

GROOVING

- Turning Tools
- Milling Tools
- Heavy Duty Processing
- Parting and Grooving
- Cermet Inserts
- Boring Tools





Introduction

This Master Catalogue is your best source for a broad range of advanced indexable machining solutions. These "best in class" products include...

- A complete range of PVD and CVD first choice grades that includes the advantage of Mega range of Turning/Milling/Grooving/Threading/Drilling etc, with State of the Art Technology.
- Geometries that also offer a "first choice" range from finishing to roughing to meet the increasing demands of higher feed rates for greater chip control,
- Application and customer service support from our technical sales engineer is our main motto.

Rely on Duratec to achieve "Best in Class" machining solutions for your high end performance with satisfying results.



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🌀 New Design High Technology

Grooving/Parting/Profiling/Copying Process Inserts Series

DCP9225

MT-TiCN+Al₂O₃+TiN
Combining excellent fracture resistance substrate with chipping resistance and heat resistance Al₂O₃ increased stability, suitable for steel and cast steel continuous cutting and interrupted cutting finishing to roughing.



DPM8125

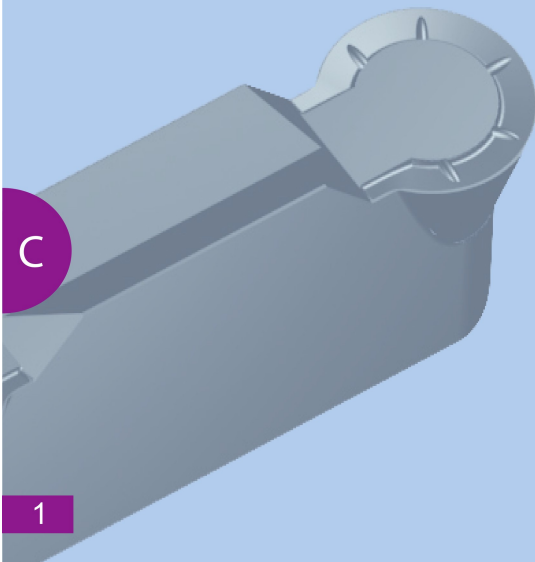
2-4µm TiAlN PVD coated micro-grain carbide. Use for a variety of steel, stainless steel, cast iron & high temperature alloy finishing at medium to low cutting speed. High thermal shock resistance, suitable for light interrupted cuts.

DPM8225

Universal grade for stainless, HRSA & hightemperature high hardness alloy machining.
High chipping and welding resistance for longer tool life.
2-4µm Nano AlCrN+AlCrSiN PVD coating is combined with high toughness of ultra fine grain substrate, suitable for finishing & medium machining.

DCK5215

MT-TiCN+Al₂O₃+TiN
The excellent combination of high wear resistance substrate and MT-TiCN, thick Al₂O₃, TiN coating is the first choice of ductile iron and gray cast iron, which allows a higher cutting speed.



Grade Selections

ISO Turning Grades	P Steel				M Stainless Steel				K Cast Iron				N Non Ferrous				S HRSA			
	P05	P15	P25	P35	M05	M15	M25	M35	K05	K15	K25	K35	N05	N15	N25	N35	S05	S15	S25	S35
CVD	DCP9120	10 - 30																		
	DCP9225	15 - 35				10 - 20														
	DCK5215									10 - 25										
PVD	DPM8125	10 - 20				10 - 30				05 - 25										
	DPM8225	30 - 40				20 - 30				10 - 30				15 - 35						
	DTIP30	10 - 25								10 - 20										
	DTIM45	20 - 40				20 - 50				20 - 30										
	DTIS30	05 - 25				10 - 15				01 - 20										


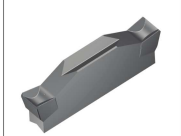
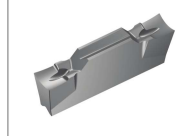

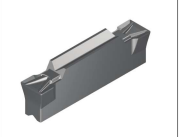

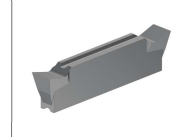
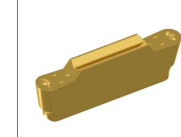

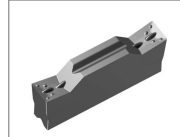
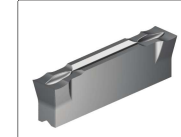









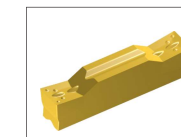



Features of CVD coated grades

Grades	Coating	Features
DCP9120 P20 (P10 - P30)		<ul style="list-style-type: none"> The substrate with cutting edge of special strength and toughness coated with multiple TiCN, thick Al₂O₃ and TiN coating. For general use on steel and suitable for the finishing and semi-finishing of steel, cast steel and stainless steel.
DCP9225 P25 (P15 - P35) M15 (M10 - M20)		<ul style="list-style-type: none"> MT-TiCN+Al₂O₃+TiN Combining excellent fracture resistance substrate with chipping resistance and heat resistance Al₂O₃ increased stability, suitable for steel and cast steel continuous cutting and interrupted cutting finishing to roughing.
DCK5215 K15 (K10 - P25)		<ul style="list-style-type: none"> MT-TiCN+Al₂O₃+TiN The excellent combination of high wear resistance substrate and MT-TiCN, thick Al₂O₃, TiN coating is the first choice of ductile iron and gray cast iron, which allows a higher cutting speed.

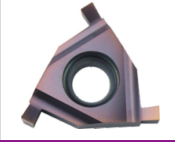
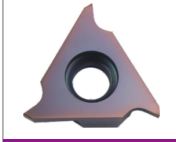
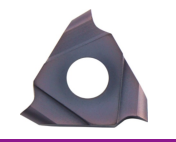






Features of PVD coated grades

Grades	Coating	Features
DPM8125 P15 (P10 - P20) M25 (M10 - M30) K10 (K05 - K25) S20 (S15 - S30)		<ul style="list-style-type: none"> 2-4µm TiAlN PVD coated micro-grain carbide. Use for a variety of steel, stainless steel, cast iron & high temperature alloy finishing at medium to low cutting speed. High thermal shock resistance, suitable for light interrupted cuts.
DPM8225 P30 (P30 - P40) M25 (M20 - M30) S25 (S20 - S30)		<ul style="list-style-type: none"> Universal grade for stainless, HRSA & high temperature high hardness alloy machining. High chipping and welding resistance for longer tool life. 2-4µm Nano AlCrN+AlCrSiN PVD coating is combined with high toughness of ultra fine grain substrate, suitable for finishing & medium machining.
DTIP30 P15 (P10 - P25) K05 (K10 - K20)		<ul style="list-style-type: none"> TiN coated, yellow color, Universal grade for general steel recommended for rigid cutting condition.
DTIM45 P30 (P20 - P40) M35 (M20 - M50) K25 (K20 - K30)		<ul style="list-style-type: none"> TiAlN coated, black color, multilayer PVD coated for stainless steel and steel for medium machining.
DTIS30 P15 (P05 - P25) M10 (M10 - M15) K05 (K01 - K10)		<ul style="list-style-type: none"> Pressed insert with new chip breaker, compatible with all series of stainless steel and Steel < HR50 for medium machining.

Insert Shapes

SHAPES					
D-Series	 <p>DDT Page - 7</p>	 <p>DDC Page - 7</p>	 <p>DDJ Page - 7</p>	 <p>DDXU Page - 7</p>	
	 <p>MGMN-T Page - 8</p>	 <p>MGMN-G Page - 8</p>	 <p>MGGN-TU Page - 8</p>	 <p>MRMN-M Page - 8</p>	 <p>MRGN-A Page - 8</p>
	 <p>MGMN-M Page - 8</p>	 <p>MGMN-L Page - 8</p>	 <p>MGMN-H Page - 8</p>		
	 <p>HFPR Page - 9</p>	 <p>HGPL Page - 9</p>	 <p>DGN/R Page - 9</p>	 <p>DGN Page - 9</p>	 <p>N123 Page - 9</p>
H-Series	 <p>N123 Page - 9</p>	 <p>N123 Page - 9</p>	 <p>ZT Page - 9</p>	 <p>QFMB Page - 10</p>	 <p>QCMB Page - 10</p>
	 <p>QDMA Page - 10</p>	 <p>STAR GROOVING Page - 10</p>	 <p>XN Type Page - 28</p>		

Inserts Shapes

SHAPES						
Circclip Grooving	 <p>(Internal & External) Page - 15</p>	 <p>(QC Type) Page - 17</p>	 <p>(TGF-Type) Page - 21</p>	 <p>ED Groove Page - 21</p>	 <p>SNG Type Page - 26</p>	
	Auto & Tiny Tools	 <p>TKFC (Single Hole) Page - 37</p>	 <p>TKFC Double Hole Page - 49</p>	 <p>TINY GROOVING Page - 66</p>	 <p>TINY MILLING Page - 85</p>	

➤ Nomenclature

DDC For Parting/Grooving



<p>1 D D C 3 - 6 R</p> <p>Duratec</p>	<p>2 D D C 3 - 6 R</p> <p>D : Double Ended Insert</p> <p>S : Single Ended Insert</p>	<p>3 D D C 3 - 6 R</p> <p>Chipbreaker Type</p> <p>C: For Medium</p> <p>J: For Light</p>	<p>4 D D C 3 - 6 R</p> <p>Width of Insert (mm)</p> <p>2: 2.0</p> <p>3: 3.0</p> <p>4: 4.0</p> <p>5: 5.0</p> <p>6: 6.0</p>
<p>5 D D C 3 - 6 R</p> <p>Lead Angle</p>	<p>6 D D C 3 - 6 R</p> <p>Hand of Insert</p> <p>L R</p>		

➤ QD For Turning/Grooving/Parting/Copying



<p>1 QD M B 0600 08 R - GM</p> <p>QC: Groove</p> <p>QD: Part off</p> <p>QF: Profile</p>	<p>2 QD M B 0600 08 R - GM</p> <table border="1"> <thead> <tr> <th colspan="2">Accuracy class</th> </tr> <tr> <th>Code</th> <th>Category</th> </tr> </thead> <tbody> <tr> <td>E</td> <td>±0.025</td> </tr> <tr> <td>M</td> <td>±0.05 ±0.13</td> </tr> </tbody> </table>	Accuracy class		Code	Category	E	±0.025	M	±0.05 ±0.13	<p>3 QD M B 0600 08 R - GM</p> <table border="1"> <thead> <tr> <th colspan="2">Type</th> </tr> <tr> <th>Code</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>Single</td> </tr> <tr> <td>B</td> <td>Double</td> </tr> </tbody> </table>	Type		Code	Number	A	Single	B	Double	<p>4 QD M B 0600 08 R - GM</p> <table border="1"> <thead> <tr> <th colspan="2">Width of cutting edge</th> </tr> <tr> <th>Code</th> <th>Width mm</th> </tr> </thead> <tbody> <tr><td>1240</td><td>12.40</td></tr> <tr><td>0800</td><td>8.00</td></tr> <tr><td>0600</td><td>6.00</td></tr> <tr><td>0500</td><td>5.00</td></tr> <tr><td>0400</td><td>4.00</td></tr> <tr><td>0300</td><td>3.00</td></tr> <tr><td>0250</td><td>2.50</td></tr> <tr><td>0200</td><td>2.00</td></tr> <tr><td>0150</td><td>1.50</td></tr> <tr><td>0100</td><td>1.00</td></tr> </tbody> </table>	Width of cutting edge		Code	Width mm	1240	12.40	0800	8.00	0600	6.00	0500	5.00	0400	4.00	0300	3.00	0250	2.50	0200	2.00	0150	1.50	0100	1.00	<p>5 QD M B 0600 08 R - GM</p> <table border="1"> <thead> <tr> <th colspan="2">Nose radius</th> </tr> <tr> <th>Code</th> <th>Radius mm</th> </tr> </thead> <tbody> <tr><td>00</td><td>0.0</td></tr> <tr><td>02</td><td>0.2</td></tr> <tr><td>03</td><td>0.3</td></tr> <tr><td>04</td><td>0.4</td></tr> <tr><td>08</td><td>0.8</td></tr> </tbody> </table>	Nose radius		Code	Radius mm	00	0.0	02	0.2	03	0.3	04	0.4	08	0.8
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➤ **MG For Turning/Grooving/Parting/Copying**



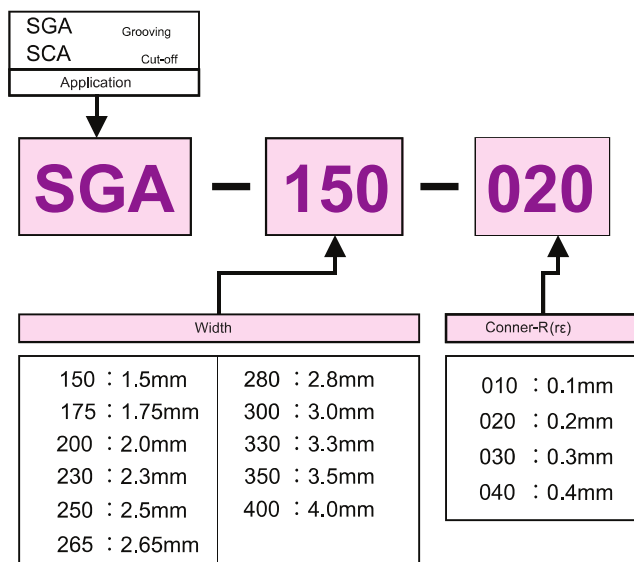
<p>1 MG M N 300</p> <p>04 M</p> <p>MG: Multi Grooving Square MR: Multi Grooving Round</p>	<p>2 MG M N 300</p> <p>04 M</p> <p>M class G class</p>	<p>3 MG M N 300</p> <p>04 M</p> <p>Hand (R/L/N)</p>	<p>4 MG M N 300</p> <p>04 M</p> <p>Width of cutting edge 300 - 0.118 inch</p>	<p>5 MG M N 300</p> <p>04 M</p> <p>G class insert corner-R R0.2, R0.3 → 0,3</p>
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6 MG M N 300


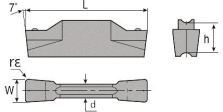
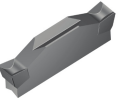
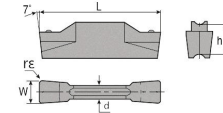
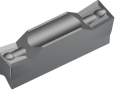
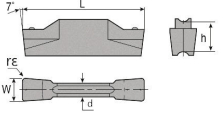

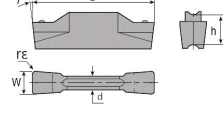
04 M

C/B shape
M : Multi Turning
G : Grooving
A : Aluminum
PT : Parting tough
PS : Parting sharp
L : Light Grooving
R : Rough Grooving
T : Turn-multi
Grooving
C : Copying
LP : Light parting
RP : Rough parting
B : Blank

➤ **STAR Grooving**




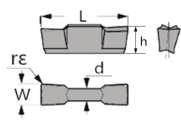

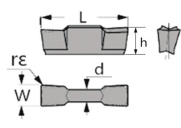

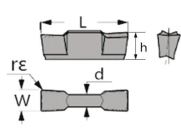

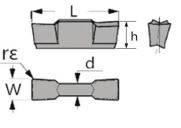

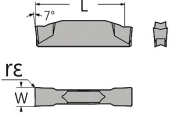

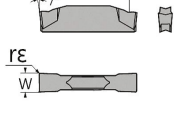

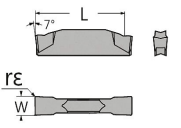

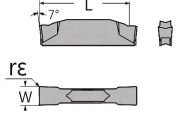
D - Series

Inserts	Designation	Coated						Dimensions					Shapes	
		DCP9120	DCP9225	DPM8115	DPM8125	DPM8225	DCK5215	DPK01	W	rE	L	D		H
	DDJ	DDJ2			●				2	0.2			3.9	
		DDJ3			●				3	0.2			4	
		DDJ4			●				4	0.3			4.05	
		DDJ5			●				5	0.3			4.89	
	DDC	DDC2			●				2	0.2			0.2	
		DDC3			●				3	0.2			0.2	
		DDC4			●				4	0.3			0.3	
		DDC5			●				5	0.3			0.3	
	DDT	DDT2			●				5	0.2				
		DDT3			●				3	0.2				
		DDT4			●				4	0.3				
		DDT5			●				5	0.3				
	DDXU	DDXU 2E-0.3			●				2.0	0.3	20.0		4.7	
		DDXU 3E-0.4			●				3.0	0.4	20.0		4.7	
		DDXU 4E-0.8			●				4.0	0.8	20.0		4.7	
		DDXU 5E-0.4			●				5.0	0.4	20.0		5.2	

M.G.T Series

Inserts	Designation	Coated						Dimensions					Shapes	
		DCP9120	DCP9225	DFM8115	DFM8125	DFM8225	DCK5215	DPK01	W	rE	L	D		H
	MGMN-T													
	200-T				●				2	0.2	16	1.7	3.5	
	250-T				●				2.5	0.2	18.4	2	3.85	
	300-T				●				3	0.2	20	2.35	4.8	
	400-T				●				4	0.3	21	3.3	4.8	
500-T				●				5	0.3	26	4.1	5.8		
	MGMN-G													
	150-G	●							1.5	0.15	16	1.2	3.5	
	200-G	●							2	0.2	16	1.7	3.5	
	250-G								2.5	0.2	18.4	2	3.85	
	300-G								3	0.2	20	2.35	4.8	
400-G								4	0.3	21	3.3	4.8		
	MGMN-TU													
	150-TU							●	1.5	0.15	16	1.2	3.5	
	200-TU							●	2	0.2	16	1.2	3.5	
	250-TU								2.5	0.2	18.2	2	3.85	
	300-TU								3	0.2	21	2.35	4.8	
400-TU								4	0.2	21	3.3	4.8		
	MRMN-M													
	200-M				●				2	1	16	1.5	3.5	
	300-M				●				3	1.5	21	2.35	4.8	
	400-M				●				4	2	21	3.3	4.8	
	500-M				●				5	2.5	26	4.1	5.8	
600-M								6	3	26	5	5.8		
	MRGN-A													
	400-A							●	4	2	21	3.3	4.8	
	500-A							●	5	2.5	26	4.1	5.8	
	600-A							●	6	3	26	5	5.8	
800-A							●	8	4	31	6	6.5		
	MGMN-M													
	200-M	●							2	0.2	16	1.2	3.5	
	250-M	●							2.5	0.2	18.5	2	3.85	
	300-M	●							3	0.4	21	2.35	4.8	
	400-M	●							4	0.4	21	3.3	4.8	
500-M	●							5	0.8	26	4.1	5.8		
	MGMN-L													
	200-L				●				2.0	0.20	16	1.6	3.5	
	250-L				●				2.5	0.2	18.4	2	3.85	
	300-L				●				3	0.2	20	2.35	4.8	
	400-L				●				4	0.3	21	3.3	4.8	
500-L				●				5	0.3	26	4.1	5.8		
	MGMN-H													
	200-H				●				2	0.2	16	1.6	3.5	
	250-H				●				2.5	0.2	18.4	2	3.85	
	300-H				●				3	0.2	20	2.35	4.8	
	400-H				●				4	0.3	21	3.3	4.8	
500-H				●				5	0.3	26	4.1	5.8		

H - Series

Inserts	Designation	Coated						Dimensions					Shapes	
		DCP9120	DCP9225	DFM8115	DFM8125	DFM8225	DCK5215	DPK01	W	rE	L	D		S
	HFPR 300-3				●			3	0.3	19	2.1	5.4		
		500-4			●			5	0.4	19	3.4	5.75		
	HGPL 300-3Y				●			3	0.3	16	2.3	5.4		
		400-4Y			●			4	0.4	19	2.8	5.6		
	DGN/R 2202J				●			2.2	0.2	19.8	1.9	5.8		
		2202J-6D			●			2.2	0.2	19.8	1.9	5.8		
		2202JS-6D			●			2.2	0.2	19.4	1.9	5.8		
		2202JS-15D			●			2.2	0.2	19.4	1.9	5.8		
	DGN 3102C				●			3.1	0.2	19.8	2.4	5.85		
		3102C			●			4	0.2	19	2.8	5.57		
	N123 E2-0200-0004-GF			●	●			2	0.4	19.2				
		E2-0260-0008-GF			●	●			2.6	0.8	19.2			
		G2-0318-0008-GF			●	●			3.18	0.8	19.2			
	N123 H2-0400-0008-TM			●	●			4	0.8	23.4				
		J2-0260-0008-TM			●	●			5	0.8	23			
	N123 J2-0400-0008-TM			●	●			5	0.4	23				
	ZT ED02503-MG	●	●	●	●	●		2.5	0.3	17				
		FD03003-MG	●	●	●	●	●		3	0.3	17			
		GD04004-MG	●	●	●	●	●		4	0.4	17			
		HD05004-MG	●	●	●	●	●		5	0.4	22			
		KD06008-MG	●	●	●	●	●		6	0.8	22			

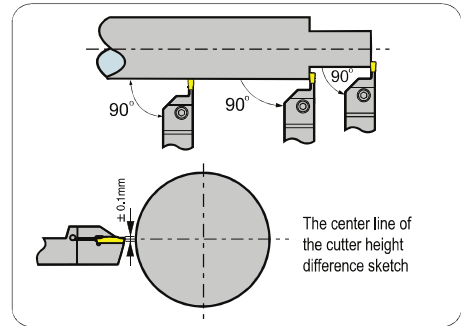
H - Series

Inserts	Designation	Coated						Dimensions					Shapes		
		DCF9120	DCF9225	DPM8115	DPM8125	DPM8225	DPK01	W	rE	L	D	S			
	QFMB	QFMB030000NK-GM				●			3.12		20.05				
		QFMB040000NK-GM				●			4.14		20.10				
		QFMB050000NK-GM				●				5.05		25.15			
		QFMB060000NK-GM				●				5.15		30.20			
	QDMA	QDMA030003N							3.12	0.3	11.0	4.40			
		QDMA040003N							4.12	0.3	11.0	4.95			
		QDMA050003N				●				5.1	0.3	11.0	5.00		
		QDMA064003N				●				6.40	0.3	11.0	5.28		
		QDMA100005N				●				9.85	0.5	16.2	8.35		
	QCMB-GM	QCMB020002N-GM	●						2.00	0.20	16.0				
		QCMB030004N-GM	●						3.00	0.40	21.0				
		QCMB050004N-GM	●							4.00	0.40	21.0			
		QCMB050008N-GM	●							5.03	0.80	26.05			
	STAR-Groove SGA	150-020				●			1.50	0.2					
		175-010				●			1.75	0.1					
		175-020				●				1.75	0.2				
		200-020				●				2.00	0.2				
		200-040				●				2.00	0.4				
		230-020				●				2.30	0.2				
		250-030				●				2.50	0.3				
		265-030				●				2.65	0.3				
		280-030				●				2.80	0.3				
	SGA	300-010				●				3.00	0.1				
		300-030				●				3.00	0.3				
		300-040				●				3.00	0.4				
		330-030				●				3.30	0.3				
		350-030				●				3.50	0.3				
		400-010				●				4.00	0.1				
		400-040				●				4.00	0.4				
	SCA	150-010				●			1.50	0.1					
		150-020				●				1.50	0.2				
		200-010				●				2.00	0.1				

Parting off & Grooving

Part off and groove tool center height control

- No matter what tool you choose, only guarantee the blade and the center line of the workpiece installation into 90 degree, to obtain the ideal processing surface, and reduce the vibration phenomenon in processing.
- Blade edge line with the workpiece center height tolerance should maintain ± 0.1 mm, especially bar cutting and grooving of small diameter workpiece, can increase the tool life, reduce the cutting resistance, decrease the burr.

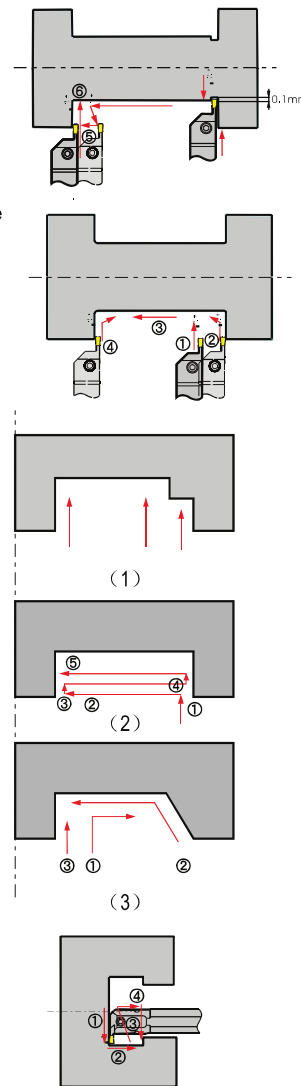


Parting off

- When the blade close to the workpiece center, should reduce the feed rate of 30%, to improve tool life and surface quality.
- Under permission, decrease overhanging as far as possible, to ensure good stability.

External Grooving and turning, profiling

- Feeding order: cutting depth 0.15 mm, the radial feed (maximum cutting depth can be $0.75 * \text{edge width } S$) → radial return around 0.1 mm → axial feeding → oblique knife back → axial feeding → radial processing to the required depth.
- Bottom diameter or chamfer (finishing), uses the operating sequence as shown, can reduce the friction of tool and chip and small vibration.



Face grooving and turning

- Finishing (multiple groove turning)
From the max diameter cutting inside, return when the edge of the blade slightly inward migration. See (1)
- The groove turning
The axial cutting depth is less than $0.75 * S$ (Width of cutting edge)
Groove width greater than groove depth, it is recommended to use groove cutting. See (2)
Groove depth greater than groove width, it is recommended to use multiple groove cutting
- Finishing
Finishing bottom and outside edge at the first, and then finishing bore to the required size. See (3)

Internal grooving and turning

- Using the graphic processing order
Easy to chip outflow, away from the end of the hole direction
always start to feed



➤ Recommended Cutting Conditions

Dimension	Recommended cutting feed(mm/r)			
Width (mm)	Cutting-off	Grooving	Turning	Profiling
2.5	0.05—0.15	0.05—0.15	0.05—0.15	0.05—0.15
3	0.05—0.15	0.05—0.15	0.07—0.15	0.1—0.2
4	0.05—0.2	0.05—0.2	0.07—0.25	0.1—0.2
5	0.07—0.2	0.07—0.22	0.1—0.25	0.15—0.3
6	0.1—0.3	0.07—0.25	0.1—0.3	0.15—0.3

Workpiece	Hardness	DPM8125	DPM8225	DCP9225	DCK5325
P	Carbon steel	125≤ HB≤ 170	120-260	150-280	150-280
	Low alloy steel	180≤ HB≤ 275	80-175	110-200	110-200
	High alloy steel	180≤ HB≤ 325	80-160	110-190	110-190
	Cast iron	180≤ HB≤ 250	75-140	100-170	100-170
M	Ferrite ,martensite	200≤ HB≤ 300	70-170	100-200	100-200
	Austenite	180≤ HB≤ 300	80-200	110-220	110-220
K	Malleable cast iron	130≤ HB≤ 230	100-200	130-220	90-160
	Gray cast iron	180≤ HB≤ 220	90-170	120-200	80-140
	Nodular cast iron	160≤ HB≤ 250	80-150	110-180	60-140
N	Aluminium alloy	--			
S	High temperature alloy	≤ 400			

Cutting parameter suitable for wet processing.

Suggestion:Cutting speed should be reduced by 30% - 40% for internal and face turning.

C CIRCLIP GROOVING




16 E R 1.10 C D471 0.35 DTIM45

1 2 3 4 5 6 7 8
Insert Size Insert Type Hand of Insert Groove Width Profile Style Groove Standard Groove Depth Carbide Grade

1 Insert Size(mm)
16 E R 1.10 C D471 0.35 DTIM45

11: d=6.35
16: d=9.525



4 Groove Width
16 E R 1.10 C D471 0.35 DTIM45

0.33~2.72mm

7 Groove Depth
16 E R 1.10 C D471 0.35 DTIM45

0.33~2.25mm

2 Insert Type
16 E R 1.10 C D471 0.35 DTIM45

E - External I- Internal

5 Profile Style
16 E R 1.10 C D471 0.35 DTIM45

None Code: Partial Profile
C: Full Profile

6 Groove Standard
16 E R 1.10 C D471 0.35 DTIM45

DIN471 Partial
DIN471
DIN472 Partial
DIN472
DIN7993 Partial
DIN7993
DIN76ST, DIN79SH
DIN3770

8 Carbide Grade
16 E R 1.10 C D471 0.35 DTIM45

DTIP30 DTIM45

3 Hand of Insert
16 E R 1.10 C D471 0.35 DTIM45

R - Right hand L- Left hand

QC 43 R 200 R DTIM45

1 2 3 4 5 6
Insert Name Insert Size Hand of Insert Groove Width Groove Standard Carbide Grade

1 Insert Name
QC 43 R 200 R DTIM45

Shallow & Nallow Groove
1. QC type
2. TGF type

3 Hand of Insert
QC 43 R 200 R DTIM45

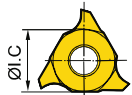
R=Right L=Left

5 Groove Standard
QC 43 R 200 R DTIM45

None Code: Squre Style
R: Round Style

2 Insert Size
QC 43 R 200 R DTIM45

22: d=6.35
32: d=9.525
43: d=12.70



4 Groove Width
QC 43 R 200 R DTIM45

0.33~4.8mm

6 Carbide Grade
QC 43 R 200 R DTIM45

DTIP30 DTIM45

➤ DIN 471/472 Standard (Partial Profile)

Type	Designation (Right)	Designation (Left)	Groove Width m(H13)	Dimensions		Picture
				IC	t	
External	ER 11-0.50-D471-1.00	EL 11-0.50-D471-0.70	0.50	6.350	0.70	
	11-0.60-D471-1.00	11-0.60-D471-1.00	0.60	6.350	0.70	
	11-0.80-D471-1.20	11-0.80-D471-1.20	0.80	6.350	0.70	
	11-1.00-D471-1.50	11-1.00-D471-1.50	1.00	6.350	0.70	
	11-1.20-D471-1.50	11-1.20-D471-1.50	1.20	6.350	1.50	
	11-1.40-D471-1.50	11-1.40-D471-1.50	1.40	6.350	1.50	
	11-1.50-D471-1.50	11-1.50-D471-1.50	1.50	6.350	1.50	
	11-1.80-D471-1.80	11-1.80-D471-1.80	1.80	6.350	1.80	
	16-0.33-D471-1.30	16-0.33-D471-1.30	0.33	9.525	1.30	
	16-0.50-D471-1.30	16-0.50-D471-1.30	0.50	9.525	1.30	
	16-0.75-D471-1.30	16-0.75-D471-1.30	0.75	9.525	1.30	
	16-0.80-D471-1.30	16-0.80-D471-1.30	0.80	9.525	1.30	
	16-1.00-D471-1.30	16-1.00-D471-1.30	1.00	9.525	1.30	
	16-1.10-D471-1.30	16-1.10-D471-1.30	1.10	9.525	1.30	
	16-1.17-D471-1.30	16-1.17-D471-1.30	1.17	9.525	1.30	
	16-1.20-D471-1.60	16-1.20-D471-1.60	1.20	9.525	1.60	
	16-1.37-D471-1.60	16-1.37-D471-1.60	1.37	9.525	1.60	
	16-1.40-D471-1.60	16-1.40-D471-1.60	1.40	9.525	1.60	
	16-1.50-D471-1.60	16-1.50-D471-1.60	1.50	9.525	1.60	
	16-1.60-D471-1.60	16-1.60-D471-1.60	1.60	9.525	1.60	
	16-1.67-D471-1.60	16-1.67-D471-1.60	1.67	9.525	1.60	
	16-1.70-D471-1.85	16-1.70-D471-1.85	1.70	9.525	1.85	
	16-1.75-D471-1.85	16-1.75-D471-1.85	1.75	9.525	1.85	
	16-1.80-D471-1.85	16-1.80-D471-1.85	1.80	9.525	1.85	
	16-1.85-D471-1.85	16-1.85-D471-1.85	1.85	9.525	1.85	
	16-1.92-D471-1.85	16-1.92-D471-1.85	1.92	9.525	1.85	
	16-2.00-D471-1.85	16-2.00-D471-1.85	2.00	9.525	1.85	
	16-2.15-D471-1.85	16-2.15-D471-1.85	2.15	9.525	1.85	
	16-2.15-D471-2.00	16-2.15-D471-2.00	2.15	9.525	2.00	
	16-2.20-D471-1.85	16-2.20-D471-1.85	2.20	9.525	1.85	
	16-2.20-D471-2.00	16-2.20-D471-2.00	2.20	9.525	2.00	
	16-2.25-D471-1.85	16-2.25-D471-1.85	2.25	9.525	1.85	
	16-2.25-D471-2.00	16-2.25-D471-2.00	2.25	9.525	2.00	
	16-2.30-D471-1.85	16-2.30-D471-1.85	2.30	9.525	1.85	
16-2.30-D471-2.00	16-2.30-D471-2.00	2.30	9.525	2.00		
16-2.50-D471-1.85	16-2.50-D471-1.85	2.50	9.525	1.85		
16-2.50-D471-2.00	16-2.50-D471-2.00	2.50	9.525	2.00		
16-2.65-D471-2.20	16-2.65-D471-2.20	2.65	9.525	2.20		
16-2.72-D471-2.20	16-2.72-D471-2.20	2.72	9.525	2.20		
Internal	IR 11-0.50-D472-0.70	IL 11-0.50-D472-0.70	0.50	6.350	0.70	
	11-0.60-D472-0.70	11-0.60-D472-0.70	0.60	6.350	0.70	
	11-0.80-D472-0.70	11-0.80-D472-0.70	0.80	6.350	0.70	
	11-1.00-D472-0.70	11-1.00-D472-0.70	1.00	6.350	0.70	
	11-1.17-D472-0.70	11-1.17-D472-0.70	1.17	6.350	0.70	
	11-1.20-D472-1.50	11-1.20-D472-1.50	1.20	6.350	1.50	
	11-1.37-D472-1.50	11-1.37-D472-1.50	1.37	6.350	1.50	
	11-1.40-D472-1.50	11-1.40-D472-1.50	1.40	6.350	1.50	
	11-1.50-D472-1.50	11-1.50-D472-1.50	1.50	6.350	1.50	
	11-1.67-D472-1.50	11-1.67-D472-1.50	1.67	6.350	1.50	
	11-1.80-D472-1.80	11-1.80-D472-1.80	1.80	6.350	1.80	
	11-1.92-D472-1.80	11-1.92-D472-1.80	1.92	6.350	1.80	
	11-2.20-D472-1.80	11-2.20-D472-1.80	2.20	6.350	1.80	
	16-0.33-D472-1.20	16-0.33-D472-1.20	0.33	9.525	1.20	
	16-0.50-D472-1.20	16-0.50-D472-1.20	0.50	9.525	1.20	
	16-0.75-D472-1.20	16-0.75-D472-1.20	0.75	9.525	1.20	
	16-0.80-D472-1.20	16-0.80-D472-1.20	0.80	9.525	1.20	
	16-1.00-D472-1.20	16-1.00-D472-1.20	1.00	9.525	1.20	
	16-1.10-D472-1.20	16-1.10-D472-1.20	1.10	9.525	1.20	
	16-1.17-D472-1.20	16-1.17-D472-1.20	1.17	9.525	1.20	
	16-1.20-D472-1.20	16-1.20-D472-1.20	1.20	9.525	1.20	
	16-1.37-D472-1.80	16-1.37-D472-1.80	1.37	9.525	1.80	
	16-1.40-D472-1.80	16-1.40-D472-1.80	1.40	9.525	1.80	
	16-1.50-D472-1.80	16-1.50-D472-1.80	1.50	9.525	1.80	
	16-1.60-D472-1.80	16-1.60-D472-1.80	1.60	9.525	1.80	
	16-1.67-D472-1.80	16-1.67-D472-1.80	1.67	9.525	1.80	
	16-1.70-D472-1.80	16-1.70-D472-1.80	1.70	9.525	1.80	
	16-1.75-D472-1.80	16-1.75-D472-1.80	1.75	9.525	1.80	
	16-1.80-D472-1.80	16-1.80-D472-1.80	1.80	9.525	1.80	
	16-1.85-D472-1.80	16-1.85-D472-1.80	1.85	9.525	1.80	
	16-1.92-D472-1.80	16-1.92-D472-1.80	1.92	9.525	1.80	
	16-2.00-D472-2.20	16-2.00-D472-2.20	2.00	9.525	2.20	
	16-2.15-D472-2.20	16-2.15-D472-2.20	2.15	9.525	2.20	
	16-2.20-D472-2.20	16-2.20-D472-2.20	2.20	9.525	2.20	
16-2.25-D472-2.20	16-2.25-D472-2.20	2.25	9.525	2.20		
16-2.30-D472-2.20	16-2.30-D472-2.20	2.30	9.525	2.20		
16-2.50-D472-2.20	16-2.50-D472-2.20	2.50	9.525	2.20		
16-2.65-D472-2.20	16-2.65-D472-2.20	2.65	9.525	2.20		
16-2.72-D472-2.20	16-2.72-D472-2.20	2.72	9.525	2.20		



