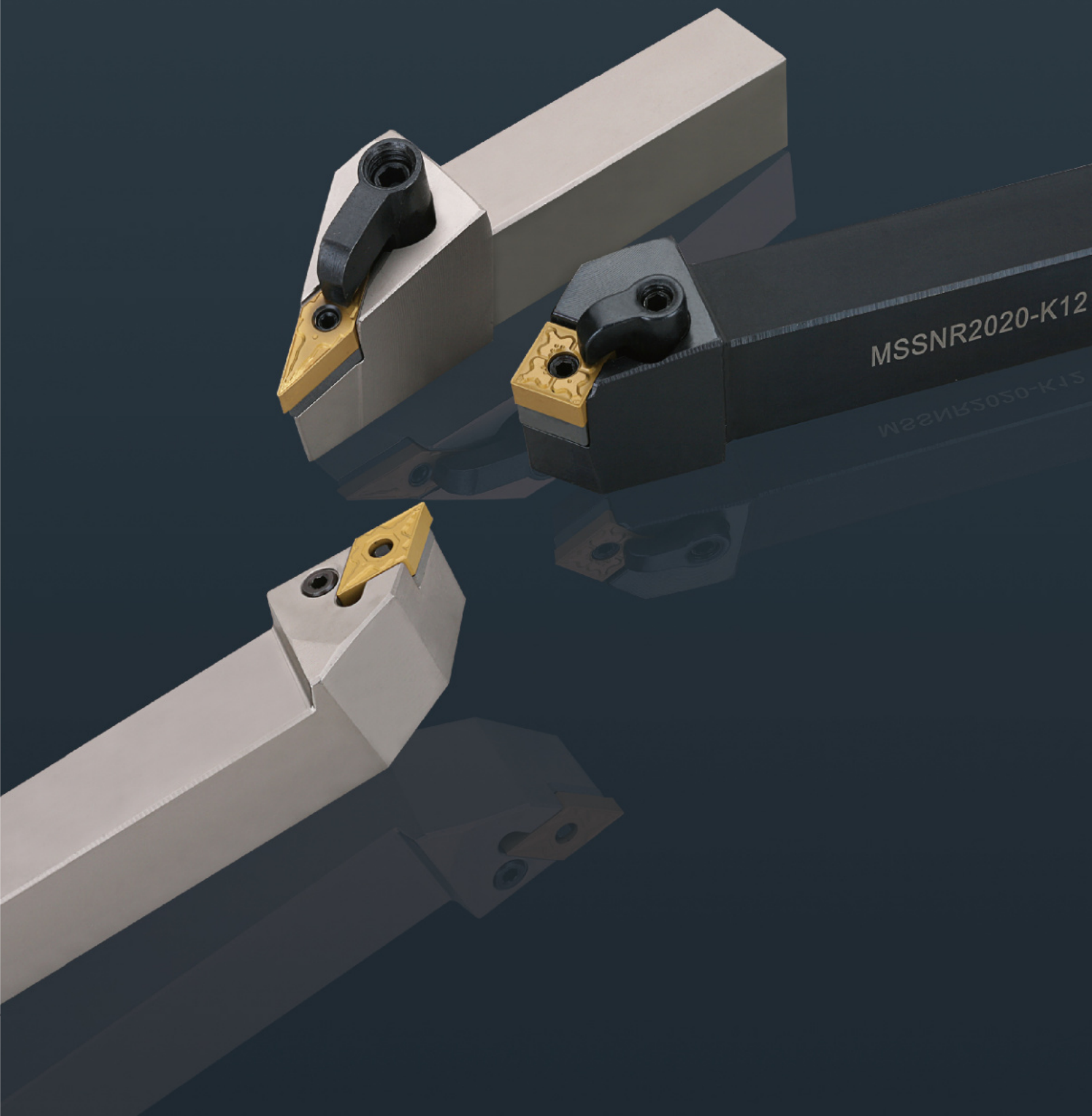
TOOTOOL®

www.ttooltec.com



Turning Grades

Grades System

Cutting tool

Uncoated carbide	P	Steel	TP20
	M	Stainless steel	-
	K	Cast iron	TPK01
	N	Non-ferrous metal	TPK01
	S	Heat resistant alloy, Titanium alloy	TPK01
	H	Hardened steel	-

Coated carbide for turning	P	Steel	TCP 9305	TCP 9215	TCP 9120	TCP 9225	TCP 9325	TCP 9335	TCP 9345	TPM 8115	TPM 8125	TPM 8135
	M	Stainless steel	TPM 8115	TPM 8315	TPM 8125	TPM 8225	TPM 8135	TPM 930				
	K	Cast iron	TCK 5205	TCK 5305	TCK 5215	TCK 5315	TCK 5225	TCK 5325				
	N	Non-ferrous metal	TPDL 025									
	S	HRSA	TPM 8315	TPM 8125	TPM 8225	TPDL 025						
	H	Hardened steel	HX 200	HX 400								

Coated carbide for milling	P	Steel	TCP 9330	TCP 9340	TCP 9350	TPM 8115	TPM 8125	TPM 8135	TPG 4235	TPK 4235H
	M	Stainless steel	TPM 8115	TPM 8315	TPM 8125	TPM 8225	TPM 8135	TPG 4235	TPK 4235H	
	K	Cast iron	TCK 5205	TCK 5305	TCK 5215	TCK 5315	TCK 5225	TCK 5325	TPK 4235H	
	N	Non-ferrous metal	TPDL 025							
	S	HRSA	TPM 8315	TPM 8125	TPM 8225	TPDL 025				
	H	Hardened steel	HX 200	HX 400						

Turning cermet	P	Steel	TTIN 30	TTIN 3025
	K	Cast iron	TTIN 30	TTIN 3025

The features of CVD turning grades

CVD Coated grades	ISO	Color	Recommend for application
TCP9305	P05 (P01-P10)	Black/Yellow	· MT-TiCN+TiC+Al2O3+TiN · Stable conditions for steel finishing can obtain high metal removal rate. · Excellent resistance to crater wear and plastic deformation resistance. Recommended for stable conditions. Wet and dry processing
TCP9215	P15 (P05-P20)	Black	· MT-TiCN+Al2O3+TiN · Wear-resistance materials coated on the gradient sintered substrate which has both good hardness and toughness. Can bear high temperatures. · For steel and casting steel finishing to roughing processing. Continue cutting to light interrupted cutting.
TCP9225	P25 (P15-P35) M15 (M10-M20)	Black	· MT-TiCN+Al2O3+TiN · Combining excellent fracutre resistance substrate with chipping resistance and heat resistance Al2O3 increased stability, suitable for steel and cast steel continuous cutting and interrupted cutting finishing to roughing.
TCP9325	P25 (P15-P35) M15 (M10-M20)	Black/Yellow	· MT-TiCN+TiC+Al2O3+TiN · Universal grade combining substrate with wear resistance and toughness and Al2O3 coating with oxidation resistance and fracutre resistance , suitable for steel and cast steel continuous cutting and interrupted cutting finishing to roughing.
TCP9120	P20 (P15-P25)	Yellow	· MT-TiCN+TiC+Al2O3+TiN · Universal grade combining substrate with wear resistance and toughness and Al2O3 coating with oxidation resistance and fracture resistance. · Special treatment on the outermost layer. Suitable for steel and cast steel medium cutting to roughing.
TCP9235	P35 (P25-P40) M35 (M25-M40)	Black	· MT-TiCN+Al2O3+TiN High-strength alloy substrate with thick wear-resistant coating. · interrupted cutting and roughing operations in steel and cast steel. · Combining excellent fracture resistance substrate with chipping resistance and heat resistance Al2O3 increased stability in wide ranges of cutting conditions.
TCP9335	P35 (P25-P40) M35 (M25-M40)	Black/Yellow	· MT-TiCN+TiC+Al2O3+TiN High-strength alloy substrate with thick wear-resistant coating has good good toughness and plastic deformation. · Machining steel and cast steel in bad conditions, Edge line security for interrupted cutting and roughing operations high metal removal rate.
TCP9345	P45 (P30-P50) M45 (M30-M50)	Black/Yellow	· A tough carbide grade with a moderately thick TiN-MT-TiCN-Al2O3 coating for roughing operation of steel at lower cutting speed and unstable condition · The substrate-coating combination provides unbelievable toughness and operational security allowing high metal removal rates even in most demanding interrupted cuts.

Turning Grades

The features of CVD turning grades

CVD Coated grades	ISO	Color	Recommend for application
TCK5205	K10 (K05-K20)	Black	· MT-TiCN+Al2O3+TiN · CVD coated carbide combining extremely hard substrate can withstand high temperature without plastic deformation . · Recommended for ductile iron, high strength malleable cast iron and gray cast iron finish machining to semi finish machining.
TCK5305	K10 (K05-K20)	Black/Yellow	· MT-TiCN+Al2O3+TiN · CVD coated carbide combining extremely hard substrate can withstand high temperature without plastic deformation . · Recommended for ductile iron, high strength malleable cast iron and gray cast iron finish machining to semi finish machining.
TCK5215	K15 (K10-K25)	Black	· MT-TiCN+Al2O3+TiN · The excellent combination of high wear resistance substrate and MT-TiCN, thick Al2O3, TiN coating is the first choice of ductile iron and gray cast iron, which allows a higher cutting speed.
TCK5315	K15 (K10-K25)	Black/Yellow	· MT-TiCN+Al2O3+TiN · The excellent combination of high wear resistance substrate and MT-TiCN, thick Al2O3, TiN coating is the first choice of ductile iron and gray cast iron, which allows a higher cutting speed.
TCK5225	K25 (K20-K35)	Black	· MT-TiCN+Al2O3+TiN · The excellent combination of good wear resistance and toughness substrate and MT-TiCN, thick Al2O3, TiN coating is the fisrt choice of ductile iron and gray cast iron for roughing cutting high metal remove rate.
TCK5325	K25 (K20-K35)	Black/Yellow	· MT-TiCN+Al2O3+TiN · The excellent combination of good wear resistance and toughness substrate and MT-TiCN, thick Al2O3, TiN coating is the fisrt choice of ductile iron and gray cast iron for roughing cutting high metal remove rate.

