ASM90-LN13

Square Shoulder Milling Cutter

Features and Application

- True 90°shoulder milling cutter, cutter dia.:ϕ40-ϕ160mm.
- High precision axial and radial runout.
- Tangential mounted inserts, with high body strength and working efficiency.
- Different pitch design, coarse pitch and close pitch.
- Cutter interface: arbor style, cylindrical style, side-locked style and modular style.
- Shining Nickel-plated cutter gives good corrosion and wear resistance.

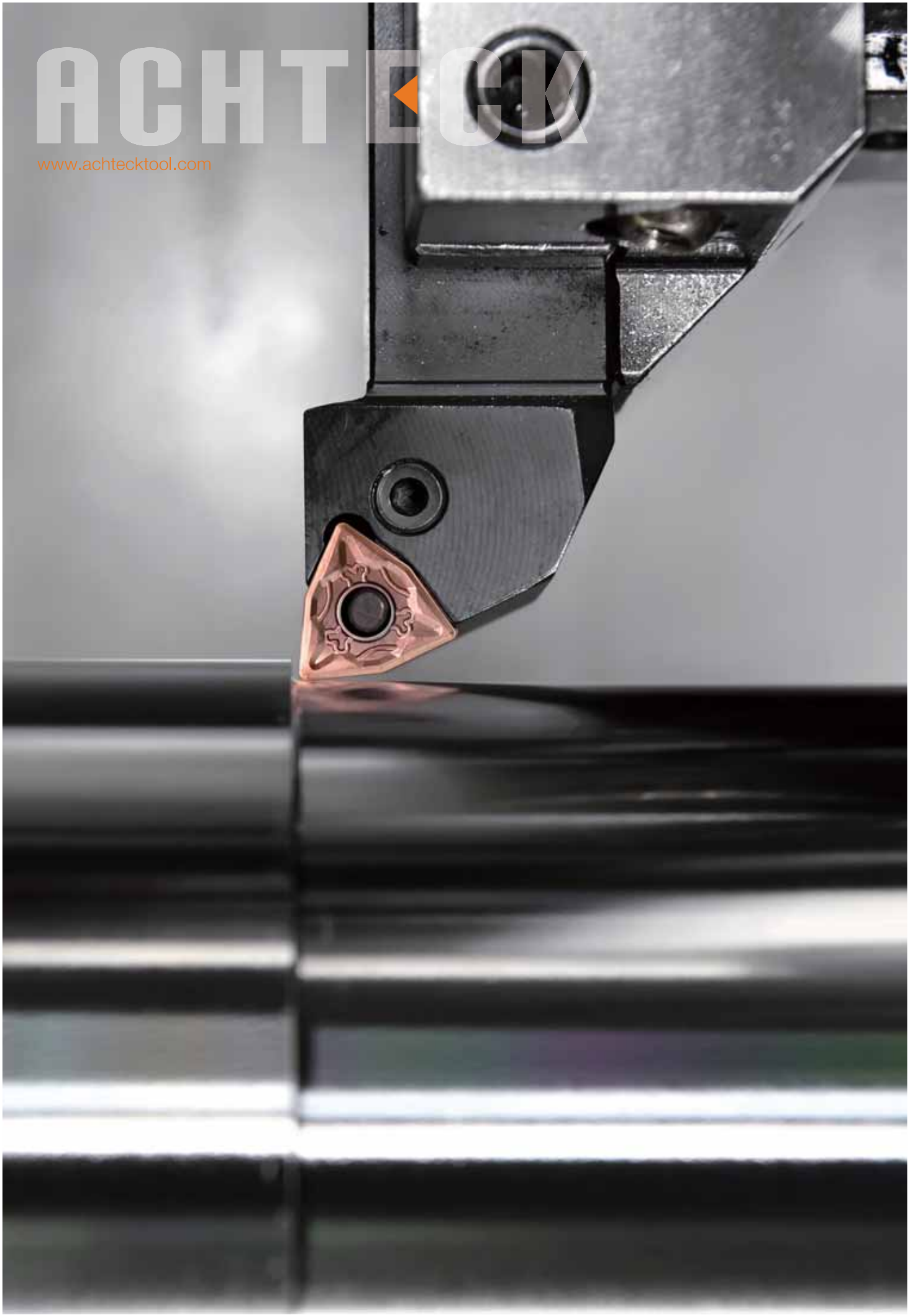
- Economical negative inserts with 4 cutting edges, strong edges with positive rake angle for smooth and efficient machining.
- MR2 geometry with a short wiper design, to get better surface roughness.
- Many choices of corner radius, R0.8/1.2/1.6/2.0/2.4/3.1.
- Inserts in 6 different kind of grades, gives a wide applications area.

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CUTTING TOOL CATALOGUE

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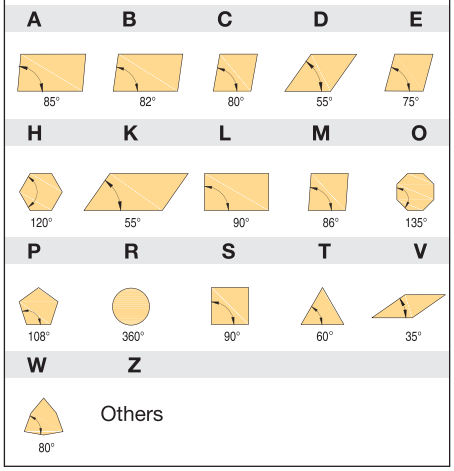
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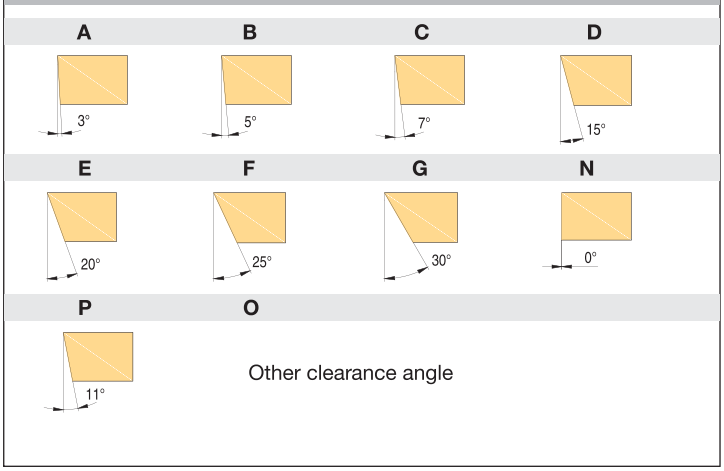
ISO Turning Insert Designation System

C	N	M	G
1	2	3	4

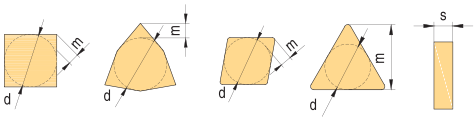
1- Shape/Code



2- Clearance Angle



3- Tolerance



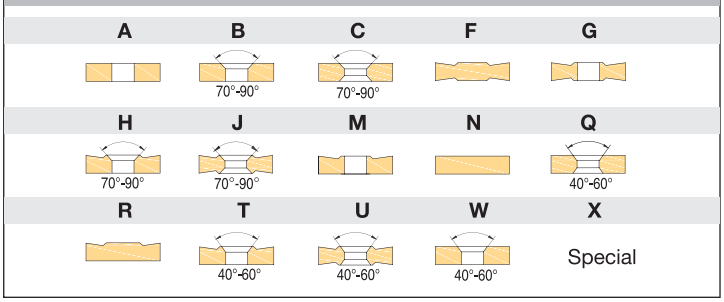
Class	Unit	In.Circle Dimension d	Nose height m	Thickness s
A	mm	± 0,025	± 0,005	± 0,025
C	mm	± 0,025	± 0,013	± 0,025
E	mm	± 0,025	± 0,025	± 0,025
F	mm	± 0,013	± 0,005	± 0,025
G	mm	± 0,025	± 0,025	± 0,130
H	mm	± 0,013	± 0,013	± 0,025
J	mm	*	± 0,005	± 0,025
K	mm	*	± 0,013	± 0,025
L	mm	*	± 0,025	± 0,025
M	mm	*	*	± 0,127
U	mm	*	*	± 0,127
N	mm	*	*	± 0,025

* For details refer to right and below tables

Shape : C, E, H, M, O, P, S, T, R, W				
IC	d		m	
	J,K,L,M,N	U	M, N	U
4.76	± 0,05	± 0,08	± 0,08	± 0,13
5.56	± 0,05	± 0,08	± 0,08	± 0,13
6	± 0,05	± 0,08	± 0,08	± 0,13
6.35	± 0,05	± 0,08	± 0,08	± 0,13
7.94	± 0,05	± 0,08	± 0,08	± 0,13
8	± 0,05	± 0,08	± 0,08	± 0,13
9.525	± 0,05	± 0,08	± 0,08	± 0,13
10	± 0,05	± 0,08	± 0,08	± 0,13
12	± 0,08	± 0,13	± 0,13	± 0,2
12.7	± 0,08	± 0,13	± 0,13	± 0,2
15.875	± 0,1	± 0,18	± 0,15	± 0,27
16	± 0,1	± 0,18	± 0,15	± 0,27
19.05	± 0,1	± 0,18	± 0,15	± 0,27
20	± 0,1	± 0,18	± 0,15	± 0,27
25	± 0,13	± 0,25	± 0,18	± 0,38
25.4	± 0,13	± 0,25	± 0,18	± 0,38
31.75	± 0,15	± 0,25	± 0,2	± 0,38
32	± 0,15	± 0,25	± 0,2	± 0,38

M&N shape	D shape		V shape	
IC	d	m	d	m
5.56	± 0,05	± 0,11		
6.35	± 0,05	± 0,11	± 0,05	± 0,16
7.94	± 0,05	± 0,11	± 0,05	± 0,16
9.525	± 0,05	± 0,11	± 0,05	± 0,16
12.7	± 0,08	± 0,15	± 0,08	± 0,2
15.875	± 0,10	± 0,18	± 0,10	± 0,27
19.05	± 0,10	± 0,18	± 0,10	± 0,27

4- Clamping Type

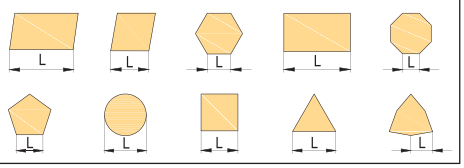


12				04			
5				6			

08	E	-	KC4
7	8	-	9

5- Cutting Edge Length

In.Circle Dimension (mm)	Insert shape							
	C	D	R	S	T	V	W	K
3.97					06		02	
5.0			05					
5.56			09					
6.0		06						
6.35	06	07			11	11	04	
8.0			08					
9.525	09	11	09	09	16	16	06	16
10.0			10					
12.0			12					
12.7	12	15	12	12	22	22	08	
15.875	16		15	15	27			
16.0			16					
19.05	19		19	19	33			
20.0			20					
25.0			25					
25.4	25		25	25				
31.75			31					
32			32					



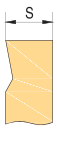
6- Thickness

Round down plus zero or T

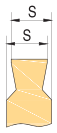
A, B, C, N, O, W,



H, M, R, T,



F, G, J, U,



Example:

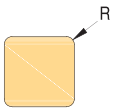
01 = 1.59
T1 = 1.98
02 = 2.38
03 = 3.18
T3 = 3.97
04 = 4.76
05 = 5.56
06 = 6.35
07 = 7.94
09 = 9.525
11 = 11.11
12 = 12.70
14 = 14.29
15 = 15.88

7- Tool Nose

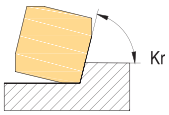
Corner radius

Example:

MO = round insert (metric)
OO = Sharp
01 = 0.1
02 = 0.2
04 = 0.4
08 = 0.8
12 = 1.2
16 = 1.6
20 = 2.0
24 = 2.4
28 = 2.8
32 = 3.2
40 = 4.0
48 = 4.8
56 = 5.6
64 = 6.4
X = Others



Wiper nose



Approaching angle （Kr）
A = 45
D = 60
E = 75
F = 85
G = 87
P = 90
Z = Others

Wiper clearance angle （an）
A = 3
B = 5
C = 7
D = 15
E = 20
F = 25
G = 30
N = 0
P = 11
Z = Others

8- Edge Preparation

Code	Edge Shape	Illustration
F		Sharp cutting edge
E		Honed cutting edge
T		Negative Land
S		Negative Land + Honed cutting edge

9- Chip Breaker Illustration

Refer to page : 22-33

Overview of Turning Insert Geometries

Negative Inserts

Application	Finishing		Semi-finishing	
Chip breaker	PB1	MB2	PB3	PC3
Inserts				
C 	●	●	●	●
D 	●	●	●	●
R 				
S 	●	●		●
T 	●	●	●	●
V 	●	●	●	●
W 	●	●	●	●

● Available

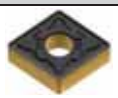
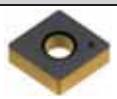
Negative Inserts

Application	Medium machining				
Chip breaker	PD3	PL5	SC3	MC3	PC4
Inserts					
C 	●		●	●	●
D 	●		●	●	●
R 					
S 	●		●	●	●
T 	●	●	●	●	●
V 	●		●	●	●
W 	●		●	●	●

● Available

Overview of Turning Insert Geometries

Negative Inserts

Application	Roughing			
Chip breaker	MC4	KC4	PD5	KD5
Inserts				
C 	●	●	●	●
D 	●	●	●	●
R 				
S 	●	●	●	●
T 	●	●	●	●
V 		●		
W 	●	●	●	●

● Available

Negative Inserts

Application	Heavy&Roughing				
Chip breaker	PD8	PC9	PD9		
Inserts					
C 	●	●	●		
D 					
R 					
S 	●	●	●		
T 	●				
V 					
W 					

● Available

Overview of Turning Insert Geometries

Positive Inserts

Application	Finishing	Semi-finishing		Medium machining
Chip breaker	PB1	PC2	NC2	KC2
Inserts				
C 	●	●	●	●
D 	●	●	●	●
R 			●	
S 	●	●	●	●
T 	●	●	●	●
V 	●	●	●	●
W 				

● Available

Positive Inserts

Application	Roughing				
Chip breaker	KD5				
Inserts					
C 	●				
D 	●				
R 					
S 	●				
T 	●				
V 					
W 					

● Available

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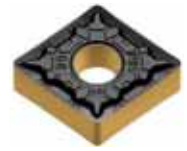


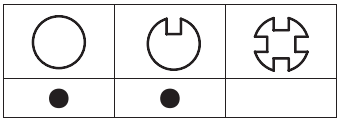
Turning inserts

Negative Turning Insert Geometry Introduction

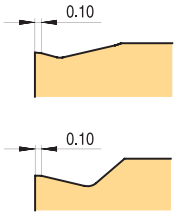
PB1 Geometry for Finishing

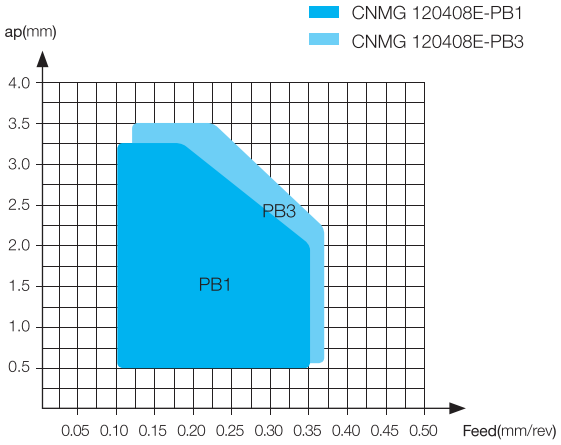
The first choice for steels finishing. Good chip control.





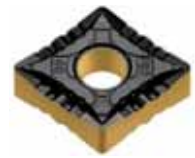


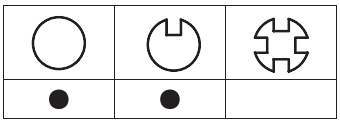




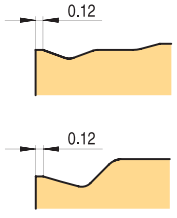
PB3 Geometry for Semi-Finishing

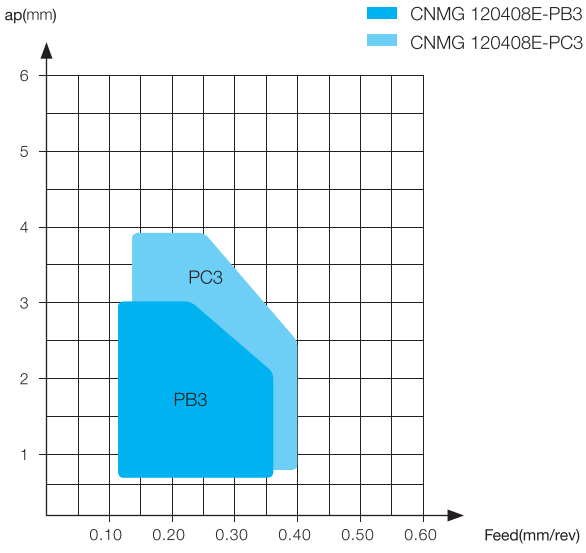
First choice for steels semi-finishing to semi medium. Excellent chip controlling for automotive components.









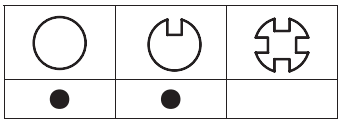


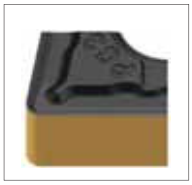
◯ Continuous turning
Interrupted turning
Strong interrupted turning

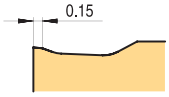
PC3 Geometry for Semi-Medium to Medium Machining

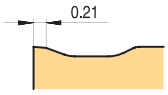
PC3 Geometry for Semi-Medium to Medium Machining. Suitable performance on steels. It's smooth cutting and longer tool life due to positive rake angle.

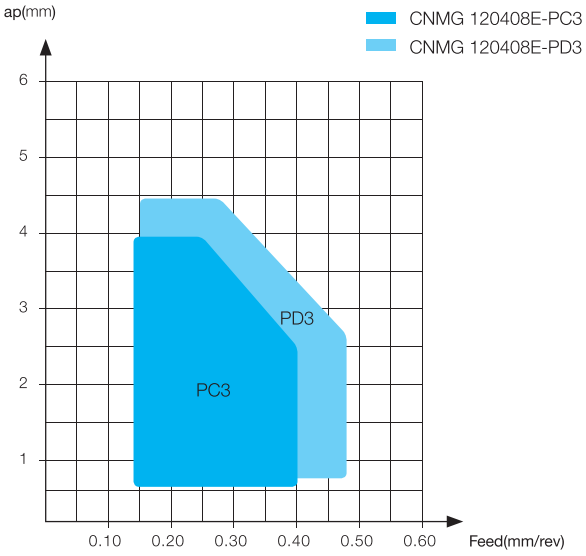






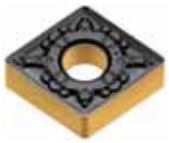


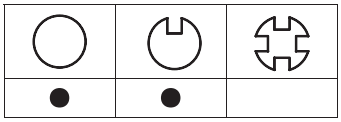


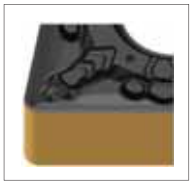


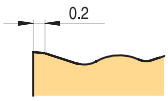
PD3 Geometry for Medium Machining

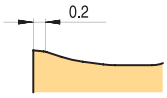
First choice for steels medium machining. Extensive mchining feed and depth of cut; Designed positive rake angle provides lower cutting force and smooth cutting. Very stable tool life.

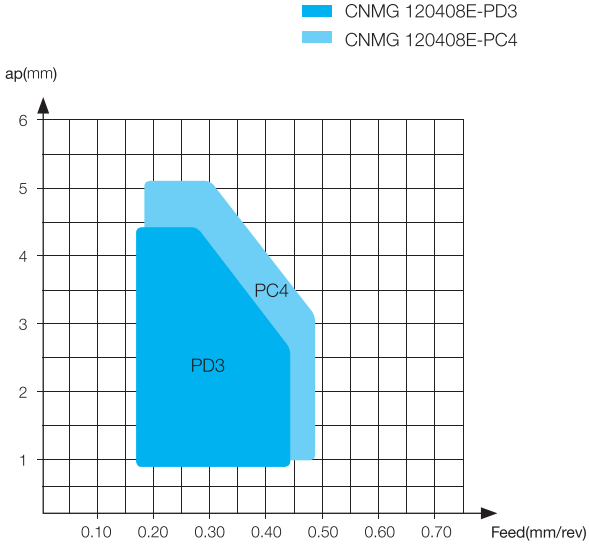








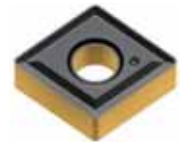


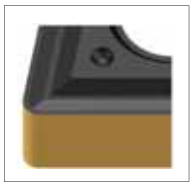


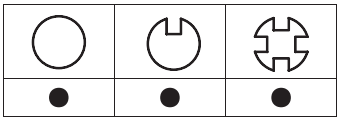
Continuous turning
Interrupted turning
Strong interrupted turning

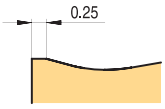
PC4 Geometry for Medium Maching

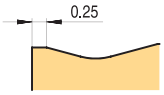
Medium turning for carbon steel and alloy steel. Falt T-land guarantee the strength of the cutting edge. The common style geometry has high universal application.

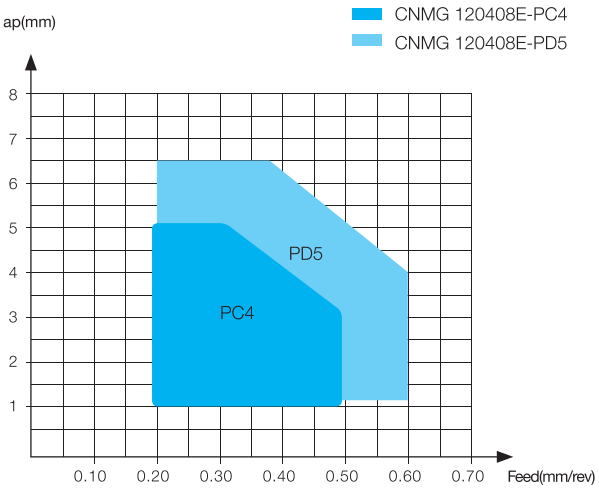






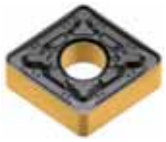


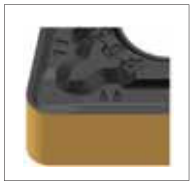


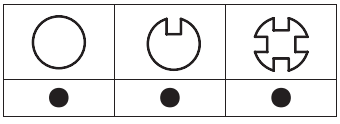


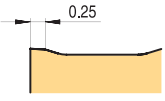
PD5 Geometry for Roughing

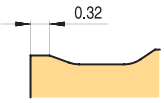
First choice for steel roughing. Lower cutting force due to positive rake angle design.

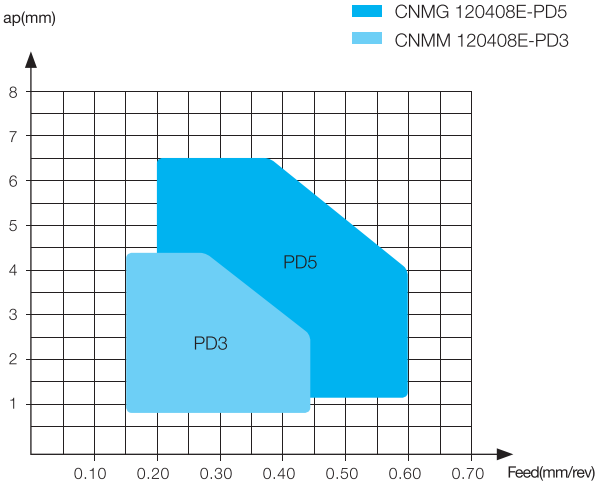










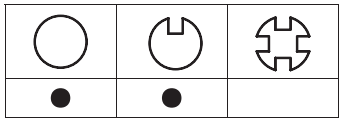


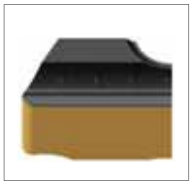
◯ Continuous turning
Interrupted turning
Strong interrupted turning

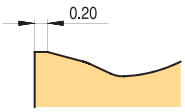
PL5 Geometry for Medium Maching

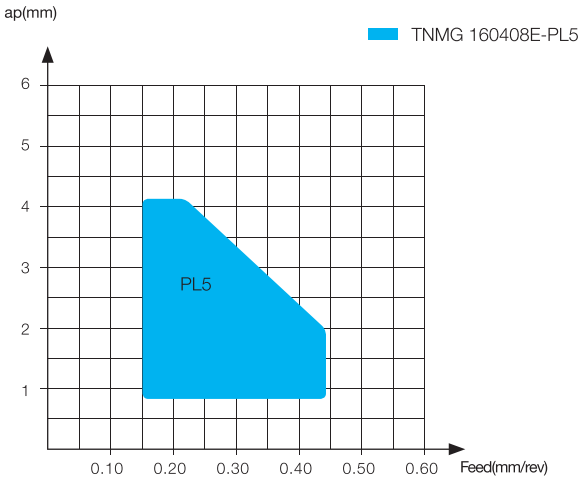
Open type chip breaker leads to smooth cutting with low cutting force, which is suitable for slender bar workpiece .





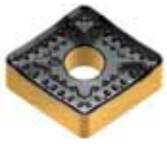


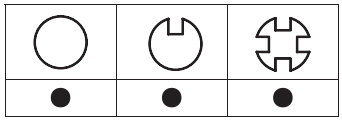


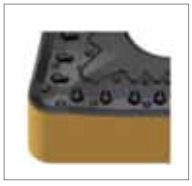


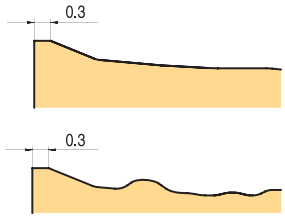
PD8 Geometry for Heavry Roughing

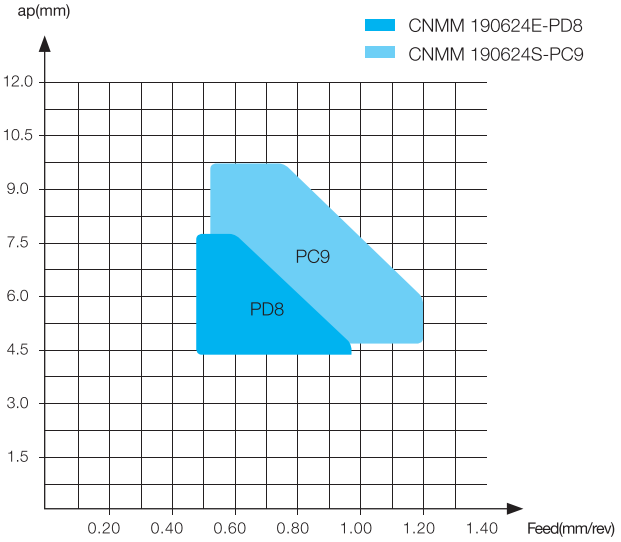
Single sided insert. Suitable for steel roughing, also for stainless steel and cast iron roughing. Low cutting force is suitable for low capacity machine and flexible chip breaker gets perfect chip control.







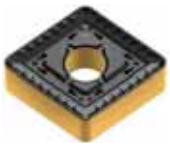


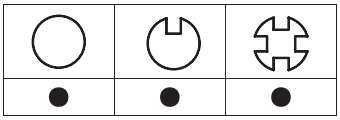


Continuous turning
Interrupted turning
Strong interrupted turning

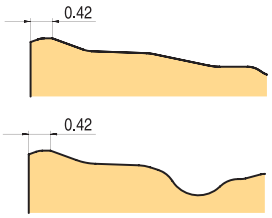
PC9 Geometry for Heavry Roughing

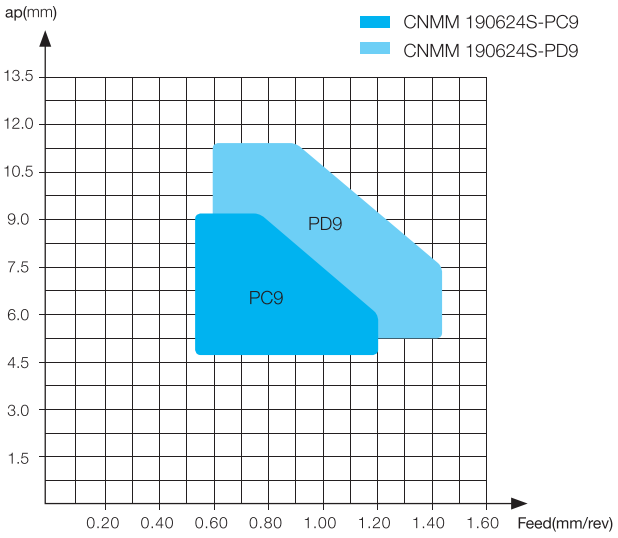
Single sided insert. Suitable for steel heavy machining. Strong cutting edge.





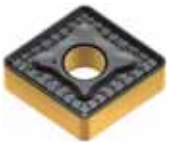


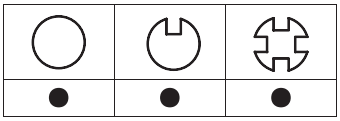




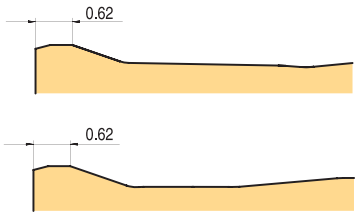
PD9 Geometry for Heavry Roughing

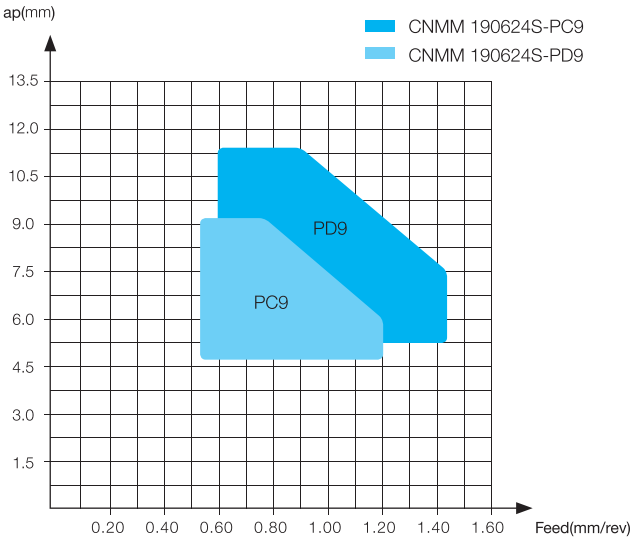
Suitable for steel heavy load roughing. High strength edge is suitable for big depth of cut and high feed cutting with stability.











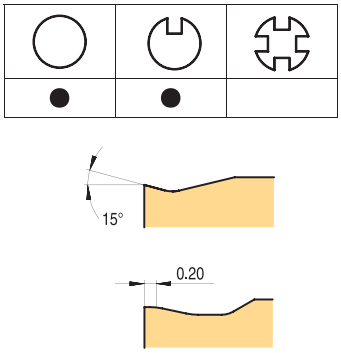
◯ Continuous turning
Interrupted turning
Strong interrupted turning

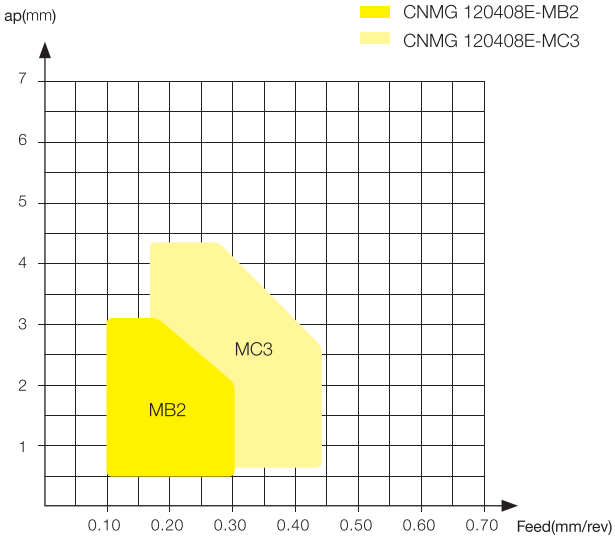
MB2 Geometry for Finishing

Suitable for stainless steel finishing with low feed and small depth of cut. High positive rake angle. To make sure much better surface quality and longer tool life.







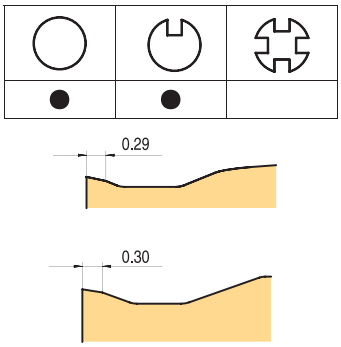


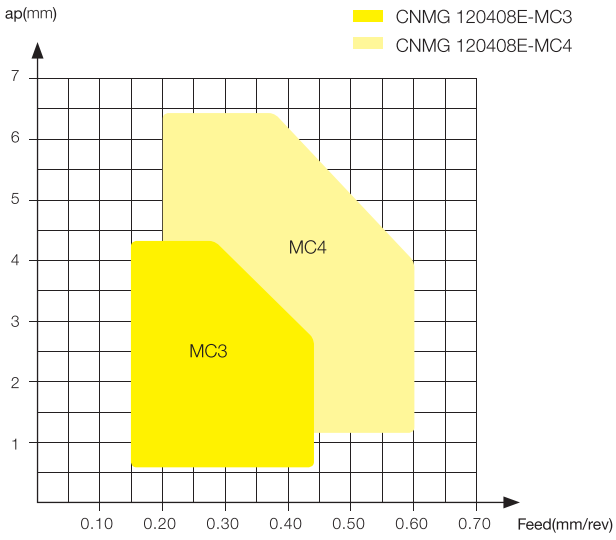
MC3 Geometry for Medium Maching

For medium machinning on stainless steels. Sharp cutting edge with low cutting force.









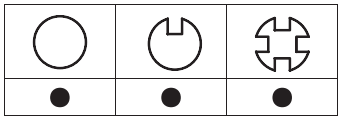
Continuous turning
Interrupted turning
Strong interrupted turning

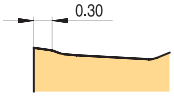
MC4 Geometry for Roughing

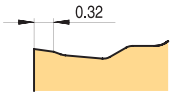
Suitable for stainless steel roughing. Positive rake angle

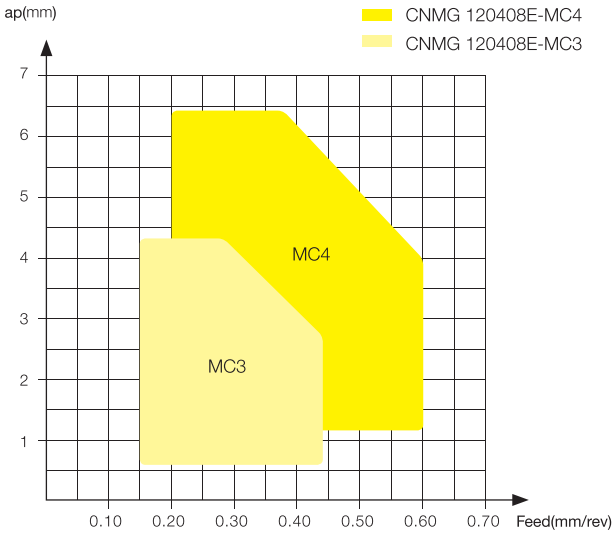






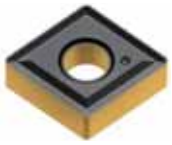




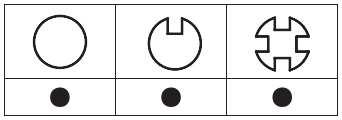


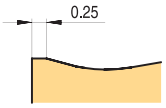
PC4 Geometry for Medium Machining

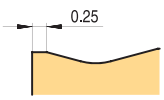
Medium turning for cast iron. Falt T-land guarantee the strenth of the cutting edge. The common style geometry has high universal application.

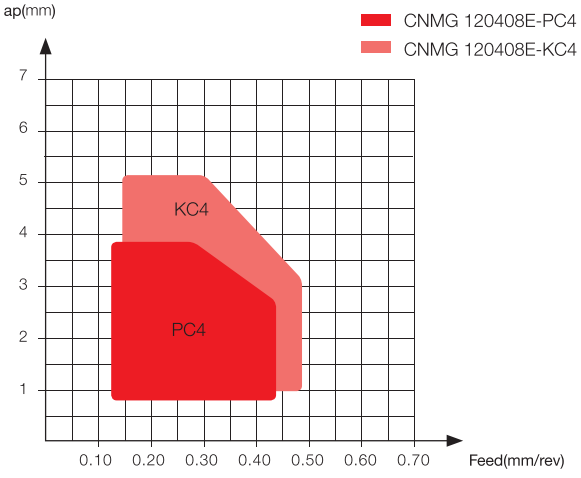








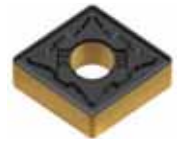


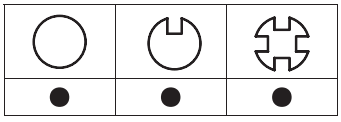


◯ Continuous turning
Interrupted turning
Strong interrupted turning

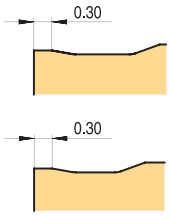
KC4 Geometry for Roughing

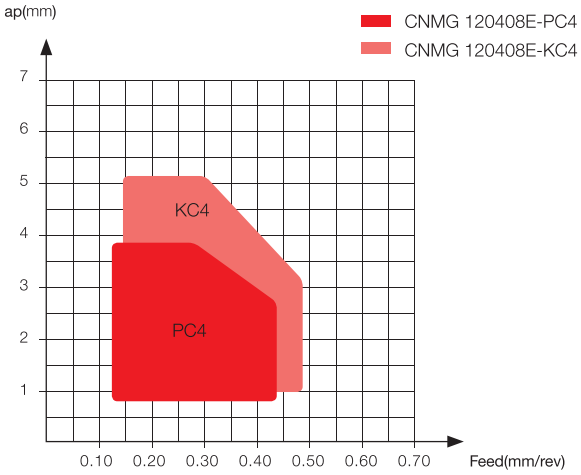
Strong cutting edge is suitable for cast iron roughing. First choice for cast iron.





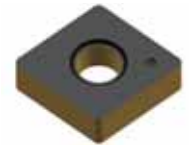


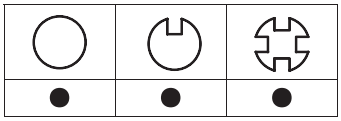




KD5 Geometry for Roughing

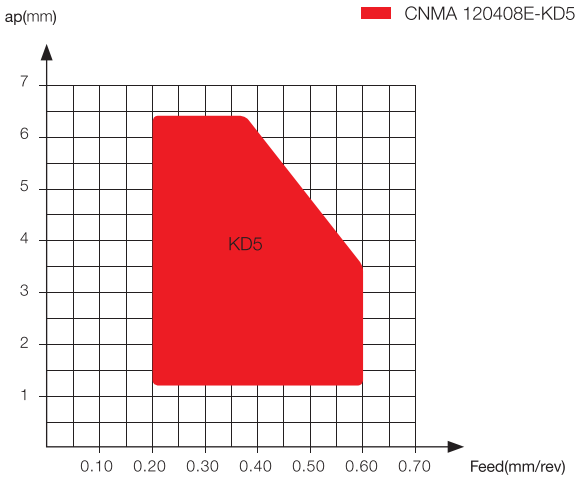
Flat type. First choice for cast iron roughing. Good for interrupted cut and unstable machining.









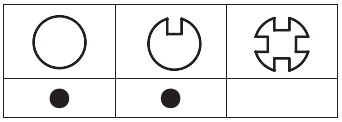


◯ Continuous turning
◔ Interrupted turning
✲ Strong interrupted turning

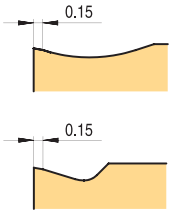
SC3 Geometry for Medium Machining.

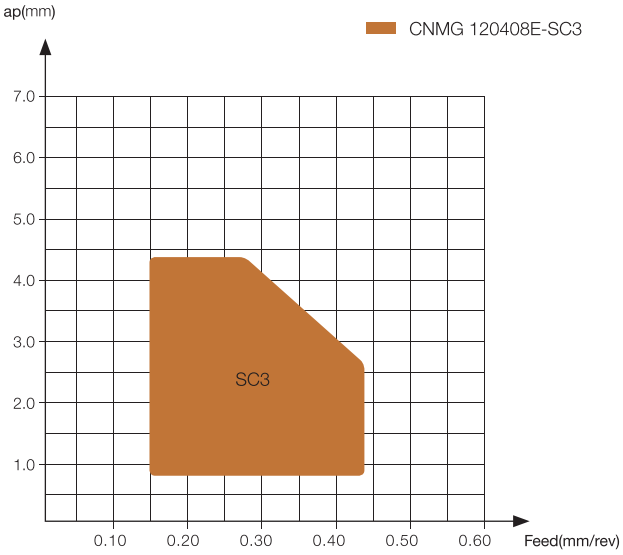
Suitable for high-temerature super alloys and Titanium medium machining, High positive rake angle applies for lower cutting force and less built up edge. First choice for super alloys.









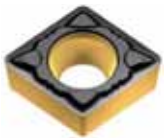


◯ Continuous turning
Interrupted turning
Strong interrupted turning

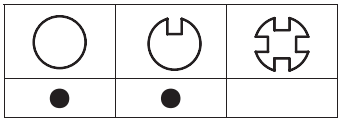
Positive Turning Insert Geometry Introduction

PB1 Geometry for Finishing

Positive rake angle design to get low cutting force. Good chip control.

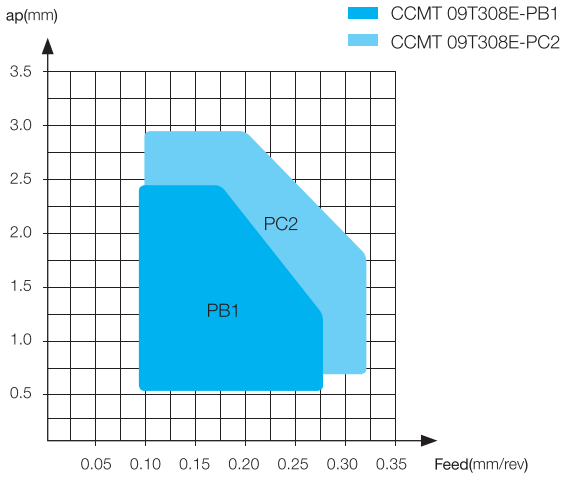






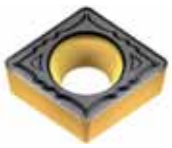




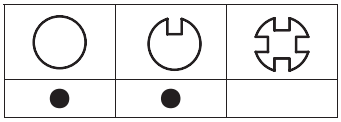


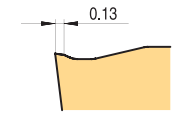
PC2 Geometry for Finishing and Semi-finishing

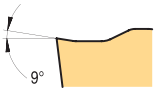
For finishing to semi-finishing on steels and stainless steels. Cutting edge indination design to ensure low cutting force. Excellent chip control due to the professional design of chip breaker.

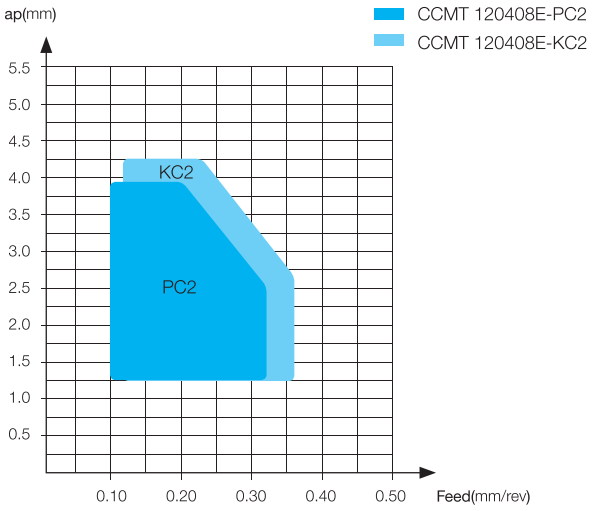








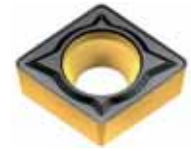


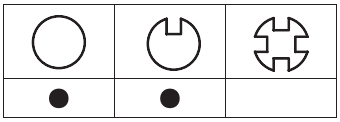


◯ Continuous turning
◔ Interrupted turning
⚙ Strong interrupted turning

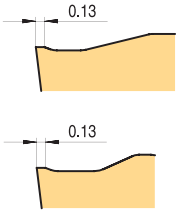
KC2 Geometry for Medium Machining

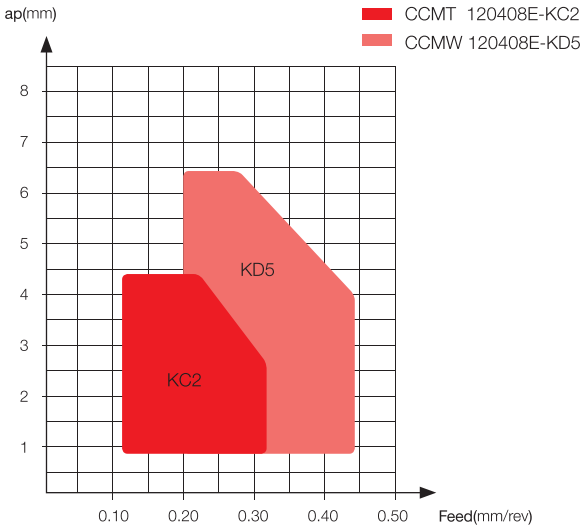
For medium and semi-roughing on cast iron , steels and stainless steels.





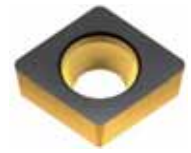


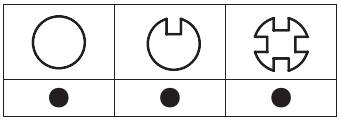




KD5 Geometry for Roughing

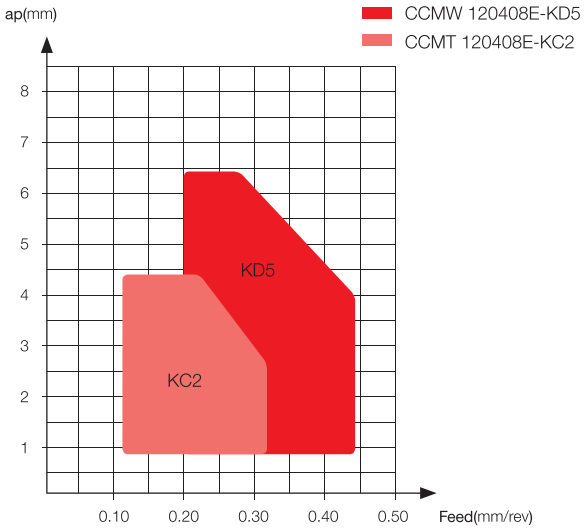
Flat type ,for roughing on cast iron. Strong cutting edge with good chipping resistance.









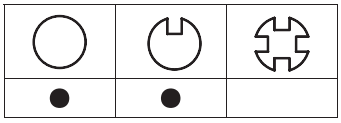


◯ Continuous turning
Interrupted turning
Strong interrupted turning

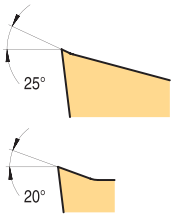
NC2 Geometry for Finishing and Semi-Finishing

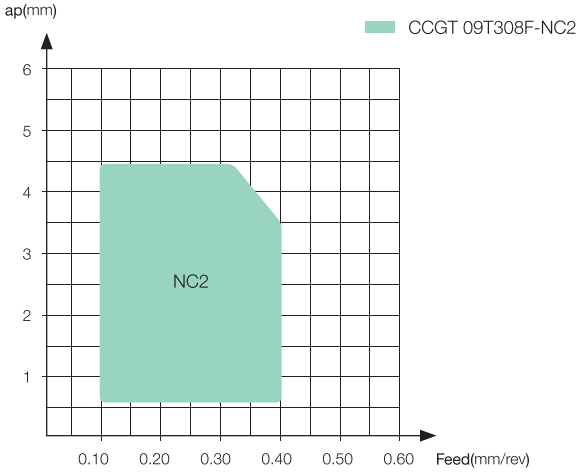
For finishing and semi-finishing on non-ferrous materials. High positive rake angle design leads to smooth chip evacuation, lower cutting force and extended tool life. Insert surface polishing treatment effectively controls chips, prevents built-up edge and improves adhesion resistance.











Continuous turning
Interrupted turning
Strong interrupted turning

Materials Index

Non-alloyed steels/Alloyed steels P

Stainless steels M

Cast iron K

High temperature alloys S

Aluminum/Aluminum alloys N

Hardened steels/Chilled cast iron H

Grade Application Guide

Turning grade application for ISO material group											
Material Group	Materials	ISO	CVD coated					PVD coated		Uncoated	ISO
			AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S	AW100K	
P	Non-alloy steels / Alloyed steels	P01	AC150P								P01
		P05									P05
		P10									P10
		P15		AC250P							P15
		P20									P20
		P25			AC350P						P25
		P30									P30
		P35									P35
		P40									P40
		P45									P45
		P50									P50
M	Stainless steels	M01									M01
		M05							AP100S		M05
		M10									M10
		M15						AP301M			M15
		M20									M20
		M25									M25
		M30									M30
		M35									M35
		M40									M40
		M45									M45
K	Cast iron	K01									K01
		K05									K05
		K10				ACK15A	AC150K				K10
		K15									K15
		K20									K20
		K25									K25
		K30									K30
		K35									K35
		K40									K40
		K45									K45
		K50									K50
S	High temperature alloys	S01									S01
		S05							AP100S		S05
		S10									S10
		S15						AP301M			S15
		S20									S20
		S25									S25
		S30									S30
		S35									S35
		S40									S40
N	Aluminum/ Aluminum alloys	N01									N01
		N05								AW100K	N05
		N10									N10
		N15									N15
		N20									N20
		N25									N25
		N30									N30
H	Hardened steels/ Chilled cast iron	H01									H01
		H05									H05
		H10									H10
		H15									H15
		H20									H20
		H25									H25
		H30									H30

Grade Application Guide

Materials				Turning grade application							
				CVD coated					PVD coated		Uncoated
ISO	Material classification	Tensile strength (N/mm^2)	Hardness (HB)	AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S	AW100K
P	Non-alloyed steel	<600	<180	●	●	●	-	-	-	-	-
		<950	<280	●	●	●	-	-	-	-	-
	Alloyed steel	700-950	200-280	●	●	●	-	-	-	-	-
		950-1200	280-355	●	●	●	-	-	-	-	-
		1200-1400	355-415	●	●	●	-	-	-	-	-
M	Duplex stainless steel	778	230	-	-	-	-	-	●	◐	-
	Austenitic stainless steel	675	200	-	-	-	-	-	●	◐	-
	Precipitation-hardening stainless steel	1013	300	-	-	-	-	-	●	◐	-
K	Grey cast iron	700	220	-	-	-	●	●	-	-	-
	Nodular cast iron	880	260	-	-	-	◐	◐	-	-	-
	Malleable cast iron	800	250	-	-	-	◐	◐	-	-	-
S	Fe-based alloy	943	280	-	-	-	-	-	◐	●	-
	Co-based alloy	1076	320	-	-	-	-	-	◐	●	-
	Ni-based alloy	1177	350	-	-	-	-	-	◐	●	-
	Ti-alloy	1262	370	-	-	-	-	-	◐	●	-
N	Aluminum	260	75	-	-	-	-		-	-	●
	Aluminum alloy	447	130	-	-	-	-		-	-	●
H	Hardened steel	-	50-60HRC	-	-	-	-		-	-	-
	Chilled cast iron	-	55HRC	-	-	-	-		-	-	-

● Best choice
◐ 2nd choice
- Inapplicable

Turning Grade Description

AC150P



Coating: CVD coating

New developed ultra-fine crystal CVD coating. High hardness substrate and toughness with thick Al_2O_3 layer has excellent wear-resistance to extend tool life under high speed continuous cutting and slight interrupted cutting.

Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P			AC150P								
M											
K											
S											
N											
H											

Remark: ☐ Best choice

AC250P



Coating: CVD coating

Medium hardness and medium toughness substrate with CVD coating. Thick Al_2O_3 layer provides excellent wear-resistance and chipping resistance for general machining. First choice for steels.

Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P					AC250P						
M											
K											
S											
N											
H											

Remark: ☐ Best choice

AC350P



Coating: CVD coating

For roughing on steels, very tough substrate and excellent performance in interrupted cutting.

Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P							AC350P				
M											
K											
S											
N											
H											

Remark: ☐ Best choice

ACK15A



Coating: CVD coating

Very good performance on cast iron. For continuous cutting and interrupted cutting.

Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P											
M											
K			ACK15A								
S											
N											
H											

Remark: ☐ Best choice

AC150K



Coating: CVD coating

Very good performance in high speed cutting on cast iron.

Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P											
M											
K			AC150K								
S											
N											
H											

Remark: ☐ Best choice

AP301M



Coating: PVD coating

For stainless steels. Toughness and good wear resistance substrate with PVD coating, Provides stable machining and better tool life.

Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P											
M				AP301M							
K											
S				AP301M							
N											
H											

Remark: ☐ Best choice

⋯ 2nd choice

AP100S



Coating: PVD coating

For turning on high temperature super alloys. Ultra-fine grain substrate with very good wear resistance, coated nano-structure PVD coating to get strong binding forces and anti oxidant, improved tool life.

Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P											
M		AP100S									
K											
S		AP100S									
N											
H											

Remark: Best choice
2nd choice

AW100K



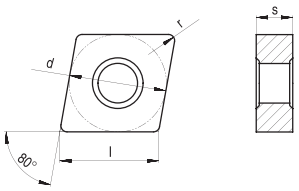
Coating: Uncoated

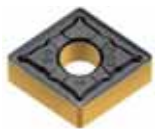
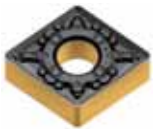
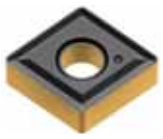
For turning on nonferrous alloys. Fine grain size substrate, uncoated, carbide grade.

Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P											
M											
K											
S											
N		AW100K									
H											

Remark: Best choice

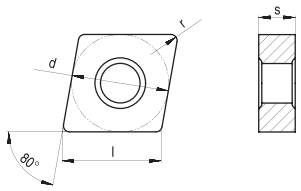
Negative 80° （C） Rhombic Inserts

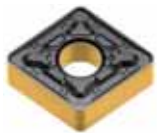


Inserts	Designation	Recommended parameters		Dimensions (mm)				Grades						
								CVD coated					PVD coated	
		Feed (mm/rev)	ap (mm)	d	l	s	r	AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S
	**CNMG 120404E-PB1**	0.05-0.15	0.26-3.2	12.7	12.9	4.76	0.4	●	●					
	120408E-PB1	0.10-0.30	0.52-3.2	12.7	12.9	4.76	0.8	●	●					
	120412E-PB1	0.15-0.45	0.78-3.2	12.7	12.9	4.76	1.2	○	○					
	**CNMG 120404E-MB2**	0.05-0.15	0.26-3.2	12.7	12.9	4.76	0.4						●	●
	120408E-MB2	0.10-0.30	0.52-3.2	12.7	12.9	4.76	0.8						●	●
	**CNMG 120404E-PB3**	0.06-0.18	0.30-3.5	12.7	12.9	4.76	0.4	●	●					
	120408E-PB3	0.12-0.36	0.60-3.5	12.7	12.9	4.76	0.8	●	●					
	120412E-PB3	0.18-0.54	0.90-3.5	12.7	12.9	4.76	1.2	●	●					
	**CNMG 120404E-PC3**	0.07-0.20	0.34-3.9	12.7	12.9	4.76	0.4	●	●					
	120408E-PC3	0.14-0.40	0.68-3.9	12.7	12.9	4.76	0.8	●	●					
	120412E-PC3	0.20-0.60	1.02-3.9	12.7	12.9	4.76	1.2	●	●					
	190608E-PC3	0.14-0.40	0.68-5.8	19.05	19.3	6.35	0.8	○	○					
	190612E-PC3	0.20-0.60	1.02-5.8	19.05	19.3	6.35	1.2	○	○					
	**CNMG 120404E-PD3**	0.08-0.22	0.40-4.3	12.7	12.9	4.76	0.4	●	●	○				
	120408E-PD3	0.15-0.44	0.80-4.3	12.7	12.9	4.76	0.8	●	●	●				
	120412E-PD3	0.23-0.66	1.20-4.3	12.7	12.9	4.76	1.2	●	●	●				
	160608E-PD3	0.15-0.44	0.80-5.3	15.875	16.1	6.35	0.8	●	●	○				
	190608E-PD3	0.15-0.44	0.80-6.4	19.05	19.3	6.35	0.8	●	●	○				
	**CNMG 120404E-PC4**	0.08-0.22	0.40-4.3	12.7	12.9	4.76	0.4	●	●		●	○		
	120408E-PC4	0.15-0.44	0.80-4.3	12.7	12.9	4.76	0.8	●	●		●	●		
	120412E-PC4	0.23-0.66	1.20-4.3	12.7	12.9	4.76	1.2	●	●		●	○		
	160608E-PC4	0.15-0.44	0.80-5.3	15.875	16.1	6.35	0.8	○	○		○	○		
	160612E-PC4	0.23-0.66	1.20-5.3	15.875	16.1	6.35	1.2	○	●		○	○		
	160616E-PC4	0.30-0.88	1.60-5.3	15.875	16.1	6.35	1.6	○	○		●	○		
	190608E-PC4	0.15-0.44	0.80-6.4	19.05	19.3	6.35	0.8	○	○		○	○		
	190612E-PC4	0.23-0.66	1.20-6.4	19.05	19.3	6.35	1.2	●	●		○	○		
	190616E-PC4	0.30-0.88	1.60-6.4	19.05	19.3	6.35	1.6	○	○		○	○		

Marked: ● Stock available
○ Produced by order

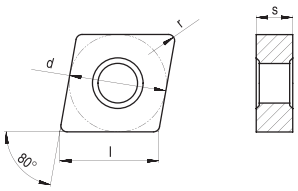
Negative 80° （C） Rhombic Inserts

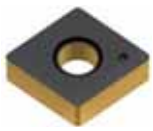


Inserts	Designation	Recommended parameters		Dimensions (mm)				Grades						
								CVD coated					PVD coated	
		Feed (mm/rev)	ap (mm)	d	l	s	r	AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S
	CNMG 120404E-MC3	0.08-0.22	0.32-4.3	12.7	12.9	4.76	0.4						●	
	120408E-MC3	0.15-0.44	0.64-4.3	12.7	12.9	4.76	0.8						●	
	120412E-MC3	0.23-0.66	0.96-4.3	12.7	12.9	4.76	1.2						●	
	120416E-MC3	0.30-0.88	1.28-4.3	12.7	12.9	4.76	1.6						○	
	160608E-MC3	0.15-0.44	0.64-5.3	15.875	16.1	6.35	0.8						○	
	160612E-MC3	0.23-0.66	0.96-5.3	15.875	16.1	6.35	1.2						○	
	190608E-MC3	0.15-0.44	0.64-6.4	19.05	19.3	6.35	0.8						○	
	190612E-MC3	0.23-0.66	0.96-6.4	19.05	19.3	6.35	1.2						○	
	CNMG 120404E-SC3	0.08-0.22	0.40-4.3	12.7	12.9	4.76	0.4							●
	120408E-SC3	0.15-0.44	0.80-4.3	12.7	12.9	4.76	0.8							●
	120412E-SC3	0.23-0.66	1.20-4.3	12.7	12.9	4.76	1.2							●
	160612E-SC3	0.23-0.66	1.20-5.3	15.875	16.1	6.35	1.2							●
	160616E-SC3	0.30-0.88	1.60-5.3	15.875	16.1	6.35	1.6							●
	190612E-SC3	0.23-0.66	1.20-6.4	19.05	19.3	6.35	1.2							●
	190616E-SC3	0.30-0.88	1.60-6.4	19.05	19.3	6.35	1.6							●
	CNMG 120408E-PD5	0.20-0.60	1.20-6.4	12.7	12.9	4.76	0.8	●	●	●				
	120412E-PD5	0.30-0.90	1.80-6.4	12.7	12.9	4.76	1.2	●	●	●				
	160612E-PD5	0.30-0.90	1.80-8.1	15.875	16.1	6.35	1.2	●	●	○				
	160616E-PD5	0.40-1.20	2.40-8.1	15.875	16.1	6.35	1.6	●	●	●				
	190612E-PD5	0.30-0.90	1.80-9.7	19.05	19.3	6.35	1.2	●	●	○				
	190616E-PD5	0.40-1.20	2.40-9.7	19.05	19.3	6.35	1.6	●	●	●				
	CNMG 120408E-MC4	0.20-0.60	1.20-6.4	12.7	12.9	4.76	0.8						●	●
	120412E-MC4	0.30-0.90	1.80-6.4	12.7	12.9	4.76	1.2						●	●
	160612E-MC4	0.30-0.90	1.80-8.1	15.875	16.1	6.35	1.2						○	○
	160616E-MC4	0.40-1.20	2.40-8.1	15.875	16.1	6.35	1.6						○	○
	190612E-MC4	0.30-0.90	1.80-9.7	19.05	19.3	6.35	1.2						○	○
	190616E-MC4	0.40-1.20	2.40-9.7	19.05	19.3	6.35	1.6						○	○

Marked: ● Stock available
○ Produced by order

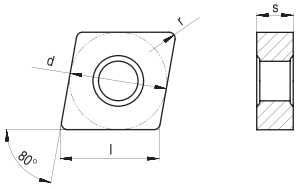
Negative 80° （C） Rhombic Inserts

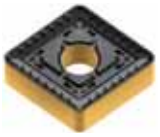
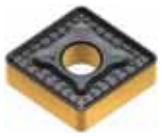


Inserts	Designation	Recommended parameters		Dimensions (mm)				Grades						
								CVD coated					PVD coated	
		Feed (mm/rev)	ap (mm)	d	l	s	r	AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S
	**CNMG 090308E-KC4**	0.18-0.48	0.96-3.9	9.525	9.67	3.18	0.8				●	○		
	120404E-KC4	0.09-0.24	0.48-5.2	12.7	12.9	4.76	0.4				●	●		
	120408E-KC4	0.18-0.48	0.96-5.2	12.7	12.9	4.76	0.8				●	●		
	120412E-KC4	0.26-0.72	1.44-5.2	12.7	12.9	4.76	1.2				●	●		
	120416E-KC4	0.35-0.96	1.92-5.2	12.7	12.9	4.76	1.6				●	○		
	160608E-KC4	0.18-0.48	0.96-6.4	15.875	16.1	6.35	0.8				●	○		
	160612E-KC4	0.26-0.72	1.44-6.4	15.875	16.1	6.35	1.2				●	●		
	160616E-KC4	0.35-0.96	1.92-6.4	15.875	16.1	6.35	1.6				●	●		
	190608E-KC4	0.18-0.48	0.96-7.7	19.05	19.3	6.35	0.8				●	○		
	190612E-KC4	0.26-0.72	1.44-7.7	19.05	19.3	6.35	1.2				●	●		
	190616E-KC4	0.35-0.96	1.92-7.7	19.05	19.3	6.35	1.6				●	○		
	190624E-KC4	0.53-1.44	2.88-7.7	19.05	19.3	6.35	2.4				●	○		
	**CNMA 120404E-KD5**	0.10-0.30	0.60-6.4	12.7	12.9	4.76	0.4				●	○		
	120408E-KD5	0.20-0.60	1.20-6.4	12.7	12.9	4.76	0.8				●	●		
	120412E-KD5	0.30-0.90	1.80-6.4	12.7	12.9	4.76	1.2				●	●		
	120416E-KD5	0.40-1.20	2.40-6.4	12.7	12.9	4.76	1.6				●	●		
	160608E-KD5	0.20-0.60	1.20-8.1	15.875	16.1	6.35	0.8				●	○		
	160612E-KD5	0.30-0.90	1.80-8.1	15.875	16.1	6.35	1.2				●	●		
	160616E-KD5	0.40-1.20	2.40-8.1	15.875	16.1	6.35	1.6				●	●		
	190608E-KD5	0.20-0.60	1.20-9.7	19.05	19.3	6.35	0.8				●	○		
	190612E-KD5	0.30-0.90	1.80-9.7	19.05	19.3	6.35	1.2				●	○		
	190616E-KD5	0.40-1.20	2.40-9.7	19.05	19.3	6.35	1.6				●	○		
	**CNMM 120408E-PD8**	0.16-0.32	1.44-5.2	12.7	12.9	4.76	0.8	○	●	●				
	120412E-PD8	0.24-0.48	2.16-5.2	12.7	12.9	4.76	1.2	○	●	●				
	160612E-PD8	0.24-0.48	2.16-6.4	15.875	16.1	6.35	1.2	●	●	○				
	160616E-PD8	0.32-0.64	2.88-6.4	15.875	16.1	6.35	1.6	○	●	○				
	160624E-PD8	0.48-0.96	4.32-6.4	15.875	16.1	6.35	2.4	○	●	○				
	190612E-PD8	0.24-0.48	2.16-7.7	19.05	19.3	6.35	1.2	●	●	○				
	190616E-PD8	0.32-0.64	2.88-7.7	19.05	19.3	6.35	1.6	●	●	●				
	190624E-PD8	0.48-0.96	4.32-7.7	19.05	19.3	6.35	2.4	●	●	●				
	250724E-PD8	0.48-0.96	4.32-10.3	25.4	25.8	7.94	2.4	●	●	○				
	250924E-PD8	0.48-0.96	4.32-10.3	25.4	25.8	9.525	2.4	●	●	●				

Marked: ● Stock available
○ Produced by order

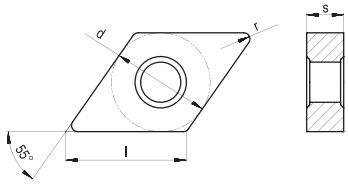
Negative 80° （C） Rhombic Inserts

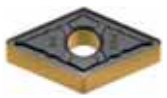
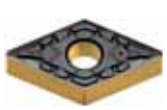


Inserts	Designation	Recommended parameters		Dimensions (mm)				Grades						
								CVD coated					PVD coated	
		Feed rate (mm/rev)	ap (mm)	d	l	s	r	AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S
	CNMM 190612S-PC9	0.26-0.60	2.40-9.7	19.05	19.3	6.35	1.2	●	●	○				
	190616S-PC9	0.35-0.80	3.20-9.7	19.05	19.3	6.35	1.6	●	●	○				
	190624S-PC9	0.53-1.20	4.80-9.7	19.05	19.3	6.35	2.4	●	●	●				
	250724S-PC9	0.53-1.20	4.80-12.9	25.4	25.8	7.94	2.4	●	●	●				
	250924S-PC9	0.53-1.20	4.80-12.9	25.4	25.8	9.525	2.4	●	●	○				
	CNMM 190612S-PD9	0.30-0.72	2.64-11.6	19.05	19.3	6.35	1.2	○	●	○				
	190616S-PD9	0.40-0.96	3.52-11.6	19.05	19.3	6.35	1.6	●	●	○				
	190624S-PD9	0.60-1.44	5.28-11.6	19.05	19.3	6.35	2.4	●	●	●				
	250724S-PD9	0.60-1.44	5.28-15.5	25.4	25.8	7.94	2.4	○	●	○				
	250924S-PD9	0.60-1.44	5.28-15.5	25.4	25.8	9.525	2.4	●	●	●				

Marked: ● Stock available
○ Produced by order

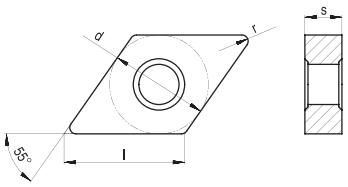
Negative 55° （D） Rhombic Inserts

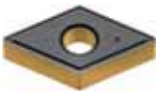
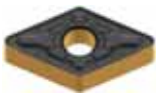


Inserts	Designation	Recommended parameters		Dimensions (mm)				Grades						
								CVD coated					PVD coated	
		Feed rate (mm/rev)	ap (mm)	d	l	s	r	AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S
	DNMG 110404E-PB1	0.05-0.15	0.26-2.3	9.525	11.62	4.76	0.4	○	●					
	150404E-PB1	0.05-0.15	0.26-3.1	12.7	15.5	4.76	0.4	●	●					
	150408E-PB1	0.10-0.30	0.52-3.1	12.7	15.5	4.76	0.8	●	●					
	150412E-PB1	0.15-0.45	0.78-3.1	12.7	15.5	4.76	1.2	○	○					
	150604E-PB1	0.05-0.15	0.26-3.1	12.7	15.5	6.35	0.4	●	●					
	150608E-PB1	0.10-0.30	0.52-3.1	12.7	15.5	6.35	0.8	●	●					
	150612E-PB1	0.15-0.45	0.78-3.1	12.7	15.5	4.76	1.2	○	○					
	DNMG 150404E-MB2	0.05-0.15	0.26-2.9	12.7	15.5	4.76	0.4						●	●
	150408E-MB2	0.10-0.30	0.52-2.9	12.7	15.5	4.76	0.8						●	●
	150604E-MB2	0.05-0.15	0.26-2.9	12.7	15.5	6.35	0.4						●	●
	150608E-MB2	0.10-0.30	0.52-2.9	12.7	15.5	6.35	0.8						●	●
	DNMG 150404E-PB3	0.06-0.18	0.30-3.1	12.7	15.5	4.76	0.4	●	●					
	150408E-PB3	0.12-0.36	0.60-3.1	12.7	15.5	4.76	0.8	●	●					
	150412E-PB3	0.18-0.54	0.90-3.1	12.7	15.5	4.76	1.2	●	●					
	150604E-PB3	0.06-0.18	0.30-3.1	12.7	15.5	6.35	0.4	●	●					
	150608E-PB3	0.12-0.36	0.60-3.1	12.7	15.5	6.35	0.8	●	●					
	150612E-PB3	0.18-0.54	0.90-3.1	12.7	15.5	6.35	1.2	●	●					
	DNMG 110408E-PC3	0.14-0.40	0.68-2.6	9.525	11.62	4.76	0.8	○	○					
	110412E-PC3	0.20-0.60	1.02-2.6	9.525	11.62	4.76	1.2	○	○					
	150404E-PC3	0.07-0.20	0.34-3.5	12.7	15.5	4.76	0.4	●	●					
	150408E-PC3	0.14-0.40	0.68-3.5	12.7	15.5	4.76	0.8	●	●					
	150412E-PC3	0.20-0.60	1.02-3.5	12.7	15.5	4.76	1.2	●	●					
	150604E-PC3	0.07-0.20	0.34-3.5	12.7	15.5	6.35	0.4	●	●					
	150608E-PC3	0.14-0.40	0.68-3.5	12.7	15.5	6.35	0.8	●	●					
	150612E-PC3	0.20-0.60	1.02-3.5	12.7	15.5	6.35	1.2	●	●					
	DNMG 110404E-PD3	0.08-0.22	0.40-2.9	9.525	11.62	4.76	0.4	●	●					
	110408E-PD3	0.15-0.44	0.80-2.9	9.525	11.62	4.76	0.8	●	●					
	110412E-PD3	0.23-0.66	1.20-2.9	9.525	11.62	4.76	1.2	○	○					
	150404E-PD3	0.08-0.22	0.40-3.9	12.7	15.5	4.76	0.4	●	●					
	150408E-PD3	0.15-0.44	0.80-3.9	12.7	15.5	4.76	0.8	●	●	○				
	150412E-PD3	0.23-0.66	1.20-3.9	12.7	15.5	4.76	1.2	●	●	○				
	150604E-PD3	0.08-0.22	0.40-3.9	12.7	15.5	6.35	0.4	●	●					
	150608E-PD3	0.15-0.44	0.80-3.9	12.7	15.5	6.35	0.8	●	●	●				
	150612E-PD3	0.23-0.66	1.20-3.9	12.7	15.5	6.35	1.2	●	●	●				

Marked: ● Stock available
○ Produced by order

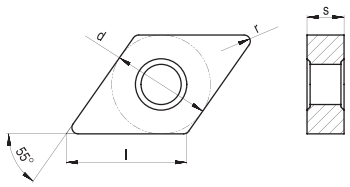
Negative 55° （D） Rhombic Inserts

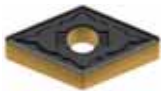
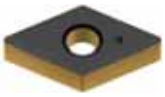


Inserts	Designation	Recommended parameters		Dimensions (mm)				Grades						
								CVD coated					PVD coated	
		Feed rate (mm/rev)	ap (mm)	d	l	s	r	AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S
	DNMG 150404E-PC4	0.08-0.22	0.40-3.9	12.7	15.5	4.76	0.4	●	●		●	●		
	150408E-PC4	0.15-0.44	0.80-3.9	12.7	15.5	4.76	0.8	●	●		●	○		
	150412E-PC4	0.23-0.66	1.20-3.9	12.7	15.5	4.76	1.2	●	○		●	●		
	150604E-PC4	0.08-0.22	0.40-3.9	12.7	15.5	6.35	0.4	●	○		○	○		
	150608E-PC4	0.15-0.44	0.80-3.9	12.7	15.5	6.35	0.8	●	●		●	●		
	150612E-PC4	0.23-0.66	1.20-3.9	12.7	15.5	6.35	1.2	●	●		●	○		
	DNMG 150404E-MC3	0.08-0.22	0.32-3.9	12.7	15.5	4.76	0.4						●	
	150408E-MC3	0.15-0.44	0.64-3.9	12.7	15.5	4.76	0.8						●	
	150412E-MC3	0.23-0.66	0.96-3.9	12.7	15.5	4.76	1.2						●	
	150604E-MC3	0.08-0.22	0.32-3.9	12.7	15.5	4.76	0.4						●	
	150608E-MC3	0.15-0.44	0.64-3.9	12.7	15.5	6.35	0.8						●	
	150612E-MC3	0.23-0.66	0.96-3.9	12.7	15.5	6.35	1.2						●	
	DNMG 150404E-SC3	0.08-0.22	0.40-3.9	12.7	15.5	4.76	0.4							●
	150408E-SC3	0.15-0.44	0.80-3.9	12.7	15.5	4.76	0.8							●
	150412E-SC3	0.23-0.66	1.20-3.9	12.7	15.5	4.76	1.2							●
	150604E-SC3	0.08-0.22	0.40-3.9	12.7	15.5	6.35	0.4							●
	150608E-SC3	0.15-0.44	0.80-3.9	12.7	15.5	6.35	0.8							●
	150612E-SC3	0.23-0.66	1.20-3.9	12.7	15.5	6.35	1.2							●
	DNMG 150408E-PD5	0.20-0.60	1.20-5.4	12.7	15.5	4.76	0.8	●	●	●				
	150412E-PD5	0.30-0.90	1.80-5.4	12.7	15.5	4.76	1.2	●	●	●				
	150416E-PD5	0.40-1.20	2.40-5.4	12.7	15.5	4.76	1.6	●	●	●				
	150608E-PD5	0.20-0.60	1.20-5.4	12.7	15.5	6.35	0.8	○	○	●				
	150612E-PD5	0.30-0.90	1.80-5.4	12.7	15.5	6.35	1.2	●	●	○				
	150616E-PD5	0.40-1.20	2.40-5.4	12.7	15.5	6.35	1.6	○	●	○				
	DNMG 150408E-MC4	0.20-0.60	1.20-5.4	12.7	15.5	4.76	0.8						●	○
	150412E-MC4	0.30-0.90	1.80-5.4	12.7	15.5	4.76	1.2						●	○
	150608E-MC4	0.20-0.60	1.20-5.4	12.7	15.5	6.35	0.8						●	●
	150612E-MC4	0.30-0.90	1.80-5.4	12.7	15.5	6.35	1.2						●	●

Marked: ● Stock available
○ Produced by order

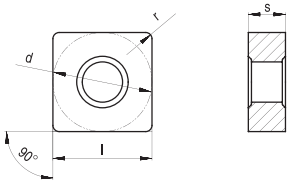
Negative 55° （D） Rhombic Inserts

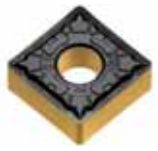
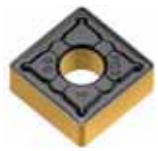
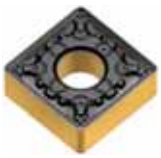
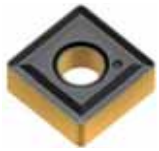


Inserts	Designation	Recommended parameters		Dimensions (mm)				Grades						
								CVD coated					PVD coated	
		Feed rate (mm/rev)	ap (mm)	d	l	s	r	AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S
	DNMG 110404E-KC4	0.09-0.24	0.48-3.5	9.525	11.62	4.76	0.4				●	○		
	110408E-KC4	0.18-0.48	0.96-3.5	9.525	11.62	4.76	0.8				●	○		
	150404E-KC4	0.09-0.24	0.48-4.6	12.7	15.5	4.76	0.4				●	○		
	150408E-KC4	0.18-0.48	0.96-4.6	12.7	15.5	4.76	0.8				●	○		
	150412E-KC4	0.26-0.72	1.44-4.6	12.7	15.5	4.76	1.2				●	○		
	150604E-KC4	0.09-0.24	0.48-4.6	12.7	15.5	6.35	0.4				●	○		
	150608E-KC4	0.18-0.48	0.96-4.6	12.7	15.5	6.35	0.8				●	●		
	150612E-KC4	0.26-0.72	1.44-4.6	12.7	15.5	6.35	1.2				●	○		
	DNMA 150404E-KD5	0.10-0.30	0.60-5.4	12.7	15.5	4.76	0.4				●	○		
	150408E-KD5	0.20-0.60	1.20-5.4	12.7	15.5	4.76	0.8				●	○		
	150412E-KD5	0.30-0.90	1.80-5.4	12.7	15.5	4.76	1.2				●	○		
	150604E-KD5	0.10-0.30	0.60-5.4	12.7	15.5	6.35	0.4				●	○		
	150608E-KD5	0.20-0.60	1.20-5.4	12.7	15.5	6.35	0.8				●	○		
	150612E-KD5	0.30-0.90	1.80-5.4	12.7	15.5	6.35	1.2				●	○		

Marked: ● Stock available
○ Produced by order

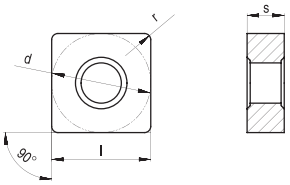
Negative 90° （S） Square Inserts

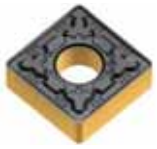


Inserts	Designation	Recommended parameters		Dimensions (mm)				Grades						
								CVD coated					PVD coated	
		Feed rate (mm/rev)	ap (mm)	d	l	s	r	AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S
	SNMG 120404E-PB1	0.05-0.15	0.26-3.2	12.7	12.7	4.76	0.4	●	●					
	120408E-PB1	0.10-0.30	0.52-3.2	12.7	12.7	4.76	0.8	●	●					
	120412E-PB1	0.15-0.45	0.78-3.2	12.7	12.7	4.76	1.2	○	○					
	SNMG 120404E-MB2	0.05-0.15	0.26-3.2	12.7	12.7	4.76	0.4						●	●
	120408E-MB2	0.10-0.30	0.52-3.2	12.7	12.7	4.76	0.8						●	●
	SNMG 120404E-PC3	0.07-0.20	0.34-3.8	12.7	12.7	4.76	0.4	●	●					
	120408E-PC3	0.14-0.40	0.68-3.8	12.7	12.7	4.76	0.8	●	●					
	120412E-PC3	0.20-0.60	1.02-3.8	12.7	12.7	4.76	1.2	●	●					
	SNMG 120404E-PD3	0.08-0.22	0.40-4.2	12.7	12.7	4.76	0.4	●	●	○				
	120408E-PD3	0.15-0.44	0.80-4.2	12.7	12.7	4.76	0.8	●	●	●				
	120412E-PD3	0.23-0.66	1.20-4.2	12.7	12.7	4.76	1.2	●	●	●				
	190608E-PD3	0.15-0.44	0.80-6.3	19.05	19.05	6.35	0.8	●	●	○				
	SNMG 120404E-PC4	0.08-0.22	0.40-4.2	12.7	12.7	4.76	0.4	●	●		○	○		
	120408E-PC4	0.15-0.44	0.80-4.2	12.7	12.7	4.76	0.8	●	●		●	○		
	120412E-PC4	0.23-0.66	1.20-4.2	12.7	12.7	4.76	1.2	●	●		●	●		
	SNMG 120404E-MC3	0.08-0.22	0.32-4.2	12.7	12.7	4.76	0.4						●	
	120408E-MC3	0.15-0.44	0.64-4.2	12.7	12.7	4.76	0.8						●	
	120412E-MC3	0.23-0.66	0.96-4.2	12.7	12.7	4.76	1.2						●	
	150612E-MC3	0.23-0.66	0.96-5.2	15.875	15.875	6.35	1.2						○	
	150616E-MC3	0.30-0.88	1.28-5.2	15.875	15.875	6.35	1.6						○	
	190612E-MC3	0.23-0.66	0.96-6.3	19.05	19.05	6.35	1.2						○	
	190616E-MC3	0.30-0.88	1.28-6.3	19.05	19.05	6.35	1.6						○	

Marked: ● Stock available
○ Produced by order

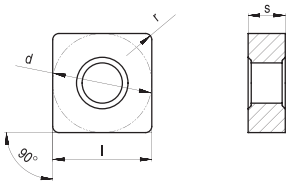
Negative 90° （S） Square Inserts

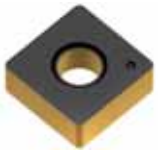
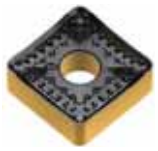
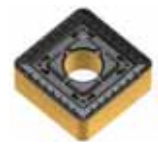
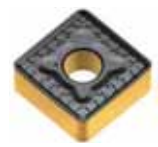


Inserts	Designation	Recommended parameters		Dimensions (mm)				Grades						
								CVD coated					PVD coated	
		Feed rate (mm/rev)	ap (mm)	d	l	s	r	AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S
	SNMG 120412E-SC3	0.23-0.66	1.20-4.2	12.7	12.7	4.76	1.2							●
	150612E-SC3	0.23-0.66	1.20-5.2	15.875	15.875	6.35	1.2							●
	150616E-SC3	0.30-0.88	1.60-5.2	15.875	15.875	6.35	1.6							●
	190612E-SC3	0.23-0.66	1.20-6.3	19.05	19.05	6.35	1.2							●
	SNMG 150608E-PD5	0.20-0.60	1.20-7.9	15.875	15.875	6.35	0.8	○	●	●				
	150612E-PD5	0.30-0.90	1.80-7.9	15.875	15.875	6.35	1.2	○	●	●				
	150616E-PD5	0.40-1.20	2.40-7.9	15.875	15.875	6.35	1.6	○	●	○				
	190612E-PD5	0.30-0.90	1.80-9.5	19.05	19.05	6.35	1.2	●	●	○				
	190616E-PD5	0.40-1.20	2.40-9.5	19.05	19.05	6.35	1.6	●	●	○				
	SNMG 120408E-MC4	0.20-0.60	1.20-6.4	12.7	12.7	4.76	0.8						●	●
	120412E-MC4	0.30-0.90	1.80-6.4	12.7	12.7	4.76	1.2						●	●
	150612E-MC4	0.30-0.90	1.80-7.9	15.875	15.875	6.35	1.2						○	○
	150616E-MC4	0.40-1.20	2.40-7.9	15.875	15.875	6.35	1.6						○	○
	190612E-MC4	0.30-0.90	1.80-9.5	19.05	19.05	6.35	1.2						○	○
	190616E-MC4	0.40-1.20	2.40-9.5	19.05	19.05	6.35	1.6						○	○
	SNMG 090304E-KC4	0.09-0.24	0.48-3.8	9.525	9.525	3.18	0.4				●	○		
	090308E-KC4	0.18-0.48	0.96-3.8	9.525	9.525	3.18	0.8				●	○		
	120404E-KC4	0.09-0.24	0.48-5.1	12.7	12.7	4.76	0.4				●	○		
	120408E-KC4	0.18-0.48	0.96-5.1	12.7	12.7	4.76	0.8				●	●		
	120412E-KC4	0.26-0.72	1.44-5.1	12.7	12.7	4.76	1.2				●	●		
	150608E-KC4	0.18-0.48	0.96-6.4	15.875	15.875	6.35	0.8				●	○		
	150612E-KC4	0.26-0.72	1.44-6.4	15.875	15.875	6.35	1.2				●	○		
	150616E-KC4	0.35-0.96	1.92-6.4	15.875	15.875	6.35	1.6				●	○		
	190608E-KC4	0.18-0.48	0.96-7.6	19.05	19.05	6.35	0.8				●	○		
	190612E-KC4	0.26-0.72	1.44-7.6	19.05	19.05	6.35	1.2				●	○		
	190616E-KC4	0.35-0.96	1.92-7.6	19.05	19.05	6.35	1.6				●	○		
	190624E-KC4	0.53-1.44	2.88-7.6	19.05	19.05	6.35	2.4				●	○		

Marked: ● Stock available
○ Produced by order

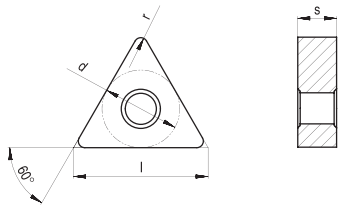
Negative 90° （S） Square Inserts



Inserts	Designation	Recommended parameters		Dimensions (mm)				Grades						
								CVD coated					PVD coated	
		Feed rate (mm/rev)	ap (mm)	d	l	s	r	AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S
	SNMA 120408E-KD5	0.20-0.60	1.20-6.4	12.7	12.7	4.76	0.8				●	○		
	120412E-KD5	0.30-0.90	1.80-6.4	12.7	12.7	4.76	1.2				●	●		
	120416E-KD5	0.40-1.20	2.40-6.4	12.7	12.7	4.76	1.6				●	●		
	150612E-KD5	0.30-0.90	1.80-7.9	15.875	15.875	6.35	1.2				●	○		
	150616E-KD5	0.40-1.20	2.40-7.9	15.875	15.875	6.35	1.6				●	●		
	190612E-KD5	0.30-0.90	1.80-9.5	19.05	19.05	6.35	1.2				●	○		
	190616E-KD5	0.40-1.20	2.40-9.5	19.05	19.05	6.35	1.6				●	○		
	SNMM 120408E-PD8	0.16-0.32	1.44-5.1	12.7	12.7	4.76	0.8	○	●	●				
	120412E-PD8	0.24-0.48	2.16-5.1	12.7	12.7	4.76	1.2	○	○	○				
	150612E-PD8	0.24-0.48	2.16-6.4	15.875	15.875	6.35	1.2	○	○	○				
	150616E-PD8	0.32-0.64	2.88-6.4	15.875	15.875	6.35	1.6	○	○	○				
	190612E-PD8	0.24-0.48	2.16-7.6	19.05	19.05	6.35	1.2	●	●	○				
	190616E-PD8	0.32-0.64	2.88-7.6	19.05	19.05	6.35	1.6	○	○	●				
	190624E-PD8	0.48-0.96	4.32-7.6	19.05	19.05	6.35	2.4	●	●	●				
	250724E-PD8	0.48-0.96	4.32-10.2	25.4	25.4	7.94	2.4	○	○	○				
	250924E-PD8	0.48-0.96	4.32-10.2	25.4	25.4	9.525	2.4	●	●	○				
	SNMM 190612S-PC9	0.26-0.60	2.40-9.5	19.05	19.05	6.35	1.2	●	●	○				
	190616S-PC9	0.35-0.80	3.20-9.5	19.05	19.05	6.35	1.6	○	●	○				
	190624S-PC9	0.53-1.20	4.80-9.5	19.05	19.05	6.35	2.4	●	●	●				
	250724S-PC9	0.53-1.20	4.80-12.7	25.4	25.4	7.94	2.4	●	●	○				
	250924S-PC9	0.53-1.20	4.80-12.7	25.4	25.4	9.525	2.4	●	●	○				
	SNMM 190612S-PD9	0.30-0.72	2.64-11.4	19.05	19.05	6.35	1.2	○	●	○				
	190616S-PD9	0.40-0.96	3.52-11.4	19.05	19.05	6.35	1.6	○	●	○				
	190624S-PD9	0.60-1.44	5.28-11.4	19.05	19.05	6.35	2.4	●	●	●				
	250724S-PD9	0.60-1.44	5.28-15.2	25.4	25.4	7.94	2.4	○	●	○				
	250924S-PD9	0.60-1.44	5.28-15.2	25.4	25.4	9.525	2.4	●	●	●				

Marked: ● Stock available
○ Produced by order

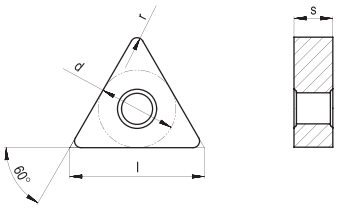
Negative 60° （T） Triangle Inserts



Inserts	Designation	Recommended parameters		Dimensions (mm)				Grades						
								CVD coated					PVD coated	
		Feed rate (mm/rev)	ap (mm)	d	l	s	r	AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S
	**TNMG 160404E-PB1**	0.05-0.15	0.26-3.1	9.525	16.5	4.76	0.4	●	●					
	160408E-PB1	0.10-0.30	0.52-3.1	9.525	16.5	4.76	0.8	●	●					
	160412E-PB1	0.15-0.45	0.78-3.1	9.525	16.5	4.76	1.2	●	●					
	**TNMG 160404E-MB2**	0.05-0.15	0.26-3.1	9.525	16.5	4.76	0.4						●	●
	160408E-MB2	0.10-0.30	0.52-3.1	9.525	16.5	4.76	0.8						●	●
	**TNMG 160404E-PB3**	0.06-0.18	0.30-3.3	9.525	16.5	4.76	0.4	●	●					
	160408E-PB3	0.12-0.36	0.60-3.3	9.525	16.5	4.76	0.8	●	●					
	160412E-PB3	0.18-0.54	0.90-3.3	9.525	16.5	4.76	1.2	●	●					
	**TNMG 160404E-PC3**	0.07-0.20	0.34-3.7	9.525	16.5	4.76	0.4	●	●					
	160408E-PC3	0.14-0.40	0.68-3.7	9.525	16.5	4.76	0.8	●	●					
	160412E-PC3	0.20-0.60	1.02-3.7	9.525	16.5	4.76	1.2	●	●					
	**TNMG 160404E-PD3**	0.08-0.22	0.40-4.1	9.525	16.5	4.76	0.4	●	●	○				
	160408E-PD3	0.15-0.44	0.80-4.1	9.525	16.5	4.76	0.8	●	●	●				
	160412E-PD3	0.23-0.66	1.20-4.1	9.525	16.5	4.76	1.2	●	●	○				
	**TNMG 160404E-PC4**	0.08-0.22	0.40-4.1	9.525	16.5	4.76	0.4	●	●		●	●		
	160408E-PC4	0.15-0.44	0.80-4.1	9.525	16.5	4.76	0.8	●	●		●	●		
	160412E-PC4	0.23-0.66	1.20-4.1	9.525	16.5	4.76	1.2	●	●		●	●		
	220412E-PC4	0.23-0.66	1.20-4.9	12.7	22.0	4.76	1.2	○	○		○	○		

Marked: ● Stock available
○ Produced by order

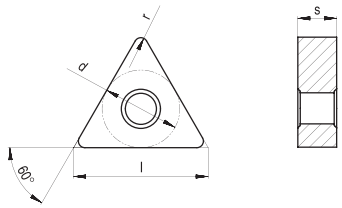
Negative 60° （T） Triangle Inserts



Inserts	Designation	Recommended parameters		Dimensions (mm)				Grades						
								CVD coated					PVD coated	
		Feed rate (mm/rev)	ap (mm)	d	l	s	r	AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S
	TNMG 160404R-PL5	0.08-0.22	0.40-4.1	9.525	16.5	4.76	0.4	●	●					
	160408R-PL5	0.15-0.44	0.80-4.1	9.525	16.5	4.76	0.8	●	●					
	160404L-PL5	0.08-0.22	0.40-4.1	9.525	16.5	4.76	0.4	●	●					
	160408L-PL5	0.15-0.44	0.80-4.1	9.525	16.5	4.76	0.8	●	●					
	TNMG 160404E-MC3	0.08-0.22	0.32-4.1	9.525	16.5	4.76	0.4						●	
	160408E-MC3	0.15-0.44	0.64-4.1	9.525	16.5	4.76	0.8						●	
	160412E-MC3	0.23-0.66	0.96-4.1	9.525	16.5	4.76	1.2						●	
	220408E-MC3	0.15-0.44	0.64-4.9	15.875	22.0	4.76	0.8						○	
	220412E-MC3	0.23-0.66	0.96-4.9	15.875	22.0	4.76	1.2						○	
	TNMG 160404E-SC3	0.08-0.22	0.40-4.1	9.525	16.5	4.76	0.4							○
	160408E-SC3	0.15-0.44	0.80-4.1	9.525	16.5	4.76	0.8							●
	160412E-SC3	0.23-0.66	1.20-4.1	9.525	16.5	4.76	1.2							●
	TNMG 160408E-PD5	0.20-0.60	1.20-5.8	9.525	16.5	4.76	0.8	●	●	●				
	160412E-PD5	0.30-0.90	1.80-5.8	9.525	16.5	4.76	1.2	●	●	●				
	220408E-PD5	0.20-0.60	1.20-7.7	12.7	22.0	4.76	0.8	●	●	●				
	220412E-PD5	0.30-0.90	1.80-7.7	12.7	22.0	4.76	1.2	●	●	●				
	220416E-PD5	0.40-1.20	2.40-7.7	12.7	22.0	4.76	1.6	●	●	●				
	TNMG 160408E-MC4	0.20-0.60	1.20-5.8	9.525	16.5	4.76	0.8						●	●
	160412E-MC4	0.30-0.90	1.80-5.8	9.525	16.5	4.76	1.2						●	●
	220408E-MC4	0.20-0.60	1.20-6.6	12.7	22.0	4.76	0.8						○	○
	220412E-MC4	0.30-0.90	1.80-6.6	12.7	22.0	4.76	1.2						○	○
	TNMG 110304E-KC4	0.09-0.24	0.48-3.3	6.35	11.0	3.18	0.4				○	○		
	160404E-KC4	0.09-0.24	0.48-4.9	9.525	16.5	4.76	0.4				●	●		
	160408E-KC4	0.18-0.48	0.96-4.9	9.525	16.5	4.76	0.8				●	●		
	160412E-KC4	0.26-0.72	1.44-4.9	9.525	16.5	4.76	1.2				●	●		
	160416E-KC4	0.35-0.96	1.92-4.9	9.525	16.5	4.76	1.6				●	●		
	220412E-KC4	0.26-0.72	1.44-6.0	12.7	22.0	4.76	1.2				●	●		
	220416E-KC4	0.35-0.96	1.92-6.0	12.7	22.0	4.76	1.6				●	○		

Marked: ● Stock available
○ Produced by order

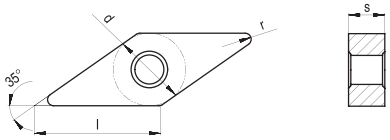
Negative 60° （T） Triangle Inserts



Inserts	Designation	Recommended parameters		Dimensions (mm)				Grades						
								CVD coated					PVD coated	
		Feed rate (mm/rev)	ap (mm)	d	l	s	r	AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S
	**TNMA 160404E-KD5**	0.10-0.30	0.60-5.8	9.525	16.5	4.76	0.4				●	○		
	160408E-KD5	0.20-0.60	1.20-5.8	9.525	16.5	4.76	0.8				●	○		
	160412E-KD5	0.30-0.90	1.80-5.8	9.525	16.5	4.76	1.2				●	○		
	160416E-KD5	0.40-1.20	2.40-5.8	9.525	16.5	4.76	1.6				●	○		
	220408E-KD5	0.20-0.60	1.20-7.7	12.7	22.0	4.76	0.8				●	○		
	220412E-KD5	0.30-0.90	1.80-7.7	12.7	22.0	4.76	1.2				●	●		
	220416E-KD5	0.40-1.20	2.40-7.7	12.7	22.0	4.76	1.6				●	●		
	**TNMM 160408E-PD8**	0.16-0.32	1.44-4.9	9.525	16.5	4.76	0.8	○	○	○				
	160412E-PD8	0.24-0.48	2.16-4.9	9.525	16.5	4.76	1.2	○	○	○				
	220408E-PD8	0.16-0.32	1.44-6.0	12.7	22.0	4.76	0.8	○	○	○				
	220412E-PD8	0.24-0.48	2.16-6.0	12.7	22.0	4.76	1.2	○	○	○				
	220416E-PD8	0.32-0.64	2.88-6.0	12.7	22.0	4.76	1.6	○	○	○				

Marked: ● Stock available
○ Produced by order

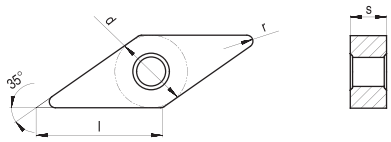
Negative 35° (V) Rhombic Inserts



Inserts	Designation	Recommended parameters		Dimensions (mm)				Grades						
								CVD coated					PVD coated	
		Feed rate (mm/rev)	ap (mm)	d	l	s	r	AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S
	VNMG 160404E-PB1	0.05-0.15	0.26-2.1	9.525	16.5	4.76	0.4	●	●					
	160408E-PB1	0.10-0.30	0.52-2.1	9.525	16.5	4.76	0.8	●	●					
	160412E-PB1	0.15-0.45	0.78-2.1	9.525	16.5	4.76	1.2	○	○					
	VNMG 160404E-MB2	0.05-0.15	0.26-2.1	9.525	16.5	4.76	0.4						●	●
	160408E-MB2	0.10-0.30	0.52-2.1	9.525	16.5	4.76	0.8						●	●
	VNMG 160404E-PB3	0.06-0.18	0.30-3.1	9.525	16.5	4.76	0.4	●	●					
	160408E-PB3	0.12-0.36	0.60-3.1	9.525	16.5	4.76	0.8	●	●					
	160412E-PB3	0.18-0.54	0.90-3.1	9.525	16.5	4.76	1.2	●	●					
	VNMG 160404E-PC3	0.07-0.20	0.34-3.3	9.525	16.5	4.76	0.4	●	●					
	160408E-PC3	0.14-0.40	0.68-3.3	9.525	16.5	4.76	0.8	●	●					
	160412E-PC3	0.20-0.60	1.02-3.3	9.525	16.5	4.76	1.2	●	●					
	VNMG 160404E-PD3	0.08-0.22	0.40-3.3	9.525	16.5	4.76	0.4	●	●					
	160408E-PD3	0.15-0.44	0.80-3.3	9.525	16.5	4.76	0.8	●	●					
	160412E-PD3	0.23-0.66	1.20-3.3	9.525	16.5	4.76	1.2	●	●					
	VNMG 160404E-PC4	0.08-0.22	0.40-3.3	9.525	16.5	4.76	0.4	●	●		●	●		
	160408E-PC4	0.15-0.44	0.80-3.3	9.525	16.5	4.76	0.8	●	●		●	●		
	160412E-PC4	0.23-0.66	1.20-3.3	9.525	16.5	4.76	1.2	●	●		●	●		
	VNMG 160404E-MC3	0.08-0.22	0.32-3.3	9.525	16.5	4.76	0.4						●	
	160408E-MC3	0.15-0.44	0.64-3.3	9.525	16.5	4.76	0.8						●	
	VNMG 160404E-SC3	0.08-0.22	0.40-3.3	9.525	16.5	4.76	0.4							●
	160408E-SC3	0.15-0.44	0.80-3.3	9.525	16.5	4.76	0.8							●
	160412E-SC3	0.23-0.66	1.20-3.3	9.525	16.5	4.76	1.2							●

Marked: ● Stock available
○ Produced by order

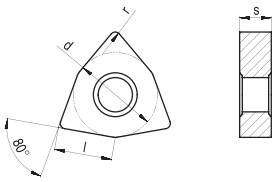
Negative 35° (V) Rhombic Inserts



Inserts	Designation	Recommended parameters		Dimensions (mm)				Grades						
								CVD coated					PVD coated	
		Feed rate (mm/rev)	ap (mm)	d	l	s	r	AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S
	**VNMG 160404E-KC4**	0.09-0.24	0.48-3.3	9.525	16.5	4.76	0.4				●	○		
	160408E-KC4	0.18-0.48	0.96-3.3	9.525	16.5	4.76	0.8				●	○		
	160412E-KC4	0.26-0.72	1.44-3.3	9.525	16.5	4.76	1.2				●	○		

Marked: ● Stock available
○ Produced by order

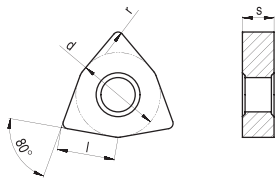
Negative 80° （W） Trigon Inserts



Inserts	Designation	Recommended parameters		Dimensions (mm)				Grades						
								CVD coated					PVD coated	
		Feed rate (mm/rev)	ap (mm)	d	l	s	r	AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S
	WNMG 080404E-PB1	0.05-0.15	0.26-2.2	12.7	8.7	4.76	0.4	●	●					
	080408E-PB1	0.10-0.30	0.52-2.2	12.7	8.7	4.76	0.8	●	●					
	080412E-PB1	0.15-0.45	0.78-2.2	12.7	8.7	4.76	1.2	●	●					
	WNMG 080404E-MB2	0.05-0.15	0.26-2.2	12.7	8.7	4.76	0.4						●	●
	080408E-MB2	0.10-0.30	0.52-2.2	12.7	8.7	4.76	0.8						●	●
	WNMG 080404E-PB3	0.06-0.18	0.30-2.3	12.7	8.7	4.76	0.4	●	●					
	080408E-PB3	0.12-0.36	0.60-2.3	12.7	8.7	4.76	0.8	●	●					
	080412E-PB3	0.18-0.54	0.90-2.3	12.7	8.7	4.76	1.2	●	●					
	WNMG 080404E-PC3	0.07-0.20	0.34-2.6	12.7	8.7	4.76	0.4	●	●					
	080408E-PC3	0.14-0.40	0.68-2.6	12.7	8.7	4.76	0.8	●	●					
	080412E-PC3	0.20-0.60	1.02-2.6	12.7	8.7	4.76	1.2	●	●					
	WNMG 060408E-PD3	0.15-0.44	0.80-2.1	9.525	6.52	4.76	0.8	●	●	○				
	080404E-PD3	0.08-0.22	0.40-2.9	12.7	8.7	4.76	0.4	●	●	○				
	080408E-PD3	0.15-0.44	0.80-2.9	12.7	8.7	4.76	0.8	●	●	●				
	080412E-PD3	0.23-0.66	1.20-2.9	12.7	8.7	4.76	1.2	●	●	●				
	WNMG 080404E-PC4	0.08-0.22	0.40-2.9	12.7	8.7	4.76	0.4	●	●		●	●		
	080408E-PC4	0.15-0.44	0.80-2.9	12.7	8.7	4.76	0.8	●	●		●	●		
	080412E-PC4	0.23-0.66	1.20-2.9	12.7	8.7	4.76	1.2	●	●		●	●		
	WNMG 060408E-MC3	0.15-0.44	0.64-2.1	9.525	6.52	4.76	0.8						●	
	060412E-MC3	0.23-0.66	0.96-2.1	9.525	6.52	4.76	1.2						●	
	080404E-MC3	0.08-0.22	0.32-2.9	12.7	8.7	4.76	0.4						●	
	080408E-MC3	0.15-0.44	0.64-2.9	12.7	8.7	4.76	0.8						●	
	080412E-MC3	0.23-0.66	0.96-2.9	12.7	8.7	4.76	1.2						●	

Marked: ● Stock available
○ Produced by order

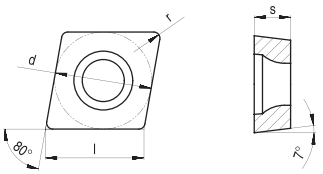
Negative 80° （W） Trigon Inserts

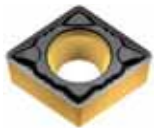
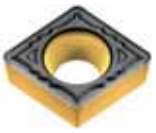
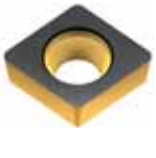


Inserts	Designation	Recommended parameters		Dimensions (mm)				Grades						
								CVD coated					PVD coated	
		Feed rate (mm/rev)	ap (mm)	d	l	s	r	AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S
	**WNMG 080404E-SC3**	0.08-0.22	0.40-2.9	12.7	8.7	4.76	0.4							●
	080408E-SC3	0.15-0.44	0.80-2.9	12.7	8.7	4.76	0.8							●
	080412E-SC3	0.23-0.66	1.20-2.9	12.7	8.7	4.76	1.2							●
	**WNMG 080408E-PD5**	0.20-0.60	1.20-4.3	12.7	8.7	4.76	0.8	●	●	●				
	080412E-PD5	0.30-0.90	1.80-4.3	12.7	8.7	4.76	1.2	●	●	●				
	**WNMG 060408E-MC4**	0.20-0.60	1.20-3.3	9.525	6.52	4.76	0.8						○	○
	060412E-MC4	0.30-0.90	1.80-3.3	9.525	6.52	4.76	1.2						○	○
	080408E-MC4	0.20-0.60	1.20-4.3	12.7	8.7	4.76	0.8						●	●
	080412E-MC4	0.30-0.90	1.80-4.3	12.7	8.7	4.76	1.2						●	●
	**WNMG 060404E-KC4**	0.09-0.24	0.48-2.6	9.525	6.52	4.76	0.4				●	○		
	060408E-KC4	0.18-0.48	0.96-2.6	9.525	6.52	4.76	0.8				●	○		
	080404E-KC4	0.09-0.24	0.48-3.5	12.7	8.7	4.76	0.4				●	○		
	080408E-KC4	0.18-0.48	0.96-3.5	12.7	8.7	4.76	0.8				●	●		
	080412E-KC4	0.26-0.72	1.44-3.5	12.7	8.7	4.76	1.2				●	●		
	080416E-KC4	0.35-0.96	1.92-3.5	12.7	8.7	4.76	1.2				●	○		
	**WNMA 080404E-KD5**	0.10-0.30	0.60-4.3	12.7	8.7	4.76	0.4				●	○		
	080408E-KD5	0.20-0.60	1.20-4.3	12.7	8.7	4.76	0.8				●	●		
	080412E-KD5	0.30-0.90	1.80-4.3	12.7	8.7	4.76	1.2				●	●		
	080416E-KD5	0.40-1.20	2.40-4.3	12.7	8.7	4.76	1.6				●	○		

Marked: ● Stock available
○ Produced by order

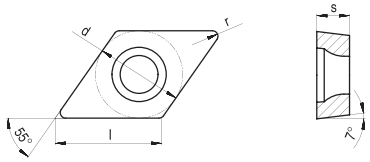
Positive 80° （C） Rhombic Inserts

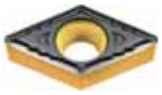
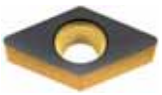


Inserts	Designation	Recommended parameters		Dimensions (mm)				Grades							
								CVD coated					PVD coated		uncoated
		Feed rate (mm/rev)	ap (mm)	d	l	s	r	AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S	AW100K
	CCMT 060202E-PB1	0.02-0.07	0.15-1.6	6.35	6.45	2.38	0.2	●	●				●		
	060204E-PB1	0.04-0.14	0.30-1.6	6.35	6.45	2.38	0.4	●	●				●		
	060208E-PB1	0.09-0.28	0.60-1.6	6.35	6.45	2.38	0.8	●	●				●		
	09T302E-PB1	0.02-0.07	0.15-2.4	9.525	9.67	3.97	0.2	●	●				●		
	09T304E-PB1	0.04-0.14	0.30-2.4	9.525	9.67	3.97	0.4	●	●				●		
	09T308E-PB1	0.09-0.28	0.60-2.4	9.525	9.67	3.97	0.8	●	●				●		
	CCMT 060204E-PC2	0.05-0.16	0.35-1.9	6.35	6.45	2.38	0.4	●	●				●	●	
	060208E-PC2	0.10-0.32	0.70-1.9	6.35	6.45	2.38	0.8	●	●				●	●	
	09T304E-PC2	0.05-0.16	0.35-2.9	9.525	9.67	3.97	0.4	●	●				●	●	
	09T308E-PC2	0.10-0.32	0.70-2.9	9.525	9.67	3.97	0.8	●	●				●	●	
	120404E-PC2	0.05-0.16	0.35-3.9	12.7	12.9	4.76	0.4	●	●				●	●	
	120408E-PC2	0.10-0.32	0.70-3.9	12.7	12.9	4.76	0.8	●	●				●	●	
	120412E-PC2	0.16-0.48	1.05-3.9	12.7	12.89	4.76	1.2	●	●				●	●	
	CCGT 060204F-NC2	0.05-0.20	0.32-2.9	6.35	6.45	2.38	0.4								●
	09T302F-NC2	0.02-0.10	0.16-4.4	9.525	9.67	3.97	0.2								●
	09T304F-NC2	0.05-0.20	0.32-4.4	9.525	9.67	3.97	0.4								●
	09T308F-NC2	0.10-0.40	0.64-4.4	9.525	9.67	3.97	0.8								●
	120404F-NC2	0.05-0.20	0.32-5.8	12.7	12.9	4.76	0.4								●
	120408F-NC2	0.10-0.40	0.64-5.8	12.7	12.9	4.76	0.8								●
	CCMT 060204E-KC2	0.06-0.18	0.40-2.1	6.35	6.45	2.38	0.4	●	●		●	●			
	060208E-KC2	0.12-0.36	0.80-2.1	6.35	6.45	2.38	0.8	●	●		●	○			
	09T304E-KC2	0.06-0.18	0.40-3.2	9.525	9.67	3.97	0.4	●	●		●	○			
	09T308E-KC2	0.12-0.36	0.80-3.2	9.525	9.67	3.97	0.8	●	●		●	●			
	120404E-KC2	0.06-0.18	0.40-4.3	12.7	12.9	4.76	0.4	●	●		●	●			
	120408E-KC2	0.12-0.36	0.80-4.3	12.7	12.9	4.76	0.8	●	●		●	●			
	120412E-KC2	0.18-0.54	1.20-4.3	12.7	12.9	4.76	1.2	●	●		●	●			
	CCMW 060204E-KD5	0.10-0.22	0.40-3.2	6.35	6.45	2.38	0.4				●	○			
	09T304E-KD5	0.10-0.22	0.40-4.8	9.525	9.67	3.97	0.4				●	○			
	09T308E-KD5	0.20-0.44	0.80-4.8	9.525	9.67	3.97	0.8				●	○			
	120404E-KD5	0.10-0.22	0.40-6.4	12.7	12.9	4.76	0.4				●	○			
	120408E-KD5	0.20-0.44	0.80-6.4	12.7	12.9	4.76	0.8				●	○			

Marked: ● Stock available
○ Produced by order

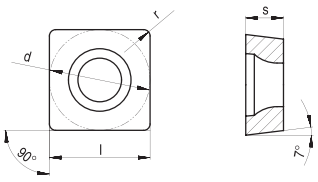
Positive 55° （D） Rhombic Inserts

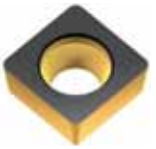


Inserts	Designation	Recommended parameters		Dimensions (mm)				Grades							
								CVD coated					PVD coated		uncoated
		Feed rate (mm/rev)	ap (mm)	d	l	s	r	AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S	AW100K
	DCMT 070202E-PB1	0.02-0.07	0.15-1.5	6.35	7.75	2.38	0.2	●	●				●		
	070204E-PB1	0.04-0.14	0.30-1.5	6.35	7.75	2.38	0.4	●	●				●		
	11T302E-PB1	0.02-0.07	0.15-2.3	9.525	11.62	3.97	0.2	●	●				●		
	11T304E-PB1	0.04-0.14	0.30-2.3	9.525	11.62	3.97	0.4	●	●				●		
	11T308E-PB1	0.09-0.28	0.60-2.3	9.525	11.62	3.97	0.8	●	●				●		
	DCMT 070204E-PC2	0.05-0.16	0.35-2.1	6.35	7.75	2.38	0.4	●	●				●	●	
	070208E-PC2	0.10-0.32	0.70-2.1	6.35	7.75	2.38	0.8	●	●				●	●	
	11T304E-PC2	0.05-0.16	0.35-3.1	9.525	11.62	3.97	0.4	●	●				●	●	
	11T308E-PC2	0.10-0.32	0.70-3.1	9.525	11.62	3.97	0.8	●	●				●	●	
	11T312E-PC2	0.16-0.48	1.05-3.1	9.525	11.62	3.97	1.2	●	●				○	○	
	DCGT 070202F-NC2	0.02-0.10	0.16-3.5	6.35	7.75	2.38	0.2								●
	070204F-NC2	0.05-0.20	0.32-3.5	6.35	7.75	2.38	0.4								●
	11T302F-NC2	0.02-0.10	0.16-5.2	9.525	11.62	3.97	0.2								●
	11T304F-NC2	0.05-0.20	0.32-5.2	9.525	11.62	3.97	0.4								●
	11T308F-NC2	0.10-0.40	0.64-5.2	9.525	11.62	3.97	0.8								●
	DCMT 070204E-KC2	0.06-0.18	0.40-2.3	6.35	7.75	2.38	0.4	●	●		●	●			
	070208E-KC2	0.12-0.36	0.80-2.3	6.35	7.75	2.38	0.8	●	●		○	○			
	11T304E-KC2	0.06-0.18	0.40-3.5	9.525	11.62	3.97	0.4	●	●		●	●			
	11T308E-KC2	0.12-0.36	0.80-3.5	9.525	11.62	3.97	0.8	●	●		●	●			
	11T312E-KC2	0.18-0.54	1.20-3.5	9.525	11.62	3.97	1.2	●	●		○	○			
	DCMW 070204E-KD5	0.06-0.18	0.40-3.9	6.35	7.75	2.38	0.4				●	○			
	070208E-KD5	0.12-0.36	0.80-3.9	6.35	7.75	2.38	0.8				●	○			
	11T304E-KD5	0.06-0.18	0.40-5.8	9.525	11.62	3.97	0.4				●	○			
	11T308E-KD5	0.12-0.36	0.80-5.8	9.525	11.62	3.97	0.8				●	○			