DIN 471/472 Standard (Full Profile)

Type	Designation (Right)	Designation (Left)	Groove Width m(H13)	d1	Dimensions				Picture
					IC	W	t1	t	
External	ER 16-1.10C-D471-0.35	EL 16-1.10C-D471-0.35	1.10	15	9.525	1.19	0.33	0.35	
	16-1.10C-D471-0.40	16-1.10C-D471-0.40	1.10	16-17	9.525	1.19	0.36	0.45	
	16-1.30C-D471-0.50	16-1.30C-D471-0.50	1.30	18-22	9.525	1.39	0.44	0.50	
	16-1.30C-D471-0.55	16-1.30C-D471-0.55	1.30	24-26	9.525	1.39	0.45	0.55	
	16-1.60C-D471-0.75	16-1.60C-D471-0.75	1.60	28-30	9.525	1.69	0.60	0.70	
	16-1.60C-D471-0.85	16-1.60C-D471-0.85	1.60	32-34	9.525	1.69	0.75	0.85	
	16-1.60C-D471-1.00	16-1.60C-D471-1.00	1.60	35	9.525	1.69	0.85	1.00	
	16-1.85C-D471-1.00	16-1.85C-D471-1.00	1.85	36-38	9.525	1.94	0.85	1.00	
	16-1.85C-D471-1.25	16-1.85C-D471-1.25	1.85	40-48	9.525	1.94	1.10	1.25	
	16-2.15C-D471-1.50	16-2.15C-D471-1.50	2.15	50-63	9.525	2.24	1.35	1.50	
Internal	IR 16-1.10C-D472-0.50	IL 16-1.10C-D472-0.50	1.10	18-22	9.525	1.09	0.36	0.50	
	16-1.30C-D472-0.60	16-1.30C-D472-0.60	1.30	24-26	9.525	1.39	0.44	0.60	
	16-1.30C-D472-0.70	16-1.30C-D472-0.70	1.30	28-30	9.525	1.39	0.60	0.70	
	16-1.30C-D472-0.85	16-1.30C-D472-0.85	1.30	31-34	9.525	1.39	0.75	0.85	
	16-1.60C-D472-0.85	16-1.60C-D472-0.85	1.60	34	9.525	1.69	0.75	0.85	
	16-1.60C-D472-1.00	16-1.60C-D472-1.00	1.60	35-38	9.525	1.69	0.85	1.00	
	16-1.85C-D472-1.25	16-1.85C-D472-1.25	1.85	40-48	9.525	1.94	1.10	1.25	
	16-2.15C-D472-1.50	16-2.15C-D472-1.50	2.15	50-63	9.525	2.34	1.35	1.50	

DIN 7993 Standard (Partial Profile)

Type	Designation (Right)	Designation (Left)	Groove Width R	Dimensions			Picture
				IC	W	t	
External	ER 16-0.40-D7993-0.60	EL 16-0.40-D7993-0.60	0.40	9.525	0.80	0.60	
	16-0.50-D7993-1.40	16-0.50-D7993-1.40	0.50	9.525	1.00	1.40	
	16-0.60-D7993-0.80	16-0.60-D7993-0.80	0.60	9.525	1.20	0.80	
	16-0.60-D7993-1.60	16-0.60-D7993-1.60	0.60	9.525	1.20	1.60	
	16-0.90-D7993-1.10	16-0.90-D7993-1.10	0.90	9.525	1.80	1.10	
	16-0.90-D7993-2.00	16-0.90-D7993-2.00	0.90	9.525	1.80	2.00	
	16-1.00-D7993-1.20	16-1.00-D7993-1.20	1.00	9.525	2.00	1.20	
	16-1.00-D7993-2.15	16-1.00-D7993-2.15	1.00	9.525	2.00	2.15	
	16-1.10-D7993-2.15	16-1.10-D7993-2.15	1.10	9.525	2.20	2.15	
	16-1.20-D7993-2.25	16-1.20-D7993-2.25	1.20	9.525	2.40	2.25	
Internal	IR 16-0.50-D7993-1.40	IL 16-0.50-D7993-1.40	0.50	9.525	1.00	1.40	
	16-0.60-D7993-0.80	16-0.60-D7993-0.80	0.60	9.525	1.20	0.80	
	16-0.60-D7993-1.60	16-0.60-D7993-1.60	0.60	9.525	1.20	1.60	
	16-0.90-D7993-1.10	16-0.90-D7993-1.10	0.90	9.525	1.80	1.10	
	16-0.90-D7993-2.00	16-0.90-D7993-2.00	0.90	9.525	1.80	2.00	
	16-1.00-D7993-1.20	16-1.00-D7993-1.20	1.00	9.525	2.00	0.20	
	16-1.00-D7993-2.15	16-1.00-D7993-2.15	1.00	9.525	2.00	2.15	
	16-1.10-D7993-2.15	16-1.10-D7993-2.15	1.10	9.525	2.20	2.15	
	16-1.20-D7993-2.25	16-1.20-D7993-2.25	1.20	9.525	2.40	2.25	

➤ DIN 76 Standard (Normal-Type)

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions						Picture
			mm	R	IC	g1	g2	t	t1	
External	ER 16-0.50-D76ST-0.40	EL 16-0.50-D76ST-0.40	0.50	0.2	9.525	1.10	1.50	0.40	2.50	
	16-0.60-D76ST-0.50	16-0.60-D76ST-0.50	0.60	0.4	9.525	1.30	1.80	0.50	2.40	
	16-0.70-D76ST-0.55	16-0.70-D76ST-0.55	0.70	0.4	9.525	1.55	2.10	0.55	2.20	
	16-0.80-D76ST-0.65	16-0.80-D76ST-0.65	0.80	0.4	9.525	1.75	2.40	0.65	2.10	
	16-1.00-D76ST-0.80	16-1.00-D76ST-0.80	1.00	0.6	9.525	2.20	3.00	0.80	1.90	
Internal	IR 16-0.50-D76ST-0.40	IL 16-0.50-D76ST-0.40	0.50	0.2	9.525	1.10	1.50	0.40	2.50	
	16-0.60-D76ST-0.50	16-0.60-D76ST-0.50	0.60	0.4	9.525	1.30	1.80	0.50	2.40	
	16-0.70-D76ST-0.55	16-0.70-D76ST-0.55	0.70	0.4	9.525	1.55	2.10	0.55	2.20	
	16-0.80-D76ST-0.65	16-0.80-D76ST-0.65	0.80	0.4	9.525	1.75	2.40	0.65	2.10	
	16-1.00-D76ST-0.80	16-1.00-D76ST-0.80	1.00	0.6	9.525	2.20	3.00	0.80	1.90	

➤ DIN 76 Standard (Short-Type)

Type	Designation (Right)	Designation (Left)	Pitch	Dimensions						Picture
			mm	R	IC	g1	g2	t	t1	
External	ER 16-1.00-D76SH-0.80	ER 16-1.00-D76SH-0.80	1.00	0.6	9.525	1.20	2.00	0.80	2.50	
	16-1.25-D76SH-1.00	16-1.25-D76SH-1.00	1.25	0.6	9.525	1.50	2.50	1.00	2.30	
	16-1.50-D76SH-1.15	16-1.50-D76SH-1.15	1.50	0.8	9.525	1.85	3.00	1.15	2.10	
	16-1.75-D76SH-1.30	16-1.75-D76SH-1.30	1.75	1.0	9.525	2.20	3.50	1.30	1.90	
Internal	IR 16-1.00-D76SH-0.80	IR 16-1.00-D76SH-0.80	1.00	0.6	9.525	1.20	2.00	0.80	2.50	
	16-1.25-D76SH-1.00	16-1.25-D76SH-1.00	1.25	0.6	9.525	1.50	2.50	1.00	2.30	
	16-1.50-D76SH-1.15	16-1.50-D76SH-1.15	1.50	0.8	9.525	1.85	3.00	1.15	2.10	
	16-1.75-D76SH-1.30	16-1.75-D76SH-1.30	1.75	1.0	9.525	2.20	3.50	1.30	1.90	

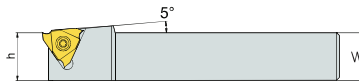
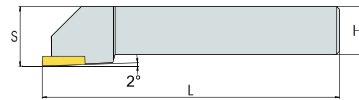
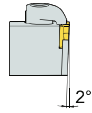
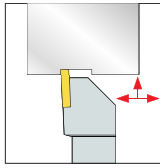
➤ Qc Type One-Edge Round Circlip Groove

Designation	Dimensions							Picture
	S ± 0.025	La max	R/C	IC	S1	d		
QC32R/L	200R	2.00	2.50	1.00	9.525	3.18	4.4	
	300R	3.00	2.50	1.50	9.525	3.18	4.4	
QC43R/L	100R	1.00	2.00	0.50	12.7	4.76	5.5	
	150R	1.50	3.50	0.75	12.7	4.76	5.5	
	200R	2.00	3.50	1.00	12.7	4.76	5.5	
	250R	2.50	4.00	1.25	12.7	4.76	5.5	
	300R	3.00	4.00	1.50	12.7	4.76	5.5	
	400R	4.00	5.00	2.00	12.7	4.76	5.5	

QC Type One-Edge Square Circlip Groove

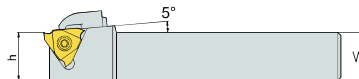
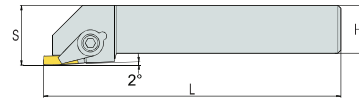
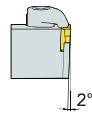
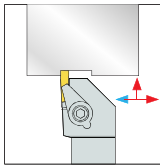
Designation	Dimensions							Picture
	S ± 0.025	La max	R/C	IC	S1	d		
QC22R/L	050	0.50	1.00	0.05	6.35	3.18	2.8	
	100	1.00	1.50	0.05	6.35	3.18	2.8	
	120	1.20	1.50	0.20	6.35	3.18	2.8	
	125	1.25	1.50	0.20	6.35	3.18	2.8	
	145	1.45	1.50	0.20	6.35	3.18	2.8	
	150	1.50	1.50	0.20	6.35	3.18	2.8	
	200	2.00	2.00	0.20	6.35	3.18	2.8	
	225	2.25	2.00	0.20	6.35	3.18	2.8	
QC32R/L	050	0.50	1.00	0.05	9.525	3.18	4.4	
	100	1.00	2.00	0.05	9.525	3.18	4.4	
	110	1.10	2.00	0.05	9.525	3.18	4.4	
	120	1.20	2.00	0.05	9.525	3.18	4.4	
	125	1.25	2.00	0.20	9.525	3.18	4.4	
	145	1.45	2.00	0.20	9.525	3.18	4.4	
	150	1.50	2.00	0.20	9.525	3.18	4.4	
	175	1.75	2.00	0.20	9.525	3.18	4.4	
	185	1.85	2.50	0.20	9.525	3.18	4.4	
	200	2.00	2.50	0.20	9.525	3.18	4.4	
	250	2.50	2.50	0.20	9.525	3.18	4.4	
	300	3.00	3.00	0.20	9.525	3.18	4.4	
QC43R/L	125	1.25	2.00	0.20	12.7	4.76	5.5	
	145	1.45	2.00	0.20	12.7	4.76	5.5	
	150	1.50	3.50	0.20	12.7	4.76	5.5	
	175	1.75	3.50	0.20	12.7	4.76	5.5	
	185	1.85	3.50	0.20	12.7	4.76	5.5	
	200	2.00	3.50	0.20	12.7	4.76	5.5	
	230	2.30	3.50	0.20	12.7	4.76	5.5	
	250	2.50	4.00	0.30	12.7	4.76	5.5	
	265	2.65	4.00	0.30	12.7	4.76	5.5	
	280	2.80	4.00	0.30	12.7	4.76	5.5	
	300	3.00	4.00	0.30	12.7	4.76	5.5	
	320	3.20	4.00	0.30	12.7	4.76	5.5	
	330	3.30	4.00	0.30	12.7	4.76	5.5	
	350	3.50	5.00	0.30	12.7	4.76	5.5	
	400	4.00	5.00	0.40	12.7	4.76	5.5	
	430	4.30	5.00	0.40	12.7	4.76	5.5	
	450	4.50	5.00	0.40	12.7	4.76	5.5	
	480	4.80	5.00	0.40	12.7	4.76	5.5	

↻ SQGR/L



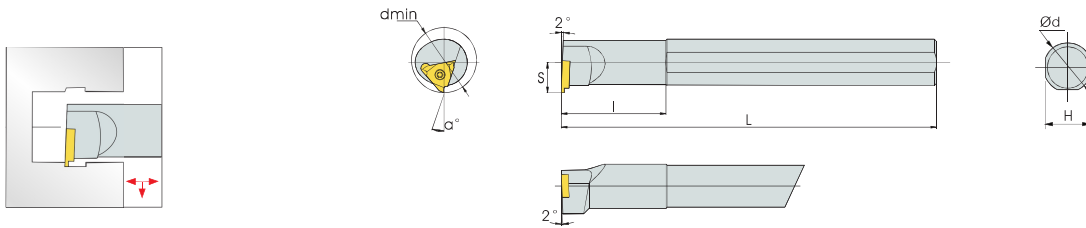
Designation	Dimensions (mm)						Applicable Insert	Spare parts	
	W	H	S	L	h	l		Screw	Wrench
SQGR/L 1616-K3-15	16	16	21	125	16	25.5	QC32R/L050~180	M3.5*9	T-15
2020-K3-15	20	20	25	125	20	25.5			
2525-M3-15	25	25	30	150	25	25.5	QC32R/L180~300		
1616-K3-25	16	16	21	125	16	25.5			
2020-K3-25	20	20	25	125	20	25.5			
2525-M3-25	25	25	30	150	25	25.5			
3232-P3-25	32	32	40	170	32	25.5	QC42R/L100~230	M5*12	T-20
2020-K4-15	20	20	25	125	20	25.5			
2525-M4-15	25	25	30	150	25	25.5			
2020-K4-25	20	20	25	125	20	25.5	QC42R/L230~330		
2525-M4-25	25	25	30	150	25	25.5			
3232-P4-25	32	32	40	170	32	25.5	QC42R/L330~480		
2020-K4-35	20	20	25	125	20	25.5			
2525-M4-35	25	25	30	150	25	25.5			
3232-P4-35	32	32	40	170	32	25.5			

↻ CQGR/L



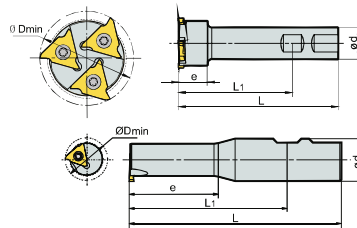
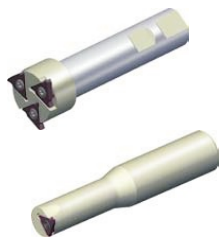
Designation	Dimensions (mm)						Applicable Insert	Spare parts			
	W	H	S	L	h	l		Clamp	Clamp Screw	Screw	Wrench
CQGR/L 1616-K3-15	16	16	21	125	16	25.5	QC32R/L050~180	CS6R1	ML0622	M3.5*9	T-15 L3.0
2020-K3-15	20	20	25	125	20	25.5					
2525-M3-15	25	25	30	150	25	25.5	QC32R/L180~300				
1616-K3-25	16	16	21	125	16	25.5					
2020-K3-25	20	20	25	125	20	25.5					
2525-M3-25	25	25	30	150	25	25.5					
3232-P3-25	32	32	40	170	32	25.5	QC42R/L100~230		M5*12	T-20 L3.0	
2020-K4-15	20	20	25	125	20	25.5					
2525-M4-15	25	25	30	150	25	25.5					QC42R/L230~330
2020-K4-25	20	20	25	125	20	25.5					
2525-M4-25	25	25	30	150	25	25.5	QC42R/L330~480				
3232-P4-25	32	32	40	170	32	25.5					
2020-K4-35	20	20	25	125	20	25.5					
2525-M4-35	25	25	30	150	25	25.5					
3232-P4-35	32	32	40	170	32	25.5					

➤ SQGR/L



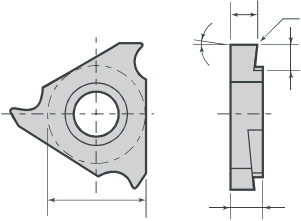
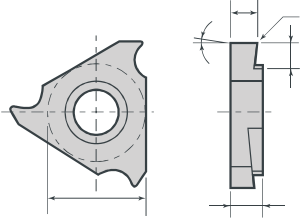
Designation	Dimensions (mm)							Applicable Insert	Spare parts	
	D _{min} _n	d	d1	H	L	S	α °		Screw	Wrench
S16Q-SQGR/L2-15	20	16	11.5	180	40	15	6°	QC22R/L050~150	M2.5*6	T-8
S20Q-SQGR/L2-15	25	20	11.5	180	40	18				
S16Q-SQGR/L2-25	20	16	11.5	180	40	15		QC32R/L050~180	M3.5*9	T-15
S20Q-SQGR/L2-25	25	20	11.5	180	40	18				
S20Q-SQGR/L3-15	28	20	12.5	180	45	18		QC43R/L100~230	M5*12	T-20
S25R-SQGR/L3-15	35	25	17.5	200	45	23				
S20Q-SQGR/L3-25	28	20	12.5	180	45	18		QC43R/L330~480		
S25R-SQGR/L3-25	35	25	17.5	200	45	23				
S32S-SQGR/L3-25	40	32	21.0	250	45	30				
S25R-SQGR/L4-15	35	25	18.2	200	45	23				
S32S-SQGR/L4-15	40	32	23.0	250	45	30				
S25R-SQGR/L4-25	35	25	18.2	200	45	23				
S32S-SQGR/L4-25	40	32	23.0	250	45	30				
S25R-SQGR/L4-35	35	25	18.2	200	45	23				
S32S-SQGR/L4-35	40	32	23.0	250	45	30				

➤ Milling Cutter for Grooving

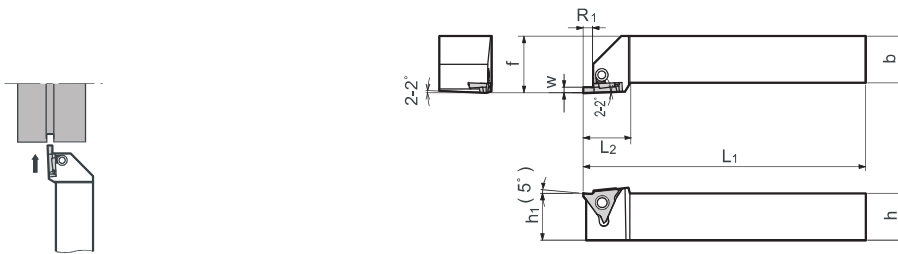


Designation	Dimensions (mm)						Width	Applicable Insert	Screw	Wrench
	ØD _{min}	Ød	e	L1	L	Z				
311.QC32.025B300. W25-01	25	25	40	89	125	1	0.50~3.00	QC32L050~300	M3.5*10	T-15
311.QC32.039B300. W25-03	39	25	23	89	125	3	0.50~3.00	QC32L050~300	M3.5*10	T-15
311.QC42.044B480. W32-03	44	32	23	89	125	3	1.0~4.8	QC42L100~480	M5.0*13	T-20

➤ TGF Type One Edge Square Circlip Groove

Designation	Dimensions					Picture	
	W±0.03	G	rε	d	T		
TGF32R/L	033	0.33	0.8	0.05	9.525	3.18	
	043	0.43	1.2	0.05	9.525	3.18	
	050	0.50	1.2	0.05	9.525	3.18	
	065	0.65	2.2	0.05	9.525	3.18	
	075	0.75	2.2	0.05	9.525	3.18	
	080	0.80	2.2	0.10	9.525	3.18	
	085	0.85	2.2	0.10	9.525	3.18	
	090	0.90	2.2	0.10	9.525	3.18	
	095	0.95	2.2	0.10	9.525	3.18	
	100	1.00	2.2	0.10	9.525	3.18	
	110	1.10	2.2	0.10	9.525	3.18	
	115	1.15	2.2	0.10	9.525	3.18	
	120	1.20	2.2	0.10	9.525	3.18	
	125	1.25	2.2	0.10	9.525	3.18	
	130	1.30	2.2	0.10	9.525	3.18	
	135	1.35	2.2	0.10	9.525	3.18	
	140	1.40	2.2	0.10	9.525	3.18	
	145	1.45	2.2	0.10	9.525	3.18	
	150	1.50	2.2	0.10	9.525	3.18	
	155	1.55	2.2	0.10	9.525	3.18	
	160	1.60	2.2	0.10	9.525	3.18	
	165	1.65	2.2	0.10	9.525	3.18	
	170	1.70	2.2	0.10	9.525	3.18	
	175	1.75	2.2	0.10	9.525	3.18	
	180	1.80	2.2	0.10	9.525	3.18	
	185	1.85	2.2	0.10	9.525	3.18	
	190	1.90	2.2	0.10	9.525	3.18	
	195	1.95	2.2	0.10	9.525	3.18	
	200	2.00	2.7	0.10	9.525	3.18	
	220	2.20	2.7	0.10	9.525	3.18	
225	2.25	2.7	0.10	9.525	3.18		
240	2.40	2.7	0.10	9.525	3.18		
250	2.50	2.7	0.10	9.525	3.18		
270	2.70	2.7	0.15	9.525	3.18		
275	2.75	2.7	0.15	9.525	3.18		
300	3.00	3.2	0.15	9.525	3.18		
TGF43R/L	150	1.50	3.5	0.15	12.7	4.76	
	175	1.75	3.7	0.15	12.7	4.76	
	200	2.00	3.7	0.15	12.7	4.76	
	230	2.30	3.7	0.15	12.7	4.76	
	250	2.50	4.2	0.25	12.7	4.76	
	265	2.65	4.2	0.25	12.7	4.76	
	280	2.80	4.2	0.25	12.7	4.76	
	300	3.00	4.2	0.25	12.7	4.76	
	330	3.30	4.2	0.30	12.7	4.76	
	350	3.50	5.0	0.30	12.7	4.76	
	400	4.00	5.0	0.30	12.7	4.76	
	430	4.30	5.0	0.30	12.7	4.76	
	450	4.50	5.0	0.30	12.7	4.76	

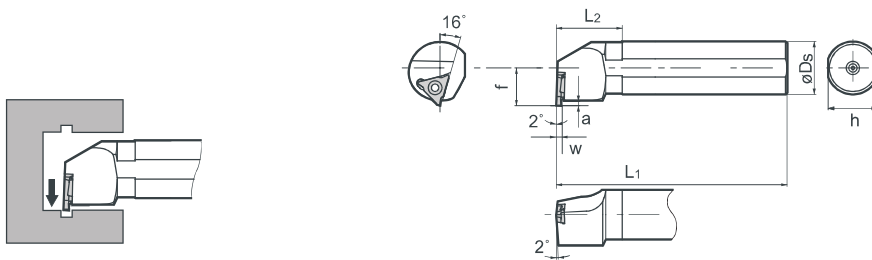
➤ JSTGR/L (External Grooving)



Right hand (R) shown.

Designation		Groove Width W (mm)	Dimensions (mm)						Applicable Insert	Spare Parts	
			b	h	f	h1	L2	l1		Screw	Wrench
JSTGR/L	1212-H16C	0.33-3.00	12	12	17	12	100	25	TGF32R/L	M3.5x9	T-15
	1616-H16C	0.33-3.00	16	16	21	16	100	25			
	2020-K16C	0.33-3.00	20	20	25	20	125	25			
	2525-M16C	0.33-3.00	25	25	30	25	150	25			
	2020-K22C	1.50-4.50	20	20	25	20	125	25	TGF43R/L	M5.0x12	T-20
	2525-M22C	1.50-4.50	25	25	30	25	150	25			

➤ JSTGR/L (Internal Grooving)



Right hand (R) shown.

Designation	Groove Width W (mm)	Min. bore dia. Dm (mm)	Max. groove depth (mm)	Dimensions (mm)						Applicable Insert	Spare Parts	
				Ds	f	h	L1	L2	a		Screw	Wrench
S20Q-JSTGR/L16	0.33-3.00	28	2.0	20	13.0	18	180	45	2.5	TGF32R/L	M3.5x9	T-15
S25R-JSTGR/L16	0.33-3.00	31	2.0	25	15.5	23	200	45	2.5			
S32S-JSTGR/L16	0.33-3.00	38	2.0	32	19.0	30	250	45	2.5			
S32S-JSTGR/L22	1.50-4.50	38	2.5	32	23.0	30	250	45	3.0	TGF43R/L	M5.0x12	T-20

ACME (Special Edition)

Designation	tpi	Dimensions			Picture
		IC	W	T	
TNMA 33	6ACME	6	9.525	1.44	
	8ACME	8	9.525	1.04	
	10ACME	10	9.525	0.81	
	12ACME	12	9.525	0.72	
	14ACME	14	9.525	0.61	
	16ACME	16	9.525	0.52	
TNMA 43	4ACME	4	12.7	2.22	
	5ACME	5	12.7	1.75	
	6ACME	6	12.7	1.44	
	8ACME	8	12.7	1.04	
	10ACME	10	12.7	0.81	
	12ACME	12	12.7	0.72	
TNMA 54	14ACME	14	12.7	0.61	
	16ACME	16	12.7	0.52	
	3ACME	3	15.875	3.00	
	4ACME	4	9.525	2.22	
	5ACME	5	9.525	1.75	

ACME (Special One-Edge)

Designation	tpi	Dimensions			Picture
		IC	W	T	
TNMC 32.5	6ACME	6	9.525	1.44	
	8ACME	8	9.525	1.04	
	10ACME	10	9.525	0.81	
	12ACME	12	9.525	0.72	
	14ACME	14	9.525	0.61	
	16ACME	16	9.525	0.52	
TNMC 43	4ACME	4	12.7	2.22	
	5ACME	5	12.7	1.75	
	6ACME	6	12.7	1.44	
	8ACME	8	12.7	1.04	
	10ACME	10	12.7	0.81	
	12ACME	12	12.7	0.72	
TNMC 54	14ACME	14	12.7	0.61	
	16ACME	16	12.7	0.52	
	3ACME	3	15.875	3.00	
	4ACME	4	15.875	2.22	
	5ACME	5	15.875	1.75	

➤ Stub ACME (Special One-Edge)

Designation	tpi	Dimensions			Picture
		IC	W	T	
TNMA 33	6STACME	6	9.525	1.66	
	8STACME	8	9.525	1.21	
	10STACME	10	9.525	0.94	
	12STACME	12	9.525	0.83	
	14STACME	14	9.525	0.70	
	16STACME	16	9.525	0.60	
TNMA 43	4STACME	4	12.7	2.55	
	5STACME	5	12.7	2.01	
	6STACME	6	12.7	1.66	
	8STACME	8	12.7	1.21	
	10STACME	10	12.7	0.94	
	12STACME	12	12.7	0.83	
TNMA 54	14STACME	14	12.7	0.70	
	16STACME	16	12.7	0.60	
	3STACME	3	15.875	3.44	
	4STACME	4	15.875	2.55	
	5STACME	5	15.875	2.01	

➤ Stub ACME (Special One-Edge)

Designation	tpi	Dimensions			Picture
		IC	W	T	
TNMC 32.5	6STACME	6	9.525	1.66	
	8STACME	8	9.525	1.21	
	10STACME	10	9.525	0.94	
	12STACME	12	9.525	0.83	
	14STACME	14	9.525	0.70	
	16STACME	16	9.525	0.60	
TNMC 43	4STACME	4	12.7	2.55	
	5STACME	5	12.7	2.01	
	6STACME	6	12.7	1.66	
	8STACME	8	12.7	1.21	
	10STACME	10	12.7	0.94	
	12STACME	12	12.7	0.83	
TNMC 54	14STACME	14	12.7	0.70	
	16STACME	16	12.7	0.60	
	3STACME	3	15.875	3.44	
	4STACME	4	15.875	2.55	
	5STACME	5	15.875	2.01	

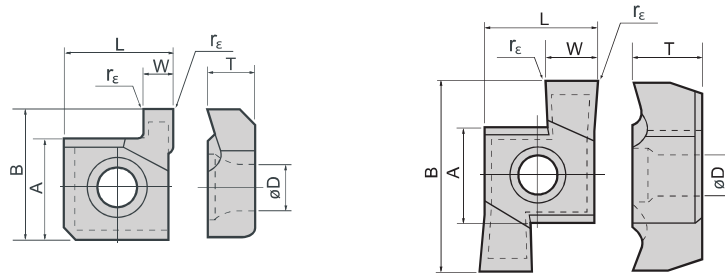
API Buttress (Special One-Edge)

Designation	tpi	Dimensions			Size	Picture		
		IC	W	T				
TNMA 43	8BUT75	8	12.7	0.75	4.76			
TNMA 54	5BUT75	5	15.875	0.75	6.35		4 1/2 " ~13 3/8 "	
	5BUT1	5	15.875	1	6.35		16 " ~20 "	
TNMC 43	8BUT75	8	12.7	0.75	4.76			
TNMC 54	5BUT75	5	15.875	0.75	6.35			4 1/2 " ~13 3/8 "
	5BUT1	5	15.875	1	6.35			16 " ~20 "

API Round (Special One-Edge)

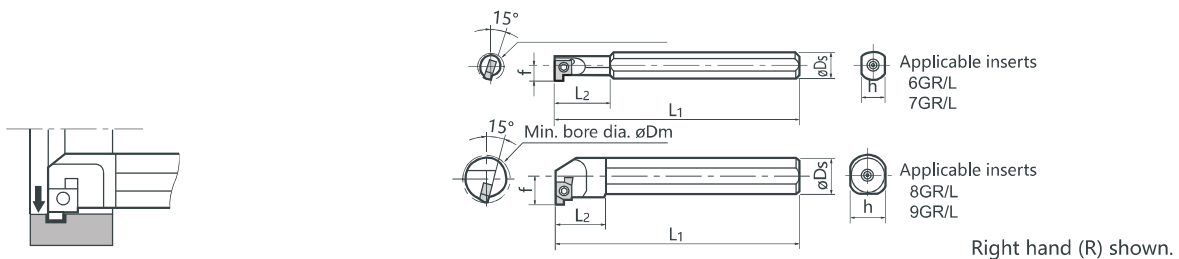
Designation	tpi	Dimensions			Picture	
		IC	W	T		
TNMA 43	8APIRD	8	12.7	0.75	4.76	
	10APIRD	10	12.7	0.75	4.76	
TNMA 54	8APIRD	8	15.875	0.75	6.35	
TNMC 43	8APIRD	8	12.7	0.75	4.76	
	10APIRD	10	12.7	0.75	4.76	
TNMC 54	8APIRD	8	15.875	0.75	6.35	

➤ SNG Type for General Grooving



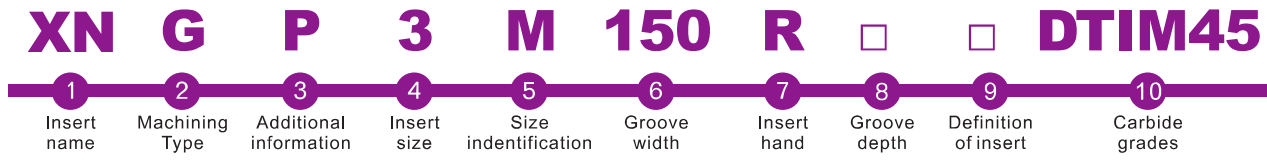
Designation	W±0.03	A	B	T	ΦD	L	r _ε	Max.groove depth (mm)	Fig.	Carbide Grade				
										TTIP30	TTIM45	TTIN30		
6GR/L	100	1.0	4.76	6.44	2.30	5.56	0.2	1.5	1					
	150	1.5												
	200	2.0												
7GR/L	100	1.0	5.56	7.36	2.58	6.15	0.2	2.0	2		●			
	150	1.5												
	200	2.0												
8GR/L	150	1.5	5.56	10.16	3.87	2.58	6.15	0.2	2.0	2		●		
	200	2.0												
	250	2.5												
	300	3.0												
	350	3.5												
9GR/L	100	1.0	6.35	12.95	4.66	2.86	7.74	1.5	2	2		●		
	150	1.5												
	200	2.0												
	250	2.5												
	300	3.0												
	350	3.5												

➤ SNG R/L (Internal Grooving)



Designation	Max groove width (mm)	Min. bore dia. ΦDm	ΦDs	f	L1	L2	h	Spare Parts		Applicable Insert	
								Screw	Wrench		
SNG R/L	2.0	8	8	4.7	100	18	7	M2.0x4	T-6	6GR/L	
		10		5.8		23		M2.2x6	T-6	7GR/L	
		12		6.8		29		M2.2x6	T-6	8GR/L	
	3.5	14	10	7.6	125	15	9	M2.2x6	T-6	8GR/L	
		16		8.6		18		11	M2.5x6	T-8	9GR/L
		20		11.6		20		15	M2.5x6	T-8	9GR/L
	3.5	24	20	13.6	200	25	18	M2.5x6	T-8	9GR/L	

➤ XN Type Insert Nomenclature



1 Insert Name

XN G P 3 M 150 R

DTIM45

XN: Top clamping series

2 Machining Type

XN G P 3 M 150 R

DTIM45

F: Face grooving G: Grooving
 R: Insert with full radius
 C: Grooving & Chamfering
 U: Under cutting (or relieving)
 V: Poly-Vee Grooving

3 Additional Information

XN G P 3 M 150 R

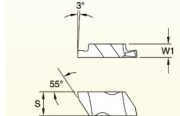
DTIM45

D: Deep groove C: Circlip groove
 P: Positive Rake Angle

4 Insert Size

XN G P 3 M 150 R

DTIM45



Insert Size	S (mm)	W1 (mm)
2	5.56	3.81
3	8.74	4.95
4	11.51	6.48
5	17.48	9.65

5 Size Identification

XN G P 3 M 150 R

DTIM45

M: Metric Insert groove width
 C: Circlip groove insert width is nominal circlip size

6 Groove Width (inch)

XN G P 3 M 150 R

DTIM45

Position pertains to groove for F-, G- and U-style inserts; radii for R-style grooving insert; and circlip size for groove and chamfer inserts;
 Dimension in 0.01mm
 Example: 1.5mm width groove or radius equals 150 catalogue position number
 Width tolerance: ±0.025mm unless otherwise specified.