The features of PVD turning grades

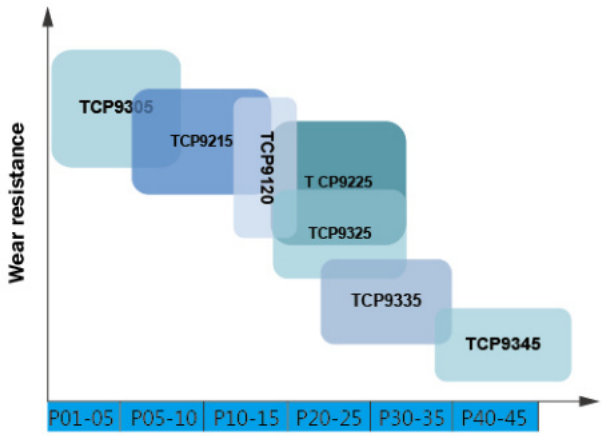
PVD Coated grades	ISO	Color	Recommend for application
TPM8115	P15 (P05-P25) M15 (M05-M25)	Gray dark	· 2-4μm TiAlN PVD coating combined with the submicron crystal matrix, it has excellent film-base adhesion, abrasion resistance and heat resistance. · Suitable for stainless steel, heat-resistant alloy and other materials under stable working conditions finishing.
TPM8315	P15 (P05-P25) M15 (M05-M25) S10 (S05-S25)	Brozen	· 3-5μm AlTiN PVD coating combined with ultra fine particles' substrates with high-toughness suitable for a variety of steel, stainless steel & supor alloy at high speed and continue machining. · Optimized coating stability for higher wear resistance and thermal stability in a wide application field.
TPM8125	P25 (P15-P35) M25 (M15-M35) K25 (K15-K35) S20 (S15-S30)	Gray dark	· 2-4μm TiALN PVD coating combined with ultra fine particles' substrates with high-toughness suitable for a variety of steel, stainless steel, cast iron & high temperature alloy in finishing to semi-finishing. · High thermal shock resistance is suitable for light interrupted cuts.
TPM8225	M20 (M15-M25) S15 (S10-S20) H10 (H05-H15)	Golden	· Universal grade for stainless, HRSA & high-temperature high hardness alloy machining. · High chipping and welding resistance for longer tool life. · 2-4μm AlCrN+AlCrSiN PVD coating combined with ultra fine particles' substrates with high-toughness suitable for stainless steel , high-temperature high hardness alloy & HRSA in finishing to semi-finishing.
TPM8135	P35 (P20-P40) M35 (M30-M40)	Gray dark	· PVD coating combined with high-resistant substrates, suitable for stainless steel & low carbon steel in roughing to semi-finishing. · Good wear resistance and toughness

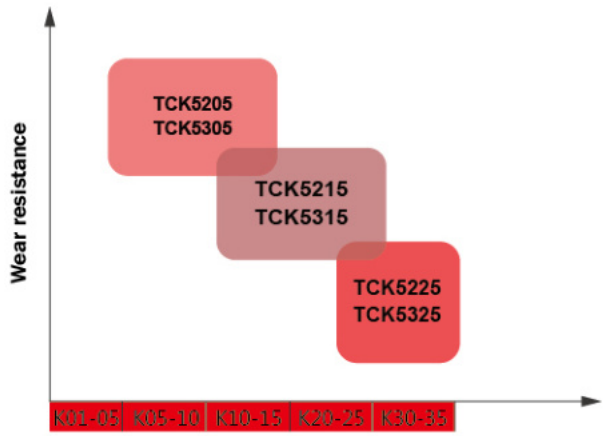
Turning Grades

General turning

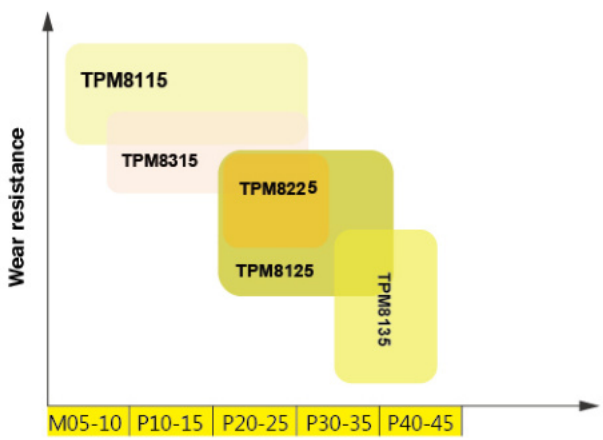
Application fields of grades

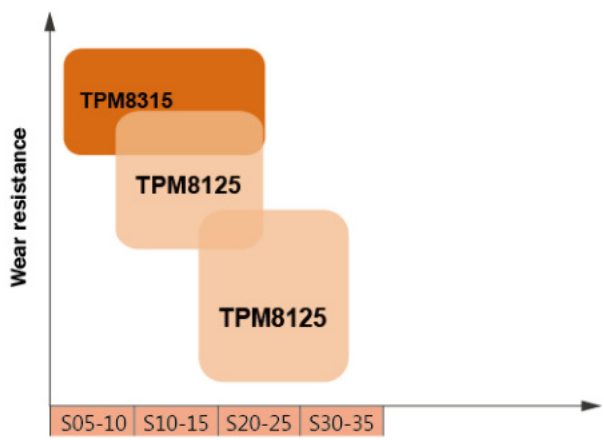
CVD grades for steel,stainless steel and cast iron





PVD grades for stainless steel and heat-resistant alloys





Description of Chipbreaker

Negative inserts

ISO	Geometry	Application range	Features
		feed rate (mm/rev): 0.04 0.063 0.1 0.16 0.25 0.40 0.63 1.00 1.60 2.50 4.00 6.30 depth of cut (mm): 0.10 0.16 0.25 0.40 0.63 1.00 1.60 2.50 4.00 6.30 10.00 11.6 13 15	
P	GF 	0.05-0.3 0.05-1.0	For steel finishing turning • Stable chip control in high toughness material; low carbon steel, pipe steel & steel plates. • Imporved chip control for facing, copy machining and better surface finish.
P M K	GM 	0.15-0.5 1.5-5.0	For medium turning • With broad applied range. • High reliability and universality with fault-free cutting. This chipbreaker matches with wear-resisting grade will be better. • Strong cutting edge strength provide good performance at intemittent and fast feed cutting.
P	HQ 	0.15-0.3 0.5-2.0	For semi-finishing machining • The front angle and double point design can provide good sharpness and widely chip processing performance.
P	TM 	0.2-0.5 1.0-5.0	For semi-finishing machining • High universality, easy chip-flow, special bulge close to the nose radiusand big rake angle generate the cutting ability and low cutting force of chip breaker.
P M	S 	0.15-0.35 0.5-4.0	For Medium to Roughing of turning • The large front angle design greatly reduces the cutting resistance, and the special design can reduce the boundary wear.
P K	GR 	0.3-0.8 3.0-12.0	For light load roughing • M class double chip breaker, metal removal rate and edge economy can have it all.
P K	ZR 	0.3-1.0 5.0-15.0	For heavy load roughing • M class double chip breaker, tough edge, with a high security, strong ability to resist plastic deformation at high removal rate.

Chip Breakers

Description of Chipbreaker

Negative inserts

P K	Standard		0.2-0.5 5.0-15.0	For General cutting • With broad applied range for steel and cast iron. • High cutting edge hardness, low cutting resistance force, eay chip-flow. Combined with more abrasive grade can get better efficiency.
P K	GR		0.3-1.0 3.0-15.0	For Heavy duty cutting • Sutable for haevy duty cutting due to strong cutting edge. • Wide chip control range with low cutting force.
P M	MA		0.15-0.5 0.2-6.0	For semi-finishing machining • First recommendation for medium cutting of carbon steel and alloy steel • Alternative chipbreaker for finishing and light cutting of cast iron. • Suitable for feneral field. Positive edge shape of blade, performance of sharp cutting.
M S	BF		0.05-0.3 0.1-1.0	For stainless finishing turning • semi-finishing to finishing under with high efficiency high feed rate is adopted under the condition of small cutting depth. • Due to the latest chipbreaker design, it can obtain good chip control and good machining surface accuracy. • The extremely sharp edge and high rake angel design especially is suitable for stainless steel & softy steel.
M	BM		0.1-0.3 0.5-1.5	For semi-finishing machining • Has a wide range of applications for stainless steel. • Can effictively solve machining difficulties such as chip breaking and sticking phenomenon in the stainless steel processing, which can obtain higher machining efficency.
M S N	HA			For Light-alloy, Stainless-steel machining • Sharp cutting edge generates low cutting force. • Specially designed tough main cutting edge. • Sutable for cutting of low carbon steel, stainless steel, aluminum.
M	HS		0.1-0.4 1.0-4.0	For Medium cutting of stainless steel • Exclusive design for stainless steel cutting provide longer tool life. • Wear resistance have been reinforced through high rake angle of chip breaker land.
K	No slot		0.05-0.6 0.3-12.0	ForRoughing turning • For grey and nodular cast-iron. • Broad application range for roughing.

Description of Chipbreaker

Positive inserts

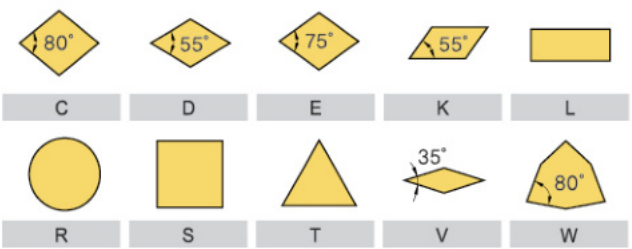
ISO	Geometry	Application range	Features
		feed rate (mm/rev): 0.04 0.063 0.1 0.16 0.25 0.40 0.63 1.00 1.60 2.50 4.00 6.30 depth of cut (mm): 0.10 0.16 0.25 0.40 0.63 1.00 1.60 2.50 4.00 6.30 10.00 11.6 13 15	
P M	HF 	0.05-0.3 0.1-2.0	For finishing turning • Excellent chip control in steel, stainless steel, grey and nodular cast-iron. • Suitable for both boring and outer diameter turning.
P M	HM 	0.2-0.5 1.0-4.0	For semi-finishing turning • Excellent chip control at wide range of cutting conditions • Suitable for stainless steel cutting.
P M K	HR 	0.3-0.7 3.0-7.0	For roughing turning • suitable for internal and external roughing of steel , stainless steel and cast iron material.
N	AL 	0.03-0.4 0.1-4.0	For Aluminum cutting • Wide available chip control range from medium-finishing to medium-roughing. • High speed of finishing operation.
S	IL 	0.03-0.3 0.06-1.7	For finishing turning • Suitable for finishing machining of heat resistance alloy, titanium alloy and other aerospace parts. • Loght cutting chip breaker with low cutting force, high reliability and universality. Problem free cutting.

Turning Insert Code System (ISO)

C	N	M	G	12
1	2	3	4	5
Insert Shape	Relief Angle	Tolerance	Cross Section Type	Cutting Edge Length, Diameter of Inscribed Circle

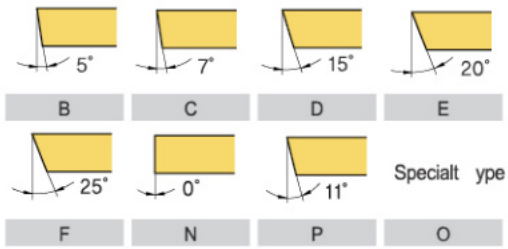
1 Insert Shape

C N M G 12 04 08 - GM



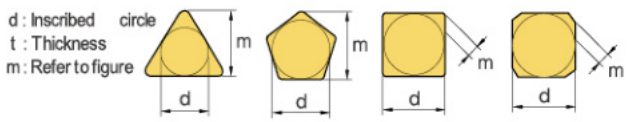
2 Relief Angle

C N M G 12 04 08 - GM



3 Tolerance

C N M G 12 04 08 - GM



(mm)

Class	d	m	t
A	±0.025	±0.005	±0.025
C	±0.025	±0.013	±0.025
H	±0.013	±0.013	±0.025
E	±0.025	±0.025	±0.025
G	±0.025	±0.025	±0.13
J *	±0.05 ~ ±0.15	±0.005	±0.025
K *	±0.05 ~ ±0.15	±0.013	±0.025
L *	±0.05 ~ ±0.15	±0.025	±0.025
M *	±0.05 ~ ±0.15	±0.08 ~ ±0.20	±0.13
N *	±0.05 ~ ±0.15	±0.08 ~ ±0.18	±0.025
U *	±0.08 ~ ±0.25	±0.13 ~ ±0.38	±0.13

* Sides are based on unground insert

Toleran ce on C,E,H ,M,O,P,R,S,T ,W Insert Sha pe (Except ional case)