Marked: ● Stock available
○ Produced by order

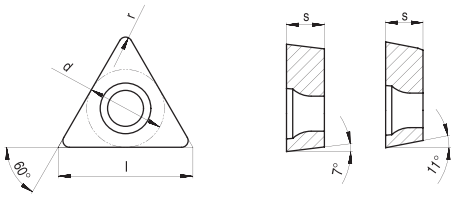
Positive 90° （S） Square Inserts

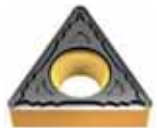


Inserts	Designation	Recommended parameters		Dimensions (mm)				Grades							
								CVD coated					PVD coated		uncoated
		Feed rate (mm/rev)	ap (mm)	d	l	s	r	AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S	AW100K
	SCMT 09T304E-PB1	0.04-0.14	0.30-2.4	9.525	9.525	3.97	0.4	●	●				●		
	09T308E-PB1	0.09-0.28	0.60-2.4	9.525	9.525	3.97	0.8	●	●				●		
	120404E-PB1	0.04-0.14	0.30-3.2	12.7	12.7	4.76	0.4	○	○				○		
	SCMT 09T304E-PC2	0.05-0.16	0.35-2.9	9.525	9.525	3.97	0.4	●	●				●	●	
	09T308E-PC2	0.10-0.32	0.70-2.9	9.525	9.525	3.97	0.8	●	●				●	●	
	120404E-PC2	0.05-0.16	0.35-3.8	12.7	12.7	4.76	0.4	●	●				●	●	
	120408E-PC2	0.10-0.32	0.70-3.8	12.7	12.7	4.76	0.8	●	●				●	●	
	120412E-PC2	0.16-0.48	1.05-3.8	12.7	12.7	4.76	1.2	●	●				○	●	
	SCGT 09T308F-NC2	0.10-0.40	0.64-4.3	9.525	9.525	3.97	0.8								●
	SCMT 09T304E-KC2	0.06-0.18	0.40-3.1	9.525	9.525	3.97	0.4	●	●		●	○			
	09T308E-KC2	0.12-0.36	0.80-3.1	9.525	9.525	3.97	0.8	●	●		●	○			
	120404E-KC2	0.06-0.18	0.40-4.2	12.7	12.7	4.76	0.4	●	●		●	○			
	120408E-KC2	0.12-0.36	0.80-4.2	12.7	12.7	4.76	0.8	●	●		●	○			
	120412E-KC2	0.18-0.54	1.20-4.2	12.7	12.7	4.76	1.2	●	●		●	○			
	SCMW 09T304E-KD5	0.10-0.22	0.40-4.8	9.525	9.525	3.97	0.4				●	○			
	09T308E-KD5	0.20-0.44	0.80-4.8	9.525	9.525	3.97	0.8				●	○			
	120404E-KD5	0.10-0.22	0.40-6.4	12.7	12.7	4.76	0.4				●	○			
	120408E-KD5	0.20-0.44	0.80-6.4	12.7	12.7	4.76	0.8				●	○			

Marked: ● Stock available
○ Produced by order

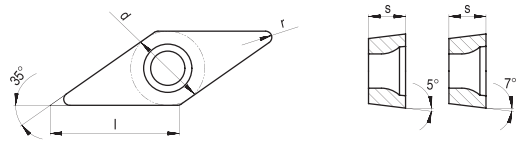
Positive 60° （T）Triangle Inserts



Inserts	Designation	Recommended parameters		Dimensions (mm)				Grades							
								CVD coated					PVD coated		uncoated
		Feed rate (mm/rev)	ap (mm)	d	l	s	r	AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S	AW100K
	TCMT 090204E-PB1	0.04-0.14	0.30-1.9	5.56	9.63	2.38	0.4	○	○				●		
	110202E-PB1	0.02-0.07	0.15-2.2	6.35	11.0	2.38	0.2	○	○				●		
	110204E-PB1	0.04-0.14	0.30-2.2	6.35	11.0	2.38	0.4	●	●				●		
	110208E-PB1	0.09-0.28	0.60-2.2	6.35	11.0	2.38	0.8	●	●				●		
	16T304E-PB1	0.04-0.14	0.30-3.3	9.525	16.5	3.97	0.4	●	●				●		
	16T308E-PB1	0.09-0.28	0.60-3.3	9.525	16.5	3.97	0.8	●	●				○		
	TCMT 090204E-PC2	0.05-0.16	0.35-2.6	5.56	9.63	2.38	0.4	●	●				●	●	
	090208E-PC2	0.10-0.32	0.70-2.6	5.56	9.63	2.38	0.8	●	●				●	●	
	110204E-PC2	0.05-0.16	0.35-3.0	6.35	11.0	2.38	0.4	●	●				●	●	
	110208E-PC2	0.10-0.32	0.70-3.0	6.35	11.0	2.38	0.8	●	●				●	●	
	16T304E-PC2	0.05-0.16	0.35-4.5	9.525	16.5	3.97	0.4	●	●				●	●	
	16T308E-PC2	0.10-0.32	0.70-4.5	9.525	16.5	3.97	0.8	●	●				●	●	
	16T312E-PC2	0.16-0.48	1.05-4.5	9.525	16.5	3.97	1.2	●	●				●	●	
	TPMT 090204E-PC2	0.05-0.16	0.35-2.6	5.56	9.63	2.38	0.4	●	●				●		
	090208E-PC2	0.10-0.32	0.70-2.6	5.56	9.63	2.38	0.8	○	○				●		
	110304E-PC2	0.05-0.16	0.35-3.0	6.35	11.0	3.97	0.4	●	○				●		
	110308E-PC2	0.10-0.32	0.70-3.0	6.35	11.0	3.97	0.8	○	○				●		
	TCGT 110204F-NC2	0.05-0.20	0.32-4.9	6.35	11.0	2.38	0.4								●
	16T304F-NC2	0.05-0.20	0.32-7.4	9.525	16.5	3.97	0.4								●
	16T308F-NC2	0.10-0.40	0.64-7.4	9.525	16.5	3.97	0.8								●
	TCMT 090204E-KC2	0.06-0.18	0.40-2.9	5.56	9.63	2.38	0.4	●	●		●	●			
	090208E-KC2	0.12-0.36	0.80-2.9	5.56	9.63	2.38	0.8	●	●		●	○			
	110204E-KC2	0.06-0.18	0.40-3.3	6.35	11.0	2.38	0.4	●	●		●	●			
	110208E-KC2	0.12-0.36	0.80-3.3	6.35	11.0	2.38	0.8	●	●		●	○			
	16T304E-KC2	0.06-0.18	0.40-4.9	9.525	16.5	3.97	0.4	●	●		●	●			
	16T308E-KC2	0.12-0.36	0.80-4.9	9.525	16.5	3.97	0.8	●	●		●	○			
	16T312E-KC2	0.18-0.54	1.20-4.9	9.525	16.5	3.97	1.2	●	●		●	○			
	TCMW 110204E-KD5	0.06-0.18	0.40-5.5	6.35	11.0	2.38	0.4				●	○			
	110208E-KD5	0.12-0.36	0.80-5.5	6.35	11.0	2.38					●	○			
	16T304E-KD5	0.06-0.18	0.40-8.2	9.525	16.5	3.97	0.4				●	○			
	16T308E-KD5	0.12-0.36	0.80-8.2	9.525	16.5	3.97	0.8				●	○			

Marked: ● Stock available
○ Produced by order

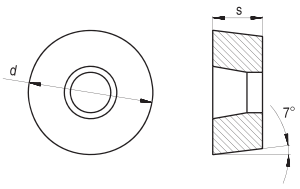
Positive 35° （V）Rhombic Inserts



Inserts	Designation	Recommended parameters		Dimensions (mm)				Grades							
								CVD coated					PVD coated		uncoated
		Feed rate (mm/rev)	ap (mm)	d	l	s	r	AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S	AW100K
	**VBMT 110304E-PB1**	0.04-0.14	0.30-1.4	6.35	11.07	3.18	0.4	○	○				●		
	110308E-PB1	0.09-0.28	0.60-1.4	6.35	11.07	3.18	0.8	○	○				●		
	160402E-PB1	0.02-0.07	0.15-2.1	9.525	16.61	4.76	0.2	○	○				○		
	160404E-PB1	0.04-0.14	0.30-2.1	9.525	16.61	4.76	0.4	○	○				●		
	160408E-PB1	0.09-0.28	0.60-2.1	9.525	16.61	4.76	0.8	●	●				○		
	**VCMT 160404E-PB1**	0.04-0.14	0.30-2.1	9.525	16.61	4.76	0.4	○	○				○		
	160408E-PB1	0.09-0.28	0.60-2.1	9.525	16.61	4.76	0.8	○	○				○		
	**VBMT 110304E-PC2**	0.05-0.16	0.35-2.1	6.35	11.07	3.18	0.4	●	●				●	●	
	110308E-PC2	0.10-0.32	0.70-2.1	6.35	11.07	3.18	0.8	○	○				●	●	
	160404E-PC2	0.05-0.16	0.35-3.1	9.525	16.61	4.76	0.4	●	●				●	●	
	160408E-PC2	0.10-0.32	0.70-3.1	9.525	16.61	4.76	0.8	●	●				●	●	
	160412E-PC2	0.16-0.48	1.05-3.1	9.525	16.61	4.76	1.2	●	●				●	●	
	**VCMT 110304E-PC2**	0.05-0.16	0.35-2.1	6.35	11.07	3.18	0.4	●	●				●		
	110308E-PC2	0.10-0.32	0.70-2.1	6.35	11.07	3.18	0.8	○	○				●		
	160404E-PC2	0.05-0.16	0.35-3.1	9.525	16.61	4.76	0.4	●	●				●		
	160408E-PC2	0.10-0.32	0.70-3.1	9.525	16.61	4.76	0.8	●	●				●		
	**VCGT 110302F-NC2**	0.02-0.10	0.16-2.8	6.35	11.07	3.18	0.2								●
	110304F-NC2	0.05-0.20	0.32-2.8	6.35	11.07	3.18	0.4								●
	160404F-NC2	0.05-0.20	0.32-4.2	9.525	16.61	4.76	0.4								●
	160408F-NC2	0.10-0.40	0.64-4.2	9.525	16.61	4.76	0.8								●
	160412F-NC2	0.14-0.60	0.96-4.2	9.525	16.61	4.76	1.2								●
	220530F-NC2	0.36-1.50	2.40-5.5	12.7	22.14	5.56	3.0								●
	**VBMT 160404E-KC2**	0.06-0.18	0.40-3.3	9.525	16.61	4.76	0.4	●	●		○	○			
	160408E-KC2	0.12-0.36	0.80-3.3	9.525	16.61	4.76	0.8	●	●		●	○			
	160412E-KC2	0.18-0.54	1.20-3.3	9.525	16.61	4.76	1.2	●	●		○	○			

Marked: ● Stock available
○ Produced by order

Positive Round Turning Inserts



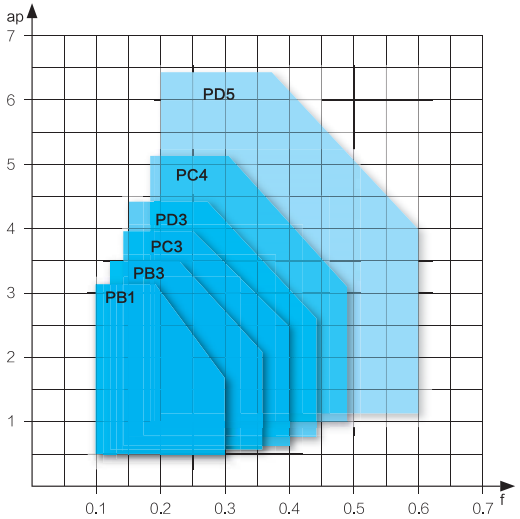
Inserts	Designation	Recommended parameters		Dimensions (mm)				Grades							
								CVD coated					PVD coated		uncoated
		Feed rate (mm/rev)	ap (mm)	d	l	s	r	AC150P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S	AW100K
	**RCMX 100300S**	0.25-0.50	1.5-4.0	10		3.18	5	●	●	○					
	120400S	0.30-0.60	2.5-5.0	12		4.76	6	●	●	●					
	160600S	0.40-0.75	3.0-7.0	16		6.35	8	●	○	○					
	200600S	0.48-0.90	3.5-9.0	20		6.35	10	●	●	○					
	250700S	0.55-1.20	4.0-12.0	25		7.94	12.5	●	○	●					
	320900S	0.65-1.50	5.0-15.0	32		9.52	16	●	○	○					
	**RCGT 0803MOF-NC2**	0.10-1.00	0.70-3.3	8		3.18	4								○
	1003MOF-NC2	0.20-1.30	0.90-4.0	10		3.18	5								○
	10T3MOF-NC2	0.20-1.30	0.90-4.0	10		3.97	5								○

Marked: ● Stock available
○ Produced by order

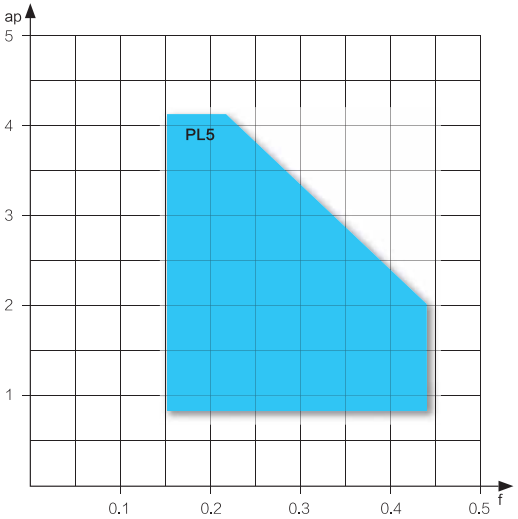
Ap-feed Rate Application Diagram

Negative Insert Geometry

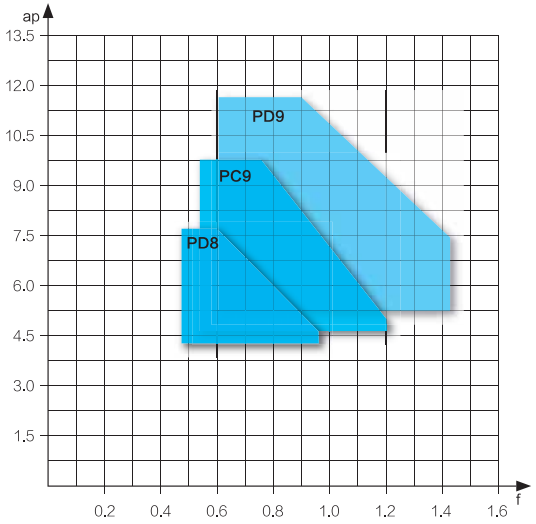
ISO P type
Double side negative insert application



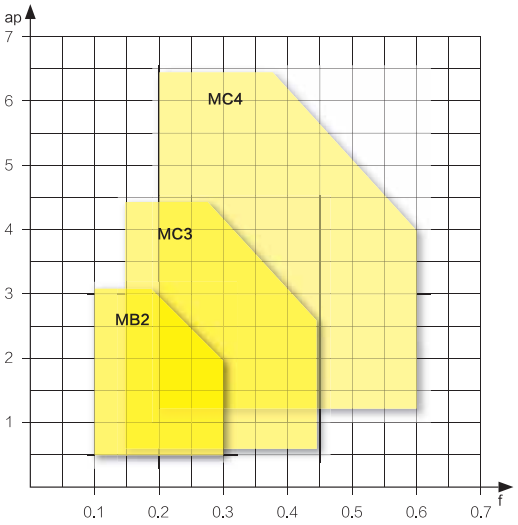
ISO P type
Other chipbreaker negative insert application



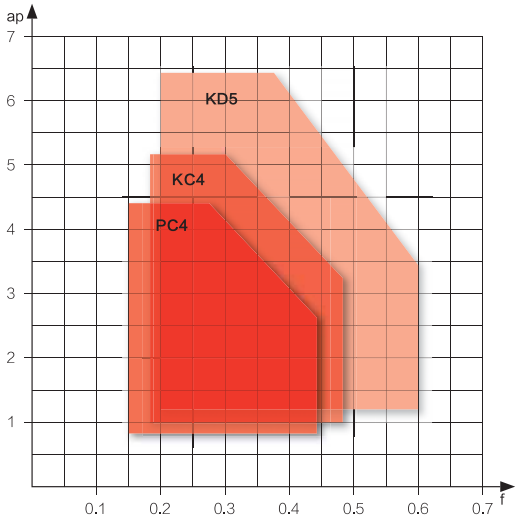
ISO P type
One side negative insert application



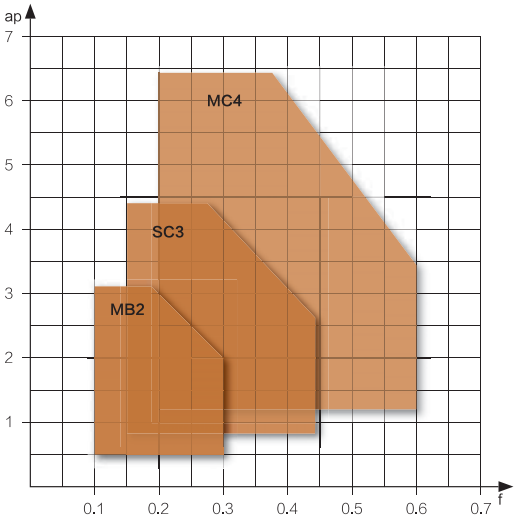
ISO M type
Negative insert application



ISO K type
Negative insert application

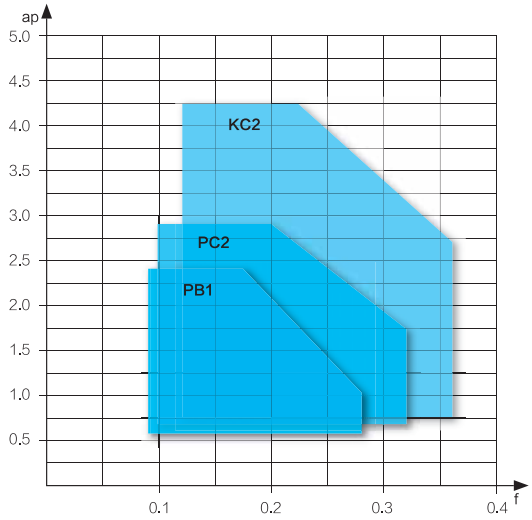


ISO S type
Negative insert application

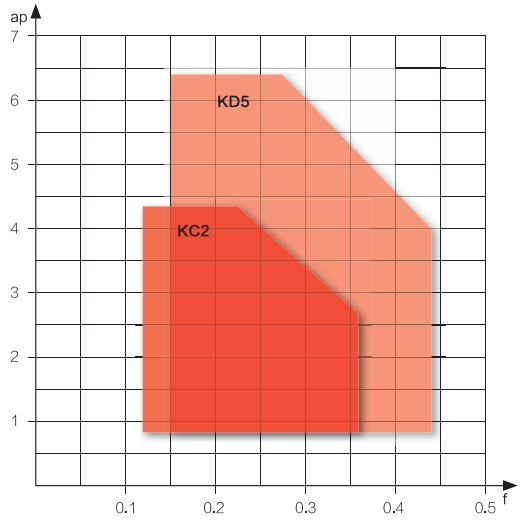


Ap-feed Rate Application Diagram
Positive Insert Geometry

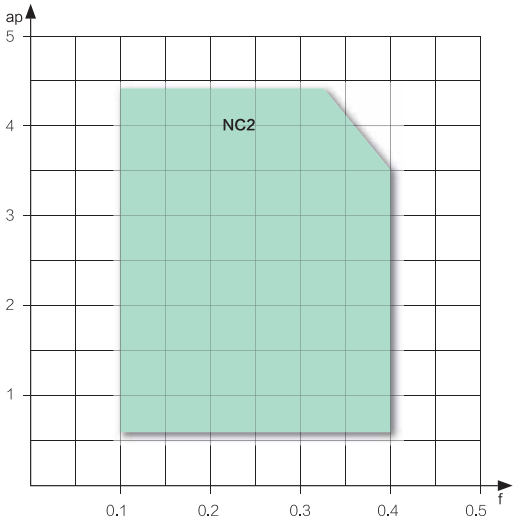
ISO P type
Positive insert application



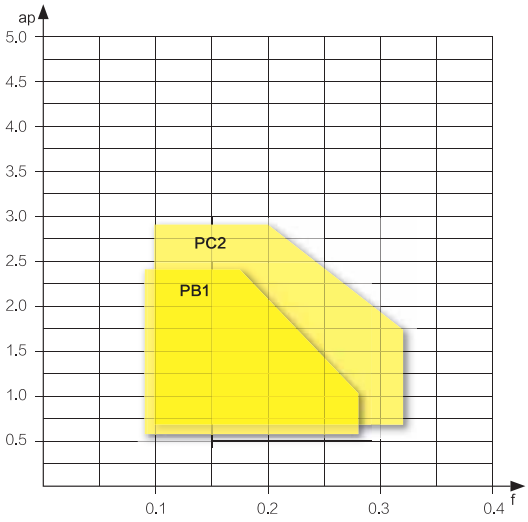
ISO K type
Positive insert application



ISO N type
Positive insert application



ISO M type
Positive insert application



Cutting Parameter Recommended Table

Materials				Turning grade application range																				
				CVD coated														PVD coated						Uncoated		
ISO	Material classification	Tensile strength (N/mm^2)	Hardness (HB)	AC150P			AC250P			AC350P			ACK15A			AC150K			AP100S			AP301M			AW100K		
				P10-25			P20-35			P30-45			-			-			-			-			-		
				-			-			-			-			-			M05-25			M15-35			-		
				-			-			-			K10-30			K10-25			-			-			-		
				-			-			-			-			-			S05-25			S15-35			-		
				-			-			-			-			-			-			-			N05-15		
				-			-			-			-			-			-			-			-		
				Feed （mm/rev）																							
				min	med	max	min	med	max	min	med	max	min	med	max	min	med	max	min	med	max	min	med	max	min	med	max
				Cutting speed Vc （m/min）																							
P	Non-alloyed steel	<600	<180	485	378	270	380	260	160	250	182	115															
		<950	<280	335	243	150	240	162	100	160	117	75															
	Alloyed steel	700-950	200-280	230	168	120	215	155	90	148	109	70															
		950-1200	280-355	210	150	90	180	137	75	135	100	65															
		1200-1400	355-415	175	110	70	135	92	55	93	69	45															
M	Duplex stainless steel	778	230																215	170	145	180	140	110			
	Austenitic stainless steel	675	200																240	190	155	200	160	130			
	Precipitation-hardening stainless steel	1013	300																215	150	85	160	130	70			
K	Grey cast iron	700	220										400	255	145	450	300	165									
	Nodular cast iron	880	260										350	215	125	400	260	145									
	Malleable cast iron	800	250										235	165	95	275	195	115									
S	Fe-based alloy	943	280																180	110	40	150	90	40			
	Co-based alloy	1076	320																100	65	30	80	50	30			
	Ni-based alloy	1177	350																100	65	30	80	50	30			
	Ti-alloy	1262	370																200	125	50	160	90	35			
N	Aluminum	260	75																						950	600	200
	Aluminum alloy	447	130																						500	270	40
H	Hardened steel	-	50-60HRC																								
	Chilled cast iron	-	55HRC																								

*Above chart for general cutting conditions. The actual selection should be adjusted according to factors such as machine rigidity, tool body, workpiece conditions and coolant.

ACHTECK

NEW
PRODUCT !

PA1

New chip breaker PA1 with high precision tolerance insert



www.achtecktool.com

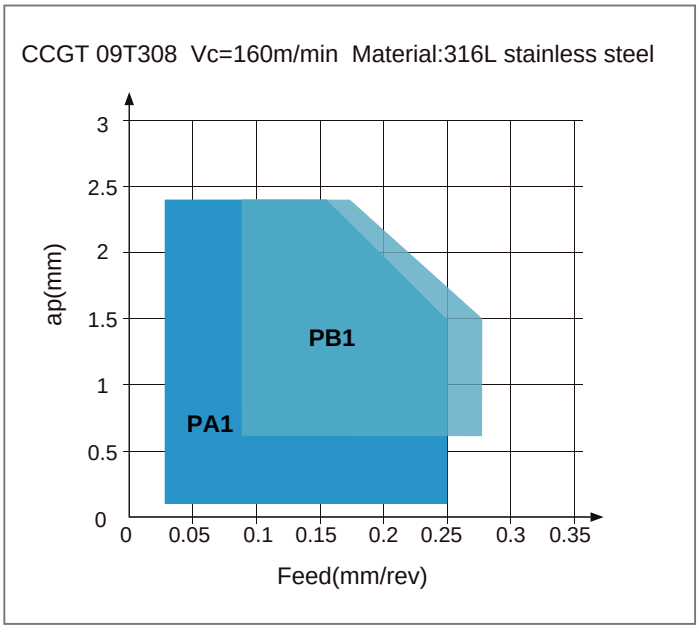
Achteck is launching a new chip breaker PA1 which is positive turning insert with precision tolerance.

PA1 chip breaker is suitable for super finishing to finishing with very excellent chip control at low feed rate and small depth of cut. The PA1 chip breaker has good combination with AP301M grade which supply excellent performance on stainless steel and super alloys.

PA1 chip breaker features

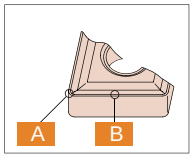
- For super finishing to finishing
- Excellent chip breaking at low feed rate and small depth of cut
- Periphery grinded insert with high precision tolerance
- Better surface finish and longer tool life
- For stainless steel and super alloys
- Insert radius supplied with 0.1mm,0.2mm,0.4mm and 0.8mm

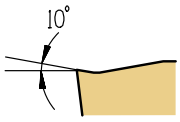
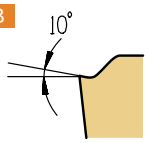
Chip breaker range



Chip breaker featrues

Positive insert



Chip breaker	Edge preparation		Application
PA1		A  B 	• For super finishing to finishing • For stainless steel and super alloys

Grade application

Grade	Coating	Material					
		P	M	K	S	N	H
AP301M	PVD		●		◐		

● Marked : 1st Choice ◐ Marked : 2nd Choice

Recommended cutting speed by materials

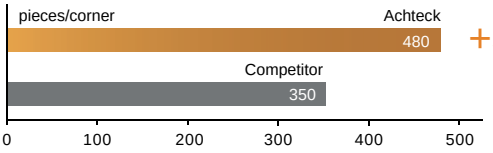
Material	Material Type		Cutting speed (m/min)		
			Feed(low)	Feed(medium)	Feed(high)
Stainless steel	Austenite+ Ferrite	300 series	180	140	110
	Martensite	400 series	200	160	130
	Precipitated dispersion hardened stainless steel	P.H.	160	130	70
High temperature alloys	Iron base alloy	-	150	90	40
	Cobalt base alloy	Waspalloy	80	50	30
	Nickel base alloy	Inconel	80	50	30
	Titanium alloy	Ti6Al4V	160	90	35

Remark) The recommended cutting speed always refer to general conditons. These cutting speed should be adjusted according to the practical machine rigidity, tools, work piece clamping and coolants.(The feed rate refer corner radius)

Case stories

Component description: Conrod rod
Material: Powder metallurgy
Insert: CCGT 060204E-PA1 AP301M
Competitor: CCGT 060204-MN2
Cutting Parameters: Vc=220m/min, f=0.1mm/r,
ap=0.15mm, wet cutting
Internal fine boring

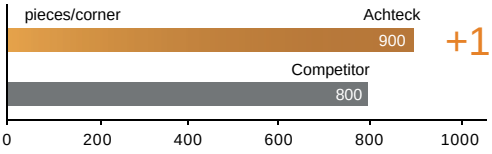




+37%

Component description: Axis
Material: 430F stainless steel
Insert: VBGT 110302E-PA1 AP301M
Competitor: VBGT 110302-SA
Cutting Parameters: Vc=110m/min, f=0.05mm/r,
ap=0.1mm, wet cutting
External finishing

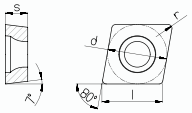
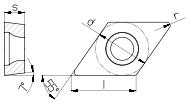
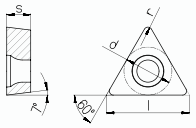
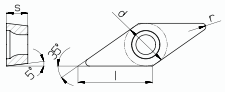
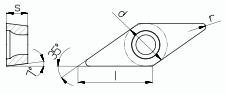




+12%

Stock items

Positive insert

Insert	Item designation	Dimension(mm)				Recommended cutting parameters		Grade (PVD)	Geometry
		d	l	s	r	Feed (mm/rev)	ap (mm)	AP301M	
	CCGT 060201E-PA1	6.35	6.45	2.38	0.1	0.02-0.15	0.10-1.4	●	
	CCGT 060202E-PA1	6.35	6.45	2.38	0.2	0.02-0.15	0.10-1.4	●	
	CCGT 060204E-PA1	6.35	6.45	2.38	0.4	0.03-0.20	0.10-1.4	●	
	CCGT 09T301E-PA1	9.53	9.67	3.97	0.1	0.02-0.15	0.10-2.4	●	
	CCGT 09T302E-PA1	9.53	9.67	3.97	0.2	0.02-0.15	0.10-2.4	●	
	CCGT 09T304E-PA1	9.53	9.67	3.97	0.4	0.03-0.20	0.10-2.4	●	
	CCGT 09T308E-PA1	9.53	9.67	3.97	0.8	0.03-0.25	0.10-2.4	●	
	DCGT 070201E-PA1	6.35	7.75	2.38	0.1	0.02-0.15	0.10-1.4	●	
	DCGT 070202E-PA1	6.35	7.75	2.38	0.2	0.02-0.15	0.10-1.4	●	
	DCGT 070204E-PA1	6.35	7.75	2.38	0.4	0.03-0.20	0.10-1.4	●	
	DCGT 11T301E-PA1	9.53	11.62	3.97	0.1	0.02-0.15	0.10-2.4	●	
	DCGT 11T302E-PA1	9.53	11.62	3.97	0.2	0.02-0.15	0.10-2.4	●	
	DCGT 11T304E-PA1	9.53	11.62	3.97	0.4	0.03-0.20	0.10-2.4	●	
	TCGT 110201E-PA1	6.35	11.00	2.38	0.1	0.02-0.15	0.10-2.4	●	
	TCGT 110202E-PA1	6.35	11.00	2.38	0.2	0.02-0.15	0.20-2.4	●	
	TCGT 110204E-PA1	6.35	11.00	2.38	0.4	0.03-0.20	0.20-2.4	●	
	TCGT 16T304E-PA1	9.53	16.50	3.97	0.4	0.03-0.20	0.20-2.4	●	
	VBGT 110301E-PA1	6.35	11.07	3.18	0.1	0.02-0.15	0.10-1.4	●	
	VBGT 110302E-PA1	6.35	11.07	3.18	0.2	0.02-0.15	0.20-1.4	●	
	VBGT 110304E-PA1	6.35	11.07	3.18	0.4	0.03-0.20	0.20-1.4	●	
	VBGT 160401E-PA1	9.53	16.61	4.76	0.1	0.02-0.15	0.10-1.4	●	
	VBGT 160402E-PA1	9.53	16.61	4.76	0.2	0.02-0.15	0.20-1.4	●	
	VCGT 110301E-PA1	6.35	11.07	3.18	0.1	0.02-0.15	0.10-1.4	●	
	VCGT 110302E-PA1	6.35	11.07	3.18	0.2	0.02-0.15	0.20-1.4	●	
	VCGT 110304E-PA1	6.35	11.07	3.18	0.4	0.03-0.20	0.20-1.4	●	

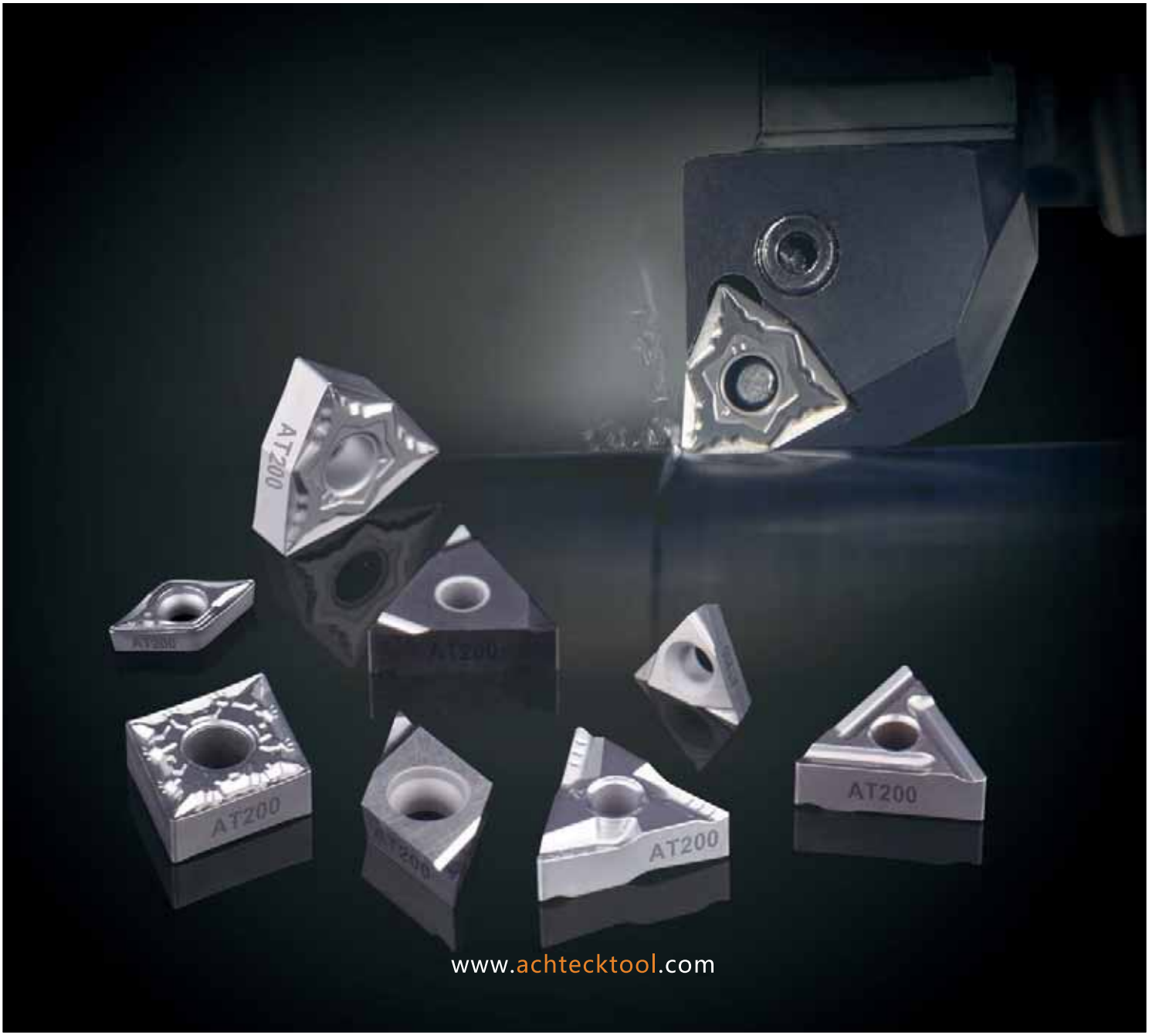
● Marked: represent for standard stock

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NEW
PRODUCT !

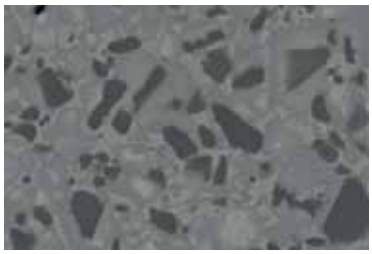
AT200

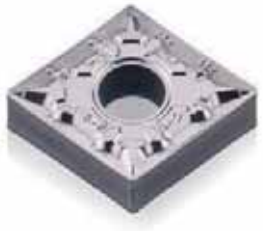
Cermet insert



AT200



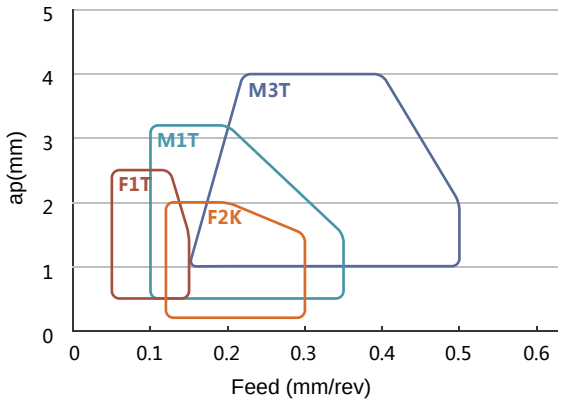




- Uniform double-layer structure realizes finishing and semi-finishing, achieving good wear resistance and anti-collapse
- Core-shell structure formed by cobalt-nickel binder and high melting point compound, achieving high heat resistance and chipping resistance
- Excellent surface treatment, reduce adhesion, improve processing surface and extend tool life

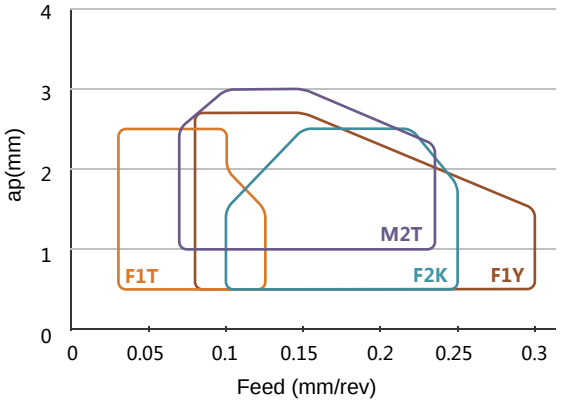
Chip breaker application

M-class negative insert



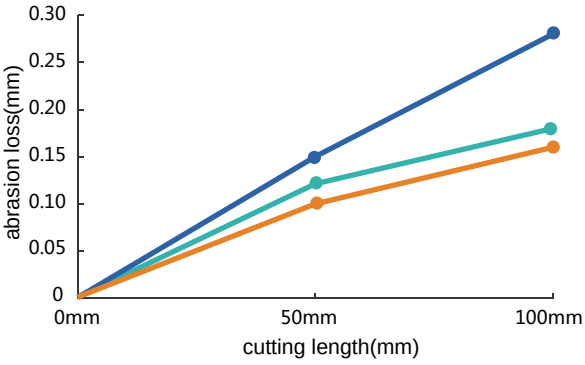
F1T：Low cutting force, suitable for finishing.
F2K：With good cutting treatment and strong universality, suitable for finishing and semi-finishing.
M1T：Large rake angle and low resistance, suitable for different deep-cutting conditions.
M3T：smooth front angle, suitable for medium rough machining with large feed.

M-class positive insert

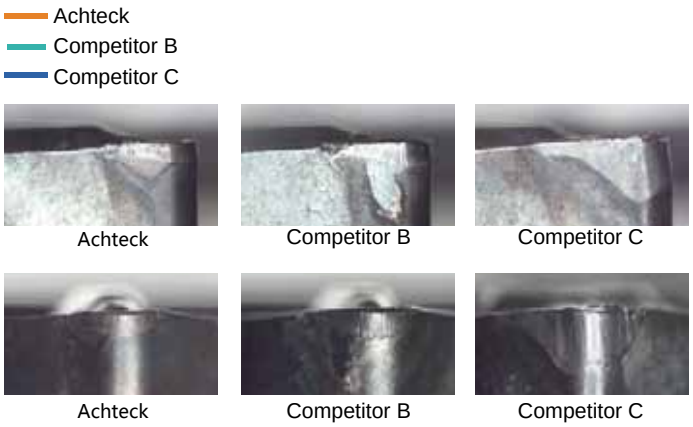


F1T：Low cutting force, good chip breaking ability, suitable for finishing.
F2K：Universal chipbreaker, suitable for finishing and semi-finishing
M2T：Suitable for semi finishing
F1Y：Suitable for finishing, semi finishing

Continuous high speed wear resistance

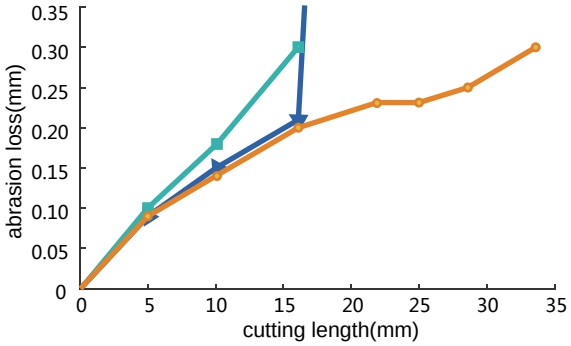


Material to be processed：40CrNiMo(HB280-310)
Insert tool type：CNMG120408-F2K AT200
Vc=300m/min f=0.15mm/rev ap=1.0mm Dry

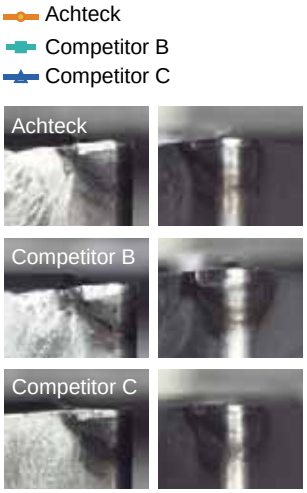


- Continuous cutting can achieve excellent wear resistance and ensure the accuracy control of the material to be cut

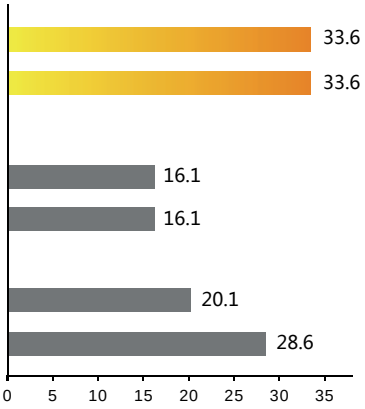
Stable cutting life



Material to be processed：40CrNiMo(HB280-310)
Insert tool type：CNMG120404-F2K AT200
Vc=200m/min f=0.20mm/rev ap=1.0mm Wet



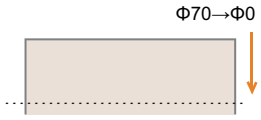
wear comparison
after 16 minutes



Life comparison

Excellent processing quality

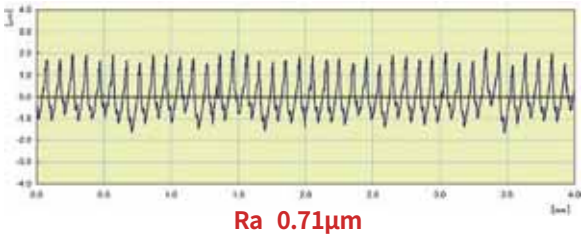
Material to be processed：45#
Insert tool type：CNMG120404-F2K AT200
Vc=242~0m/min ap=1.0mm f=0.1mm/rev Wet





Achteck



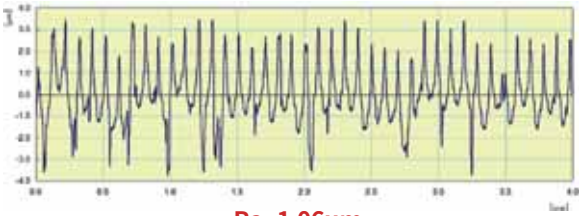


Ra 0.71μm



Other company





Ra 1.06μm

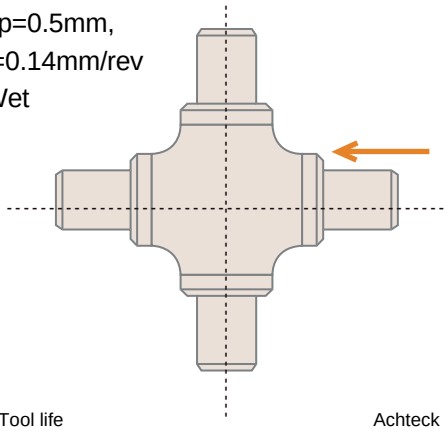
Recommended cutting parameter

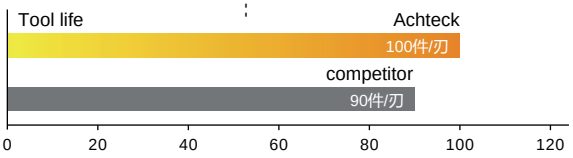
Cutting speed:Vc(m/min)

	Low-carbon steel HB: below 150	Carbon steel HB: below 250	High-carbon steel HB: below 300
AT200	100 - **250** - 350	100 - **230** - 330	100 - **200** - 300

Cases

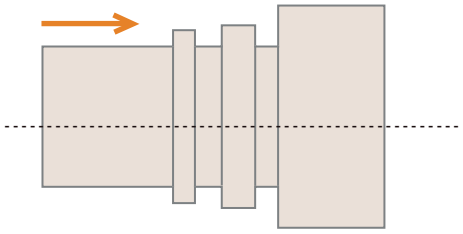
Workpiece: cross axle
Material:S45C
Insert:CNMG120404 FK2 AT200
Cutting parameter:
Vc=226m/min
ap=0.5mm,
f=0.14mm/rev
Wet

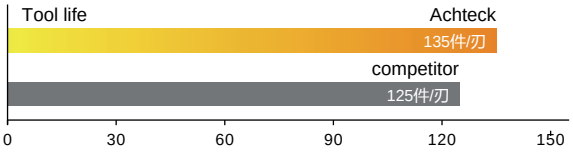




AT200 has a 10% longer life compared to other companies' products and is superior cost-effective.

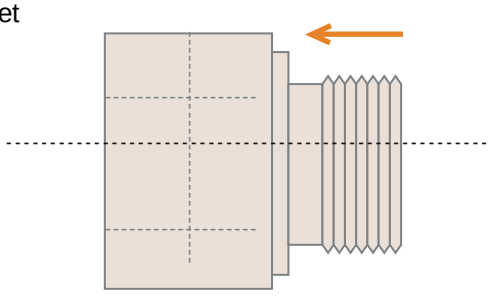
Workpiece:pipe joint
Material:Q235
Insert:TNMG160404R-M3T AT200
Cutting parameter:
Vc=125~135m/min
ap=1.0~0.5mm,
f=0.36~0.15mm/rev
Wet

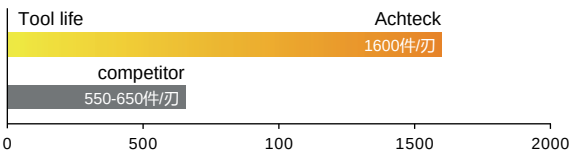




Rough and finish machining at the same time, with a stable performance, excellent workpiece surface roughness, no chipping

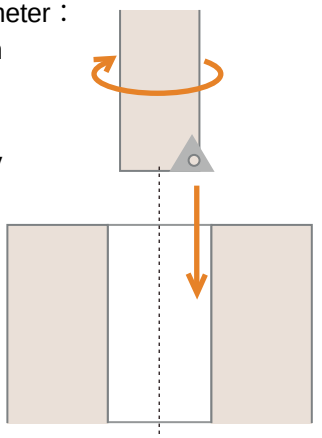
Workpiece: hydraulic fitting
Material: S45C
Insert: TNGG 160404R-C AT200
Cutting parameter:
Vc=125m/min
ap=1.8mm,
f=0.15-0.20mm/rev
Wet

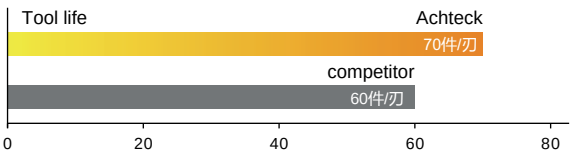




300% longer life, stable performance

Workpiece: Pillar support
Material: S45C
Insert: TPGT110304FL-F AT200
Cutting parameter：
Vc=306m/min
ap=127mm,
ae=0.12mm,
f=0.06mm/rev
Wet

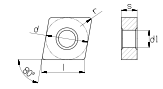
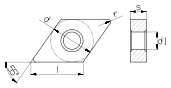
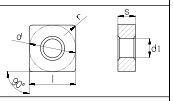
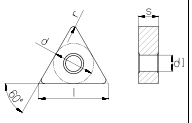
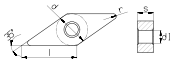
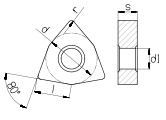




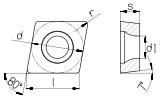
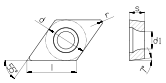
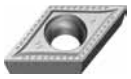
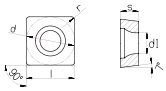
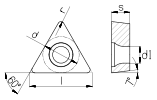
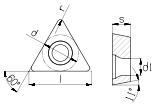
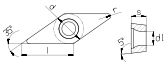
Rotary boring, tool wear resistance is superior to other companies', meanwhile ensuring an extraordinary machined surface

Product list

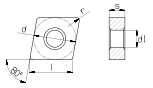
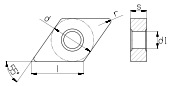
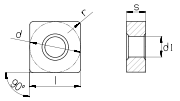
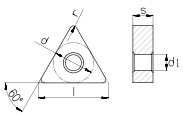
Negative M-class insert

Insert	Designation	Recommended parameter		Dimension(mm)					Grade	Geometry
		Feed	Cutting depth	d	l	s	d1	r	Mental ceramic	
		(mm/rev)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	AT200	
	CNMG 120404-F2K	0.12-0.30	0.20-2.0	12.7	12.89	4.76	5.16	0.4	●	
	120408-F2K	0.12-0.30	0.20-2.0	12.7	12.89	4.76	5.16	0.8	●	
	DNMG 150404R-M1T	0.10-0.35	0.70-4.5	12.7	15.49	4.76	5.16	0.4	●	
	150404L-M1T	0.10-0.35	0.70-4.5	12.7	15.49	4.76	5.16	0.4	●	
	DNMG 150404-F2K	0.10-0.30	0.50-2.0	12.7	15.49	4.76	5.16	0.4	●	
	150408-F2K	0.10-0.30	0.50-2.0	12.7	15.49	4.76	5.16	0.8	●	
	SNMG 120404-M3T	0.12-0.40	1.0-4.0	12.7	12.7	4.76	5.16	0.4	●	
	120408-M3T	0.17-0.55	1.2-0.4	12.7	12.7	4.76	5.16	0.8	●	
	TNMG 160404-F1T	0.08-0.20	0.05-2.0	9.525	16.50	4.76	3.81	0.4	●	
	160408-F1T	0.08-0.20	0.05-2.0	9.525	16.50	4.76	3.81	0.8	●	
	TNMG 160404-F1Y	0.08-0.20	0.05-2.0	9.525	16.50	4.76	3.81	0.4	●	
	160408-F1Y	0.08-0.20	0.05-2.0	9.525	16.50	4.76	3.81	0.8	●	
	TNMG 160404-F2K	0.08-0.22	0.40-2.0	9.525	16.50	4.76	3.81	0.4	●	
	160408-F2K	0.08-0.22	0.40-2.0	9.525	16.50	4.76	3.81	0.8	●	
	TNMG 160404R-M1T	0.10-0.30	0.70-3.5	9.525	16.50	4.76	3.81	0.4	●	
	160404L-M1T	0.10-0.30	0.70-3.5	9.525	16.50	4.76	3.81	0.4	●	
	160408R-M1T	0.10-0.30	0.70-3.5	9.525	16.50	4.76	3.81	0.8	●	
	160408L-M1T	0.10-0.30	0.70-3.5	9.525	16.50	4.76	3.81	0.8	●	
	TNMG 160404R-M2T	0.20-0.40	1.0-4.0	9.525	16.50	4.76	3.81	0.4	●	
	160404L-M2T	0.20-0.40	1.0-4.0	9.525	16.50	4.76	3.81	0.4	●	
	160408R-M2T	0.20-0.40	1.0-4.0	9.525	16.50	4.76	3.81	0.8	●	
	160408L-M2T	0.20-0.40	1.0-4.0	9.525	16.50	4.76	3.81	0.8	●	
	TNMG 160404-M3T	0.12-0.40	1.0-4.0	9.525	16.50	4.76	3.81	0.4	●	
	160408-M3T	0.17-0.55	1.2-4.0	9.525	16.50	4.76	3.81	0.8	●	
	VNMG 160404-F2K	0.08-0.30	0.50-1.50	9.525	16.61	4.76	3.81	0.4	●	
	160408-F2K	0.08-0.30	0.50-1.50	9.525	16.61	4.76	3.81	0.8	●	
	VNMG 160404-M3T	0.15-0.36	1.0-3.0	9.525	8.69	4.76	3.81	0.4	●	
	160408-M3T	0.17-0.36	1.0-3.0	9.525	8.69	4.76	3.81	0.8	●	
	WNMG 080404-F1Y	0.08-0.20	0.05-2.0	12.7	8.69	4.76	5.16	0.4	●	
	080408-F1Y	0.08-0.20	0.05-2.0	12.7	8.69	4.76	5.16	0.8	●	
	WNMG 080404-F1T	0.05-0.15	0.50-2.5	12.7	8.69	4.76	5.16	0.4	●	
	080408-F1T	0.05-0.15	0.50-2.5	12.7	8.69	4.76	5.16	0.8	●	
	WNMG 080404-F2K	0.08-0.22	0.40-2.0	12.7	8.69	4.76	5.16	0.4	●	
	080408-F2K	0.08-0.22	0.40-2.0	12.7	8.69	4.76	5.16	0.8	●	
	WNMG 080404-M3T	0.12-0.40	1.0-4.0	12.7	8.69	4.76	5.16	0.4	●	
	080408-M3T	0.17-0.55	1.2-4.0	12.7	8.69	4.76	5.16	0.8	●	

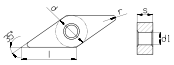
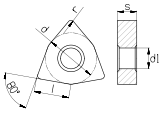
Positive M-class insert

Insert	Designation	Recommended parameter		Dimension(mm)					Grade Mental ceramic	Geometry
		Feed	Cutting depth	d	l	s	d1	r	AT200	
		(mm/rev)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		
	CCMT 060204-F1T	0.05-0.15	0.30-1.5	6.35	6.45	2.38	2.8	0.4	●	
	09T304-F1T	0.07-0.20	0.40-2.0	9.525	9.67	3.97	4.4	0.4	●	
	09T308-F1T	0.10-0.25	0.60-2.0	9.525	9.67	3.97	4.4	0.8	●	
	CCMT 060202-F2K	0.08-0.20	0.50-1.5	6.35	6.45	2.38	2.8	0.2	●	
	060204-F2K	0.08-0.20	0.50-1.5	6.35	6.45	2.38	2.8	0.4	●	
	09T302-F2K	0.10-0.22	0.50-2.0	9.525	9.67	3.97	4.4	0.2	●	
	09T304-F2K	0.10-0.22	0.50-2.0	9.525	9.67	3.97	4.4	0.4	●	
	CCMT 060202-M2T	0.07-0.20	0.50-2.0	6.35	6.45	2.38	2.8	0.2	●	
	060402-M2T	0.07-0.20	0.50-2.0	6.35	6.45	2.38	2.8	0.2	●	
	09T304-M2T	0.70-3.50	0.10-0.25	9.525	9.67	3.97	4.4	0.4	●	
	09T308-M2T	0.13-0.30	1.00-3.50	9.525	9.67	3.97	4.4	0.8	●	
	DCMT 070204-F1T	0.07-0.20	0.40-1.50	6.35	7.75	2.38	2.8	0.4	●	
	11T304-F1T	0.10-0.25	0.60-1.50	9.525	11.62	3.97	4.4	0.4	●	
	11T308-F1T	0.10-0.25	0.60-1.50	9.525	11.62	3.97	4.4	0.8	●	
	DCMT 070202-F2K	0.08-0.20	0.50-1.50	6.35	7.75	2.38	2.8	0.2	●	
	070204-F2K	0.08-0.20	0.50-1.50	6.35	7.75	2.38	2.8	0.4	●	
	11T302-F2K	0.10-0.22	0.50-2.00	9.525	11.62	3.97	4.4	0.2	●	
	11T304-F2K	0.10-0.22	0.50-2.00	9.525	11.62	3.97	4.4	0.4	●	
	DCMT 11T304-F1Y	0.08-0.30	0.50-2.50	9.525	11.62	3.97	4.4	0.4	●	
	DCMT 11T304-M2T	0.10-0.25	0.50-3.0	9.525	11.62	3.97	4.4	0.4	●	
	11T308-M2T	0.10-0.25	0.50-3.0	9.525	11.62	3.97	4.4	0.8	●	
	SCMT 09T304-M2T	0.10-0.25	0.70-3.5	9.525	9.525	3.18	4.4	0.4	●	
	09T308-M2T	0.10-0.25	0.70-3.5	9.525	9.525	3.18	4.4	0.8	●	
	TCMT 110204-F1T	0.10-0.25	0.60-2.0	6.35	11.0	2.38	2.8	0.4	●	
	16T304-F1T	0.10-0.25	0.60-2.0	9.525	16.50	3.97	4.4	0.4	●	
	TCMT 110204-M2T	0.10-0.25	0.60-2.0	6.35	11.0	2.38	2.8	0.4	●	
	16T304-M2T	0.10-0.25	0.60-2.0	9.525	16.50	3.97	2.8	0.4	●	
	TPMT 110304-F1T	0.10-0.25	0.60-2.0	6.35	11.0	3.18	3.3	0.4	●	
										
	TPMT 110304-F2K	0.10-0.25	0.50-2.0	6.35	11.0	3.18	3.3	0.4	●	
	VBMT 110304-F2K	0.10-0.20	0.50-1.5	6.35	11.07	3.18	2.8	0.4	●	
	160404-F2K	0.05-0.25	0.50-2.0	9.525	16.61	4.76	4.4	0.4	●	