7 Insert Hand

XN G P 3 M 150 R

DTIM45

R: right hand L: left hand

8 Groove Depth

XN G P 3 M 150 R

DTIM45

Shown for groove and chamfer inserts in 0.01mm increments

9 Definition of Inserts

XN G P 3 M 150 R

DTIM45

Groove size "J" or "L" for Poly-Vee inserts "I" indicates internal face grooving insert

10 Carbide Grades

XN G P 3 M 150 R

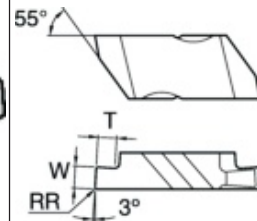
DTIM45

DTIP30 DTIM45



➤ XN Type Insert for Grooving

Designation		W ^{**}	RR	T	Picture	Shape
XNG	2M050R/L	0.50	0.09	0.64		
	2M080R/L	0.80	0.09	1.27		
	2M100R/L	1.00	0.09	1.27		
	2M120R/L	1.20	0.09	1.27		
	2M140R/L	1.40	0.09	1.27		
	2M150R/L	1.50	0.19	2.79		
	2M170R/L	1.70	0.19	2.79		
	2M175R/L	1.75	0.19	2.79		
	2M195R/L	1.95	0.19	2.79		
	2M200R/L	2.00	0.19	2.79		
	2M220R/L	2.20	0.19	2.79		
	2M225R/L	2.25	0.19	2.79		
	2M250R/L	2.50	0.19	2.79		
	2M275R/L	2.75	0.19	2.79		
	2M300R/L	3.00	0.19	2.79		
	2M325R/L	3.25	0.19	2.79		
	3M100R/L	1.00	0.19	1.91		
	3M120R/L	1.20	0.19	1.91		
	3M150R/L	1.50	0.19	2.39		
	3M175R/L	1.75	0.19	2.39		
	3M200R/L	2.00	0.19	2.39		
	3M220R/L	2.20	0.19	2.39		
	3M225R/L	2.25	0.19	2.39		
	3M250R/L	2.50	0.19	3.81		
	3M275R/L	2.75	0.19	3.81		
	3M300R/L	3.00	0.19	3.81		
	3M320R/L	3.20	0.19	3.81		
	3M325R/L	3.25	0.19	3.81		
	3M350R/L	3.50	0.32	3.81		
	3M400R/L	4.00	0.32	3.81		
	3M425R/L	4.25	0.32	3.81		
	3M450R/L	4.50	0.32	3.81		
	4M300R/L	3.00	0.19	3.81		
	4M320R/L	3.20	0.19	3.81		
	4M350R/L	3.50	0.57	6.35		
	4M400R/L	4.00	0.57	6.35		
	4M450R/L	4.50	0.57	6.35		
	4M500R/L	5.00	0.57	6.35		
	4M550R/L	5.50	0.57	6.35		
	4M600R/L	6.00	0.57	6.35		
	5M500R/L	5.00	0.32	9.52		
	5M600R/L	6.00	0.32	9.52		



※ The dimension can be customized according to specifications customers give.

🌀 XN Type Insert for Grooving with Positive Rake Angle

Designation		W*	RR	T	Picture	Shape
XNGP	2M050R/L	0.50	0.09	0.64		
	2M080R/L	0.80	0.09	1.27		
	2M100R/L	1.00	0.09	1.27		
	2M120R/L	1.20	0.09	1.27		
	2M140R/L	1.40	0.09	1.27		
	2M150R/L	1.50	0.19	2.79		
	2M170R/L	1.70	0.19	2.79		
	2M175R/L	1.75	0.19	2.79		
	2M195R/L	1.95	0.19	2.79		
	2M200R/L	2.00	0.19	2.79		
	2M220R/L	2.20	0.19	2.79		
	2M225R/L	2.25	0.19	2.79		
	2M250R/L	2.50	0.19	2.79		
	2M275R/L	2.75	0.19	2.79		
	2M300R/L	3.00	0.19	2.79		
	2M325R/L	3.25	0.19	2.79		
	3M100R/L	1.00	0.19	1.91		
	3M120R/L	1.20	0.19	1.91		
	3M150R/L	1.50	0.19	2.39		
	3M175R/L	1.75	0.19	2.39		
	3M200R/L	2.00	0.19	2.39		
	3M220R/L	2.20	0.19	2.39		
	3M225R/L	2.25	0.19	2.39		
	3M250R/L	2.50	0.19	3.81		
	3M275R/L	2.75	0.19	3.81		
	3M300R/L	3.00	0.19	3.81		
	3M320R/L	3.20	0.19	3.81		
	3M325R/L	3.25	0.19	3.81		
	3M350R/L	3.50	0.32	3.81		
	3M400R/L	4.00	0.32	3.81		
	3M425R/L	4.25	0.32	3.81		
	3M450R/L	4.50	0.32	3.81		
	4M300R/L	3.00	0.19	3.81		
	4M320R/L	3.20	0.19	3.81		
	4M350R/L	3.50	0.57	6.35		
	4M400R/L	4.00	0.57	6.35		
	4M450R/L	4.50	0.57	6.35		
	4M500R/L	5.00	0.57	6.35		
	4M550R/L	5.50	0.57	6.35		
	4M600R/L	6.00	0.57	6.35		
	5M500R/L	5.00	0.32	9.52		
	5M600R/L	6.00	0.32	9.52		

* The dimension can be customized according to specifications customers give.

➤ XN Type Insert for Grooving

Designation		W*	RR	T	Picture	Shape			
XNGD	2M150R/L	1.50	0.19	4.06					
	2M200R/L	2.00	0.19	5.08					
	2M250R/L	2.50	0.19	5.08					
	3M200R/L	2.00	0.19	4.06					
	3M250R/L	2.50	0.19	6.35					
	3M300R/L	3.00	0.19	6.35					
	3M350R/L	3.50	0.32	6.35					
	3M400R/L	4.00	0.32	6.35					
	4M400R/L	4.00	0.57	9.53					
	4M450R/L	4.50	0.57	12.70					
	4M500R/L	5.00	0.57	12.70					
	4M550R/L	5.50	0.57	12.70					
							Only one corner		

※ The dimension can be customized according to specifications customers give.

➤ XN Type Insert with Full Radius

Designation		W*	RR	T	Picture	Shape
XNR	2M050R/L	1.00	0.50	1.27		
	2M075R/L	1.50	0.75	2.79		
	2M100R/L	2.00	1.00	2.79		
	2M125R/L	2.50	1.25	2.79		
	2M150R/L	3.00	1.50	2.79		
	2M175R/L	3.50	1.75	2.79		
	3M100R/L	2.00	1.00	2.39		
	3M125R/L	2.50	1.25	3.81		
	3M150R/L	3.00	1.50	3.81		
	3M175R/L	3.50	1.75	3.81		
	3M200R/L	4.00	2.00	3.81		
	3M225R/L	4.50	2.25	3.81		
	4M200R/L	4.00	2.00	6.35		
	4M225R/L	4.50	2.25	6.35		
	4M250R/L	5.00	2.50	6.35		

※ The dimension can be customized according to specifications customers give.

➤ XN Type Insert with Full Radius & Positive Rake Angle

Designation		W*	RC	T	Picture	Shape
XNRP	2M050R/L	1.00	0.50	1.27		
	2M075R/L	1.50	0.75	2.79		
	2M100R/L	2.00	1.00	2.79		
	2M125R/L	2.50	1.25	2.79		
	2M150R/L	3.00	1.50	2.79		
	2M175R/L	3.50	1.75	2.79		
	3M100R/L	2.00	1.00	2.39		
	3M125R/L	2.50	1.25	3.81		
	3M150R/L	3.00	1.50	3.81		
	3M175R/L	3.50	1.75	3.81		
	3M200R/L	4.00	2.00	3.81		
	3M225R/L	4.50	2.25	3.81		
	4M200R/L	4.00	2.00	6.35		
	4M225R/L	4.50	2.25	6.35		
	4M250R/L	5.00	2.50	6.35		

※ The dimension can be customized according to specifications customers give.

➤ XN Type Insert with Full Radius for Deep Grooving

Designation		W*	RC	T	Picture	Shape
XNRD	2M075R/L	1.50	0.75	4.06		
	2M100R/L	2.00	1.00	5.08		
	2M125R/L	2.50	1.25	5.08		
	3M100R/L	2.00	1.00	4.06		
	3M125R/L	2.50	1.25	6.35		
	3M150R/L	3.00	1.50	6.35		
	3M175R/L	3.50	1.75	6.35		
	3M200R/L	4.00	2.00	6.35		
	4M200R/L	4.00	2.00	9.53		
	4M225R/L	4.50	2.25	12.70		
	4M250R/L	5.00	2.50	12.70	Only one cornerx	

※ The dimension can be customized according to specifications customers give.

➤ XN Type Insert with Full Radius for Deep Grooving

Designation		W	RR	T	Picture	Shape
XNF	3M200R/L	2.00	0.19	1.78		
	3M300R/L	3.00	0.19	3.81		

➤ XN Type Insert for Grooving

Designation		circlip width	W	RR	T	Picture	Shape
XNGC	2C110R/L035	1.10	1.19	0.08	0.35		
	2C110R/L040	1.10	1.19	0.08	0.40		
	2C130R/L055	1.30	1.39	0.08	0.55		
	2C160R/L070	1.60	1.69	0.08	0.70		
	2C160R/L100	1.60	1.69	0.08	1.00		
	2C185R/L100	1.85	1.94	0.08	1.00		
	2C185R/L125	1.85	1.94	0.08	1.25		
	2C215R/L150	2.15	2.24	0.08	1.50		
	2C265R/L150	2.65	2.74	0.08	1.50		
	2C265R/L175	2.65	2.74	0.08	1.75		

➤ XN Type Insert for Under Cutting or Relieving

Designation		W	RC	T	Picture	Shape
XNU	3094R/L	2.39	0.51	3.18		
	3125R/L	3.18	1.19	4.78		
	3156R/L	3.96	1.19	4.78		

➤ XN Type Insert for Poly-Vee Groove

Designation		E	RC	T	Picture	Shape
XNV	3R/LJ	3.18	0.32	2.21		
	4R/LL	3.00	0.32	5.11		

➤ XN Type Grooving for Internal, External, and Face Grooving Applications

system capabilities*		minimum(mm)	maximum(mm)
O.D./I.D. grooving	width	0.79	9.53
	depth	1.27	9.53
face grooving	width	3.18	9.53
	depth	3.81	6.35
internal grooving	diameter	11.20	-
face grooving diameter	standard	23.90	-
	deep	47.60	-
deep O.D./I.D. grooving	width	1.57	6.35
	depth	3.18	12.70
deep face grooving	width	3.18	6.35
	depth	6.35	12.70

➤ Recommended Cutting Conditions

Workpiece	Cutting Speed (Vc=m/min)		Feed (fn=mm/rev)	
	DTIP30	DTIM45	XNG	XNGP
SM□□C	80-180	100-230	0.10-0.30	0.10-0.30
SCM	70-150	80-200	0.10-0.30	0.10-0.30
GC/GCD	60-300	80-230	0.01-0.30	0.01-0.30
STS	50-120	60-140	0.10-0.23	0.10-0.23
non-ferrous	60-300	150-910	0.01-0.30	0.01-0.30

C AUTO TOOLS



➤ Cut-off Insert Code System

TKF C 12 R 050 - S - 16D R DTIM45



<p>1 Insert Name</p> <p>TKF C 12 R 050 S 16D R DTIM45</p> <p>TKF Type of insert CTP Type of insert</p>	<p>2 Machining Type</p> <p>TKF C 12 R 050 S 16D R DTIM45</p> <p>C: Parting off / Cut-off line B: Back Turning T: Threading</p>	<p>3 Insert Size</p> <p>TKF C 12 R 050 S 16D R DTIM45</p> <p>11: 11 stands for the inscribed circle diameter = 8.0mm 12: 12 stands for the inscribed circle diameter = 8.7mm 15: 15 stands for the inscribed circle diameter = 9.4mm 16: 16 stands for the inscribed circle diameter = 9.5mm</p>
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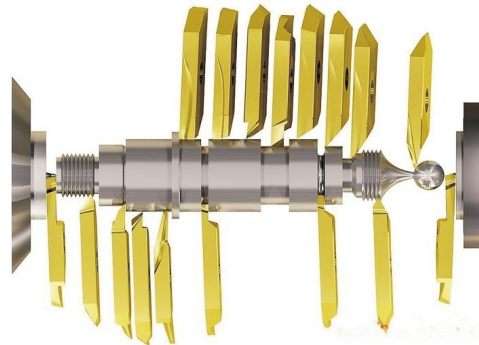
<p>4 Insert Hand</p> <p>TKF C 12 R 050 S 16D R DTIM45</p> <p>R: right hand L: left hand</p>	<p>5 Groove Width</p> <p>TKF C 12 R 050 S 16D R DTIM45</p> <p>050: 0.5mm 100: 1.0mm 150: 1.5mm 200: 2.0mm</p>	<p>6 Chipbreaker Name</p> <p>TKF C 12 R 050 S 16D R DTIM45</p> <p>S: S type T: T type NB: no chipbreaker</p>
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<p>7 Lead Angle</p> <p>TKF C 12 R 050 S 16D R TTIM45</p> <p>none: no lead angle 16D: lead angle is 16° 20D: lead angel is 20°</p>	<p>8 Lead Angle Hand</p> <p>TKF C 12 R 050 S 16D R DTIM45</p> <p>R: right hand L: left hand</p> <p>Fig.1</p>	<p>9 Carbide Grades</p> <p>TKF C 12 R 050 S 16D R DTIM45</p> <p>DTIP30 DTIM45</p>
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➤ Excellent for Precision Machining

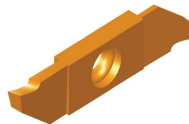
Front Turning / Back Turning / Threading / Parting off / Grooving & Turning / Face Grooving

- Excellent for precision machining
- Excellent for complicated machining
- Excellent for small part machining
- Available for various types of machining
- Whole inserts can be clamped on only one holders
- ISO whole holders offset "0"



➤ Type

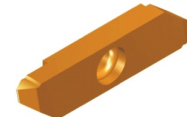
Single-hole Type



Parting off

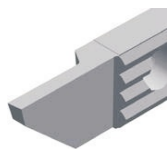


Back-turning

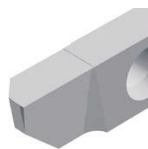


Threading

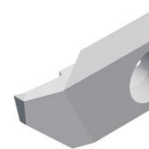
Double-Hole Type



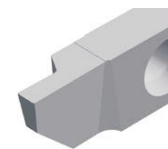
Parting off



Front-turning



Back-turning



Grooving & Turning

➤ Recommended Cutting Conditions

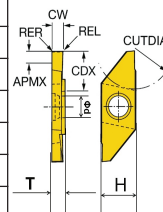
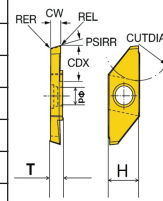
Workpiece	Turning		Grooving		Parting off		Back-turning		Remark
	Vc (m/min)	Feed (mm/rev)	Vc (m/min)	Feed (mm/rev)	Vc (m/min)	Feed (mm/rev)	Vc (m/min)	Feed (mm/rev)	
Carbon Steel / Alloy Steel	60-130	0.01-0.25	60-130	0.02-0.08	60-130	0.01-0.08	60-130	0.01-0.25	Wet
Stainless Steel	50-120	0.02-0.20	30-120	0.02-0.05	30-120	0.02-0.05	30-120	0.02-0.20	
Cast Iron (FC/FCD etc)	50-100	0.02-0.25	50-100	0.02-0.08	50-100	0.01-0.08	50-100	0.01-0.25	
Non-ferrous metal	70-200	0.03-0.25	70-200	0.03-0.10	70-200	0.03-0.10	70-200	0.03-0.30	

➤ Insert for Small Diameter Cut-off

Designation		CW±0.03	CUTDIA	RE	T±0.02	H±0.02	φd	CDX	PSIRR	Shape
TKFC	12R/L 050-S	0.50	5	0.03	3.0	8.7	5	2.8	-	
	12R/L 070-S	0.70	8	0.03	3.0	8.7	5	4.3	-	
	12R/L 100-S	1.00	12	0.03	3.0	8.7	5	6.3	-	
	12R/L 125-S	1.25	12	0.03	3.0	8.7	5	6.3	-	
	12R/L 150-S	1.50	12	0.03	3.0	8.7	5	6.3	-	
	12R/L 200-S	2.00	12	0.03	3.0	8.7	5	6.3	-	
	16R/L 150-S	1.50	16	0.03	4.0	9.5	5	8.5	-	
16R/L 200-S	2.00	16	0.03	4.0	9.5	5	8.5	-		
TKFC	12R/L 050-S-16DR	0.50	5	0.03	3.0	8.7	5	2.8	16°	
	12R/L 070-S-16DR	0.70	8	0.03	3.0	8.7	5	4.3	16°	
	12R/L 100-S-16DR	1.00	12	0.03	3.0	8.7	5	6.3	16°	
	12R/L 125-S-16DR	1.25	12	0.03	3.0	8.7	5	6.3	16°	
	12R/L 150-S-16DR	1.50	12	0.03	3.0	8.7	5	6.3	16°	
	12R/L 200-S-16DR	2.00	12	0.03	3.0	8.7	5	6.3	16°	
	16R/L 150-S-16DR	1.50	16	0.03	4.0	9.5	5	8.5	16°	
16R/L 200-S-16DR	2.00	16	0.03	4.0	9.5	5	8.5	16°		
TKFC	12R/L 100-T	1.00	12	0.08	3.0	8.7	5	6.3	-	
	12R/L 150-T	1.50	12	0.08	3.0	8.7	5	6.3	-	
	12R/L 200-T	2.00	12	0.08	3.0	8.7	5	6.3	-	
	16R/L 150-T	1.50	12	0.08	4.0	9.5	5	6.3	-	
	16R/L 200-T	2.00	12	0.08	4.0	9.5	5	6.3	-	
TKFC	12R/L 100-T-16DR	1.00	12	0.08	3.0	8.7	5	6.3	16°	
	12R/L 150-T-16DR	1.50	12	0.08	3.0	8.7	5	6.3	16°	
	12R/L 200-T-16DR	2.00	12	0.08	3.0	8.7	5	6.3	16°	
	16R/L 150-T-20DR	1.50	12	0.08	4.0	9.5	5	6.3	20°	
	16R/L 200-T-20DR	2.00	12	0.08	4.0	9.5	5	6.3	20°	
TKFC	12R/L 050-NB	0.50	5	0	3.0	8.7	5	2.8	-	
	12R/L 070-NB	0.70	8	0	3.0	8.7	5	4.3	-	
	12R/L 100-NB	1.00	12	0	3.0	8.7	5	6.3	-	
	12R/L 150-NB	1.50	12	0	3.0	8.7	5	6.3	-	
	12R/L 200-NB	2.00	12	0	3.0	8.7	5	6.3	-	
	16R/L 150-NB	1.5	16	0	4.0	9.5	5	8.2	-	
	16R/L 200-NB	2.00	16	0	4.0	9.5	5	8.2	-	
TKFC	12R/L 050-NB-20DR	0.50	5	0	3.0	8.7	5	2.8	20°	
	12R/L 070-NB-20DR	0.70	8	0	3.0	8.7	5	4.3	20°	
	12R/L 100-NB-20DR	1.00	12	0	3.0	8.7	5	6.3	20°	
	12R/L 150-NB-20DR	1.50	12	0	3.0	8.7	5	6.3	20°	
	12R/L 200-NB-20DR	2.00	12	0	3.0	8.7	5	6.3	20°	
	16R/L 150-NB-20DR	1.50	16	0	4.0	9.5	5	8.2	20°	
	16R/L 200-NB-20DR	2.00	16	0	4.0	9.5	5	8.2	20°	



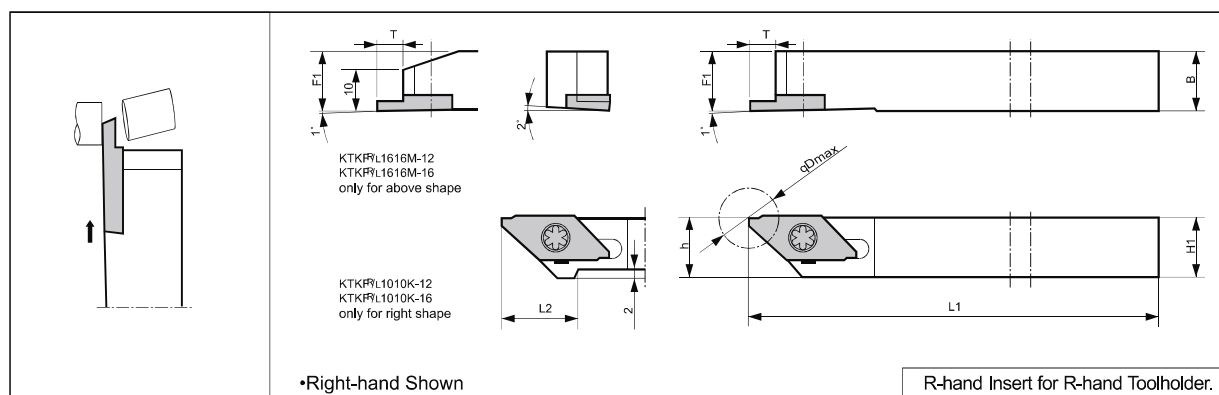
Designation	CW±0.03	CUTDIA	RE	T±0.02	H±0.02	φd	CDX	PSIRR	Shape
CTPC	11R/L 050-S-16DR	0.50	5	0.03	2.5	8.0	5	2.8	15°
	11R/L 070-S-16DR	0.70	8	0.05	2.5	8.0	5	4.5	16°
	11R/L 100-S-16DR	1.00	12	0.05	2.5	8.0	5	6.7	16°
	11R/L 150-S-16DR	1.50	12	0.05	2.5	8.0	5	6.7	16°
	11R/L 200-S-16DR	2.00	12	0.05	2.5	8.0	5	6.7	16°
	15R/L 070-S-16DR	0.7	8	0.05	3.5	9.4	5	4.5	16°
	15R/L 100-S-16DR	1.00	12	0.05	3.5	9.4	5	6.7	16°
	15R/L 150-S-16DR	1.50	16	0.05	3.5	9.4	5	9.2	16°
	15R/L 200-S-16DR	2.00	16	0.05	3.5	9.4	5	9.2	16°
CTPC	11R/L 050-NB	0.50	5	0.03	2.5	8.0	5	2.8	-
	11R/L 100-NB	1.00	12	0.05	2.5	8.0	5	6.7	-
	11R/L 150-NB	1.50	12	0.05	2.5	8.0	5	6.7	-
	11R/L 200-NB	2.00	12	0.05	2.5	8.0	5	6.7	-
	15R/L 070-NB	0.70	8	0.05	3.5	9.4	5	4.5	-
	15R/L 100-NB	1.00	12	0.05	3.5	9.4	5	6.7	-
	15R/L 150-NB	1.50	16	0.05	3.5	9.4	5	9.2	-
	15R/L 200-NB	2.00	16	0.05	3.5	9.4	5	9.2	-
	15R/L 300-NB	3.00	16	0.05	3.5	9.4	5	9.2	-



Descriptions of Chipbreaker Edge Shape

Chipbreaker Edge Shape	S-chipbreaker		T-chipbreaker		NB chipbreaker	
	α	Description	α	Description	α	Description
	15°	TKFC12xx-S	12°	TKFCxx-T TKFCxx-T-16DR	0°	TKFCxx-NB TKFCxx-NB-20DR
	20°	TKFC16xx-S CTPC15xx-S-16DR TKFC16xx-S-16DR				
	25°	CTPC11xx-S-16DR TKFC12xx-S-12DR				

KTKF Type



Holder for Small Diameter Cut-off

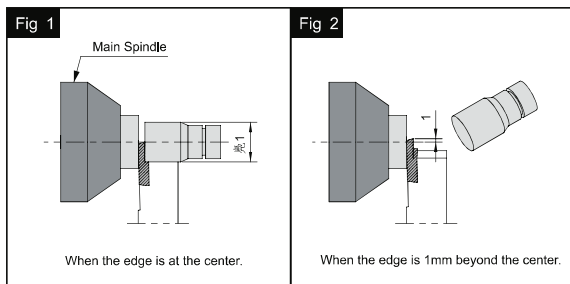
Designation	H1=h	B	L1	L2	F1	T*	φD max*	Spart Parts		Applicable Inserts	
								SCREW	WRENCH		
KTKFR/L	0810-K11	8	10	125	15.0	8	5.5	5-12	M4.0x10.0	T-15	CTPC11R/L
	1010-K11	10	10	125	15.0	10	5.5	5-12	M4.0x10.0	T-15	CTPC11R/L
	1212-K11	12	12	125	15.0	12	5.5	5-12	M4.0x12.0	T-15	CTPC11R/L
	1616-K11	16	16	125	15.0	16	5.5	5-12	M4.0x12.0	T-15	CTPC11R/L
	1010-K12	10	10	125	15.0	10	6.0	5-12	M4.5x9.0	T-15	TKFC12R/L
	1212-F12	12	12	85	-	12	6.0	5-12	M4.5x9.0	T-15	TKFC12R/L
	1212-M12	16	16	150	-	16	6.0	5-12	M4.5x9.0	T-15	TKFC12R/L
	1616-M12	20	20	150	-	20	6.0	5-12	M4.5x9.0	T-15	TKFC12R/L
	2020-M12	10	10	150		10	8.0	5-12	M4.5x9.0	T-15	TKFC16R/L
	1010-K15	10	10	125	19.5	10	7.5	16	M4.0x10.0	T-15	CTPC15R/L
	1212-K15	12	12	125	19.5	12	7.5	16	M4.0x12.0	T-15	CTPC15R/L
	1616-K15	16	16	125	19.5	16	7.5	16	M4.0x12.0	T-15	CTPC15R/L
	2020-F15	20	20	85	19.5	20	7.5	16	M4.0x12.0	T-15	CTPC15R/L
	1010-K16	12	12	125	20.0	12	8.0	16	M4.5x9.0	T-15	TKFC16R/L
	1212-F16	16	16	85	-	16	8.0	16	M4.5x9.0	T-15	TKFC16R/L
	1212-M16	20	20	150	-	20	8.0	16	M4.5x9.0	T-15	TKFC16R/L
	1616-M16	12	12	150	-	12	6.0	16	M4.5x9.0	T-15	TKFC12R/L
	2020-M16	12	12	150	-	12	8.0	16	M4.5x9.0	T-15	TKFC16R/L

※ Dimension T shows the distance from the Toolholder to the cutting edge
Cutting diameter of -12 type toolholder (φD max) depends on the insert grooving width

Insert Cutting Diameter Dmax

When Using Main Spindle Only

Workpiece max, $D1 = D_{max}$. Even if the cutting edge runs beyond the center line, the insert does not contact the workpiece, since the workpiece falls off. (The clearance between the insert and the work is 0.2mm)

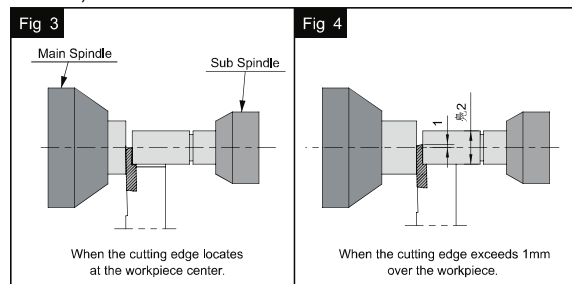


When Using Both Main and Sub Spindle

Workpiece max, $D2 = D_{max} - (\text{Programmed distance beyond the center}) \times 2$

In this case, when the cutting edge runs beyond the center line, the insert will contact the workpiece, since the workpiece does not fall off. Therefore the programmed distance beyond the center must be considered.

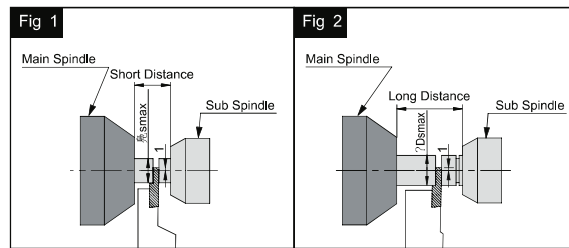
When the cutting edge is programmed to run 1mm beyond the center, $[D2 = D_{max} - 1\text{mm} \times 2]$ (Max. clearance between insert and workpiece is 0.2mm in radius)



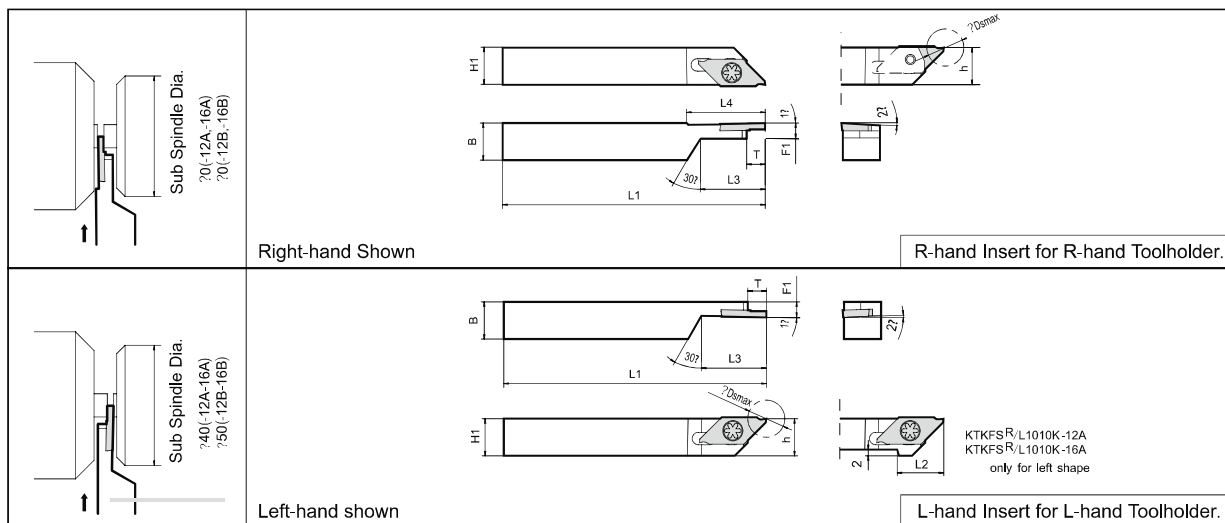
Insert for Micro Diameter Cut-off at Sub Spindle

Designation		CW±0.03	CUTDIA	RE	T±0.02	H±0.02	φd	CDX	Shape
TKFCS	12R/L 100-S	1.00	6	0.05	2.2	8.7	4.4	3.3	
	12R/L 150-S	1.50	9	0.05	2.2	8.7	4.4	4.8	
	12R/L 200-S	2.00	12	0.05	2.2	8.7	4.4	6.3	
	16R/L 150-S	1.50	14	0.05	2.2	9.5	4.4	7.3	
	16R/L 200-S	2.00	16	0.05	2.2	9.5	4.4	8.5	

- As Fig.1 shows, cutting diameter of insert ($\phi D \max$) indicates the cutting diameter when the top of cutting edge is programmed to run 1mm beyond center
- Lead angle (front cutting edge angle: w) indicates the angle when installed in a toolholder
- As Fig.1 shows, KTKFS is applicable when minimal clearance exists between the main spindle and sub spindle.
- As Fig.2 shows, please use KTKFL when additional clearance is available. This will offer improve rigidity.



KTKFS Type



Designation	H1=h	B	L1	L2	L3	L4*	F1	T	φD max*	Spart Parts		Applicable Inserts	
										SCREW	WRENCH		
KTKFSR/L	1010-K12A	10	10	125	15	22	26	5	6	6-12	M4.5x9.0	T-15	TKFCS12R/L
	1212-F12A	12	12	85	-	22	26	5	6	6-12	M4.5x9.0	T-15	TKFCS12R/L
	1212-K12B	12	12	125	-	26	26	5	6	6-12	M4.5x9.0	T-15	TKFCS12R/L
	1010-K16A	10	10	125	20	22	30	5	8	14-16	M4.5x9.0	T-15	TKFCS16R/L
	1212-F16A	12	12	85	-	22	30	5	8	14-16	M4.5x9.0	T-15	TKFCS16R/L
	1212-K16B	12	12	125	-	26	30	5	8	14-16	M4.5x9.0	T-15	TKFCS16R/L

- ※ Dimension T shows the distance from the toolholder to the cutting edge
Cutting diameter ($\phi D \max$) depends on the insert grooving width
Only right-hand is available for L4 dimension

➤ Back Turning Insert Code System

TKF B 12 R 28 -005 - M R DTIM45

1 Insert name 2 Machining Type 3 Insert size 4 Insert hand 5 Edge width 6 Corner-R(ϵ) 7 Corner R(ϵ) tolerance 8 Lead angle hand of cutting edge 9 Carbide grades

1 Insert Name
TKF B 12 R 28 005
M R DTIM45

TKF Type of insert
CTP Type of insert

2 Machining Type
TKF B 12 R 28 005
M R DTIM45

C: Parting off / Cut-off line
B: Back Turning
T: Threading

3 Insert size
TKF B 12 R 28 005
M R DTIM45

11: 11 stands for the inscribed circle diameter = 8.0mm
12: 12 stands for the inscribed circle diameter = 8.7mm
15: 15 stands for the inscribed circle diameter = 9.4mm
16: 16 stands for the inscribed circle diameter = 9.5mm

4 Insert Hand
TKF B 12 R 28 005
M R DTIM45

R: right hand
L: left hand

5 Edge Width
TKF B 12 R 28 005
M R DTIM45

15: 1.5mm 28: 2.8mm 37: 3.7mm
38: 3.8mm 45: 4.5mm

For small D.O.C	For general cutting	For large D.O.C
TKFB12R15..	TKFB12R28..	TKFB16R38..