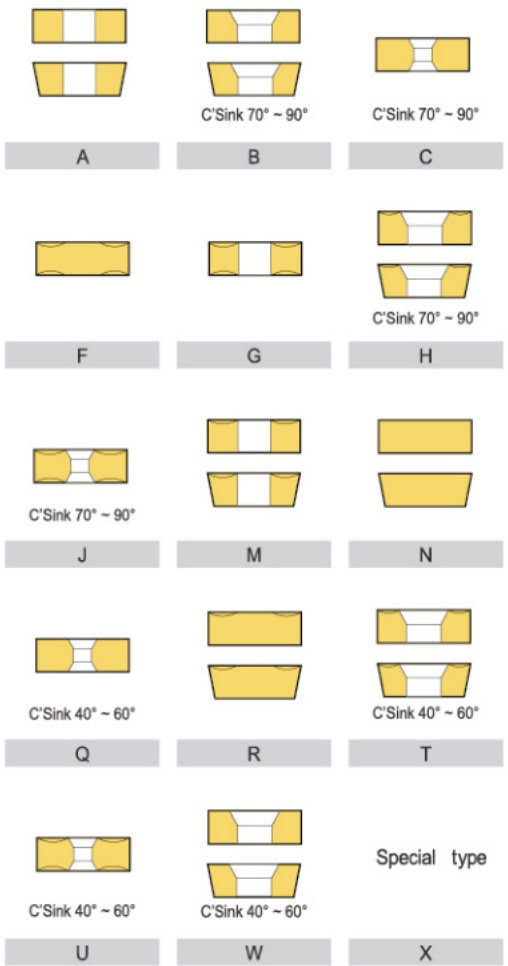
d	Toleran ce on d		Toleran ce on m	
	J, K, L, M, N	U	M, N	U
6.35	±0.05	±0.08	±0.08	±0.13
9.525	±0.05	±0.08	±0.08	±0.13
12.7	±0.08	±0.13	±0.13	±0.20
15.875	±0.10	±0.18	±0.15	±0.27
19.05	±0.10	±0.18	±0.15	±0.27
25.4	±0.13	±0.25	±0.18	±0.38

Toleran ce on D Insert Sha pe (Except ional case)

d	Toleran ce on d	Toleran ce on m
6.35	±0.05	±0.11
9.525	±0.05	±0.11
12.7	±0.08	±0.15
15.875	±0.10	±0.18
19.05	±0.10	±0.18

4 Cross Section Type

C N M G 12 04 08 - GM



04	08	–	GM
6	7		8
Height of Cutting Edge	Nose Radius (Nose R)		Chip Breaker for Turning

5 Cutting Edge Length, Diameter of Inscribed Circle

C N M G 12 04 08 - GM

Symbol								IC
C	d	S	T	R	V	W	Inch	
Metric								d(mm)
03	04	03	06	03	-	02	1.2(5)	3.97
04	05	04	08	04	08	S3	1.5(6)	4.76
05	06	05	09	05	09	03	1.8(7)	5.56
-	-	-	-	06	-	-	-	6.00
06	07	06	11	06	11	04	2	6.35
08	09	07	13	07	13	05	2.5	7.94
-	-	-	-	08	-	-	-	8.00
09	11	09	16	09	16	06	3	9.52 5
-	-	-	-	10	-	-	-	10.00
11	13	11	19	11	19	07	3.5	11.11
-	-	-	-	12	-	-	-	12.00
12	15	12	22	12	22	08	4	12.70
14	17	14	24	14	24	09	4.5	14.29
16	19	15	27	15	27	10	5	15.87 5
-	-	-	-	16	-	-	-	16.00
17	21	17	30	17	30	11	5.5	17.46
19	23	19	33	19	33	13	6	19.05
-	-	-	-	20	-	-	-	20.00
22	27	22	38	22	38	15	7	22.22 5
-	-	-	-	25	-	-	-	25.00
25	31	25	44	25	44	17	8	25.40
32	38	31	54	31	54	21	10	31.75
-	-	-	-	32	-	-	-	32.00

( ) Symbol for small size insert

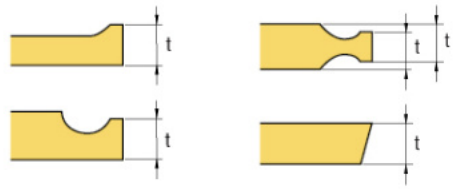
7 Nose Radius (Nose R)

C N M G 12 04 08 - GM

Symbol		Corner Radius	
Metric	Inch	Metric	Inch
01	0	0.1	0.004
02	0.5	0.2	0.008
04	1	0.4	1/64
08	2	0.8	1/32
12	3	1.2	3/64
16	4	1.6	1/16
20	5	2.0	5/64
24	6	2.4	3/32
28	7	2.8	7/64
32	8	3.2	1/8
00	-	Roundinsert (Inch)	
M0	-	Roundinsert (Metric)	

6 Height of Cutting Edge

C N M G 12 04 08 - GM

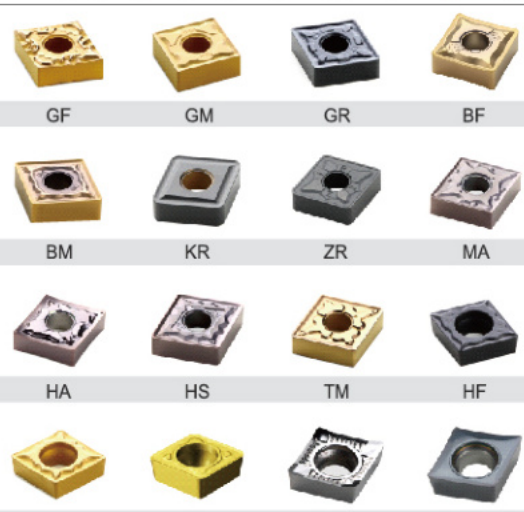


Symbol		Height of Cutting Edge(t)	
Metric	Inch	mm	Inch
01	1(2)	1.59	1/16
T0	1.125	1.79	9/128
T1	1.2	1.98	5/64
02	1.5(3)	2.38	3/32
T2	1.75	2.78	7/64
03	2	3.18	1/8
T3	2.5	3.97	5/32
04	3	4.76	3/16
05	3.5	5.56	7/32
06	4	6.35	1/4
07	5	7.94	5/16
09	6	9.52	3/8
11	7	11.11	7/16
12	8	12.70	1/2

( ) Symbol for small size insert

8 Chip Breaker for Turning

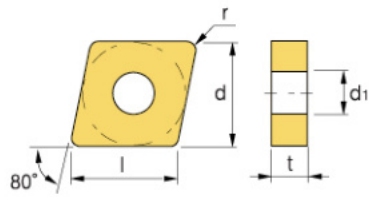
C N M G 12 04 08 - GM



Turning Insert (Negative)

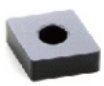
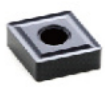
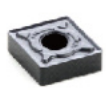
CN○○

Rhombic **80° Negative**



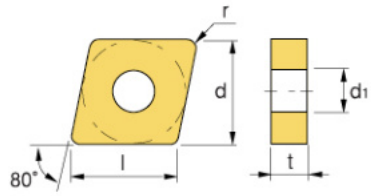
Workpiece		TCP305	TCP215	TCP120	TCP225	TCP325	TCP235	TCP335	TCP345	TPM115	TPM315	TPM125	TPM225	TPM135	TPM930	TCK205	TCK305	TCK215	TCK315	TCK225	TCK325	TP20	TPK01
Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	✱	✱								
Cast iron	K															●	●	⬌	⬌	✱	✱		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✱									
Hardened steel	H																						

Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP305	TCP215	TCP120	TCP225	TCP325	TCP235	TCP335	TCP345	TPM115	TPM315	TPM125	TPM225	TPM135	TPM930	TCK205	TCK305	TCK215	TCK315	TCK225	TCK325	TP20	TPK01	l	d	t	d1	r
CNMA	120404															●		●		●				12.4	12.7	4.76	5.16	0.4
	120408															●		●		●				12.0	12.7	4.76	5.16	0.8
	120412															●		●		●				11.6	12.7	4.76	5.16	1.2
	120416															●		●		●				11.2	12.7	4.76	5.16	1.6
	160608															●		●		●				15.3	15.875	6.35	6.35	0.8
	160612															●		●		●				14.8	15.875	6.35	6.35	1.2
	160616																	●						14.4	15.875	6.35	6.35	1.6
	190608																	●						18.5	19.05	6.35	7.93	0.8
Roughing	190612																	●						18.1	19.05	6.35	7.93	1.2
	190616																	●						17.7	19.05	6.35	7.93	1.6
CNMG	120404				●		●									●		●		●				12.4	12.7	4.76	5.16	0.4
	120408				●		●									●		●		●				12.0	12.7	4.76	5.16	0.8
	120412				●		●									●		●		●				11.6	12.7	4.76	5.16	1.2
	120416				●		●											●						11.2	12.7	4.76	5.16	1.6
	160608				●		●									●		●		●				15.3	15.875	6.35	6.35	0.8
	160612				●		●									●		●		●				14.8	15.875	6.35	6.35	1.2
	160616				●		●											●						14.4	15.875	6.35	6.35	1.6
	190608				●		●											●						18.5	19.05	6.35	7.93	0.8
Medium to Roughing	190612				●		●											●						18.1	19.05	6.35	7.93	1.2
	190616				●		●											●						17.7	19.05	6.35	7.93	1.6
CNMG-GF	090304-GF		●	●	●																			9 . 2	9.525	3.18	3.81	0.4
	090308-GF		●	●	●																			8 . 8	9.525	3.18	3.81	0.8
	120404-GF		●	●	●		●																	12.4	12.7	4.76	5.16	0.4
	120408-GF		●	●	●		●																	12.0	12.7	4.76	5.16	0.8
	120412-GF																							11.6	12.7	4.76	5.16	1.2
Finishing																												
CNMG-GM	090304-GM																							9 . 2	9.525	3.18	3.81	0.4
	090308-GM																	●		●				8 . 8	9.525	3.18	3.81	0.8
	120404-GM		●	●	●		●						●					●		●				12.4	12.7	4.76	5.16	0.4
	120408-GM		●	●	●		●						●					●		●				12.0	12.7	4.76	5.16	0.8
	120412-GM		●	●	●		●						●					●						11.6	12.7	4.76	5.16	1.2
	120416-GM		●	●	●		●											●						11.2	12.7	4.76	5.16	1.6
	160608-GM		●	●	●		●						●					●						15.3	15.875	6.35	6.35	0.8
	160612-GM		●	●	●		●						●					●						14.8	15.875	6.35	6.35	1.2
	160616-GM		●	●	●		●						●					●						14.4	15.875	6.35	6.35	1.6
Medium	190608-GM		●	●	●		●						●					●						18.5	19.05	6.35	7.93	0.8
	190612-GM		●	●	●		●						●					●						18.1	19.05	6.35	7.93	1.2
	190616-GM		●	●	●		●						●					●						17.7	19.05	6.35	7.93	1.6

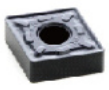
CN○○

Rhombic 80° Negative



Workpiece		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	✱	✱								
Cast iron	K															●	●	⬌	✱	✱	✱		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✱									
Hardened steel	H																						