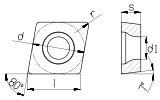
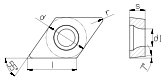
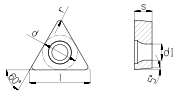
Negative G-class insert

Insert	Designation	Recommended parameter		Dimension(mm)					Grade	Geometry
		Feed	Cutting depth	d	l	s	d1	r	Mental ceramic	
		(mm/rev)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	AT200	
	CNGG 120402FR-F	0.05-0.20	0.50-2.0	12.7	12.89	4.76	5.16	0.2	●	
	120402FL-F	0.05-0.20	0.50-2.0	12.7	12.89	4.76	5.16	0.2	●	
	120404FR-F	0.05-0.20	0.50-2.0	12.7	12.89	4.76	5.16	0.4	●	
	120404FL-F	0.05-0.20	0.50-2.0	12.7	12.89	4.76	5.16	0.4	●	
	CNGG 120402R-C	0.20-0.40	1.0-3.0	12.7	12.89	4.76	5.16	0.2	●	
	120402L-C	0.20-0.40	1.0-3.0	12.7	12.89	4.76	5.16	0.2	●	
	120404R-C	0.20-0.40	1.0-3.0	12.7	12.89	4.76	5.16	0.4	●	
	120404L-C	0.20-0.40	1.0-3.0	12.7	12.89	4.76	5.16	0.4	●	
	120408R-C	0.20-0.40	1.0-3.0	12.7	12.89	4.76	5.16	0.8	●	
	120408L-C	0.20-0.40	1.0-3.0	12.7	12.89	4.76	5.16	0.8	●	
	DNGG 110402FR-F	0.05-0.15	0.80-2.0	9.525	11.62	4.76	3.81	0.2	●	
	110402FL-F	0.05-0.15	0.80-2.0	9.525	11.62	4.76	3.81	0.2	●	
	110404FR-F	0.05-0.15	0.80-2.0	9.525	11.62	4.76	3.81	0.4	●	
	110404FL-F	0.05-0.15	0.80-2.0	9.525	11.62	4.76	3.81	0.4	●	
	110408FR-F	0.05-0.15	0.80-2.0	9.525	11.62	4.76	3.81	0.8	●	
	110408FL-F	0.05-0.15	0.80-2.0	9.525	11.62	4.76	3.81	0.8	●	
	DNGG 110402R-C	0.15-0.30	0.50-2.5	9.525	11.62	4.76	3.81	0.2	●	
	110402L-C	0.15-0.30	0.50-2.5	9.525	11.62	4.76	3.81	0.2	●	
	110404R-C	0.15-0.30	0.50-2.5	9.525	11.62	4.76	3.81	0.4	●	
	110404L-C	0.15-0.30	0.50-2.5	9.525	11.62	4.76	3.81	0.4	●	
	110408R-C	0.15-0.30	0.50-2.5	9.525	11.62	4.76	3.81	0.8	●	
	110408L-C	0.15-0.30	0.50-2.5	9.525	11.62	4.76	3.81	0.8	●	
	SNGG 120402R-C	0.20-0.40	1.0-3.0	12.7	12.70	4.76	5.16	0.2	●	
	120402L-C	0.20-0.40	1.0-3.0	12.7	12.70	4.76	5.16	0.2	●	
	120404R-C	0.20-0.40	1.0-3.0	12.7	12.70	4.76	5.16	0.4	●	
	120404L-C	0.20-0.40	1.0-3.0	12.7	12.70	4.76	5.16	0.4	●	
	120408R-C	0.20-0.40	1.0-3.0	12.7	12.70	4.76	5.16	0.8	●	
	120408L-C	0.20-0.40	1.0-3.0	12.7	12.70	4.76	5.16	0.8	●	
	TNGG 160402FR-F	0.05-0.20	0.50-2.0	9.525	16.50	4.76	3.81	0.2	●	
	160402FL-F	0.05-0.20	0.50-2.0	9.525	16.50	4.76	3.81	0.2	●	
	160404FR-F	0.05-0.20	0.50-2.0	9.525	16.50	4.76	3.81	0.4	●	
	160404FL-F	0.05-0.20	0.50-2.0	9.525	16.50	4.76	3.81	0.4	●	
	TNGG 160402R-C	0.20-0.40	1.0-3.0	9.525	16.50	4.76	3.81	0.2	●	
	160402L-C	0.20-0.40	1.0-3.0	9.525	16.50	4.76	3.81	0.2	●	
	160404R-C	0.20-0.40	1.0-3.0	9.525	16.50	4.76	3.81	0.4	●	
	160404L-C	0.20-0.40	1.0-3.0	9.525	16.50	4.76	3.81	0.4	●	
	160408R-C	0.20-0.40	1.0-3.0	9.525	16.50	4.76	3.81	0.8	●	
	160408L-C	0.20-0.40	1.0-3.0	9.525	16.50	4.76	3.81	0.8	●	

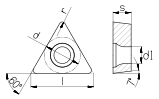
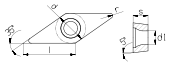
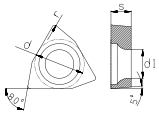
Remark：● represent for standard stock

Insert	Designation	Recommended parameter		Dimension(mm)					Grade Mental ceramic	Geometry
		Feed	Cutting depth	d	l	s	d1	r	AT200	
		(mm/rev)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		
	VNGG 160402FR-F	0.05-0.15	0.50-1.8	9.525	16.61	4.76	3.81	0.2	●	
	160402FL-F	0.05-0.15	0.50-1.8	9.525	16.61	4.76	3.81	0.2	●	
	160404FR-F	0.05-0.15	0.50-1.8	9.525	16.61	4.76	3.81	0.4	●	
	160404FL-F	0.05-0.15	0.50-1.8	9.525	16.61	4.76	3.81	0.4	●	
	VNGG 160402R-C	0.15-0.30	0.50-2.5	9.525	16.61	4.76	3.81	0.2	●	
	160402L-C	0.15-0.30	0.50-2.5	9.525	16.61	4.76	3.81	0.2	●	
	160404R-C	0.15-0.30	0.50-2.5	9.525	16.61	4.76	3.81	0.4	●	
	160404L-C	0.15-0.30	0.50-2.5	9.525	16.61	4.76	3.81	0.4	●	
	160408R-C	0.15-0.30	0.50-2.5	9.525	16.61	4.76	3.81	0.8	●	
	160408L-C	0.15-0.30	0.50-2.5	9.525	16.61	4.76	3.81	0.8	●	
	WNGG 060402FR-F	0.05-0.20	0.50-2.0	9.525	6.52	4.76	3.81	0.2	●	
	060402FL-F	0.05-0.20	0.50-2.0	9.525	6.52	4.76	3.81	0.2	●	
	060404FR-F	0.05-0.20	0.50-2.0	9.525	6.52	4.76	3.81	0.4	●	
	060404FL-F	0.05-0.20	0.50-2.0	9.525	6.52	4.76	3.81	0.4	●	
	060408FR-F	0.05-0.20	0.50-2.0	9.525	6.52	4.76	3.81	0.8	●	
	060408FL-F	0.05-0.20	0.50-2.0	9.525	6.52	4.76	3.81	0.8	●	
	WNGG 080402FR-F	0.05-0.20	0.50-2.0	12.7	8.69	4.76	5.16	0.2	●	
	080402FL-F	0.05-0.20	0.50-2.0	12.7	8.69	4.76	5.16	0.2	●	
	080404FR-F	0.05-0.20	0.50-2.0	12.7	8.69	4.76	5.16	0.4	●	
	080404FL-F	0.05-0.20	0.50-2.0	12.7	8.69	4.76	5.16	0.4	●	
	080408FR-F	0.05-0.20	0.50-2.0	12.7	8.69	4.76	5.16	0.8	●	
	080408FL-F	0.05-0.20	0.50-2.0	12.7	8.69	4.76	5.16	0.8	●	
	WNGG 060402R-C	0.20-0.40	1.0-3.0	9.525	6.52	4.76	3.81	0.2	●	
	060402L-C	0.20-0.40	1.0-3.0	9.525	6.52	4.76	3.81	0.2	●	
	060404R-C	0.20-0.40	1.0-3.0	9.525	6.52	4.76	3.81	0.4	●	
	060404L-C	0.20-0.40	1.0-3.0	9.525	6.52	4.76	3.81	0.4	●	
	060408R-C	0.20-0.40	1.0-3.0	9.525	6.52	4.76	3.81	0.8	●	
	060408L-C	0.20-0.40	1.0-3.0	9.525	6.52	4.76	3.81	0.8	●	
	WNGG 080402R-C	0.20-0.40	1.0-3.0	12.7	8.69	4.76	5.16	0.2	●	
	080402L-C	0.20-0.40	1.0-3.0	12.7	8.69	4.76	5.16	0.2	●	
	080404R-C	0.20-0.40	1.0-3.0	12.7	8.69	4.76	5.16	0.4	●	
	080404L-C	0.20-0.40	1.0-3.0	12.7	8.69	4.76	5.16	0.4	●	
	080408R-C	0.20-0.40	1.0-3.0	12.7	8.69	4.76	5.16	0.8	●	
	080408L-C	0.20-0.40	1.0-3.0	12.7	8.69	4.76	5.16	0.8	●	

Positive G-class insert(sharp type)

Insert	Designation	Recommended parameter		Dimension(mm)					Grade Mental ceramic	Geometry
		Feed	Cutting depth	d	l	s	d1	r	AT200	
		(mm/rev)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		
	CCGT 060202FR-F	0.02-0.10	0.02-0.40	6.35	6.45	2.38	2.8	0.2	●	
	060202FL-F	0.02-0.10	0.02-0.40	6.35	6.45	2.38	2.8	0.2	●	
	060204FR-F	0.02-0.10	0.02-0.40	6.35	6.45	2.38	2.8	0.4	●	
	060204FL-F	0.02-0.10	0.02-0.40	6.35	6.45	2.38	2.8	0.4	●	
	CCGT 09T302FR-F	0.02-0.10	0.02-0.50	9.525	9.67	3.97	4.4	0.2	●	
	09T302FL-F	0.02-0.10	0.02-0.50	9.525	9.67	3.97	4.4	0.2	●	
	09T304FR-F	0.02-0.10	0.02-0.50	9.525	9.67	3.97	4.4	0.4	●	
	09T304FL-F	0.02-0.10	0.02-0.50	9.525	9.67	3.97	4.4	0.4	●	
	DCGT 070202FR-F	0.03-0.18	0.05-0.40	6.35	7.75	2.38	2.8	0.2	●	
	070202FL-F	0.03-0.18	0.05-0.40	6.35	7.75	2.38	2.8	0.2	●	
	070204FR-F	0.03-0.18	0.05-0.40	6.35	7.75	2.38	2.8	0.4	●	
	070204FL-F	0.03-0.18	0.05-0.40	6.35	7.75	2.38	2.8	0.4	●	
	DCGT 11T302FR-F	0.02-0.18	0.02-0.40	9.525	11.62	3.97	4.4	0.2	●	
	11T302FL-F	0.02-0.18	0.02-0.40	9.525	11.62	3.97	4.4	0.2	●	
	11T304FR-F	0.02-0.18	0.02-0.40	9.525	11.62	3.97	4.4	0.4	●	
	11T304FL-F	0.02-0.18	0.02-0.40	9.525	11.62	3.97	4.4	0.4	●	
	DCGT 11T302FR-M	0.02-0.10	0.10-4.0	9.525	11.62	3.97	4.4	0.2	●	
	11T302FL-M	0.02-0.10	0.10-4.0	9.525	11.62	3.97	4.4	0.2	●	
	11T304FR-M	0.02-0.10	0.10-4.0	9.525	11.62	3.97	4.4	0.4	●	
	11T304FL-M	0.02-0.10	0.10-4.0	9.525	11.62	3.97	4.4	0.4	●	
	TBGT 060102FR-F	0.03-0.07	0.10-0.50	3.97	6.90	1.59	2.3	0.2	●	
	060102FL-F	0.03-0.07	0.10-0.50	3.97	6.90	1.59	2.3	0.2	●	
	060104FR-F	0.03-0.07	0.10-0.50	3.97	6.90	1.59	2.3	0.4	●	
	060104FL-F	0.03-0.07	0.10-0.50	3.97	6.90	1.59	2.3	0.4	●	
	TPGT 080202FR-F	0.02-0.10	0.20-0.80	4.76	8.20	2.38	2.3	0.2	●	
	080202FL-F	0.02-0.10	0.20-0.80	4.76	8.20	2.38	2.3	0.2	●	
	080204FR-F	0.02-0.10	0.20-0.80	4.76	8.20	2.38	2.3	0.4	●	
	080204FL-F	0.02-0.10	0.20-0.80	4.76	8.20	2.38	2.3	0.4	●	
	TPGT 090202FR-F	0.20-0.80	0.02-0.10	5.56	9.60	2.38	2.5	0.2	●	
	090202FL-F	0.20-0.80	0.02-0.10	5.56	9.60	2.38	2.5	0.2	●	
	090204FR-F	0.20-0.80	0.02-0.10	5.56	9.60	2.38	2.5	0.4	●	
	090204FL-F	0.20-0.80	0.02-0.10	5.56	9.60	2.38	2.5	0.4	●	
	TPGT 110302FR-F	0.02-0.12	0.20-0.80	6.35	11.0	3.18	3.3	0.2	●	
	110302FL-F	0.02-0.12	0.20-0.80	6.35	11.0	3.18	3.3	0.2	●	
	110304FR-F	0.02-0.12	0.20-0.80	6.35	11.0	3.18	3.3	0.4	●	
	110304FL-F	0.02-0.12	0.20-0.80	6.35	11.0	3.18	3.3	0.4	●	

Remark：● represent for standard stock

Insert	Designation	Recommended parameter		Dimension(mm)					Grade Mental ceramic	Geometry
		Feed	Cutting depth	d	l	s	d1	r	AT200	
		(mm/rev)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		
	TCGT 110202FR-F	0.02-0.12	0.20-0.80	6.35	11.0	2.38	3.3	0.2	●	
	110202FL-F	0.02-0.12	0.20-0.80	6.35	11.0	2.38	3.3	0.2	●	
	110204FR-F	0.02-0.12	0.20-0.80	6.35	11.0	2.38	3.3	0.4	●	
	110204FL-F	0.02-0.12	0.20-0.80	6.35	11.0	2.38	3.3	0.4	●	
	VBGT 110301FR-F	0.02-0.18	0.02-0.40	6.35	11.07	3.18	2.8	0.1	●	
	110301FL-F	0.02-0.18	0.02-0.40	6.35	11.07	3.18	2.8	0.1	●	
	110302FR-F	0.02-0.18	0.02-0.40	6.35	11.07	3.18	2.8	0.2	●	
	110302FL-F	0.02-0.18	0.02-0.40	6.35	11.07	3.18	2.8	0.2	●	
	110304FR-F	0.02-0.18	0.02-0.40	6.35	11.07	3.18	2.8	0.4	●	
	110304FL-F	0.02-0.18	0.02-0.40	6.35	11.07	3.18	2.8	0.4	●	
	VBGT 160402FR-F	0.02-0.18	0.05-0.30	9.525	16.61	4.76	4.4	0.2	●	
	160402FL-F	0.02-0.18	0.05-0.30	9.525	16.61	4.76	4.4	0.2	●	
	160404FR-F	0.02-0.18	0.05-0.30	9.525	16.61	4.76	4.4	0.4	●	
	160404FL-F	0.02-0.18	0.05-0.30	9.525	16.61	4.76	4.4	0.4	●	
	VBGT 110302FR-Y	0.08-0.22	0.50-1.80	6.35	11.07	3.18	2.8	0.2	●	
	110302FL-Y	0.08-0.22	0.50-1.80	6.35	11.07	3.18	2.8	0.2	●	
	110304FR-Y	0.08-0.22	0.50-1.80	6.35	11.07	3.18	2.8	0.4	●	
	110304FL-Y	0.08-0.22	0.50-1.80	6.35	11.07	3.18	2.8	0.4	●	
	WBGT 060102FR-F	0.02-0.10	0.20-0.80	3.97	6.50	1.59	2.3	0.2	●	
	060102FL-F	0.02-0.10	0.20-0.80	3.97	6.50	1.59	2.3	0.2	●	
	060104FR-F	0.02-0.10	0.20-0.80	3.97	6.50	1.59	2.3	0.4	●	
	060104FL-F	0.02-0.10	0.20-0.80	3.97	6.50	1.59	2.3	0.4	●	

Remark：● represent for standard stock

ACHTECK

NEW
PRODUCT!

Superhard Turning Inserts Series

PCBN&PCD turning inserts

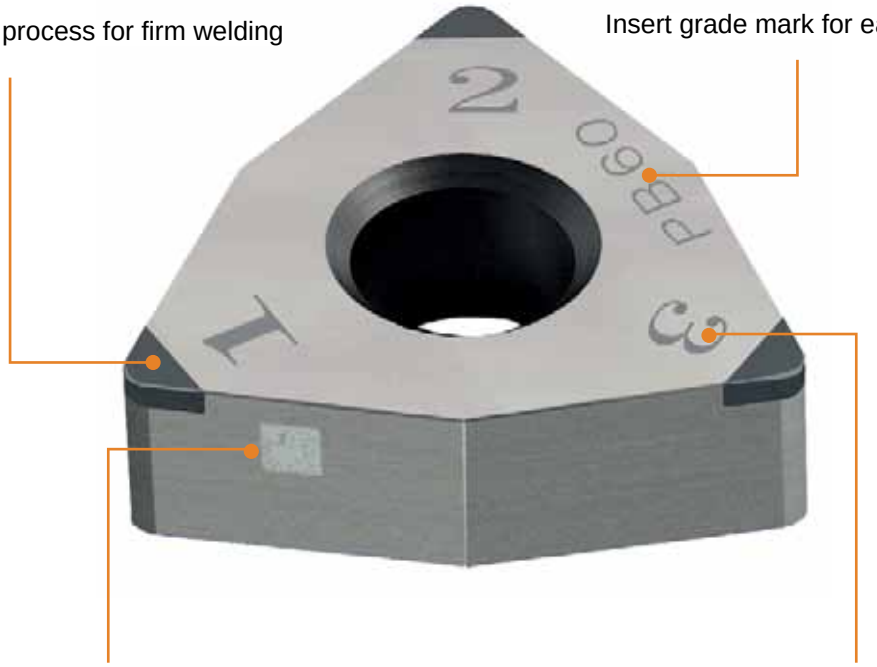


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Super-hard cutting tools mainly include single crystal diamond tool, polycrystalline diamond (PCD) tool and polycrystalline cubic boron nitride (PCBN) tool, etc. It is an ideal solution for machining aluminum alloy and high hardness materials; Super hard material tools are applied to cutting, which has realized the effect of high efficiency and low cost in the aspects of turning replacing grinding and milling replacing grinding; It is suitable for the precision machining of forming, profiling and sizing to significantly improve the quality and efficiency, up to several times or even dozens of times. At present, it has been widely applied to the machining of automobile, aviation, mine, electronics, glass and other industries.

Product feature

- High hardness and excellent wear resistance
- High thermal stability
- Good chemical stability
- Good thermal conductivity
- Low friction coefficient



PCBN insert naming system

C	N	G	A	12	04	08	-	S	010	20	-	SL	-	1	-	CB	PB30	A
1								2	3	4		5		6		7	8	9

1-Standard ISO numbering system

2-Cutting edge shape	
E	Honed
T	Land without honing
S	Land with honed
F	Sharpness

3-T-Land width	
005	0.05mm
010	0.10mm
015	0.15mm
020	0.20mm

4-T-Land angle	
10	10°
15	15°
20	20°
25	25°

5-CBN Insert structure	
FT	Full face ripped CBN
SD	Solid CBN
SL	Small size tipped CBN
NL	Standard-tipped CBN (Regrindable)

6-Number of cutting edge	
1	One cutting edge
2	Two cutting edges
3	Three cutting edges

7-Cutting edge preparation	
CB	With chip breaker
WG	With wiper insert
"-"	Without chip breaker

8-Grade	
PB30	Low content CBN
PB60	Medium content CBN
PB90	High content CBN

9-Coating type	
A	A type
B	B type
C	C type

PCD insert naming system

C	C	G	W	09	T3	04	-	2	-	NL	-	05	-	CB	PD20
1								2		3		4		5	6

1-Standard ISO numbering system

2-Number of cutting edge	
1	One cutting edge
2	Two cutting edges
3	Three cutting edges

3-PCD Insert structure	
NL	Standard structure with tipped PCD in corner
LL	Full edge tipped PCD

4-Front angle	
00	0°
05	5°
10	10°

5-Cutting edge preparation	
CB	With chip breaker
WG	With wiper insert
"-"	Without chip breaker

6-Grade	
PD01	Fine particle PCD
PD10	Medium particle PCD
PD20	Coarse particle PCD

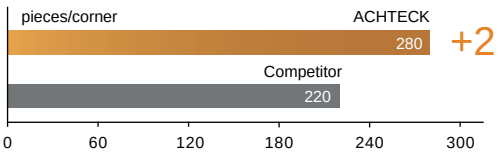
PCB&PCD insert grade introduction

PCBN			
Grade	Material	Feature	Application
PB30	ISO:H	Wear resistance and shock-resistance	Suitable for continuous and light interrupted cutting of chilled steel
PB60	ISO:H/K	Excellent toughness	Mainly applied to medium interrupted cutting of chilled steel,interrupted and continuous cutting of powder metallurgy and cast cutting as well.
PB90	ISO:K/H	Good wear resistance and toughness, shock-resistance avaliable	K-mainly applied to cast cutting H-strong interrupted cutting of chilled steel and powder metallurgy processing

PCD			
Grade	Material	Feature	Application
PD01	ISO:N	Ultra fine-grained PCD material, with good shock-resistance	Roughing and interrupted processing of aluminum alloy materials.
PD10	ISO:N	Universal grade with both material toughness and wear resistance	General processing of aluminum alloys and non-ferrous metals.
PD20	ISO:N	Preferred grade, excellent wear resistance	Preferred for general processing of aluminum alloy materials

Case stories

Work piece:Automobile Engine Cylinder
Material:HT250
Hardness:HB200-220
Insert:CCGW 09T304-S01020-SL-2 PB90
Competitor: CCMW 09T304 S1225
Cutting parameters:Vc=570m/min, f=0.2mm/r, ap=0.3mm
Dry cutting
Machining type: Boring



+27%



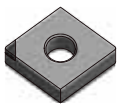
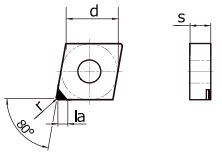
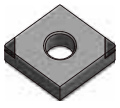
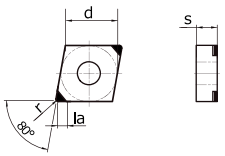
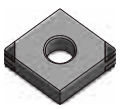
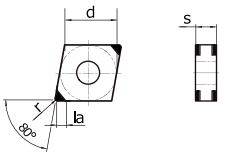
Recommended cutting parameter

PCBN					
Grade	Material	Cutting speed Vc（m/min）	Feed f（mm/r）	Cutting depth ap（mm）	Recommended application
PB30	Hardened steel	150-250	0.03-0.2	0.05-0.3	Continuous
PB60	Hardened steel	50-150	0.03-0.2	0.05-0.5	Interrupted
	Cast iron	300-800	0.03-0.3	0.30-0.5	Continuous / Interrupted
	Powder metallurgy	200-500	0.03-0.3	0.10-0.3	Continuous / Interrupted
PB90	Cast iron	300-800	0.03-0.3	0.30-0.5	Continuous / Interrupted
	Hardened steel	50-150	0.03-0.2	0.05-0.5	Stronger interrupted
	Powder metallurgy	300-800	0.03-0.3	0.10-0.3	Continuous / Interrupted

PCD					
Grade	Material	Cutting speed Vc（m/min）	Feed f（mm/r）	Cutting depth ap（mm）	Recommended application
PD01	High-silicon Aluminum Alloy(si > 12%)	300-4000	0.03-0.3	0.05-0.5	Continuous / Interrupted
PD10	Mid-Si Aluminium Alloy（6% < Si < 12%）	300-4000	0.03-0.3	0.05-0.5	Continuous / Interrupted
PD20	Low-Si Aluminium Alloy（si<6%）	300-4000	0.03-0.2	0.30-0.5	Continuous

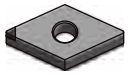
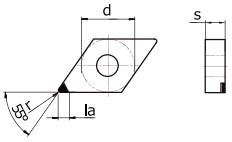
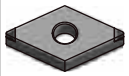
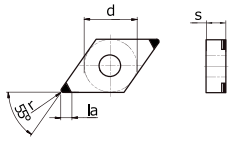
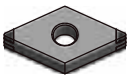
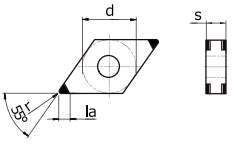
Stock items-PCBN inserts

Negative 80°（CN）

Insert	Type	Recommended parameter		Dimension(mm)				Grade			Geometry
		Feed (mm/rev)	Cutting depth (mm)	d	la	s	r	PB30	PB60	PB90	
	CNGA 120402-S01020-SL-1	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.2	●	●	●	
	CNGA 120404-S01020-SL-1	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.4	●	●	●	
	CNGA 120408-S01020-SL-1	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.8	●	●	●	
	CNGA 120412-S01020-SL-1	0.03-0.3	0.05-0.5	12.7	2.2	4.76	1.2	●	●	●	
	CNGA 120402-S01020-SL-2	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.2	●	●	●	
	CNGA 120404-S01020-SL-2	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.4	●	●	●	
	CNGA 120408-S01020-SL-2	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.8	●	●	●	
	CNGA 120412-S01020-SL-2	0.03-0.3	0.05-0.5	12.7	2.2	4.76	1.2	●	●	●	
	CNGA 120402-S01020-SL-4	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.2	●	●	●	
	CNGA 120404-S01020-SL-4	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.4	●	●	●	
	CNGA 120408-S01020-SL-4	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.8	●	●	●	
	CNGA 120412-S01020-SL-4	0.03-0.3	0.05-0.5	12.7	2.2	4.76	1.2	●	●	●	

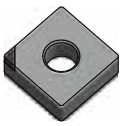
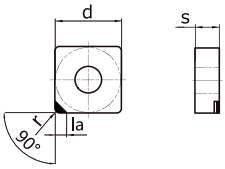
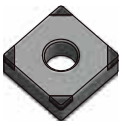
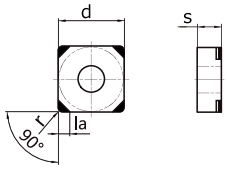
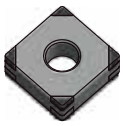
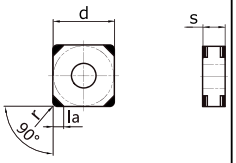
Remark: ● represent for standard stock

Negative 55°（DN）

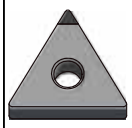
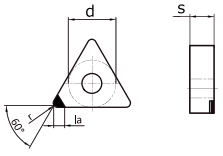
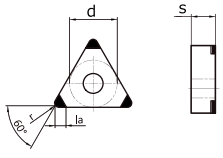
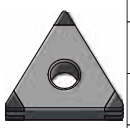
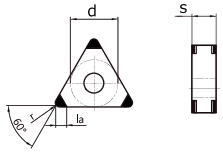
Insert	Type	Recommended parameter		Dimension(mm)				Grade			Geometry
		Feed (mm/rev)	Cutting depth (mm)	d	la	s	r	PB30	PB60	PB90	
	DNGA 150402-S01020-SL-1	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.2	●	●	●	
	DNGA 150404-S01020-SL-1	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.4	●	●	●	
	DNGA 150408-S01020-SL-1	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.8	●	●	●	
	DNGA 150412-S01020-SL-1	0.03-0.3	0.05-0.5	12.7	2.2	4.76	1.2	●	●	●	
	DNGA 150602-S01020-SL-1	0.03-0.3	0.05-0.5	12.7	2.2	6.35	0.2	●	●	●	
	DNGA 150604-S01020-SL-1	0.03-0.3	0.05-0.5	12.7	2.2	6.35	0.4	●	●	●	
	DNGA 150608-S01020-SL-1	0.03-0.3	0.05-0.5	12.7	2.2	6.35	0.8	●	●	●	
	DNGA 150612-S01020-SL-1	0.03-0.3	0.05-0.5	12.7	2.2	6.35	1.2	●	●	●	
	DNGA 150402-S01020-SL-2	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.2	●	●	●	
	DNGA 150404-S01020-SL-2	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.4	●	●	●	
	DNGA 150408-S01020-SL-2	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.8	●	●	●	
	DNGA 150412-S01020-SL-2	0.03-0.3	0.05-0.5	12.7	2.2	4.76	1.2	●	●	●	
	DNGA 150602-S01020-SL-2	0.03-0.3	0.05-0.5	12.7	2.2	6.35	0.2	●	●	●	
	DNGA 150604-S01020-SL-2	0.03-0.3	0.05-0.5	12.7	2.2	6.35	0.4	●	●	●	
	DNGA 150608-S01020-SL-2	0.03-0.3	0.05-0.5	12.7	2.2	6.35	0.8	●	●	●	
	DNGA 150612-S01020-SL-2	0.03-0.3	0.05-0.5	12.7	2.2	6.35	1.2	●	●	●	
	DNGA 150402-S01020-SL-4	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.2	●	●	●	
	DNGA 150404-S01020-SL-4	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.4	●	●	●	
	DNGA 150408-S01020-SL-4	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.8	●	●	●	
	DNGA 150412-S01020-SL-4	0.03-0.3	0.05-0.5	12.7	2.2	4.76	1.2	●	●	●	
	DNGA 150602-S01020-SL-4	0.03-0.3	0.05-0.5	12.7	2.2	6.35	0.2	●	●	●	
	DNGA 150604-S01020-SL-4	0.03-0.3	0.05-0.5	12.7	2.2	6.35	0.4	●	●	●	
	DNGA 150608-S01020-SL-4	0.03-0.3	0.05-0.5	12.7	2.2	6.35	0.8	●	●	●	
	DNGA 150612-S01020-SL-4	0.03-0.3	0.05-0.5	12.7	2.2	6.35	1.2	●	●	●	

Remark: ● represent for standard stock

Negative 90°（SN）

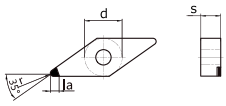
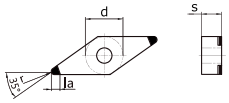
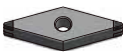
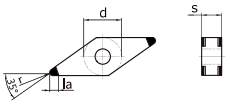
Insert	Type	Recommended parameter		Dimension(mm)				Grade			Geometry
		Feed (mm/rev)	Cutting depth (mm)	d	la	s	r	PB30	PB60	PB90	
	SNGA 120402-S01020-SL-1	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.2	●	●	●	
	SNGA 120404-S01020-SL-1	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.4	●	●	●	
	SNGA 120408-S01020-SL-1	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.8	●	●	●	
	SNGA 120412-S01020-SL-1	0.03-0.3	0.05-0.5	12.7	2.2	4.76	1.2	●	●	●	
	SNGA 120402-S01020-SL-4	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.2	●	●	●	
	SNGA 120404-S01020-SL-4	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.4	●	●	●	
	SNGA 120408-S01020-SL-4	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.8	●	●	●	
	SNGA 120412-S01020-SL-4	0.03-0.3	0.05-0.5	12.7	2.2	4.76	1.2	●	●	●	
	SNGA 120402-S01020-SL-8	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.2	●	●	●	
	SNGA 120404-S01020-SL-8	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.4	●	●	●	
	SNGA 120408-S01020-SL-8	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.8	●	●	●	
	SNGA 120412-S01020-SL-8	0.03-0.3	0.05-0.5	12.7	2.2	4.76	1.2	●	●	●	

Negative 60°（TN）

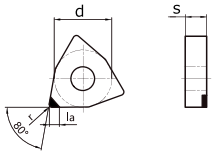
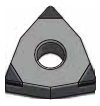
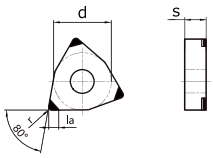
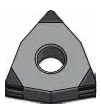
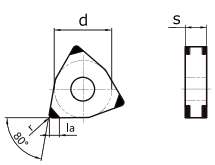
Insert	Type	Recommended parameter		Dimension(mm)				Grade			Geometry
		Feed (mm/rev)	Cutting depth (mm)	d	la	s	r	PB30	PB60	PB90	
	TNGA 160402-S01020-SL-1	0.03-0.3	0.05-0.5	9.53	2.2	4.76	0.2	●	●	●	
	TNGA 160404-S01020-SL-1	0.03-0.3	0.05-0.5	9.53	2.2	4.76	0.4	●	●	●	
	TNGA 160408-S01020-SL-1	0.03-0.3	0.05-0.5	9.53	2.2	4.76	0.8	●	●	●	
	TNGA 160412-S01020-SL-1	0.03-0.3	0.05-0.5	9.53	2.2	4.76	1.2	●	●	●	
	TNGA 160402-S01020-SL-3	0.03-0.3	0.05-0.5	9.53	2.2	4.76	0.2	●	●	●	
	TNGA 160404-S01020-SL-3	0.03-0.3	0.05-0.5	9.53	2.2	4.76	0.4	●	●	●	
	TNGA 160408-S01020-SL-3	0.03-0.3	0.05-0.5	9.53	2.2	4.76	0.8	●	●	●	
	TNGA 160412-S01020-SL-3	0.03-0.3	0.05-0.5	9.53	2.2	4.76	1.2	●	●	●	
	TNGA 160402-S01020-SL-6	0.03-0.3	0.05-0.5	9.53	2.2	4.76	0.2	●	●	●	
	TNGA 160404-S01020-SL-6	0.03-0.3	0.05-0.5	9.53	2.2	4.76	0.4	●	●	●	
	TNGA 160408-S01020-SL-6	0.03-0.3	0.05-0.5	9.53	2.2	4.76	0.8	●	●	●	
	TNGA 160412-S01020-SL-6	0.03-0.3	0.05-0.5	9.53	2.2	4.76	1.2	●	●	●	

Remark: ● represent for standard stock

Negative 35°（VN）

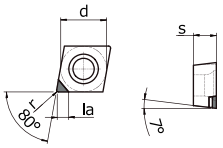
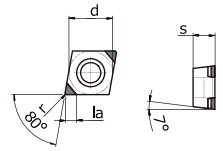
Insert	Type	Recommended parameter		Dimension(mm)				Grade			Geometry
		Feed (mm/rev)	Cutting depth (mm)	d	la	s	r	PB30	PB60	PB90	
	VNGA 160402-S01020-SL-1	0.03-0.3	0.05-0.5	9.53	2.2	4.76	0.2	●	●	●	
	VNGA 160404-S01020-SL-1	0.03-0.3	0.05-0.5	9.53	2.2	4.76	0.4	●	●	●	
	VNGA 160408-S01020-SL-1	0.03-0.3	0.05-0.5	9.53	2.2	4.76	0.8	●	●	●	
	VNGA 160412-S01020-SL-1	0.03-0.3	0.05-0.5	9.53	2.2	4.76	1.2	●	●	●	
	VNGA 160402-S01020-SL-2	0.03-0.3	0.05-0.5	9.53	2.2	4.76	0.2	●	●	●	
	VNGA 160404-S01020-SL-2	0.03-0.3	0.05-0.5	9.53	2.2	4.76	0.4	●	●	●	
	VNGA 160408-S01020-SL-2	0.03-0.3	0.05-0.5	9.53	2.2	4.76	0.8	●	●	●	
	VNGA 160412-S01020-SL-2	0.03-0.3	0.05-0.5	9.53	2.2	4.76	1.2	●	●	●	
	VNGA 160402-S01020-SL-4	0.03-0.3	0.05-0.5	9.53	2.2	4.76	0.2	●	●	●	
	VNGA 160404-S01020-SL-4	0.03-0.3	0.05-0.5	9.53	2.2	4.76	0.4	●	●	●	
	VNGA 160408-S01020-SL-4	0.03-0.3	0.05-0.5	9.53	2.2	4.76	0.8	●	●	●	
	VNGA 160412-S01020-SL-4	0.03-0.3	0.05-0.5	9.53	2.2	4.76	1.2	●	●	●	

Negative 80°（WN）

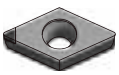
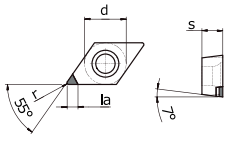
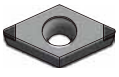
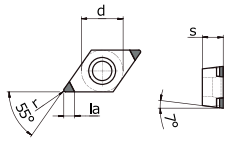
Insert	Type	Recommended parameter		Dimension(mm)				Grade			Geometry
		Feed (mm/rev)	Cutting depth (mm)	d	la	s	r	PB30	PB60	PB90	
	WNGA 080402-S01020-SL-1	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.2	●	●	●	
	WNGA 080404-S01020-SL-1	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.4	●	●	●	
	WNGA 080408-S01020-SL-1	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.8	●	●	●	
	WNGA 080412-S01020-SL-1	0.03-0.3	0.05-0.5	12.7	2.2	4.76	1.2	●	●	●	
	WNGA 080402-S01020-SL-3	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.2	●	●	●	
	WNGA 080404-S01020-SL-3	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.4	●	●	●	
	WNGA 080408-S01020-SL-3	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.8	●	●	●	
	WNGA 080412-S01020-SL-3	0.03-0.3	0.05-0.5	12.7	2.2	4.76	1.2	●	●	●	
	WNGA 080402-S01020-SL-6	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.2	●	●	●	
	WNGA 080404-S01020-SL-6	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.4	●	●	●	
	WNGA 080408-S01020-SL-6	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.8	●	●	●	
	WNGA 080412-S01020-SL-6	0.03-0.3	0.05-0.5	12.7	2.2	4.76	1.2	●	●	●	

Remark: ● represent for standard stock

Positive 80°（CC）

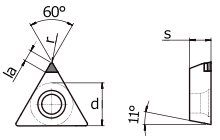
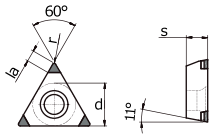
Insert	Type	Recommended parameter		Dimension(mm)				Grade			Geometry
		Feed (mm/rev)	Cutting depth (mm)	d	la	s	r	PB30	PB60	PB90	
	CCGW 060202-S01020-SL-1	0.03-0.3	0.05-0.5	6.35	2.2	2.38	0.2	●	●	●	
	CCGW 060204-S01020-SL-1	0.03-0.3	0.05-0.5	6.35	2.2	2.38	0.4	●	●	●	
	CCGW 060208-S01020-SL-1	0.03-0.3	0.05-0.5	6.35	2.2	2.38	0.8	●	●	●	
	CCGW 09T302-S01020-SL-1	0.03-0.3	0.05-0.5	9.525	2.2	3.97	0.2	●	●	●	
	CCGW 09T304-S01020-SL-1	0.03-0.3	0.05-0.5	9.525	2.2	3.97	0.4	●	●	●	
	CCGW 09T308-S01020-SL-1	0.03-0.3	0.05-0.5	9.525	2.2	3.97	0.8	●	●	●	
	CCGW 120402-S01020-SL-1	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.2	●	●	●	
	CCGW 120404-S01020-SL-1	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.4	●	●	●	
	CCGW 120408-S01020-SL-1	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.8	●	●	●	
	CCGW 120412-S01020-SL-1	0.03-0.3	0.05-0.5	12.7	2.2	4.76	1.2	●	●	●	
	CCGW 060202-S01020-SL-2	0.03-0.3	0.05-0.5	6.35	2.2	2.38	0.2	●	●	●	
	CCGW 060204-S01020-SL-2	0.03-0.3	0.05-0.5	6.35	2.2	2.38	0.4	●	●	●	
	CCGW 060208-S01020-SL-2	0.03-0.3	0.05-0.5	6.35	2.2	2.38	0.8	●	●	●	
	CCGW 09T302-S01020-SL-2	0.03-0.3	0.05-0.5	9.525	2.2	3.97	0.2	●	●	●	
	CCGW 09T304-S01020-SL-2	0.03-0.3	0.05-0.5	9.525	2.2	3.97	0.4	●	●	●	
	CCGW 09T308-S01020-SL-2	0.03-0.3	0.05-0.5	9.525	2.2	3.97	0.8	●	●	●	
	CCGW 120402-S01020-SL-2	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.2	●	●	●	
	CCGW 120404-S01020-SL-2	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.4	●	●	●	
	CCGW 120408-S01020-SL-2	0.03-0.3	0.05-0.5	12.7	2.2	4.76	0.8	●	●	●	
	CCGW 120412-S01020-SL-2	0.03-0.3	0.05-0.5	12.7	2.2	4.76	1.2	●	●	●	

Positive 55°(DC)

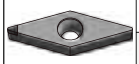
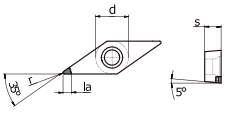
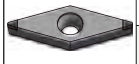
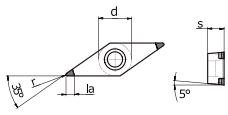
Insert	Type	Recommended parameter		Dimension(mm)				Grade			Geometry
		Feed (mm/rev)	Cutting depth (mm)	d	la	s	r	PB30	PB60	PB90	
	DCGW 070202-S01020-SL-1	0.03-0.3	0.05-0.5	6.35	2.2	2.38	0.2	●	●	●	
	DCGW 070204-S01020-SL-1	0.03-0.3	0.05-0.5	6.35	2.2	2.38	0.4	●	●	●	
	DCGW 070208-S01020-SL-1	0.03-0.3	0.05-0.5	6.35	2.2	2.38	0.8	●	●	●	
	DCGW 11T302-S01020-SL-1	0.03-0.3	0.05-0.5	9.525	2.2	3.97	0.2	●	●	●	
	DCGW 11T304-S01020-SL-1	0.03-0.3	0.05-0.5	9.525	2.2	3.97	0.4	●	●	●	
	DCGW 11T308-S01020-SL-1	0.03-0.3	0.05-0.5	9.525	2.2	3.97	0.8	●	●	●	
	DCGW 11T312-S01020-SL-1	0.03-0.3	0.05-0.5	9.525	2.2	3.97	1.2	●	●	●	
	DCGW 070202-S01020-SL-2	0.03-0.3	0.05-0.5	6.35	2.2	2.38	0.2	●	●	●	
	DCGW 070204-S01020-SL-2	0.03-0.3	0.05-0.5	6.35	2.2	2.38	0.4	●	●	●	
	DCGW 070208-S01020-SL-2	0.03-0.3	0.05-0.5	6.35	2.2	2.38	0.8	●	●	●	
	DCGW 11T302-S01020-SL-2	0.03-0.3	0.05-0.5	9.525	2.2	3.97	0.2	●	●	●	
	DCGW 11T304-S01020-SL-2	0.03-0.3	0.05-0.5	9.525	2.2	3.97	0.4	●	●	●	
	DCGW 11T308-S01020-SL-2	0.03-0.3	0.05-0.5	9.525	2.2	3.97	0.8	●	●	●	
	DCGW 11T312-S01020-SL-2	0.03-0.3	0.05-0.5	9.525	2.2	3.97	1.2	●	●	●	

Remark: ● represent for standard stock

Positive 60°(TP)

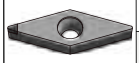
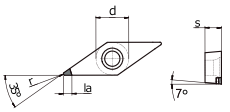
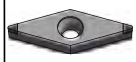
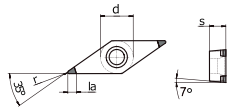
Insert	Type	Recommended parameter		Dimension(mm)				Grade			Geometry
		Feed (mm/rev)	Cutting depth (mm)	d	la	s	r	PB30	PB60	PB90	
	TPGW 080202-S01020-SL-1	0.03-0.3	0.05-0.5	4.76	2.2	2.38	0.2	●	●	●	
	TPGW 080204-S01020-SL-1	0.03-0.3	0.05-0.5	4.76	2.2	2.38	0.4	●	●	●	
	TPGW 090202-S01020-SL-1	0.03-0.3	0.05-0.5	5.56	2.2	2.38	0.2	●	●	●	
	TPGW 090204-S01020-SL-1	0.03-0.3	0.05-0.5	5.56	2.2	2.38	0.4	●	●	●	
	TPGW 090208-S01020-SL-1	0.03-0.3	0.05-0.5	5.56	2.2	2.38	0.8	●	●	●	
	TPGW 110302-S01020-SL-1	0.03-0.3	0.05-0.5	6.35	2.2	3.18	0.2	●	●	●	
	TPGW 110304-S01020-SL-1	0.03-0.3	0.05-0.5	6.35	2.2	3.18	0.4	●	●	●	
	TPGW 160402-S01020-SL-1	0.03-0.3	0.05-0.5	9.525	2.2	4.76	0.2	●	●	●	
	TPGW 160404-S01020-SL-1	0.03-0.3	0.05-0.5	9.525	2.2	4.76	0.4	●	●	●	
	TPGW 160408-S01020-SL-1	0.03-0.3	0.05-0.5	9.525	2.2	4.76	0.8	●	●	●	
	TPGW 080202-S01020-SL-3	0.03-0.3	0.05-0.5	4.76	2.2	2.38	0.2	●	●	●	
	TPGW 080204-S01020-SL-3	0.03-0.3	0.05-0.5	4.76	2.2	2.38	0.4	●	●	●	
	TPGW 090202-S01020-SL-3	0.03-0.3	0.05-0.5	5.56	2.2	2.38	0.2	●	●	●	
	TPGW 090204-S01020-SL-3	0.03-0.3	0.05-0.5	5.56	2.2	2.38	0.4	●	●	●	
	TPGW 090208-S01020-SL-3	0.03-0.3	0.05-0.5	5.56	2.2	2.38	0.8	●	●	●	
	TPGW 110302-S01020-SL-3	0.03-0.3	0.05-0.5	6.35	2.2	3.18	0.2	●	●	●	
	TPGW 110304-S01020-SL-3	0.03-0.3	0.05-0.5	6.35	2.2	3.18	0.4	●	●	●	
	TPGW 160402-S01020-SL-3	0.03-0.3	0.05-0.5	9.525	2.2	4.76	0.2	●	●	●	
	TPGW 160404-S01020-SL-3	0.03-0.3	0.05-0.5	9.525	2.2	4.76	0.4	●	●	●	
	TPGW 160408-S01020-SL-3	0.03-0.3	0.05-0.5	9.525	2.2	4.76	0.8	●	●	●	

Positive 35°（VB）

Insert	Type	Recommended parameter		Dimension(mm)				Grade			Geometry
		Feed (mm/rev)	Cutting depth (mm)	d	la	s	r	PB30	PB60	PB90	
	VBGW 110302-S01020-SL-1	0.03-0.3	0.05-0.5	6.35	2.2	3.18	0.2	●	●	●	
	VBGW 110304-S01020-SL-1	0.03-0.3	0.05-0.5	6.35	2.2	3.18	0.4	●	●	●	
	VBGW 110308-S01020-SL-1	0.03-0.3	0.05-0.5	6.35	2.2	3.18	0.8	●	●	●	
	VBGW 160402-S01020-SL-1	0.03-0.3	0.05-0.5	9.525	2.2	4.76	0.2	●	●	●	
	VBGW 160404-S01020-SL-1	0.03-0.3	0.05-0.5	9.525	2.2	4.76	0.4	●	●	●	
	VBGW 160408-S01020-SL-1	0.03-0.3	0.05-0.5	9.525	2.2	4.76	0.8	●	●	●	
	VBGW 110302-S01020-SL-2	0.03-0.3	0.05-0.5	6.35	2.2	3.18	0.2	●	●	●	
	VBGW 110304-S01020-SL-2	0.03-0.3	0.05-0.5	6.35	2.2	3.18	0.4	●	●	●	
	VBGW 110308-S01020-SL-2	0.03-0.3	0.05-0.5	6.35	2.2	3.18	0.8	●	●	●	
	VBGW 160402-S01020-SL-2	0.03-0.3	0.05-0.5	9.525	2.2	4.76	0.2	●	●	●	
	VBGW 160404-S01020-SL-2	0.03-0.3	0.05-0.5	9.525	2.2	4.76	0.4	●	●	●	
	VBGW 160408-S01020-SL-2	0.03-0.3	0.05-0.5	9.525	2.2	4.76	0.8	●	●	●	

Remark: ● represent for standard stock

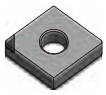
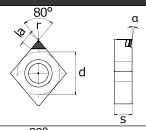
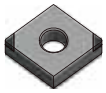
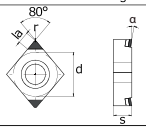
Positive 35°（VC）

Insert	Type	Recommended parameter		Dimension(mm)				Grade			Geometry
		Feed (mm/rev)	Cutting depth (mm)	d	la	s	r	PB30	PB60	PB90	
	VCGW 110302-S01020-SL-1	0.03-0.3	0.05-0.5	6.35	2.2	3.18	0.2	●	●	●	
	VCGW 110304-S01020-SL-1	0.03-0.3	0.05-0.5	6.35	2.2	3.18	0.4	●	●	●	
	VCGW 110308-S01020-SL-1	0.03-0.3	0.05-0.5	6.35	2.2	3.18	0.8	●	●	●	
	VCGW 160402-S01020-SL-1	0.03-0.3	0.05-0.5	9.525	2.2	4.76	0.2	●	●	●	
	VCGW 160404-S01020-SL-1	0.03-0.3	0.05-0.5	9.525	2.2	4.76	0.4	●	●	●	
	VCGW 160408-S01020-SL-1	0.03-0.3	0.05-0.5	9.525	2.2	4.76	0.8	●	●	●	
	VCGW 110302-S01020-SL-2	0.03-0.3	0.05-0.5	6.35	2.2	3.18	0.2	●	●	●	
	VCGW 110304-S01020-SL-2	0.03-0.3	0.05-0.5	6.35	2.2	3.18	0.4	●	●	●	
	VCGW 110308-S01020-SL-2	0.03-0.3	0.05-0.5	6.35	2.2	3.18	0.8	●	●	●	
	VCGW 160402-S01020-SL-2	0.03-0.3	0.05-0.5	9.525	2.2	4.76	0.2	●	●	●	
	VCGW 160404-S01020-SL-2	0.03-0.3	0.05-0.5	9.525	2.2	4.76	0.4	●	●	●	
	VCGW 160408-S01020-SL-2	0.03-0.3	0.05-0.5	9.525	2.2	4.76	0.8	●	●	●	

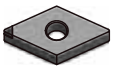
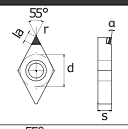
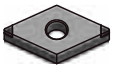
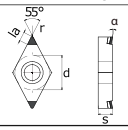
Remark: ● represent for standard stock

Stock items-PCD inserts

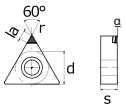
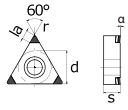
Negative 80°（CN）

Insert	Type	Recommended parameter		Dimension(mm)					Grade			Geometry
		Feed (mm/rev)	Cutting depth (mm)	d	la	s	r	α	PD01	PD10	PD20	
	CNGA 120402-1-NL-00	0.03-0.2	0.05-0.5	12.7	3.0	4.76	0.2	0°	●	●	●	
	CNGA 120404-1-NL-00	0.03-0.2	0.05-0.5	12.7	3.0	4.76	0.4	0°	●	●	●	
	CNGA 120408-1-NL-00	0.03-0.2	0.05-0.5	12.7	3.0	4.76	0.8	0°	●	●	●	
	CNGA 120402-2-NL-00	0.03-0.2	0.05-0.5	12.7	3.0	4.76	0.2	0°	●	●	●	
	CNGA 120404-2-NL-00	0.03-0.2	0.05-0.5	12.7	3.0	4.76	0.4	0°	●	●	●	
	CNGA 120408-2-NL-00	0.03-0.2	0.05-0.5	12.7	3.0	4.76	0.8	0°	●	●	●	

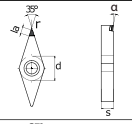
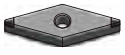
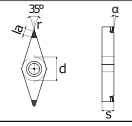
Negative 55°（DN）

Insert	Type	Recommended parameter		Dimension(mm)					Grade			Geometry
		Feed (mm/rev)	Cutting depth (mm)	d	la	s	r	α	PD01	PD10	PD20	
	DNGA 150402-1-NL-00	0.03-0.2	0.05-0.5	12.7	3.0	4.76	0.2	0°	●	●	●	
	DNGA 150404-1-NL-00	0.03-0.2	0.05-0.5	12.7	3.0	4.76	0.4	0°	●	●	●	
	DNGA 150408-1-NL-00	0.03-0.2	0.05-0.5	12.7	3.0	4.76	0.8	0°	●	●	●	
	DNGA 150402-2-NL-00	0.03-0.2	0.05-0.5	12.7	3.0	4.76	0.2	0°	●	●	●	
	DNGA 150404-2-NL-00	0.03-0.2	0.05-0.5	12.7	3.0	4.76	0.4	0°	●	●	●	
	DNGA 150408-2-NL-00	0.03-0.2	0.05-0.5	12.7	3.0	4.76	0.8	0°	●	●	●	

Negative 60°（TN）

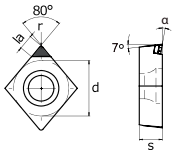
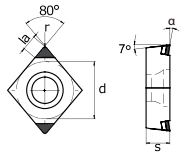
Insert	Type	Recommended parameter		Dimension(mm)					Grade			Geometry
		Feed (mm/rev)	Cutting depth (mm)	d	la	s	r	α	PD01	PD10	PD20	
	TNGA 160402-1-NL-00	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.2	0°	●	●	●	
	TNGA 160404-1-NL-00	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.4	0°	●	●	●	
	TNGA 160408-1-NL-00	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.8	0°	●	●	●	
	TNGA 160402-3-NL-00	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.2	0°	●	●	●	
	TNGA 160404-3-NL-00	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.4	0°	●	●	●	
	TNGA 160408-3-NL-00	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.8	0°	●	●	●	

Negative 35°（VN）

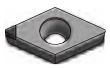
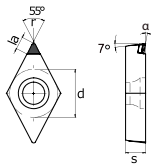
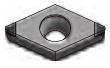
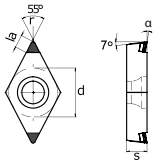
Insert	Type	Recommended parameter		Dimension(mm)					Grade			Geometry
		Feed (mm/rev)	Cutting depth (mm)	d	la	s	r	α	PD01	PD10	PD20	
	VNGA 160402-1-NL-00	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.2	0°	●	●	●	
	VNGA 160404-1-NL-00	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.4	0°	●	●	●	
	VNGA 160408-1-NL-00	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.8	0°	●	●	●	
	VNGA 160402-2-NL-00	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.2	0°	●	●	●	
	VNGA 160404-2-NL-00	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.4	0°	●	●	●	
	VNGA 160408-2-NL-00	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.8	0°	●	●	●	

Remark: ● represent for standard stock

Positive 80°（CC）

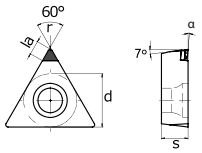
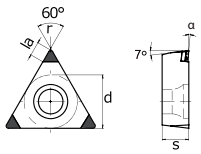
Insert	Type	Recommended parameter		Dimension(mm)					Grade			Geometry
		Feed (mm/rev)	Cutting depth (mm)	d	la	s	r	α	PD01	PD10	PD20	
	CCGW 060202-1-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	2.38	0.2	5°	●	●	●	
	CCGW 060204-1-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	2.38	0.4	5°	●	●	●	
	CCGW 060208-1-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	2.38	0.8	5°	●	●	●	
	CCGW 09T302-1-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	3.97	0.2	5°	●	●	●	
	CCGW 09T304-1-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	3.97	0.4	5°	●	●	●	
	CCGW 09T308-1-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	3.97	0.8	5°	●	●	●	
	CCGW 120402-1-NL-05	0.03-0.2	0.05-0.5	12.7	3.0	4.76	0.2	5°	●	●	●	
	CCGW 120404-1-NL-05	0.03-0.2	0.05-0.5	12.7	3.0	4.76	0.4	5°	●	●	●	
	CCGW 120408-1-NL-05	0.03-0.2	0.05-0.5	12.7	3.0	4.76	0.8	5°	●	●	●	
	CCGW 060202 -2-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	2.38	0.2	5°	●	●	●	
	CCGW 060204 -2-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	2.38	0.4	5°	●	●	●	
	CCGW 060208 -2-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	2.38	0.8	5°	●	●	●	
	CCGW 09T302 -2-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	3.97	0.2	5°	●	●	●	
	CCGW 09T304 -2-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	3.97	0.4	5°	●	●	●	
	CCGW 09T308 -2-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	3.97	0.8	5°	●	●	●	
	CCGW 120402 -2-NL-05	0.03-0.2	0.05-0.5	12.7	3.0	4.76	0.2	5°	●	●	●	
	CCGW 120404 -2-NL-05	0.03-0.2	0.05-0.5	12.7	3.0	4.76	0.4	5°	●	●	●	
	CCGW 120408 -2-NL-05	0.03-0.2	0.05-0.5	12.7	3.0	4.76	0.8	5°	●	●	●	

Positive 55°（DC）

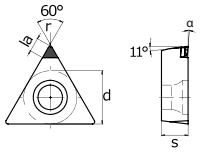
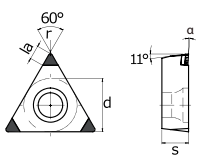
Insert	Type	Recommended parameter		Dimension(mm)					Grade			Geometry
		Feed (mm/rev)	Cutting depth (mm)	d	la	s	r	α	PD01	PD10	PD20	
	DCGW 070202-1-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	2.38	0.2	5°	●	●	●	
	DCGW 070204-1-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	2.38	0.4	5°	●	●	●	
	DCGW 070208-1-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	2.38	0.8	5°	●	●	●	
	DCGW 11T302-1-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	3.97	0.2	5°	●	●	●	
	DCGW 11T304-1-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	3.97	0.4	5°	●	●	●	
	DCGW 11T308-1-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	3.97	0.8	5°	●	●	●	
	DCGW 070202-2-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	2.38	0.2	5°	●	●	●	
	DCGW 070204-2-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	2.38	0.4	5°	●	●	●	
	DCGW 070208-2-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	2.38	0.8	5°	●	●	●	
	DCGW 11T302-2-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	3.97	0.2	5°	●	●	●	
	DCGW 11T304-2-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	3.97	0.4	5°	●	●	●	
	DCGW 11T308-2-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	3.97	0.8	5°	●	●	●	