6 Corner-R(ϵ)
TKF B 12 R 28 005
M R DTIM45

000: 0.00 005: <0.05
010: <0.10

7 Corner R(ϵ) tolerance
TKF B 12 R 28 005
M R DTIM45

Represents minus tolerance for Corner-R

8 Lead Angle Hand
TKF B 12 R 28 005
M R DTIM45

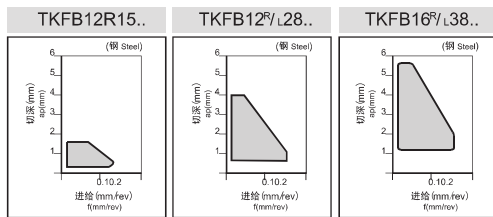
R: right hand

9 Carbide Grades
TKF B 12 R 28 005
M R DTIM45

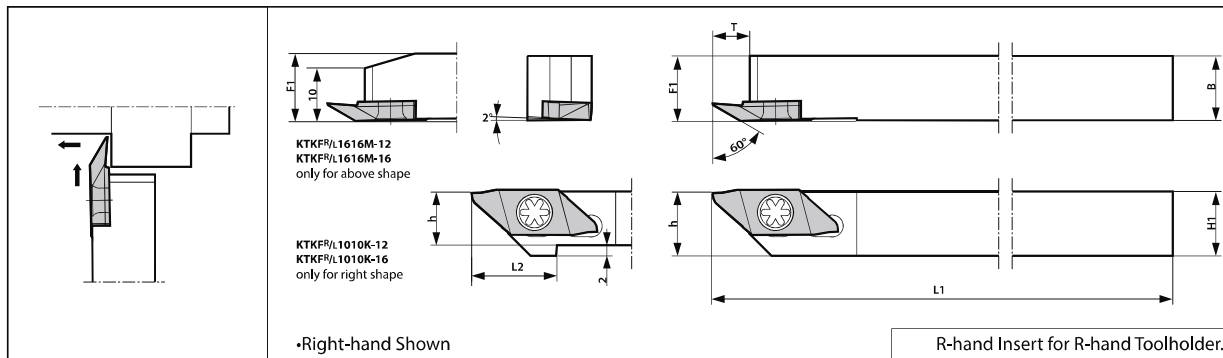
DTIP30 DTIM45

➤ Insert for Back Turning Single-hole

Designation		APMX	a	B	RE	T	φd	H	KRINS	β	Shape
TKFB	12R/L 15-005-M	1.50	0.25	2.6	<0.05	3.0	5.2	8.7	60°	4°	
	12R/L 28-005-M	2.80	0.30	4.6	<0.05	3.0	5.2	8.7	60°	4°	
	12R/L 28-010-M	2.80	0.30	4.6	<0.10	3.0	5.2	8.7	60°	4°	
	16R/L 38-005-M	3.80	0.30	6.3	<0.05	4.0	5.2	9.5	60°	4°	
	16R/L 38-010-M	3.80	0.30	6.3	<0.10	4.0	5.2	9.5	60°	4°	
CTPB	11R/L 37-000-M	3.70	0.50	5.3	0.00	2.5	5.2	8.0	60°	4°	
	11R/L 37-010-M	3.70	0.50	5.3	<0.10	2.5	5.2	8.0	60°	4°	
	15R/L 45-010-M	4.50	0.30	5.3	<0.10	2.5	5.2	9.4	60°	4°	



➤ KTKF Type



Designation		H1=h	B	L1	L2	F1	T [※]	Spart Parts		Applicable Inserts
								SCREW	WRENCH	
KTKFR/L	0810-K11	8	10	125	15.0	8	5.5	M4.0x10.0	T-15	CTPB11R/L
	1010-K11	10	10	125	15.0	10	5.5	M4.0x10.0	T-15	CTPB11R/L
	1212-K11	12	12	125	15.0	12	5.5	M4.0x12.0	T-15	CTPB11R/L
	1616-K11	16	16	125	15.0	16	5.5	M4.0x12.0	T-15	CTPB11R/L
	1010-K12	10	10	125	15.0	10	6.0	M4.5x9.0	T-15	TKFB12R/L
	1212-F12	12	12	85	-	12	6.0	M4.5x9.0	T-15	TKFB12R/L
	1212-M12	16	16	150	-	16	6.0	M4.5x9.0	T-15	TKFB12R/L
	1616-M12	20	20	150	-	20	6.0	M4.5x9.0	T-15	TKFB12R/L
	1010-K15	10	10	125		10	7.5	M4.0x10.0	T-15	CTPB15R/L
	1212-K15	10	10	125	19.5	10	7.5	M4.0x12.0	T-15	CTPB15R/L
	1616-K15	12	12	125	19.5	12	7.5	M4.0x12.0	T-15	CTPB15R/L
	1010-K16	16	16	125	19.5	16	8.0	M4.5x9.0	T-15	TKFB16R/L
	1212-F16	20	20	85	20.0	20	8.0	M4.5x9.0	T-15	TKFB16R/L
	1212-M16	12	12	150	-	12	8.0	M4.5x9.0	T-15	TKFB16R/L
								M4.5x9.0	T-15	TKFB12R/L

※ Dimension T shows the distance from the toolholder to the cutting edge.

Threading Insert Code System

TKF T 12 R A 60 - 000 DTIM45



1 Insert Name
TKF T 12 R A 60 000
DTIM45

TKF Type of insert
CTP Type of insert

2 Machining Type
TKF T 12 R A 60 000
DTIM45

C: Parting off / Cut-off line
B: Back Turning
T: Threading

3 Insert size
TKF T 12 R A 60 000
DTIM45

11: 11 stands for the inscribed circle diameter = 8.0mm
12: 12 stands for the inscribed circle diameter = 8.7mm

4 Insert Hand
TKF T 12 R A 60 000
DTIM45

R: right hand
L: left hand

5 Edge Position
TKF T 12 R A 60 000
DTIM45

Right hand (R) insert
A Type: TKF12RA, B Type: TKF12RB, N Type: TKF12RN
Left hand (L) insert
A Type: TKF12LA, B Type: TKF12LB, N Type: TKF12LN

6 Thread Angle
TKF T 12 R A 60 000
DTIM45

55: 55° 60: 60°

7 Corner-R(ϵ)
TKF T 12 R A 60 000
DTIM45

000: Max 0.05 Flat
005: 0.05
010: 0.10

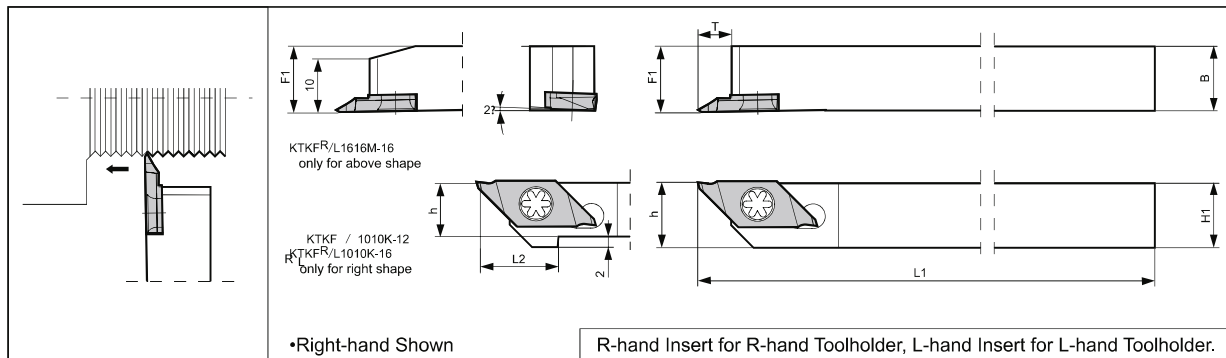
8 Carbide Grades
TKF T 12 R A 60 000
DTIM45

DTIP30 DTIM45

➤ Insert for Threading Single-hole

Designation	Applicable thread	APMX		T	CW	H	RE	θ	φd	S1	S2	Shape	
		mm	TPI										
CTPT	11R/LA60-000	M UN	0.20-0.75	-	2.5	2.5	8.0	Max 0.05 Flat	60°	5.2	0.40	2.10	
	11R/LA60-005	M UN	0.40-1.25	-	2.5	2.5	8.0	0.05	60°	5.2	0.80	1.70	
	11R/LA55-005	GR W	0.20-0.75	48-16	2.5	2.5	8.0	0.05	55°	5.2	0.80	1.70	
	11R/LB60-000	M UN	0.20-0.75	-	2.5	2.5	8.0	Max 0.05 Flat	60°	5.2	2.10	0.40	
	11R/LB60-005	M UN	0.40-1.25	-	2.5	2.5	8.0	0.05	60°	5.2	1.70	0.80	
	11R/LB55-005	GR W	0.20-0.75	48-16	2.5	2.5	8.0	0.05	55°	5.2	1.70	0.80	
	11R/LN60-010	M UN	1.00-1.50	-	2.5	2.5	8.0	0.10	60°	5.2	1.25	1.25	
TKFT	12R/LA60-000	M UN	0.20-0.60	64-48	3.0	2.5	8.7	Max 0.05 Flat	60°	5.2	0.40	2.10	
	12R/LA60-005	M UN	0.50-1.25	48-24	3.0	2.5	8.7	0.05	60°	5.2	0.80	1.70	
	12R/LA55-005	GR W	-	40-16	3.0	2.5	8.7	0.05	55°	5.2	0.80	1.70	
	12R/LB60-000	M UN	0.20-0.60	64-48	3.0	2.5	8.7	Max 0.05 Flat	60°	5.2	2.10	0.40	
	12R/LB60-005	M UN	0.50-1.25	48-24	3.0	2.5	8.7	0.05	60°	5.2	1.70	0.80	
	12R/LB55-005	GR W	-	40-16	3.0	2.5	8.7	0.05	55°	5.2	1.70	0.80	
	12R/LN60-010	M UN	1.00-1.50	24-18	3.0	2.5	8.7	0.10	60°	5.2	1.25	1.25	

➤ Insert Type



Designation	H1=h	B	L1	L2	F1	T*	Spart Parts		Applicable Inserts	
							SCREW	WRENCH		
KTKFR/L	0810-K11	8	10	125	15.0	8	7.0	M4.0x10.0	T-15	CTPT11R/L
	1010-K11	10	10	125	15.0	10	7.0	M4.0x10.0	T-15	CTPT11R/L
	1212-K11	12	12	125	15.0	12	7.0	M4.0x12.0	T-15	CTPT11R/L
	1616-K11	16	16	125	15.0	16	7.0	M4.0x12.0	T-15	CTPT11R/L
	1010-K12	10	10	125	15.0	10	6.0	M4.5x9.0	T-15	TKFT12R/L
	1212-F12	12	12	85	-	12	6.0	M4.5x9.0	T-15	TKFT12R/L
	1212-M12	16	16	150	-	16	6.0	M4.5x9.0	T-15	TKFT12R/L
	1616-M12	20	20	150	-	20	6.0	M4.5x9.0	T-15	TKFT12R/L

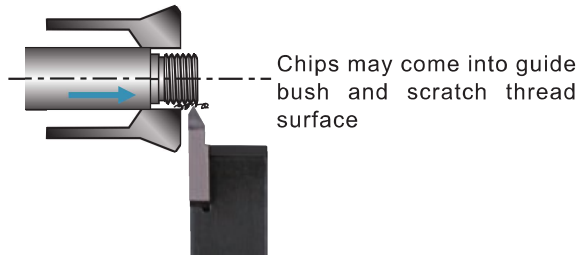
※ Dimension T shows the distance from the toolholder to the cutting edge.

➤ Threading of Single hole

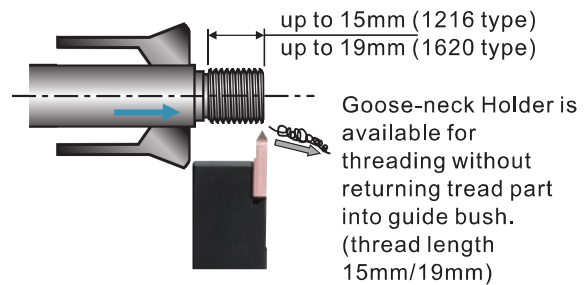
How to use Goose neck holder on Automatic lathe (guide bush system)

Goose-neck holder is applicable to automatic lathes whose toolholder does not move longitudinal direction (Z-axis direction)

● Conventional Threading Holder



● Goose-neck Holder for Threading



Precautions for using Goose-neck holder

When use Goose-neck Holder

- ① Be careful of interference with back spindle because offset dimension is large than the coventional toolholders
- ② Be careful of interference with sub spindle ⇒ Toolholder installation position is limited.
- ③ At simultaneous machining (balance cut and tool approach for next process), interference with other toolholder may occur.
- ④ In some cases, such as specifying toolholder shape on NC display or using CAM, Goose-neck holder can not be drawn perfectly

ap & number of passes

➤ TKFT Type

Thread Type	Pitch	Description	Corner-R(ε)	Total ap (mm)	No. of Passes	1	2	3	4	5	6	7	8	9	10	11				
	mm/TPI																			
External Thread	Metric	TKFT 12R/L A/B60-000	Max 0.05 Flat	0.15	4	0.06	0.04	0.03	0.02											
				0.19	4	0.07	0.06	0.04	0.02											
				0.23	4	0.08	0.07	0.06	0.02											
				0.27	5	0.08	0.07	0.06	0.04	0.02										
				0.30	5	0.10	0.08	0.06	0.04	0.02										
				0.34	6	0.10	0.08	0.06	0.04	0.04	0.02									
				0.38	6	0.10	0.10	0.07	0.05	0.04	0.02									
		0.50mm	TKFT 12R/L A/B60-005	0.05	0.33	5	0.10	0.10	0.07	0.04	0.02									
		0.60mm	TKFT 12R/L A/B60-000	Max 0.05 Flat	0.45	7	0.10	0.10	0.08	0.06	0.05	0.04	0.02							
			TKFT 12R/L A/B60-005	0.05	0.40	6	0.10	0.10	0.08	0.06	0.04	0.02								
		0.70mm	TKFT 12R/L A/B60-005	0.05	0.48	6	0.10	0.10	0.10	0.10	0.06	0.02								
		0.75mm			0.52	7	0.10	0.10	0.10	0.08	0.07	0.05	0.02							
		0.80mm	TKFT 12R/L A/B60-005	0.05	0.56	7	0.10	0.10	0.10	0.10	0.08	0.06	0.02							
		1.00mm			0.71	8	0.15	0.15	0.12	0.10	0.08	0.06	0.03	0.02						
		1.25mm	TKFT 12R/L N60-010	0.10	0.66	6	0.18	0.15	0.12	0.10	0.06	0.03	0.02							
TKFT 12R/L A/B60-005	0.05		0.90	9	0.20	0.18	0.13	0.10	0.10	0.07	0.05	0.05	0.02							
1.50mm	TKFT 12R/L N60-010	0.10	0.85	8	0.20	0.18	0.13	0.10	0.10	0.07	0.05	0.02								
	TKFT 12R/L N60-010	0.10	1.04	10	0.20	0.18	0.14	0.12	0.10	0.10	0.08	0.05	0.05	0.02						
Parallel Pipe	28 TPI	TKFT 12R/L A/B55-005	0.05	0.67	7	0.18	0.15	0.12	0.10	0.06	0.04	0.02								
	19 TPI			1.01	9	0.20	0.18	0.14	0.12	0.12	0.10	0.08	0.05	0.02						
Whitworth	24 TPI	TKFT 12R/L A/B55-005	0.05	0.79	8	0.18	0.18	0.12	0.10	0.08	0.07	0.04	0.02							
	20 TPI			0.96	9	0.20	0.20	0.15	0.10	0.10	0.08	0.06	0.05	0.02						
	18 TPI			1.07	10	0.20	0.18	0.15	0.12	0.10	0.10	0.08	0.07	0.05	0.02					
	16 TPI			1.21	11	0.20	0.18	0.15	0.15	0.12	0.10	0.10	0.08	0.07	0.04	0.02				



➤ Insert for Threading Single-hole TKFT Type

Thread Type		Pitch	Description	Corner-R(ε)	Total ap (mm)	No. of Passes	1	2	3	4	5	6	7	8	9	10		
		mm/TPI																
External Thread	Metric	0.20mm	CTPT 11R/L A/B60-005	0.05	0.20	4	0.08	0.06	0.04	0.02								
		0.25mm			0.24	4	0.10	0.08	0.04	0.02								
		0.30mm			0.28	5	0.08	0.07	0.07	0.04	0.02							
		0.35mm			0.32	5	0.10	0.09	0.07	0.04	0.02							
		0.40mm			0.35	5	0.12	0.10	0.07	0.04	0.02							
		0.45mm			0.39	5	0.16	0.10	0.07	0.04	0.02							
		0.50mm			0.33	5	0.10	0.10	0.07	0.04	0.02							
		0.60mm			0.40	6	0.10	0.10	0.08	0.06	0.04	0.02						
		0.70mm			0.48	6	0.10	0.10	0.10	0.10	0.06	0.02						
		0.75mm			0.52	7	0.10	0.10	0.10	0.08	0.07	0.05	0.02					
		0.80mm			0.56	7	0.10	0.10	0.10	0.10	0.08	0.06	0.02					
		1.00mm			0.71	8	0.15	0.15	0.12	0.10	0.08	0.06	0.03	0.02				
		1.25mm			0.90	9	0.20	0.18	0.13	0.10	0.10	0.07	0.05	0.05	0.02			
		1.50mm			CTPT 11R/L N60-010	0.10	1.09	10	0.22	0.20	0.15	0.12	0.10	0.10	0.08	0.05	0.05	0.02

➤ Parting Double-hole Code System

DH C 7 R 150 -000 BC 12-12F DTIM45



<p>1 Insert Name</p> <p>DH C 7 R 150 000 BC 12 12F DTIM45</p> <p>Double Hole Type of insert</p>	<p>2 Machining Type</p> <p>DH C 7 R 150 000 BC 12 12F DTIM45</p> <p>C: Parting off / Cut-off line</p>	<p>3 Insert Size</p> <p>DH C 7 R 150 000 BC 12 12F DTIM45</p> <p>6: insert length is 32.0mm 7: insert length is 43.0mm 8: insert length is 54.0mm</p>
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<p>4 Insert Hand</p> <p>DH C 7 R 150 000 BC 12 12F DTIM45</p> <p>R: right hand L: left hand</p>	<p>5 Groove Width</p> <p>DH C 7 R 150 000 BC 12 12F DTIM45</p> <p>150: 1.5mm 200: 2.5mm 250: 2.5mm 300: 3.0mm 350: 3.5mm</p>	<p>6 Corner-R</p> <p>DH C 7 R 150 000 BC 12 12F DTIM45</p> <p>000: 0.00 003: 0.03</p>
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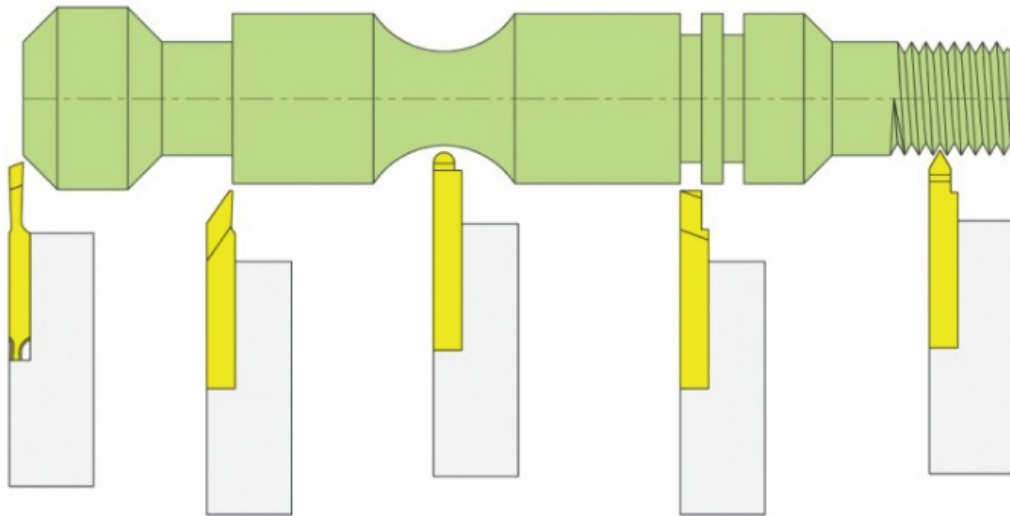
<p>7 Chipbreaker Name</p> <p>DH C 7 R 150 000 BC 12 12F DTIM45</p> <p>NB Type BC Type</p>	<p>8 Lead Angle</p> <p>DH C 7 R 150 000 BC 12 12F DTIM45</p> <p>none: no lead angle 08: 8° 15: 15° 20: 20°</p>	<p>9 Positive Rake Angle</p> <p>DH C 7 R 150 000 BC 12 12F DTIM45</p> <p>none: no front rake angle 04F: 4° 07F: 7° 12: 12° 25F: 25°</p>
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<p>10 Carbide Grades</p> <p>DH C 7 R 150 000 BC 12 12F DTIM45</p> <p>DTIP30 DTIM45</p>



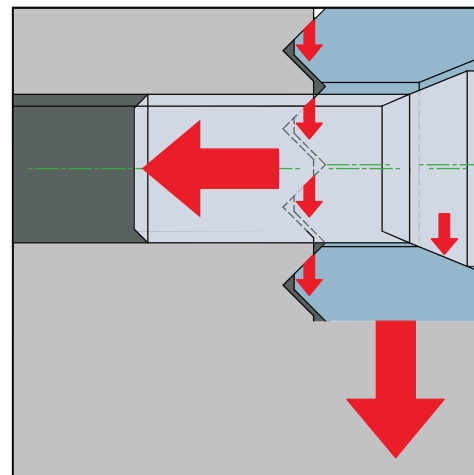
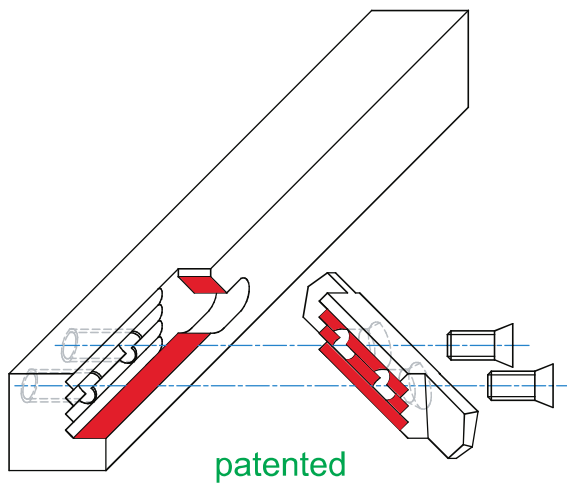
➤ **Technical Information for Double-hole Type**

How to use Goose-neck holder on Automatic lathe (guide bush system)



100% rigid!

The clamping system be with shifted teeth



Parting Double-hole

Insert for Parting off

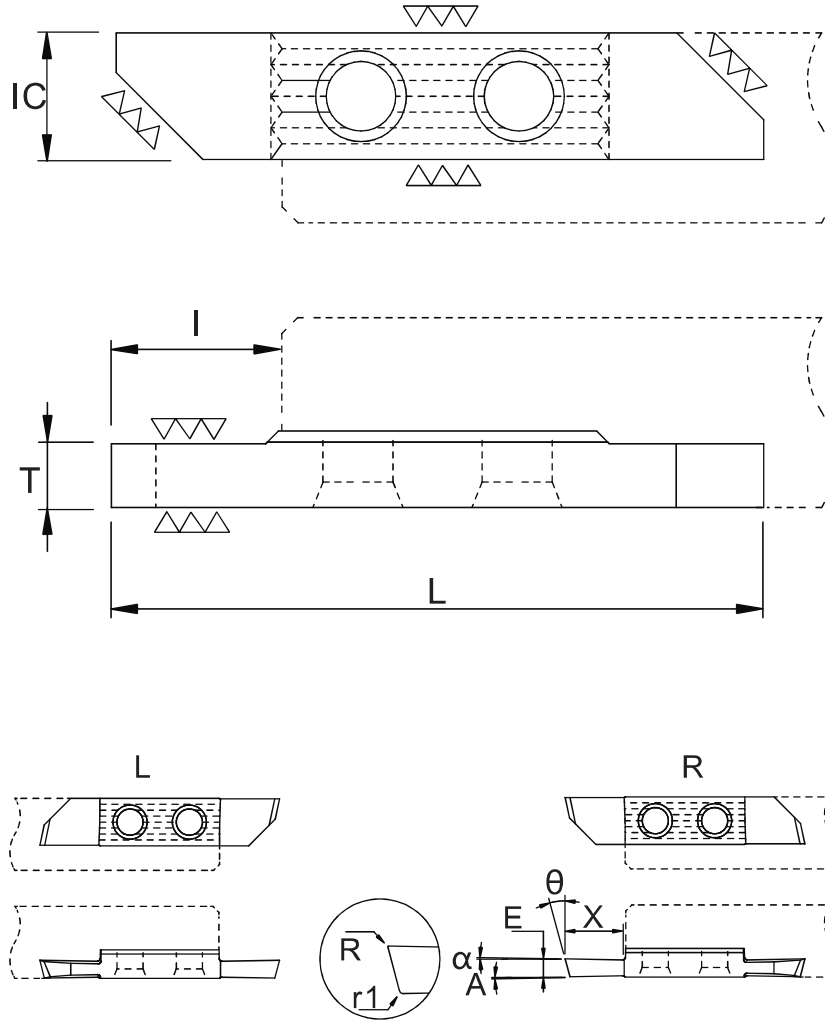


Fig.1

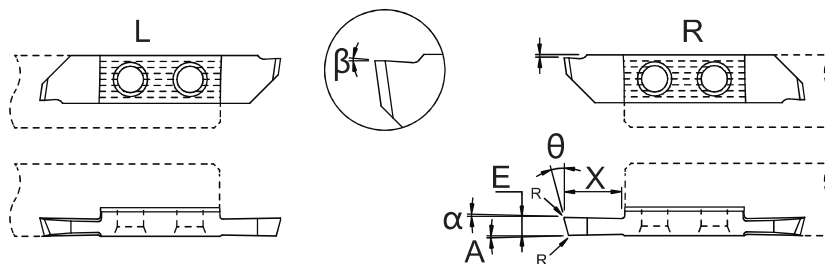


Fig.2

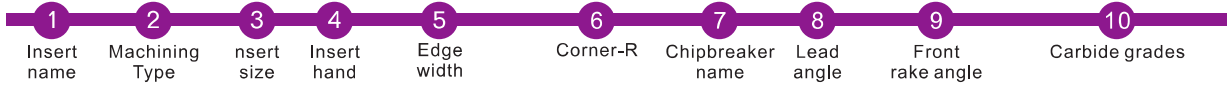
Parting Double-hole

Designation		L	IC±0.02	T±0.02	I	E±0.02 [※]	X [※]	θ	A	α	β	R	r1	a	b	Fig.
DHC	6R/L 100-000NB	32.0	6.0	2.5	8.5	1.0	5.0	0°	0.3°	0.3°	-	0.00	0.00	-	-	1
	6R/L 150-000NB	32.0	6.0	2.5	8.5	1.5	7.0	0°	0.3°	0.3°	-	0.00	0.00	-	-	1
	6R/L 100-000NB15	32.0	6.0	2.5	8.5	1.0	5.0	15°	0.3°	0.5°	-	0.00	0.00	-	-	1
	6R/L 120-000NB15	32.0	6.0	2.5	8.5	1.2	5.0	15°	0.3°	0.5°	-	0.00	0.00	-	-	1
	6R/L 150-000NB15	32.0	6.0	2.5	8.5	1.5	7.0	15°	0.3°	0.5°	-	0.00	0.00	-	-	1
	6R/L 200-000NB15	32.0	6.0	2.5	8.5	2.0	7.0	15°	0.3°	0.5°	-	0.00	0.00	-	-	1
	6R/L 080-000NB20	32.0	6.0	2.5	8.5	0.8	5.0	20°	0.3°	0.3°	-	0.00	0.00	-	-	1
	6R/L 100-000NB20	32.0	6.0	2.5	8.5	1.0	5.0	20°	0.3°	0.3°	-	0.00	0.00	-	-	1
	6R/L 120-000NB20	32.0	6.0	2.5	8.5	1.2	5.0	20°	0.3°	0.3°	-	0.00	0.00	-	-	1
	6R/L 150-000NB20	32.0	6.0	2.5	8.5	1.5	7.0	20°	0.3°	0.3°	-	0.00	0.00	-	-	1
	6R/L 180-000NB20	32.0	6.0	2.5	8.5	1.8	7.0	20°	0.3°	0.3°	-	0.00	0.00	-	-	1
	6R/L 200-000NB20	32.0	6.0	2.5	8.5	2.0	7.0	20°	0.3°	0.3°	-	0.00	0.00	-	-	1
	6R/L 250-000NB20	32.0	6.0	2.5	8.5	2.5	7.0	20°	0.3°	0.3°	-	0.00	0.00	-	-	1
	6R/L 120-000BC15-04F	32.0	6.0	2.5	8.5	1.2	7.0	15°	0.3°	0.3°	4°	0.00	0.00	0.12	0.4	2
	6R/L 150-000BC15-04F	32.0	6.0	2.5	8.5	1.5	7.0	15°	0.3°	0.3°	4°	0.00	0.00	0.15	0.4	2
	6R/L 200-000BC15-04F	32.0	6.0	2.5	8.5	2.0	7.0	15°	0.3°	0.3°	4°	0.00	0.00	0.20	0.4	2
	6R/L 250-000BC15-04F	32.0	6.0	2.5	8.5	2.5	7.0	15°	0.3°	0.3°	4°	0.00	0.00	0.25	0.4	2
	6R/L 100-003BC15-12F	32.0	6.0	2.5	8.5	1.0	5.0	15°	1°	1°	12°	0.03	0.03	-	0.4	2
	6R/L 150-003BC15-12F	32.0	6.0	2.5	8.5	1.5	7.0	15°	1°	1°	12°	0.03	0.03	-	0.4	2
	6R/L 200-003BC15-12F	32.0	6.0	2.5	8.5	2.0	7.0	15°	1°	1°	12°	0.03	0.03	-	0.4	2
	6R/L 100-003BC15-25F	32.0	6.0	2.5	8.5	1.0	5.0	15°	1°	1°	25°	0.03	0.03	-	0.4	2
	6R/L 150-003BC15-25F	32.0	6.0	2.5	8.5	1.5	7.0	15°	1°	1°	25°	0.03	0.03	-	0.4	2
	6R/L 200-003BC15-25F	32.0	8.0	2.5	8.5	2.0	7.0	15°	1°	1°	25°	0.03	0.03	-	0.4	2
	7R/L 200-000NB-03	43.0	8.0	4.0	11.5	2.0	10.0	0°	0.3°	0.3°	3°	0.00	0.00	-	-	1
	7R/L 250-000NB-03	43.0	8.0	4.0	11.5	2.5	10.0	0°	0.3°	0.3°	3°	0.00	0.00	-	-	1
	7R/L 300-000NB-03	43.0	8.0	4.0	11.5	3.0	10.0	0°	0.3°	0.3°	3°	0.00	0.00	-	-	1
	7R/L 100-000NB08	43.0	8.0	4.0	11.5	1.0	5.0	8°	0.3°	0.3°	-	0.00	0.00	-	-	1
	7R/L 120-000NB08	43.0	8.0	4.0	11.5	1.2	5.0	8°	0.3°	0.3°	-	0.00	0.00	-	-	1
	7R/L 150-000NB08	43.0	8.0	4.0	11.5	1.5	8.0	8°	0.3°	0.3°	-	0.00	0.00	-	-	1
	7R/L 160-000NB08	43.0	8.0	4.0	11.5	1.6	8.0	8°	0.3°	0.3°	-	0.00	0.00	-	-	1
	7R/L 180-000NB08	43.0	8.0	4.0	11.5	1.8	8.0	8°	0.3°	0.3°	-	0.00	0.00	-	-	1
	7R/L 200-000NB08	43.0	8.0	4.0	11.5	2.0	10.0	8°	0.3°	0.3°	-	0.00	0.00	-	-	1
	7R/L 250-000NB08	43.0	8.0	4.0	11.5	2.5	10.0	8°	0.3°	0.3°	-	0.00	0.00	-	-	1
	7R/L 100-000NB15	43.0	8.0	4.0	11.5	1.0	5.0	15°	0.3°	0.3°	-	0.00	0.00	-	-	1
	7R/L 120-000NB15	43.0	8.0	4.0	11.5	1.2	5.0	15°	0.3°	0.3°	-	0.00	0.00	-	-	1
	7R/L 150-000NB15	43.0	8.0	4.0	11.5	1.5	8.0	15°	0.3°	0.3°	-	0.00	0.00	-	-	1
	7R/L 180-000NB15	43.0	8.0	4.0	11.5	1.8	8.0	15°	0.3°	0.3°	-	0.00	0.00	-	-	1
	7R/L 200-000NB15	43.0	8.0	4.0	11.5	2.0	10.0	15°	0.3°	0.3°	-	0.00	0.00	-	-	1
	7R/L 220-000NB15	43.0	8.0	4.0	11.5	2.2	10.0	15°	0.3°	0.3°	-	0.00	0.00	-	-	1
	7R/L 250-000NB15	43.0	8.0	4.0	11.5	2.5	10.0	15°	0.3°	0.3°	-	0.00	0.00	-	-	1
	7R/L 300-000NB15	43.0	8.0	4.0	11.5	3.0	10.0	15°	0.3°	0.3°	-	0.00	0.00	-	-	1
	7R/L 150-005NB15	43.0	8.0	4.0	11.5	1.5	8.0	15°	0.4°	1°	-	0.05	0.20	-	-	1
	7R/L 200-005NB15	43.0	8.0	4.0	11.5	2.0	10.0	15°	0.4°	1°	-	0.05	0.20	-	-	1
	7R/L 250-005NB15	43.0	8.0	4.0	11.5	2.5	10.0	15°	0.4°	1°	-	0.05	0.20	-	-	1
	7R/L 150-000BC15-04F	43.0	8.0	4.0	11.5	1.5	7.5	15°	1°	1°	4°	0.00	0.00	0.15	0.4	2
	7R/L 200-000BC15-04F	43.0	8.0	4.0	11.5	2.0	10.0	15°	1°	1°	4°	0.00	0.00	0.20	0.4	2
	7R/L 220-000BC15-04F	43.0	8.0	4.0	11.5	2.2	10.0	15°	1°	1°	4°	0.00	0.00	0.22	0.4	2
	7R/L 250-000BC15-04F	43.0	8.0	4.0	11.5	2.5	10.0	15°	1°	1°	4°	0.00	0.00	0.25	0.4	2
	7R/L 300-000BC15-04F	43.0	8.0	4.0	11.5	3.0	10.0	15°	1°	1°	4°	0.00	0.00	0.30	0.4	2
	7R/L 150-003BC15-12F	43.0	8.0	4.0	11.5	1.5	7.5	15°	1°	1°	12°	0.03	0.03	-	0.4	2
	7R/L 200-003BC15-12F	43.0	8.0	4.0	11.5	2.0	10.0	15°	1°	1°	12°	0.03	0.03	-	0.4	2
	7R/L 250-003BC15-12F	43.0	8.0	4.0	11.5	2.5	10.0	15°	1°	1°	12°	0.03	0.03	-	0.4	2
	7R/L 150-003BC15-25F	43.0	8.0	4.0	11.5	1.5	7.5	15°	1°	1°	25°	0.03	0.03	-	0.4	2
	7R/L 200-003BC15-25F	43.0	8.0	4.0	11.5	2.0	10.0	15°	1°	1°	25°	0.03	0.03	-	0.4	2
	7R/L 250-003BC15-25F	43.0	8.0	4.0	11.5	2.5	10.0	15°	1°	1°	25°	0.03	0.03	-	0.4	2
	8R/L 200-000NB15	54.0	8.0	4.0	17.0	2.0	16.0	15°	0.3°	0.3°	-	0.00	0.00	-	-	1
	8R/L 250-000NB15	54.0	8.0	4.0	17.0	2.5	16.0	15°	0.3°	0.3°	-	0.00	0.00	-	-	1
	8R/L 300-000NB15	54.0	8.0	4.0	17.0	3.0	16.0	15°	0.3°	0.3°	-	0.00	0.00	-	-	1
	8R/L 350-000NB15	54.0	8.0	4.0	17.0	3.5	16.0	15°	0.3°	0.3°	-	0.00	0.00	-	-	1
	8R/L 200-000BC15-04F	54.0	8.0	4.0	17.0	2.0	16.0	15°	0.3°	0.3°	-	0.00	0.00	0.20	0.4	2
	8R/L 250-000BC15-04F	54.0	8.0	4.0	17.0	2.5	16.0	15°	0.3°	0.3°	-	0.00	0.00	0.25	0.4	2
	8R/L 300-000BC15-04F	54.0	8.0	4.0	17.0	3.0	16.0	15°	0.3°	0.3°	-	0.00	0.00	0.30	0.4	2
	8R/L 350-000BC15-04F	54.0	8.0	4.0	17.0	3.5	16.0	15°	0.3°	0.3°	-	0.00	0.00	0.35	0.4	2

※ The dimension can be customized according to specifications customers give.