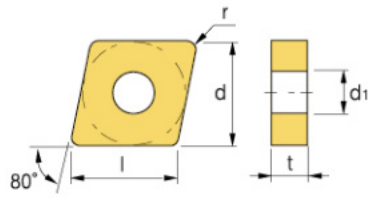
Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
CNMG-GR	090308-GR																							8.8	9.525	3.18	3.81	0.8
	120404-GR																							12.4	12.7	4.76	5.16	0.4
	120408-GR				●		●											●						12.0	12.7	4.76	5.16	0.8
	120412-GR				●		●											●						11.6	12.7	4.76	5.16	1.2
	120416-GR				●		●											●						11.2	12.7	4.76	5.16	1.6
	160608-GR				●		●		●									●						15.3	15.875	6.35	6.35	0.8
	160612-GR				●		●		●									●						14.8	15.878	6.35	6.35	1.2
	160616-GR				●		●		●									●						14.4	15.875	6.35	6.35	1.6
	190608-GR				●		●		●									●						18.5	19.05	6.35	7.93	0.8
	190612-GR				●		●		●									●						18.1	19.05	6.35	7.93	1.2
Roughing	190616-GR				●		●		●									●						17.7	19.05	6.35	7.93	1.6
	190624-GR						●		●															16.8	19.05	6.35	7.93	2.4
	250724-GR						●		●															23.3	25.4	7.94	9.12	2.4
	250924-GR						●		●															23.3	25.4	9.52	9.12	2.4
CNMG-ZR	120408-ZR																							12.0	12.7	4.76	5.16	0.8
	120412-ZR				●		●											●						11.6	12.7	4.76	5.16	1.2
	120416-ZR				●		●											●						11.2	12.7	4.76	5.16	1.6
	160608-ZR				●		●											●						15.3	15.875	6.35	6.35	0.8
	160612-ZR				●		●											●						14.8	15.875	6.35	6.35	1.2
	160616-ZR				●		●											●						14.4	15.875	6.35	6.35	1.6
	190608-ZR				●		●											●						18.5	19.05	6.35	7.93	0.8
	190612-ZR				●		●											●						18.1	19.05	6.35	7.93	1.2
	190616-ZR																	●						17.7	19.05	6.35	7.93	1.6
	190624-ZR																							16.8	19.05	6.35	7.93	2.4
Roughing	250724-ZR																							23.3	25.4	7.94	9.12	2.4
	250924-ZR																							23.3	25.4	9.52	9.12	2.4
CNMG-HA	120404-HA														●								●	12.4	12.7	4.76	5.16	0.4
	120408-HA														●								●	12.0	12.7	4.76	5.16	0.8
	120412-HA																							11.6	12.7	4.76	5.16	1.2
																												
Medium to Finishing																												

Turning Insert (Negative)

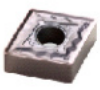
CN○○

Rhombic **80° Negative**



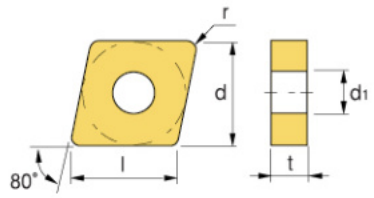
Workpiece		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	✱	✱								
Cast iron	K															●	●	⬌	⬌	✱	✱		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✱									
Hardened steel	H																						

Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
CNMG-HS	120404-HS														●									12.4	12.7	4.76	5.16	0.4
	120408-HS														●									12.0	12.7	4.76	5.16	0.8
	120412-HS														●									11.6	12.7	4.76	5.16	1.2
 Medium																												
CNMG-TM	120404-TM		●	●	●							●	●											12.4	12.7	4.76	5.16	0.4
	120408-TM		●	●	●							●	●											12.0	12.7	4.76	5.16	0.8
	120412-TM		●																					11.6	12.7	4.76	5.16	1.2
 Medium																												
CNMG-MA	120404-MA																							12.4	12.7	4.76	5.16	0.4
	120408-MA																							12.0	12.7	4.76	5.16	0.8
	120412-MA			●	●							●	●											11.6	12.7	4.76	5.16	1.2
	120416-MA			●	●							●	●											11.2	12.7	4.76	5.16	1.6
	160608-MA																							15.3	15.875	6.35	6.35	0.8
	160612-MA																							14.8	15.875	6.35	6.35	1.2
	160616-MA																							14.4	15.875	6.35	6.35	1.6
	190608-MA																							18.5	19.05	6.35	7.93	0.8
	190612-MA																							18.1	19.05	6.35	7.93	1.2
 Medium	190616-MA																							17.7	19.05	6.35	7.93	1.6

CN○○

Rhombic 80° Negative



Workpiece		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	✱	✱								
Cast iron	K															●	●	⬌	⬌	✱	✱		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✱									
Hardened steel	H																						

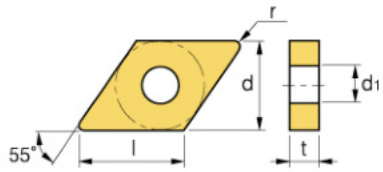
Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
		Coated																				Uncoated		Dimensions(mm)				
CNMG-BF	120404-BF											●	●											12.4	12.7	4.76	5.16	0.4
	120408-BF											●	●											12.0	12.7	4.76	5.16	0.8
	120412-BF																							11.6	12.7	4.76	5.16	1.2
	160608-BF																							15.3	15.875	6.35	6.35	0.8
	160612-BF																							14.8	15.875	6.35	6.35	1.2
Finishing																												
CNMG-BM	090304-BM																							9.2	9.525	3.18	3.18	0.4
	090308-BM																							8.8	9.525	3.18	3.18	0.8
	120404-BM											●	●											12.4	12.7	4.76	5.16	0.4
	120408-BM											●	●											12.0	12.7	4.76	5.16	0.8
	120412-BM											●	●											11.6	12.7	4.76	5.16	1.2
	160608-BM											●	●											15.3	15.875	6.35	6.35	0.8
	160612-BM												●											14.8	15.875	6.35	6.35	1.2
	160616-BM																							14.4	15.875	6.35	6.35	1.6
Medium																												
CNMM-GR	160608-GR				●	●	●	●	●									●						15.3	15.875	6.35	6.35	0.8
	160612-GR				●	●	●	●	●									●						14.8	15.875	6.35	6.35	1.2
	160616-GR				●	●	●	●	●									●						14.4	15.875	6.35	6.35	1.6
	190608-GR				●	●	●	●	●									●						18.5	19.05	6.35	7.93	0.8
	190612-GR				●	●	●	●	●									●						18.1	19.05	6.35	7.93	1.2
	190616-GR				●	●	●	●	●									●						17.7	19.05	6.35	7.93	1.6
	190624-GR				●	●	●	●	●									●						16.8	19.05	6.35	7.93	2.4
	250724-GR				●	●	●	●	●									●						23.3	25.4	7.94	9.12	2.4
Roughing	250924-GR				●	●	●	●	●									●						23.3	25.4	9.52	9.12	2.4

Turning Insert (Negative)

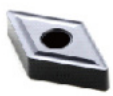
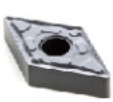
DN○○

Rhombic **55° Negative**



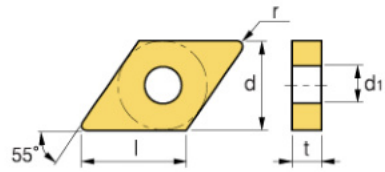
Workpiece		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	✱	✱								
Cast iron	K															●	●	⬌	⬌	✱	✱		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✱									
Hardened steel	H																						

Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
DNMA	110408																	●						10.8	9.525	4.76	3.81	0.8
	150404																	●		●				15.1	12.7	4.76	5.16	0.4
	150408																	●		●				14.7	12.7	4.76	5.16	0.8
	150412																	●		●				14.4	12.7	4.76	5.16	1.2
	150604																	●		●				15.1	12.7	6.35	5.16	0.4
	150608															●		●		●				14.7	12.7	6.35	5.16	0.8
	150612															●		●		●				14.4	12.7	6.35	5.16	1.2
Roughing	150616															●		●		●				14.0	12.7	6.35	5.16	1.6
DNMG	150404				●		●											●		●				15.1	12.7	4.76	5.16	0.4
	150408				●		●											●		●				14.7	12.7	4.76	5.16	0.8
	150412				●		●											●		●				14.4	12.7	4.76	5.16	1.2
	150604				●		●									●		●		●				15.1	12.7	6.35	5.16	0.4
	150608				●		●									●		●		●				14.7	12.7	6.35	5.16	0.8
	150612				●		●									●		●		●				14.4	12.7	6.35	5.16	1.2
Medium to Roughing	150616																	●						14.0	12.7	6.35	5.16	1.6
DNMG-GF	110404-GF		●	●	●		●																	11.2	9.525	4.76	3.81	0.4
	110408-GF																							10.8	9.525	4.76	3.81	0.8
	150404-GF		●	●	●		●																	15.1	12.7	4.76	5.16	0.4
	150408-GF																							14.7	12.7	4.76	5.16	0.8
	150604-GF		●	●	●		●																	15.1	12.7	6.35	5.16	0.4
	150608-GF																							14.7	12.7	6.35	5.16	0.8
Finishing																												
DNMG-GM	110404-GM		●	●	●		●						●											11.2	9.525	4.76	3.81	0.4
	110408-GM		●	●	●		●						●											10.8	9.525	4.76	3.81	0.8
	110412-GM																							10.3	9.525	4.76	3.81	1.2
	150404-GM		●	●	●		●						●					●						15.1	12.7	4.76	5.16	0.4
	150408-GM		●	●	●		●						●					●						14.7	12.7	4.76	5.16	0.8
	150412-GM		●	●	●		●						●					●						14.4	12.7	4.76	5.16	1.2
	150604-GM		●	●	●		●						●					●						15.1	12.7	6.35	5.16	0.4
	150608-GM		●	●	●		●						●					●						14.7	12.7	6.35	5.16	0.8
	150612-GM		●	●	●		●						●					●						14.4	12.7	6.35	5.16	1.2
Medium	150616-GM																							14.0	12.7	6.35	5.16	1.6

DN○○

Rhombic 55° Negative



Workpiece			TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Workpiece	Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
	Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	✱	✱								
	Cast iron	K															●	●	⬌	⬌	✱	✱		●
	Non-ferrous metal	N																						●
	Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✱									
	Hardened steel	H																						

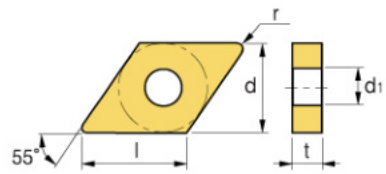
Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
DNMG-GR	110404-GR		●		●		●											●						11.2	9.525	4.76	3.81	0.4
	110408-GR		●		●		●											●						10.8	9.525	4.76	3.81	0.8
	110412-GR																							10.3	9.525	4.76	3.81	1.2
	150404-GR																							15.1	12.7	4.76	5.16	0.4
	150408-GR		●		●		●											●						14.7	12.7	4.76	5.16	0.8
	150412-GR		●		●		●											●						14.4	12.7	4.76	5.16	1.2
	150604-GR																							15.1	12.7	6.35	5.16	0.4
Roughing	150608-GR		●		●		●											●						14.7	12.7	6.35	5.16	0.8
	150612-GR		●		●		●											●						14.4	12.7	6.35	5.16	1.2
	150616-GR		●		●		●											●						14.0	12.7	6.35	5.16	1.6
DNMG-ZR	110408-ZR				●		●											●						10.8	9.525	4.76	3.18	0.8
	110412-ZR				●		●											●						10.3	9.525	4.76	3.18	1.2
	150408-ZR				●		●											●						14.7	12.7	4.76	5.16	0.8
	150412-ZR				●		●											●						14.4	12.7	4.76	5.16	1.2
	150608-ZR				●		●											●						14.7	12.7	6.35	5.16	0.8
	150612-ZR				●		●											●						14.4	12.7	6.35	5.16	1.2
	150616-ZR				●		●											●						14.0	12.7	6.35	5.16	1.6
Roughing																												
DNMG-HA	150404-HA																						●	15.1	12.7	4.76	5.16	0.4
	150408-HA																						●	14.7	12.7	4.76	5.16	0.8
	150604-HA																						●	15.1	12.7	6.35	5.16	0.4
	150608-HA																						●	14.7	12.7	6.35	5.16	0.8
Roughing																												
DNMG-HS	150404-HS																							15.1	12.7	4.76	5.16	0.4
	150408-HS																							14.7	12.7	4.76	5.16	0.8
	150412-HS																							14.4	12.7	4.76	5.16	1.2
	150604-HS																							15.1	12.7	6.35	5.16	0.4
	150608-HS																							14.7	12.7	6.35	5.16	0.8
	150612-HS																							14.4	12.7	6.35	5.16	1.2
Roughing																												