Remark: ● represent for standard stock

Positive 60°（TC）

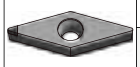
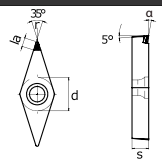
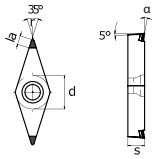
Insert	Type	Recommended parameter		Dimension(mm)					Grade			Geometry
		Feed (mm/rev)	Cutting depth (mm)	d	la	s	r	α	PD01	PD10	PD20	
	TCGW 080202-1-NL-05	0.03-0.2	0.05-0.5	4.76	3.0	2.38	0.2	5°	●	●	●	
	TCGW 080204-1-NL-05	0.03-0.2	0.05-0.5	4.76	3.0	2.38	0.4	5°	●	●	●	
	TCGW 080208-1-NL-05	0.03-0.2	0.05-0.5	4.76	3.0	2.38	0.8	5°	●	●	●	
	TCGW 110302-1-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	3.18	0.2	5°	●	●	●	
	TCGW 110304-1-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	3.18	0.4	5°	●	●	●	
	TCGW 110308-1-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	3.18	0.8	5°	●	●	●	
	TCGW 160402-1-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.2	5°	●	●	●	
	TCGW 160404-1-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.4	5°	●	●	●	
	TCGW 160408-1-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.8	5°	●	●	●	
	TCGW 080202-3-NL-05	0.03-0.2	0.05-0.5	4.76	3.0	2.38	0.2	5°	●	●	●	
	TCGW 080204-3-NL-05	0.03-0.2	0.05-0.5	4.76	3.0	2.38	0.4	5°	●	●	●	
	TCGW 080208-3-NL-05	0.03-0.2	0.05-0.5	4.76	3.0	2.38	0.8	5°	●	●	●	
	TCGW 110302-3-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	3.18	0.2	5°	●	●	●	
	TCGW 110304-3-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	3.18	0.4	5°	●	●	●	
	TCGW 110308-3-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	3.18	0.8	5°	●	●	●	
	TCGW 160302-3-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.2	5°	●	●	●	
	TCGW 160304-3-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.4	5°	●	●	●	
	TCGW 160308-3-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.8	5°	●	●	●	

Positive 60°（TP）

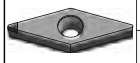
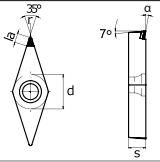
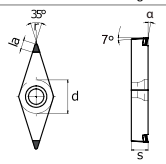
Insert	Type	Recommended parameter		Dimension(mm)					Grade			Geometry
		Feed (mm/rev)	Cutting depth (mm)	d	la	s	r	α	PD01	PD10	PD20	
	TPGW 080202-1-NL-05	0.03-0.2	0.05-0.5	4.76	3.0	2.38	0.2	5°	●	●	●	
	TPGW 080204-1-NL-05	0.03-0.2	0.05-0.5	4.76	3.0	2.38	0.4	5°	●	●	●	
	TPGW 080208-1-NL-05	0.03-0.2	0.05-0.5	4.76	3.0	2.38	0.8	5°	●	●	●	
	TPGW 080202-1-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.2	5°	●	●	●	
	TPGW 080204-1-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.4	5°	●	●	●	
	TPGW 080208-1-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.8	5°	●	●	●	
	TPGW 080202-3-NL-05	0.03-0.2	0.05-0.5	4.76	3.0	2.38	0.2	5°	●	●	●	
	TPGW 080204-3-NL-05	0.03-0.2	0.05-0.5	4.76	3.0	2.38	0.4	5°	●	●	●	
	TPGW 080208-3-NL-05	0.03-0.2	0.05-0.5	4.76	3.0	2.38	0.8	5°	●	●	●	
	TPGW 160402-3-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.2	5°	●	●	●	
	TPGW 160404-3-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.4	5°	●	●	●	
	TPGW 160408-3-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.8	5°	●	●	●	

Remark: ● represent for standard stock

Positive 35°（VB）

Insert	Type	Recommended parameter		Dimension(mm)					Grade			Geometry
		Feed (mm/rev)	Cutting depth (mm)	d	la	s	r	α	PD01	PD10	PD20	
	VBGW 110302-1-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	3.18	0.2	5°	●	●	●	
	VBGW 110304-1-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	3.18	0.4	5°	●	●	●	
	VBGW 160402-1-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.2	5°	●	●	●	
	VBGW 160404-1-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.4	5°	●	●	●	
	VBGW 110302-2-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	3.18	0.2	5°	●	●	●	
	VBGW 110304-2-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	3.18	0.4	5°	●	●	●	
	VBGW 160402-2-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.2	5°	●	●	●	
	VBGW 160404-2-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.4	5°	●	●	●	

Positive 35°（VC）

Insert	Type	Recommended parameter		Dimension(mm)					Grade			Geometry
		Feed (mm/rev)	Cutting depth (mm)	d	la	s	r	α	PD01	PD10	PD20	
	VCGW 110302-1-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	3.18	0.2	5°	●	●	●	
	VCGW 110304-1-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	3.18	0.4	5°	●	●	●	
	VCGW 160402-1-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.2	5°	●	●	●	
	VCGW 160404-1-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.4	5°	●	●	●	
	VCGW 110302-2-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	3.18	0.2	5°	●	●	●	
	VCGW 110304-2-NL-05	0.03-0.2	0.05-0.5	6.35	3.0	3.18	0.4	5°	●	●	●	
	VCGW 110302-2-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.2	5°	●	●	●	
	VCGW 110304-2-NL-05	0.03-0.2	0.05-0.5	9.525	3.0	4.76	0.4	5°	●	●	●	

Remark: ● represent for standard stock

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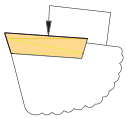
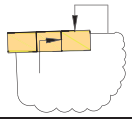
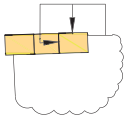
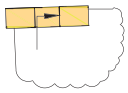
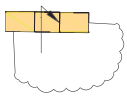


External turning toolholders

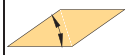
External Turning Toolholder Designation System

P	C	L	N	R
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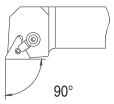
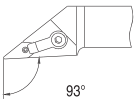
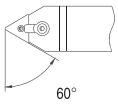
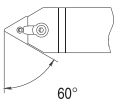
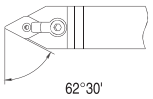
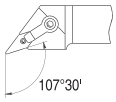
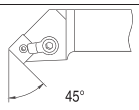
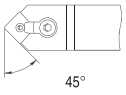
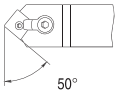
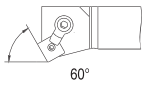
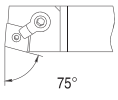
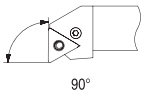
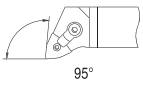
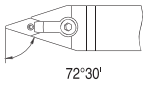
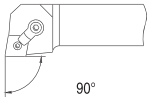
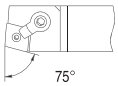
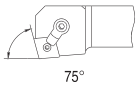
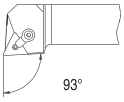
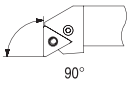
1- Clamping Type of Insert

C: Plate clamping	M: Multi clamping	D: Top clamping	P: Lever clamping	S: Screw clamping
				

2- Insert Shape/Code

C	D	H	K	O	R	S	T	V	W
 80°	 55°	 120°	 55°	 135°	 360°	 90°	 60°	 35°	 80°

3- Tool Type and Approach Angle

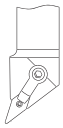
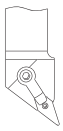
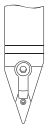
A	 90°	J	 93°	T	 60°	E	 60°	N	 62°30'
H	 107°30'	S	 45°	D	 45°	M	 50°	W	 60°
R	 75°	C	 90°	L	 95°	V	 72°30'	G	 90°
B	 75°	K	 75°	U	 93°	F	 90°	X	Special approach angle

4- Clearance Angle

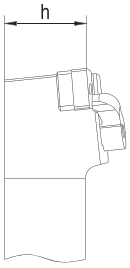
B	C	D	E	F	N	P	O
 5°	 7°	 15°	 20°	 25°	 0°	 11°	Other clearance angle

20	20	K	12	-	B
6	7	8	9		10

5- Hand of Tool

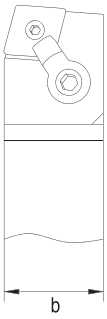
L Left hand	
R Right hand	
N Neutral	

6- Center height of tool (mm)



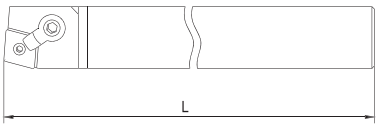
06=6
08=8
10=10
12=12
14=14
16=16
20=20
25=25
30=30
40=40
50=50

7- Width of Shank (mm)



06=6
08=8
10=10
12=12
14=14
16=16
20=20
25=25
30=30
40=40
50=50

8- Tool Length (mm)



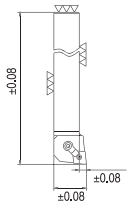
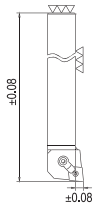
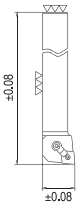
A=32	N=160
B=40	P=170
C=50	Q=180
D=60	R=200
E=70	S=250
F=80	T=300
G=90	U=350
H=100	V=400
J=110	W=450
K=125	Y=500
L=140	
M=150	X=Special

9- Length of Cutting Edge

C、D、E、M、V	H	O
		

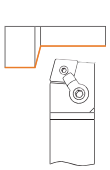
R	S	T	W
			

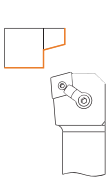
10- Holder Tolerance

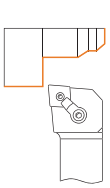
A	B	C
		

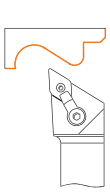
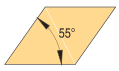
Overview of External Turning Toolholders

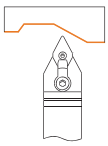
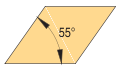
Negative Inserts

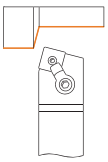
MCBNR/L	
75°	CN..
	
	12
	16
	19

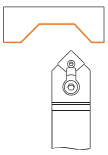
MCKNR/L	
75°	CN..
	
	12
	16

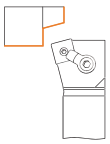
MCLNR/L	
95°	CN..
	
	12
	16
	19
	25

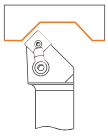
MDJNR/L	
93°	DN..
	
	11
	15

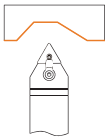
MDNNN	
62°30'	DN..
	
	11
	15

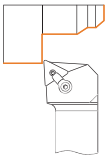
MSBNR/L	
75°	SN..
	
	12
	15
	19

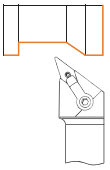
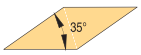
MSDNN	
45°	SN..
	
	12
	15
	19

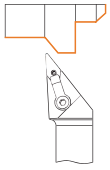
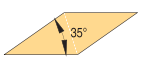
MSKNR/L	
75°	SN..
	
	12
	15

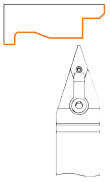
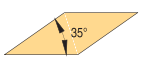
MSSNR/L	
45°	SN..
	
	12
	15
	19

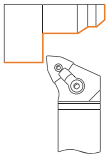
MTENN	
60°	TN..
	
	16
	22

MTJNR/L	
93°	TN..
	
	16
	22

MVHNR/L	
107°30'	VN..
	
	16

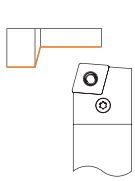
MVJNR/L	
93°	VN..
	
	16

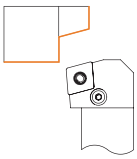
MVVNN	
72°30'	VN..
	
	16

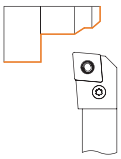
MWLNR/L	
95°	WN..
	
	06
	08

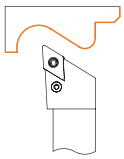
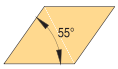
Overview of External Turning Toolholders

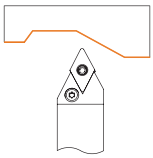
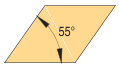
Negative Inserts

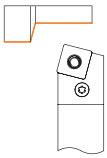
PCBNR/L	
75°	CN..
	
	09
	12
	16
	19

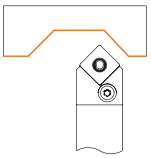
PCKNR/L	
75°	CN..
	
	12
	16
	19

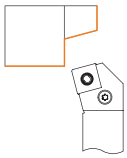
PCLNR/L	
95°	CN..
	
	09
	12
	16
	19

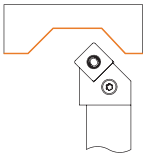
PDJNR/L	
93°	DN..
	
	11
	15

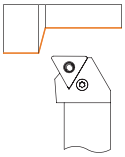
PDNNN	
62°30'	DN..
	
	11
	15

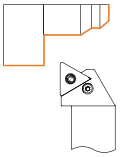
PSBNR/L	
75°	SN..
	
	12
	15
	19

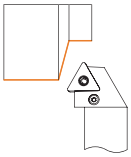
PSDNN	
45°	SN..
	
	12
	15

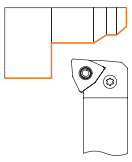
PSKNR/L	
75°	SN..
	
	12
	15
	19

PSSNR/L	
45°	SN..
	
	12
	15
	19

PTFNR/L	
90°	TN..
	
	16
	22

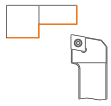
PTGNR/L	
90°	TN..
	
	16
	22

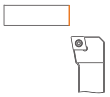
PTTNR/L	
60°	TN..
	
	16
	22

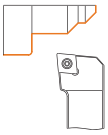
PWLNR/L	
93°	WN..
	
	06
	08

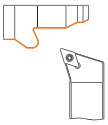
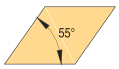
Overview of External Turning Toolholders

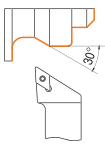
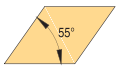
Positive Inserts

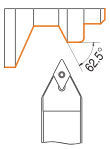
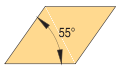
SCGCR/L	
90°	CC..
	
	09
	12

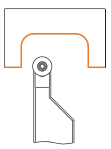
SCFCR/L	
90°	CC..
	
	09
	12

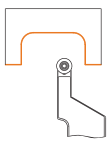
SCLCR/L	
95°	CC..
	
	06
	09
	12

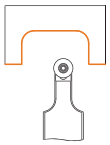
SDHCR/L	
107°30'	DC..
	
	11

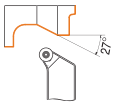
SDJCR/L	
93°	DC..
	
	07
	11

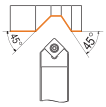
SDNCN	
62°30'	DC..
	
	07
	11

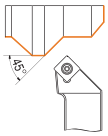
SRACR/L	
	RC.T..
	
	10
	12

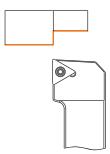
SRCCR/L	
	RC.T..
	
	10

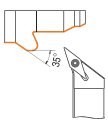
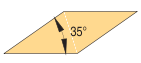
SRDCN	
	RC.T..
	
	10
	12
	16

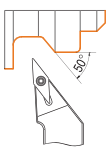
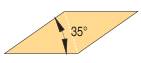
SRGCR/L	
	RC.T..
	
	10
	12
	16
	20

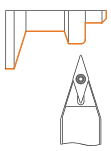
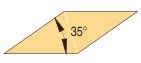
SSDCN	
45°	SC..
	
	09
	12

SSSCR/L	
45°	SC..
	
	09
	12

STGCR/L	
90°	TC..
	
	11
	16

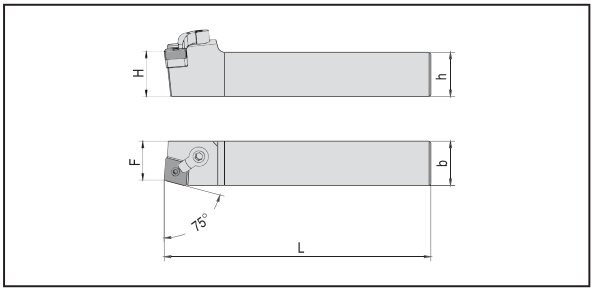
SVHCR/L	
107°30'	VC..
	
	11
	16

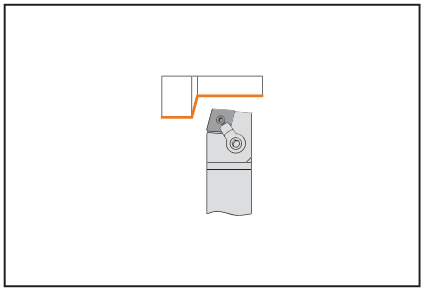
SVJCR/L	
93°	VC..
	
	11
	16

SVVCN	
72°30'	VC..
	
	16

MCBNR/L

Kr=75°



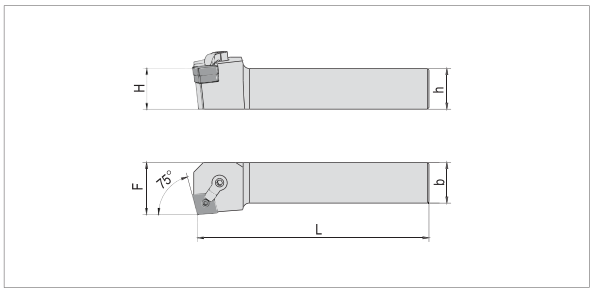


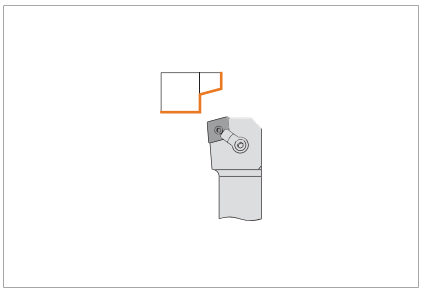
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
MCBNR/L2020K12	20	20	20	17	125	CN..1204..
MCBNR/L2525M12	25	25	25	22	150	CN..1204..
MCBNR/L3232P12	32	32	32	27	170	CN..1204..
MCBNR/L3232P16	32	32	32	27	170	CN..1606..
MCBNR/L4040R19	40	40	40	35	200	CN..1906..

Designation	Shim	Pin	Wrench	Clamping plate	Screw	Wrench
						
MCBNR/L2020K12	AMSC 43	AMP 46	AWH03-32	ACL 9	AMH 59	AWH05-32
MCBNR/L2525M12	AMSC 43	AMP 46	AWH03-32	ACL 9	AMH 59	AWH05-32
MCBNR/L3232P12	AMSC 43	AMP 46	AWH03-32	ACL 9	AMH 59	AWH05-32
MCBNR/L3232P16	AMSC 53	AMP 58	AWH01-8	ACL 9	AMH 59	AWH05-32
MCBNR/L4040R19	AMSC 63	AMP 68	AWH09-64	ACL 12	AMH 510	AWH05-32

MCKNR/L

Kr=75°



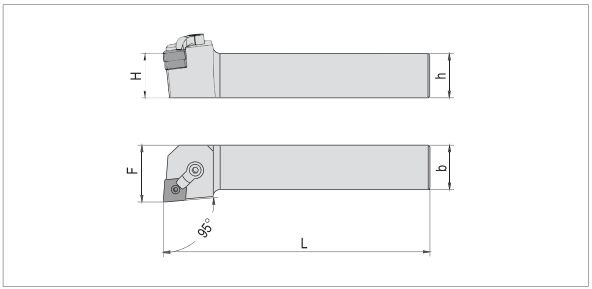


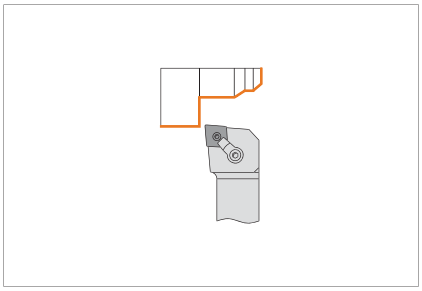
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
MCKNR/L2020K12	20	20	20	25	125	CN..1204..
MCKNR/L2525M12	25	25	25	32	150	CN..1204..
MCKNR/L3232P12	32	32	32	40	170	CN..1204..
MCKNR/L3232P16	32	32	32	40	170	CN..1606..

Designation	Shim	Pin	Wrench	Clamping plate	Screw	Wrench
						
MCKNR/L2020K12	AMSC 43	AMP 46	AWH03-32	ACL 20	AMH 36	AWH01-8
MCKNR/L2525M12	AMSC 43	AMP 46	AWH03-32	ACL 20	AMH 36	AWH01-8
MCKNR/L3232P12	AMSC 43	AMP 46	AWH03-32	ACL 20	AMH 36	AWH01-8
MCKNR/L3232P16	AMSC 53	AMP 58	AWH01-8	ACL 9	AMH 59	AWH05-32

MCLNR/L

Kr=95°



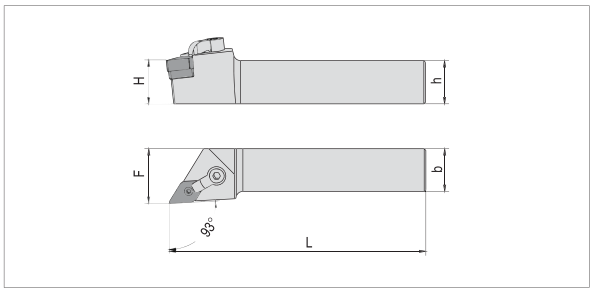


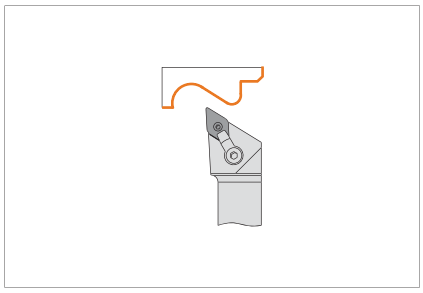
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
MCLNR/L1616H12	16	16	16	20	100	CN..1204..
MCLNR/L2020K12	20	20	20	25	125	CN..1204..
MCLNR/L2525M12	25	25	25	32	150	CN..1204..
MCLNR/L3225P12	32	25	32	32	170	CN..1204..
MCLNR/L3232P12	32	32	32	40	170	CN..1204..
MCLNR/L4040R12	40	40	40	50	200	CN..1204..
MCLNR/L2525M16	25	25	25	32	150	CN..1606..
MCLNR/L3225P16	32	25	32	32	170	CN..1606..
MCLNR/L3232P16	32	32	32	40	170	CN..1606..
MCLNR/L4040R16	40	40	40	50	200	CN..1606..
MCLNR/L3232P19	32	32	32	40	170	CN..1906..
MCLNR/L4040R19	40	40	40	50	200	CN..1906..
MCLNR/L5050S19	50	50	50	60	250	CN..1906..
MCLNR/L4040R25	40	40	40	50	200	CN..2509..

Designation	Shim	Pin	Wrench	Clamping plate	Screw	Wrench
						
MCLNR/L1616H12	AMSC 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8
MCLNR/L2020K12	AMSC 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8
MCLNR/L2525M12	AMSC 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8
MCLNR/L3225P12	AMSC 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8
MCLNR/L3232P12	AMSC 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8
MCLNR/L4040R12	AMSC 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8
MCLNR/L2525M16	AMSC 53	AMP 58	AWH01-8	ACL 12	AMH 510	AWH05-32
MCLNR/L3225P16	AMSC 53	AMP 58	AWH01-8	ACL 12	AMH 510	AWH05-32
MCLNR/L3232P16	AMSC 53	AMP 58	AWH01-8	ACL 12	AMH 510	AWH05-32
MCLNR/L4040R16	AMSC 53	AMP 58	AWH01-8	ACL 12	AMH 510	AWH05-32
MCLNR/L3232P19	AMSC 63	AMP 68	AWH09-64	ACL 12	AMH 510	AWH05-32
MCLNR/L4040R19	AMSC 63	AMP 68	AWH09-64	ACL 12	AMH 510	AWH05-32
MCLNR/L5050S19	AMSC 63	AMP 68	AWH09-64	ACL 12	AMH 510	AWH05-32
MCLNR/L4040R25	AMSC 84	AMP 810	AWH05-32	ACL 24	AMH 610	AWH03-16

MDJNR/L

Kr=93°



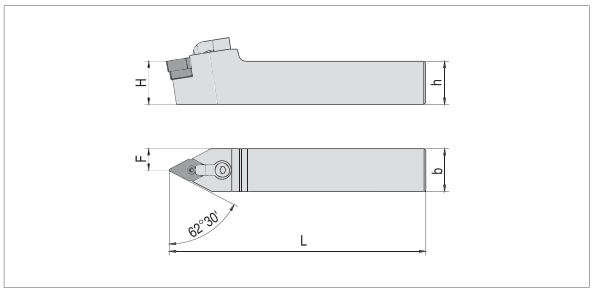


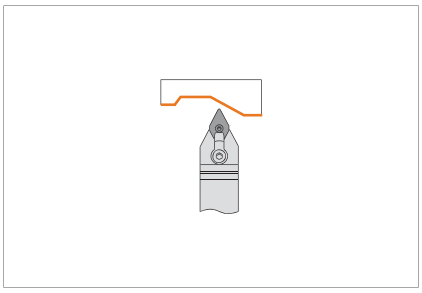
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
MDJNR/L2020K11	20	20	20	25	125	DN..1104..
MDJNR/L2525M11	25	25	25	32	150	DN..1104..
MDJNR/L3232P11	32	32	32	40	170	DN..1104..
MDJNR/L2020K15	20	20	20	25	125	DN..1506..
MDJNR/L2525M15	25	25	25	32	150	DN..1506..
MDJNR/L3225P15	32	25	32	32	170	DN..1506..
MDJNR/L3232P15	32	32	32	40	170	DN..1506..
MDJNR/L4040R15	40	40	40	50	200	DN..1506..
MDJNR/L2020K15	20	20	20	25	125	DN..1504..
MDJNR/L2525M15	25	25	25	32	150	DN..1504..
MDJNR/L3225P15	32	25	32	32	170	DN..1504..
MDJNR/L3232P15	32	32	32	40	170	DN..1504..
MDJNR/L4040R15	40	40	40	50	200	DN..1504..

Designation	Shim	Pin	Wrench	Clamping plate	Screw	Wrench
						
MDJNR/L2020K11	AMSD 32	AMP 34L	AWH05-64	ACL 20	AMH 48	AWH01-8
MDJNR/L2525M11	AMSD 32	AMP 34L	AWH05-64	ACL 20	AMH 48	AWH01-8
MDJNR/L3232P11	AMSD 32	AMP 34L	AWH05-64	ACL 20	AMH 48	AWH01-8
MDJNR/L2020K15	AMSD 43	AMP 46L	AWH03-32	ACL 12	AMH 510	AWH05-32
MDJNR/L2525M15	AMSD 43	AMP 46L	AWH03-32	ACL 12	AMH 510	AWH05-32
MDJNR/L3225P15	AMSD 43	AMP 46L	AWH03-32	ACL 12	AMH 510	AWH05-32
MDJNR/L3232P15	AMSD 43	AMP 46L	AWH03-32	ACL 12	AMH 510	AWH05-32
MDJNR/L4040R15	AMSD 43	AMP 46L	AWH03-32	ACL 12	AMH 510	AWH05-32
MDJNR/L2020K15	AMSD 44	AMP 46L	AWH03-32	ACL 12	AMH 510	AWH05-32
MDJNR/L2525M15	AMSD 44	AMP 46L	AWH03-32	ACL 12	AMH 510	AWH05-32
MDJNR/L3225P15	AMSD 44	AMP 46L	AWH03-32	ACL 12	AMH 510	AWH05-32
MDJNR/L3232P15	AMSD 44	AMP 46L	AWH03-32	ACL 12	AMH 510	AWH05-32
MDJNR/L4040R15	AMSD 44	AMP 46L	AWH03-32	ACL 12	AMH 510	AWH05-32

MDNNN

Kr=62°30'



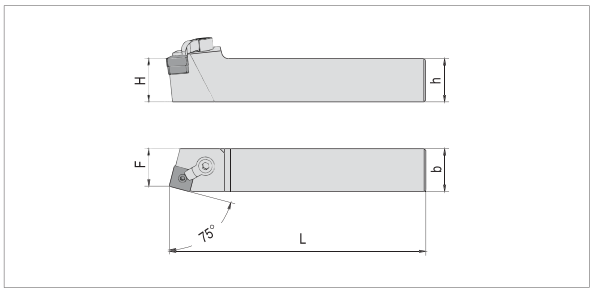


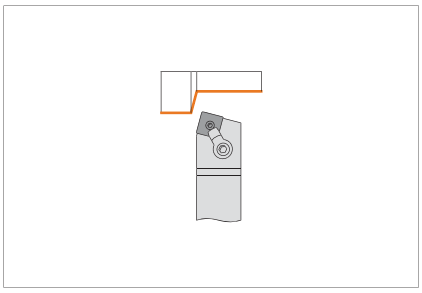
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
MDNNN1616H11	16	16	16	8	100	DN..1104..
MDNNN2020K11	20	20	20	10	125	DN..1104..
MDNNN2525M11	25	25	25	12.5	150	DN..1104..
MDNNN2525M15	25	25	25	12.5	150	DN..1506..
MDNNN3232P15	32	32	32	16	170	DN..1506..
MDNNN4040R15	40	40	40	20	200	DN..1506..
MDNNN2525M15	25	25	25	12.5	150	DN..1504..
MDNNN3232P15	32	32	32	16	170	DN..1504..
MDNNN4040R15	40	40	40	20	200	DN..1504..

Designation	Shim	Pin	Wrench	Clamping plate	Screw	Wrench
						
MDNNN1616H11	AMSD 32	AMP 34L	AWH05-64	ACL 20	AMH 48	AWH01-8
MDNNN2020K11	AMSD 32	AMP 34L	AWH05-64	ACL 20	AMH 48	AWH01-8
MDNNN2525M11	AMSD 32	AMP 34L	AWH05-64	ACL 20	AMH 48	AWH01-8
MDNNN2525M15	AMSD 43	AMP 46L	AWH03-32	ACL 12	AMH 510	AWH05-32
MDNNN3232P15	AMSD 43	AMP 46L	AWH03-32	ACL 12	AMH 510	AWH05-32
MDNNN4040R15	AMSD 43	AMP 46L	AWH03-32	ACL 12	AMH 510	AWH05-32
MDNNN2525M15	AMSD 44	AMP 46L	AWH03-32	ACL 12	AMH 510	AWH05-32
MDNNN3232P15	AMSD 44	AMP 46L	AWH03-32	ACL 12	AMH 510	AWH05-32
MDNNN4040R15	AMSD 44	AMP 46L	AWH03-32	ACL 12	AMH 510	AWH05-32

MSBNR/L

Kr=75°



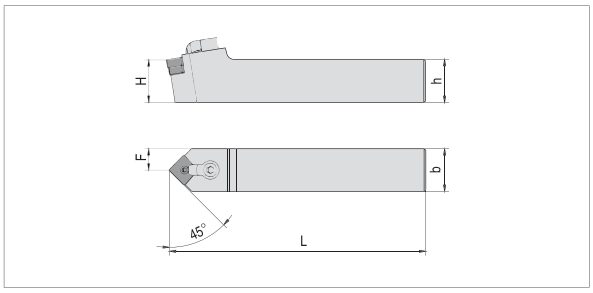


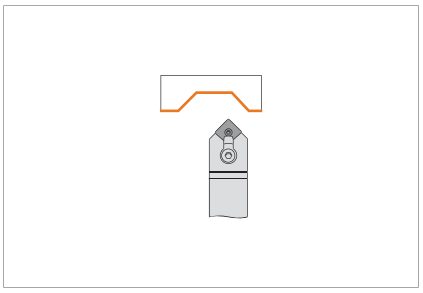
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
MSBNR/L2525M12	25	25	25	22	150	SN..1204..
MSBNR/L3232P12	32	32	32	27	170	SN..1204..
MSBNR/L2525M15	25	25	25	22	150	SN..1506..
MSBNR/L3232P15	32	32	32	27	170	SN..1506..
MSBNR/L3232P19	32	32	32	27	170	SN..1906..
MSBNR/L4040R19	40	40	40	35	200	SN..1906..

Designation	Shim	Pin	Wrench	Clamping plate	Screw	Wrench
						
MSBNR/L2525M12	AMSS 43	AMP 46	AWH03-32	ACL 9	AMH 59	AWH05-32
MSBNR/L3232P12	AMSS 43	AMP 46	AWH03-32	ACL 9	AMH 59	AWH05-32
MSBNR/L2525M15	AMSS 53	AMP 58	AWH01-8	ACL 12	AMH 510	AWH05-32
MSBNR/L3232P15	AMSS 53	AMP 58	AWH01-8	ACL 12	AMH 510	AWH05-32
MSBNR/L3232P19	AMSS 63	AMP 68	AWH09-64	ACL 12	AMH 510	AWH05-32
MSBNR/L4040R19	AMSS 63	AMP 68	AWH09-64	ACL 12	AMH 510	AWH05-32

MSDNN

Kr=45°



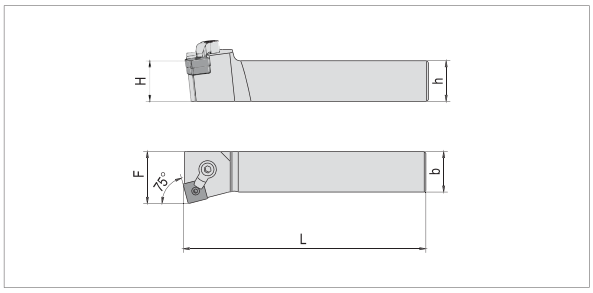


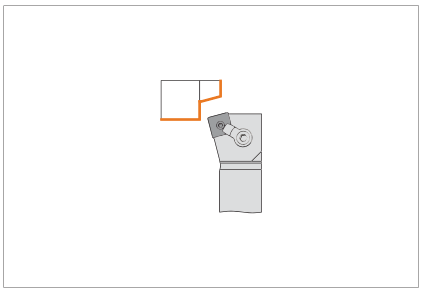
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
MSDNN2020K12	20	20	20	10	125	SN..1204..
MSDNN2525M12	25	25	25	12.5	150	SN..1204..
MSDNN2525M15	25	25	25	12.5	150	SN..1506..
MSDNN3232P15	32	32	32	16	170	SN..1506..
MSDNN3232P19	32	32	32	16	170	SN..1906..
MSDNN4040R19	40	40	40	20	200	SN..1906..

Designation	Shim	Pin	Wrench	Clamping plate	Screw	Wrench
						
MSDNN2020K12	AMSS 43	AMP 46	AWH03-32	ACL 9	AMH 59	AWH05-32
MSDNN2525M12	AMSS 43	AMP 46	AWH03-32	ACL 9	AMH 59	AWH05-32
MSDNN2525M15	AMSS 53	AMP 58	AWH01-8	ACL 12	AMH 510	AWH05-32
MSDNN3232P15	AMSS 53	AMP 58	AWH01-8	ACL 12	AMH 510	AWH05-32
MSDNN3232P19	AMSS 63	AMP 68	AWH09-64	ACL 12	AMH 510	AWH05-32
MSDNN4040R19	AMSS 63	AMP 68	AWH09-64	ACL 12	AMH 510	AWH05-32

MSKNR/L

Kr=75°



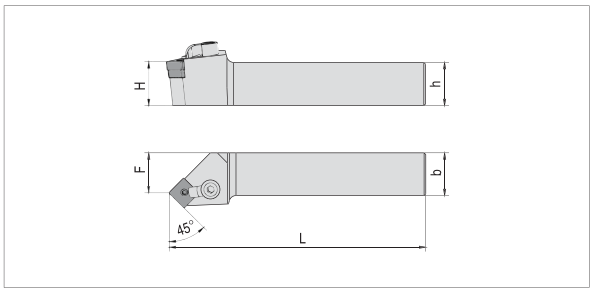


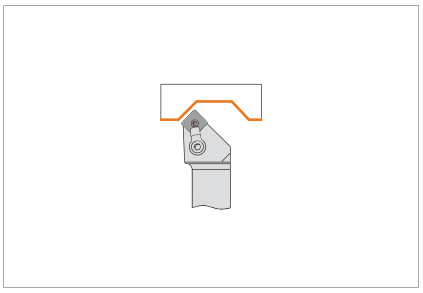
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
MSKNR/L2020K12	20	20	20	25	125	SN..1204..
MSKNR/L2525M12	25	25	25	32	150	SN..1204..
MSKNR/L2525M15	25	25	25	32	150	SN..1506..
MSKNR/L3232P15	32	32	32	40	170	SN..1506..

Designation	Shim	Pin	Wrench	Clamping plate	Screw	Wrench
						
MSKNR/L2020K12	AMSS 43	AMP 46	AWH03-32	ACL 9	AMH 59	AWH05-32
MSKNR/L2525M12	AMSS 43	AMP 46	AWH03-32	ACL 9	AMH 59	AWH05-32
MSKNR/L2525M15	AMSS 53	AMP 58	AWH01-8	ACL 12	AMH 510	AWH05-32
MSKNR/L3232P15	AMSS 53	AMP 58	AWH01-8	ACL 12	AMH 510	AWH05-32

MSSNR/L

Kr=45°



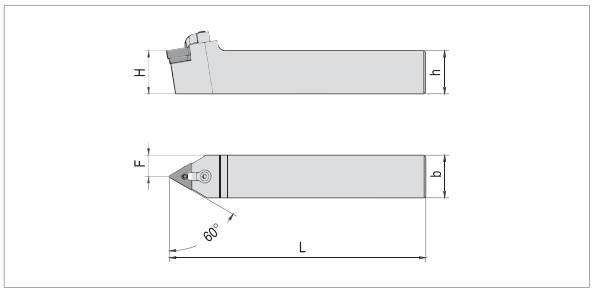


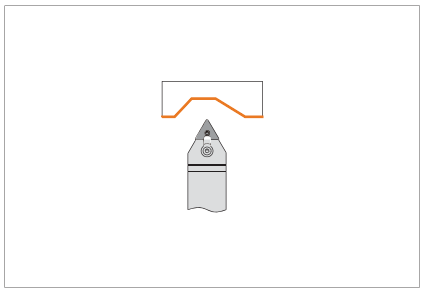
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
MSSNR/L2020K12	20	20	20	25	125	SN..1204..
MSSNR/L2525M12	25	25	25	32	150	SN..1204..
MSSNR/L3232P12	32	32	32	40	170	SN..1204..
MSSNR/L2525M15	25	25	25	32	150	SN..1506..
MSSNR/L3232P15	32	32	32	40	170	SN..1506..
MSSNR/L3232P19	32	32	32	40	170	SN..1906..
MSSNR/L4040R19	40	40	40	50	200	SN..1906..

Designation	Shim	Pin	Wrench	Clamping plate	Screw	Wrench
						
MSSNR/L2020K12	AMSS 43	AMP 46	AWH03-32	ACL 9	AMH 59	AWH05-32
MSSNR/L2525M12	AMSS 43	AMP 46	AWH03-32	ACL 9	AMH 59	AWH05-32
MSSNR/L3232P12	AMSS 43	AMP 46	AWH03-32	ACL 9	AMH 59	AWH05-32
MSSNR/L2525M15	AMSS 53	AMP 58	AWH01-8	ACL 12	AMH 510	AWH05-32
MSSNR/L3232P15	AMSS 53	AMP 58	AWH01-8	ACL 12	AMH 510	AWH05-32
MSSNR/L3232P19	AMSS 63	AMP 68	AWH09-64	ACL 12	AMH 510	AWH05-32
MSSNR/L4040R19	AMSS 63	AMP 68	AWH09-64	ACL 12	AMH 510	AWH05-32

MTENN

Kr=60°



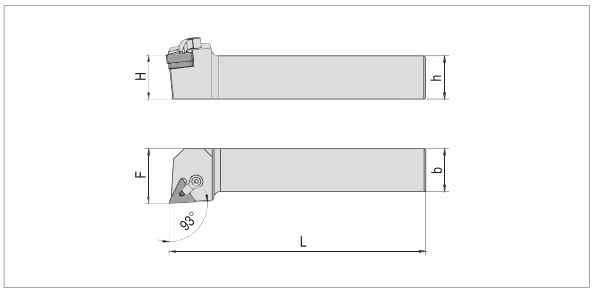


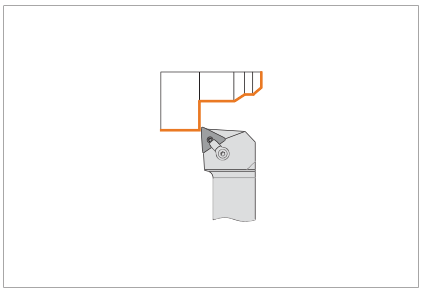
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
MTENN1616H16	16	16	16	8	100	TN..1604..
MTENN2020K16	20	20	20	10	125	TN..1604..
MTENN2525M16	25	25	25	12.5	150	TN..1604..
MTENN3232P22	32	32	32	16	170	TN..2204..
MTENN3232P27	32	32	32	16	170	TN..2706..

Designation	Shim	Pin	Wrench	Clamping plate	Screw	Wrench
						
MTENN1616H16	AMST 32	AMP 34L	AWH05-64	ACL 6	AMH 36	AWH03-32
MTENN2020K16	AMST 32	AMP 34L	AWH05-64	ACL 6	AMH 36	AWH03-32
MTENN2525M16	AMST 32	AMP 34L	AWH05-64	ACL 6	AMH 36	AWH03-32
MTENN3232P22	AMST 43	AMP 46	AWH03-32	ACL 9	AMH 59	AWH05-32
MTENN3232P27	AMST 53	AMP 58	AWH01-8	ACL 9	AMH 59	AWH05-32

MTJNR/L

Kr=93°



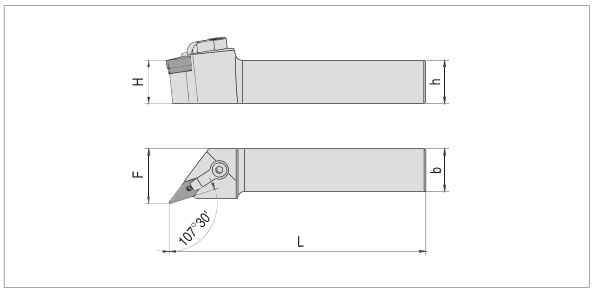


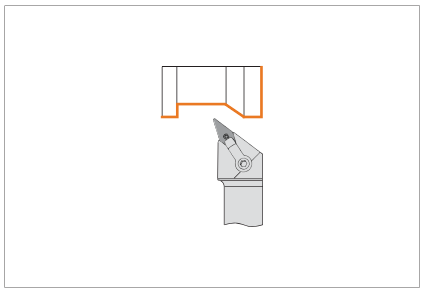
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
MTJNR/L2020K16	20	20	20	25	125	TN..1604..
MTJNR/L2525M16	25	25	25	32	150	TN..1604..
MTJNR/L2525M22	25	25	25	32	150	TN..2204..

Designation	Shim	Pin	Wrench	Clamping plate	Screw	Wrench
						
MTJNR/L2020K16	AMST 32	AMP 34L	AWH05-64	ACL 6	AMH 36	AWH03-32
MTJNR/L2525M16	AMST 32	AMP 34L	AWH05-64	ACL 6	AMH 36	AWH03-32
MTJNR/L2525M22	AMST 43	AMP 46	AWH03-32	ACL 9	AMH 59	AWH05-64

MVHNR/L

Kr=107°30'



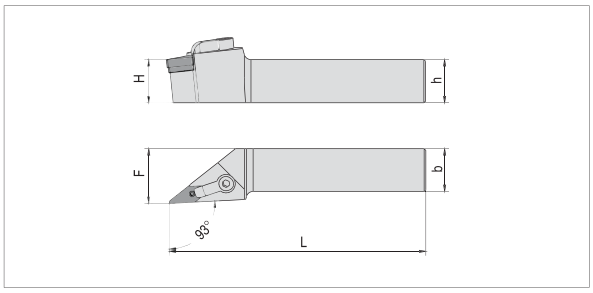


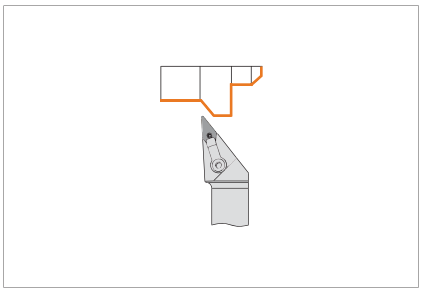
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
MVHNR/L2525M16	25	25	25	32	150	VN..1604..
MVHNR/L3232P16	32	32	32	40	170	VN..1604..

Designation	Shim	Pin	Wrench	Clamping plate	Screw	Wrench
						
MVHNR/L2525M16	AMSV 32	AMP 34L	AWH05-64	ACL 30	AMH 59	AWH05-32
MVHNR/L3232P16	AMSV 32	AMP 34L	AWH05-64	ACL 30	AMH 59	AWH05-32

MVJNR/L

Kr=93°



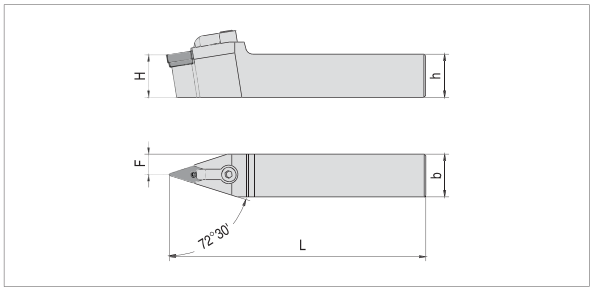


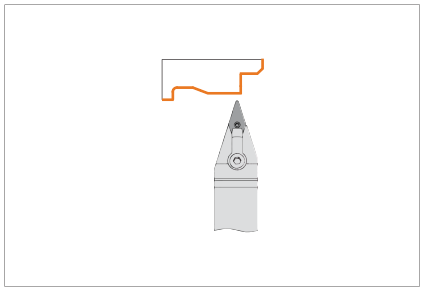
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
MVJNR/L2020K16	20	20	20	25	125	VN..1604..
MVJNR/L2525M16	25	25	25	32	150	VN..1604..
MVJNR/L3232P16	32	32	32	40	170	VN..1604..

Designation	Shim	Pin	Wrench	Clamping plate	Screw	Wrench
						
MVJNR/L2020K16	AMSV 32	AMP 34L	AWH05-64	ACL 30	AMH 59	AWH05-32
MVJNR/L2525M16	AMSV 32	AMP 34L	AWH05-64	ACL 30	AMH 59	AWH05-32
MVJNR/L3232P16	AMSV 32	AMP 34L	AWH05-64	ACL 30	AMH 59	AWH05-32

MVVNN

Kr=72°30'



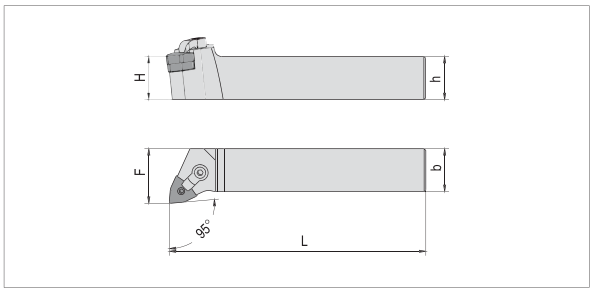


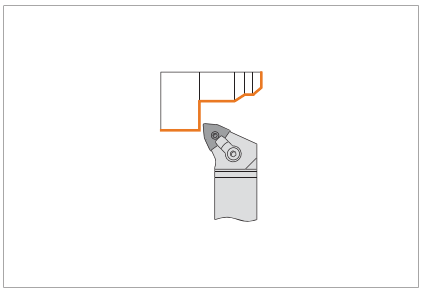
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
MVVNN2020K16	20	20	20	10	125	VN..1604..
MVVNN2525M16	25	25	25	12.5	150	VN..1604..
MVVNN3232P16	32	32	32	16	170	VN..1604..

Designation	Shim	Pin	Wrench	Clamping plate	Screw	Wrench
						
MVVNN2020K16	AMSV 32	AMP 34L	AWH05-64	ACL 30	AMH 59	AWH05-32
MVVNN2525M16	AMSV 32	AMP 34L	AWH05-64	ACL 30	AMH 59	AWH05-32
MVVNN3232P16	AMSV 32	AMP 34L	AWH05-64	ACL 30	AMH 59	AWH05-32

MWLNR/L

Kr=95°



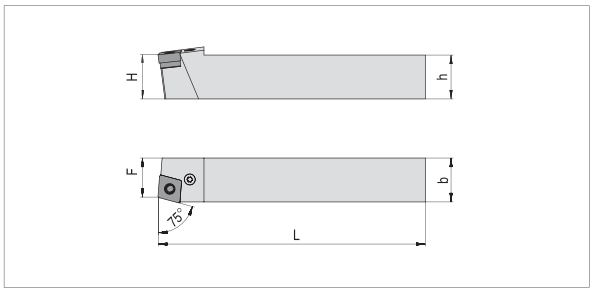


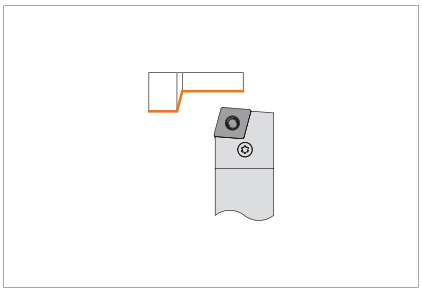
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
MWLNR/L2020K06	20	20	20	25	125	WN..0604..
MWLNR/L2525M06	25	25	25	32	150	WN..0604..
MWLNR/L2020K08	20	20	20	25	125	WN..0804..
MWLNR/L2525M08	25	25	25	32	150	WN..0804..
MWLNR/L3232P08	32	32	32	40	170	WN..0804..

Designation	Shim	Pin	Wrench	Clamping plate	Screw	Wrench
						
MWLNR/L2020K06	AMSW 32	AMP 34L	AWH05-64	ACL 6	AMH 36	AWH03-32
MWLNR/L2525M06	AMSW 32	AMP 34L	AWH05-64	ACL 6	AMH 36	AWH03-32
MWLNR/L2020K08	AMSW 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8
MWLNR/L2525M08	AMSW 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8
MWLNR/L3232P08	AMSW 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8

PCBNR/L

Kr=75°



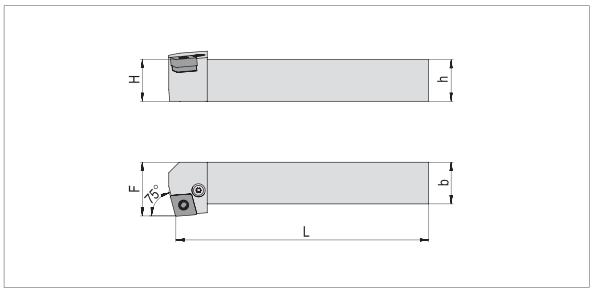


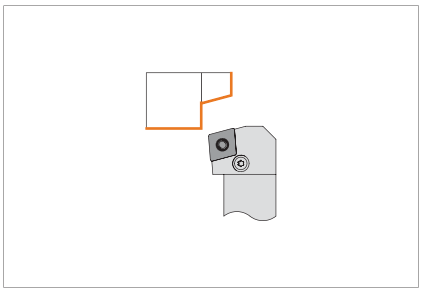
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
PCBNR/L2020K12	20	20	20	25	125	CN..1204..
PCBNR/L2525M12	25	25	25	32	150	CN..1204..
PCBNR/L3232P12	32	32	32	40	170	CN..1204..
PCBNR/L3232P16	32	32	32	40	170	CN..1606..
PCBNR/L4040R16	40	40	40	50	200	CN..1606..
PCBNR/L4040R19	40	40	40	50	200	CN..1906..

Designation	Shim	Lever	Elastic pin	Screw	Wrench
					
PCBNR/L2020K12	ALSC 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PCBNR/L2525M12	ALSC 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PCBNR/L3232P12	ALSC 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PCBNR/L3232P16	ALSC 53	ALL 15	ALP 15	ALH08-250	AWH 3
PCBNR/L4040R16	ALSC 53	ALL 15	ALP 15	ALH08-250	AWH 3
PCBNR/L4040R19	ALSC 63	ALL 19	ALP 19	ALH10-273	AWH 4

PCKNR/L

Kr=75°



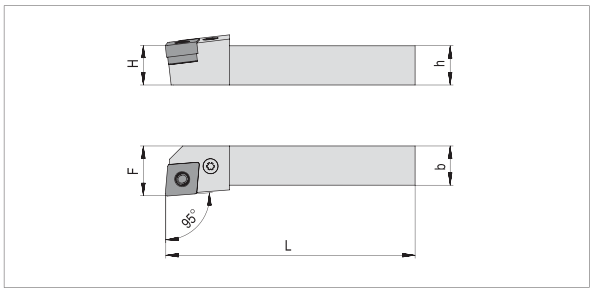


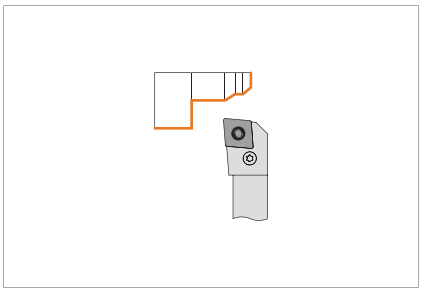
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
PCKNR/L2020K12	20	20	20	25	125	CN..1204..
PCKNR/L2525M12	25	25	25	32	150	CN..1204..
PCKNR/L3232P12	32	32	32	40	170	CN..1204..
PCKNR/L3232P16	32	32	32	40	170	CN..1606..
PCKNR/L4040R16	40	40	40	50	200	CN..1606..
PCKNR/L4040R19	40	40	40	50	200	CN..1906..

Designation	Shim	Lever	Elastic pin	Screw	Wrench
					
PCKNR/L2020K12	ALSC 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PCKNR/L2525M12	ALSC 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PCKNR/L3232P12	ALSC 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PCKNR/L3232P16	ALSC 53	ALL 15	ALP 15	ALH08-250	AWH 3
PCKNR/L4040R16	ALSC 53	ALL 15	ALP 15	ALH08-250	AWH 3
PCKNR/L4040R19	ALSC 63	ALL 19	ALP 19	ALH10-273	AWH 4

PCLNR/L

Kr=95°



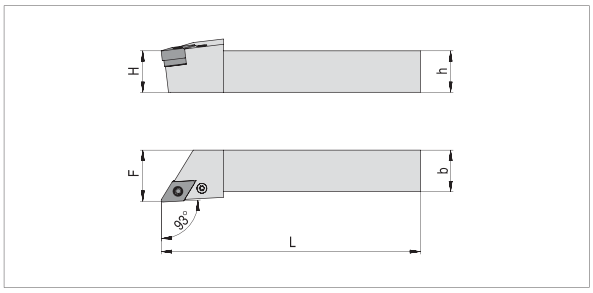


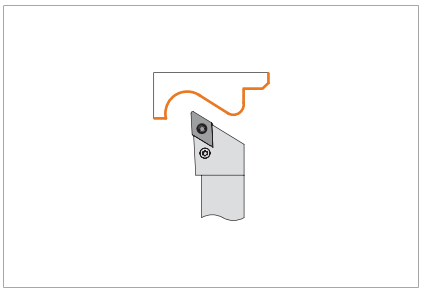
Designation	Dimensions (mm)					Inserts
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PCLNR/L1616H09	16	16	16	20	100	CN..0903..
PCLNR/L2020K09	20	20	20	25	125	CN..0903..
PCLNR/L2525M09	25	25	25	32	150	CN..0903..
PCLNR/L2020K12	20	20	20	25	125	CN..1204..
PCLNR/L2525M12	25	25	25	32	150	CN..1204..
PCLNR/L3232P12	32	32	32	40	170	CN..1204..
PCLNR/L2525M16	25	25	25	32	150	CN..1606..
PCLNR/L3232P16	32	32	32	40	170	CN..1606..
PCLNR/L3232P19	32	32	32	40	170	CN..1906..
PCLNR/L4040R19	40	40	40	50	200	CN..1906..