➤ Front-Turning Double-hole Code System

DH F 6 R 15 -000 BC 60-10F DTIM45



<p>1 Insert Name</p> <p>DH F 6 R 15 000 BC 60 10F DTIM45</p> <p>Double Hole Type of insert</p>	<p>2 Machining Type</p> <p>DH F 6 R 15 000 BC 60 10F DTIM45</p> <p>F: Front Turning</p>	<p>3 Insert Size</p> <p>DH F 6 R 15 000 BC 60 10F DTIM45</p> <p>6: insert length is 32.0mm 7: insert length is 43.0mm</p>
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<p>4 Insert Hand</p> <p>DH F 6 R 15 000 BC 60 10F TTIM45</p> <p>R: right hand L: left hand</p>	<p>5 Edge Width</p> <p>DH F 6 R 15 000 BC 60 10F DTIM45</p> <p>15: 1.5mm 20: 2.0mm</p>	<p>6 Corner-R</p> <p>DH F 6 R 15 000 BC 60 10F DTIM45</p> <p>000: 0.00 020: 0.20</p>
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<p>7 Chipbreaker Name</p> <p>DH F 6 R 15 000 BC 60 10F DTIM45</p> <p>NB Type BC Type</p>	<p>8 Lead Angle</p> <p>DH F 6 R 15 000 BC 60 10F DTIM45</p> <p>30: 30° 45: 45° 60: 60° 70: 70°</p>	<p>9 Front Rake Angle</p> <p>DH F 6 R 15 000 BC 60 10F DTIM45</p> <p>none: no front rake angle 06F: 6° 10F: 10°</p>
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<p>10 Carbide Grades</p> <p>DH F 6 R 15 000 BC 60 10F DTIM45</p>	<p>DTIP30 DTIM45</p>
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➤ **Insert for FrontTurning of Double-hole**

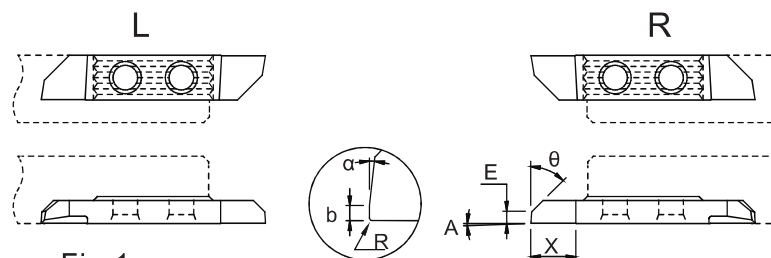
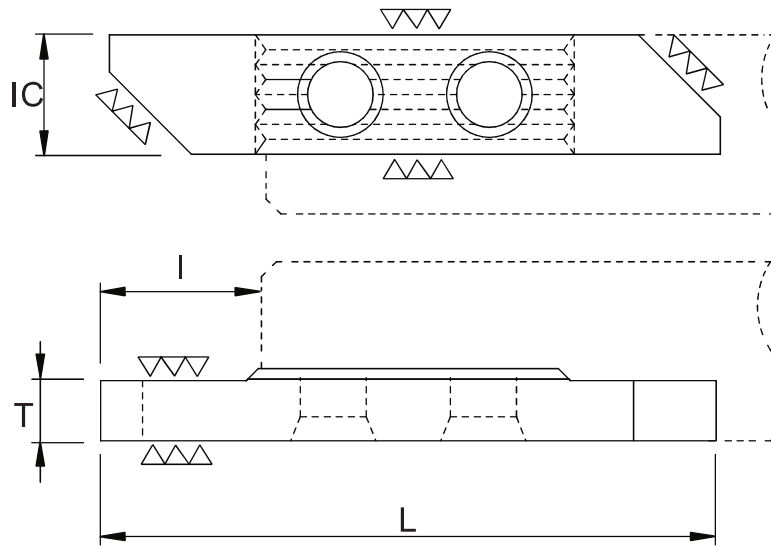


Fig.1

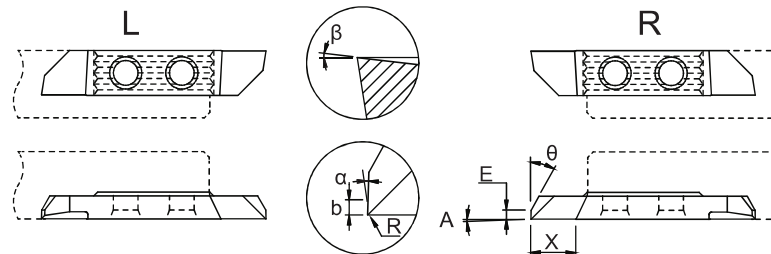


Fig.2

Designation		L	IC±0.02	T±0.02	I	E±0.02	X	θ	A	α	β	b	R	Fig.
DHF	6R/L 05-000NB60	32,0	6,0	2,5	8,5	0,5	7	60°	0°	3°	-	0,3	0,00	1
	6R/L 13-000NB45	32,0	6,0	2,5	8,5	1,3	8	45°	0°	3°	-	0,3	0,00	1
	6R/L 13-000BC45-06F	32,0	6,0	2,5	8,5	1,3	8	45°	0°	1°	6°	-	0,00	2
	6R/L 15-000NB45	32,0	6,0	2,5	8,5	1,5	6	45°	0°	3°	-	0,3	0,00	1
	6R/L 15-000BC45-06F	32,0	6,0	2,5	8,5	1,5	6	45°	0°	1°	6°	-	0,00	2
	6R/L 15-000BC45-10F	32,0	6,0	2,5	8,5	1,5	6	45°	0°	3°	10°	0,3	0,00	2
	6R/L 19-000BC70-10F	32,0	6,0	2,5	8,5	1,9	7	70°	0°	5°	10°	0,3	0,00	2
	7R/L 20-000NB45	43,0	8,0	4,0	11,5	2,0	8	45°	0°	3°	-	0,5	0,00	1
	7R/L 20-020NB45	43,0	8,0	4,0	11,5	2,0	8	45°	0°	3°	-	0,5	0,00	1
	7R/L 15-000BC45-06F	43,0	8,0	4,0	11,5	1,5	8	30°	0°	1°	6°	-	0,00	2
	7R/L 20-000BC30-10F	43,0	8,0	4,0	11,5	2,0	8	45°	0°	3°	10°	0,5	0,00	2
	7R/L 20-020BC45-10F	43,0	8,0	4,0	11,5	2,0	8	45°	0°	3°	10°	0,5	0,00	2

➤ Back-Turning Double-hole Code System

DH B 6 R 05 - 008 BC 30-08F DTIM45



<p>1 Insert Name</p> <p>DH B 6 R 05 008 BC 30 08F DTIM45</p> <p>Double Hole Type of insert</p>	<p>2 Machining Type</p> <p>DH B 6 R 05 008 BC 30 08F DTIM45</p> <p>B: Back Turning</p>	<p>3 Insert Size</p> <p>DH B 6 R 05 008 BC 30 08F DTIM45</p> <p>6: insert length is 32.0mm 7: insert length is 43.0mm</p>
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<p>4 Insert Hand</p> <p>DH B 6 R 05 008 BC 30 08F DTIM45</p> <p>R: right hand L: left hand</p>	<p>5 Edge Width</p> <p>DH B 6 R 05 008 BC 30 08F DTIM45</p> <p>00: no edge width 05: 0.5mm 10: 1.0mm 15: 1.5mm</p>	<p>6 Corner-R</p> <p>DH B 6 R 05 008 BC 30 08F DTIM45</p> <p>000: 0.00 008: 0.08</p>
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<p>7 Chipbreaker Name</p> <p>DH B 6 R 05 008 BC 30 08F DTIM45</p> <p>NB Type BC Type</p>	<p>8 Lead Angle</p> <p>DH B 6 R 05 008 BC 30 08F DTIM45</p> <p>20: 20° 30: 35° 35: 35°</p>	<p>9 Front Rake Angle</p> <p>DH B 6 R 05 008 BC 30 08F DTIM45</p> <p>none: no front rake angle 08F: 8° 10F: 10°</p>
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<p>10 Carbide Grades</p> <p>DH B 6 R 05 008 BC 30 08F DTIM45</p> <p>DTIP30 DTIM45</p>
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➤ **Insert for Back-turning of Double-hole**

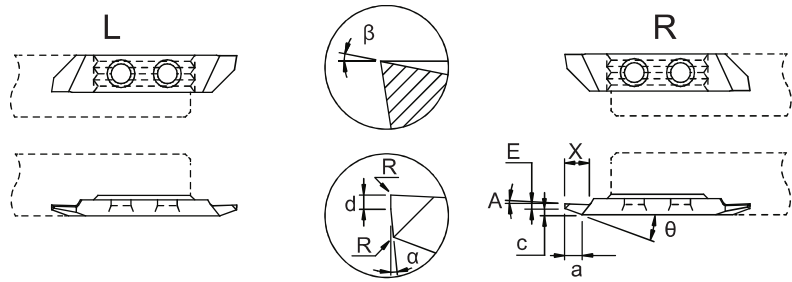
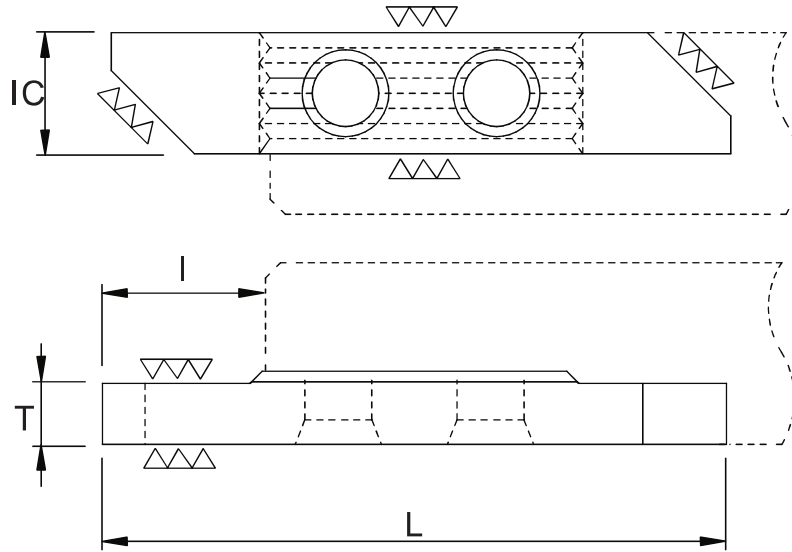


Fig.1

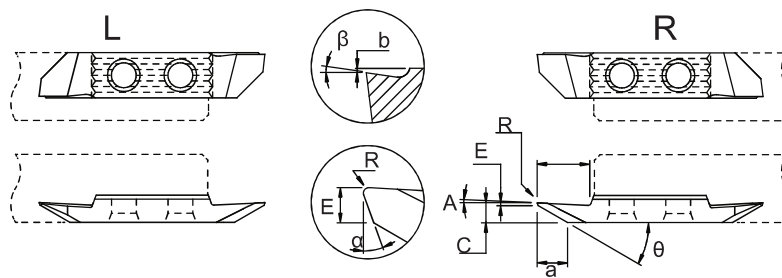


Fig.2

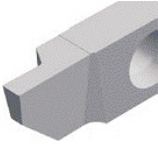
Back-Turning Double-hole

Designation		L	IC±0.02	T±0.02	I	E±0.02	X	θ	A	α	β	a	b	c	d	R	Fig.
DHB	6R/L 05-000NB20	32.0	6.0	2.5	8.5	0.5	3.0	20°	2°	3°	0°	2.70	-	1.0	0.17	0.00	1
	6R/L 05-008NB20	32.0	6.0	2.5	8.5	0.5	3.0	20°	2°	3°	0°	2.70	-	1.0	0.17	0.08	1
	6R/L 08-000NB20	32.0	6.0	2.5	8.5	0.8	4.0	20°	2°	3°	0°	2.70	-	1.0	0.27	0.00	1
	6R/L 10-000NB20	32.0	6.0	2.5	8.5	1.0	4.0	20°	2°	3°	0°	2.70	-	1.0	0.33	0.00	1
	6R/L 12-000NB20	32.0	6.0	2.5	8.5	1.2	5.0	20°	2°	3°	0°	2.70	-	1.0	0.40	0.00	1
	6R/L 15-000NB20	32.0	6.0	2.5	8.5	1.5	5.0	20°	2°	3°	0°	2.70	-	1.0	0.50	0.00	1
	6R/L 05-000NB20-10F	32.0	6.0	2.5	8.5	0.5	3.0	20°	2°	3°	10°	2.70	-	1.0	0.17	0.00	1
	6R/L 05-008NB20-10F	32.0	6.0	2.5	8.5	0.5	3.0	20°	2°	3°	10°	2.70	-	1.0	0.17	0.08	1
	6R/L 08-000NB20-10F	32.0	6.0	2.5	8.5	0.8	4.0	20°	2°	3°	10°	2.70	-	1.0	0.27	0.00	1
	6R/L 10-000NB20-10F	32.0	6.0	2.5	8.5	1.0	4.0	20°	2°	3°	10°	2.70	-	1.0	0.33	0.00	1
	6R/L 12-000NB20-10F	32.0	6.0	2.5	8.5	1.2	5.0	20°	2°	3°	10°	2.70	-	1.0	0.40	0.00	1
	6R/L 15-000NB20-10F	32.0	6.0	2.5	8.5	1.5	6.0	20°	2°	3°	10°	2.70	-	1.0	0.50	0.00	1
	6R/L 05-008BC30-08F	32.0	6.0	2.5	8.5	0.5	6.0	30°	3°	20°	8°	3.50	0.2	2.4	-	0.08	2
	6R/L 05-000BC35-15F	32.0	6.0	2.5	8.5	0.5	6.5	35°	2°	-	15°	3.00	0.2	2.5	-	0.00	2
	6R/L 05-008BC35-15F	32.0	6.0	2.5	8.5	0.5	6.5	35°	2°	-	15°	3.00	0.2	2.5	-	0.08	2
	7R/L 10-000NB20	43.0	8.0	4.0	11.5	1.0	5.0	20°	3°	3°	0°	4.00	-	1.5	0.5	0.00	1
	7R/L 10-008NB20	43.0	8.0	4.0	11.5	1.0	5.0	20°	3°	3°	0°	4.00	-	1.5	0.5	0.00	1
	7R/L 15-000NB20	43.0	8.0	4.0	11.5	1.5	6.0	20°	3°	3°	0°	4.00	-	1.5	0.5	0.00	1
	7R/L 20-000NB20	43.0	8.0	4.0	11.5	2.0	7.5	20°	3°	3°	0°	4.00	-	1.5	0.5	0.00	1
	7R/L 25-000NB20	43.0	8.0	4.0	11.5	2.5	9.0	20°	3°	3°	0°	4.00	-	1.5	0.5	0.00	1
	7R/L 10-000NB20-10F	43.0	8.0	4.0	11.5	1.0	5.0	20°	3°	3°	10°	4.00	-	1.5	0.5	0.00	1
	7R/L 10-008NB20-10F	43.0	8.0	4.0	11.5	1.0	5.0	20°	3°	3°	10°	4.00	-	1.5	0.5	0.08	1
	7R/L 10-020NB20-10F	43.0	8.0	4.0	11.5	1.0	5.0	20°	3°	3°	10°	4.00	-	1.5	0.5	0.20	1
	7R/L 15-000NB20-10F	43.0	8.0	4.0	11.5	1.5	6.0	20°	3°	3°	10°	4.00	-	1.5	0.5	0.00	1
	7R/L 15-020NB20-10F	43.0	8.0	4.0	11.5	1.5	6.0	20°	3°	3°	10°	4.00	-	1.5	0.5	0.20	1
	7R/L 18-000NB20-10F	43.0	8.0	4.0	11.5	1.8	9.0	20°	-	3°	10°	6.00	-	4.0	0.5	0.00	1
	7R/L 18-020NB20-10F	43.0	8.0	4.0	11.5	1.8	9.0	20°	-	3°	10°	6.00	-	4.0	0.5	0.20	1
	7R/L 20-000NB20-10F	43.0	8.0	4.0	11.5	2.0	7.5	20°	3°	3°	10°	4.00	-	1.5	0.5	0.00	1
	7R/L 20-020NB20-10F	43.0	8.0	4.0	11.5	2.0	7.5	20°	3°	3°	10°	4.00	-	1.5	0.5	0.20	1
	7R/L 25-000NB20-10F	43.0	8.0	4.0	11.5	2.5	9.0	20°	3°	3°	10°	4.00	-	1.5	0.5	0.00	1
	7R/L 25-020NB20-10F	43.0	8.0	4.0	11.5	2.5	9.0	20°	3°	3°	10°	4.00	-	1.5	0.5	0.20	1
	7R/L 05-008BC30-08F	43.0	8.0	4.0	11.5	0.5	9.0	30°	3°	20°	8°	5.30	0.2	3.5	-	0.08	2
	7R/L 00-008BC30-08F	43.0	8.0	4.0	11.5	0.0	9.0	30°	3°	-	8°	5.50	0.2	3.5	-	0.08	2
	7R/L 00-020BC30-08F	43.0	8.0	4.0	11.5	0.0	9.0	30°	3°	-	8°	5.50	0.2	3.5	-	0.20	2
	7R/L 06-000BC35-15F	43.0	8.0	4.0	11.5	0.6	9.0	35°	3°	-	15°	5.00	0.2	4.0	-	0.00	2
	7R/L 06-008BC35-15F	43.0	8.0	4.0	11.5	0.6	9.0	35°	3°	-	15°	5.00	0.2	4.0	-	0.08	2

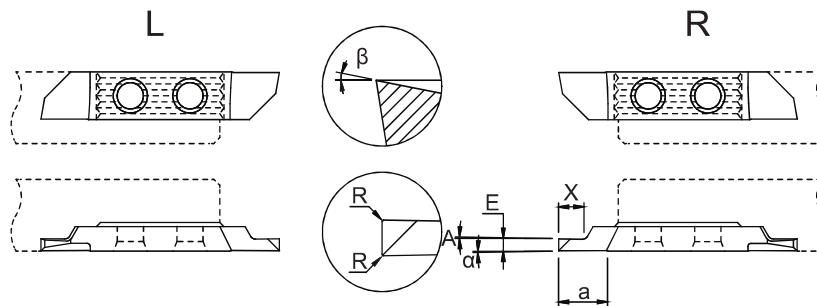
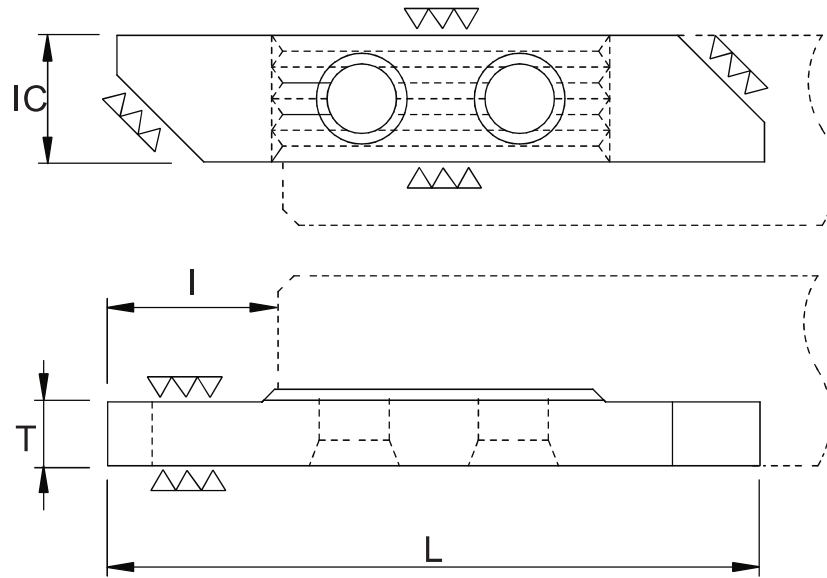
➤ Grooving & Turning of Double-hole

DH G 6 R 150 - 008 NB - 10F DTIM45



<p>1 Insert Name</p> <p>DH G 6 R 150 008 NB 10F DTIM45</p> <p>Double Hole Type of insert</p>	<p>2 Machining Type</p> <p>DH G 6 R 150 008 NB 10F DTIM45</p> <p>G: Grooving & Turning</p>	<p>3 Insert Size</p> <p>DH G 6 R 150 008 NB 10F DTIM45</p> <p>6: insert length is 32.0mm 7: insert length is 43.0mm</p>
<p>4 Insert Hand</p> <p>DH G 6 R 150 008 NB 10F DTIM45</p> <p>R: right hand L: left hand</p>	<p>5 Groove Width</p> <p>DH G 6 R 150 008 NB 10F DTIM45</p> <p>100: 1.0mm 150: 1.5mm 200: 2.0mm 250: 2.5mm 300: 3.0mm 400: 4.0mm</p>	<p>6 Corner-R</p> <p>DH G 6 R 150 008 NB 10F DTIM45</p> <p>000: 0.00 008: 0.08 020: 0.2</p>
<p>7 Chipbreaker Name</p> <p>DH G 6 R 150 008 NB 10F DTIM45</p>  <p>NB Type</p>	<p>8 Front Rake Angle</p> <p>DH G 6 R 150 008 NB 10F DTIM45</p> <p>none: no front rake angle 10F: 10°</p>	<p>9 Carbide Grades</p> <p>DH G 6 R 150 008 NB 10F DTIM45</p> <p>DTIP30 DTIM45</p>

➤ Insert for Grooving & Turning of Double-hole



➤ Grooving & Turning of Double-hole

Designation	L	IC±0.02	T±0.02	I	E±0.02 [※]	X [※]	a	A	α	β	R
DHG 6R/L 005-000NB	32.0	6.0	2.5	8.5	0.50	1.5	6	0.3°	-	-	0.00
6R/L 006-000NB	32.0	6.0	2.5	8.5	0.60	1.8	6	0.3°	-	-	0.00
6R/L 075-000NB	32.0	6.0	2.5	8.5	0.75	2.0	6	0.3°	-	-	0.00
6R/L 008-000NB	32.0	6.0	2.5	8.5	0.80	2.0	6	0.3°	-	-	0.00
6R/L 008-008NB	32.0	6.0	2.5	8.5	0.80	2.0	6	0.3°	-	-	0.08
6R/L 009-000NB	32.0	6.0	2.5	8.5	0.90	2.5	6	0.3°	-	-	0.00
6R/L 095-000NB	32.0	6.0	2.5	8.5	0.95	3.0	6	0.3°	-	-	0.00
6R/L 100-000NB	32.0	6.0	2.5	8.5	1.00	2.5	6	0.3°	-	-	0.00
6R/L 100-008NB	32.0	6.0	2.5	8.5	1.00	2.5	6	0.3°	-	-	0.08
6R/L 120-000NB	32.0	6.0	2.5	8.5	1.20	3.0	6	0.3°	-	-	0.00
6R/L 150-000NB	32.0	6.0	2.5	8.5	1.50	3.0	6	0.3°	-	-	0.00
6R/L 150-008NB	32.0	6.0	2.5	8.5	1.50	3.0	6	0.3°	-	-	0.08
6R/L 150-020NB	32.0	6.0	2.5	8.5	1.50	3.0	6	0.3°	-	-	0.20
6R/L 180-000NB	32.0	6.0	2.5	8.5	1.80	4.0	6	0.3°	-	-	0.00
6R/L 200-000NB	32.0	6.0	2.5	8.5	2.00	4.0	6	0.3°	-	-	0.00
6R/L 200-008NB	32.0	6.0	2.5	8.5	2.00	4.0	6	0.3°	-	-	0.08
6R/L 200-020NB	32.0	6.0	2.5	8.5	2.00	4.0	6	0.3°	-	-	0.20
6R/L 250-000NB	32.0	6.0	2.5	8.5	2.50	6.0	6	0.3°	-	-	0.00
6R/L 008-000NB-10F	32.0	6.0	2.5	8.5	0.80	2.0	6	0.3°	-	10°	0.00
6R/L 100-000NB-10F	32.0	6.0	2.5	8.5	1.00	2.5	6	0.3°	-	10°	0.00
6R/L 100-008NB-10F	32.0	6.0	2.5	8.5	1.00	2.5	6	0.3°	-	10°	0.08
6R/L 120-000NB-10F	32.0	6.0	2.5	8.5	1.20	3.0	6	0.3°	-	10°	0.00
6R/L 150-000NB-10F	32.0	6.0	2.5	8.5	1.50	3.0	6	0.3°	-	10°	0.00
6R/L 150-008NB-10F	32.0	6.0	2.5	8.5	1.50	3.0	6	0.3°	-	10°	0.08
6R/L 150-020NB-10F	32.0	6.0	2.5	8.5	1.50	3.0	6	0.3°	-	10°	0.20
6R/L 180-000NB-10F	32.0	6.0	2.5	8.5	1.80	4.0	6	0.3°	-	10°	0.00
6R/L 200-000NB-10F	32.0	6.0	2.5	8.5	2.00	4.0	6	0.3°	-	10°	0.00
6R/L 200-008NB-10F	32.0	6.0	2.5	8.5	2.00	4.0	6	0.3°	-	10°	0.08
6R/L 200-020NB-10F	32.0	6.0	2.5	8.5	2.00	4.0	6	0.3°	-	10°	0.20
6R/L 250-000NB-10F	32.0	6.0	2.5	8.5	2.50	6.0	6	0.3°	-	10°	0.00
7R/L 005-000NB	43.0	8.0	4.0	11.5	0.50	1.5	8	1°	1°	-	0.00
7R/L 075-000NB	43.0	8.0	4.0	11.5	0.75	2.0	8	1°	1°	-	0.00
7R/L 008-000NB	43.0	8.0	4.0	11.5	0.80	2.0	8	1°	1°	-	0.00
7R/L 095-000NB	43.0	8.0	4.0	11.5	0.95	3.0	8	1°	1°	-	0.00
7R/L 100-000NB	43.0	8.0	4.0	11.5	1.00	2.5	8	1°	1°	-	0.00
7R/L 100-008NB	43.0	8.0	4.0	11.5	1.00	2.5	8	1°	1°	-	0.08
7R/L 120-000NB	43.0	8.0	4.0	11.5	1.20	3.0	8	1°	1°	-	0.00
7R/L 150-000NB	43.0	8.0	4.0	11.5	1.50	3.0	8	1°	1°	-	0.00
7R/L 150-008NB	43.0	8.0	4.0	11.5	1.50	3.0	8	1°	1°	-	0.08
7R/L 150-020NB	43.0	8.0	4.0	11.5	1.50	3.0	8	1°	1°	-	0.20
7R/L 180-000NB	43.0	8.0	4.0	11.5	1.80	4.0	8	1°	1°	-	0.00
7R/L 200-000NB	43.0	8.0	4.0	11.5	2.00	4.0	8	1°	1°	-	0.00
7R/L 200-008NB	43.0	8.0	4.0	11.5	2.00	4.0	8	1°	1°	-	0.08
7R/L 200-020NB	43.0	8.0	4.0	11.5	2.00	4.0	8	1°	1°	-	0.20
7R/L 250-000NB	43.0	8.0	4.0	11.5	2.50	6.0	8	1°	1°	-	0.00
7R/L 250-020NB	43.0	8.0	4.0	11.5	2.50	6.0	8	1°	1°	-	0.20
7R/L 300-000NB	43.0	8.0	4.0	11.5	3.00	6.0	8	1°	1°	-	0.00
7R/L 300-008NB	43.0	8.0	4.0	11.5	3.00	6.0	8	1°	1°	-	0.08
7R/L 300-020NB	43.0	8.0	4.0	11.5	3.00	6.0	8	1°	1°	-	0.20
7R/L 400-000NB	43.0	8.0	4.0	11.5	4.00	8.0	8	1°	1°	-	0.00
7R/L 100-000NB-10F	43.0	8.0	4.0	11.5	1.00	2.5	8	1°	1°	10°	0.00
7R/L 100-008NB-10F	43.0	8.0	4.0	11.5	1.00	2.5	8	1°	1°	10°	0.08
7R/L 100-020NB-10F	43.0	8.0	4.0	11.5	1.00	2.5	8	1°	1°	10°	0.20
7R/L 120-000NB-10F	43.0	8.0	4.0	11.5	1.20	3.0	8	1°	1°	10°	0.00
7R/L 120-008NB-10F	43.0	8.0	4.0	11.5	1.20	3.0	8	1°	1°	10°	0.08
7R/L 150-000NB-10F	43.0	8.0	4.0	11.5	1.50	3.0	8	1°	1°	10°	0.00
7R/L 150-008NB-10F	43.0	8.0	4.0	11.5	1.50	3.0	8	1°	1°	10°	0.08
7R/L 150-020NB-10F	43.0	8.0	4.0	11.5	1.50	3.0	8	1°	1°	10°	0.20
7R/L 180-000NB-10F	43.0	8.0	4.0	11.5	1.80	4.0	8	1°	1°	10°	0.00
7R/L 180-020NB-10F	43.0	8.0	4.0	11.5	1.80	4.0	8	1°	1°	10°	0.20
7R/L 200-000NB-10F	43.0	8.0	4.0	11.5	2.00	4.0	8	1°	1°	10°	0.00
7R/L 200-008NB-10F	43.0	8.0	4.0	11.5	2.00	4.0	8	1°	1°	10°	0.08
7R/L 200-020NB-10F	43.0	8.0	4.0	11.5	2.00	4.0	8	1°	1°	10°	0.20
7R/L 250-000NB-10F	43.0	8.0	4.0	11.5	2.50	6.0	8	1°	1°	10°	0.00
7R/L 250-020NB-10F	43.0	8.0	4.0	11.5	2.50	6.0	8	1°	1°	10°	0.20
7R/L 300-000NB-10F	43.0	8.0	4.0	11.5	3.00	6.0	8	1°	1°	10°	0.00
7R/L 300-008NB-10F	43.0	8.0	4.0	11.5	3.00	6.0	8	1°	1°	10°	0.08
7R/L 300-020NB-10F	43.0	8.0	4.0	11.5	3.00	6.0	8	1°	1°	10°	0.20
7R/L 400-000NB-10F	43.0	8.0	4.0	11.5	4.00	8.0	8	1°	1°	10°	0.00
7R/L 400-020NB-10F	43.0	8.0	4.0	11.5	4.00	8.0	8	1°	1°	10°	0.20

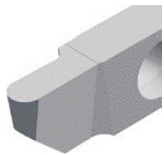
※ The dimension can be customized according to specifications customers give.

➤ Insert with Full Radius for Double-hole Code System

DH R 6 R 100 - NB DTIM45



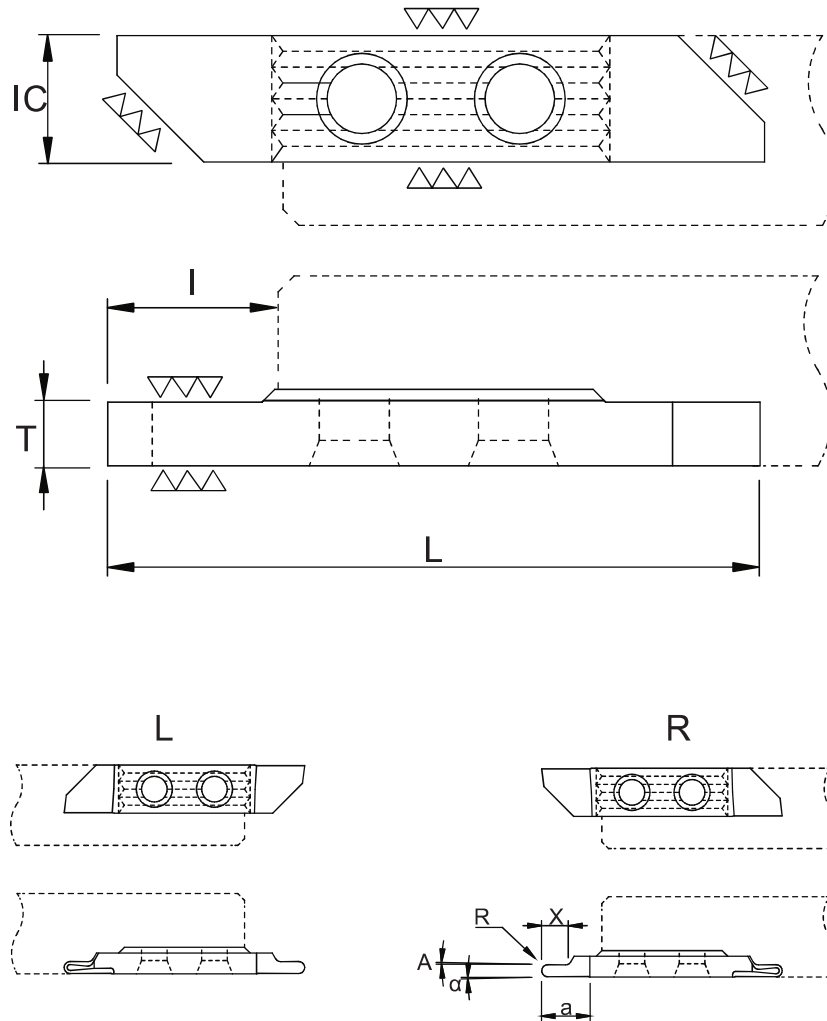
<p>1 Insert Name</p> <p>DH R 6 R 100 NB DTIM45</p> <p>Double Hole Type of insert</p>	<p>2 Machining Type</p> <p>DH R 6 R 100 NB DTIM45</p> <p>R: Insert with Full Radius</p>	<p>3 Insert Size</p> <p>DH R 6 R 100 NB DTIM45</p> <p>6: insert length is 32.0mm 7: insert length is 43.0mm</p>
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<p>4 Insert Hand</p> <p>DH R 6 R 100 NB DTIM45</p> <p>R: right hand L: left hand</p>	<p>5 Groove Width</p> <p>DH R 6 R 100 NB DTIM45</p> <p>100: 1.0mm 200: 2.0mm 300: 3.0mm 400: 4.0mm</p>	<p>6 Chipbreaker Name</p> <p>DH R 6 R 100 NB DTIM45</p>  <p>NB Type</p>
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<p>7 Chipbreaker Name</p> <p>DH R 6 R 100 NB DTIM45</p> <p>DTIP30 DTIM45</p>



➤ Insert with Full Radius of Double-hole




Designation		L	IC±0.02	T±0.02	I	E±0.02 [*]	X [*]	R	A	α
DHR	6R/L 005-NB	32.0	6.0	2.5	8.5	0.25	1.5	6	1°	1°
	6R/L 008-NB	32.0	6.0	2.5	8.5	0.40	2.0	6	1°	1°
	6R/L 100-NB	32.0	6.0	2.5	8.5	0.50	2.5	6	1°	1°
	6R/L 120-NB	32.0	6.0	2.5	8.5	0.60	2.5	6	1°	1°
	6R/L 150-NB	32.0	6.0	2.5	8.5	0.75	3.0	6	1°	1°
	6R/L 160-NB	32.0	6.0	2.5	8.5	0.80	3.0	6	1°	1°
	6R/L 200-NB	32.0	6.0	2.5	8.5	1.00	4.0	6	1°	1°
	7R/L 100-NB	43.0	8.0	4.0	11.5	0.50	2.5	8	1°	1°
	7R/L 200-NB	43.0	8.0	4.0	11.5	1.00	4.0	8	1°	1°
	7R/L 300-NB	43.0	8.0	4.0	11.5	1.50	6.0	8	1°	1°
	7R/L 400-NB	43.0	8.0	4.0	11.5	2.00	8.0	8	1°	1°

※ The dimension can be customized according to specifications customers give.

