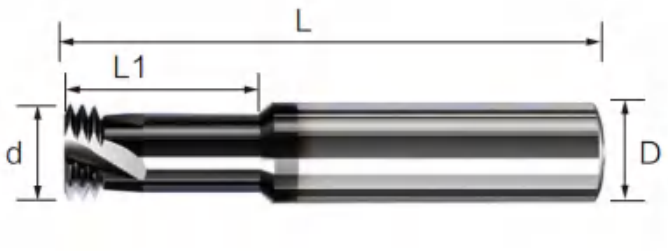


◀ NPT/NPTF(FULL TEETH)

Part No	Model	D	d	L1	Flutes	L
PTM-FT-NPT/F-01-AL/BL	NPT1/16-27	6	5.3	10	3	60
PTM-FT-NPT/F-02-AL/BL	NPT1/8-27	8	7.1	10	3	65
PTM-FT-NPT/F-03-AL/BL	NPT1/4-18	10	9.1	14.1	4	75
PTM-FT-NPT/F-04-AL/BL	NPT3/8-19	12	11.15	14.8	4	75
PTM-FT-NPT/F-05-AL/BL	NPT1/2-14	16	14.5	25	5	100
PTM-FT-NPT/F-06-AL/BL	NPT1-11.5	20	19.9	33	5	100
PTM-FT-NPT/F-07-AL/BL	NPT1 1/2-11.5	16	16	33	5	100

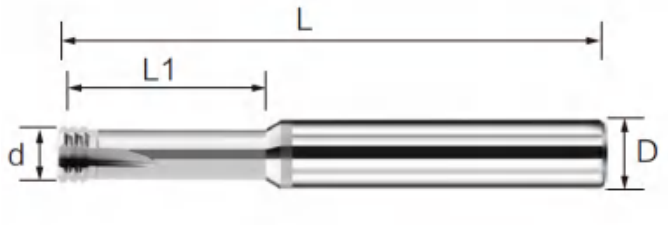
CARBIDE THREADING MILLING
PG GERMAN A80(R ANGLE) AND MJ MILITARY

- AL APPLICABLE MATERIALS:ALUMINUM,NON -FERROUS METALS.NON -METALLIC.(UN COATED TOOLS).
- BL Swiss Balzar Coating APPLICABLE MATERIALS:CARBON STEEI,ALLOY STEEL,QUENCHEDANDTEM-PERED
STEEL,SUS,MOLD STEEL,TITANIUM ALLOY， OTHER STEEL,DUCTILE IRON.



◀ MJ MILITARY (THREE TEETH)

Part No	Model	PITCH	d	L1	Flutes	D	L
PTM-TT-MJ-01-AL/BL	M3*0.5	0.5	2.42	7.1	3	4	50
PTM-TT-MJ-02-AL/BL	M4*0.7	0.7	3.15	8.8	3	4	50
PTM-TT-MJ-03-AL/BL	M5*0.8	0.8	4.00	12.0	3	6	50
PTM-TT-MJ-04-AL/BL	M6*1.0	1.0	4.75	12.9	3	6	50



◀ PG (THREE TEETH)

Part No	Model	PITCH	d	L1	Flutes	D	L
PTM-TT-PG-01-AL/BL	PG7-20	20.0	7.90	20.0	3	8	75
PTM-TT-PG-02-AL/BL	PG9-18	18.0	9.90	25.0	5	10	75

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EXCELLENCE
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Our highly skilled technical team is committed to offering personalized, one-on-one solution support.

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We specialize in 100% in-house production, offering comprehensive solutions for Turning, Threading, Parting&Grooving, Drilling, Boring, Milling.

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