Designation	Shim	Lever	Elastic pin	Screw	Wrench
					
PCLNR/L1616H09	ALSC 32	ALL 0903	ALP 10	ALH06-170	AWH 2.5
PCLNR/L2020K09	ALSC 32	ALL 0903	ALP 10	ALH06-170	AWH 2.5
PCLNR/L2525M09	ALSC 32	ALL 0903	ALP 10	ALH06-170	AWH 2.5
PCLNR/L2020K12	ALSC 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PCLNR/L2525M12	ALSC 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PCLNR/L3232P12	ALSC 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PCLNR/L2525M16	ALSC 53	ALL 15	ALP 15	ALH08-250	AWH 3
PCLNR/L3232P16	ALSC 53	ALL 15	ALP 15	ALH08-250	AWH 3
PCLNR/L3232P19	ALSC 63	ALL 19	ALP 19	ALH10-273	AWH 4
PCLNR/L4040R19	ALSC 63	ALL 19	ALP 19	ALH10-273	AWH 4

PDJNR/L

Kr=93°



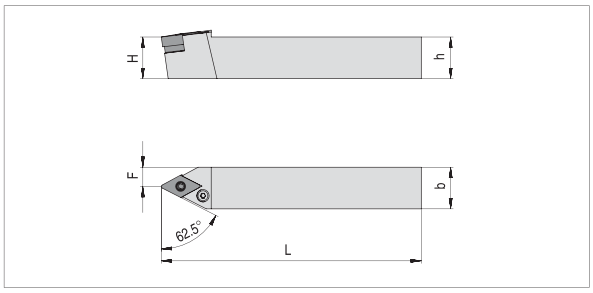


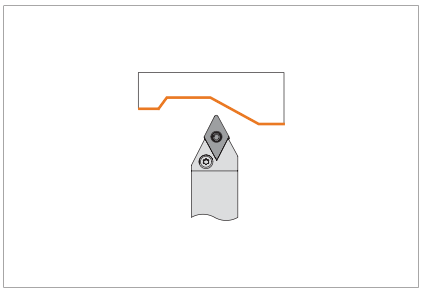
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
PDJNR/L1616H11	16	16	16	20	100	DN..1104..
PDJNR/L2020K11	20	20	20	25	125	DN..1104..
PDJNR/L2525M11	25	25	25	32	150	DN..1104..
PDJNR/L2020K15	20	20	20	25	125	DN..1506..
PDJNR/L2525M15	25	25	25	32	150	DN..1506..
PDJNR/L3232P15	32	32	32	40	170	DN..1506..
PDJNR/L2020K15	20	20	20	25	125	DN..1504..
PDJNR/L2525M15	25	25	25	32	150	DN..1504..
PDJNR/L3232P15	32	32	32	40	170	DN..1504..

Designation	Shim	Lever	Elastic pin	Screw	Wrench
					
PDJNR/L1616H11	ALSD 32	ALL 0903	ALP 09	ALH06-170	AWH 2.5
PDJNR/L2020K11	ALSD 32	ALL 0903	ALP 09	ALH06-170	AWH 2.5
PDJNR/L2525M11	ALSD 32	ALL 0903	ALP 09	ALH06-170	AWH 2.5
PDJNR/L2020K15	ALSD 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PDJNR/L2525M15	ALSD 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PDJNR/L3232P15	ALSD 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PDJNR/L2020K15	ALSD 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PDJNR/L2525M15	ALSD 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PDJNR/L3232P15	ALSD 42	ALL 1204	ALP 12	ALH08-210	AWH 3

PDNNN

Kr=62°30'



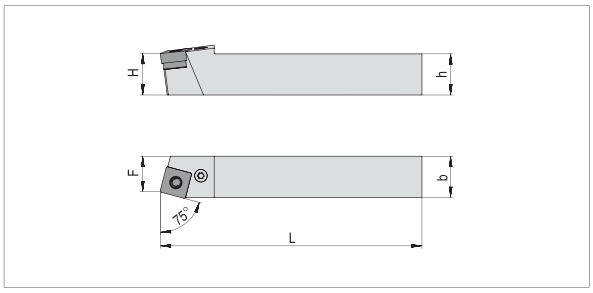


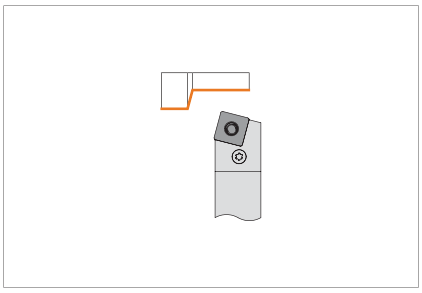
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
PDNNN2020K11	20	20	20	10	125	DN..1104..
PDNNN2525M11	25	25	25	12.5	150	DN..1104..
PDNNN2525M15	25	25	25	12.5	150	DN..1506..
PDNNN3232P15	32	32	32	16	170	DN..1506..
PDNNN2525M15	25	25	25	12.5	150	DN..1504..
PDNNN3232P15	32	32	32	16	170	DN..1504..

Designation	Shim	Lever	Elastic pin	Screw	Wrench
					
PDNNN2020K11	ALSD 32	ALL 0903	ALP 09	ALH06-170	AWH 2.5
PDNNN2525M11	ALSD 32	ALL 0903	ALP 09	ALH06-170	AWH 2.5
PDNNN2525M15	ALSD 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PDNNN3232P15	ALSD 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PDNNN2525M15	ALSD 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PDNNN3232P15	ALSD 42	ALL 1204	ALP 12	ALH08-210	AWH 3

PSBNR/L

Kr=75°



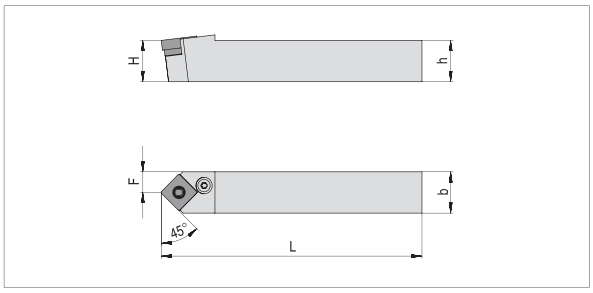


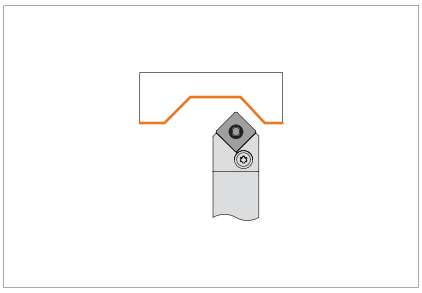
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
PSBNR/L2020K12	20	20	20	25	125	SN..1204..
PSBNR/L2525M12	25	25	25	32	150	SN..1204..
PSBNR/L3225P12	32	25	32	40	170	SN..1204..
PSBNR/L2525M15	25	25	25	32	150	SN..1506..
PSBNR/L3232P15	32	32	32	40	170	SN..1506..
PSBNR/L4040R15	40	40	40	50	200	SN..1506..
PSBNR/L3232P19	32	32	32	40	170	SN..1906..
PSBNR/L4040R19	40	40	40	50	200	SN..1906..

Designation	Shim	Lever	Elastic pin	Screw	Wrench
					
PSBNR/L2020K12	ALSD 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PSBNR/L2525M12	ALSD 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PSBNR/L3225P12	ALSD 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PSBNR/L2525M15	ALSD 53	ALL 15	ALP 15	ALH08-250	AWH 3
PSBNR/L3232P15	ALSD 53	ALL 15	ALP 15	ALH08-250	AWH 3
PSBNR/L4040R15	ALSD 53	ALL 15	ALP 15	ALH08-250	AWH 3
PSBNR/L3232P19	ALSD 63	ALL 19	ALP 19	ALH10-273	AWH 4
PSBNR/L4040R19	ALSD 63	ALL 19	ALP 19	ALH10-273	AWH 4

PSDNN

Kr=45°



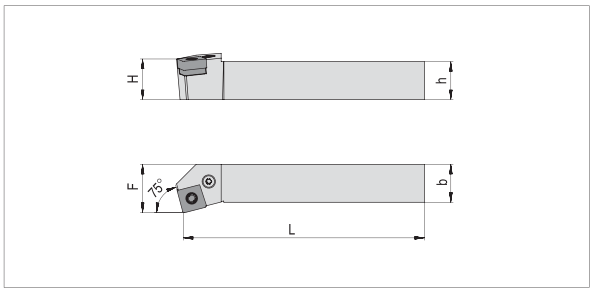


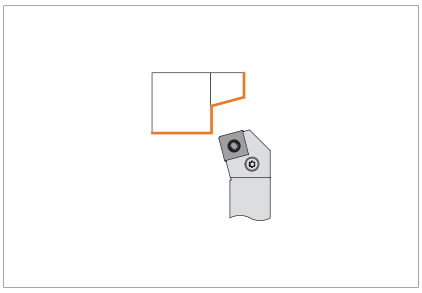
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
PSDNN2020K12	20	20	20	10	125	SN..1204..
PSDNN2525M12	25	25	25	12.5	150	SN..1204..
PSDNN3232P12	32	32	32	16	170	SN..1204..
PSDNN3232P15	32	32	32	16	170	SN..1506..

Designation	Shim	Lever	Elastic pin	Screw	Wrench
					
PSDNN2020K12	ALSS 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PSDNN2525M12	ALSS 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PSDNN3232P12	ALSS 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PSDNN3232P15	ALSS 53	ALL 15	ALP 15	ALH08-250	AWH 3

PSKNR/L

Kr=75°



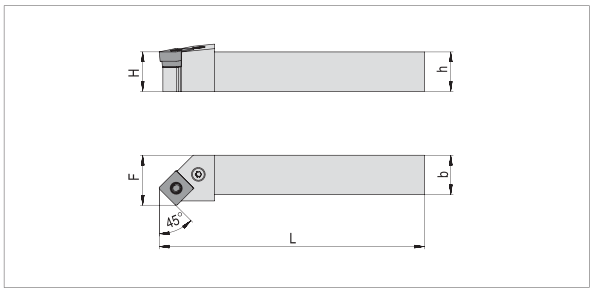


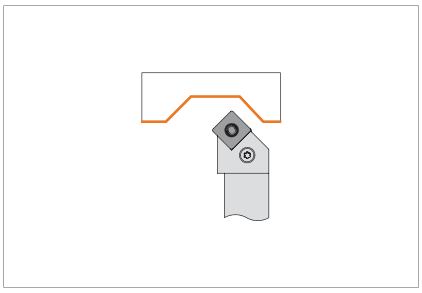
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
PSKNR/L2020K12	20	20	20	25	125	SN..1204..
PSKNR/L2525M12	25	25	25	32	150	SN..1204..
PSKNR/L3232P12	32	32	32	40	170	SN..1204..
PSKNR/L3232P15	32	32	32	40	170	SN..1506..
PSKNR/L4040R15	40	40	40	50	200	SN..1506..
PSKNR/L3232P19	32	32	32	40	170	SN..1906..
PSKNR/L4040R19	40	40	40	50	200	SN..1906..

Designation	Shim	Lever	Elastic pin	Screw	Wrench
					
PSKNR/L2020K12	ALSS 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PSKNR/L2525M12	ALSS 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PSKNR/L3232P12	ALSS 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PSKNR/L3232P15	ALSS 53	ALL 15	ALP 15	ALH08-250	AWH 3
PSKNR/L4040R15	ALSS 53	ALL 15	ALP 15	ALH08-250	AWH 3
PSKNR/L3232P19	ALSS 63	ALL 19	ALP 19	ALH10-273	AWH 4
PSKNR/L4040R19	ALSS 63	ALL 19	ALP 19	ALH10-273	AWH 4

PSSNR/L

Kr=45°



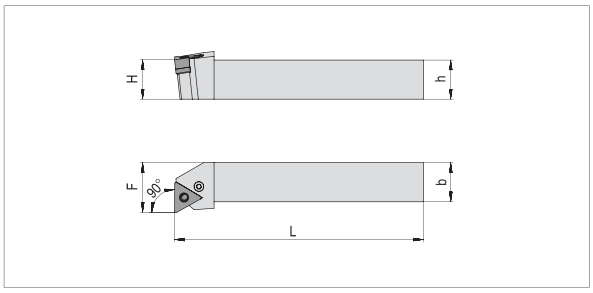


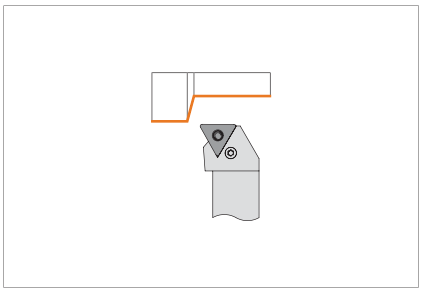
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
PSSNR/L2020K12	20	20	20	25	125	SN..1204..
PSSNR/L2525M12	25	25	25	32	150	SN..1204..
PSSNR/L3225P12	32	25	32	40	170	SN..1204..
PSSNR/L3232P15	32	32	32	40	170	SN..1506..
PSSNR/L4040R15	40	40	40	50	200	SN..1506..
PSSNR/L3232P19	32	32	32	40	170	SN..1906..
PSSNR/L4040R19	40	40	40	50	200	SN..1906..

Designation	Shim	Lever	Elastic pin	Screw	Wrench
					
PSSNR/L2020K12	ALSS 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PSSNR/L2525M12	ALSS 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PSSNR/L3225P12	ALSS 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PSSNR/L3232P15	ALSS 53	ALL 15	ALP 15	ALH08-250	AWH 3
PSSNR/L4040R15	ALSS 53	ALL 15	ALP 15	ALH08-250	AWH 3
PSSNR/L3232P19	ALSS 63	ALL 19	ALP 19	ALH10-273	AWH 4
PSSNR/L4040R19	ALSS 63	ALL 19	ALP 19	ALH10-273	AWH 4

PTFNR/L

Kr=90°



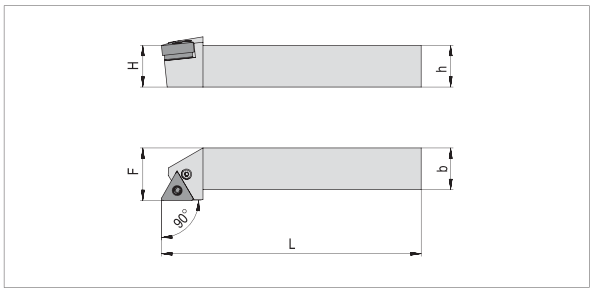


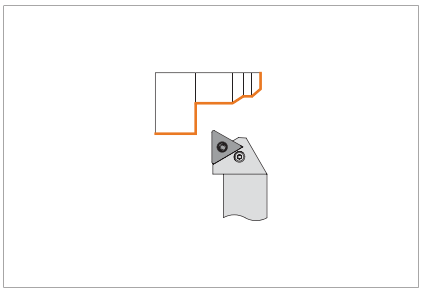
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
PTFNR/L2020K16	20	20	20	25	125	TN..1604..
PTFNR/L2525M16	25	25	25	32	150	TN..1604..
PTFNR/L3232P16	32	32	32	40	170	TN..1604..
PTFNR/L2525M22	25	25	25	32	150	TN..2204..
PTFNR/L3232P22	32	32	32	40	170	TN..2204..
PTFNR/L4040R22	40	40	40	50	200	TN..2204..

Designation	Shim	Lever	Elastic pin	Screw	Wrench
					
PTFNR/L2020K16	ALST 32	ALL 0903	ALP 09	ALH06-170	AWH 2.5
PTFNR/L2525M16	ALST 32	ALL 0903	ALP 09	ALH06-170	AWH 2.5
PTFNR/L3232P16	ALST 32	ALL 0903	ALP 09	ALH06-170	AWH 2.5
PTFNR/L2525M22	ALST 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PTFNR/L3232P22	ALST 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PTFNR/L4040R22	ALST 42	ALL 1204	ALP 12	ALH08-210	AWH 3

PTGNR/L

Kr=90°



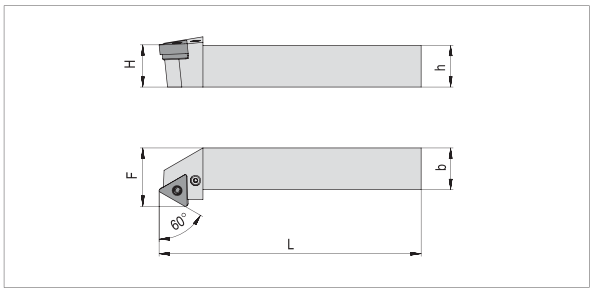


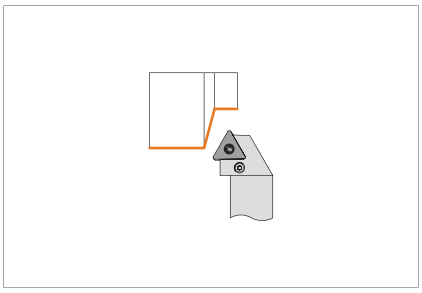
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
PTGNR/L2020K16	20	20	20	25	125	TN..1604..
PTGNR/L2525M16	25	25	25	32	150	TN..1604..
PTGNR/L3225P16	32	25	32	40	170	TN..1604..
PTGNR/L2525M22	25	25	25	32	150	TN..2204..
PTGNR/L3232P22	32	32	32	40	170	TN..2204..
PTGNR/L4040R22	40	40	40	50	200	TN..2204..

Designation	Shim	Lever	Elastic pin	Screw	Wrench
					
PTGNR/L2020K16	ALST 32	ALL 0903	ALP 09	ALH06-170	AWH 2.5
PTGNR/L2525M16	ALST 32	ALL 0903	ALP 09	ALH06-170	AWH 2.5
PTGNR/L3225P16	ALST 32	ALL 0903	ALP 09	ALH06-170	AWH 2.5
PTGNR/L2525M22	ALST 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PTGNR/L3232P22	ALST 42	ALL 1204	ALP 12	ALH08-210	AWH 3
PTGNR/L4040R22	ALST 42	ALL 1204	ALP 12	ALH08-210	AWH 3

PTTNR/L

Kr=60°



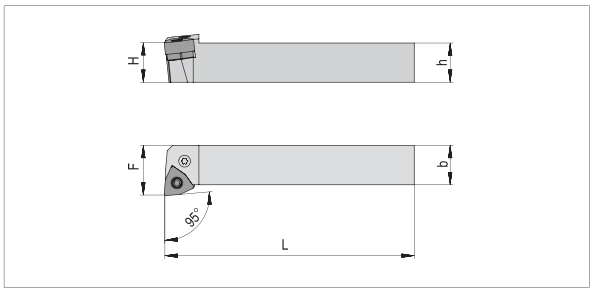


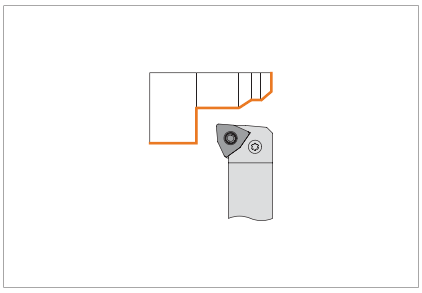
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
PTTNR/L2020K16	20	20	20	17	125	TN..1604..
PTTNR/L2525M16	25	25	25	22	150	TN..1604..
PTTNR/L3225P16	32	25	32	22	170	TN..1604..
PTTNR/L3232P22	32	32	32	27	170	TN..2204..

Designation	Shim	Lever	Elastic pin	Screw	Wrench
					
PTTNR/L2020K16	ALST 32	ALL 0903	ALP 09	ALH06-170	AWH 2.5
PTTNR/L2525M16	ALST 32	ALL 0903	ALP 09	ALH06-170	AWH 2.5
PTTNR/L3225P16	ALST 32	ALL 0903	ALP 09	ALH06-170	AWH 2.5
PTTNR/L3232P22	ALST 42	ALL 1204	ALP 12	ALH08-210	AWH 3

PWLNR/L

Kr=95°



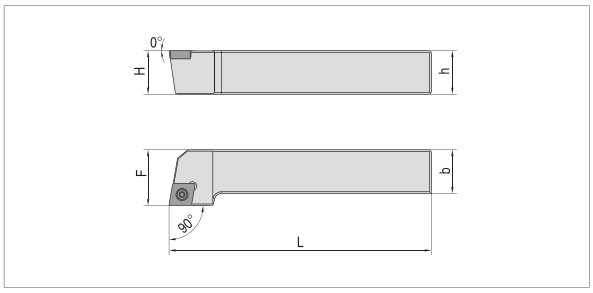


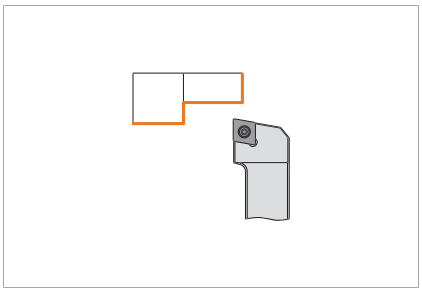
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
PWLNR/L1616H06	16	16	16	20	100	WN..0604..
PWLNR/L2020K06	20	20	20	25	125	WN..0604..
PWLNR/L2525M06	25	25	25	32	150	WN..0604..
PWLNR/L2020K08	20	20	20	25	125	WN..0804..
PWLNR/L2525M08	25	25	25	32	150	WN..0804..
PWLNR/L3232P08	32	32	32	40	170	WN..0804..

Designation	Shim	Lever	Elastic pin	Screw	Wrench
					
PWLNR/L1616H06	ALSW 32	ALL 0903	ALP 09	ALH06-170	AWH 2.5
PWLNR/L2020K06	ALSW 32	ALL 0903	ALP 09	ALH06-170	AWH 2.5
PWLNR/L2525M06	ALSW 32	ALL 0903	ALP 09	ALH06-170	AWH 2.5
PWLNR/L2020K08	ALSW 43	ALL 1204	ALP 12	ALH08-210	AWH 3
PWLNR/L2525M08	ALSW 43	ALL 1204	ALP 12	ALH08-210	AWH 3
PWLNR/L3232P08	ALSW 43	ALL 1204	ALP 12	ALH08-210	AWH 3

SCGCR/L

Kr=90°



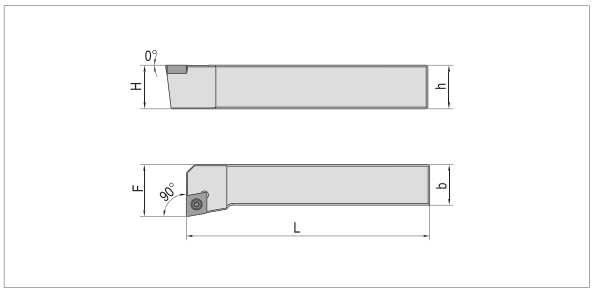


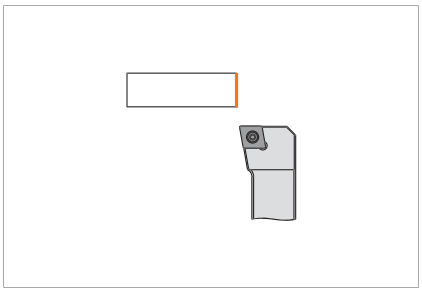
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
SCGCR/L1616H09	16	16	16	20	100	CC..09T3..
SCGCR/L2020K09	20	20	20	25	125	CC..09T3..
SCGCR/L2525M09	25	25	25	32	150	CC..09T3..
SCGCR/L2525M12	25	25	25	32	150	CC..1204..

Designation	Screw	Wrench
		
SCGCR/L1616H09	AST035-80	AWF-T15
SCGCR/L2020K09	AST035-80	AWF-T15
SCGCR/L2525M09	AST035-80	AWF-T15
SCGCR/L2525M12	AST040-110	AWF-T15

SCFCR/L

Kr=90°



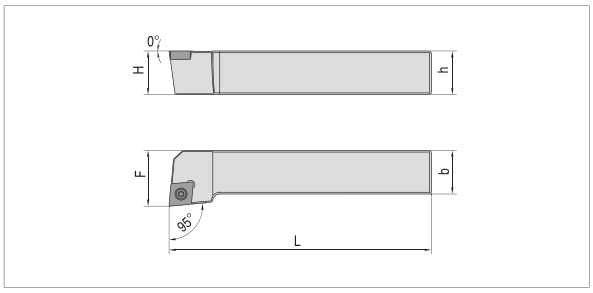


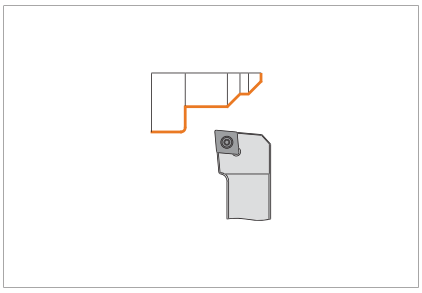
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
SCFCR/L1212F09	12	12	12	16	80	CC..09T3..
SCFCR/L1616H09	16	16	16	20	100	CC..09T3..
SCFCR/L2020K09	20	20	20	25	125	CC..09T3..
SCFCR/L2525M09	25	25	25	32	150	CC..09T3..
SCFCR/L2525M12	25	25	25	32	150	CC..1204..

Designation	Screw	Wrench
		
SCFCR/L1212F09	AST035-80	AWF-T15
SCFCR/L1616H09	AST035-80	AWF-T15
SCFCR/L2020K09	AST035-80	AWF-T15
SCFCR/L2525M09	AST035-80	AWF-T15
SCFCR/L2525M12	AST040-110	AWF-T15

SCLCR/L

Kr=95°



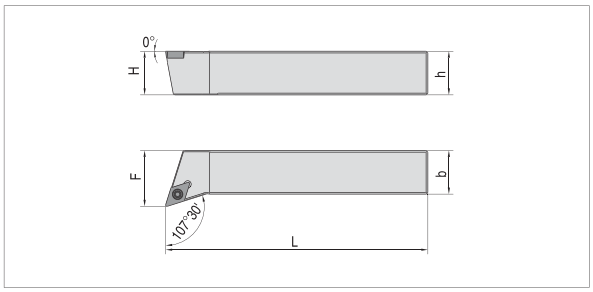


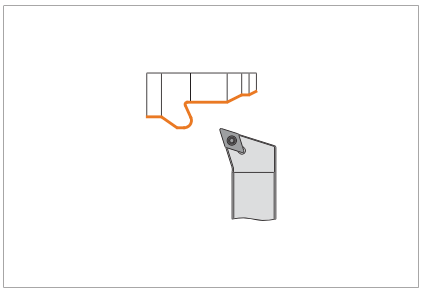
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
SCLCR/L0808D06	8	8	8	10	60	CC..0602..
SCLCR/L1010E06	10	10	10	12	70	CC..0602..
SCLCR/L1212F06	12	12	12	16	80	CC..0602..
SCLCR/L1616H06	16	16	16	20	100	CC..0602..
SCLCR/L1212F09	12	12	12	16	80	CC..09T3..
SCLCR/L1616H09	16	16	16	20	100	CC..09T3..
SCLCR/L2020K09	20	20	20	25	125	CC..09T3..
SCLCR/L2525M09	25	25	25	32	150	CC..09T3..
SCLCR/L2020K12	20	20	20	25	125	CC..1204..
SCLCR/L2525M12	25	25	25	32	150	CC..1204..

Designation	Screw	Wrench
		
SCLCR/L0808D06	AST025-65	AWF-T07
SCLCR/L1010E06	AST025-65	AWF-T07
SCLCR/L1212F06	AST025-65	AWF-T07
SCLCR/L1616H06	AST025-65	AWF-T07
SCLCR/L1212F09	AST035-80	AWF-T15
SCLCR/L1616H09	AST035-80	AWF-T15
SCLCR/L2020K09	AST035-80	AWF-T15
SCLCR/L2525M09	AST035-80	AWF-T15
SCLCR/L2020K12	AST040-110	AWT-T15
SCLCR/L2525M12	AST040-110	AWT-T15

SDHCR/L

Kr=107°30'



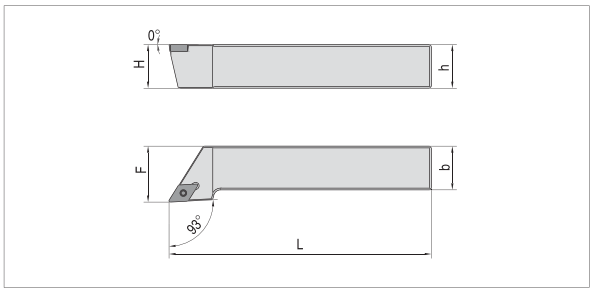


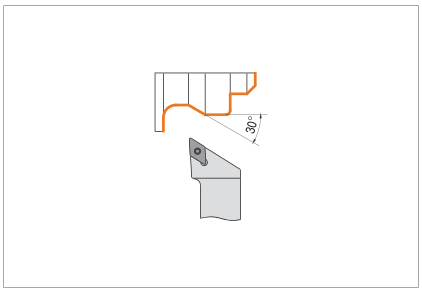
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
SDHCR/L1616H11	16	16	16	20	100	DC..11T3..
SDHCR/L2020K11	20	20	20	25	125	DC..11T3..
SDHCR/L2525M11	25	25	25	32	150	DC..11T3..

Designation	Screw	Wrench
		
SDHCR/L1616H11	AST035-80	AWF-T15
SDHCR/L2020K11	AST035-80	AWF-T15
SDHCR/L2525M11	AST035-80	AWF-T15

SDJCR/L

Kr=93°



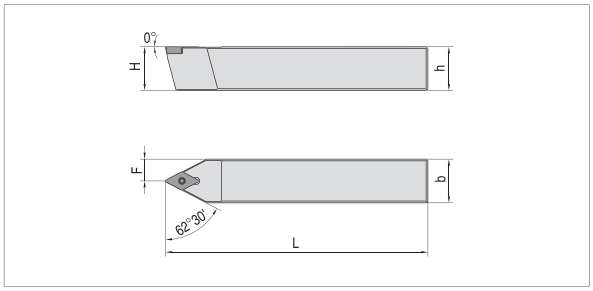


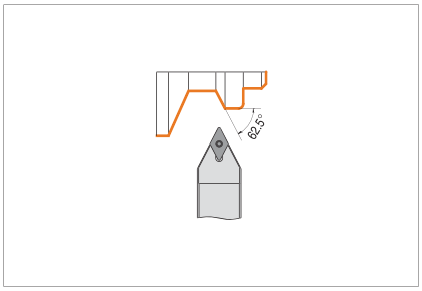
Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
SDJCR/L1616H07	16	16	16	20	100	DC..0702..
SDJCR/L2020K07	20	20	20	25	125	DC..0702..
SDJCR/L2525M07	25	25	25	32	150	DC..0702..
SDJCR/L1616H11	16	16	16	20	100	DC..11T3..
SDJCR/L2020K11	20	20	20	25	125	DC..11T3..
SDJCR/L2525M11	25	25	25	32	150	DC..11T3..

Designation	Screw	Wrench
		
SDJCR/L1616H07	AST025-65	AWF-T07
SDJCR/L2020K07	AST025-65	AWF-T07
SDJCR/L2525M07	AST025-65	AWF-T07
SDJCR/L1616H11	AST035-80	AWF-T15
SDJCR/L2020K11	AST035-80	AWF-T15
SDJCR/L2525M11	AST035-80	AWF-T15

SDNCN

Kr=62°30'

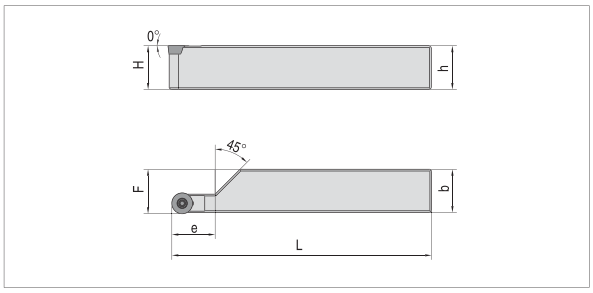


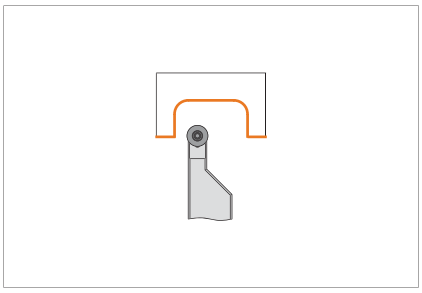


Designation	Dimensions (mm)					Inserts
	h	b	H	F	L	
SDNCN1616H07	16	16	16	8	100	DC..0702..
SDNCN2020K07	20	20	20	10	125	DC..0702..
SDNCN2525M07	25	25	25	12.5	150	DC..0702..
SDNCN1616H11	16	16	16	8	100	DC..11T3..
SDNCN2020K11	20	20	20	10	125	DC..11T3..
SDNCN2525M11	25	25	25	12.5	150	DC..11T3..

Designation	Screw	Wrench
		
SDNCN1616H07	AST025-65	AWF-T07
SDNCN2020K07	AST025-65	AWF-T07
SDNCN2525M07	AST025-65	AWF-T07
SDNCN1616H11	AST035-80	AWF-T15
SDNCN2020K11	AST035-80	AWF-T15
SDNCN2525M11	AST035-80	AWF-T15

SRACR/L

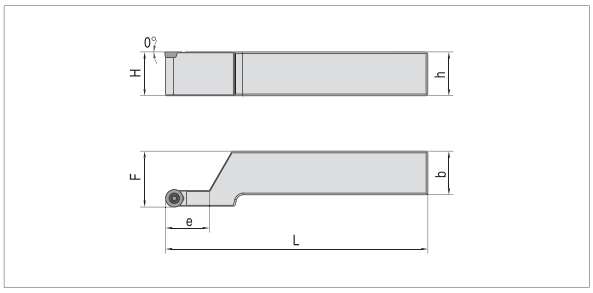


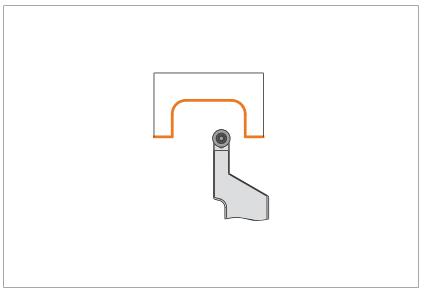


Designation	Dimensions (mm)						Inserts
	h	b	H	F	e	L	
SRACR/L2020K06	20	20	20	20	16	125	RC.T0602MO
SRACR/L2525M06	25	25	25	25	16	150	RC.T0602MO
SRACR/L2020K08	20	20	20	20	20	125	RC.T0803MO
SRACR/L2525M08	25	25	25	25	20	150	RC.T0803MO
SRACR/L2525M10	25	25	25	25	25	150	RC.T1003MO
SRACR/L3232P10	32	32	32	32	25	170	RC.T1003MO

Designation	Screw	Wrench
		
SRACR/L2020K06	SIC025065	FT07
SRACR/L2525M06	SIC025065	FT07
SRACR/L2020K08	SIC030072	FT09
SRACR/L2525M08	SIC030072	FT09
SRACR/L2525M10	SIC035080	FT15
SRACR/L3232P10	SIC035080	FT15

SRCCR/L

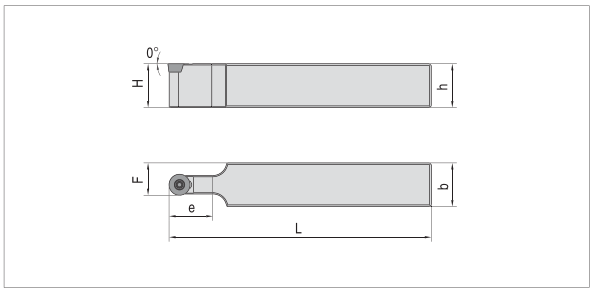


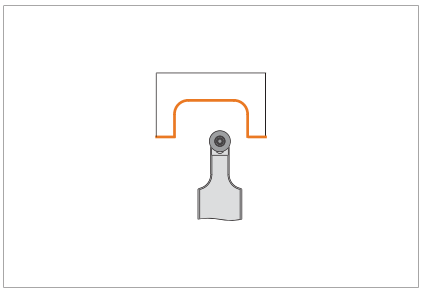


Designation	Dimensions (mm)						Inserts
	h	b	H	F	e	L	
SRCCR/L2020K06	20	20	20	25	20	125	RC.T0602MO
SRCCR/L2525M06	25	25	25	32	20	150	RC.T0602MO
SRCCR/L2525M10	25	25	25	32	25	150	RC.T1003MO

Designation	Screw	Wrench
		
SRCCR/L2020K06	SIC025065	FT07
SRCCR/L2525M06	SIC025065	FT07
SRCCR/L2525M10	SIC035080	FT15

SRDCN

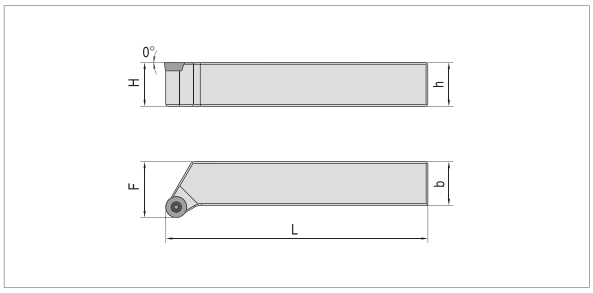


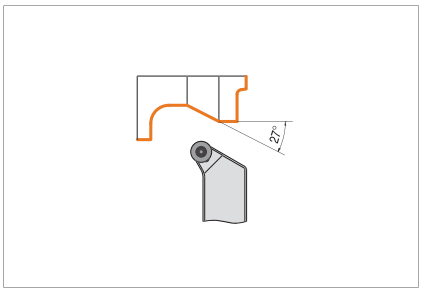


Designation	Dimensions (mm)						Inserts
	h	b	H	F	e	L	
SRDCN1616H06	16	16	16	11	16	100	RC.T0602MO
SRDCN2020K06	20	20	20	13	16	125	RC.T0602MO
SRDCN2525M06	25	25	25	15.5	16	150	RC.T0602MO
SRDCN1616H08	16	16	16	12	12	100	RC.T0803MO
SRDCN2020K08	20	20	20	14	20	125	RC.T0803MO
SRDCN2525M08	25	25	25	16.5	20	150	RC.T0803MO
SRDCN1616H10	16	16	16	13	16	100	RC.T1003MO
SRDCN2020K10	20	20	20	15	20	125	RC.T1003MO
SRDCN2525M10	25	25	25	17.5	25	150	RC.T1003MO
SRDCN3232P10	32	32	32	21	25	170	RC.T1003MO
SRDCN2525M12	25	25	25	18.5	25	150	RC.T1204MO
SRDCN3225P12	32	25	32	18.5	25	170	RC.T1204MO
SRDCN3225P16	32	25	32	20.5	25	170	RC.T1606MO

Designation	Screw	Wrench
		
SRDCN1616H06	SIC025065	FT07
SRDCN2020K06	SIC025065	FT07
SRDCN2525M06	SIC025065	FT07
SRDCN1616H08	SIC030072	FT09
SRDCN2020K08	SIC030072	FT09
SRDCN2525M08	SIC030072	FT09
SRDCN1616H10	SIC035080	FT15
SRDCN2020K10	SIC035080	FT15
SRDCN2525M10	SIC035080	FT15
SRDCN3232P10	SIC035080	FT15
SRDCN2525M12	SIC035080	FT15
SRDCN3225P12	SIC035080	FT15
SRDCN3225P16	SIC050108	FT20

SRGCR/L



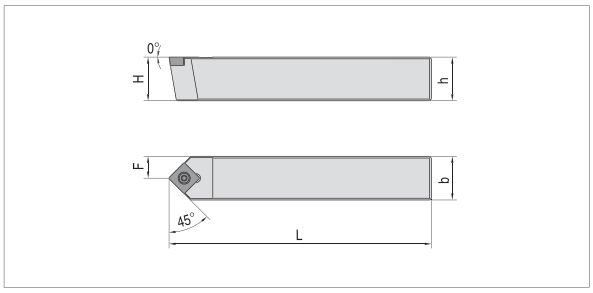


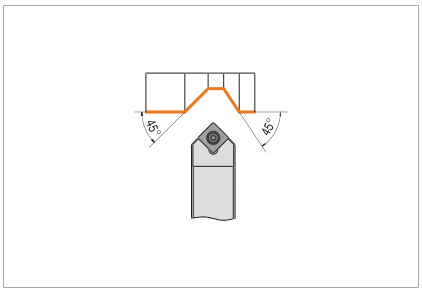
Designation	Dimensions(mm)					Insert
	h	b	H	F	L	
SRGCR/L2020K08	20	20	20	25	125	RC.T0803MO
SRGCR/L2525M08	25	25	25	32	150	RC.T0803MO
SRGCR/L2525M10	25	25	25	32	150	RC.T1003MO
SRGCR/L3232P10	32	32	32	40	170	RC.T1003MO
SRGCR/L2525M12	25	25	25	32	150	RC.T1204MO
SRGCR/L3232P16	32	32	32	40	170	RC.T1606MO
SRGCR/L3232P20	32	32	32	40	170	RC.T2006MO

Designation	Screw	Wrench
		
SRGCR/L2020K08	AST030-72	AWF-T09
SRGCR/L2525M08	AST030-72	AWF-T09
SRGCR/L2525M10	AST035-80	AWF-T15
SRGCR/L3232P10	AST035-80	AWF-T15
SRGCR/L2525M12	AST035-80	AWF-T15
SRGCR/L3232P16	AST050-108	AWF-T20
SRGCR/L3232P20	AST060-120	AWF-T25

SSDCN

Kr=45°



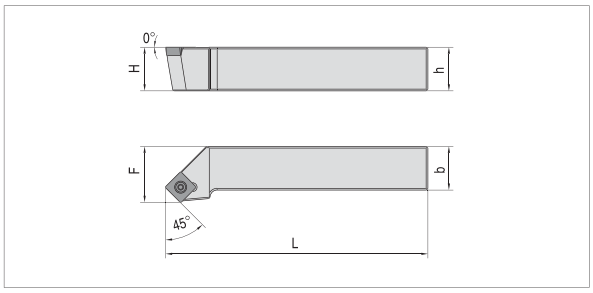


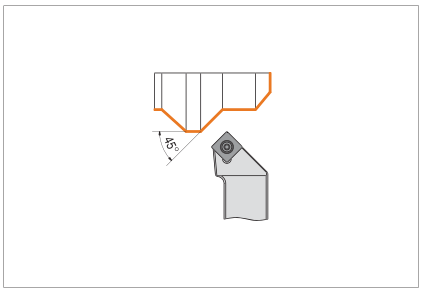
Designation	Dimensions(mm)					Insert
	h	b	H	F	L	
SSDCN1212F09	12	12	12	6	80	SC..09T3..
SSDCN1616H09	16	16	16	8	100	SC..09T3..
SSDCN2020K09	20	20	20	10	125	SC..09T3..
SSDCN2020K12	20	20	20	10	125	SC..1204..
SSDCN2525M12	25	25	25	12.5	150	SC..1204..

Designation	Screw	Wrench
		
SSDCN1212F09	AST035-80	AWF-T15
SSDCN1616H09	AST035-80	AWF-T15
SSDCN2020K09	AST035-80	AWF-T15
SSDCN2020K12	AST040-110	AWF-T15
SSDCN2525M12	AST040-110	AWF-T15

SSSCR/L

Kr=45°



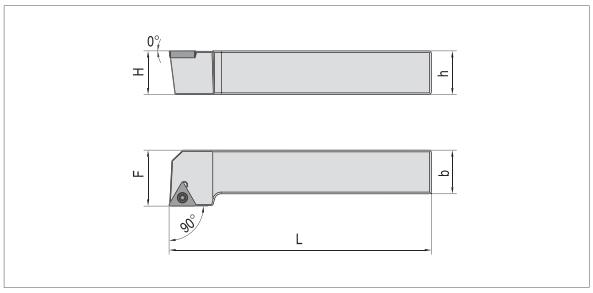


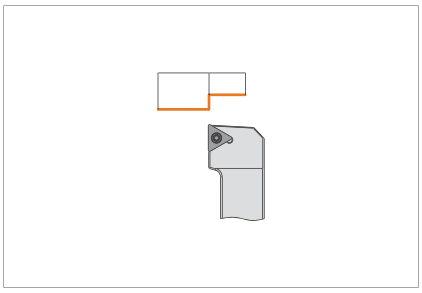
Designation	Dimensions(mm)					Insert
	h	b	H	F	L	
SSSCR/L2020K09	20	20	20	25	125	SC..09T3..
SSSCR/L2525M09	25	25	25	32	150	SC..09T3..
SSSCR/L2020K12	20	20	20	25	125	SC..1204..
SSSCR/L2525M12	25	25	25	32	150	SC..1204..

Designation	Screw	Wrench
		
SSSCR/L2020K09	AST035-80	AWF-T15
SSSCR/L2525M09	AST035-80	AWF-T15
SSSCR/L2020K12	AST040-110	AWF-T15
SSSCR/L2525M12	AST040-110	AWF-T15

STGCR/L

Kr=90°



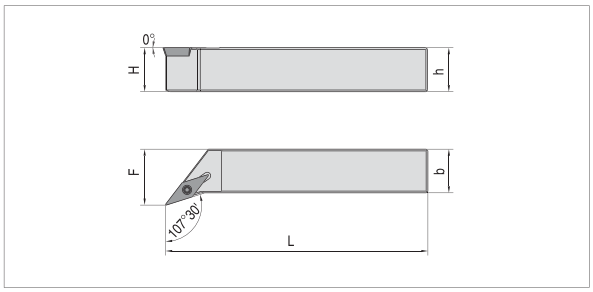


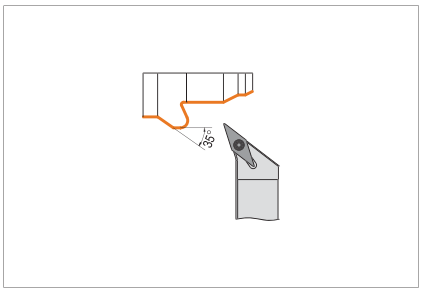
Designation	Dimensions(mm)					Insert
	h	b	H	F	L	
STGCR/L1616H11	16	16	16	20	100	TC/TP..1102..
STGCR/L2020K11	20	20	20	25	125	TC/TP..1102..
STGCR/L2525M11	25	25	25	32	150	TC/TP..1102..
STGCR/L1616H16	16	16	16	20	100	TC/TP..16T3..
STGCR/L2020K16	20	20	20	25	125	TC/TP..16T3..
STGCR/L2525M16	25	25	25	32	150	TC/TP..16T3..

Designation	Screw	Wrench
		
STGCR/L1616H11	AST025-65	AWF-T07
STGCR/L2020K11	AST025-65	AWF-T07
STGCR/L2525M11	AST025-65	AWF-T07
STGCR/L1616H16	AST035-80	AWF-T15
STGCR/L2020K16	AST035-80	AWF-T15
STGCR/L2525M16	AST035-80	AWF-T15

SVHCR/L

Kr=107°30'



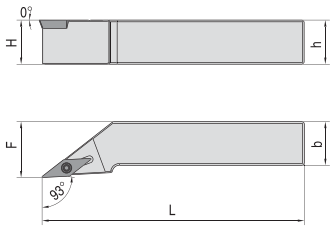


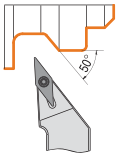
Designation	Dimensions(mm)					Insert
	h	b	H	F	L	
SVHCR/L2525M11	25	25	25	32	150	VB/VC ..1103..
SVHCR/L2525M16	25	25	25	32	150	VB/VC ..1604..

Designation	Screw	Wrench
		
SVHCR/L2525M11	AST025-65	AWF-T07
SVHCR/L2525M16	AST035-80	AWF-T15

SVJCR/L

Kr=93°



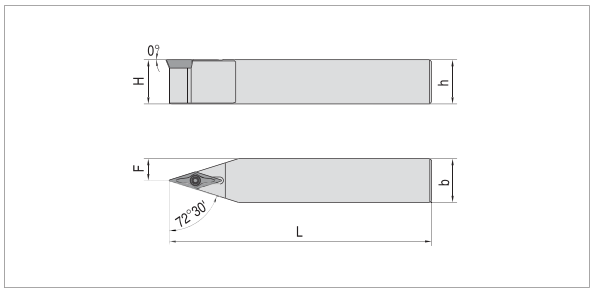


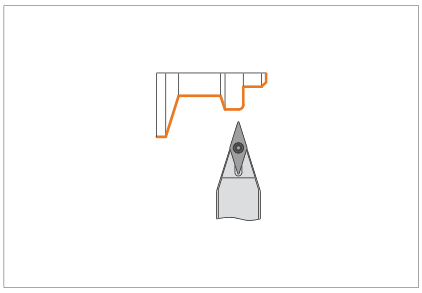
Designation	Dimensions(mm)					Insert
	h	b	H	F	L	
SVJCR/L1212F11	12	12	12	16	80	VB/VC ..1103..
SVJCR/L1616H11	16	16	16	20	100	VB/VC ..1103..
SVJCR/L2020K11	20	20	20	25	125	VB/VC ..1103..
SVJCR/L2525M11	25	25	25	32	150	VB/VC ..1103..
SVJCR/L2020K16	20	20	20	25	125	VB/VC ..1604..
SVJCR/L2525M16	25	25	25	32	150	VB/VC ..1604..

Designation	Screw	Wrench
		
SVJCR/L1212F11	AST025-65	AWF-T07
SVJCR/L1616H11	AST025-65	AWF-T07
SVJCR/L2020K11	AST025-65	AWF-T07
SVJCR/L2525M11	AST025-65	AWF-T07
SVJCR/L2020K16	AST035-80	AWF-T15
SVJCR/L2525M16	AST035-80	AWF-T15

SVVCN

Kr=72°30'





Designation	Dimensions(mm)					Insert
	h	b	H	F	L	
SVVCN1616H11	16	16	16	8	100	VB/VC ..1103..
SVVCN2020K11	20	20	20	10	125	VB/VC ..1103..
SVVCN2525M11	25	25	25	12.5	150	VB/VC ..1103..
SVVCN2020K16	20	20	20	10	125	VB/VC ..1604..
SVVCN2525M16	25	25	25	12.5	150	VB/VC ..1604..

Designation	Screw	Wrench
		
SVVCN1616H11	AST025-65	AWF-T07
SVVCN2020K11	AST025-65	AWF-T07
SVVCN2525M11	AST025-65	AWF-T07
SVVCN2020K16	AST035-80	AWF-T15
SVVCN2525M16	AST035-80	AWF-T15

ACHTECK

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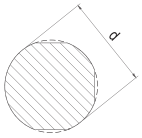
Internal Turning Holders

Internal Turning Toolholder Designation System

A	25	R	P	C
1	2	3	4	5

1- Holder Structure
A: Steel shank with internal coolant
C: Carbide shank with steel head
E: Carbide shank with steel head and internal coolant
S: Steel shank
X: Special

2- Holder Diameter(mm)



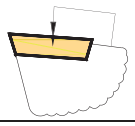
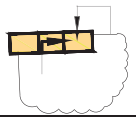
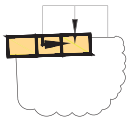
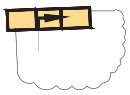
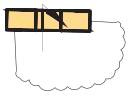
06 = 6	20 = 20
08 = 8	25 = 25
10 = 10	32 = 32
12 = 12	40 = 40
16 = 16	50 = 50

3- Holder Length(mm)

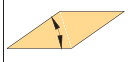


F = 80	S = 250
H = 100	T = 300
K = 125	U = 350
M = 150	V = 400
P = 170	W = 450
Q = 180	Y = 500
R = 200	X = special

4- Insert Clamping Type

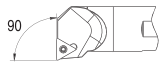
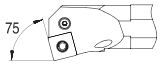
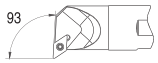
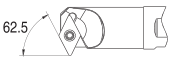
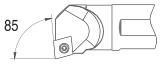
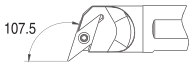
C: Plate clamping	M: Multi clamping	D: Top clamping	P: Lever clamping	S: Screw clamping
				

5- Insert Shape/Code

C	D	H	K	O	R	S	T	V	W
									
80°	55°	120°	55°	135°	360°	90°	60°	35°	80°

L	N	R	12	-
6	7	8	9	10

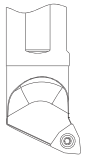
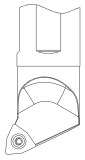
6- Tool Type and Approach Angle

F		S		K		U	
L		W		Y		Q	

7- Clearance Angle

A	B	C	D	E
				
F	G	P	N	O
				Other clearance angle

8- Hand of Tool

Right	
Left	

9- Length of Cutting edge

C、D、E、M、V	A、B、K	H	L
			

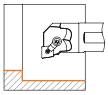
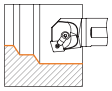
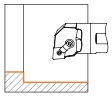
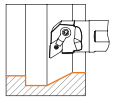
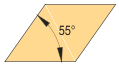
O	P	R	S	T	W
					

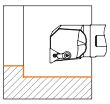
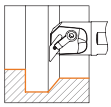
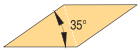
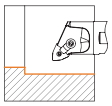
10- Designation for Special

Defined by manufacturer, may use figure and letter to represent. But need to use bar(-) to separate from designation.

Overview of Internal Turning Toolholders

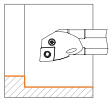
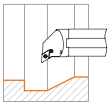
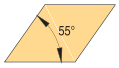
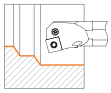
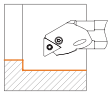
Negative Inserts

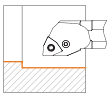
MCFNR/L		MCKNR/L		MCLNR/L		MDUNR/L	
90°	CN..	75°	CN..	95°	CN..	93°	DN..
							
	12		12		12		11
					16		15

MTFNR/L		MVUNR/L		MWLNR/L	
90°	TN..	93°	VN..	95°	WN..
					
16		16		08	

Overview of Internal Turning Toolholders

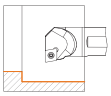
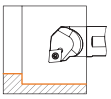
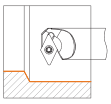
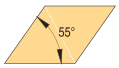
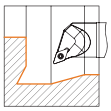
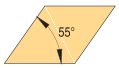
Negative Inserts

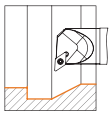
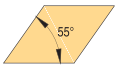
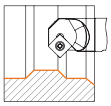
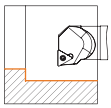
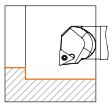
PCLNR/L		PDUNR/L		PSKNR/L		PTFNR/L	
95°	CN..	93°	DN..	45°	SN..	90°	TN..
							
	09		11		12		16
	12		15		15		
	16				19		
	19						

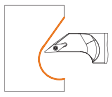
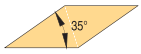
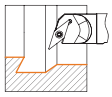
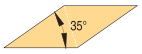
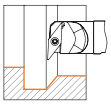
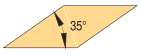
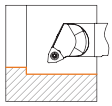
PWLNR/L	
95°	WN..
	
	06
	08

Overview of Internal Turning Toolholders

Positive Inserts

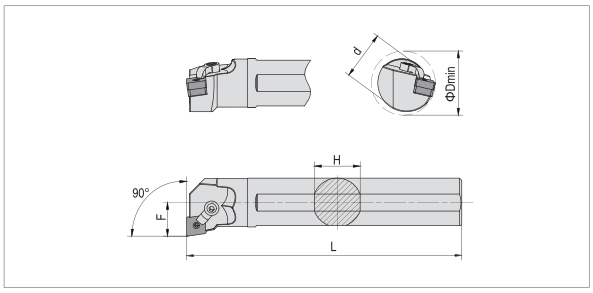
SCFCR/L		SCLCR/L		SDNCR/L		SDQCR/L	
90°	CC..	95°	CC..	62°30'	DC..	107°30'	DC..
							
	06		06		07		07
	09		09		11		11
	12		12				

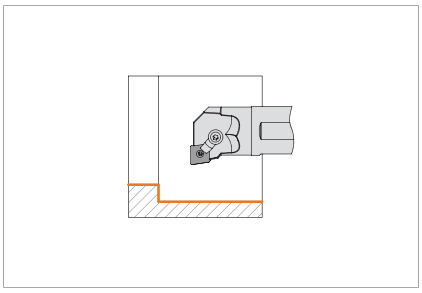
SDUCR/L		SSSCR/L		STFCR/L		STLCR/L	
93°	DC..	45°	SC..	90°	TC..	93°	TC..
							
	07		09		11		11
	11		12		16		16

SVJCR/L		SVQCR/L		SVUCR/L		SWLCR/L	
93°	VC..	107°30'	VC..	93°	VC..	95°	WC..
							
	11		11		11		04
			16		16		06

MCFNR/L

Kr=90°



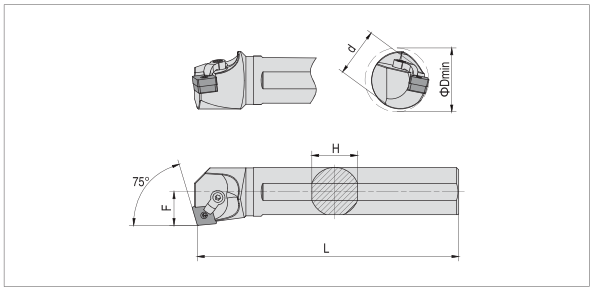


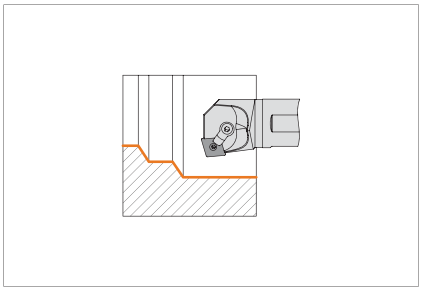
Designation	Dimensions (mm)					Inserts
	d	F	L	h	Dmin	
S25R-MCFNR/L12	25	17	200	23	32	CN..1204..
S25T-MCFNR/L12	25	17	300	23	32	CN..1204..
S32S-MCFNR/L12	32	22	250	30	40	CN..1204..
S32U-MCFNR/L12	32	22	350	30	40	CN..1204..
S40T-MCFNR/L12	40	27	300	37	50	CN..1204..
S50U-MCFNR/L12	50	35	350	46	63	CN..1204..