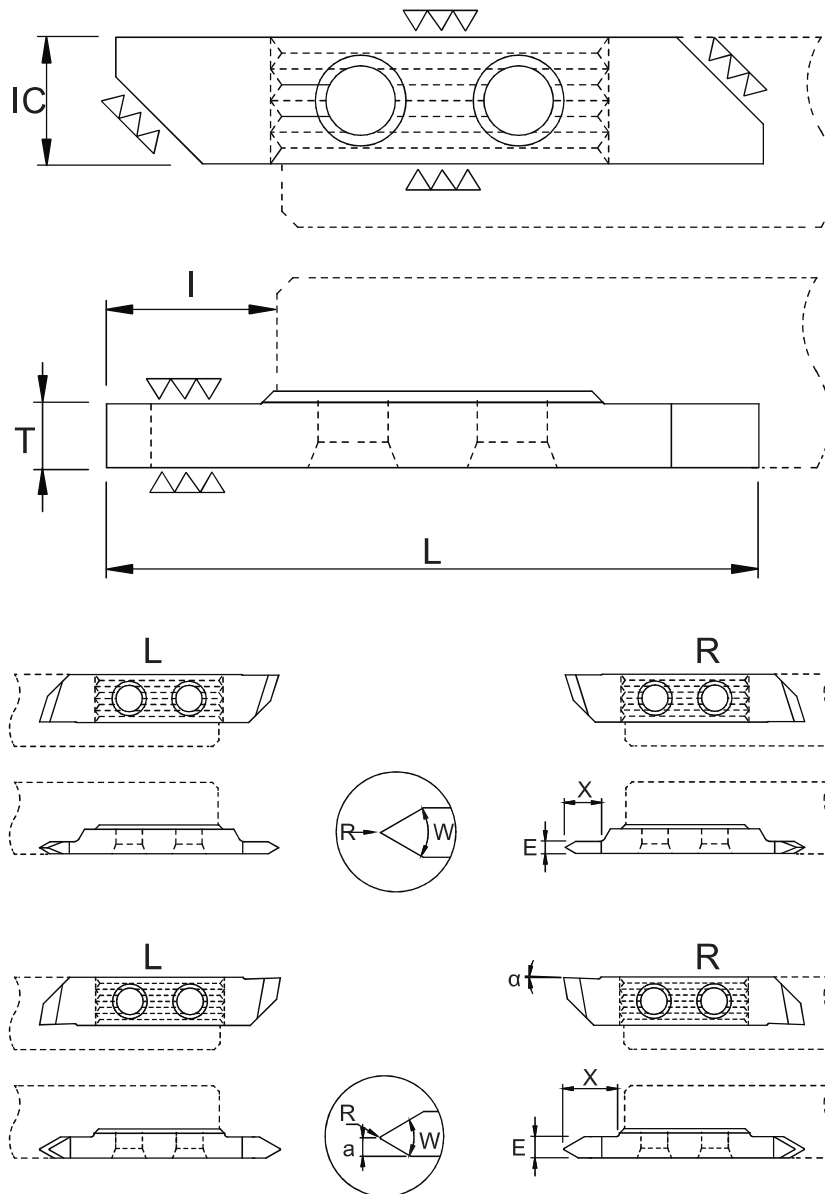
Threading of Double-hole Code System

DH T 6 R 150 A60 -002 NB DTIM45



<p>1 Insert Name</p> <p>DH T 6 R 150 A60 002 NB DTIM45</p> <p>Double Hole Type of insert</p>	<p>2 Machining Type</p> <p>DH T 6 R 150 A60 002 NB DTIM45</p> <p>T: Threading</p>	<p>3 Insert Size</p> <p>DH T 6 R 150 A60 002 NB DTIM45</p> <p>6: insert length is 32.0mm 7: insert length is 43.0mm</p>
<p>4 Insert Hand</p> <p>DH T 6 R 150 A60 002 NB DTIM45</p> <p>R: right hand L: left hand</p>	<p>5 Groove Width</p> <p>DH T 6 R 150 A60 002 NB DTIM45</p> <p>150: 1.5mm 200: 2.0mm</p>	<p>6 Thread Angle</p> <p>DH T 6 R 150 A60 002 NB DTIM45</p> <p>W60: 60° W55: 55° A60: 0.5-1.5 G60: 1.5-3.0</p>
<p>7 Corner-R</p> <p>DH T 6 R 150 A60 002 NB DTIM45</p> <p>000: 0.00 002: 0.02 006: 0.60 020: 0.20</p>	<p>8 Chipbreaker Name</p> <p>DH T 6 R 150 A60 002 NB DTIM45</p>  <p>NB Type</p>	<p>9 Carbide Grades</p> <p>DH T 6 R 150 A60 002 NB DTIM45</p> <p>DTIP30 DTIM45</p>

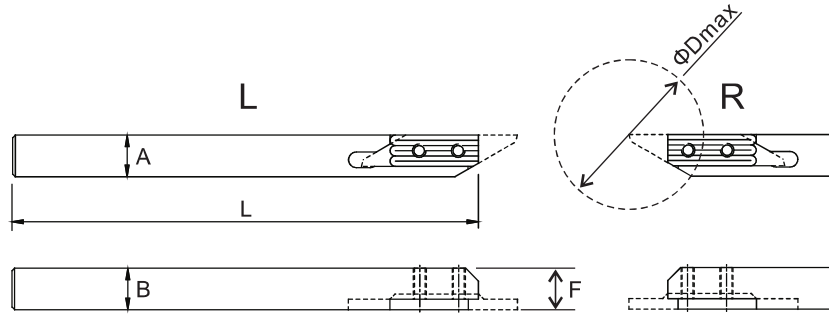
➤ Insert for Threading of Double-hole





Designation	L	IC±0.02	T±0.02	I	E±0.02	X	a	W	Thread Pitch	α	R	Fig.	
DHT	6R/L 150W60-000NB	32.0	6.0	2.5	8.5	1.5	4.0	-	60°	1.50	-	0.00	1
	6R/L 150W60-002NB	32.0	6.0	2.5	8.5	1.5	4.0	-	60°	1.50	-	0.02	1
	6R/L 200W60-000NB	32.0	6.0	2.5	8.5	2.0	6.0	-	60°	2.00	-	0.00	1
	6R/L 200W60-002NB	32.0	6.0	2.5	8.5	2.0	6.0	-	60°	2.00	-	0.02	1
	6R/L 150W55-000NB	32.0	6.0	2.5	8.5	1.5	4.0	-	55°	1.50	-	0.00	1
	6R/L 200W55-000NB	32.0	6.0	2.5	8.5	2.0	6.0	0.8	55°	2.00	-	0.00	1
	6R/L 200A60-006NB	32.0	6.0	2.5	8.5	2.0	6.0	-	60°	0.50-1.50	0°	0.06	2
	7R/L 200W60-000NB	43.0	8.0	4.0	11.5	2.0	6.0	-	60°	2.00	-	0.00	1
	7R/L 200W60-002NB	43.0	8.0	4.0	11.5	2.0	6.0	-	60°	2.00	-	0.02	1
	7R/L 300W60-000NB	43.0	8.0	4.0	11.5	3.0	8.0	-	60°	3.00	-	0.00	1
	7R/L 300W60-002NB	43.0	8.0	4.0	11.5	3.0	8.0	-	60°	3.00	-	0.02	1
	7R/L 200W55-000NB	43.0	8.0	4.0	11.5	2.0	6.0	-	55°	2.00	-	0.00	1
	7R/L 300W55-000NB	43.0	8.0	4.0	11.5	3.0	8.0	-	55°	3.00	-	0.00	1
	7R/L 350A60-006NB	43.0	8.0	4.0	11.5	3.5	9.0	1.6	60°	0.50-1.50	2°	0.06	2
	7R/L 350G60-020NB	43.0	8.0	4.0	11.5	3.5	9.0	1.6	60°	1.75-3.00	2°	0.20	2

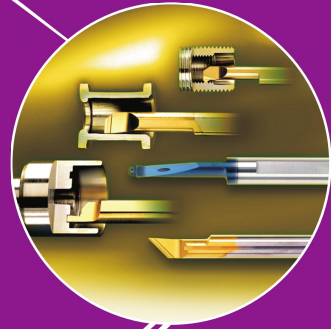
🔗 The Holder Double-hole

DH Type



Designation		A	B	F	L	Dmax	Spart Parts		Applicable Inserts
							SCREW	WRENCH	
									
DHR/L	0808-H6	8	8	8	100	16	M3.5x9.0	T-15	DH <input checked="" type="checkbox"/> 6R/L
	1010-H6	10	10	10	100	16	M3.5x9.0	T-15	DH <input checked="" type="checkbox"/> 6R/L
	1212-H6	12	12	12	100	16	M3.5x9.0	T-15	DH <input checked="" type="checkbox"/> 6R/L
	1212-K6	12	12	12	150	16	M3.5x9.0	T-15	DH <input checked="" type="checkbox"/> 6R/L
	1616-H6	16	16	16	100	16	M3.5x9.0	T-15	DH <input checked="" type="checkbox"/> 6R/L
	1616-K6	16	16	16	150	16	M3.5x9.0	T-15	DH <input checked="" type="checkbox"/> 6R/L
	2020-K6	20	20	20	125	16	M3.5x9.0	T-15	DH <input checked="" type="checkbox"/> 7R/L
	1010-H7	10	10	10	100	22	M3.5x9.0	T-15	DH <input checked="" type="checkbox"/> 7R/L
	1212-H7	12	12	12	100	22	M3.5x9.0	T-15	DH <input checked="" type="checkbox"/> 7R/L
	1212-K7	12	12	12	125	22	M3.5x9.0	T-15	DH <input checked="" type="checkbox"/> 7R/L
	1414-K7	14	14	14	125	22	M3.5x9.0	T-15	DH <input checked="" type="checkbox"/> 7R/L
	1616-K7	16	16	16	125	22	M3.5x9.0	T-15	DH <input checked="" type="checkbox"/> 7R/L
	2020-K7	20	20	20	125	22	M3.5x9.0	T-15	DH <input checked="" type="checkbox"/> 7R/L
	2525-M7	25	25	25	150	22	M3.5x9.0	T-15	DH <input checked="" type="checkbox"/> 7R/L
	1212-H8	12	12	12	100	33	M3.5x9.0	T-15	DH <input checked="" type="checkbox"/> 8R/L
	1414-K8	14	14	14	125	33	M3.5x9.0	T-15	DH <input checked="" type="checkbox"/> 8R/L
	1616-K8	16	16	16	125	33	M3.5x9.0	T-15	DH <input checked="" type="checkbox"/> 8R/L
	2020-K8	20	20	150	125	33	M3.5x9.0	T-15	DH <input checked="" type="checkbox"/> 8R/L
	2525-M8	25	25	25	150	33	M3.5x9.0	T-15	DH <input checked="" type="checkbox"/> 8R/L

C TINY TOOLS



➤ Turning Tiny Tool Code System

TT 060 T R 15 - 150 ISO - 2 DTIP30



1 Main Code
 TT 060 T R 15 150
 ISO 2 DTIM45

TT = Tiny Tool

2 Insert Size
 TT 060 T R 15 150
 ISO 2 DTIM45

010: 1.0mm 015: 1.5mm 020: 2.0mm
 030: 3.0mm 040: 4.0mm 050: 5.0mm
 060: 6.0mm 070: 7.0mm 080: 8.0mm
 100: 10.0mm 0XX: Special size

3 Type of operation
 TT 060 T R 15 150
 ISO 2 DTIM45

B=Boring BP=Profiling & Boring
 BB=Back Boring BF=Chamfering
 BT=FaceCutting BC=Copying
 BW=Chamfering & Profiling G=Square Grooving
 GR=Round Grooving GF=Face Grooving
 GRF=Round Face Grooving T=Threading
 TD=Threading Relief

4 Hand of Insert
 TT 060 T R 15 150
 ISO 2 DTIM45

R = Right hand style
 L = Left hand style

5 Max. Depth
 TT 060 T R 15 150
 ISO 2 DTIM45

05: 5.0mm 10: 10.0mm 15: 15.0mm
 20: 20.0mm 25: 25.0mm 30: 30.0mm
 35: 35.0mm

6 Process Figure
 TT 060 T R 15 150
 ISO 2 DTIM45

Boring: Nose radius Grooving: Grooving width
 Threading: Partial profile: F60
 A60 or A55
 AG60 or Ag55
 ISO Metric
 American UN
 Tarpez DIN 103
 ACME

7 Thread Profile
 TT 060 T R 15 150
 ISO 2 DTIM45

ISO - ISO Metric
 UN - American UN (UNC, UNF, UNEF, UNS)
 ACME - ACME
 TR - Tarpez DIN103

8 Cutting Edge
 TT 060 T R 15 150
 ISO 2 DTIM45

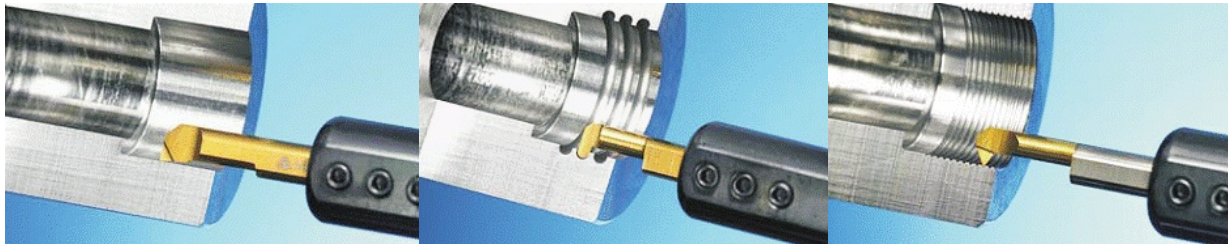
None: Single ended 2: Double ended

9 Carbide Grades
 TT 060 T R 15 150
 ISO 2 DTIM45

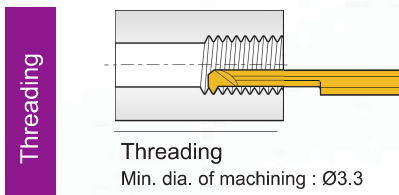
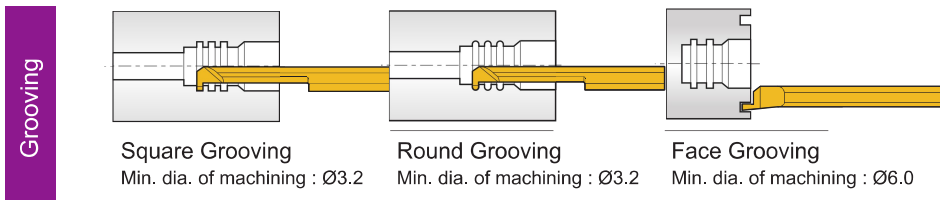
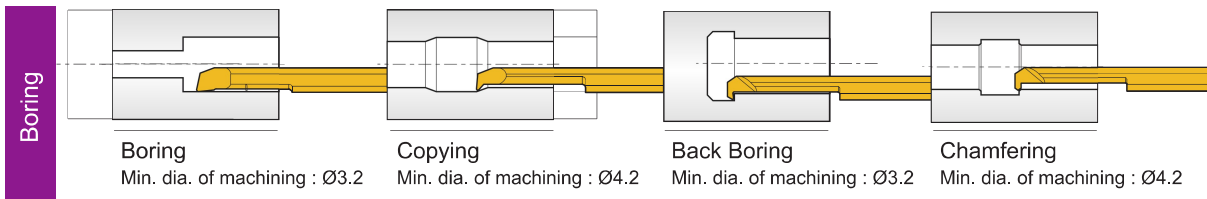
DTIP30 DTIM45 DTIS30






Technical Information for Turning Tiny Tool Machining Type



Types

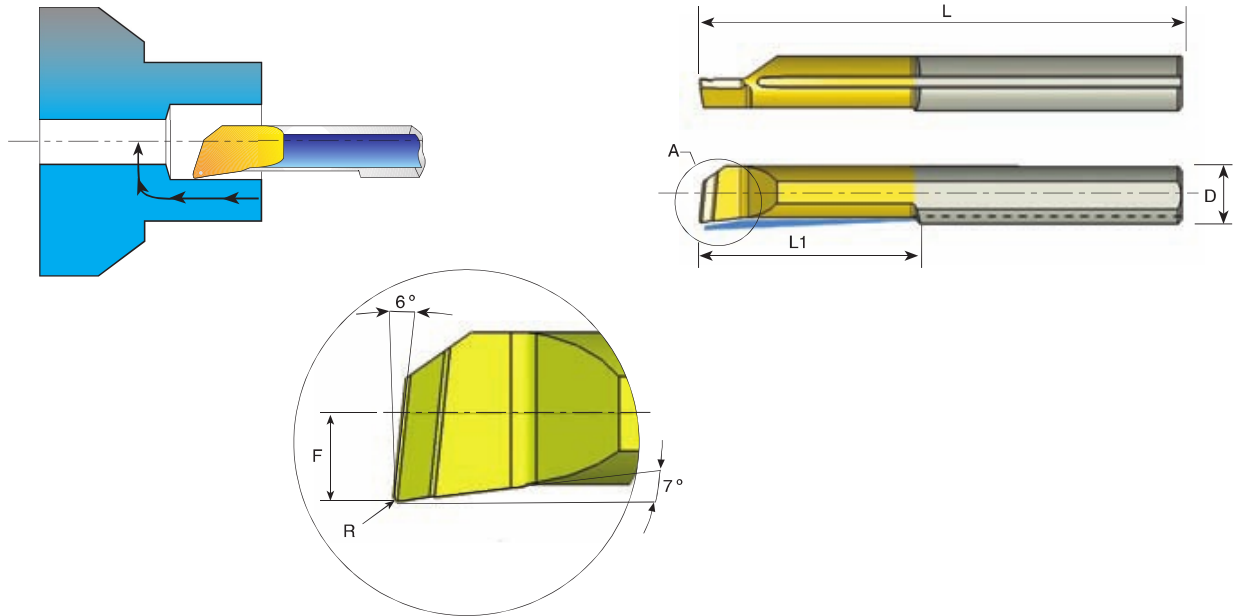


Recommended Grade & thrie Applications

Grade	Application Type	Sample
DTIP30	P30-P50 K25-K40, General use carbide grade for tiny tool low cutting speed, Tin coated	
DTIM45	P20-P30 K20-K30, General use carbide grade for tiny tool medium to high cutting speed, TiALN coated	
DTIS30	K10-K20, sub-micro grade with Titanium Aluminum Nitride multi-layer coating. To be run at medium to high cutting speeds, General purpose for all material.	

ISO Standard	Material	Condition	Cutting Speed m/min			
			DTIP30	DTIM45	DTIS30	
P	Non-Alloy steel and cast steel, free cutting steel	<0.25%C	Annealed	25-50	30-80	30-60
		≥0.25%C	Annealed			
		<0.55%C	Quenched and Tempered			
		≥0.55%C	Annealed			
	Low alloy steel and cast steel (less than 5% alloying elements)	Annealed	20-25	50-70	24-30	
		Quenched and Tempered				
High alloy steel, cast steel, and tool steel	Annealed	18-20	30-50	22-24		
	Quenched and Tempered					
M	Stainless steel and cast steel	Ferritic / martensitic	25-30	40-60	30-42	
		Martensitic				
		Austenitic				
K	Cast iron nodular (GGG)	Ferritic / pearlitic	17-23	50-70	30-42	
		Pearlitic				
	Grey cast iron (GG)	Ferritic	17-23	50-70	30-42	
		Pearlitic				
Malleable cast iron	Ferritic	17-23	50-70	30-42		
	Pearlitic					
N	Aluminum-wrought alloy	Not cureable	50-70	100-150	60-84	
		Cured				
	Aluminum-cast alloy	≤12% Si	Not cureable	30-40	60-100	36-48
			Cured			
		>12% Si	High temperature			
	Copper alloys	>1% Pb	Free cutting	22-25	60-100	24-30
Brass						
Electrolytic copper						
Non metallic	Duroplastics, fiber plastics		35-45			
	Hard rubber					
S	High temperature alloys, Super alloys	Fe based	Annealed	15-20	15-20	18-24
			Cured			
		Ni or Co based	Annealed			
			Cured			
	Titanium alloy	Alpha+beta alloys cured	12-18	40-50	15-20	
H	Hardend steel	Hardened 45-50 HRC		15-20	20-45	18-24
		Hardened 51-55 HRC				
		Hardened 56-62 HRC				
	Chilled cast iron	cast	10-14		12-16	
	Cast iron	Hardened	8-12		10-14	

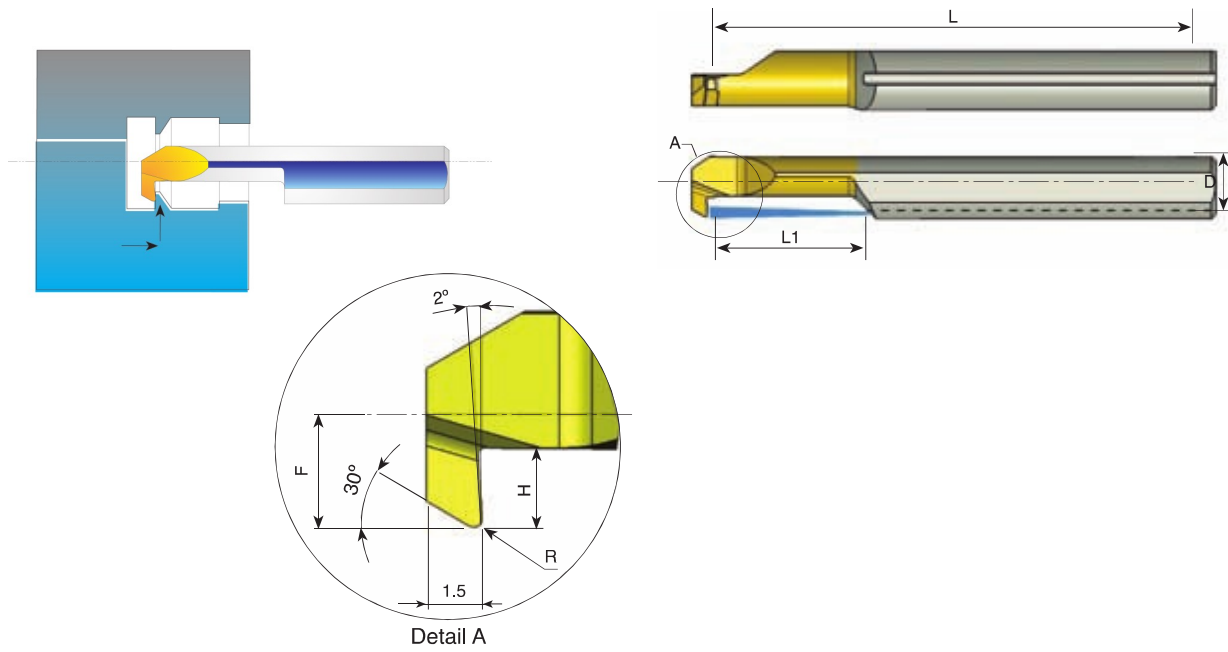
➤ Boring



Detail A

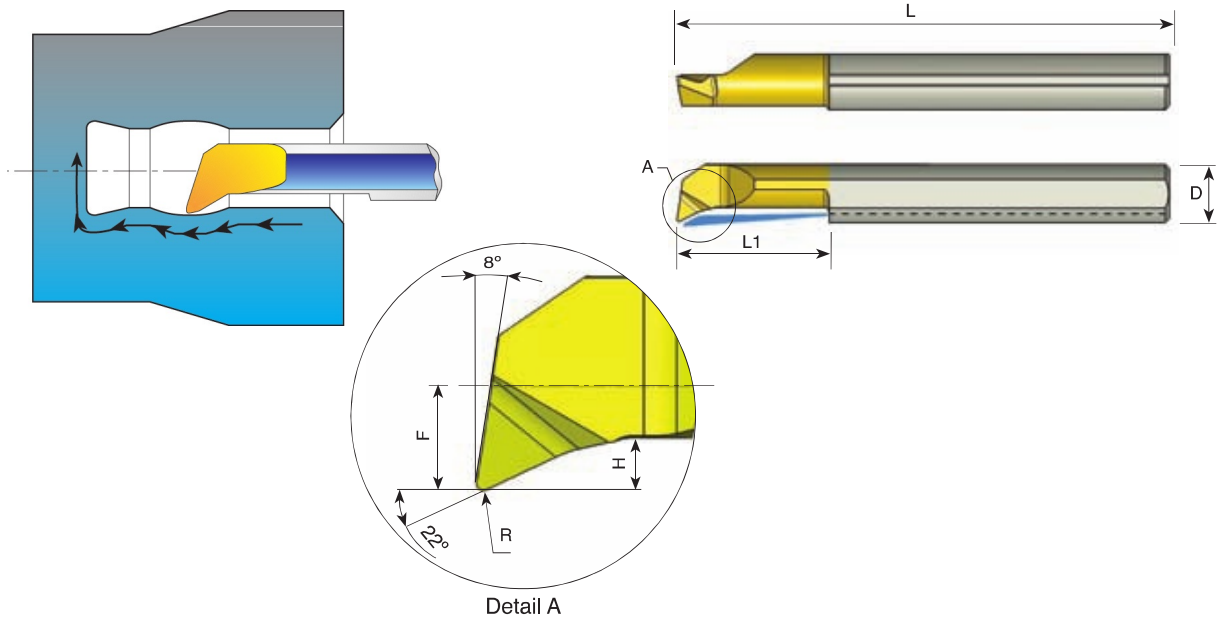
	Designation	F	Dmin	D	L1	L	R
TT	010BR/L 04-R0.05	0.5	1.0	3.0	4	39	0.05
	015BR/L 06-R0.10	0.7	1.5	3.0	6	39	0.10
	020BR/L 05-R0.15	0.8	2.1	3.0	6	39	0.15
	020BR/L 10-R0.15	0.8	2.1	3.0	10	39	0.15
	030BR/L 10-R0.05	1.3	3.1	3.0	10	39	0.05
	030BR/L 15-R0.05	1.3	3.1	3.0	15	45	0.05
	030BR/L 15-R0.10	1.3	3.1	3.0	15	39	0.10
	030BR/L 10-R0.20	1.3	3.1	3.0	10	39	0.20
	030BR/L 15-R0.20	1.3	3.1	3.0	15	45	0.20
	040BR/L 15-R0.05	1.3	3.1	3.0	15	39	0.05
	040BR/L 10-R0.10	1.7	4.1	4.0	10	51	0.10
	040BR/L 15-R0.10	1.7	4.1	4.0	15	51	0.10
	040BR/L 22-R0.10	1.7	4.1	4.0	22	51	0.10
	040BR/L 10-R0.20	1.7	4.1	4.0	10	51	0.20
	040BR/L 15-R0.20	1.7	4.1	4.0	15	51	0.20
	040BR/L 22-R0.20	1.7	4.1	4.0	22	51	0.20
	050BR/L 15-R0.10	2.1	5.1	5.0	15	51	0.10
	050BR/L 22-R0.10	2.1	5.1	5.0	22	51	0.10
	050BR/L 30-R0.10	2.1	5.1	5.0	30	76	0.10
	050BR/L 15-R0.20	2.1	5.1	5.0	15	51	0.20
	050BR/L 22-R0.20	2.1	5.1	5.0	22	51	0.20
	050BR/L 30-R0.20	2.1	5.1	5.0	30	76	0.20
	060BR/L 15-R0.20	2.8	6.1	6.0	15	51	0.20
	060BR/L 22-R0.20	2.8	6.1	6.0	22	51	0.20
	060BR/L 30-R0.20	2.8	6.1	6.0	30	58	0.20
	060BR/L 35-R0.20	2.8	6.1	6.0	35	76	0.20
	070BR/L 22-R0.20	3.3	7.1	7.0	22	62	0.20
	070BR/L 30-R0.20	3.3	7.1	7.0	30	62	0.20
	080BR/L 15-R0.20	3.8	8.1	8.0	15	64	0.20
	080BR/L 22-R0.20	3.8	8.1	8.0	22	64	0.20
	080BR/L 35-R0.20	3.8	8.1	8.0	35	76	0.20
	100BR/L 35-R0.20	4.8	10.1	10.0	35	80	0.20

Back Boring



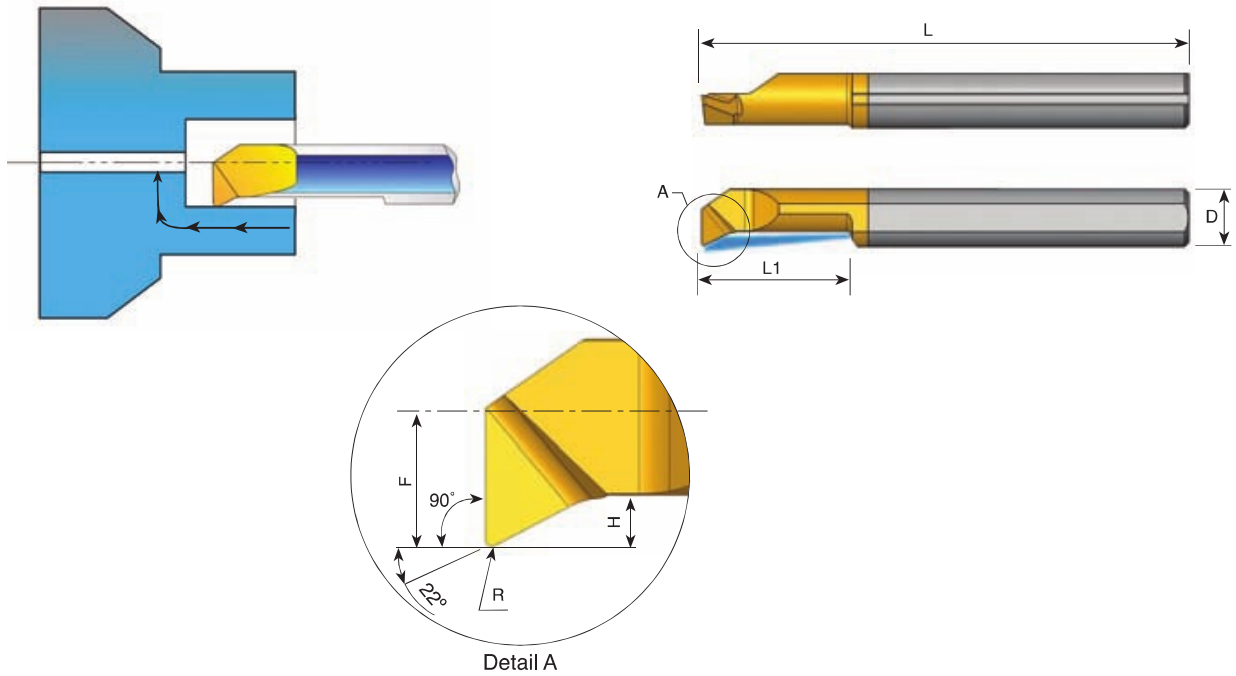
Designation		F	Dmin	D	L1	L	H	R
TT	030BBR/L 10-R0.10	1.3	3.1	3.0	10	51	0.5	0.10
	040BBR/L 10-R0.15	1.6	4.1	4.0	10	51	0.8	0.15
	040BBR/L 15-R0.15	1.6	4.1	4.0	15	51	0.8	0.15
	050BBR/L 15-R0.20	2.2	5.1	5.0	15	51	1.0	0.20
	050BBR/L 22-R0.20	2.2	5.1	5.0	22	51	1.0	0.20
	060BBR/L 15-R0.20	2.8	6.1	6.0	15	51	1.8	0.20
	060BBR/L 22-R0.20	2.8	6.1	6.0	22	51	1.8	0.20