Turning Insert (Negative)

DN○○

Rhombic **55° Negative**



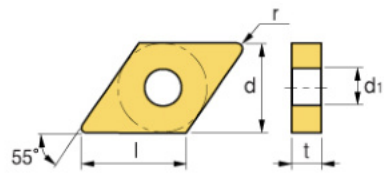
Workpiece		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	✱	✱								
Cast iron	K															●	●	⬌	⬌	✱	✱		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✱									
Hardened steel	H																						

Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
DNMG-S  Roughing	150404R-S																							15.1	12.7	4.76	5.16	0.4
	150404L-S																							15.1	12.7	4.76	5.16	0.4
	150408R-S																							14.7	12.7	4.76	5.16	0.8
	150408L-S																							14.7	12.7	4.76	5.16	0.8
	150604R-S																							15.1	12.7	6.35	5.16	0.4
	150604L-S																							15.1	12.7	6.35	5.16	0.4
	150608R-S																							14.7	12.7	6.35	5.16	0.8
	150608L-S																							14.7	12.7	6.35	5.16	0.8

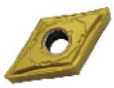
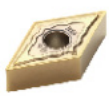
DN○○

Rhombic 55° Negative



Workpiece		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P	●	●	⊜	⊜	⊜	✱	✱	✱	●	●	⊜	⊜	✱								⊜	
Stainless steel	M						✱	✱	✱	●	●	⊜	⊜	✱	✱								
Cast iron	K															●	●	⊜	⊜	✱	✱		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⊜	⊜	✱									
Hardened steel	H																						

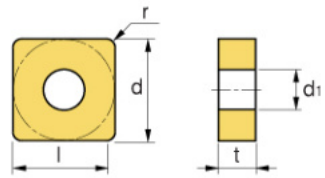
Machining types
- ● Continuous cutting
- ⊜ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
DNMG-TM	110404-TM		●		●		●					●	●											11.2	9.525	4.76	3.81	0.4
	110408-TM		●		●		●					●	●											10.8	9.525	4.76	3.81	0.8
	150404-TM		●	●	●		●					●	●											15.1	12.7	4.76	5.16	0.4
	150408-TM		●	●	●		●					●	●											14.7	12.7	4.76	5.16	0.8
	150604-TM		●	●	●		●					●	●											15.1	12.7	6.35	5.16	0.4
	150608-TM		●	●	●		●																	14.7	12.7	6.35	5.16	0.8
	150612-TM		●		●																			14.4	12.7	6.35	5.16	1.2
Medium																												
DNMG-MA	110404-MA				●							●	●											11.2	9.525	4.76	3.81	0.4
	110408-MA				●							●	●											10.8	9.525	4.76	3.81	0.8
	150404-MA			●	●							●	●											15.1	12.7	4.76	5.16	0.4
	150408-MA			●	●							●	●											14.7	12.7	4.76	5.16	0.8
	150604-MA			●	●							●	●											15.1	12.7	6.35	5.16	0.4
	150608-MA			●	●							●	●											14.7	12.7	6.35	5.16	0.8
	150612-MA											●	●											14.4	12.7	6.35	5.16	1.2
Medium																												
DNMG-BF	110404-BF																							11.2	9.525	4.76	3.81	0.4
	110408-BF																							10.8	9.525	4.76	3.81	0.8
	150404-BF																							15.1	12.7	4.76	5.16	0.4
	150408-BF																							14.7	12.7	4.76	5.16	0.8
	150604-BF																							15.1	12.7	6.35	5.16	0.4
	150608-BF																							14.7	12.7	6.35	5.16	0.8
	150612-BF																							14.4	12.7	6.35	5.16	1.2
Finishing																												
DNMG-BM	110404-BM											●	●											11.2	9.525	4.76	3.81	0.4
	110408-BM											●	●											10.8	9.525	4.76	3.81	0.8
	110412-BM																							10.3	9.525	4.76	3.81	1.2
	150404-BM											●	●											15.1	12.7	4.76	5.16	0.4
	150408-BM											●	●											14.7	12.7	4.76	5.16	0.8
	150412-BM																							14.4	12.7	4.76	5.16	1.2
	150604-BM											●	●											15.1	12.7	6.35	5.16	0.4
	150608-BM											●	●											14.7	12.7	6.35	5.16	0.8
	150612-BM											●	●											14.4	12.7	6.35	5.16	1.2
Medium	150616-BM																							14.0	12.7	6.35	5.16	1.6

Turning Insert (Negative)

SN○○

Square 90° Negative



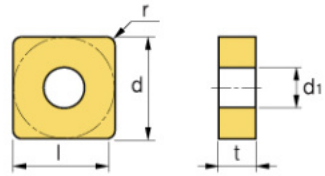
Workpiece		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	✱	✱								
Cast iron	K															●	●	⬌	⬌	✱	✱		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✱									
Hardened steel	H																						

Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
SNMA	120404															●		●		●				12.3	12.7	4.76	5.16	0.4
	120408															●		●		●				11.9	12.7	4.76	5.16	0.8
	120412															●		●		●				11.5	12.7	4.76	5.16	1.2
	120416																	●		●				11.1	12.7	4.76	5.16	1.6
	150608															●		●		●				15.0	15.875	6.35	6.35	0.8
	150612															●		●		●				14.6	15.875	6.35	6.35	1.2
	150616																	●		●				14.2	15.875	6.35	6.35	1.6
Roughing	190608																	●						18.2	19.05	6.35	7.93	0.8
	190612																	●						17.8	19.05	6.35	7.93	1.2
	190616																	●						17.4	19.05	6.35	7.93	1.6
SNMG	120404				●		●									●		●		●				12.3	12.7	4.76	5.16	0.4
	120408				●		●									●		●		●				11.9	12.7	4.76	5.16	0.8
	120412				●		●									●		●		●				11.5	12.7	4.76	5.16	1.2
	120416				●		●											●						11.1	12.7	4.76	5.16	1.6
	150608				●		●									●		●		●				15.0	15.875	6.35	6.35	0.8
	150612				●		●									●		●		●				14.6	15.875	6.35	6.35	1.2
	150616				●		●											●						14.2	15.875	6.35	6.35	1.6
	190608				●		●											●						18.2	19.05	6.35	7.93	0.8
Medium to Roughing	190612				●		●											●						17.8	19.05	6.35	7.93	1.2
	190616				●		●											●						17.4	19.05	6.35	7.93	1.6
SNMG-GF	090304-GF																							9.1	9.525	3.81	3.81	0.4
	090308-GF																							8.7	9.525	3.81	3.81	0.8
	120404-GF		●	●	●																			12.3	12.7	4.76	5.16	0.4
	120408-GF		●	●	●																			11.9	12.7	4.76	5.16	0.8
Finishing																												
SNMG-GM	090304-GM																							9.1	9.525	3.81	3.81	0.4
	090308-GM																							8.7	9.525	3.81	3.81	0.8
	120404-GM		●	●	●		●						●					●						12.3	12.7	4.76	5.16	0.4
	120408-GM		●	●	●		●						●					●						11.9	12.7	4.76	5.16	0.8
	120412-GM		●	●	●		●						●					●						11.5	12.7	4.76	5.16	1.2
	120416-GM				●		●											●						11.1	12.7	4.76	5.16	1.6
	150608-GM		●	●	●		●						●					●						15.0	15.875	6.35	6.35	0.8
	150612-GM		●	●	●		●						●					●						14.6	15.875	6.35	6.35	1.2
	150616-GM				●		●						●					●						14.2	15.875	6.35	6.35	1.6
	190608-GM				●		●						●					●						18.2	19.05	6.35	7.93	0.8
Medium	190612-GM				●		●						●					●						17.8	19.05	6.35	7.93	1.2
	190616-GM				●		●						●					●						17.4	19.05	6.35	7.93	1.6

SN○○

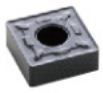
Square 90° Negative



Workpiece		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	✱	✱								
Cast iron	K															●	●	⬌	⬌	✱	✱		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✱									
Hardened steel	H																						

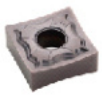
Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
SNMG-GR	120404-GR																							12.3	12.7	4.76	5.16	0.4
	120408-GR			●	●		●	●	●			●	●					●						11.9	12.7	4.76	5.16	0.8
	120412-GR			●	●		●	●	●			●	●					●						11.5	12.7	4.76	5.16	1.2
	120416-GR			●	●		●	●	●			●	●					●						11.1	12.7	4.76	5.16	1.6
	150608-GR			●	●		●	●	●			●	●					●						15.0	15.875	6.35	6.35	0.8
	150612-GR			●	●		●	●	●			●	●					●						14.6	15.875	6.35	6.35	1.2
	150616-GR			●	●		●	●	●															14.2	15.875	6.35	6.35	1.6
	190608-GR				●		●	●	●															18.2	19.05	6.35	7.93	0.8
	190612-GR				●		●	●	●															17.8	19.05	6.35	7.93	1.2
	190616-GR				●		●	●	●															17.4	19.05	6.35	7.93	1.6
	190624-GR				●		●	●	●															16.6	19.05	6.35	7.93	2.4
	250724-GR				●		●	●	●															23.0	25.4	7.94	9.12	2.4
	250924-GR				●		●	●	●															23.0	25.4	9.52	9.12	2.4
SNMG-ZR	120408-ZR				●		●																	11.9	12.7	4.76	5.16	0.8
	120412-ZR				●		●																	11.5	12.7	4.76	5.16	1.2
	120416-ZR				●		●																	11.1	12.7	4.76	5.16	1.6
	150608-ZR				●		●																	15.0	15.875	6.35	6.35	0.8
	150612-ZR				●		●																	14.6	15.875	6.35	6.35	1.2
	150616-ZR				●		●																	14.2	15.875	6.35	6.35	1.6
	190608-ZR				●		●																	18.2	19.05	6.35	7.93	0.8
	190612-ZR				●		●																	17.8	19.05	6.35	7.93	1.2
	190616-ZR																							17.4	19.05	6.35	7.93	1.6
	190624-ZR																							16.6	19.05	6.35	7.93	2.4
	250724-ZR																							23.0	25.4	7.94	9.12	2.4
	250924-ZR																							23.0	25.4	9.52	9.12	2.4
SNMG-HA	120404-HA														●								●	12.3	12.7	4.76	5.16	0.4
	120408-HA														●								●	11.9	12.7	4.76	5.16	0.8
	120412-HA																							11.5	12.7	4.76	5.16	1.2