Designation	Shim	Pin	Elastic pin	Clamping plate	Screw	Wrench
						
S25R-MCFNR/L12	AMSC 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8
S25T-MCFNR/L12	AMSC 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8
S32S-MCFNR/L12	AMSC 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8
S32U-MCFNR/L12	AMSC 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8
S40T-MCFNR/L12	AMSC 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8
S50U-MCFNR/L12	AMSC 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8

MCKNR/L

Kr=75°



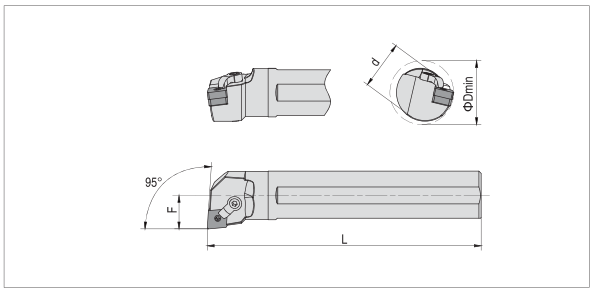


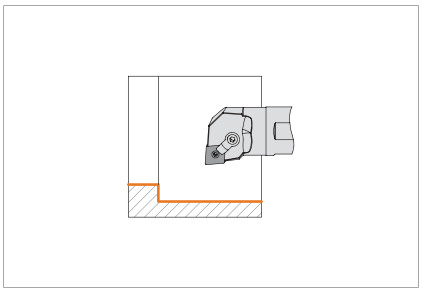
Designation	Dimensions (mm)					Inserts
	d	F	L	h	Dmin	
S32S-MCKNR/L12	32	22	250	30	40	CN..1204..
S40T-MCKNR/L12	40	27	300	37	50	CN..1204..

Designation	Shim	Pin	Elastic pin	Clamping plate	Screw	Wrench
						
S32S-MCKNR/L12	AMSC 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8
S40T-MCKNR/L12	AMSC 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8

MCLNR/L

Kr=95°



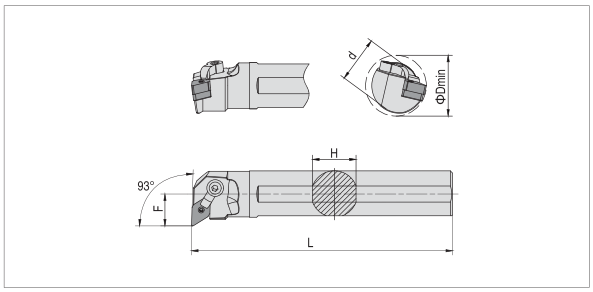


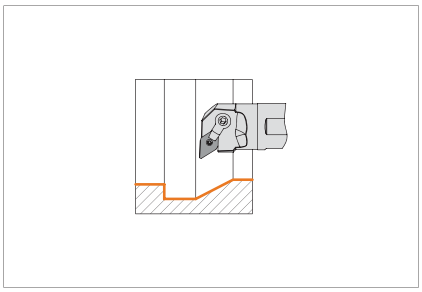
Designation	Dimensions (mm)					Inserts
	d	F	L	h	Dmin	
S25R-MCLNR/L12	25	17	200	23	32	CN..1204..
S25T-MCLNR/L12	25	17	300	23	32	CN..1204..
S32S-MCLNR/L12	32	22	250	30	40	CN..1204..
S32U-MCLNR/L12	32	22	350	30	40	CN..1204..
S40T-MCLNR/L12	40	27	300	37	50	CN..1204..
S40V-MCLNR/L12	40	27	400	37	50	CN..1204..
S50U-MCLNR/L12	50	35	350	46	63	CN..1204..
S50W-MCLNR/L12	50	35	450	46	63	CN..1204..
S40T-MCLNR/L16	40	27	300	37	50	CN..1606..
S40V-MCLNR/L16	40	27	400	37	50	CN..1606..
S50U-MCLNR/L16	50	35	350	46	63	CN..1606..
S50W-MCLNR/L16	50	35	450	46	63	CN..1606..

Designation	Shim	Pin	Wrench	Clamping plate	Screw	Wrench
						
S25R-MCLNR/L12	-	AMP 44	AWH03-32	ACL 20	AMH 48	AWH01-8
S25T-MCLNR/L12	-	AMP 44	AWH03-32	ACL 20	AMH 48	AWH01-8
S32S-MCLNR/L12	AMSC 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8
S32U-MCLNR/L12	AMSC 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8
S40T-MCLNR/L12	AMSC 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8
S40V-MCLNR/L12	AMSC 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8
S50U-MCLNR/L12	AMSC 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8
S50W-MCLNR/L12	AMSC 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8
S40T-MCLNR/L16	AMSC 53	AMP 58	AWH01-8	ACL 12	AMH 510	AWH05-32
S40V-MCLNR/L16	AMSC 53	AMP 58	AWH01-8	ACL 12	AMH 510	AWH05-32
S50U-MCLNR/L16	AMSC 53	AMP 58	AWH01-8	ACL 12	AMH 510	AWH05-32
S50W-MCLNR/L16	AMSC 53	AMP 58	AWH01-8	ACL 12	AMH 510	AWH05-32

MDUNR/L

Kr=93°



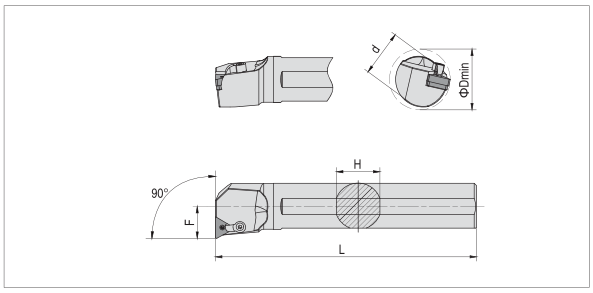


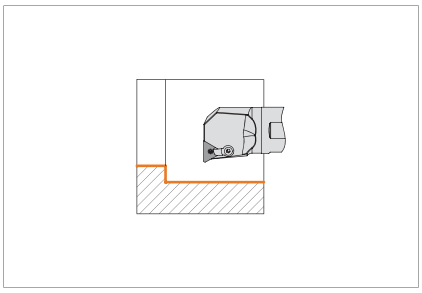
Designation	Dimensions (mm)					Inserts
	d	F	L	h	Dmin	
S25R-MDUNR/L11	25	17	200	23	32	DN..1104..
S32S-MDUNR/L11	32	22	250	30	40	DN..1104..
S32S-MDUNR/L15	32	22	250	30	40	DN..1506..
S40T-MDUNR/L15	40	27	300	37	50	DN..1506..
S50U-MDUNR/L15	50	35	350	46	63	DN..1506..
S32S-MDUNR/L15	32	22	250	30	40	DN..1504..
S40T-MDUNR/L15	40	27	300	37	50	DN..1504..
S50U-MDUNR/L15	50	35	350	46	63	DN..1504..

Designation	Shim	Pin	Wrench	Clamping plate	Screw	Wrench
						
S25R-MDUNR/L11	-	AMP 33L	AWH05-64	ACL 20	AMH 48	AWH01-8
S32S-MDUNR/L11	AMSD 32	AMP 34L	AWH05-64	ACL 20	AMH 48	AWH01-8
S32S-MDUNR/L15	AMSD 43	AMP 46L	AWH03-32	ACL 12	AMH 510	AWH05-32
S40T-MDUNR/L15	AMSD 43	AMP 46L	AWH03-32	ACL 12	AMH 510	AWH05-32
S50U-MDUNR/L15	AMSD 43	AMP 46L	AWH03-32	ACL 12	AMH 510	AWH05-32
S32S-MDUNR/L15	AMSD 44	AMP 46L	AWH03-32	ACL 12	AMH 510	AWH05-32
S40T-MDUNR/L15	AMSD 44	AMP 46L	AWH03-32	ACL 12	AMH 510	AWH05-32
S50U-MDUNR/L15	AMSD 44	AMP 46L	AWH03-32	ACL 12	AMH 510	AWH05-32

MTFNR/L

Kr=90°



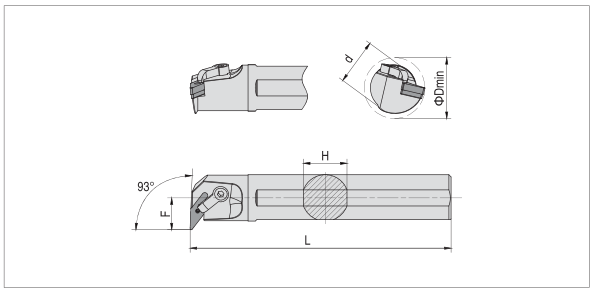


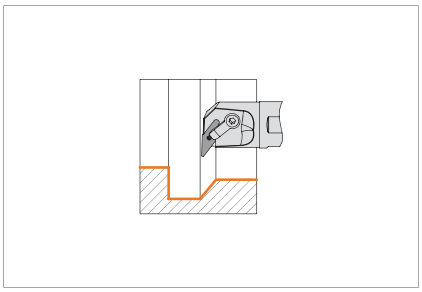
Designation	Dimensions (mm)					Inserts
	d	F	L	h	Dmin	
S25R-MTFNR/L16	25	17	200	23	32	TN..1604..
S25T-MTFNR/L16	25	17	300	23	32	TN..1604..
S32S-MTFNR/L16	32	22	250	30	40	TN..1604..
S32U-MTFNR/L16	32	22	350	30	40	TN..1604..
S40T-MTFNR/L16	40	27	300	37	50	TN..1604..
S40V-MTFNR/L16	40	27	400	37	50	TN..1604..

Designation	Shim	Pin	Wrench	Clamping plate	Screw	Wrench
						
S25R-MTFNR/L16	-	AMP 33L	AWH05-64	ACL 6	AMH 36	AWH03-32
S25T-MTFNR/L16	-	AMP 33L	AWH05-64	ACL 6	AMH 36	AWH03-32
S32S-MTFNR/L16	AMST 32	AMP 34L	AWH05-64	ACL 6	AMH 36	AWH03-32
S32U-MTFNR/L16	AMST 32	AMP 34L	AWH05-64	ACL 6	AMH 36	AWH03-32
S40T-MTFNR/L16	AMST 32	AMP 34L	AWH05-64	ACL 6	AMH 36	AWH03-32
S40V-MTFNR/L16	AMST 32	AMP 34L	AWH05-64	ACL 6	AMH 36	AWH03-32

MVUNR/L

Kr=93°



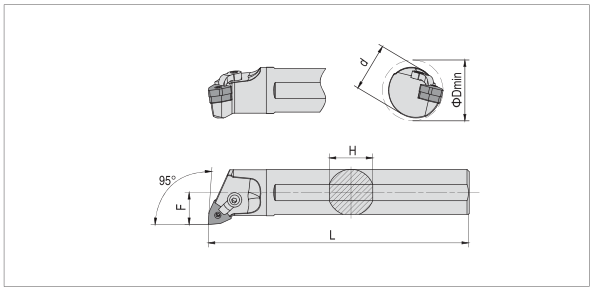


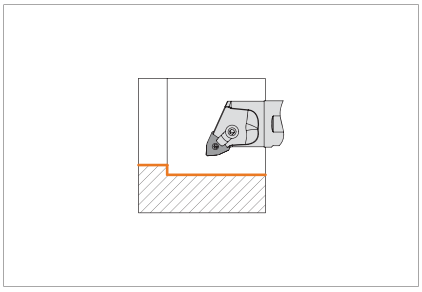
Designation	Dimensions (mm)					Inserts
	d	F	L	h	Dmin	
S32S-MVUNR/L16	32	22	250	30	40	VN..1604..
S40T-MVUNR/L16	40	27	300	37	50	VN..1604..

Designation	Shim	Pin	Wrench	Clamping plate	Screw	Wrench
						
S32S-MVUNR/L16	AMSV 32	AMP 34L	AWH05-64	ACL 30	AMH 59	AWH05-32
S40T-MVUNR/L16	AMSV 32	AMP 34L	AWH05-64	ACL 30	AMH 59	AWH05-32

MWLNR/L

Kr=95°



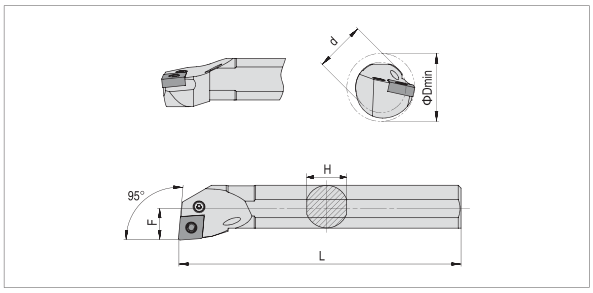


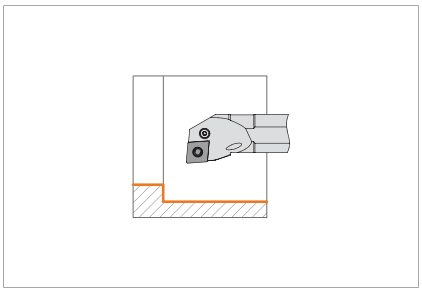
Designation	Dimensions (mm)					Inserts
	d	F	L	h	Dmin	
S25R-MWLNR/L06	25	17	200	23	32	WN..0604..
S25T-MWLNR/L06	25	17	300	23	32	WN..0604..
S32S-MWLNR/L06	32	22	250	30	40	WN..0604..
S32U-MWLNR/L06	32	22	350	30	40	WN..0604..
S40T-MWLNR/L08	40	27	300	37	50	WN..0804..
S40V-MWLNR/L08	40	27	400	37	50	WN..0804..
S50U-MWLNR/L08	50	35	350	46	63	WN..0804..
S50W-MWLNR/L08	50	35	450	46	63	WN..0804..

Designation	Shim	Pin	Wrench	Clamping plate	Screw	Wrench
						
S25R-MWLNR/L06	-	AMP 33L	AWH05-64	ACL 6	AMH 36	AWH03-32
S25T-MWLNR/L06	-	AMP 33L	AWH05-64	ACL 6	AMH 36	AWH03-32
S32S-MWLNR/L06	AMSW 32	AMP 34L	AWH05-64	ACL 6	AMH 36	AWH03-32
S32U-MWLNR/L06	AMSW 32	AMP 34L	AWH05-64	ACL 6	AMH 36	AWH03-32
S40T-MWLNR/L08	AMSW 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8
S40V-MWLNR/L08	AMSW 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8
S50U-MWLNR/L08	AMSW 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8
S50W-MWLNR/L08	AMSW 43	AMP 46	AWH03-32	ACL 20	AMH 48	AWH01-8

PCLNR/L

Kr=95°



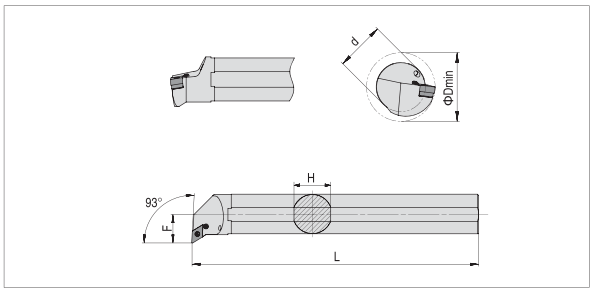


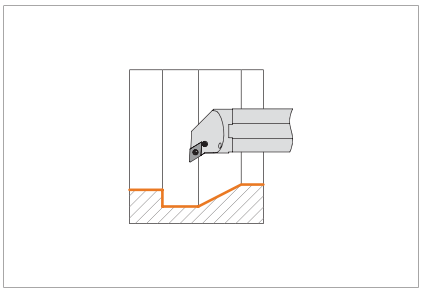
Designation	Dimensions (mm)					Inserts
	d	F	L	h	Dmin	
S16Q-PCLNR/L09	16	11	180	15	20	CN..0903..
S20R-PCLNR/L09	20	13	200	18	25	CN..0903..
S25S-PCLNR/L12	25	17	250	23	32	CN..1204..
S32T-PCLNR/L12	32	22	300	30	40	CN..1204..
S40U-PCLNR/L12	40	27	350	37	50	CN..1204..
S50V-PCLNR/L12	50	35	400	46	63	CN..1204..
S40U-PCLNR/L16	40	27	350	37	50	CN..1606..
S50V-PCLNR/L16	50	35	400	46	63	CN..1606..
S40U-PCLNR/L19	40	27	350	37	50	CN..1906..
S50V-PCLNR/L19	50	35	400	46	63	CN..1906..

Designation	Shim	Lever	Elastic pin	Screw	Wrench
					
S16Q-PCLNR/L09	-	ALL 0903N	-	ALC05-90	AWH 2
S20R-PCLNR/L09	-	ALL 0903N	-	ALC05-90	AWH 2
S25S-PCLNR/L12	-	ALL 1204N	-	ALC06-134	AWH 2.5
S32T-PCLNR/L12	ALSC 42	ALL 1204	ALP 12	ALC08-210	AWH 3
S40U-PCLNR/L12	ALSC 42	ALL 1204	ALP 12	ALC08-210	AWH 3
S50V-PCLNR/L12	ALSC 42	ALL 1204	ALP 12	ALC08-210	AWH 3
S40U-PCLNR/L16	ALSC 53	ALL 15	ALP 15	ALC08-250	AWH 3
S50V-PCLNR/L16	ALSC 53	ALL 15	ALP 15	ALC08-250	AWH 3
S40U-PCLNR/L19	ALSC 63	ALL 19	ALP 19	ALC10-273	AWH 4
S50V-PCLNR/L19	ALSC 63	ALL 19	ALP 19	ALC10-273	AWH 4

PDUNR/L

Kr=93°



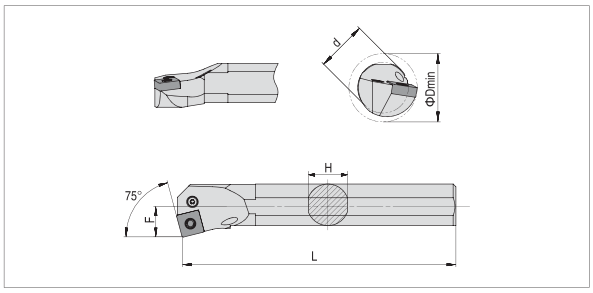


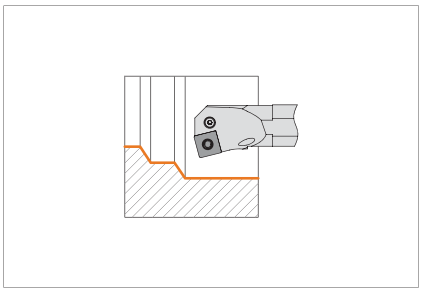
Designation	Dimensions (mm)					Inserts
	d	F	L	h	Dmin	
S25S-PDUNR/L11	25	17	250	23	32	DN..1104..
S25S-PDUNR/L15	25	17	250	23	32	DN..1506..
S32T-PDUNR/L15	32	22	300	30	40	DN..1506..
S40U-PDUNR/L15	40	27	350	37	50	DN..1506..
S50V-PDUNR/L15	50	35	400	46	63	DN..1506..

Designation	Shim	Lever	Elastic pin	Screw	Wrench
					
S25S-PDUNR/L11	-	ALL 0904NL	-	ALC05-120	AWH 2
S25S-PDUNR/L15	ALSD 42	ALL 1206	ALP 12	ALC08-210	AWH 3
S32T-PDUNR/L15	ALSD 42	ALL 1206	ALP 12	ALC08-210	AWH 3
S40U-PDUNR/L15	ALSD 42	ALL 1206	ALP 12	ALC08-210	AWH 3
S50V-PDUNR/L15	ALSD 42	ALL 1206	ALP 12	ALC08-210	AWH 3

PSKNR/L

Kr=75°



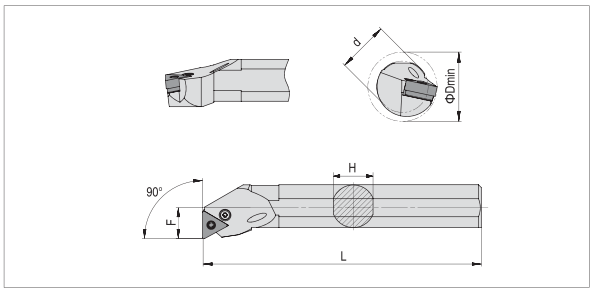


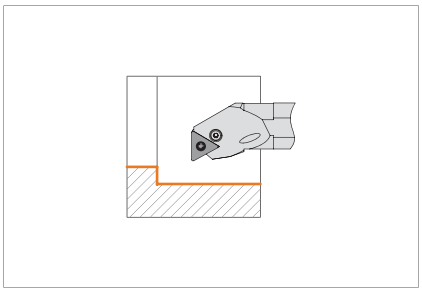
Designation	Dimensions (mm)					Inserts
	d	F	L	h	Dmin	
S25S-PSKNR/L12	25	17	250	23	32	SN..1204..
S32T-PSKNR/L12	32	22	300	30	40	SN..1204..
S40U-PSKNR/L12	40	27	350	37	50	SN..1204..
S50V-PSKNR/L12	50	35	400	46	63	SN..1204..
S32T-PSKNR/L15	32	22	300	30	40	SN..1506..
S40U-PSKNR/L15	40	27	350	37	50	SN..1506..
S50V-PSKNR/L15	50	35	400	46	63	SN..1506..
S40U-PSKNR/L19	40	27	350	37	50	SN..1906..
S50V-PSKNR/L19	50	35	400	46	63	SN..1906..

Designation	Shim	Lever	Elastic pin	Screw	Wrench
					
S25S-PSKNR/L12	-	ALL 1204N	-	ALH06-134	AWH 2.5
S32T-PSKNR/L12	ALSS 42	ALL 1204	ALP 12	ALH08-210	AWH 3
S40U-PSKNR/L12	ALSS 42	ALL 1204	ALP 12	ALH08-210	AWH 3
S50V-PSKNR/L12	ALSS 42	ALL 1204	ALP 12	ALH08-210	AWH 3
S32T-PSKNR/L15	ALSS 53	ALL 15	ALP 15	ALH08-250	AWH 3
S40U-PSKNR/L15	ALSS 53	ALL 15	ALP 15	ALH08-250	AWH 3
S50V-PSKNR/L15	ALSS 53	ALL 15	ALP 15	ALH08-250	AWH 3
S40U-PSKNR/L19	ALSS 63	ALL 19	ALP 19	ALH10-273	AWH 4
S50V-PSKNR/L19	ALSS 63	ALL 19	ALP 19	ALH10-273	AWH 4

PTFNR/L

Kr=90°



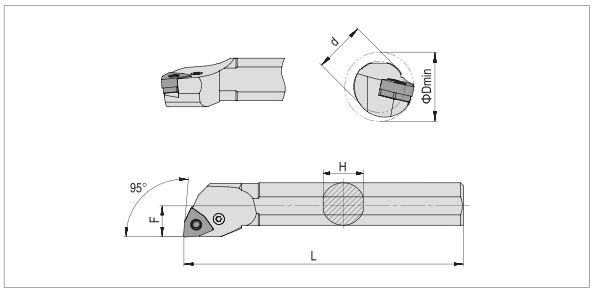


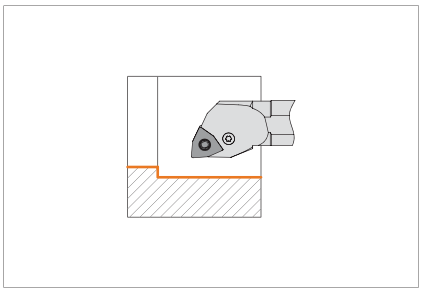
Designation	Dimensions (mm)					Inserts
	d	F	L	h	Dmin	
S25S-PTFNR/L16	25	17	250	23	32	TN..1604..
S32T-PTFNR/L16	32	22	300	30	40	TN..1604..
S40U-PTFNR/L16	40	27	350	37	50	TN..1604..
S50V-PTFNR/L16	50	35	400	46	63	TN..1604..

Designation	Shim	Lever	Elastic pin	Screw	Wrench
					
S25S-PTFNR/L16	-	ALL 0904N	-	ALH05-120	AWH 2
S32T-PTFNR/L16	ALST 32	ALL 0903	ALP 09	ALH06-170	AWH 2.5
S40U-PTFNR/L16	ALST 32	ALL 0903	ALP 09	ALH06-170	AWH 2.5
S50V-PTFNR/L16	ALST 32	ALL 0903	ALP 09	ALH06-170	AWH 2.5

PWLNR/L

Kr=95°



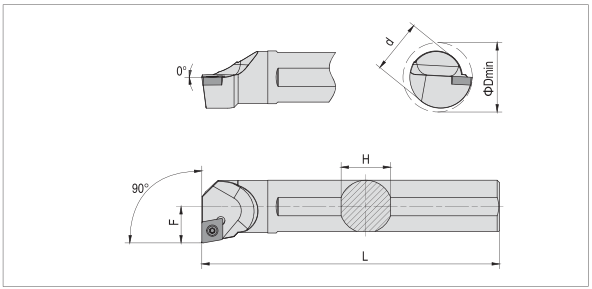


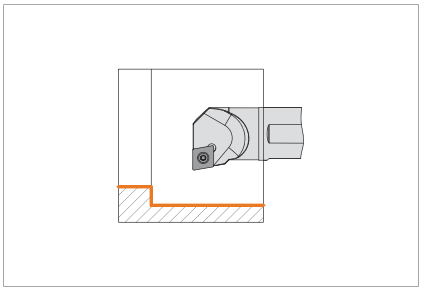
Designation	Dimensions (mm)					Inserts
	d	F	L	h	Dmin	
S16Q-PWLNR/L06	16	11	180	15	20	WN..0604..
S20R-PWLNR/L06	20	13	200	18	25	WN..0604..
S25S-PWLNR/L08	25	17	250	23	32	WN..0804..
S32T-PWLNR/L08	32	22	300	30	40	WN..0804..
S40U-PWLNR/L08	40	27	350	37	50	WN..0804..
S50V-PWLNR/L08	50	35	400	46	63	WN..0804..

Designation	Shim	Lever	Elastic pin	Screw	Wrench
					
S16Q-PWLNR/L06	ALSW 32	ALL 0903	ALP 09	ALH06-170	AWH 2.5
S20R-PWLNR/L06	ALSW 32	ALL 0903	ALP 09	ALH06-170	AWH 2.5
S25S-PWLNR/L08	-	ALL 1204N	-	ALH06-134	AWH 2.5
S32T-PWLNR/L08	ALSW 43	ALL 1204	ALP 12	ALH08-210	AWH 3
S40U-PWLNR/L08	ALSW 43	ALL 1204	ALP 12	ALH08-210	AWH 3
S50V-PWLNR/L08	ALSW 43	ALL 1204	ALP 12	ALH08-210	AWH 3

SCFCR/L

Kr=90°



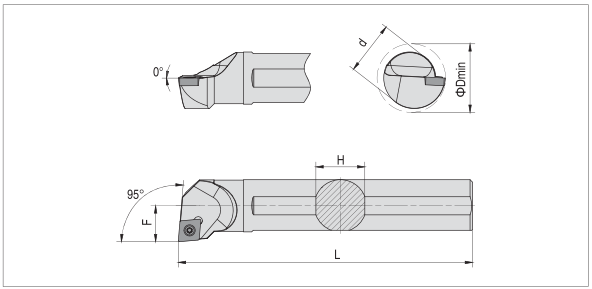


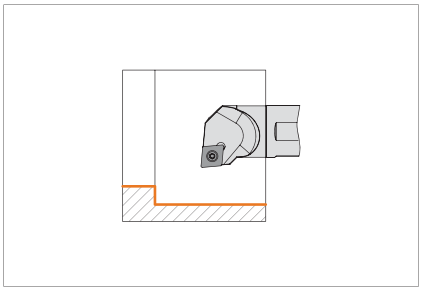
Designation	Dimensions (mm)					Inserts
	d	F	L	h	Dmin	
S08H-SCFCR/L06	8	6	100	7	11	CC..0602..
S10K-SCFCR/L06	10	7	125	9	13	CC..0602..
S12K-SCFCR/L06	12	9	125	11	16	CC..0602..
S12M-SCFCR/L06	12	9	150	11	16	CC..0602..
S16M-SCFCR/L09	16	11	150	15	20	CC..09T3..
S16R-SCFCR/L09	16	11	200	15	20	CC..09T3..
S20Q-SCFCR/L09	20	13	180	18	25	CC..09T3..
S20S-SCFCR/L09	20	13	250	18	25	CC..09T3..
S25R-SCFCR/L12	25	17	200	23	32	CC..1204..
S25T-SCFCR/L12	25	17	300	23	32	CC..1204..
S32S-SCFCR/L12	32	22	250	30	40	CC..1204..
S32U-SCFCR/L12	32	22	350	30	40	CC..1204..

Designation	Screw	Wrench
		
S08H-SCFCR/L06	AST025-65	AWF-T07
S10K-SCFCR/L06	AST025-65	AWF-T07
S12K-SCFCR/L06	AST025-65	AWF-T07
S12M-SCFCR/L06	AST025-65	AWF-T07
S16M-SCFCR/L09	AST035-80	AWF-T15
S16R-SCFCR/L09	AST035-80	AWF-T15
S20Q-SCFCR/L09	AST035-80	AWF-T15
S20S-SCFCR/L09	AST035-80	AWF-T15
S25R-SCFCR/L12	AST040-110	AWF-T15
S25T-SCFCR/L12	AST040-110	AWF-T15
S32S-SCFCR/L12	AST040-110	AWF-T15
S32U-SCFCR/L12	AST040-110	AWF-T15

SCLCR/L

Kr=95°



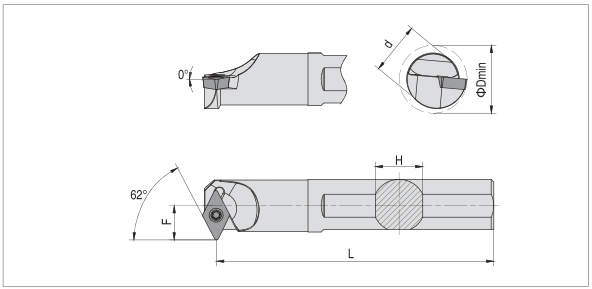


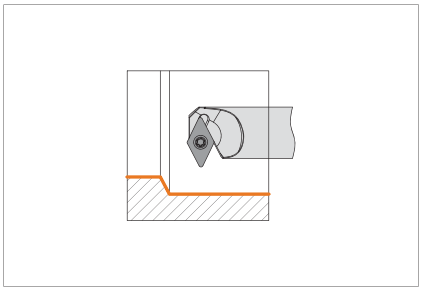
Designation	Dimensions (mm)					Inserts
	d	F	L	h	Dmin	
S08H-SCLCR/L06	8	6	100	7	11	CC..0602..
S10K-SCLCR/L06	10	7	125	9	13	CC..0602..
S12K-SCLCR/L06	12	9	125	11	16	CC..0602..
S12M-SCLCR/L06	12	9	150	11	16	CC..0602..
S16M-SCLCR/L09	16	11	150	15	20	CC..09T3..
S16R-SCLCR/L09	16	11	200	15	20	CC..09T3..
S20Q-SCLCR/L09	20	13	180	18	25	CC..09T3..
S20S-SCLCR/L09	20	13	250	18	25	CC..09T3..
S25R-SCLCR/L12	25	17	200	23	32	CC..1204..
S25T-SCLCR/L12	25	17	300	23	32	CC..1204..
S32S-SCLCR/L12	32	22	250	30	40	CC..1204..
S32U-SCLCR/L12	32	22	350	30	40	CC..1204..
S40T-SCLCR/L12	40	27	300	37	50	CC..1204..
S40V-SCLCR/L12	40	27	400	37	50	CC..1204..

Designation	Screw	Wrench
		
S08H-SCLCR/L06	AST-025-65	AWF-T07
S10K-SCLCR/L06	AST-025-65	AWF-T07
S12K-SCLCR/L06	AST-025-65	AWF-T07
S12M-SCLCR/L06	AST-025-65	AWF-T07
S16M-SCLCR/L09	AST035-80	AWF-T15
S16R-SCLCR/L09	AST035-80	AWF-T15
S20Q-SCLCR/L09	AST035-80	AWF-T15
S20S-SCLCR/L09	AST035-80	AWF-T15
S25R-SCLCR/L12	AST040-110	AWF-T15
S25T-SCLCR/L12	AST040-110	AWF-T15
S32S-SCLCR/L12	AST040-110	AWF-T15
S32U-SCLCR/L12	AST040-110	AWF-T15
S40T-SCLCR/L12	AST040-110	AWF-T15
S40V-SCLCR/L12	AST040-110	AWF-T15

SDNCR/L

Kr=62°



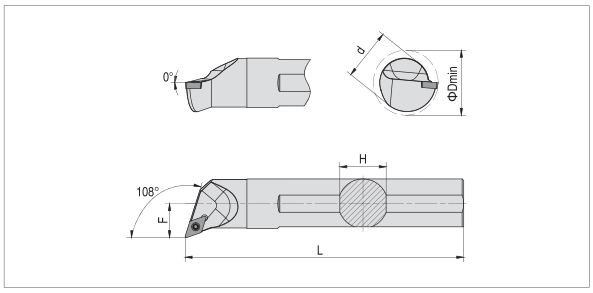


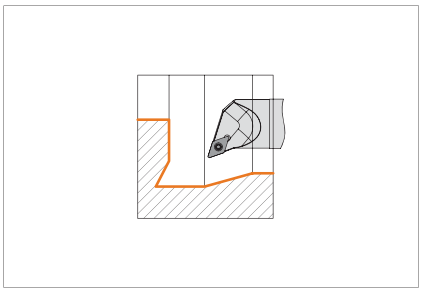
Designation	Dimensions (mm)					Inserts
	d	F	L	h	Dmin	
S12K-SDNCR/L07	12	9	125	11	16	DC..0702..
S16M-SDNCR/L07	16	11	150	15	20	DC..0702..
S20Q-SDNCR/L11	20	13	180	18	25	DC..11T3..
S25R-SDNCR/L11	25	17	200	23	32	DC..11T3..

Designation	Screw	Wrench
		
S12K-SDNCR/L07	AST025-65	AWF-T07
S16M-SDNCR/L07	AST025-65	AWF-T07
S20Q-SDNCR/L11	AST035-80	AWF-T15
S25R-SDNCR/L11	AST035-80	AWF-T15

SDQCR/L

Kr=108°



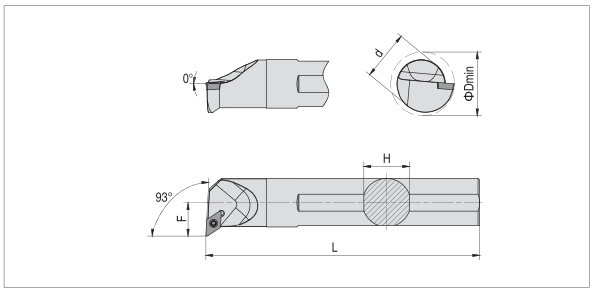


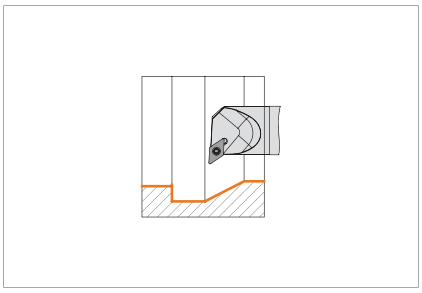
Designation	Dimensions (mm)					Inserts
	d	F	L	h	Dmin	
S10K-SDQCR/L07	10	7	125	9	13	DC..0702..
S12K-SDQCR/L07	12	9	125	11	16	DC..0702..
S12M-SDQCR/L07	12	9	150	11	16	DC..0702..
S16M-SDQCR/L07	16	11	150	15	20	DC..0702..
S16R-SDQCR/L07	16	11	200	15	20	DC..0702..
S20Q-SDQCR/L11	20	13	180	18	25	DC..11T3..
S20S-SDQCR/L11	20	13	250	18	25	DC..11T3..
S25R-SDQCR/L11	25	17	200	23	32	DC..11T3..
S25T-SDQCR/L11	25	17	300	23	32	DC..11T3..
S32S-SDQCR/L11	32	22	250	30	40	DC..11T3..
S32U-SDQCR/L11	32	22	350	30	40	DC..11T3..

Designation	Screw	Wrench
		
S10K-SDQCR/L07	AST025-65	AWF-T07
S12K-SDQCR/L07	AST025-65	AWF-T07
S12M-SDQCR/L07	AST025-65	AWF-T07
S16M-SDQCR/L07	AST025-65	AWF-T07
S16R-SDQCR/L07	AST025-65	AWF-T07
S20Q-SDQCR/L11	AST035-80	AWF-T15
S20S-SDQCR/L11	AST035-80	AWF-T15
S25R-SDQCR/L11	AST035-80	AWF-T15
S25T-SDQCR/L11	AST035-80	AWF-T15
S32S-SDQCR/L11	AST035-80	AWF-T15
S32U-SDQCR/L11	AST035-80	AWF-T15

SDUCR/L

Kr=93°



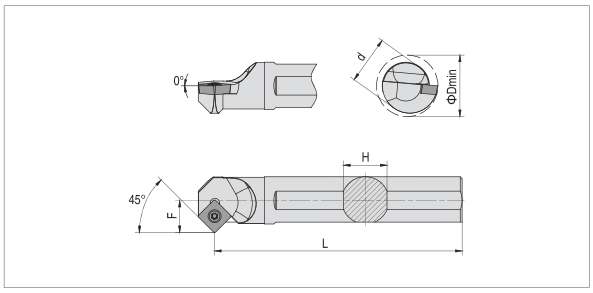


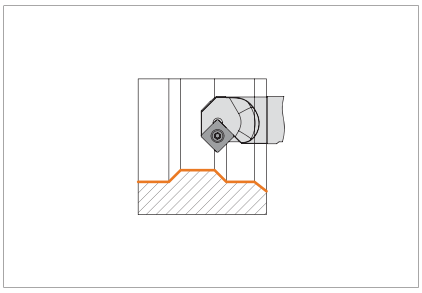
Designation	Dimensions (mm)					Inserts
	d	F	L	h	Dmin	
S10K-SDUCR/L07	10	7	125	9	13	DC..0702..
S12K-SDUCR/L07	12	9	125	11	16	DC..0702..
S12M-SDUCR/L07	12	9	150	11	16	DC..0702..
S16M-SDUCR/L07	16	11	150	15	20	DC..0702..
S16R-SDUCR/L07	16	11	200	15	20	DC..0702..
S20Q-SDUCR/L11	20	13	180	18	25	DC..11T3..
S20S-SDUCR/L11	20	13	250	18	25	DC..11T3..
S25R-SDUCR/L11	25	17	200	23	32	DC..11T3..
S25T-SDUCR/L11	25	17	300	23	32	DC..11T3..
S32S-SDUCR/L11	32	22	250	30	40	DC..11T3..
S32U-SDUCR/L11	32	22	350	30	40	DC..11T3..
S40T-SDUCR/L11	40	27	300	37	50	DC..11T3..
S40V-SDUCR/L11	40	27	400	37	50	DC..11T3..

Designation	Screw	Wrench
		
S10K-SDUCR/L07	AST025-65	AWF-T07
S12K-SDUCR/L07	AST025-65	AWF-T07
S12M-SDUCR/L07	AST025-65	AWF-T07
S16M-SDUCR/L07	AST025-65	AWF-T07
S16R-SDUCR/L07	AST025-65	AWF-T07
S20Q-SDUCR/L11	AST035-80	AWF-T15
S20S-SDUCR/L11	AST035-80	AWF-T15
S25R-SDUCR/L11	AST035-80	AWF-T15
S25T-SDUCR/L11	AST035-80	AWF-T15
S32S-SDUCR/L11	AST035-80	AWF-T15
S32U-SDUCR/L11	AST035-80	AWF-T15
S40T-SDUCR/L11	AST035-80	AWF-T15
S40V-SDUCR/L11	AST035-80	AWF-T15

SSSCR/L

Kr=45°



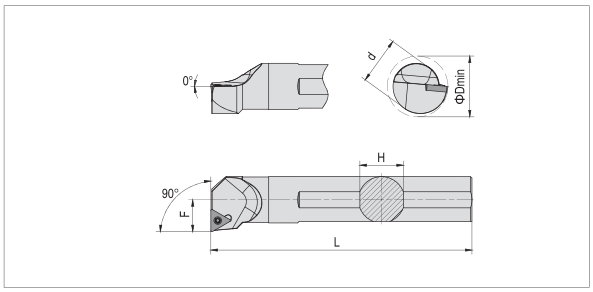


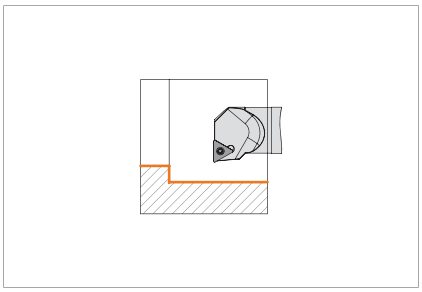
Designation	Dimensions (mm)					Inserts
	d	F	L	h	Dmin	
S16M-SSSCR/L09	16	11	150	15	20	SC..09T3..
S20Q-SSSCR/L09	20	13	180	18	25	SC..09T3..
S25R-SSSCR/L12	25	17	200	23	32	SC..1204..

Designation	Screw	Wrench
		
S16M-SSSCR/L09	AST035-80	AWF-T15
S20Q-SSSCR/L09	AST035-80	AWF-T15
S25R-SSSCR/L12	AST040-110	AWF-T15

STFCR/L

Kr=90°



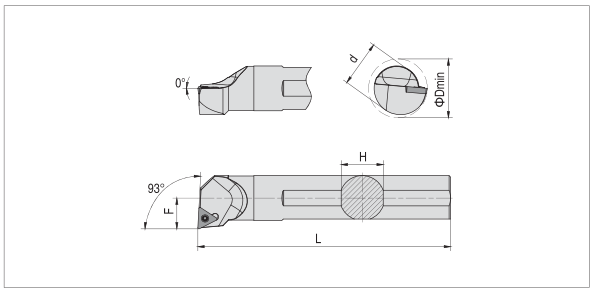


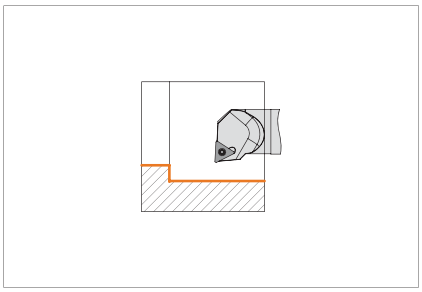
Designation	Dimensions (mm)					Inserts
	d	F	L	h	Dmin	
S10K-STFCR/L11	10	7	125	9	13	TC/TP..1102..
S12K-STFCR/L11	12	9	125	11	16	TC/TP..1102..
S12M-STFCR/L11	12	9	150	11	16	TC/TP..1102..
S16M-STFCR/L11	16	11	150	15	20	TC/TP..1102..
S16R-STFCR/L11	16	11	200	15	20	TC/TP..1102..
S20Q-STFCR/L16	20	13	180	18	25	TC/TP..16T3..
S20S-STFCR/L16	20	13	250	18	25	TC/TP..16T3..
S25R-STFCR/L16	25	17	200	23	32	TC/TP..16T3..
S25T-STFCR/L16	25	17	300	23	32	TC/TP..16T3..
S32S-STFCR/L16	32	22	250	30	40	TC/TP..16T3..
S32U-STFCR/L16	32	22	350	30	40	TC/TP..16T3..

Designation	Screw	Wrench
		
S10K-STFCR/L11	AST025-65	AWF-T07
S12K-STFCR/L11	AST025-65	AWF-T07
S12M-STFCR/L11	AST025-65	AWF-T07
S16M-STFCR/L11	AST025-65	AWF-T07
S16R-STFCR/L11	AST025-65	AWF-T07
S20Q-STFCR/L16	AST035-80	AWF-T15
S20S-STFCR/L16	AST035-80	AWF-T15
S25R-STFCR/L16	AST035-80	AWF-T15
S25T-STFCR/L16	AST035-80	AWF-T15
S32S-STFCR/L16	AST035-80	AWF-T15
S32U-STFCR/L16	AST035-80	AWF-T15

STLCR/L

Kr=93°



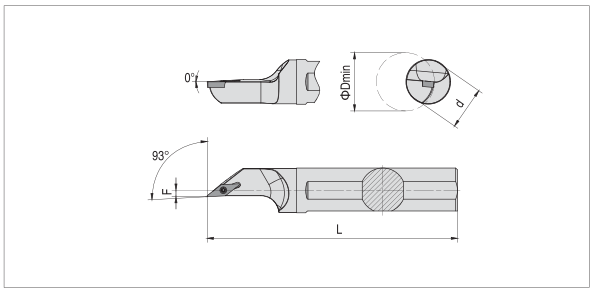


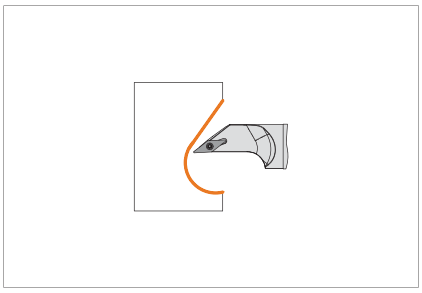
Designation	Dimensions (mm)					Inserts
	d	F	L	h	Dmin	
S10K-STLCR/L11	10	7	125	9	13	TC/TP..1102..
S12K-STLCR/L11	12	9	125	11	16	TC/TP..1102..
S16M-STLCR/L11	16	11	150	15	20	TC/TP..1102..
S20Q-STLCR/L16	20	13	180	18	25	TC/TP..16T3..
S20S-STLCR/L16	20	13	250	18	25	TC/TP..16T3..
S25R-STLCR/L16	25	17	200	23	32	TC/TP..16T3..
S25T-STLCR/L16	25	17	300	23	32	TC/TP..16T3..

Designation	Screw	Wrench
		
S10K-STLCR/L11	AST025-65	AWF-T07
S12K-STLCR/L11	AST025-65	AWF-T07
S16M-STLCR/L11	AST025-65	AWF-T07
S20Q-STLCR/L16	AST035-80	AWF-T15
S20S-STLCR/L16	AST035-80	AWF-T15
S25R-STLCR/L16	AST035-80	AWF-T15
S25T-STLCR/L16	AST035-80	AWF-T15

SVJCR/L

Kr=93°



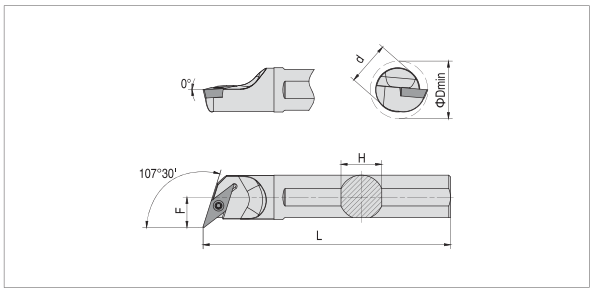


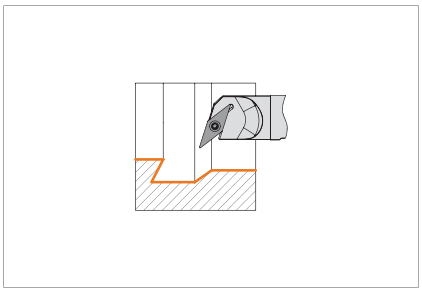
Designation	Dimensions (mm)					Inserts
	d	F	L	h	Dmin	
S20Q-SVJCR/L11E	20	2	180	18	25	VB/VC..1103..
S20S-SVJCR/L11E	20	2	250	18	25	VB/VC..1103..
S25R-SVJCR/L11E	25	3.5	200	23	32	VB/VC..1103..
S25T-SVJCR/L11E	25	3.5	300	23	32	VB/VC..1103..

Designation	Screw	Wrench
		
S20Q-SVJCR/L11E	AST025-65	AWF-T07
S20S-SVJCR/L11E	AST025-65	AWF-T07
S25R-SVJCR/L11E	AST025-65	AWF-T07
S25T-SVJCR/L11E	AST025-65	AWF-T07

SVQCR/L

Kr=107°30'



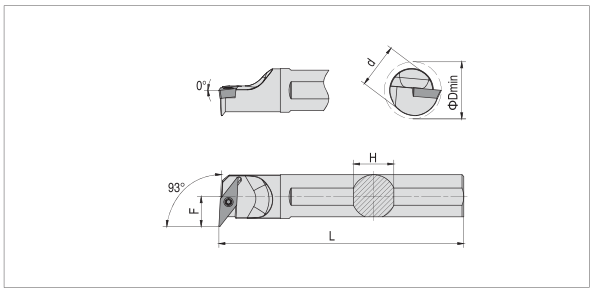


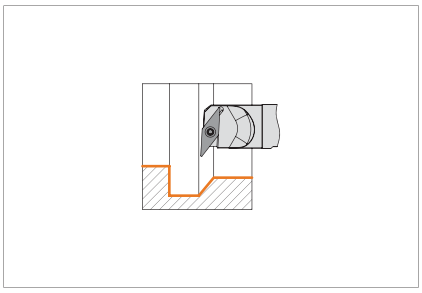
Designation	Dimensions (mm)					Inserts
	d	F	L	h	Dmin	
S16M-SVQCR/L11	16	11	150	15	20	VB/VC..1103..
S16R-SVQCR/L11	16	11	200	15	20	VB/VC..1103..
S20Q-SVQCR/L11	20	13	180	18	25	VB/VC..1103..
S20S-SVQCR/L11	20	13	250	18	25	VB/VC..1103..
S25R-SVQCR/L16	25	17	200	23	32	VB/VC..1604..
S25T-SVQCR/L16	25	17	300	23	32	VB/VC..1604..

Designation	Screw	Wrench
		
S16M-SVQCR/L11	AST025-65	AWF-T07
S16R-SVQCR/L11	AST025-65	AWF-T07
S20Q-SVQCR/L11	AST025-65	AWF-T07
S20S-SVQCR/L11	AST025-65	AWF-T07
S25R-SVQCR/L16	AST035-80	AWF-T15
S25T-SVQCR/L16	AST035-80	AWF-T15

SVUCR/L

Kr=93°



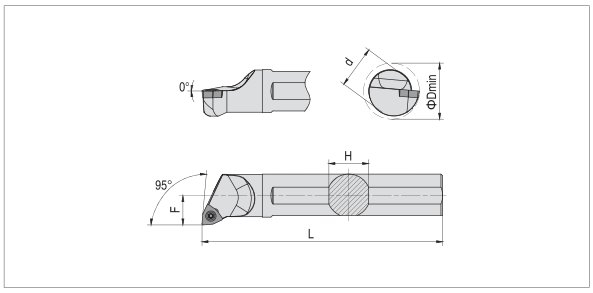


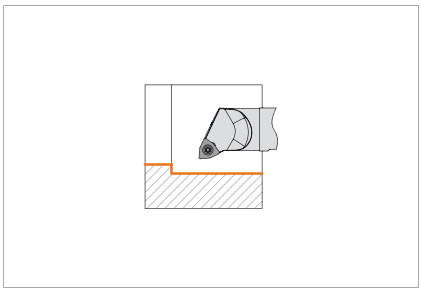
Designation	Dimensions (mm)					Inserts
	d	F	L	h	Dmin	
S16M-SVUCR/L11	16	11	150	15	20	VB/VC..1103..
S16R-SVUCR/L11	16	11	200	15	20	VB/VC..1103..
S20Q-SVUCR/L11	20	13	180	18	25	VB/VC..1103..
S20S-SVUCR/L11	20	13	250	18	25	VB/VC..1103..
S25R-SVUCR/L16	25	17	200	23	32	VB/VC..1604..
S25T-SVUCR/L16	25	17	300	23	32	VB/VC..1604..

Designation	Screw	Wrench
		
S16M-SVUCR/L11	AST025-65	AWF-T07
S16R-SVUCR/L11	AST025-65	AWF-T07
S20Q-SVUCR/L11	AST025-65	AWF-T07
S20S-SVUCR/L11	AST025-65	AWF-T07
S25R-SVUCR/L16	AST035-80	AWF-T15
S25T-SVUCR/L16	AST035-80	AWF-T15

SWLCR/L

Kr=95°





Designation	Dimensions (mm)					Inserts
	d	F	L	h	Dmin	
S10K-SWLCR/L04	10	7	125	9	13	WC..0402..
S12K-SWLCR/L04	12	9	125	11	16	WC..0402..
S16M-SWLCR/L06	16	11	150	15	20	WC..06T3..
S20Q-SWLCR/L06	20	13	180	18	25	WC..06T3..