➤ Profiling and Boring



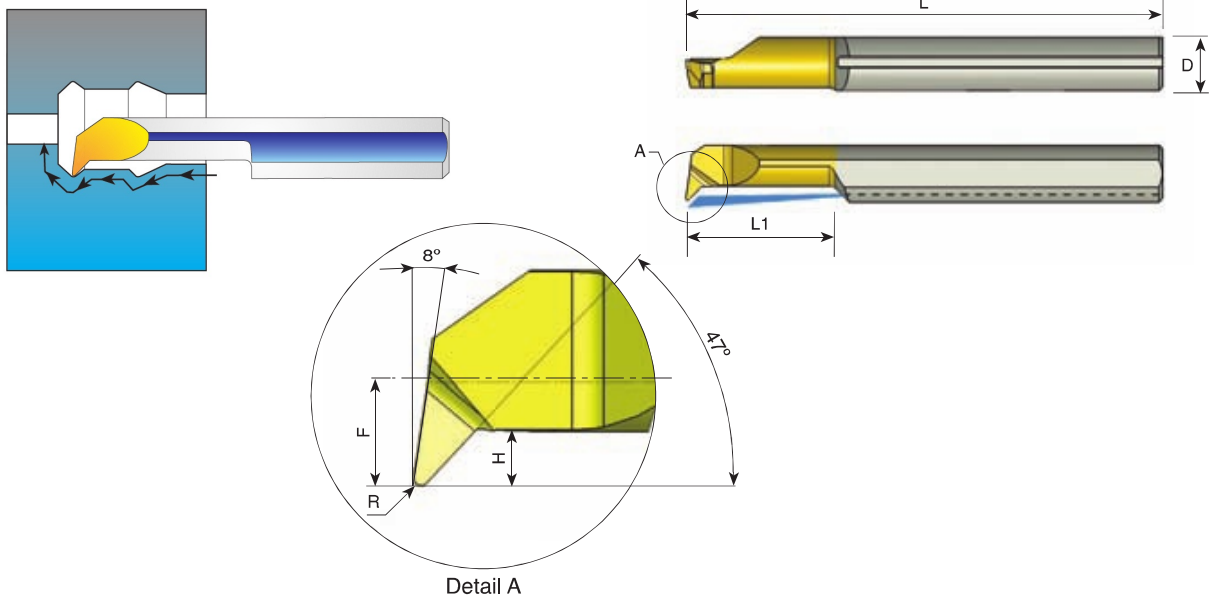
Designation		F	Dmin	D	L1	L	H	R
TT	010BPR/L 04-R0.05	0,5	1,0	3,0	4	39	0,2	0,05
	015BPR/L 06-R0.10	0,7	1,5	3,0	6	39	0,3	0,10
	020BPR/L 05-R0.15	0,8	2,1	3,0	5	39	0,5	0,15
	020BPR/L 10-R0.15	0,8	2,1	3,0	10	39	0,5	0,15
	030BPR/L 10-R0.05	1,3	3,1	3,0	10	39	0,7	0,05
	030BPR/L 15-R0.05	1,3	3,1	3,0	15	45	0,7	0,05
	030BPR/L 15-R0.10	1,3	3,1	3,0	15	39	0,7	0,10
	030BPR/L 22-R0.10	1,3	3,1	3,0	22	47	0,7	0,10
	030BPR/L 10-R0.20	1,3	3,1	3,0	10	39	0,7	0,20
	030BPR/L 15-R0.20	1,3	3,1	3,0	15	45	0,7	0,20
	030BPR/L 22-R0.20	1,3	3,1	3,0	22	47	0,7	0,20
	040BPR/L 15-R0.10	1,7	4,1	4,0	15	51	0,8	0,10
	040BPR/L 22-R0.10	1,7	4,1	4,0	22	51	0,8	0,10
	040BPR/L 10-R0.20	1,7	4,1	4,0	10	51	0,8	0,20
	040BPR/L 15-R0.20	1,7	4,1	4,0	15	51	0,8	0,20
	040BPR/L 22-R0.20	1,7	4,1	4,0	22	51	0,8	0,20
	050BPR/L 22-R0.10	2,1	5,1	5,0	22	51	1,2	0,10
	050BPR/L 30-R0.10	2,1	5,1	5,0	30	76	1,2	0,10
	050BPR/L 15-R0.20	2,1	5,1	5,0	15	51	1,2	0,20
	050BPR/L 22-R0.20	2,1	5,1	5,0	22	51	1,2	0,20
	050BPR/L 30-R0.20	2,1	5,1	5,0	30	76	1,2	0,20
	060BPR/L 15-R0.20	2,8	6,1	6,0	15	51	1,4	0,20
	060BPR/L 22-R0.20	2,8	6,1	6,0	22	51	1,4	0,20
	060BPR/L 30-R0.20	2,8	6,1	6,0	30	76	1,4	0,20
	070BPR/L 22-R0.20	3,3	7,1	7,0	22	62	1,5	0,20
	070BPR/L 30-R0.20	3,3	7,1	7,0	30	62	1,5	0,20
	080BPR/L 15-R0.20	3,8	8,1	8,0	15	64	1,6	0,20
	080BPR/L 22-R0.20	3,8	8,1	8,0	22	64	1,6	0,20
	080BPR/L 35-R0.20	3,8	8,1	8,0	35	76	1,6	0,20
	100BPR/L 35-R0.20	4,8	10,1	10,0	35	80	2,0	0,20

➤ Profiling and 90° Face Cutting



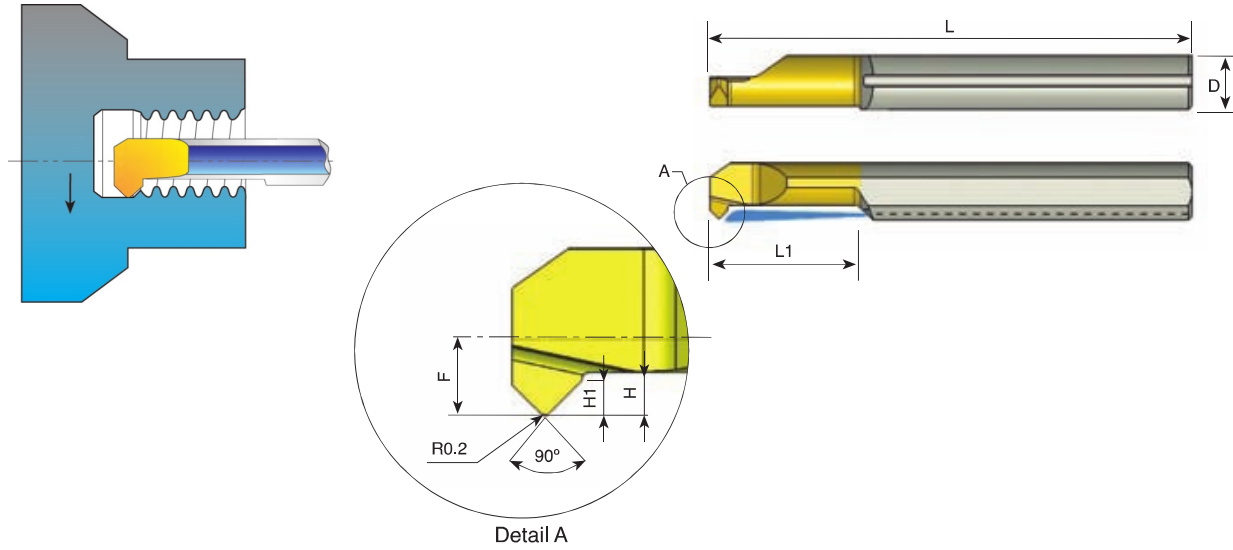
Designation		F	Dmin	D	L1	L	H	R
TT	030BTR/L 10-R0,05	1,3	3,1	3,0	10	39	0,4	0,05
	030BTR/L 15-R0,05	1,3	3,1	3,0	15	39	0,4	0,05
	040BTR/L 10-R0,10	1,7	4,1	4,0	10	51	0,5	0,10
	040BTR/L 15-R0,10	1,7	4,1	4,0	15	51	0,5	0,10
	050BTR/L 15-R0,15	2,1	5,1	5,0	15	51	0,7	0,15
	050BTR/L 22-R0,15	2,1	5,1	5,0	22	51	0,7	0,15
	060BTR/L 15-R0,15	2,8	6,1	6,0	15	51	0,9	0,15
	060BTR/L 22-R0,15	2,8	6,1	6,0	22	51	0,9	0,15
	080BTR/L 22-R0,20	3,8	8,1	8,0	22	64	1,1	0,20

➤ Copying and Boring



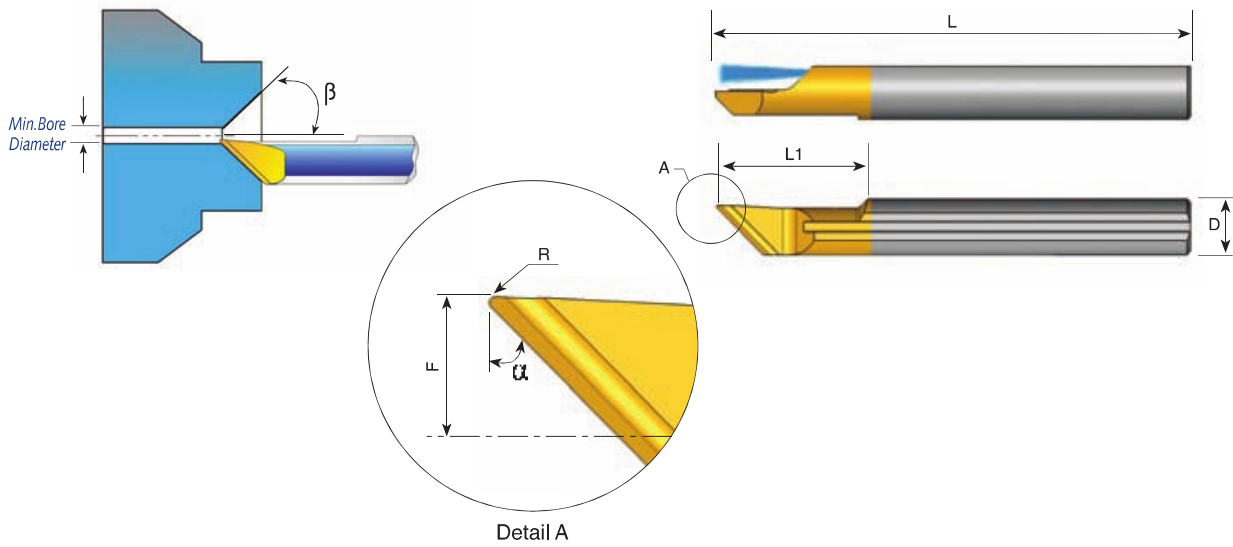
Designation		F	Dmin	D	L1	L	H	R
TT	040BCR/L 10-R0,20	1,8	4,1	4,0	10	51	0,8	0,20
	040BCR/L 15-R0,20	1,8	4,1	4,0	15	51	0,8	0,20
	040BCR/L 20-R0,20	1,8	4,1	4,0	22	51	0,8	0,20
	050BCR/L 15-R0,20	2,3	5,1	4,0	15	51	1,0	0,20
	050BCR/L 22-R0,20	2,3	5,1	5,0	22	51	1,0	0,20
	060BCR/L 15-R0,20	2,8	6,1	6,0	15	51	1,4	0,20
	060BCR/L 22-R0,20	2,8	6,1	6,0	22	51	1,4	0,20
	060BCR/L 30-R0,20	2,8	6,1	6,0	30	58	1,4	0,20
	080BCR/L 22-R0,20	3,8	8,1	8,0	22	64	1,8	0,20
	080BCR/L 27-R0,20	3,8	8,1	8,0	27	64	2,0	0,20

Chamfering and Boring



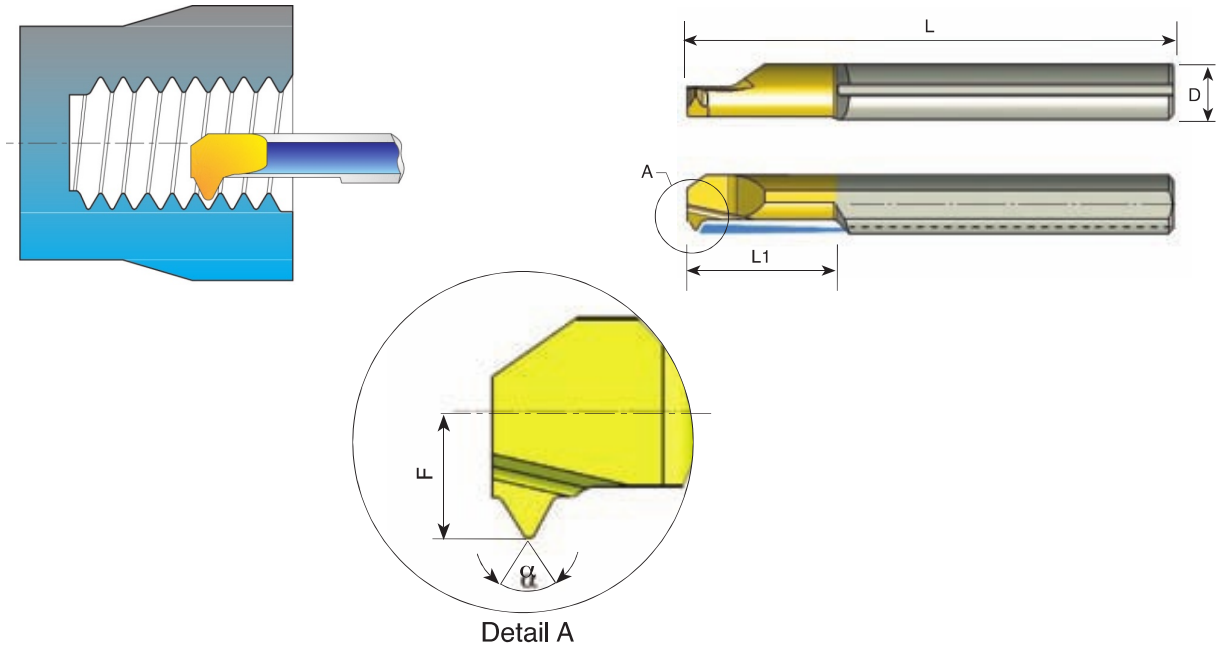
Designation		F	Dmin	D	L1	L	H	H1	R
TT	030BFR/L 10-R0.20	1.3	3.1	3.0	10	39	0.7	0.30	0.20
	040BFR/L 15-R0.20	1.7	4.1	4.0	15	51	0.8	0.40	0.20
	050BFR/L 15-R0.20	2.1	5.1	5.0	15	51	1.2	0.70	0.20
	060BFR/L 15-R0.20	2.8	6.1	6.0	15	51	1.4	0.70	0.20

Chamfering and Profiling



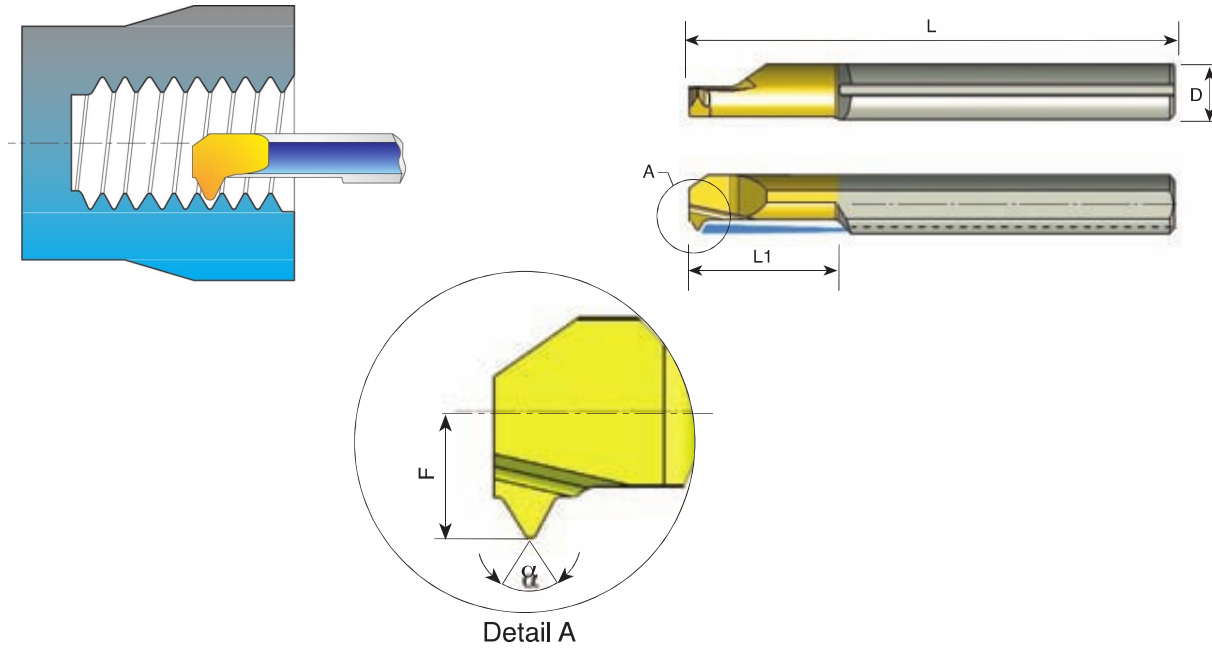
Designation		F	Dmin	D	L1	L	α	β	R
TT	060BWR/L 15-R0.20 A90	2.3	1.0	6.0	15	51	45°	45°	0.20
	060BWR/L 15-R0.20 A60	2.3	1.0	6.0	15	51	60°	30°	0.20

➤ Threading - Partial Profile



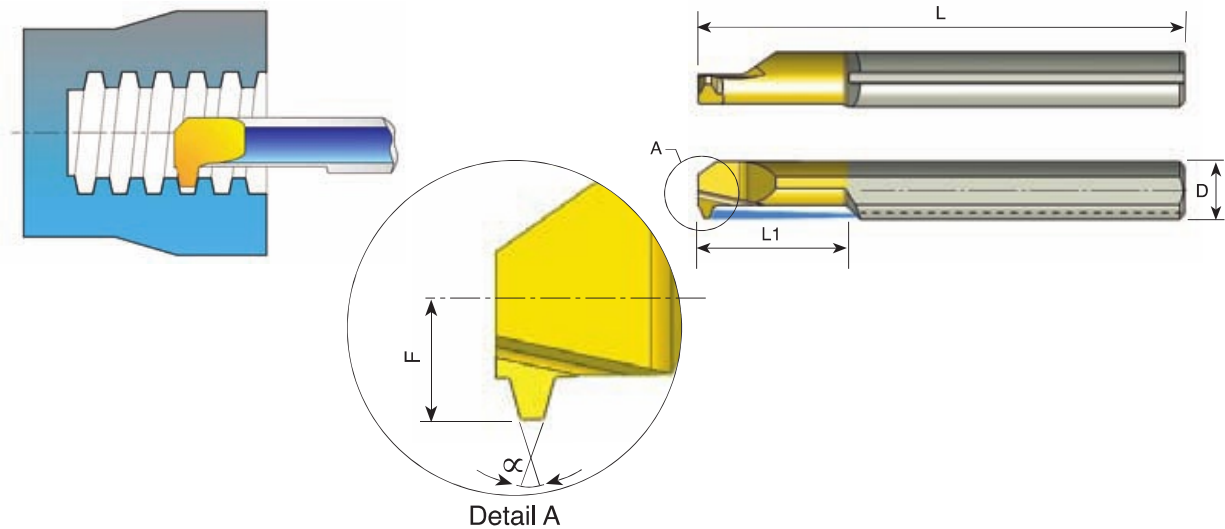
Designation	α	Pitch Range		F	Dmin	D	L1	L	
		mm	TPI						
TT	010TR/L 05-F60	60°	0.25-0.35	100-72	0.55	1.2	1.0	5	39
	015TR/L 06-F60	60°	0.35-0.45	72-56	0.65	1.4	1.0	6	39
	020TR/L 08-F60	60°	0.45-0.70	56-32	1.00	2.1	3.0	8	39
	030TR/L 15-F60	60°	0.70-1.00	32-24	1.40	3.2	3.0	15	39
	030TR/L 15-F55	55°	0.50-1.00	48-24	1.40	3.2	3.0	15	39
	040TR/L 15-F60	60°	0.80-1.00	32-24	1.80	4.1	4.0	15	51
	040TR/L 15-F55	55°	0.50-1.00	48-24	1.80	4.1	4.0	15	51
	050TR/L 15-A60	60°	1.00-1.25	24-20	2.30	5.1	5.0	15	51
	050TR/L 22-A60	60°	1.00-1.25	24-20	2.30	5.1	5.0	22	51
	050TR/L 15-A55	55°	0.50-1.25	48-20	2.30	5.1	5.0	15	51
	050TR/L 22-A55	55°	0.50-1.25	48-20	2.30	5.1	5.0	22	51
	060TR/L 15-A60	60°	1.00-1.50	24-16	2.60	6.0	6.0	15	51
	060TR/L 22-A60	60°	1.00-1.50	24-16	2.60	6.0	6.0	22	51
	060TR/L 15-A55	55°	0.50-1.50	48-16	2.60	6.0	6.0	15	51
	060TR/L 22-A55	55°	0.50-1.50	48-16	2.60	6.0	6.0	22	51
	080TR/L 22-AG60	60°	1.00-2.00	24-13	3.60	8.0	8.0	22	64
	080TR/L 22-AG55	55°	0.50-2.00	48-13	3.60	8.0	8.0	22	64
	100TR/L 35-AG60	60°	1.00-3.00	24-8	4.80	10.1	10.0	35	80
	100TR/L 35-AG55	55°	0.50-3.00	48-8	4.80	10.1	10.0	35	80

Threading - Full Profile



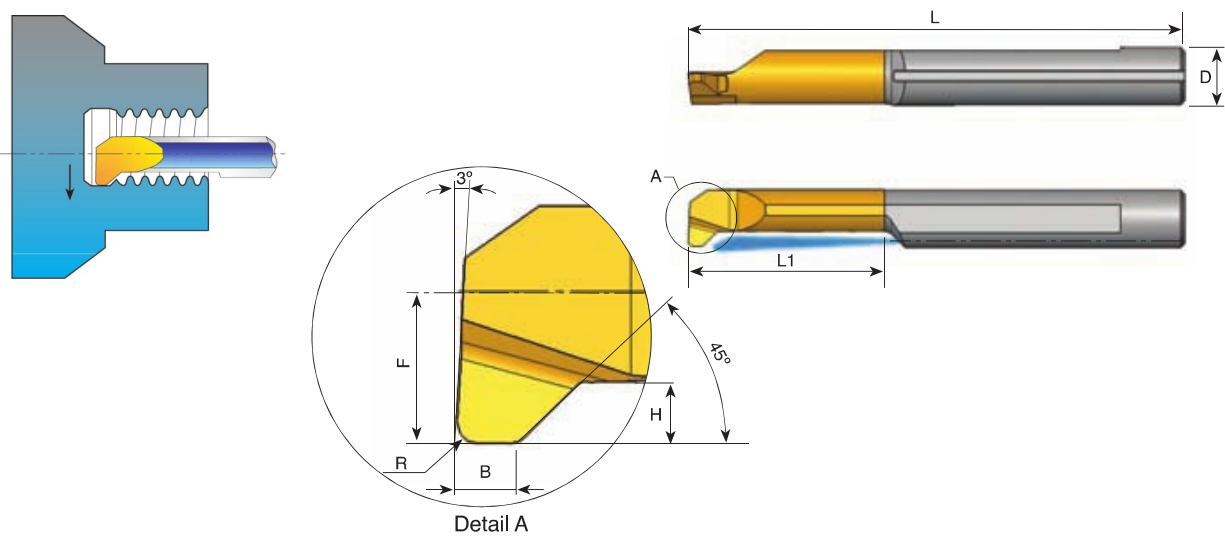
Designation	α	Pitch Range		F	Dmin	D	L1	L	Thread Size
		mm	TPI						
TT 030TR/L 15-050 ISO	60°	0.50		1.4	3.2	3.0	15	39	M4x0.50
030TR/L 15-070 ISO	60°	0.70		1.4	3.2	3.0	15	39	M4x0.70
030TR/L 15-075 ISO	60°	0.75		1.4	3.2	3.0	15	39	M4.5x0.75
030TR/L 15-360 UN	60°		36	1.4	3.2	3.0	15	39	8-36UNF
030TR/L 15-320 UN	60°		32	1.4	3.2	3.0	15	39	8-32UNC
040TR/L 15-050 ISO	60°	0.50		1.8	4.1	4.0	15	51	M5x0.50
040TR/L 15-075 ISO	60°	0.75		1.8	4.1	4.0	15	51	M5x0.75
040TR/L 15-080 ISO	60°	0.80		1.8	4.1	4.0	15	51	M5X0.80
040TR/L 15-360 UN	60°		36	1.8	4.1	4.0	15	51	12-36UNS
040TR/L 15-320 UN	60°		32	1.8	4.1	4.0	15	51	12-32UNEF
050TR/L 15-100 ISO	60°	1.00		2.2	4.9	5.0	15	51	M6x1.00
050TR/L 15-280 UN	60°		28	2.2	4.9	5.0	15	51	1/4-28UNF
050TR/L 18-200 UN	60°		20	2.3	5.0	5.0	15	51	1/4-20UNC
060TR/L 22-125 ISO	60°	1.25		2.8	6.1	6.0	22	51	M8x1.25
060TR/L 18-240 UN	60°		24	2.8	6.5	6.0	18	51	5/16-24UNF
060TR/L 18-180 UN	60°		18	2.8	6.2	6.0	18	51	5/16-18UNC
070TR/L 22-150 ISO	60°	1.50		3.3	7.1	7.0	22	62	M10x1.50
060TR/L 15-270NPT	60°		27	2.6	5.9	6.0	15	51	1/16-27NPT 1/8-27NPT

Threading - Full Profile



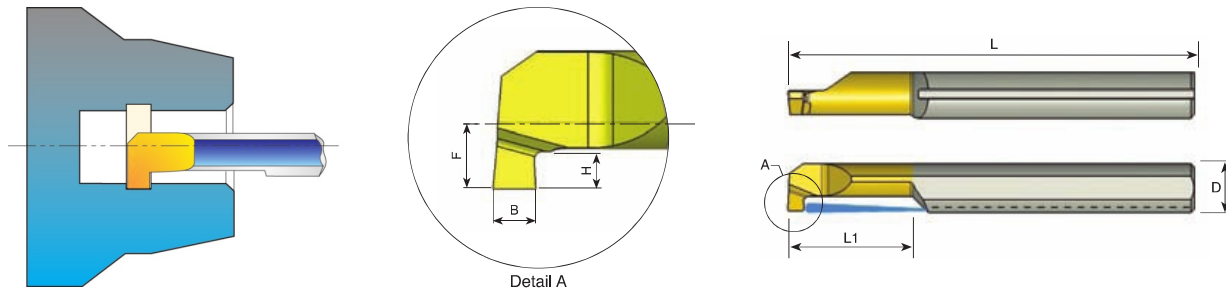
Designation	α	Pitch Range		F	Dmin	D	L1	L	Thread Size
		mm	TPI						
TT 040TR/L 15-160 ACME	29°		16	1.8	4.6	4.0	15	51	1/4-16
060TR/L 20-140 ACME	29°		14	2.8	6.0	6.0	20	51	5/16-14
070TR/L 22-120 ACME	29°		12	3.3	7.2	7.0	22	62	3/8-12
070TR/L 25-200 TR	30°	2.0		3.2	6.9	7.0	25	62	Tr9x2.0 Tr10x2.0 Tr11x2.0 Tr12x2.0
070TR/L 35-300 TR	30°	3.0		3.3	7.5	7.0	35	62	Tr11x3.0 Tr12x3.0
100TR/L 35-200 TR	30°	2.0		4.8	11.0	10.0	35	73	Tr14x2.0 Tr16x2.0 Tr18x2.0 Tr20x2.0
100TR/L 35-300 TR	30°	3.0		4.8	10.5	10.0	35	73	Tr14x3.0 Tr22x3.0 Tr24x3.0 Tr26x3.0 Tr28x3.0
100TR/L 45-400 TR	30°	4.0		4.8	11.5	10.0	45	105	Tr16x4.0 Tr18x4.0 Tr20x4.0
100TR/L 55-500 TR	30°	5.0		4.8	11.0	10.0	55	105	Tr22x5.0 Tr24x5.0 Tr28x5.0

Threading Relief, Chamfering and Grooving



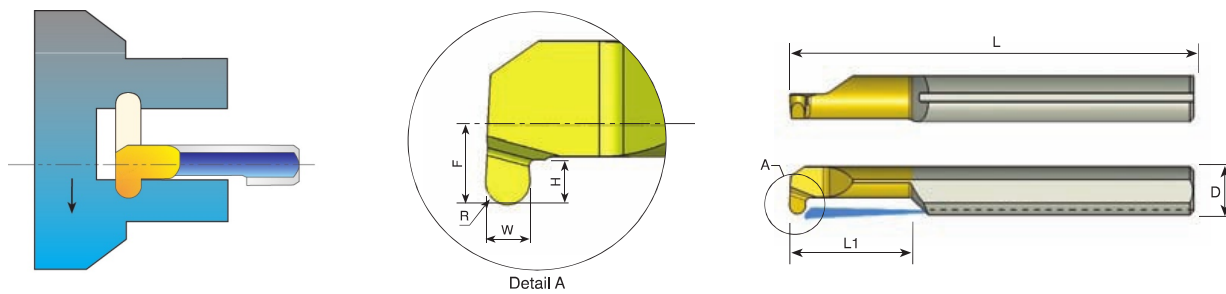
Designation	F	Dmin	D	L1	L	H	B	R
TT 040TDR/L 18-R0.50	1.8	4.1	4.0	18	51	0.8	1.50	0.5
050TDR/L 24-R0.50	2.3	5.1	5.0	24	51	1.2	1.50	0.5
060TDR/L 27-R0.50	2.8	6.1	6.0	27	58	1.4	1.50	0.5

☞ Square Grooving



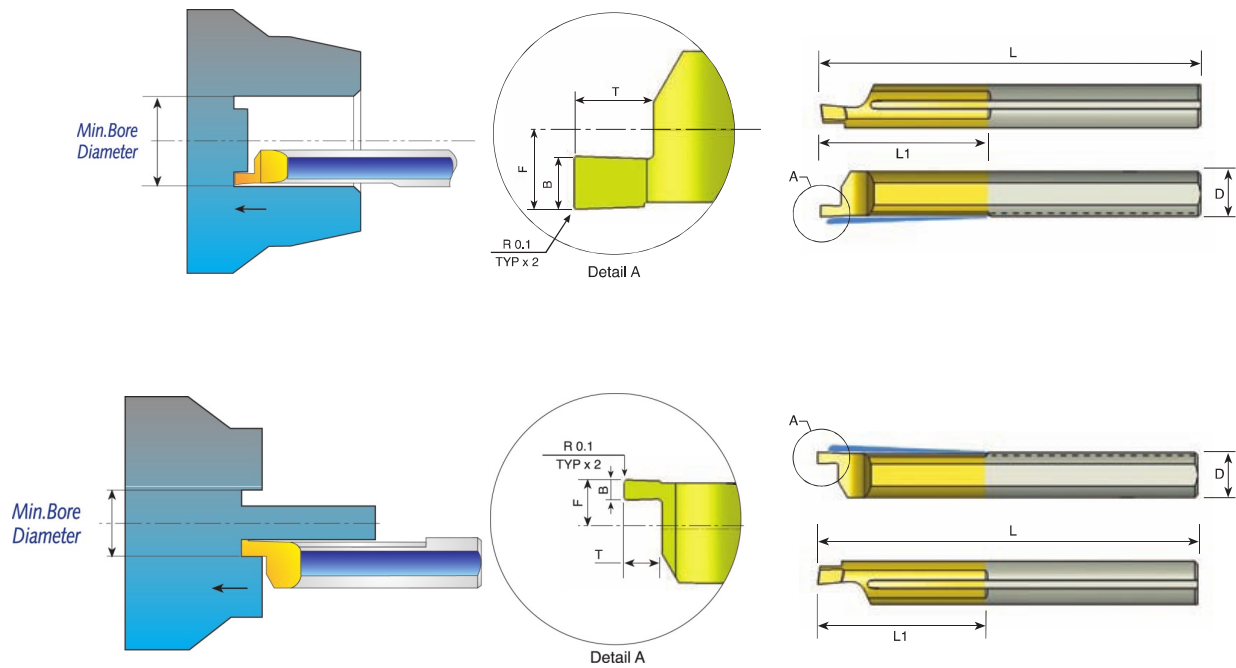
Designation		F	Dmin	D	L1	L	H	B
TT	030GR/L 10-B070	1.3	3.1	3.0	10	39	0.6	0.70
	040GR/L 10-B100	1.7	4.1	4.0	10	51	1.0	1.00
	040GR/L 10-B150	1.7	4.1	4.0	10	51	1.0	1.50
	050GR/L 15-B100	2.3	5.1	5.0	15	51	1.2	1.00
	050GR/L 15-B150	2.3	5.1	5.0	15	51	1.2	1.50
	050GR/L 15-B200	2.3	5.1	5.0	15	51	1.2	2.00
	060GR/L 15-B100	2.8	6.1	6.0	15	51	1.4	1.00
	060GR/L 15-B150	2.8	6.1	6.0	15	51	1.4	1.50
	060GR/L 15-B200	2.8	6.1	6.0	15	51	1.4	2.00
	080GR/L 22-B100	3.8	8.1	8.0	22	64	1.7	1.00
	080GR/L 22-B150	3.8	8.1	8.0	22	64	1.7	1.50
	080GR/L 22-B200	3.8	8.1	8.0	22	64	2.6	2.00

☞ Full Radius Grooving



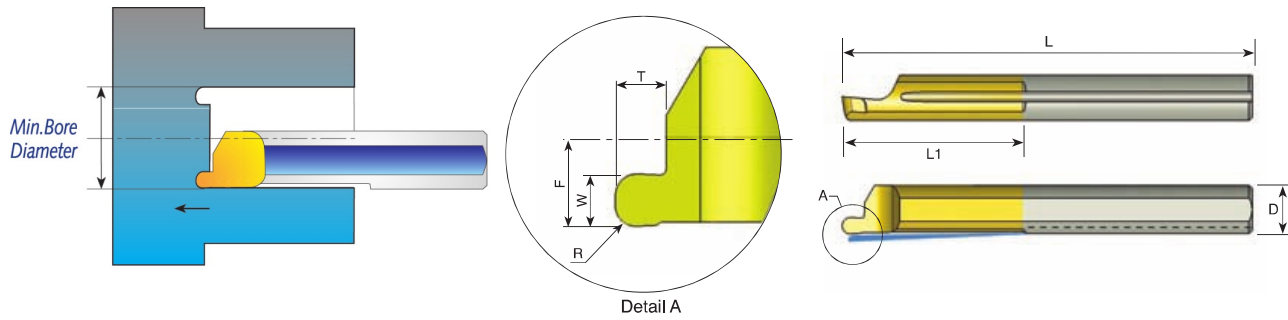
Designation		F	Dmin	D	L1	L	H	W	R
TT	040GRR/L 10-W100	1.7	4.1	4.0	10	51	1.0	1.00	0.50
	040GRR/L 10-W150	1.7	4.1	4.0	10	51	1.0	1.50	0.75
	050GRR/L 15-W100	2.3	5.1	5.0	15	51	1.2	1.00	0.50
	050GRR/L 15-W150	2.3	5.1	5.0	15	51	1.2	1.50	0.75
	050GRR/L 15-W200	2.3	5.1	5.0	15	51	1.2	2.00	1.00
	060GRR/L 15-W100	2.8	6.1	6.0	15	51	1.6	1.00	0.50
	060GRR/L 15-W150	2.8	6.1	6.0	15	51	1.6	1.50	0.75
	060GRR/L 15-W200	2.8	6.1	6.0	15	51	1.6	2.00	1.00

➤ Square Face Grooving



Designation	F		Dmin	D	L1	L	B	T
	Right	Left						
TT 040GFR/L 15-B075	1.95	1.75	5.0	4.0	15	51	0.75	1.20
040GFR/L 15-B100	1.95	1.75	5.0	4.0	15	51	1.00	1.50
040GFR/L 15-B150	1.95	1.75	5.0	4.0	15	51	1.50	2.80
050GFR/L 22-B075	2.45	2.25	6.0	5.0	22	51	0.75	1.20
050GFR/L 22-B100	2.45	2.25	6.0	5.0	22	51	1.00	1.50
050GFR/L 22-B150	2.45	2.25	6.0	5.0	22	51	1.50	2.50
050GFR/L 22-B200	2.45	2.25	6.0	5.0	22	51	2.00	3.80
060GFR/L 22-B100	2.95	2.75	8.0	5.0	22	51	1.00	1.50
060GFR/L 22-B150	2.95	2.75	8.0	6.0	22	51	1.50	2.50
060GFR/L 22-B200	2.95	2.75	8.0	6.0	22	51	2.00	3.00
060GFR/L 22-B250	2.95	2.75	8.0	6.0	22	51	2.50	4.80
060GFR/L 30-B300	2.95	2.75	8.0	6.0	30	58	3.00	6.00
080GFR/L 22-B250	3.95	3.75	10.0	8.0	22	64	2.50	3.60