Roughing

Roughing

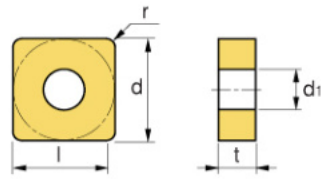


Medium to Finishing

Turning Insert (Negative)

SN○○

Square 90° Negative



Workpiece		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	✱	✱								
Cast iron	K															●	●	⬌	⬌	✱	✱		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✱									
Hardened steel	H																						

Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
		Coated																				Uncoated		Dimensions(mm)				
SNMG-HS	120404-HS														●									12.3	12.7	4.76	5.16	0.4
	120408-HS														●									11.9	12.7	4.76	5.16	0.8
	120412-HS																							11.5	12.7	4.76	5.16	1.2
SNMG-S	120404R-S			●																				12.3	12.7	4.76	5.16	0.4
	120404L-S																							12.3	12.7	4.76	5.16	0.4
	120408R-S			●																				11.9	12.7	4.76	5.16	0.8
	120408L-S																							11.9	12.7	4.76	5.16	0.8
SNMG-TM	120404-TM			●	●																			12.3	12.7	4.76	5.16	0.4
	120408-TM			●	●																			11.9	12.7	4.76	5.16	0.8
	120412-TM			●	●																			11.5	12.7	4.76	5.16	1.2

SNMG-HS

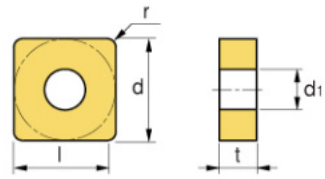
Medium

SNMG-S

SNMG-TM

SN○○

Square 90° Negative



Workpiece		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	✱	✱								
Cast iron	K															●	●	⬌	⬌	✱	✱		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✱									
Hardened steel	H																						

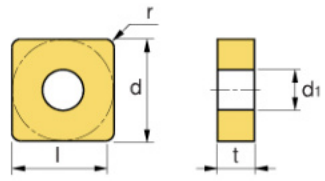
Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
		Coated																				Uncoated		Dimensions(mm)				
SNMG-MA	120404-MA		●	●	●							●	●											12.3	12.7	4.76	5.16	0.4
	120408-MA		●	●	●							●	●											11.9	12.7	4.76	5.16	0.8
	120412-MA				●																			11.5	12.7	4.76	5.16	1.2
	150608-MA																							15.0	15.875	6.35	6.35	0.8
	150612-MA																							14.6	15.875	6.35	6.35	1.2
Medium																												
SNMG-BF	120404-BF											●	●											12.3	12.7	4.76	5.16	0.4
	120408-BF											●	●											11.9	12.7	4.76	5.16	0.8
	120412-BF																							11.5	12.7	4.76	5.16	1.2
	150608-BF																							15.0	15.875	6.35	6.35	0.8
	150612-BF																							14.6	15.875	6.35	6.35	1.2
Finishing																												
SNMG-BM	090304-BM																							9.1	9.525	3.81	3.81	0.4
	090308-BM																							8.7	9.525	3.81	3.81	0.8
	120404-BM											●	●											12.3	12.7	4.76	5.16	0.4
	120408-BM											●	●											11.9	12.7	4.76	5.16	0.8
	120412-BM											●	●											11.5	12.7	4.76	5.16	1.2
	150608-BM																							15.0	15.875	6.35	6.35	0.8
	150612-BM																							14.6	15.875	6.35	6.35	1.2
	150616-BM																							14.2	15.875	6.35	6.35	1.6
Medium																												

Turning Insert (Negative)

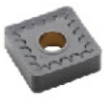
SN○○

Square 90° Negative



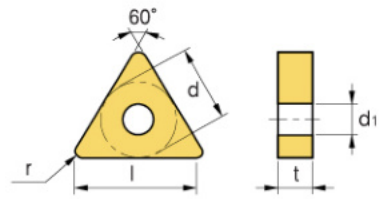
Workpiece		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	✱	✱								
Cast iron	K															●	●	⬌	⬌	✱	✱		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✱									
Hardened steel	H																						

Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
SNMM-GR  Roughing	150608-GR				●	●	●	●	●									●						15.0	15.875	6.35	6.35	0.8
	150612-GR				●	●	●	●	●									●						14.6	15.875	6.35	6.35	1.2
	150616-GR				●	●	●	●	●									●						14.2	15.875	6.35	6.35	1.6
	190608-GR				●	●	●	●	●									●						18.2	19.05	6.35	7.93	0.8
	190612-GR				●	●	●	●	●									●						17.8	19.05	6.35	7.93	1.2
	190616-GR				●	●	●	●	●									●						17.4	19.05	6.35	7.93	1.6
	190624-GR				●	●	●	●	●									●						16.6	19.05	6.35	7.93	2.4
	250724-GR				●	●	●	●	●									●						23.0	25.4	7.94	9.12	2.4
	250924-GR				●	●	●	●	●									●						23.0	25.4	9.52	9.12	2.4

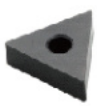
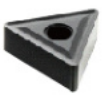
TN○○

Triangular 60° Negative



Workpiece		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	✱	✱								
Cast iron	K															●	●	⬌	⬌	✱	✱		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✱									
Hardened steel	H																						

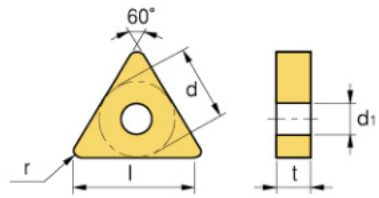
Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
TNMA	160404															●		●		●				15.5	9.525	4.76	3.81	0.4
	160408															●		●		●				14.5	9.525	4.76	3.81	0.8
	160412															●		●		●				13.5	9.525	4.76	3.81	1.2
	160416																	●						12.5	9.525	4.76	3.81	1.6
	220404															●		●		●				21.0	12.7	4.76	5.16	0.4
	220408															●		●		●				20.0	12.7	4.76	5.16	0.8
	220412															●		●		●				19.0	12.7	4.76	5.16	1.2
	220416																	●						18.2	12.7	4.76	5.16	1.6
Roughing	270608																	●						25.4	15.875	6.35	6.35	0.8
	270612																	●						24.4	15.875	6.35	6.35	1.2
	270616																	●						23.3	15.875	6.35	6.35	1.6
	330924																	●						27.1	15.875	9.52	7.93	2.4
TNMG	160404				●		●											●		●				15.5	9.525	4.76	3.81	0.4
	160408				●		●									●		●		●				14.5	9.525	4.76	3.81	0.8
	160412				●		●									●		●		●				13.5	9.525	4.76	3.81	1.2
	160416				●		●											●						12.5	9.525	4.76	3.81	1.6
	220404				●		●											●		●				21.0	12.7	4.76	5.16	0.4
	220408				●		●											●		●				20.0	12.7	4.76	5.16	0.8
	220412				●		●											●		●				19.0	12.7	4.76	5.16	1.2
	220416				●		●											●						18.2	12.7	4.76	5.16	1.6
Medium to Roughing	270608																	●						25.4	15.875	6.35	6.35	0.8
	270612																	●						24.4	15.875	6.35	6.35	1.2
	270616																	●						23.3	15.875	6.35	6.35	1.6
	330924																	●						27.1	15.875	9.52	7.93	2.4
TNMG-GF	160404-GF		●	●	●	●	●																	15.5	9.525	4.76	3.81	0.4
	160408-GF		●	●	●	●	●																	14.5	9.525	4.76	3.81	0.8
	160412-GF																							13.5	9.525	4.76	3.81	1.2
	220404-GF		●	●	●	●	●																	21.0	12.7	4.76	5.16	0.4
	220408-GF		●	●	●	●	●																	20.0	12.7	4.76	5.16	0.8
	220412-GF																							19.0	12.7	4.76	5.16	1.2
Finishing																												

Turning Insert (Negative)

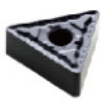
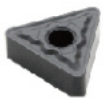
TN○○

Triangular **60° Negative**



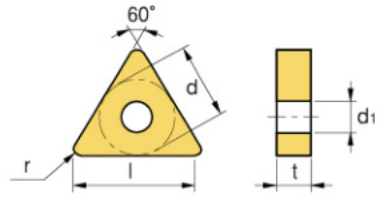
Workpiece		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK205	TCK305	TCK215	TCK315	TCK225	TCK325	TP20	TPK01
Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	✱	✱								
Cast iron	K															●	●	⬌	⬌	✱	✱		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✱									
Hardened steel	H																						

Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK205	TCK305	TCK215	TCK315	TCK225	TCK325	TP20	TPK01	l	d	t	d1	r
		Coated																				Uncoated		Dimensions(mm)				
TNMG-GM  Medium	110304-GM																							10.0	6.35	3.81	2.4	0.4
	110308-GM																							9.0	6.35	3.81	2.4	0.8
	160404-GM		●	●	●	●	●	●				●	●					●						15.5	9.525	4.76	3.81	0.4
	160408-GM		●	●	●	●	●	●				●	●					●						14.5	9.525	4.76	3.81	0.8
	160412-GM		●	●	●	●	●	●				●	●					●						13.5	9.525	4.76	3.81	1.2
	160416-GM			●	●		●					●	●					●						12.5	9.525	4.76	3.81	1.6
	220404-GM		●	●	●	●	●	●				●	●					●						21.0	12.7	4.76	5.16	0.4
	220408-GM		●	●	●	●	●	●				●	●					●						20.0	12.7	4.76	5.16	0.8
	220412-GM		●	●	●	●	●	●										●						19.0	12.7	4.76	5.16	1.2
	220416-GM			●	●		●																	18.2	12.7	4.76	5.16	1.6
	270608-GM				●	●	●	●																25.4	15.875	6.35	6.35	0.8
	270612-GM				●	●	●	●																24.4	15.875	6.35	6.35	1.2
TNMG-GR  Roughing	160404-GR																							15.5	9.525	4.76	3.18	0.4
	160408-GR			●	●	●	●	●	●			●	●					●						14.5	9.525	4.76	3.18	0.8
	160412-GR			●	●	●	●	●	●			●	●					●						13.5	9.525	4.76	3.18	1.2
	160416-GR			●	●	●	●	●	●			●	●					●						12.5	9.525	4.76	3.18	1.6
	220404-GR																							21.0	12.7	4.76	3.18	0.4
	220408-GR																							20.0	12.7	4.76	5.16	0.8
	220412-GR			●	●	●	●	●	●			●	●					●						19.0	12.7	4.76	5.16	1.2
	220416-GR			●	●	●	●	●	●			●	●					●						18.2	12.7	4.76	5.16	1.6
	270608-GR			●	●	●	●	●	●			●	●					●						25.4	15.875	6.35	6.35	0.8
	270612-GR			●	●	●	●	●	●			●	●					●						24.4	15.875	6.35	6.35	1.2
	270616-GR			●	●	●	●	●	●			●	●					●						23.3	15.875	6.35	6.35	1.6
	330924-GR																							27.1	15.875	9.52	7.93	2.4
TNMG-ZR  Roughing	160408-ZR				●		●																	14.5	9.525	4.76	3.18	0.8
	160412-ZR				●		●																	13.5	9.525	4.76	3.18	1.2
	160416-ZR				●		●																	12.5	9.525	4.76	3.18	1.6
	220408-ZR				●		●																	20.0	12.7	4.76	5.16	0.8
	220412-ZR				●		●																	19.0	12.7	4.76	5.16	1.2
	220416-ZR				●		●																	18.2	12.7	4.76	5.16	1.6
	270608-ZR																							25.4	15.875	6.35	6.35	0.8
	270612-ZR																							24.4	15.875	6.35	6.35	1.2
	270616-ZR																							23.3	15.875	6.35	6.35	1.6
	330924-ZR																							27.1	15.875	9.52	7.93	2.4