Designation	Screw	Wrench
		
S10K-SWLCR/L04	AST025-65	AWF-T07
S12K-SWLCR/L04	AST025-65	AWF-T07
S16M-SWLCR/L06	AST035-100	AWF-T15
S20Q-SWLCR/L06	AST035-100	AWF-T15

Note


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CUTTING TOOL CATALOGUE

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Cutting parameter recommended table 203

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Grooving holders

Grooving Holder Designation System

A	T	S	E	R	6 32 25 7	25	-	4	T25	-	40	-	80	-	SW
1	2	3	4	5		8	-	9	10	-	11	-	12	-	13

1-Company name

ACHTECK

2-Application

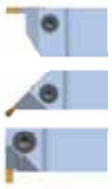
G	Grooving
T	Turning

3- Shape of holder head

S:Straight-180°

U:Under cut-45°

P:Perpendicular-90°



4-Machining type

E: External
I: Internal
F: Facing

5-Hand of tool

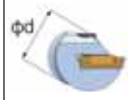


L:Left hand



R:Right hand

6-Holder diameter



20=20.0mm
25=25.0mm
32=32.0mm

7-Holder height



20=20.0mm
25=25.0mm
32=32.0mm

8-Holder width



20=20.0mm
25=25.0mm
32=32.0mm

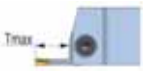
9-Insert width



2=2.0mm
3=3.0mm
4=4.0mm

10-ap

T25=Max 25mm

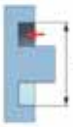


11-Minimum cutting diameter



40=40.0mm

12-Maximum cutting diameter

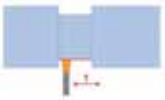
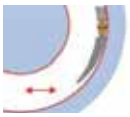
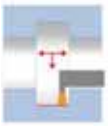


80=80.0mm

13-Special code

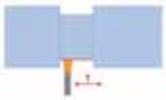
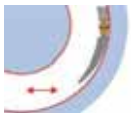
SW:For swiss machine
OB:Outside bulge holders
C:With internal coolant
D:Reinforced holders

Overview of Grooving Holders

Application \ Holder			External grooving				Face grooving
			ATSER/L	ATSER/L-D	ATSER/L-SW	AGUER/L	ATSFR/L
							
External grooving	Parting off		●	●	●		
	Grooving		●	●	●		
	Turning		●	●	●		
	Profiling		●	●	●		
	Under cut					●	
Face grooving	Grooving						●
	Turning						●
Internal machining	Grooving						
	Turning						

Marked: ● Best choice

Overview of Grooving Holders

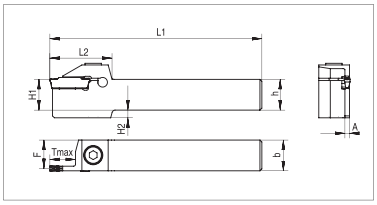
Application \ Holder			Face grooving				Internal machining
			ATSFR/L-OB	AGSFR/L	AGPFR/L	ATPFR/L	ATPIR/L
							
External grooving	Parting off						
	Grooving						
	Turning						
	Profiling						
	Under cut						
Face grooving	Grooving		●	●	●	●	
	Turning		●	●	●	●	
Internal machining	Grooving						●
	Turning						●

Marked: ● Best choice

ATSER/L External Turning and Grooving







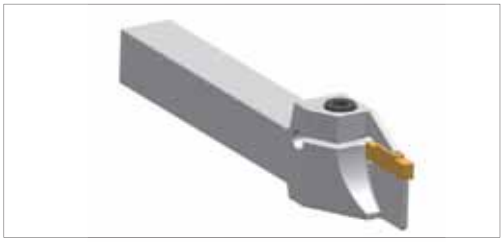
Designation		Dimension(mm)									Inserts*
		h	b	H1	H2	A	L1	L2	F	Tmax	
ATSER/L	1616-2T08	16	16	16	4	1.8	110	32	15.1	8	ACD/ACS/ATD
	1616-2T12	16	16	16	4	1.8	110	32	15.1	12	
	1616-2T17	16	16	16	4	1.8	110	38	15.1	17	
	2020-2T08	20	20	20	0	1.8	125	32	19.1	8	
	2020-2T12	20	20	20	0	1.8	125	32	19.1	12	
	2020-2T17	20	20	20	0	1.8	125	38	19.1	17	
	2525-2T08	25	25	25	0	1.8	150	32	24.1	8	
	2525-2T12	25	25	25	0	1.8	150	32	24.1	12	
	2525-2T17	25	25	25	0	1.8	150	38	24.1	17	
ATSER/L	1616-3T09	16	16	16	4	2.4	110	32	14.8	9	
	1616-3T12	16	16	16	4	2.4	110	32	14.8	12	
	1616-3T20	16	16	16	4	2.4	110	38	14.8	20	
	2020-3T09	20	20	20	0	2.4	125	32	18.8	9	
	2020-3T12	20	20	20	0	2.4	125	32	18.8	12	
	2020-3T20	20	20	20	0	2.4	125	38	18.8	20	
	2525-3T09	25	25	25	0	2.4	150	32	23.8	9	
	2525-3T12	25	25	25	0	2.4	150	32	23.8	12	
	2525-3T20	25	25	25	0	2.4	150	38	23.8	20	
	2525-3T25	25	25	25	0	2.4	150	45	23.8	25	
ATSER/L	1616-4T10	16	16	16	4	3.0	110	32	14.5	10	
	1616-4T15	16	16	16	4	3.0	110	32	14.5	15	
	1616-4T25	16	16	16	4	3.0	110	45	14.5	25	
	2020-4T10	20	20	20	0	3.0	125	32	18.5	10	
	2020-4T15	20	20	20	0	3.0	125	32	18.5	15	
	2020-4T25	20	20	20	0	3.0	125	45	18.5	25	
	2525-4T10	25	25	25	0	3.0	150	32	23.5	10	
	2525-4T15	25	25	25	0	3.0	150	32	23.5	15	
	2525-4T25	25	25	25	0	3.0	150	45	23.5	25	
ATSER/L	2020-5T12	20	20	20	0	4.0	125	38	18.1	12	
	2020-5T20	20	20	20	0	4.0	125	38	18.1	20	
	2525-5T12	25	25	25	0	4.0	150	38	23.1	12	
	2525-5T20	25	25	25	0	4.0	150	38	23.1	20	
	2525-5T32	25	25	25	0	4.0	150	55	23.0	32	
ATSER/L	2020-6T12	20	20	20	0	5.0	125	38	17.6	12	
	2020-6T20	20	20	20	0	5.0	125	40	17.6	20	
	2525-6T12	25	25	25	7	5.0	150	38	22.6	12	
	2525-6T20	25	25	25	7	5.0	150	40	22.6	20	
	2525-6T32	25	25	25	7	5.0	150	55	22.5	32	

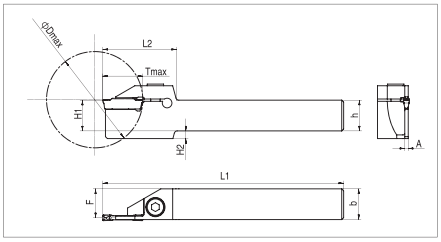
Inserts*:ACD/ACS series only applied for grooving, parting off

Holder designation	Screw designation	Wrench designation
		
ATSER/L 1616-2/3	ASH M5x0.8x16	AWH 4
ATSER/L 2020-2/3	ASH M5x0.8x20	AWH 4
ATSER/L 2525-2/3	ASH M5x0.8x25	AWH 4
ATSER/L 1616-4/5	ASH M6x1.0x16	AWH 5
ATSER/L 2020-4/5	ASH M6x1.0x20	AWH 5
ATSER/L 2525-4/5	ASH M6x1.0x25	AWH 5
ATSER/L 2020-6	ASH M8x1.25x20	AWH 6
ATSER/L 2525-6	ASH M8x1.25x25	AWH 6

ATSER/L-D Reinforced External Turning and Grooving







Designation		Dimension(mm)										Inserts*
		h	b	H1	H2	A	L1	L2	F	Tmax	Dmax	
ATSER/L	1010-2T15-D40	10	10	10	6	1.8	125	32	9.1	15	40	ACD/ACS/ATD
	1212-2T15-D40	12	12	12	4	1.8	125	32	11.1	15	40	
	1616-2T20-D45	16	16	16	4	1.8	125	38	15.1	20	45	
	2020-2T20-D45	20	20	20	0	1.8	125	38	19.1	20	45	
	2525-2T20-D45	25	25	25	0	1.8	150	38	24.1	20	45	
	1212-3T15-D40	12	12	12	4	2.4	125	32	10.8	15	40	
	1616-3T20-D45	16	16	16	4	2.4	125	32	14.8	20	45	
	2020-3T20-D45	20	20	20	0	2.4	125	32	18.8	20	45	
	2525-3T20-D45	25	25	25	0	2.4	150	32	23.8	20	45	
	2525-3T25-D60	25	25	25	7	2.4	150	45	23.8	25	60	

Inserts*:ACD/ACS series only applied for grooving, parting off

Holder designation	Screw designation	Wrench designation
		
ATSER/L 1010-2	ASH M5x0.8x16	AWH 4
ATSER/L 1212-2/3	ASH M5x0.8x16	AWH 4
ATSER/L 1616-2/3	ASH M5x0.8x16	AWH 4
ATSER/L 2020-2/3	ASH M5x0.8x16	AWH 4
ATSER/L 2525-2/3	ASH M5x0.8x16	AWH 4

Machined maximum diameter of workpiece

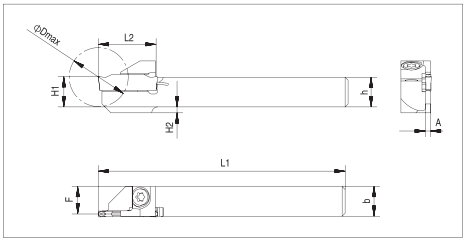
Designation		Workpiece diameter	Tmax																
			8	9	10	11	12	13	14	15	17	18	19	20	21	22	23	24	25
ATSER/L	1010-2T15-D40	Dmax	∞	∞	∞	265	120	78	58	40	-	-	-	-	-	-	-	-	-
	1212-2T15-D40		∞	∞	∞	265	120	78	58	40	-	-	-	-	-	-	-	-	-
	1616-2T20-D45		∞	∞	∞	∞	∞	430	190	125	75	64	55	45	-	-	-	-	-
	2020-2T20-D45		∞	∞	∞	∞	∞	430	190	125	75	64	55	45	-	-	-	-	-
	2525-2T20-D45		∞	1465	340	190	135	105	85	75	60	55	50	45	-	-	-	-	-
	1212-3T15-D40		∞	∞	∞	265	120	78	58	40	-	-	-	-	-	-	-	-	-
	1616-3T20-D45		∞	∞	∞	∞	∞	430	190	125	75	64	55	45	-	-	-	-	-
	2020-3T20-D45		∞	∞	∞	∞	∞	430	190	125	75	64	55	45	-	-	-	-	-
	2525-3T20-D45		∞	1465	340	190	135	105	85	75	60	55	50	45	-	-	-	-	-
	2525-3T25-D60		∞	∞	∞	∞	∞	∞	∞	∞	415	235	165	130	105	90	80	70	60

“ ∞ ” : Infinite diameter

ATSER/L-SW External Turning and Grooving Holder for Swiss Lathe





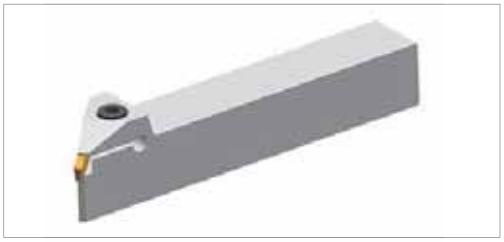


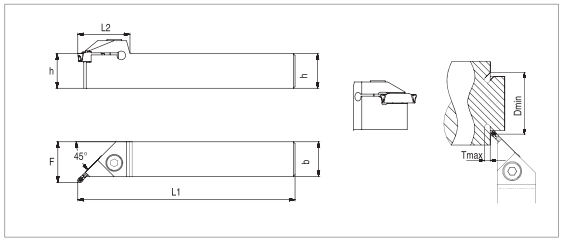
Designation		Dimension(mm)									Inserts*
		h	b	H1	H2	A	L1	L2	F	Dmax	
ATSER/L	1010-2D20-SW	10	10	10	2	1.8	125	20	9.1	20	ACD/ACS/ATD
	1212-2D24-SW	12	12	12	2	1.8	125	20	11.1	24	
	1414-2D24-SW	14	14	14	0	1.8	125	20	13.1	24	
	1616-2D32-SW	16	16	16	0	1.8	125	25	15.1	32	
	1212-3D24-SW	12	12	12	2	2.4	125	20	10.8	24	
	1616-3D32-SW	16	16	16	0	2.4	125	25	14.8	32	
	1616-3D38-SW	16	16	16	0	2.4	125	27	14.8	38	
	2020-3D45-SW	20	20	20	0	2.4	125	24	18.8	45	

Inserts*:ACD/ACS series only applied for grooving, parting off

Holder designation	Screw designation	Wrench designation
		
ATSER/L-SW	AST 4125-60B	AWF-T15

AGUER/L External Under Cutting



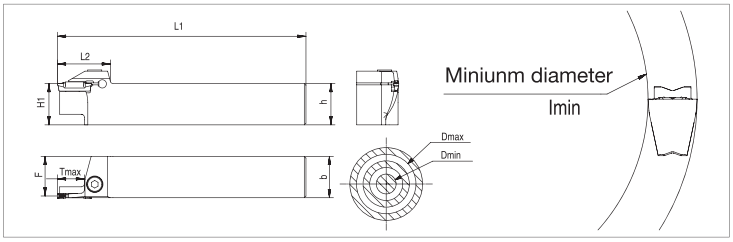


Designation		Insert Dimension (mm)	Dimension(mm)								Inserts*
			h	b	H1	L1	L2	F	Tmax	Dmin	
AGUER/L	1616-3	2,3	16	16	16	110	29.5	18.8	3	60	ATD
	1616-4	4	16	16	16	110	29.5	18.8	3	55	
	2020-3	2,3	20	20	20	125	29.5	22.8	3	60	
	2020-4	4	20	20	20	125	29.5	22.8	3	55	
	2525-3	2,3	25	25	25	150	29.5	27.8	3	60	
	2525-4	4	25	25	25	150	29.5	27.8	3	55	
	2525-6	5,6	25	25	25	150	32.5	28.0	3.5	55	

Holder designation	Screw designation	Wrench designation
		
AGUER/L 1616-3	ASH M5x0.8x16	AWH 4
AGUER/L 2020-3	ASH M5x0.8x20	AWH 4
AGUER/L 2525-3	ASH M5x0.8x25	AWH 4
AGUER/L 1616-4	ASH M6x1.0x16	AWH 5
AGUER/L 2020-4	ASH M6x1.0x20	AWH 5
AGUER/L 2525-4/6	ASH M6x1.0x25	AWH 5

ATSFR/L Face Grooving and Turning



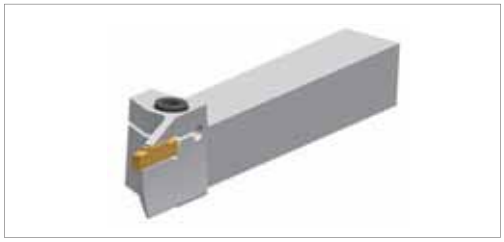


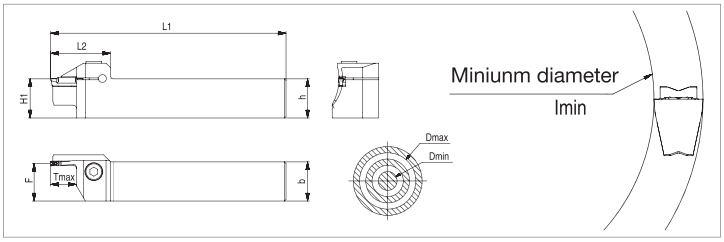
Designation		Designation(mm)									Miniunm machining diameter of face grooving inserts Imin(mm)					Inserts*
		h	b	H1	L1	L2	F	Tmax	Dmin	Dmax	CS	CM	CH	TS	TM	
ATSFR/L	2525-3T10-35-45	25	25	25	150	32	23.95	10	35	45	-	-	-	24	24	ACD/ACS/ATD
	2525-3T10-40-55	25	25	25	150	32	23.95	10	40	55						
	2525-3T15-45-65	25	25	25	150	32	23.95	15	45	65						
	2525-3T15-55-85	25	25	25	150	32	23.95	15	55	85	79	79	79			
	2525-4T15-35-50	25	25	25	150	32	23.55	15	35	50	-	-	42	22	22	
	2525-4T15-45-65	25	25	25	150	32	23.55	15	45	65						
	2525-4T15-55-85	25	25	25	150	32	23.55	15	55	85						
	2525-5T20-50-80	25	25	25	150	40	23.05	20	50	80	-	-	50	-	-	
	2525-5T20-70-110	25	25	25	150	40	23.05	20	70	110						
	2525-5T20-100-150	25	25	25	150	40	23.05	20	100	150						
	2525-5T20-140-200	25	25	25	150	40	23.05	20	140	200						
	2525-6T20-50-85	25	25	25	150	40	22.55	20	50	85	-	-	48	-	-	
	2525-6T20-75-150	25	25	25	150	40	22.55	20	75	150						
	2525-6T20-140-250	25	25	25	150	40	22.55	20	140	250						
	2525-6T20-200-000	25	25	25	150	40	22.55	20	200	∞						

Inserts*: ACD/ACS series only applied for grooving

Holder designation	Screw designation	Wrench designation
		
ATSFR/L 2525-3	ASH M5x0.8x25	AWH 4
ATSFR/L 2525-4	ASH M6x1.0x25	AWH 5
ATSFR/L 2525-5/6	ASH M8x1.25x25	AWH 6

ATSFR/L-OB Face Grooving and Turning(Outside Bluge Type)





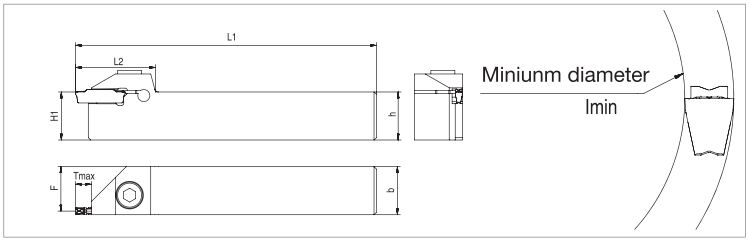
Designation		Designation(mm)									Miniunm machining diameter of face grooving inserts Imin(mm)					Inserts*
		h	b	H1	L1	L2	F	Tmax	Dmin	Dmax	CS	CM	CH	TS	TM	
ATSFR/L	2020-3T10-30-40-OB	20	20	20	140	31	18.95	10	30	40	-	-	-	24	24	ACD/ACS/ATD
	2020-3T10-35-50-OB	20	20	20	140	31	18.95	10	35	50						
	2020-3T15-45-70-OB	20	20	20	140	35	18.95	15	45	70						
	2020-3T15-65-100-OB	20	20	20	140	35	18.95	15	65	100	79	79	79			
	2020-4T10-20-30-OB	20	20	20	140	31	18.55	10	20	30	-	-	-	22	22	
	2020-4T10-25-35-OB	20	20	20	140	31	18.55	10	25	35						
	2020-4T16-30-45-OB	20	20	20	140	36	18.55	16	30	45			42			
	2020-4T16-35-50-OB	20	20	20	140	36	18.55	16	35	50						
	2020-4T16-45-70-OB	20	20	20	140	36	18.55	16	45	70						
	2020-4T16-65-120-OB	20	20	20	140	36	18.55	16	65	120						
	2020-4T16-115-200-OB	20	20	20	140	36	18.55	16	115	200						
	2525-3T10-35-50-OB	25	25	25	150	38	23.95	10	35	50	-	-	-	24	24	
	2525-3T15-45-70-OB	25	25	25	150	38	23.95	15	45	70						
	2525-3T15-65-100-OB	25	25	25	150	38	23.95	15	65	100	79	79	79			
	2525-4T10-25-35-OB	25	25	25	150	39	23.55	10	25	35	-	-	-	22	22	
	2525-4T20-30-45-OB	25	25	25	150	39	23.55	20	30	45			42			
	2525-4T20-35-50-OB	25	25	25	150	39	23.55	20	35	50						
	2525-4T20-45-70-OB	25	25	25	150	39	23.55	20	45	70						
	2525-4T20-65-125-OB	25	25	25	150	39	23.55	20	65	125						
	2525-4T20-115-200-OB	25	25	25	150	39	23.55	20	115	200						
	2525-4T20-190-000-OB	25	25	25	150	39	23.55	20	190	∞						
	2525-5T25-50-80-OB	25	25	25	150	49	23.05	25	50	80	-	-	50	-	-	
	2525-5T15-50-80-OB	25	25	25	150	41	23.05	15	50	80						
	2525-5T25-70-110-OB	25	25	25	150	49	23.05	25	70	110						
	2525-5T15-70-110-OB	25	25	25	150	49	23.05	15	70	110						
	2525-5T25-100-150-OB	25	25	25	150	49	23.05	25	100	150						
	2525-5T25-140-200-OB	25	25	25	150	49	23.05	25	140	200						
	2525-5T25-190-000-OB	25	25	25	150	49	23.05	25	190	∞						
	2525-6T25-50-70-OB	25	25	25	150	49	22.55	25	50	70	-	-	48	-	-	
	2525-6T25-60-100-OB	25	25	25	150	49	22.55	25	60	100						
	2525-6T25-90-180-OB	25	25	25	150	49	22.55	25	90	180						
	2525-6T25-170-400-OB	25	25	25	150	49	22.55	25	170	400						
	2525-6T25-390-000-OB	25	25	25	150	49	22.55	25	390	∞						

Inserts*: ACD/ACS series only applied for grooving

Holder designation	Screw designation	Wrench designation
		
ATSFR/L-OB 2525-3	ASH M6x1.0x25	AWH 5
ATSFR/L-OB 2525-4	ASH M6x1.0x25	AWH 5
ATSFR/L-OB 2525-5/6	ASH M8x1.25x25	AWH 6

AGSFR/L External Face Grooving and Turning



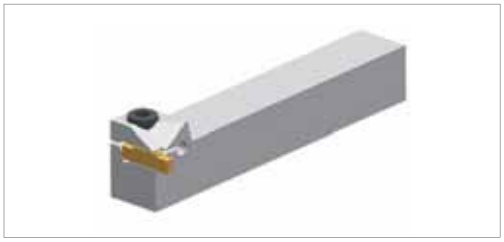


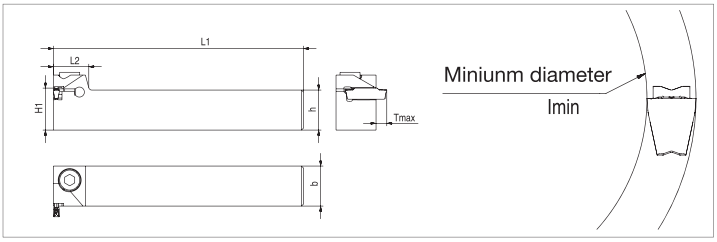
Designation		Insert size (mm)	Designation(mm)							Miniunm machining diameter of face grooving inserts Imin(mm)					Inserts*
			h	b	H1	L1	L2	F	Tmax	CS	CM	CH	TS	TM	
AGSFR/L	1616-4	2,3,4	16	16	16	110	32	14.5	4.6	-	-	42	22	22	ACD/ACS/ATD
	2020-4	2,3,4	20	20	20	125	32	18.5	4.6	-	-	42	22	22	
	2020-6	5,6	20	20	20	125	38	17.6	4.6	-	-	48	-	-	
	2525-4	2,3,4	25	25	25	150	32	23.5	4.6	-	-	42	22	22	
	2525-6	5,6	25	25	25	150	38	22.6	4.6	-	-	48	-	-	

Inserts*: 1. ACD/ACS series only applied for grooving
2. When selecting the face grooving holder, please choose the initial grooving diameter within spec the holder's diameter range(Dmin-Dmax)

Holder designation	Screw designation	Wrench designation
		
AGSFR/L 1616-4	ASH M6x1.0x16	AWH 5
AGSFR/L 2020-4/6	ASH M6x1.0x20	AWH 5
AGSFR/L 2525-4/6	ASH M6x1.0x25	AWH 5

AGPFR/L Face Shallow Perpendicular Grooving and Face Turning





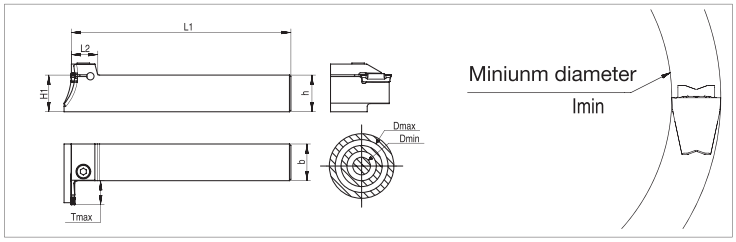
Designation		Insert size (mm)	Designation(mm)						Miniunm machining diameter of face grooving inserts Imin(mm)					Inserts*
			h	b	H1	L1	L2	Tmax	CS	CM	CH	TS	TM	
AGPFR/L	2020-4	2,3,4	20	20	20	125	20	4.6	-	-	42	22	22	ACD/ACS/ATD
	2525-4	2,3,4	25	25	25	150	20	4.6	-	-	42	22	22	
	2525-6	5,6	25	25	25	150	25	4.6	-	-	48	-	-	

Inserts*: 1. ACD/ACS series only applied for grooving
2. When you select the grooving holder for face turning, please confirm the cutting diameter rang(Dmin-Dmax)of tools, and the minium cutting diameter of insert.

Holder designation	Screw designation	Wrench designation
		
AGPFR/L 2020-4	ASH M6x1.0x20	AWH 5
AGPFR/L 2525-4/6	ASH M6x1.0x25	AWH 5

ATPFR/L Face Grooving and Turning





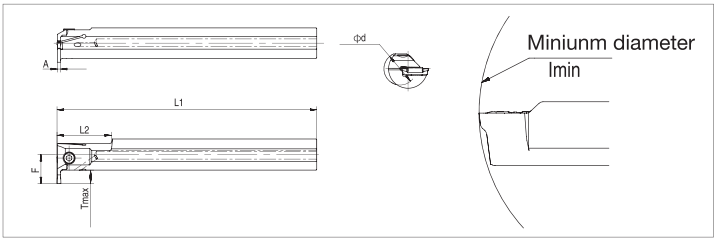
Designation		Designation(mm)								Miniunm machining diameter of face grooving inserts Imin(mm)					Inserts*
		h	b	H1	L1	L2	Tmax	Dmin	Dmax	CS	CM	CH	TS	TM	
ATPFR/L	ATPFR/L 2525-3T10-30-40	25	25	25	150	18	10	30	40	-	-	-	24	24	ACD/ACS/ATD
	ATPFR/L 2525-3T10-35-50	25	25	25	150	18	10	35	50						
	ATPFR/L 2525-3T15-45-60	25	25	25	150	18	15	45	60						
	ATPFR/L 2525-3T15-55-85	25	25	25	150	18	15	55	85	79	79	79			
	ATPFR/L 2525-4T12-25-40	25	25	25	150	18.5	12	25	40	-	-	-	22	22	
	ATPFR/L 2525-4T15-35-50	25	25	25	150	18.5	15	35	50			42			
	ATPFR/L 2525-4T15-45-60	25	25	25	150	18.5	15	45	60						
	ATPFR/L 2525-4T15-55-85	25	25	25	150	18.5	15	55	85						
	ATPFR/L 2525-5T20-50-80	25	25	25	150	22	20	50	80	-	-	50	-	-	
	ATPFR/L 2525-5T20-70-110	25	25	25	150	22	20	70	110						
	ATPFR/L 2525-5T20-100-150	25	25	25	150	22	20	100	150						
	ATPFR/L 2525-5T20-140-200	25	25	25	150	22	20	140	200						
	ATPFR/L 2525-5T20-190-000	25	25	25	150	22	20	190	∞						
	ATPFR/L 2525-6T20-50-85	25	25	25	150	22	20	50	85	-	-	48	-	-	
	ATPFR/L 2525-6T20-75-150	25	25	25	150	22	20	75	150						
	ATPFR/L 2525-6T20-140-250	25	25	25	150	22	20	140	250						
	ATPFR/L 2525-6T20-240-000	25	25	25	150	22	20	240	∞						

Inserts*:1. ACD/ACS series only applied for grooving

Holder designation	Screw designation	Wrench designation
		
ATPFR/L2525-3	ASH M5x0.8x25	AWH 4
ATPFR/L2525-4	ASH M6x1.0x25	AWH 5
ATPFR/L2525-5/6	ASH M8x1.25x25	AWH 6

ATPIR/L Internal Grooving, Turning and Profiling





Designation		Designation(mm)							Machining miniunm diameter of internal grooving insertslmin(mm)							Inserts*
		d	A	L1	L2	F	Tmax	Dmin	CS	CM	CH	TS	TM	RM	RA	
ATPIR/L	20-2T6-25-C	20	1.6	160	40	15.8	6	25	-	-	-	-	-	-	-	ACD/ACS/ATD
	25-2T5-25-C	25	1.6	200	40	17.5	5	25								
	20-3T6-25-C	20	2.1	160	40	15.8	6	25	-	-	-	25	25	25	-	
	25-3T5-25-C	25	2.1	200	40	17.5	5	25								
	25-3T8-32-C	25	2.4	200	40	21.5	8	32								
	32-3T5-30-C	32	2.1	250	60	19.8	5	30								
	32-3T10-40-C	32	2.4	200	60	27.0	10	40								
	40-3T12-50-C	40	2.4	300	65	33.0	12	50	45	45	45					
	20-4T6-25-C	20	3.0	160	40	15.8	6	25	-	-	-	25	25	25	-	
	25-4T5-25-C	25	2.9	200	40	17.5	5	25								
	25-4T8-32-C	25	3.0	200	40	21.5	8	32								
	32-4T5-30-C	32	2.9	250	60	20.8	5	30								
	32-4T10-40-C	32	3.0	250	60	27.0	10	40								
	40-4T12-50-C	40	3.0	300	65	33.0	12	50			45					
	50-4T14-60-C	50	3.0	350	70	40.0	14	60			45					
	25-5T5-31-C	25	3.9	200	40	17.3	5	31	-	-	-	-	-	-	-	
	32-5T5-31-C	32	3.9	250	60	20.8	5	31								
	32-5T10-40-C	32	3.9	250	60	27.0	10	40								
	40-5T12-50-C	40	3.9	300	65	33.0	12	50			45					
	50-5T14-60-C	50	3.9	350	70	40.0	14	60			45					
	32-6T5-31-C	32	4.9	250	60	20.8	5	32	-	-	-	-	-	--	-	
	32-6T10-40-C	32	4.9	250	60	27.0	10	40								
	40-6T12-50-C	40	4.9	300	65	33.0	12	50			45					
	50-6T14-60-C	50	4.9	350	70	40.0	14	60								

Inserts*:1. ACD/ACS series only applied for grooving

2. When you select the grooving holder for face turning, please confirm the cutting diameter rang(Dmin-Dmax)of tools, and the minium cutting diameter of insert.

Holder designation	Screw designation	Wrench designation
		
ATPIR/L 20-2/3/4	ASH M5x0.8x12	AWH 4
ATPIR/L 25-2/3/4	ASH M5x0.8x16	AWH 4
ATPIR/L 32-3/4	ASH M5x0.8x16	AWH 4
ATPIR/L 40-3/4	ASH M5x0.8x16	AWH 4
ATPIR/L 50-4	ASH M5x0.8x20	AWH 4
ATPIR/L 25-5	ASH M6x1.0x16	AWH 5
ATPIR/L 32-5/6/8	ASH M6x1.0x20	AWH 5
ATPIR/L 40/50-5/6/8	ASH M6x1.0x25	AWH 5

Insert Designation System

A	C	D	4	0	3	-	CM	-	6	R
1	2	3	4	5		-	6	-	7	8

1-Company name

ACHTECK

2-Application

C	Grooving/Parting off
T	Turning/Grooving

3-Insert shape

S	Single-ended
D	Double-ended

4-Insert width



2=2.0mm
3=3.0mm
4=4.0mm

5-Corner radius



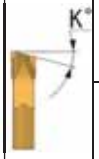
02=0.2mm
03=0.3mm
04=0.4mm

6-Geometry



CS
CM
CH
TS

7-Cutting edge angle



6	
15	

8-Hand of tool



	L:Left
	R:Right

Insert Designation System(Grinded Class)

A	T	D	215	E	010	G	-	R/L
1	2	3	4	5	6	7	-	8

1-Company name

Achteck

2- Application

T	Grooving/Parting off

3-Insert shape

S	Single-ended
D	Double-ended

4-Insert width



215=2.15mm
145=1.45mm

5-Application

E:External
F:Facing
I:Internal

5-Corner radius



010=0.10mm
020=0.20mm
200=2.00mm

7-Application limited

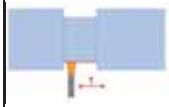
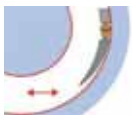
G	Only applied for grooving

8-Hand of tool



	L:Left
	R:Right

Overview of Grooving Inserts

Application \ Insert			ACD			ATD				
			CS	CM	CH	TS	TM	RM	RA	Grinded inserts
										
External grooving	Parting off		●	●	●	◐	◐			
	Grooving		●	●	●	●	●	◐	◐	●
	Turning					●	●	●	◐	◐
	Profiling							●	●	◐
	Under cut							●	◐	◐
Face grooving	Grooving		◐	◐	◐	●	●			●
	Turning					●	●			◐
Internal machining	Grooving		◐	◐	◐	●	●			●
	Turning					●	●			◐

Marked: ● Best choice
◐ 2nd choice

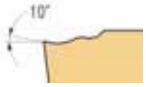
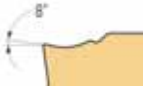
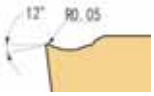
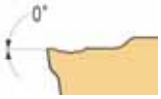
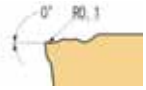
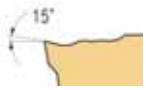
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Grooving inserts

Insert Geometry Introduction

Inserts	Geometry	Shape of cutting edge	Description
	**CS**		1. Applied for parting off & grooving on stainless steels, super-alloy and low carbon steel 2. For low feed rate application
	**CM**		1. Applied for parting off & grooving on low carbon steels and stainless steels 2. For sticky material, pipe fittings, thin-walled parts parting off, low cutting force 3. For low to medium feed rate
	**CH**		1. Applied for parting off and grooving on steels, alloy steel and stainless steels 2. Strong cutting edge 3. For medium to high feed rate
	**TS**		1. Multifunctional insert for external,internal turning and grooving, parting off and face grooving and face turning 2. Excellent chip control 3. For low and medium feed rate
	**TM**		1. Multifunctional insert for external, internal turning and grooving, parting off and face grooving and face turning 2. Stronger cutting edge design 3. For medium feed rate
	**RM**		1. External, grooving, turning, profiling 2. Medium feed rate
	**RA**		1. For turning and profiling on aluminum alloys 2. High positive rake angle and sharp cutting edge 3. Grinded inserts with high precision

Grade Application Guide

Grooving grade ISO group					
Material group	Materials	ISO	PVD coated	Uncoated	ISO
			AP301U	AW100K	
P	Non-alloyed steel/ Alloyed steel	P01			P01
		P05			P05
		P10			P10
		P15	AP301U		P15
		P20			P20
		P25			P25
		P30			P30
		P35			P35
		P40			P40
		P45			P45
		P50			P50
M	Stainless steel	M01			M01
		M05			M05
		M10			M10
		M15	AP301U		M15
		M20			M20
		M25			M25
		M30			M30
		M35			M35
		M40			M40
		M45			M45
K	Cast iron	K01			K01
		K05			K05
		K10			K10
		K15	AP301U		K15
		K20			K20
		K25			K25
		K30			K30
		K35			K35
		K40			K40
		K45			K45
		K50			K50
S	High temperature alloys	S01			S01
		S05			S05
		S10			S10
		S15			S15
		S20			S20
		S25			S25
		S30			S30
		S35			S35
		S40			S40
N	Aluminum/Aluminum alloy	N01			N01
		N05		AW100K	N05
		N10			N10
		N15			N15
		N20			N20
		N25			N25
		N30			N30
H	Hardened steel/ Chilled cast iron	H01			H01
		H05			H05
		H10			H10
		H15			H15
		H20			H20
		H25			H25
		H30			H30

Grade Application Guide

Materials				Grooving grade application	
				PVD coated	Uncoated
ISO	Material classification	Tensile strength (N/mm^2)	Hardness (HB)	AP301U	AW100K
P	Non-alloyed steel	<600	<180	●	-
		<950	<280	●	-
	Alloyed steel	700-950	200-280	●	-
		950-1200	280-355	●	-
		1200-1400	355-415	●	-
M	Duplex stainless steel	778	230	●	-
	Austenitic stainless steel	675	200	●	-
	Precipitation-hardening stainless steel	1013	300	●	-
K	Grey cast iron	700	220	◐	-
	Nodular cast iron	880	260	◐	-
	Malleable cast iron	800	250	◐	-
S	Fe-based alloy	943	280	-	-
	Co-based alloy	1076	320	-	-
	Ni-based alloy	1177	350	-	-
	Ti-alloy	1262	370	-	-
N	Aluminum	260	75	-	●
	Aluminum alloy	447	130	-	●
H	Hardened steel	-	50-60HRC	-	-
	Chilled cast iron	-	55HRC	-	-

● Best choice
◐ 2nd choice
- Inapplicable

Grooving Grade Description

AP301U



Coating: PVD coating

Suitable for steel, stainless steel and high-temp alloys. Medium hardness and submicron carbide substrate with multi nano layered PVD coating. High wear resitance and good toughness. Excellent grade for grooving

Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P				AP301U							
M				AP301U							
K				AP301U							
S											
N											
H											

Remark: ☐ Best choice
⋯ 2nd choice

AW100K



Coating: uncoated

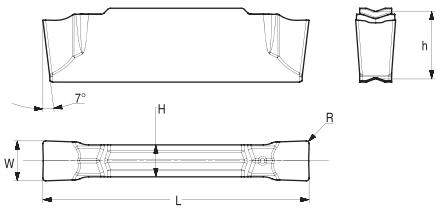
Uncoated ultra-fine grained structure substrate, special treated cutting edge, suitable for aluminum alloys.

Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P											
M											
K											
S											
N		AW100K									
H											

Remark: ☐ Best choice

Parting Off-Grooving Series

CS: Double-ended inserts applied for parting off and grooving

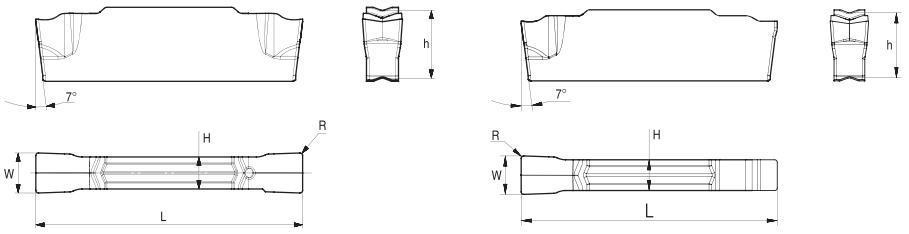


Inserts	Designation	Cutting parameter		Dimension(mm)					Grade	
		Tmax	Feed (mm/rev)	W	R	L	H	h	AP301U	AW100K
	ACD 202-CS	19.7	0.04-0.13	2	0.2	20	1.7	5.1	●	
	ACD 302-CS	19.7	0.05-0.15	3	0.2	20	2.4	5.1	●	

Marked: ● Stock available
○ Produced by order

Parting Off-Grooving Series

CM: Double-ended, single-ended inserts applied for parting off and grooving



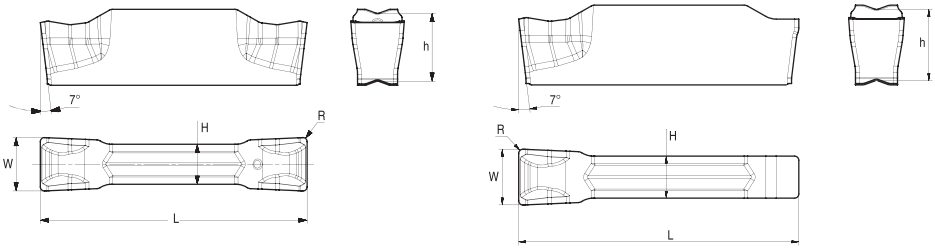
Inserts	Designation	Cutting parameter		Dimension(mm)					Grade	
		Tmax	Feed (mm/rev)	W	R	L	H	h	AP301U	AW100K
	ACD 202-CM	19.7	0.04-0.15	2	0.2	20.0	1.7	5.1	●	
	ACD 202-CM-6R	19.7	0.03-0.09	2	0.2	20.7	1.7	5.1	○	
	ACD 202-CM-6L	19.7	0.03-0.09	2	0.2	20.7	1.7	5.1	○	
	ACD 202-CM-15R	19.7	0.03-0.09	2	0.2	21.0	1.7	5.1	○	
	ACD 202-CM-15L	19.7	0.03-0.09	2	0.2	21.0	1.7	5.1	○	
	ACD 302-CM	19.7	0.05-0.16	3	0.2	20.0	2.4	5.1	●	
	ACD 302-CM-6R	19.7	0.04-0.14	3	0.2	20.7	2.4	5.1	○	
	ACD 302-CM-6L	19.7	0.04-0.14	3	0.2	20.7	2.4	5.1	○	
	ACD 302-CM-15R	19.7	0.04-0.14	3	0.2	21.0	2.4	5.1	○	
	ACD 302-CM-15L	19.7	0.04-0.14	3	0.2	21.0	2.4	5.1	○	
	ACD 403-CM	19.7	0.06-0.18	4	0.3	20.0	3.0	5.1	○	
	ACD 403-CM-4R	19.7	0.05-0.16	4	0.3	20.7	3.0	5.1	○	
	ACD 403-CM-4L	19.7	0.05-0.16	4	0.3	20.7	3.0	5.1	○	
	ACD 503-CM	24.7	0.06-0.20	5	0.3	25.0	4.0	5.0	○	
	ACD 503-CM-4R	24.7	0.06-0.18	5	0.3	25.7	4.0	5.0	○	
	ACD 503-CM-4L	24.7	0.06-0.18	5	0.3	25.7	4.0	5.0	○	
	ACD 603-CM	29.7	0.06-0.22	6	0.3	30.0	5.0	5.0	○	
	ACS 202-CM	-	0.04-0.15	2	0.2	20.0	1.7	5.1	○	
	ACS 302-CM	-	0.05-0.16	3	0.2	20.0	2.4	5.1	○	
	ACS 403-CM	-	0.06-0.18	4	0.3	20.0	3.0	5.1	○	
	ACS 503-CM	-	0.06-0.20	5	0.3	25.0	4.0	5.0	○	
	ACS 603-CM	-	0.06-0.22	6	0.3	30.0	5.0	5.0	○	

Remark: 1. If R/L type inserts are selected, the feed rate should be reduced by 20-40%.
2. ACS single-sided insert Tmax, determined by the holder

Marked: ● Stock available
○ Produced by order

Parting Off-Grooving Series

CH: Double-ended, single-ended inserts applied for parting off and grooving



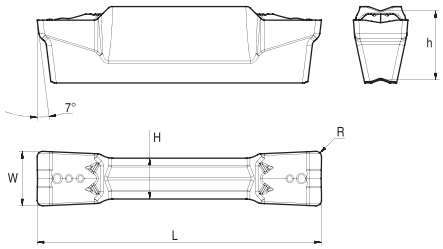
Inserts	Designation	Cutting parameter		Dimension(mm)					Grade	
		Tmax	Feed (mm/rev)	W	R	L	H	h	AP301U	AW100K
	ACD 202-CH	19.7	0.05-0.20	2	0.2	20.0	1.7	5.1	●	
	ACD 202-CH-6R	19.7	0.04-0.16	2	0.2	20.7	1.7	5.1	○	
	ACD 202-CH-6L	19.7	0.04-0.16	2	0.2	20.7	1.7	5.1	○	
	ACD 202-CH-15R	19.7	0.04-0.15	2	0.2	21.0	1.7	5.1	○	
	ACD 202-CH-15L	19.7	0.04-0.15	2	0.2	21.0	1.7	5.1	○	
	ACD 302-CH	19.7	0.07-0.25	3	0.2	20.0	2.4	5.1	●	
	ACD 302-CH-6R	20.7	0.05-0.20	3	0.2	20.7	2.4	5.1	○	
	ACD 302-CH-6L	21.7	0.05-0.20	3	0.2	20.7	2.4	5.1	○	
	ACD 302-CH-15R	20.0	0.05-0.18	3	0.2	21.0	2.4	5.1	○	
	ACD 302-CH-15L	20.0	0.05-0.18	3	0.2	21.0	2.4	5.1	○	
	ACD 403-CH	19.0	0.08-0.30	4	0.3	20.0	3.0	5.1	●	
	ACD 403-CH-4R	19.7	0.06-0.25	4	0.3	20.7	3.0	5.1	○	
	ACD 403-CH-4L	19.7	0.06-0.25	4	0.3	20.7	3.0	5.1	○	
	ACD 503-CH	24.0	0.09-0.35	5	0.3	25.0	4.0	5.0	●	
	ACD 503-CH-4R	24.7	0.08-0.30	5	0.3	25.7	4.0	5.0	○	
	ACD 503-CH-4L	25.7	0.08-0.30	5	0.3	25.7	4.0	5.0	○	
	ACD 603-CH	24.0	0.12-0.40	6	0.3	25.0	5.0	5.0	○	
	ACD 804-CH	29.0	0.15-0.45	8	0.4	30.0	6.0	6.1	○	
	ACS 202-CH	-	0.05-0.20	2	0.2	20.0	1.7	5.1	○	
	ACS 302-CH	-	0.07-0.25	3	0.2	20.0	2.4	5.1	○	
	ACS 403-CH	-	0.08-0.30	4	0.3	20.0	3.0	5.1	○	
	ACS 503-CH	-	0.09-0.35	5	0.3	20.0	4.0	5.0	○	
	ACS 603-CH	-	0.12-0.40	6	0.3	25.0	5.0	5.0	○	

Remark: 1. If R/L type inserts are selected, the feed rate should be reduced by 20-40%.
2. ACS single-sided insert Tmax, determined by the holder

Marked: ● Stock available
○ Produced by order

Grooving-Turning Series

TS: Double-ended inserts applied for external, internal, face turning, grooving and parting off

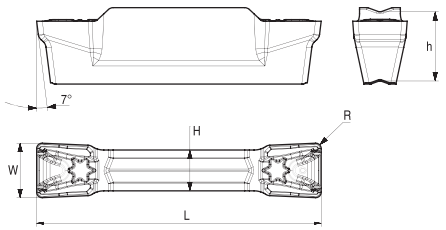


Inserts	Designation	Cutting parameter				Dimension(mm)					Grade	
		Grooving	Tmax	Turning		W	R	L	H	h	AP301U	AW100K
		Feed (mm/rev)		Feed (mm/rev)	Ap (mm)							
	ATD 203-TS	0.04-0.20	19.7	0.12-0.19	0.40-1.50	2	0.3	20.7	1.7	5.1	○	
	ATD 303-TS	0.05-0.25	19.7	0.15-0.23	0.45-2.00	3	0.3	20.7	2.2	5.1	●	
	ATD 404-TS	0.06-0.27	19.7	0.18-0.25	0.50-2.50	4	0.4	20.7	3.0	5.1	●	
	ATD 408-TS	0.06-0.27	19.7	0.18-0.25	1.00-2.50	4	0.8	20.7	3.0	5.1	●	
	ATD 504-TS	0.07-0.30	24.7	0.20-0.30	0.55-3.50	5	0.4	25.7	4.0	5.0	●	
	ATD 508-TS	0.07-0.30	24.7	0.20-0.30	1.00-3.50	5	0.8	25.7	4.0	5.0	○	
	ATD 604-TS	0.10-0.40	24.7	0.22-0.45	0.65-3.80	6	0.4	25.7	5.0	5.0	○	
	ATD 608-TS	0.10-0.40	24.7	0.22-0.45	1.00-3.80	6	0.8	25.7	5.0	5.0	○	
	ATD 808-TS	0.12-0.45	30.5	0.28-0.50	1.00-4.50	8	0.8	31.5	6.0	6.1	○	

Marked: ● Stock available
○ Produced by order

Grooving-Turning Series

TM: Double-ended inserts applied for external, internal, face turning, grooving and parting off

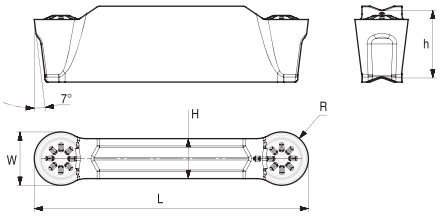


Inserts	Designation	Cutting parameter				Dimension(mm)					Grade	
		Grooving	Tmax	Turning		W	R	L	H	h	AP301U	AW100K
		Feed (mm/rev)		Feed (mm/rev)	Ap (mm)							
	ATD 304-TM	0.10-0.25	19.7	0.15-0.22	0.50-2.0	3	0.4	20.7	2.2	5.1	●	
	ATD 404-TM	0.15-0.30	19.7	0.18-0.27	0.50-2.50	4	0.4	20.7	3.0	5.1	●	
	ATD 408-TM	0.15-0.30	19.7	0.18-0.27	1.00-2.50	4	0.8	20.7	3.0	5.1	●	
	ATD 504-TM	0.18-0.35	24.7	0.20-0.35	0.55-3.50	5	0.4	25.7	4.0	5.0	●	
	ATD 508-TM	0.18-0.35	24.7	0.20-0.35	1.00-3.50	5	0.8	25.7	4.0	5.0	○	
	ATD 604-TM	0.20-0.45	24.7	0.22-0.45	0.65-4.00	6	0.4	25.7	5.0	5.0	○	
	ATD 608-TM	0.20-0.45	24.7	0.22-0.45	1.00-4.00	6	0.8	25.7	5.0	5.0	○	
	ATD 808-TM	0.22-0.50	30.5	0.28-0.50	1.00-5.00	8	0.8	31.5	6.0	6.1	○	
	ATD 812-TM	0.22-0.50	30.5	0.28-0.50	1.50-5.00	8	1.2	31.5	6.0	6.1	○	

Marked: ● Stock available
○ Produced by order

Grooving-Turning Series

RM: Double-ended round inserts applied for external turning, grooving and profiling

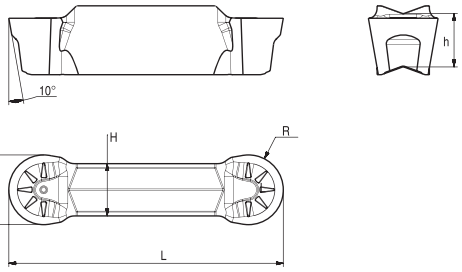


Inserts	Designation	Cutting parameter			Dimension(mm)					Grade	
		Grooving	Turning		W	R	L	H	h	AP301U	AW100K
		Feed (mm/rev)	Feed (mm/rev)	Ap (mm)							
	ATD 210-RM	0.06-0.15	0.12-0.25	0.4-1.0	2	1.0	20.7	1.7	5.1	●	
	ATD 315-RM	0.08-0.18	0.15-0.30	0.5-1.5	3	1.5	20.7	2.2	5.1	●	
	ATD 420-RM	0.10-0.20	0.18-0.35	0.6-2.0	4	2.0	20.7	3.0	5.1	●	
	ATD 525-RM	0.12-0.25	0.20-0.40	0.7-2.5	5	2.5	25.7	4.0	5.0	●	
	ATD 630-RM	0.15-0.30	0.25-0.50	0.9-3.0	6	3.0	25.7	5.0	5.0	●	
	ATD 840-RM	0.18-0.35	0.30-0.60	1.0-4.0	8	4.0	31.5	6.0	6.1	○	

Marked: ● Stock available
○ Produced by order

Grooving-Turning Series

RA: Double-ended grinding round inserts applied for aluminium wheels turning and profiling

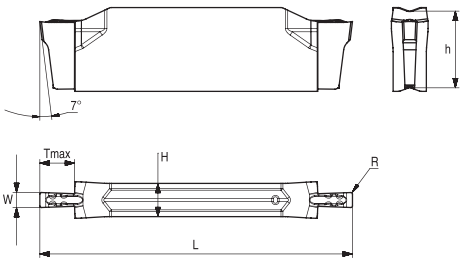


Inserts	Designation	Cutting parameter			Dimension(mm)					Grade	
		Grooving	Turning		W	R	L	H	h	AP301U	AW100K
		Feed (mm/rev)	Feed (mm/rev)	Ap (mm)							
	ATD 315-RA	0.08-0.18	0.15-0.30	0.5-1.5	3	1.5	20.7	2.2	5.1		○
	ATD 420-RA	0.10-0.25	0.20-0.45	0.6-0.2	4	2.0	20.7	3.0	5.1		○
	ATD 525-RA	0.11-0.28	0.20-0.50	0.7-2.5	5	2.5	25.7	4.0	5.0		○
	ATD 630-RA	0.12-0.30	0.22-0.60	0.9-3.0	6	3.0	25.7	5.0	5.0		○
	ATD 840-RA	0.15-0.40	0.25-0.65	1.0-4.0	8	4.0	31.5	6.0	6.1		○

Marked: ● Stock available
○ Produced by order

Grooving Series

Grinded inserts applied for grooving



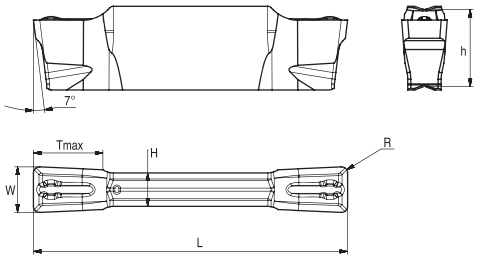
Inserts	Designation	Cutting parameter	Dimension(mm)						Grade	
		Grooving								
		Feed (mm/rev)	W	R	Tmax	H	h	L	AP301U	AW100K
	ATD 100E000G	0.02-0.05	1.00	0.00	2.00	2.20	5.1	20.700	●	
	ATD 104E000G	0.02-0.05	1.04	0.00	2.00	2.20	5.1	20.700	●	
	ATD 120E000G	0.03-0.05	1.20	0.00	2.00	2.20	5.1	20.700	●	
	ATD 125E010G	0.03-0.05	1.25	0.10	2.00	2.20	5.1	20.700	●	
	ATD 135E000G	0.03-0.05	1.35	0.00	2.00	2.20	5.1	20.700	●	
	ATD 140E000G	0.03-0.06	1.40	0.00	2.00	2.20	5.1	20.700	●	
	ATD 145E010G	0.03-0.06	1.45	0.10	2.00	2.20	5.1	20.700	●	
	ATD 147E000G	0.03-0.06	1.47	0.00	2.50	2.20	5.1	20.700	●	
	ATD 150E010G	0.03-0.06	1.50	0.10	2.50	2.20	5.1	20.700	●	
	ATD 157E015G	0.03-0.07	1.57	0.15	2.70	2.20	5.1	20.700	●	
	ATD 170E010G	0.03-0.07	1.70	0.10	3.00	2.20	5.1	20.700	●	
	ATD 178E018G	0.03-0.07	1.78	0.18	3.00	2.20	5.1	20.700	●	
	ATD 196E015G	0.04-0.09	1.96	0.15	3.00	2.20	5.1	20.700	●	
	ATD 200E020G	0.04-0.09	2.00	0.20	3.00	2.20	5.1	20.700	●	
	ATD 215E010G	0.04-0.10	2.15	0.10	3.00	2.20	5.1	20.700	●	
	ATD 222E015G	0.04-0.10	2.22	0.15	3.50	2.20	5.1	20.700	●	
	ATD 230E020G	0.04-0.10	2.30	0.20	3.50	2.20	5.1	20.700	●	
	ATD 100E050G	0.03-0.06	1.00	0.50	2.00	2.20	5.1	20.700	●	
	ATD 140E070G	0.04-0.07	1.40	0.70	2.00	2.20	5.1	20.700	●	
	ATD 157E079G	0.04-0.08	1.57	0.78	2.70	2.20	5.1	20.700	●	
	ATD 200E100G	0.05-0.11	2.00	1.00	3.00	2.20	5.1	20.700	●	
	ATD 239E120G	0.06-0.12	2.39	1.19	-	2.20	5.1	20.700	●	
	*ATD 115E000G	0.02-0.05	1.15	0.00	2.00	2.20	5.1	20.700	●	
	*ATD 130E000G	0.03-0.05	1.30	0.00	2.00	2.20	5.1	20.700	●	
	*ATD 165E010G	0.03-0.07	1.65	0.10	2.70	2.20	5.1	20.700	●	
	*ATD 190E010G	0.04-0.09	1.90	0.10	3.00	2.20	5.1	20.700	●	
	*ATD 215E010G	0.04-0.10	2.15	0.10	3.00	2.20	5.1	20.700	●	

1. * Specialized for circlip groove
2. When you select the insert with width of 1.78mm or even below, please pay attention to the A value of tool holder.

Marked: ● Stock available
○ Produced by order

Grooving-Turning Series

Grinded inserts applied for turning and grooving

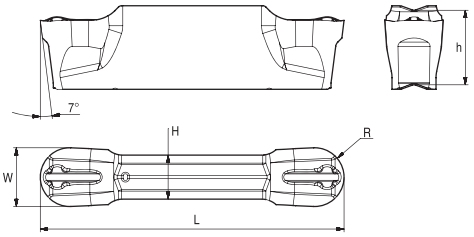


Inserts	Designation	Cutting parameter			Dimension(mm)						Grade	
		Grooving	Turning		W	R	Tmax	H	h	L	AP301U	AW100K
		Feed (mm/rev)	Feed (mm/rev)	Ap (mm)								
	ATD 265E015	0.04-0.12	0.10-0.18	0.20-1.80	2.65	0.15	-	2.20	5.1	20.700	●	
	ATD 300E020	0.06-0.14	0.11-0.20	0.30-2.00	3.00	0.20	-	2.20	5.1	20.700	●	
	ATD 300E040	0.06-0.15	0.15-0.23	0.50-2.20	3.00	0.40	-	2.20	5.1	20.700	●	
	ATD 400E040	0.08-0.19	0.16-0.30	0.50-2.50	4.00	0.40	-	3.00	5.1	20.700	●	
	ATD 400E080	0.08-0.19	0.16-0.30	1.00-2.50	4.00	0.80	-	3.00	5.1	20.700	●	
	ATD 415E015	0.08-0.19	0.16-0.30	0.20-2.50	4.15	0.15	-	3.00	5.1	20.700	●	
	ATD 478E055	0.10-0.20	0.20-0.35	0.60-2.60	4.78	0.55	-	4.00	5.0	25.700	●	
	ATD 500E040	0.10-0.20	0.20-0.35	0.50-2.60	5.00	0.40	-	4.00	5.0	25.700	●	
	ATD 500E080	0.10-0.20	0.22-0.35	1.00-3.00	5.00	0.80	-	4.00	5.0	25.700	●	
	ATD 515E015	0.10-0.22	0.22-0.35	0.20-3.00	5.15	0.15	-	4.00	5.0	25.700	●	
	ATD 555E055	0.12-0.28	0.23-0.40	0.60-3.00	5.55	0.55	-	5.00	5.0	25.700	●	
	ATD 600E080	0.12-0.30	0.25-0.45	1.00-3.50	6.00	0.80	-	5.00	5.0	25.700	●	
	ATD 600E120	0.12-0.30	0.25-0.45	1.30-3.50	6.00	1.20	-	5.00	5.0	25.700	●	
	ATD 635E080	0.13-0.30	0.25-0.45	1.00-3.50	6.35	0.80	-	5.00	5.0	25.700	●	

Marked: ● Stock available
○ Produced by order

Grooving-Turning Series

Grinded inserts for external turning, grooving and profiling



Inserts	Designation	Cutting parameter			Dimension(mm)						Grade	
		Grooving	Turning		W	R	Tmax	H	h	L	AP301U	AW100K
		Feed (mm/rev)	Feed (mm/rev)	Ap (mm)								
	ATD 300E150	0.08-0.19	0.15-0.30	0.00-1.50	3.00	1.50	-	2.20	5.1	20.700	●	
	ATD 400E200	0.10-0.20	0.18-0.35	0.00-2.00	4.00	2.00	-	3.00	5.1	20.700	●	
	ATD 478E239	0.12-0.24	0.22-0.45	0.00-2.40	4.78	2.39	-	4.00	5.0	25.700	●	
	ATD 500E250	0.12-0.24	0.22-0.45	0.00-2.50	5.00	2.50	-	4.00	5.0	25.700	●	
	ATD 600E300	0.15-0.30	0.25-0.50	0.00-3.00	6.00	3.00	-	5.00	5.0	25.700	●	

Marked: ● Stock available
○ Produced by order

Cutting Parameter Recommended Table of Parting Off and Grooving Application

Materials				Grooving grade application range					
ISO	Material classification	Tensile strength (N/mm^2)	Hardness (HB)	PVD coated			Uncoated		
				AP301U			AW100K		
				P15-35			-		
				M15-35			-		
				K15-35			-		
				-			-		
				-			N05-15		
				-			-		
				Feed（mm/rev）					
				Min	Med	Max	Min	Med	Max
				Cutting speed Vc（m/min）					
P	Non-alloyed steel	<600	<180	180	145	130	-	-	-
		<950	<280	145	130	115	-	-	-
	Alloyed steel	700-950	200-280	130	115	100	-	-	-
		950-1200	280-355	115	100	80	-	-	-
		1200-1400	355-415	170	90	105	-		-
M	Duplex stainless steel	778	230	135	110	85	-	-	-
	Austenitic stainless steel	675	200	165	135	105	-	-	-
	Precipitation-hardening stainless steel	1013	300	155	120	80	-	-	-
K	Grey cast iron	700	220	185	140	95	-	-	-
	Nodular cast iron	880	260	145	110	80	-	-	-
	Malleable cast iron	800	250	115	90	65	-	-	-
S	Fe-based alloy	943	280	-	-	-	-	-	-
	Co-based alloy	1076	320	-		-	-	-	-
	Ni-based alloy	1177	350	-	-	-	-	-	-
	Ti-alloy	1262	370	-	-	-	-	-	-
N	Aluminum	260	75	-	-	-	850	500	200
	Aluminum alloy	447	130	-	-	-	450	250	40
H	Hardened steel	-	50-60HRC	-	-	-	-	-	-
	Chilled cast iron	-	55HRC	-	-	-	-	-	-

* The recommended cutting conditions always refer to general conditions. These cutting conditions should be adjusted according to the practical machine rigidity, tools, workpiece clamping and coolant.