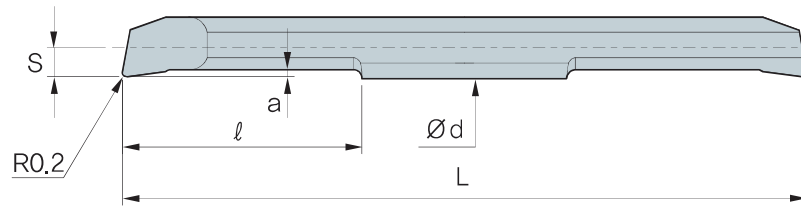
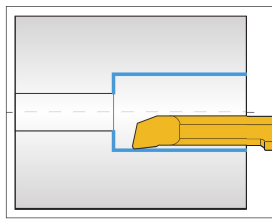
Full Radius Face Grooving



Designation		F	Dmin	D	L1	L	T	W	R
TT	040GRFR/L 15-W100	1.95	5.0	4.0	15	51	1.2	1.00	0.50
	040GRFR/L 15-W150	1.95	5.0	4.0	15	51	1.5	1.50	0.75
	050GRFR/L 22-W100	2.45	6.0	5.0	22	51	1.2	1.00	0.50
	050GRFR/L 22-W150	2.45	6.0	5.0	22	51	1.5	1.50	0.75
	050GRFR/L 22-W200	2.45	6.0	5.0	22	51	2.5	2.00	1.00
	060GRFR/L 22-W100	2.95	8.0	6.0	22	51	1.2	1.00	0.50
	060GRFR/L 22-W150	2.95	8.0	6.0	22	51	1.5	1.50	0.75
	060GRFR/L 22-W200	2.95	8.0	6.0	22	51	2.5	2.00	1.00

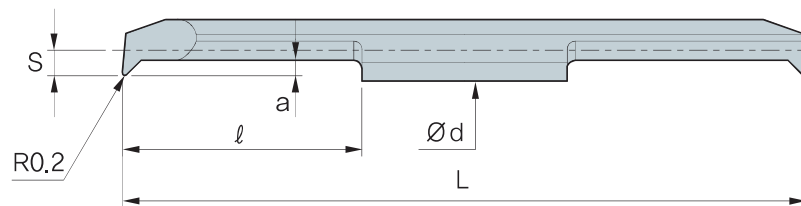
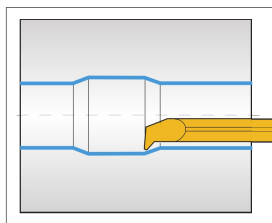
Turning Tiny Tool of Double Ended

Boring



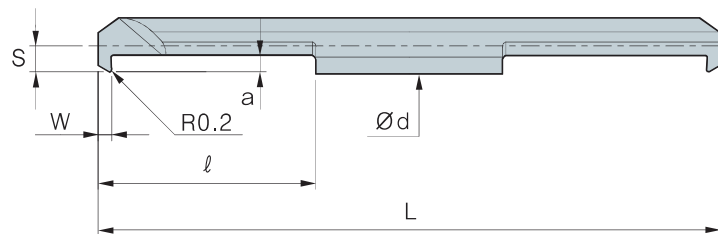
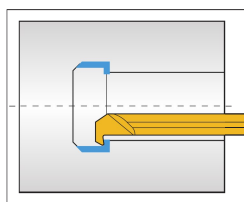
Designation		φd	Dmin	l	L	a	S
TT	030BR/L 10-R0.20-2	3.0	3.2	10	40	0.50	1.4
	030BR/L 15-R0.20-2	3.0	3.2	15	50	0.50	1.4
	040BR/L 10-R0.20-2	4.0	4.2	10	40	0.60	1.9
	040BR/L 15-R0.20-2	4.0	4.2	15	50	0.60	1.9
	040BR/L 20-R0.20-2	4.0	4.2	20	60	0.60	1.9
	060BR/L 10-R0.20-2	6.0	6.2	10	45	0.75	2.9
	060BR/L 15-R0.20-2	6.0	6.2	15	55	0.75	2.9
	060BR/L 20-R0.20-2	6.0	6.2	20	60	0.75	2.9
	080BR/L 10-R0.20-2	8.0	8.2	10	50	0.80	3.9
	080BR/L 20-R0.20-2	8.0	8.2	20	70	0.80	3.9
	080BR/L 30-R0.20-2	8.0	8.2	30	80	0.80	3.9
	100BR/L 15-R0.20-2	10.0	10.2	15	60	1.00	4.9
	100BR/L 25-R0.20-2	10.0	10.2	25	80	1.00	4.9
	100BR/L 35-R0.20-2	10.0	10.2	35	100	1.00	4.9

Copying and Boring



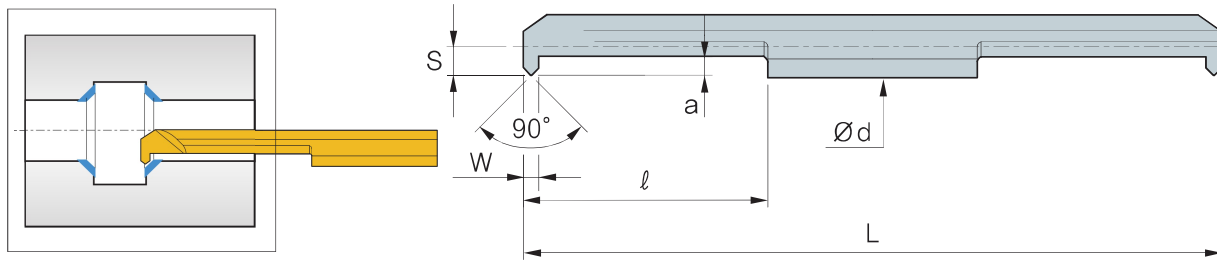
Designation		φd	Dmin	l	L	a	S
TT	040BCR/L 10-R0.20-2	4.0	4.2	10	40	1.0	1.9
	040BCR/L 15-R0.20-2	4.0	4.2	15	50	1.0	1.9
	040BCR/L 20-R0.20-2	4.0	4.2	10	60	1.0	1.9
	060BCR/L 10-R0.20-2	6.0	6.2	15	45	1.3	2.9
	060BCR/L 15-R0.20-2	6.0	6.2	20	55	1.3	2.9
	060BCR/L 20-R0.20-2	6.0	6.2	10	60	1.3	2.9

Back Boring



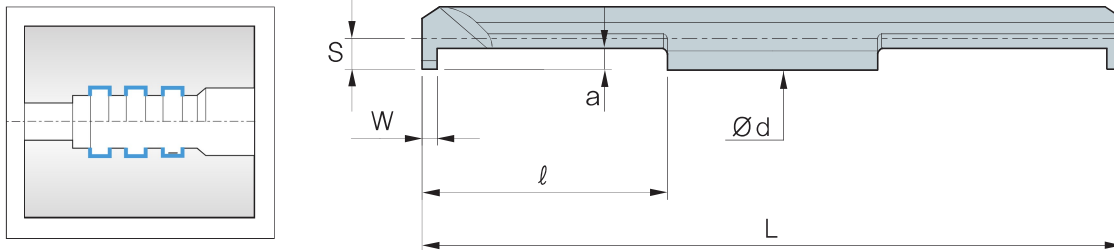
Designation		φd	Dmin	l	L	a	S	W
TT	030BBR/L 10-R0.20-2	3.0	3.2	10	40	0.8	1.4	1.5
	030BBR/L 15-R0.20-2	3.0	3.2	15	50	0.8	1.4	1.5
	040BBR/L 10-R0.20-2	4.0	4.2	10	40	1.3	1.9	2.0
	040BBR/L 15-R0.20-2	4.0	4.2	15	50	1.3	1.9	2.0
	040BBR/L 20-R0.20-2	4.0	4.2	20	60	1.3	1.9	2.0
	060BBR/L 10-R0.20-2	6.0	6.2	10	45	1.9	2.9	2.0
	060BBR/L 15-R0.20-2	6.0	6.2	15	55	1.9	2.9	2.0
	060BBR/L 20-R0.20-2	6.0	6.2	20	60	1.9	2.9	2.0

➤ Chamfering and Boring



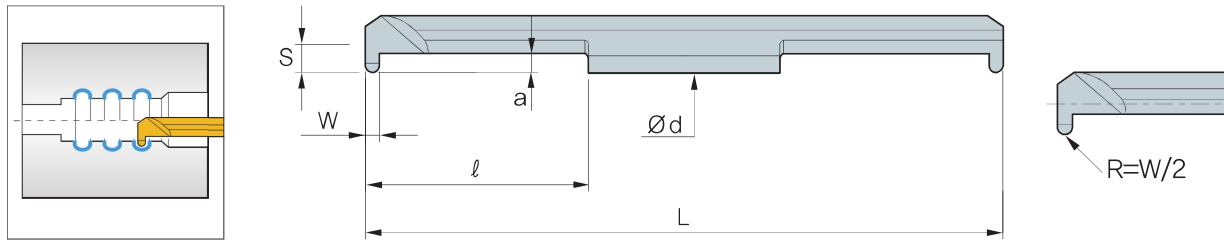
Designation		φd	Dmin	l	L	a	S	W
TT	040BFR/L 10-R0.20-2	4.0	4.2	10	40	1.0	1.9	0.8
	040BFR/L 15-R0.20-2	4.0	4.2	15	50	1.0	1.9	0.8
	040BFR/L 20-R0.20-2	4.0	4.2	20	60	1.0	1.9	0.8
	060BFR/L 10-R0.20-2	6.0	6.2	10	45	1.2	2.9	1.4
	060BFR/L 15-R0.20-2	6.0	6.2	15	55	1.2	2.9	1.4
	060BFR/L 20-R0.20-2	6.0	6.2	20	60	1.2	2.9	1.4

➤ Square Grooving



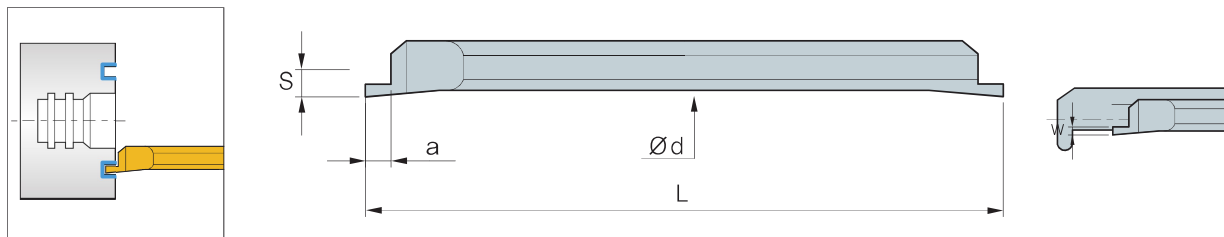
Designation		φd	Dmin	l	L	a	S	W
TT	030GR/L 10-B100-2	3.0	3.2	10	40	0.8	1.4	1.0
	030GR/L 10-B150-2	3.0	3.2	10	40	0.8	1.4	1.5
	030GR/L 15-B100-2	3.0	3.2	15	50	0.8	1.4	1.0
	030GR/L 15-B150-2	3.0	3.2	15	50	0.8	1.4	1.5
	040GR/L 10-B100-2	4.0	4.2	10	40	1.4	1.9	1.0
	040GR/L 20-B100-2	4.0	4.2	20	60	1.4	1.9	1.0
	040GR/L 10-B150-2	4.0	4.2	10	40	1.4	1.9	1.5
	040GR/L 20-B150-2	4.0	4.2	20	60	1.4	1.9	1.5
	040GR/L 10-B200-2	4.0	4.2	10	40	1.4	1.9	2.0
	040GR/L 20-B200-2	4.0	4.2	20	60	1.4	1.9	2.0
	060GR/L 10-B100-2	6.0	6.2	10	45	1.8	2.9	1.0
	060GR/L 20-B100-2	6.0	6.2	20	65	1.8	2.9	1.0
	060GR/L 10-B150-2	6.0	6.2	10	45	1.8	2.9	1.5
	060GR/L 20-B150-2	6.0	6.2	20	65	1.8	2.9	1.5
	060GR/L 10-B200-2	6.0	6.2	10	45	1.8	2.9	2.0
	060GR/L 20-B200-2	6.0	6.2	20	65	1.8	2.9	2.0
	060GR/L 10-B250-2	6.0	6.2	10	45	2.0	2.9	2.5
	060GR/L 20-B250-2	6.0	6.2	20	65	2.0	2.9	2.5
	080GR/L 20-B150-2	8.0	8.2	20	70	2.5	3.9	1.5
	080GR/L 20-B200-2	8.0	8.2	20	70	2.5	3.9	2.0
	080GR/L 20-B250-2	8.0	8.2	20	70	3.5	3.9	2.5
	080GR/L 20-B300-2	8.0	8.2	20	70	3.5	3.9	3.0
	100GR/L 25-B150-2	10.0	10.2	25	80	2.5	4.9	1.5
	100GR/L 25-B200-2	10.0	10.2	25	80	2.5	4.9	2.0
	100GR/L 25-B250-2	10.0	10.2	25	80	3.5	4.9	2.5
	100GR/L 25-B300-2	10.0	10.2	25	80	3.5	4.9	3.0

Full Radius Grooving



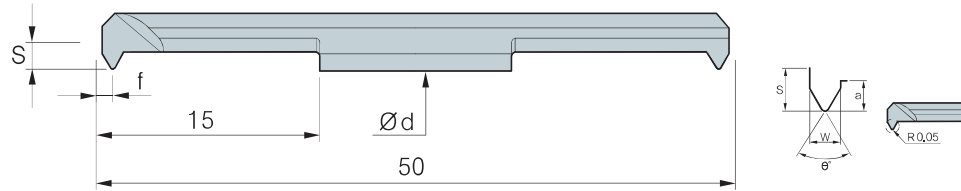
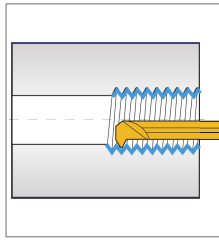
Designation		φd	Dmin	l	L	a	S	W	R
TT	030GRR/L 10-W080-2	3.0	3.2	10	40	0.8	1.4	0.8	0.40
	030GRR/L 15-W080-2	3.0	3.2	15	50	0.8	1.4	0.8	0.40
	040GRR/L 10-W100-2	4.0	4.2	10	40	1.0	1.9	1.0	0.50
	040GRR/L 20-W100-2	4.0	4.2	20	60	1.0	1.9	1.0	0.50
	060GRR/L 10-W100-2	6.0	6.2	10	45	2.0	2.9	1.0	0.50
	060GRR/L 20-W100-2	6.0	6.2	20	65	2.0	2.9	1.0	0.50
	060GRR/L 10-W150-2	6.0	6.2	10	45	2.0	2.9	1.5	0.75
	060GRR/L 20-W150-2	6.0	6.2	20	65	2.0	2.9	1.5	0.75
	060GRR/L 10-W200-2	6.0	6.2	10	45	2.0	2.9	2.0	1.00
	060GRR/L 20-W200-2	6.0	6.2	20	65	2.0	2.9	2.0	1.00
	080GRR/L 20-W100-2	8.0	8.2	20	70	2.3	3.9	1.0	0.50
	080GRR/L 20-W150-2	8.0	8.2	20	70	2.3	3.9	1.5	0.75
	080GRR/L 20-W200-2	8.0	8.2	20	70	2.3	3.9	2.0	1.00
	100GRR/L 25-W100-2	10.0	10.2	25	80	2.8	4.9	1.0	0.50
	100GRR/L 25-W150-2	10.0	10.2	25	80	2.8	4.9	1.5	0.75
	100GRR/L 25-W200-2	10.0	10.2	25	80	2.8	4.9	2.0	1.00

Square Face Grooving

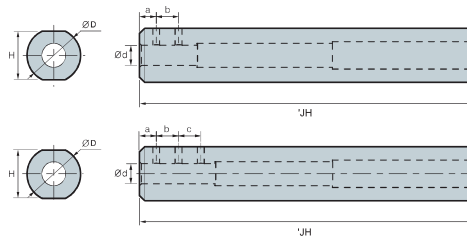


Designation		φd	Dmin	L	a	S	W
TT	040GFR/L 00-B100-2	4.0	6.0	50	1.4	1.8	1.0
	040GFR/L 00-B150-2	4.0	6.0	50	1.4	1.8	1.5
	060GFR/L 00-B100-2	6.0	8.5	50	1.5	2.9	1.0
	060GFR/L 00-B150-2	6.0	8.5	50	2.0	2.9	1.5
	060GFR/L 00-B200-2	6.0	8.5	50	2.5	2.9	2.0
	080GFR/L 00-B100-2	8.0	10.4	70	1.5	3.9	1.0
	080GFR/L 00-B150-2	8.0	10.4	70	2.0	3.9	1.5
	080GFR/L 00-B200-2	8.0	10.4	70	2.5	3.9	2.0
	100GFR/L 00-B200-2	10.0	12.4	80	2.5	4.9	2.0
	100GFR/L 00-B250-2	10.0	12.4	80	3.0	4.9	2.5
	100GFR/L 00-B300-2	10.0	12.4	80	3.5	4.9	3.0
	100GFR/L 00-B350-2	10.0	12.4	80	4.0	4.9	3.5
	100GFR/L 00-B400-2	10.0	12.4	80	4.5	4.9	4.0
	100GFR/L 00-B450-2	10.0	12.4	80	5.0	4.9	4.5

Threading

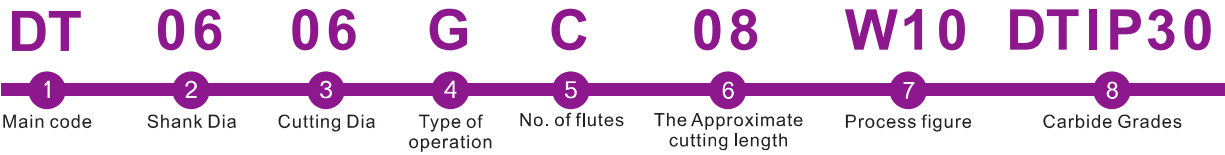


Designation	φd	Dmin	L	a	S	W	f	Pitch		θ°
								mm	TPI	
TT 030TR/L 15-F60-2	3.0	3.3	50	1.2	1.45	1.2	0.6	0.5-1.0	48-24	60°
030TR/L 15-F55-2	3.0	3.3	50	1.2	1.45	1.2	0.6	0.5-1.0	48-24	55°
040TR/L 15-F60-2	4.0	4.3	50	1.2	1.95	1.2	0.6	0.5-1.0	48-24	60°
040TR/L 15-F55-2	4.0	4.3	50	1.2	1.95	1.2	0.6	0.5-1.0	48-24	55°
060TR/L 15-A60-2	6.0	6.2	50	2.2	2.90	2.0	1.0	0.5-1.5	28-16	60°
060TR/L 15-A55-2	6.0	6.2	50	2.2	3.90	2.0	1.0	0.5-1.5	28-16	55°



Designation	φd	a	b	c	ΦD	H	L	Spart Parts		Fig.
								Screw	Wrench	
TSL 0316-100L	3.0	5.0	-	-	16	14	100	S3	L1.5	1
0416-100L	4.0	5.0	6	-	16	14	100	S4	L2.0	1
0516-100L	5.0	5.0	8	-	16	14	100	S4	L2.0	1
0616-100L	6.0	5.0	6	6	16	14	100	S4	L2.0	2
0716-100L	7.0	5.0	6	8	16	14	100	S4	L2.0	2
0816-100L	8.0	5.0	10	10	16	14	100	S4	L2.0	2
1016-100L	10.0	5.0	10	10	16	14	100	S5	L2.0	2
0320-100L	3.0	5.0	-	-	20	18	100	S3	L1.5	1
0420-100L	4.0	5.0	6	-	20	18	100	S4	L2.0	1
0520-100L	5.0	5.0	8	-	20	18	100	S4	L2.0	1
0620-100L	6.0	5.0	6	8	20	18	100	S4	L2.0	2
0720-100L	7.0	5.0	6	8	20	18	100	S4	L2.0	2
0820-100L	8.0	5.0	10	10	20	18	100	S4	L2.0	2
1020-100L	10.0	5.0	10	10	20	18	100	S5	L2.0	2
0325-100L	3.0	5.0	-	-	25	23	100	S3	L1.5	1
0425-100L	4.0	5.0	6	-	25	23	100	S4	L2.0	1
0525-100L	5.0	5.0	8	-	25	23	100	S4	L2.0	1
0625-100L	6.0	5.0	6	8	25	23	100	S4	L2.0	2
0725-100L	7.0	5.0	6	8	25	23	100	S4	L2.0	2
0825-100L	8.0	5.0	10	10	25	23	100	S4	L2.0	2
1025-100L	10.0	5.0	10	10	25	23	100	S5	L2.0	2

➤ Milling Tiny Tool Code System



1 Main Code

DT 06 06 G C 08 W10
DTIP30

TT = Tiny Tool

2 Shank Diameter

DT 06 06 G C 08 W10
DTIP30

03: 3mm 04: 4mm 05: 5mm
06: 6mm 08: 8mm 10: 10mm
12: 12mm

3 Cutting Diameter

DT 06 06 G C 08 W10
DTIP30

015: 1.5mm 05: 5.0mm
06: 6.0mm 10: 10.0mm

4 Type of Operation

DT 06 06 G C 08 W10
DTIP30

G: Grooving C: Chamfering

5 No. of Flutes

DT 06 06 G C 08 W10
DTIP30

C=3 D=4 E=5 F=6

6 The Approximate Cutting Length

DT 06 06 G C 08 W10
DTIP30

8 = 8.0mm 10 = 10.0mm 40 = 40.0mm

7 Process Figure

DT 06 06 G C 08 W10
DTIP30

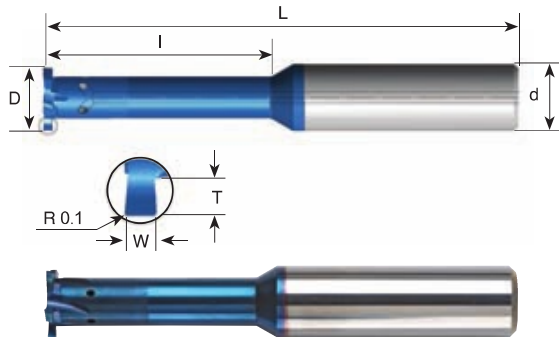
W = Grooving Width
08=0.8mm 10=1.0mm
R = Round Radius
05=0.5mm 06=0.6mm 09=0.9mm
10=1.0mm 15=1.5mm
Chamfering: Profile Angle
A90=90° A60=60° A45=45°

8 Carbide Grades

DT 06 06 G C 08 W10
DTIP30

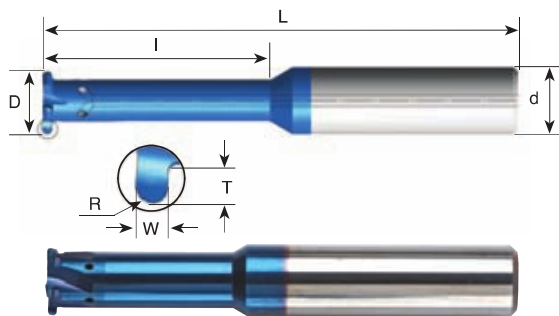
DTIP30 DTIM45 DTIS30

➤ Square Grooving Milling



● Same Tool for Internal and External Grooving

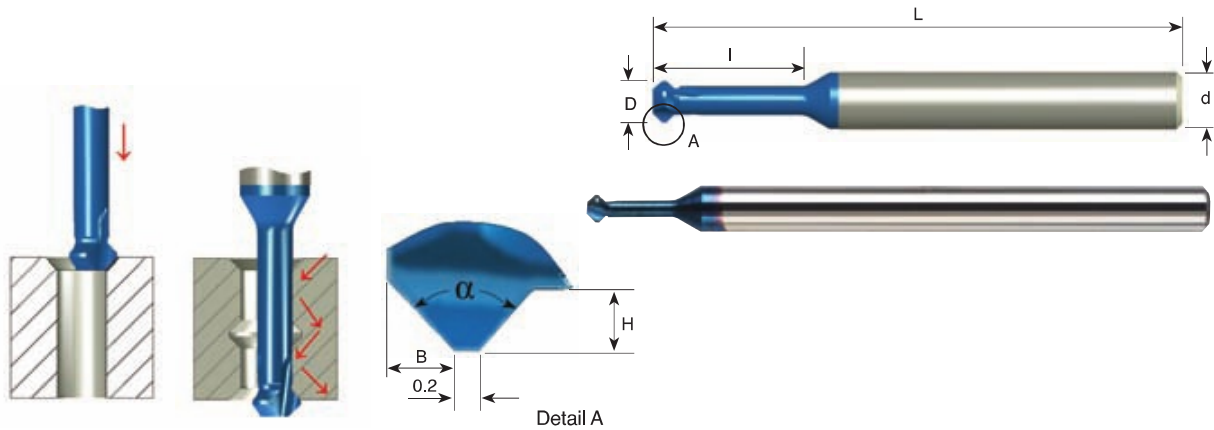
Designation		W ±0.02	T Max.	Groove Dia. (min.)	d	D	No. of Flutes	I	L
TT	0606G C08 W08	0.8	0.8	$\varphi > 6$	6	6.0	3	8	58
	08078G D10 W10	1.0	1.2	$\varphi \geq 8$	8	7.8	4	10	64
	10098G D20 W12	1.2	1.4	$\varphi \geq 10$	10	9.8	4	20	73
	1616G E30 W14	1.4	1.8	$\varphi > 16$	16	16.0	5	30	101
	1616G E40 W17	1.7	2.0	$\varphi > 16$	16	16.0	5	40	101
	1616G E45 W19	2.0	2.2	$\varphi > 16$	16	16.0	5	45	101



● Same Tool for Internal and External Grooving

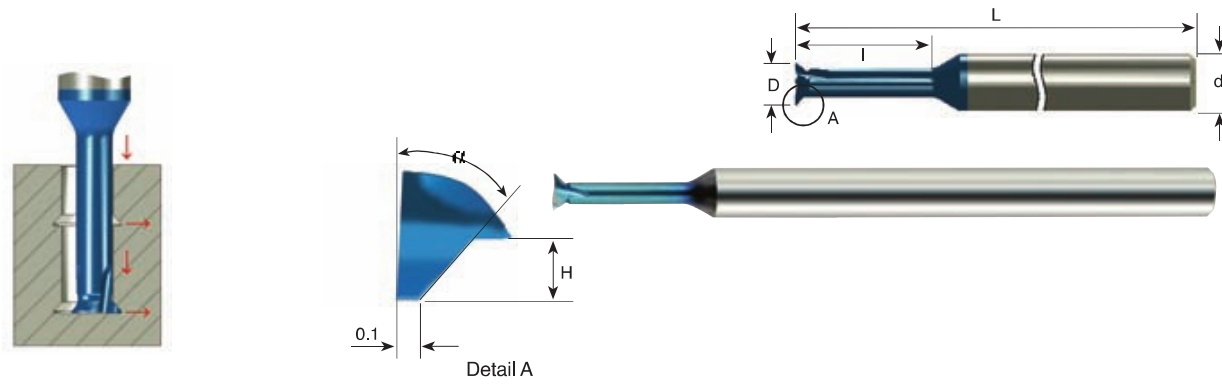
Designation		R	W ±0.02	T Max.	Groove Dia. (min.)	d	D	No. of Flutes	I	L
TT	0606G C08 R05	0.5	1.0	0.8	$\varphi > 6$	6	6.0	3	8	58
	10088G D16 R05	0.5	1.0	1.0	$\varphi > 8.8$	10	8.8	4	16	73
	1010G D20 R06	0.6	1.2	1.0	$\varphi > 10$	10	10.0	4	20	73
	1212G D30 R09	0.9	1.8	1.4	$\varphi > 12$	12	12.0	4	30	84
	1616G E40 R10	1.0	2.0	1.6	$\varphi > 16$	16	16.0	5	40	101
	1616G E40 R15	1.5	3.0	2.2	$\varphi > 16$	16	16.0	5	40	101

➤ Mini Chamfering

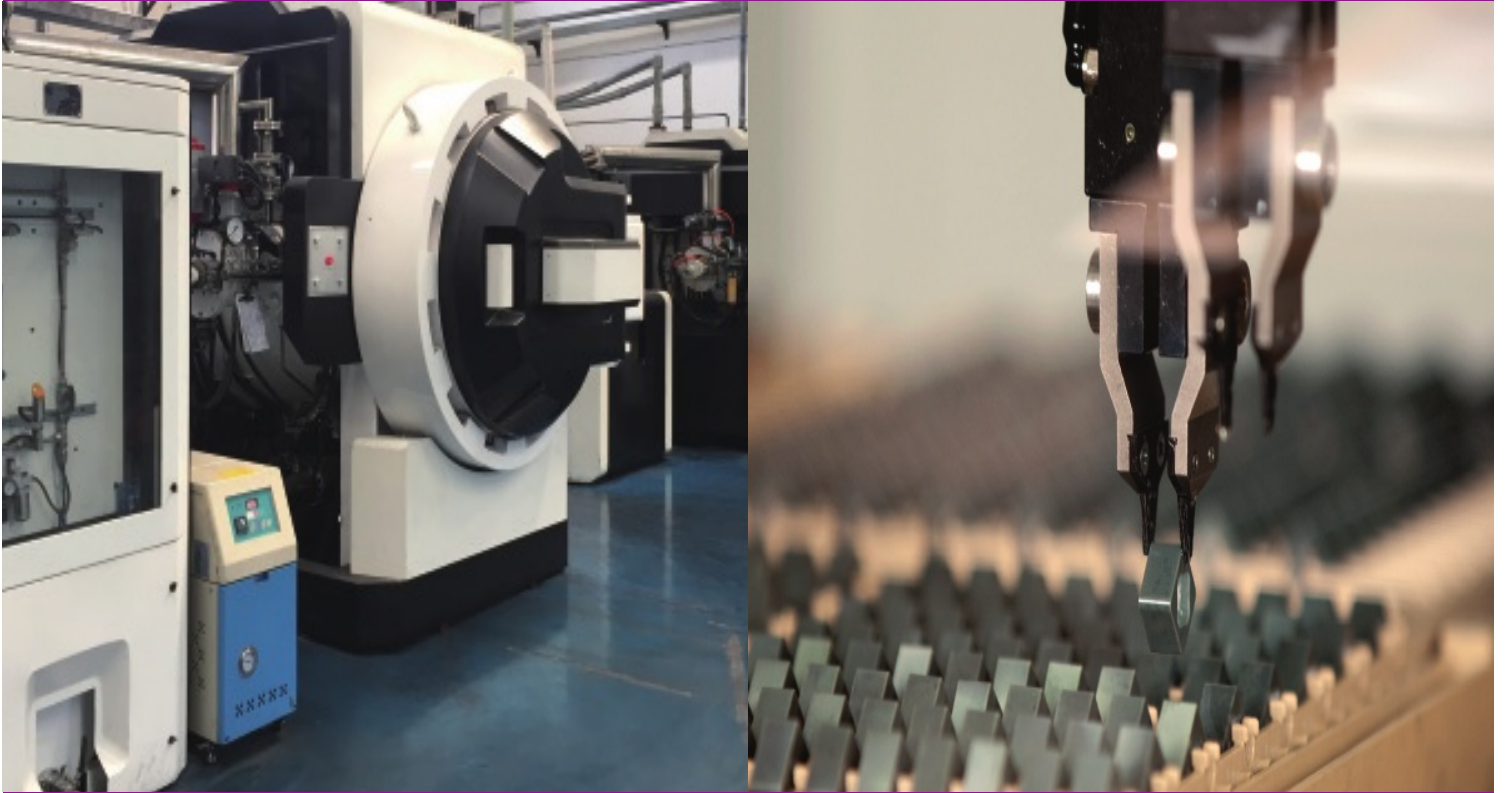


Designation		d	D	I	H	B	α	No. of Flutes	L
TT	03015C C03 A90	3.0	1.5	3.8	0.3	0.4	90°	3	39
	0302C C05 A90	3.0	2.0	5.0	0.4	0.5	90°	3	39
	03025C C06 A90	3.0	2.5	6.3	0.5	0.6	90°	3	39
	0303C C07 A90	3.0	3.0	7.5	0.6	0.7	90°	3	39
	0303C C12 A90	3.0	3.0	12.0	0.6	0.7	90°	3	39
	04035C C09 A90	4.0	3.5	8.8	0.7	0.8	90°	3	51
	04035C C14 A90	4.0	3.5	14.0	0.7	0.8	90°	3	51
	0404C C10 A90	4.0	4.0	10.0	0.8	0.9	90°	3	51
	0404C C16 A90	4.0	4.0	16.0	0.8	0.9	90°	3	51
	05045C C11 A90	5.0	4.5	11.3	1.0	1.1	90°	3	51
	05045C C18 A90	5.0	4.5	18.0	1.0	1.1	90°	3	51
	0505C C12 A90	5.0	5.0	12.5	1.1	1.2	90°	3	51
	0505C C20 A90	5.0	5.0	20.0	1.1	1.2	90°	3	51
	06055C C13 A90	6.0	5.5	13.8	1.2	1.3	90°	3	51
	06055C C22 A90	6.0	5.5	22.0	1.2	1.3	90°	3	58
	0606C C15 A90	6.0	6.0	15.0	1.5	1.6	90°	3	51
	0606C C24 A90	6.0	6.0	24.0	1.5	1.6	90°	3	58
	0808C D28 A90	8.0	8.0	28.0	1.6	1.7	90°	4	64
	1010C E35 A90	10.0	10.0	35.0	1.8	1.8	90°	5	73
	1212C F42 A90	12.0	12.0	42.0	2.1	2.2	90°	6	84
	0302C C05 A60	3.0	2.0	5.0	0.4	0.3	60°	3	39
	0303C C07 A60	3.0	3.0	7.5	0.6	0.3	60°	3	39
	04035C C09 A90	4.0	3.5	8.8	0.7	0.5	60°	3	51
	0404C C10 A60	4.0	4.0	10.0	0.8	0.5	60°	3	51
	05045C C11 A60	5.0	4.5	11.3	1.0	0.6	60°	3	51
	0505C C12 A60	5.0	5.0	12.5	1.1	0.7	60°	3	51

➤ Mini Chamfering of Dovetail



Designation		d	D	l	H	α	No. of Flutes	L
TT	03015C C04 A45	3,0	1,5	4,5	0,3	45°	3	39
	0302C C06 A45	3,0	2,0	6,0	0,4	45°	3	39
	03025C C07 A45	3,0	2,5	7,5	0,5	45°	3	39
	0303C C12 A45	3,0	3,0	12,0	0,6	45°	3	39
	04035C C14 A45	4,0	3,5	14,0	0,7	45°	3	51
	0404C C16 A45	4,0	4,0	16,0	0,8	45°	3	51
	05045C C18 A45	5,0	4,5	18,0	1,0	45°	3	51
	0505C C20 A45	5,0	5,0	20,0	1,1	45°	3	51
	06055C C22 A45	6,0	5,5	22,0	1,2	45°	3	58
	0606C C24 A45	6,0	6,0	24,0	1,5	45°	3	58



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This CATALOGUE is made as of January 2020 as per ISO standard, the information of products such as dimensions, prospective performance and quality, contained in the CATALOGUE is subject to change due to the constant Research & Development. Please, Contact us for more information