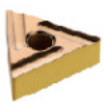
TN○○

Triangular 60° Negative



Workpiece		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	✱	✱								
Cast iron	K															●	●	⬌	✱	✱	✱		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✱									
Hardened steel	H																						

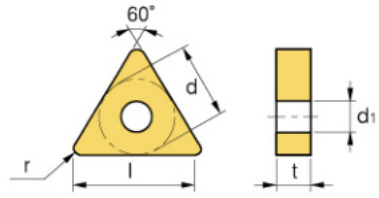
Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
TNMG-HA	160404-HA														●								●	15.5	9.525	4.76	3.81	0.4
	160408-HA														●								●	14.5	9.525	4.76	3.81	0.8
	160412-HA																							13.5	9.525	4.76	3.81	1.2
 Medium to Finishing																												
TNMG-HS	160404-HS														●									15.5	9.525	4.76	3.81	0.4
	160408-HS														●									14.5	9.525	4.76	3.81	0.8
	160412-HS																							13.5	9.525	4.76	3.81	1.2
																												
TNMG-S	160404R/L-S			●	●						●	●												15.5	9.525	4.76	3.81	0.4
	160408R/L-S			●	●						●	●												14.5	9.525	4.76	3.81	0.8
	160412R/L-S																							13.5	9.525	4.76	3.81	1.2
 Medium to Roughing																												

Turning Insert (Negative)

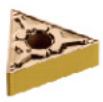
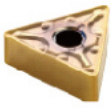
TN○○

Triangular **60° Negative**



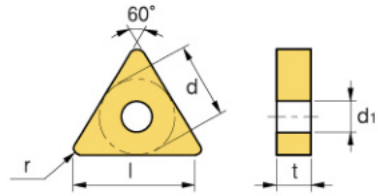
Workpiece		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	✱	✱								
Cast iron	K															●	●	⬌	⬌	✱	✱		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✱									
Hardened steel	H																						

Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
TNMG-TM  Medium	160404-TM		●	●	●							●	●											15.5	9.525	4.76	3.81	0.4
	160408-TM		●	●	●							●	●											14.5	9.525	4.76	3.81	0.8
	160412-TM				●																			13.5	9.525	4.76	3.81	1.2
TNMG-MA  Medium	160404-MA		●	●	●							●	●											15.5	9.525	4.76	3.18	0.4
	160408-MA		●	●	●							●	●											14.5	9.525	4.76	3.18	0.8
	160412-MA				●							●	●											13.5	9.525	4.76	3.18	1.2
	220404-MA																							21.0	12.7	4.76	5.16	0.4
	220408-MA																							20.0	12.7	4.76	5.16	0.8
	220412-MA																							19.0	12.7	4.76	5.16	1.2
TNMG-BF  Finishing	160404-BF											●	●											15.5	9.525	4.76	3.18	0.4
	160408-BF											●	●											14.5	9.525	4.76	3.18	0.8
	160412-BF																							13.5	9.525	4.76	3.18	1.2
	220404-BF																							21.0	12.7	4.76	5.16	0.4
	220408-BF																							20.0	12.7	4.76	5.16	0.8
	220412-BF																							19.0	12.7	4.76	5.16	1.2

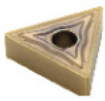
TN○○

Triangular 60° Negative



Workpiece			TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P		●	●	⬌	⬌	⬌	✖	✖	✖	●	●	⬌	⬌	✖								⬌	
Stainless steel	M							✖	✖	✖	●	●	⬌	⬌	✖	✖								
Cast iron	K																●	●	⬌	⬌	✖	✖		●
Non-ferrous metal	N																							●
Heat resistant alloy, Titaium alloy	S										●	●	⬌	⬌	✖									
Hardened steel	H																							

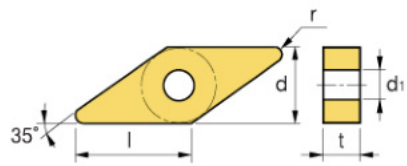
Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✖ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
TNMG-BM	160404-BM											●	●											15.5	9.525	4.76	3.81	0.4
	160408-BM											●	●											14.5	9.525	4.76	3.81	0.8
	160412-BM											●	●											13.5	9.525	4.76	3.81	1.2
	220404-BM																							21.0	12.7	4.76	5.16	0.4
	220408-BM																							20.0	12.7	4.76	5.16	0.8
	220412-BM																							19.0	12.7	4.76	5.16	1.2
	220416-BM																							18.2	12.7	4.76	5.16	1.6
Medium																												
TNMM-GR	220408-GR			●	●	●	●	●	●															20.0	12.7	4.76	5.16	0.8
	220412-GR			●	●	●	●	●	●															19.0	12.7	4.76	5.16	1.2
	220416-GR			●	●	●	●	●	●															18.2	12.7	4.76	5.16	1.6
	270608-GR			●	●	●	●	●	●															25.4	15.875	6.35	6.35	0.8
	270612-GR			●	●	●	●	●	●															24.4	15.875	6.35	6.35	1.2
	270616-GR			●	●	●	●	●	●															23.3	15.875	6.35	6.35	1.6
	330924-GR			●	●	●	●	●	●															27.1	15.875	9.52	7.93	2.4
Roughing																												

Turning Insert (Negative)

VNOO

Rhombic 35° Negative



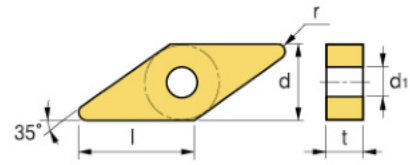
Workpiece			TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P		●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	⬌	✱							⬌	
Stainless steel	M							✱	✱	✱	●	●	⬌	⬌	⬌	✱	✱							
Cast iron	K																	●	●	⬌	⬌	✱	✱	●
Non-ferrous metal	N																							●
Heat resistant alloy, Titaium alloy	S											●	●	⬌	⬌	✱								
Hardened steel	H																							

Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
VNMG  Medium to Roughing	160404				●											●		●		●				15.5	9.525	4.76	3.81	0.4
	160408				●											●		●		●				14.5	9.525	4.76	3.81	0.8
	160412				●											●		●		●				13.5	9.525	4.76	3.81	1.2
VNMG-GF  Finishing	160404-GF		●	●	●	●	●																	15.6	9.525	4.76	3.18	0.4
	160408-GF		●	●	●	●	●																	14.6	9.525	4.76	3.18	0.8
VNMG-GM  Medium	160404-GM		●	●	●	●	●					●	●					●						15.6	9.525	4.76	3.18	0.4
	160408-GM		●	●	●	●	●					●	●					●						14.6	9.525	4.76	3.18	0.8
	160412-GM			●	●	●	●					●	●					●						13.6	9.525	4.76	3.18	1.2

VN○○

Rhombic 35° Negative



Workpiece			TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
	Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
	Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	✱	✱								
	Cast iron	K															●	●	⬌	⬌	✱	✱		●
	Non-ferrous metal	N																						●
	Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✱									
	Hardened steel	H																						

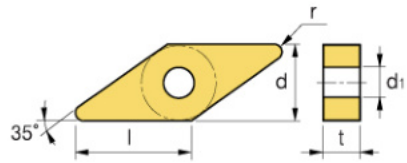
Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
VNMG-HA	160404-HA														●								●	15.6	9.525	4.76	3.81	0.4
	160408-HA														●								●	14.6	9.525	4.76	3.81	0.8
																												
Medium to Finishing																												
VNMG-HS	160404-HS														●									15.6	9.525	4.76	3.81	0.4
	160408-HS														●									14.6	9.525	4.76	3.81	0.8
	160412-HS																							13.6	9.525	4.76	3.81	1.2
																												
VNMG-TM	160404-TM		●	●	●		●					●	●											15.6	9.525	4.76	3.81	0.4
	160408-TM		●	●	●		●					●	●											14.6	9.525	4.76	3.81	0.8
	160412-TM				●																			13.6	9.525	4.76	3.81	1.2
																												
Medium																												

Turning Insert (Negative)

VN○○

Rhombic **35° Negative**



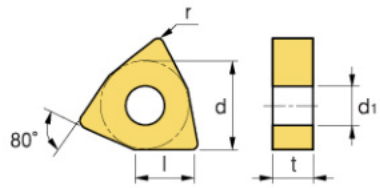
Workpiece		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	✱	✱								
Cast iron	K															●	●	⬌	⬌	✱	✱		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✱									
Hardened steel	H																						

Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
VNMG-MA	160404-MA		●	●	●	●	●	●				●	●											15.6	9.525	4.76	3.81	0.4
	160408-MA		●	●	●	●	●	●				●	●											14.6	9.525	4.76	3.81	0.8
	160412-MA																							13.6	9.525	4.76	3.81	1.2
 Medium																												
VNMG-BF	160404-BF																							15.6	9.525	4.76	3.81	0.4
	160408-BF																							14.6	9.525	4.76	3.81	0.8
	160412-BF																							13.6	9.525	4.76	3.81	1.2
 Finishing																												
VNMG-BM	160404-BM											●	●					●						15.6	9.525	4.76	3.18	0.4
	160408-BM											●	●					●						14.6	9.525	4.76	3.18	0.8
	160412-BM											●	●					●						13.6	9.525	4.76	3.18	1.2
 Medium																												

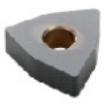
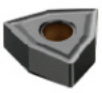
WN○○

Trigon 80° Negative



Workpiece			TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
	Steel	P	●	●	⬌	⬌	⬌	✖	✖	✖	●	●	⬌	⬌	✖								⬌	
	Stainless steel	M						✖	✖	✖	●	●	⬌	⬌	✖	✖								
	Cast iron	K															●	●	⬌	⬌	✖	✖		●
	Non-ferrous metal	N																						●
	Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✖									
	Hardened steel	H																						

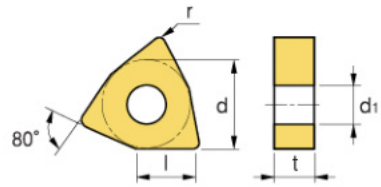
Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✖ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
WNMA	060404																							6.2	9.525	4.76	3.81	0.4
	060408																							6.1	9.525	4.76	3.81	0.8
	060412															●		●	●	●	●			6.0	9.525	4.76	3.81	1.2
	080404															●		●	●	●	●			8.4	12.7	4.76	5.16	0.4
	080408															●		●	●	●	●			8.3	12.7	4.76	5.16	0.8
	080412																	●	●					8.2	12.7	4.76	5.16	1.2
	080416																							8.1	12.7	4.76	5.16	1.6
Roughing																												
WNMG	060404				●													●						6.2	9.525	4.76	3.81	0.4
	060408				●													●						6.1	9.525	4.76	3.81	0.8
	060412				●													●						6.0	9.525	4.76	3.81	1.2
	080404				●											●		●	●	●	●			8.4	12.7	4.76	5.16	0.4
	080408				●											●		●	●	●	●			8.3	12.7	4.76	5.16	0.8
	080412				●											●		●	●	●	●			8.2	12.7	4.76	5.16	1.2
	080416				●													●						8.1	12.7	4.76	5.16	1.6
Medium to Roughing																												
WNMG-GF	060404-GF		●	●	●	●	●																	6.2	9.525	4.76	3.81	0.4
	060408-GF		●	●	●	●	●																	6.1	9.525	4.76	3.81	0.8
	060412-GF																							6.0	9.525	4.76	3.81	1.2
	080404-GF		●	●	●	●	●																	8.4	12.7	4.76	5.16	0.4
	080408-GF		●	●	●	●	●																	8.3	12.7	4.76	5.16	0.8
	080412-GF																							8.2	12.7	4.76	5.16	1.2
Finishing																												

Turning Insert (Negative)

WN○○

Trigon **80° Negative**



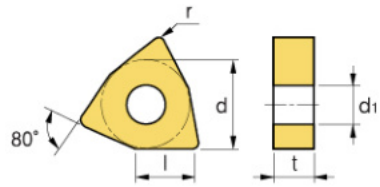
Workpiece		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK205	TCK305	TCK215	TCK315	TCK225	TCK325	TP20	TPK01
Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	✱	✱								
Cast iron	K															●	●	⬌	⬌	✱	✱		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✱									
Hardened steel	H																						

Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK205	TCK305	TCK215	TCK315	TCK225	TCK325	TP20	TPK01	l	d	t	d1	r
WNMG-GM  Medium	060404-GM		●	●	●		●					●	●					●	●	●	●			6.2	9.525	4.76	3.81	0.4
	060408-GM		●	●	●		●					●	●					●	●	●	●			6.1	9.525	4.76	3.81	0.8
	060412-GM			●	●																			6.0	9.525	4.76	3.81	1.2
	080404-GM		●	●	●	●	●	●				●	●					●	●	●	●			8.4	12.7	4.76	5.16	0.4
	080408-GM		●	●	●	●	●	●				●	●					●	●	●	●			8.3	12.7	4.76	5.16	0.8
	080412-GM		●	●	●	●	●	●				●	●					●	●	●	●			8.2	12.7	4.76	5.16	1.2
	080416-GM																							8.1	12.7	4.76	5.16	1.6
WNMG-GR  Roughing	060404-GR																							6.2	9.525	4.76	3.81	0.4
	060408-GR			●	●	●	●	●				●	●					●	●					6.1	9.525	4.76	3.81	0.8
	060412-GR																							6.0	9.525	4.76	3.81	1.2
	080404-GR																							8.4	12.7	4.76	5.16	0.4
	080408-GR			●	●	●	●	●				●	●					●	●					8.3	12.7	4.76	5.16	0.8
	080412-GR			●	●	●	●	●				●	●					●	●					8.2	12.7	4.76	5.16	1.2
	080416-GR			●	●	●	●	●																8.1	12.7	4.76	5.16	1.6
WNMG-ZR  Roughing	060408-ZR																							6.1	9.525	4.76	3.81	0.8
	060412-ZR																							6.0	9.525	4.76	3.81	1.2
	080404-ZR																							8.4	12.7	4.76	5.16	0.4
	080408-ZR				●		●																	8.3	12.7	4.76	5.16	0.8
	080412-ZR				●		●																	8.2	12.7	4.76	5.16	1.2
	080416-ZR				●		●																	8.1	12.7	4.76	5.16	1.6

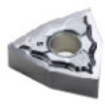
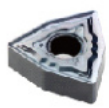
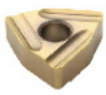
WN○○

Trigon 80° Negative



Workpiece			TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
	Steel	P	●	●	⬌	⬌	⬌	✖	✖	✖	●	●	⬌	⬌	✖								⬌	
	Stainless steel	M						✖	✖	✖	●	●	⬌	⬌	✖	✖								
	Cast iron	K															●	●	⬌	⬌	✖	✖		●
	Non-ferrous metal	N																						●
	Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✖									
	Hardened steel	H																						

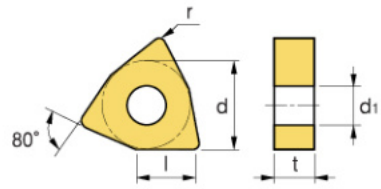
Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✖ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
WNMG-HA	060404-HA																						●	6.1	9.525	4.76	3.81	0.8
	060408-HA																						●	6.0	9.525	4.76	3.81	1.2
	080404-HA														●								●	8.4	12.7	4.76	5.16	0.4
	080408-HA														●								●	8.3	12.7	4.76	5.16	0.8
 Medium to Finishing																												
WNMG-HS	080404-HS														●									8.4	12.7	4.76	5.16	0.4
	080408-HS														●									8.3	12.7	4.76	5.16	0.8
 Medium																												
WNMG-S	080404R-S			●																				8.4	12.7	4.76	5.16	0.4
	080404L-S																							8.4	12.7	4.76	5.16	0.4
	080408R-S			●																				8.3	12.7	4.76	5.16	0.8
	080408L-S			●																				8.3	12.7	4.76	5.16	0.8
																												

Turning Insert (Negative)

WN○○

Trigon 80° Negative



Workpiece		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P	●	●	⚭	⚭	⚭	✱	✱	✱	●	●	⚭	⚭	✱								⚭	
Stainless steel	M						✱	✱	✱	●	●	⚭	⚭	✱	✱								
Cast iron	K															●	●	⚭	⚭	✱	✱		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⚭	⚭	✱									
Hardened steel	H																						

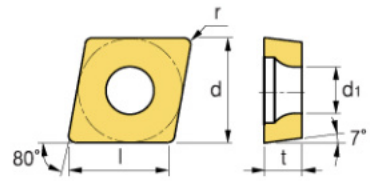
Machining types
- ● Continuous cutting
- ⚭ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
WNMG-TM	080404-TM		●	●	●	●	●	●				●	●											8.4	12.7	4.76	5.16	0.4
	080408-TM		●	●	●	●	●	●				●	●											8.3	12.7	4.76	5.16	0.8
	080412-TM			●	●																			8.2	12.7	4.76	5.16	1.2
 Medium																												
WNMG-MA	060404-MA																							6.2	9.525	4.76	3.81	0.4
	060408-MA																							6.1	9.525	4.76	3.81	0.8
	080404-MA		●	●	●	●	●	●				●	●											8.4	12.7	4.76	5.16	0.4
	080408-MA		●	●	●	●	●	●				●	●											8.3	12.7	4.76	5.16	0.8
	080412-MA		●	●	●	●	●	●					●											8.2	12.7	4.76	5.16	1.2
 Medium																												
WNMG-BF	060404-BF																							6.2	9.525	4.76	3.81	0.4
	060408-BF																							6.1	9.525	4.76	3.81	0.8
	080404-BF											●	●											8.4	12.7	4.76	5.16	0.4
	080408-BF											●	●											8.3	12.7	4.76	5.16	0.8
	080412-BF																							8.2	12.7	4.76	5.16	1.2
 Medium																												
WNMG-BM	060404-BM																							6.2	9.525	4.76	3.81	0.4
	060408-BM																							6.1	9.525	4.76	3.81	0.8
	080404-BM											●	●											8.4	12.7	4.76	5.16	0.4
	080408-BM											●	●											8.3	12.7	4.76	5.16	0.8
	080412-BM											●	●											8.2	12.7	4.76	5.16	1.2
 Medium																												

CC○○

Rhombic 80° Positive

Relief Angle : 7°



Workpiece		TP9305	TP9215	TP9120	TP9225	TP9325	TP9235	TP9335	TP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P	●	●	⬌	⬌	⬌	✖	✖	✖	●	●	⬌	⬌	✖								⬌	
Stainless steel	M						✖	✖	✖	●	●	⬌	⬌	✖	✖								
Cast iron	K															●	●	⬌	⬌	✖	✖		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✖									
Hardened steel	H																						

Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✖ Interrupted cutting

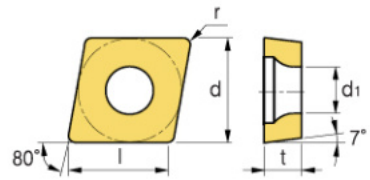
Inserts	Designation	TP9305	TP9215	TP9120	TP9225	TP9325	TP9235	TP9335	TP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
		Coated																				Uncoated		Dimensions(mm)				
CCMW	060204																							6.0	6.35	2.38	2.8	0.4
	060208																							5.6	6.35	2.38	2.8	0.8
	09T304																	●	●	●	●			9.2	9.525	3.97	4.4	0.4
	09T308																	●	●	●	●			8.8	9.525	3.97	4.4	0.8
	120404																	●	●	●	●			12.4	12.7	4.76	5.5	0.4
	120408																	●	●	●	●			12.0	12.7	4.76	5.5	0.8
Roughing																												
CCMT-HF	060202-HF		●	●	●	●	●					●	●											6.2	6.35	2.38	2.8	0.2
	060204-HF		●	●	●	●	●					●	●											6.0	6.35	2.38	2.8	0.4
	060208-HF																							5.6	6.35	2.38	2.8	0.8
	09T302-HF		●	●	●	●	●					●	●											9.4	9.525	3.97	4.4	0.2
	09T304-HF		●	●	●	●	●					●	●											9.2	9.525	3.97	4.4	0.4
	09T308-HF		●	●	●	●	●					●	●											8.8	9.525	3.97	4.4	0.8
	120404-HF		●	●	●	●	●					●	●											12.4	12.7	4.76	5.5	0.4
	120408-HF																							12.0	12.7	4.76	5.5	0.8
Finishing																												
CCMT-HM	060202-HM		●	●	●	●	●	●																6.2	6.35	2.38	2.8	0.2
	060204-HM		●	●	●	●	●	●		●		●	●		●	●		●	●	●	●			6.0	6.35	2.38	2.8	0.4
	060208-HM		●	●	●	●	●	●										●	●	●	●			5.6	6.35	2.38	2.8	0.8
	09T302-HM		●	●	●	●	●	●																9.4	9.525	3.97	4.4	0.2
	09T304-HM		●	●	●	●	●	●		●		●	●		●	●		●	●	●	●			9.2	9.525	3.97	4.4	0.4
	09T308-HM		●	●	●	●	●	●		●		●	●		●	●		●	●	●	●			8.8	9.525	3.97	4.4	0.8
	120404-HM		●	●	●	●	●	●		●		●	●		●	●		●	●	●	●			12.4	12.7	4.76	5.5	0.4
	120408-HM		●	●	●	●	●	●		●		●	●		●	●		●	●	●	●			12.0	12.7	4.76	5.5	0.8
Medium																												

Turning Insert (Positive)

CC○○

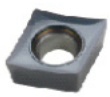
Rhombic **80° Positive**

Relief Angle : 7°



Workpiece		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	⬌	✱							⬌	
Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	⬌	✱	✱							
Cast iron	K																●	●	⬌	⬌	✱	✱	●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S										●	●	⬌	⬌	✱								
Hardened steel	H																						

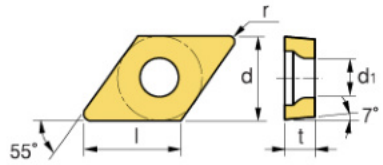
Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
CCMT-HR  Roughing	09T304-HR			●	●	●	●	●				●	●					●	●					9.2	9.525	3.97	4.4	0.4
	09T308-HR			●	●	●	●	●				●	●					●	●					8.8	9.525	3.97	4.4	0.8
	120404-HR																							12.4	12.7	4.76	5.5	0.4
	120408-HR			●	●	●	●	●				●	●					●	●					12.0	12.7	4.76	5.5	0.8
	120412-HR			●	●	●	●	●				●	●					●	●					11.6	12.7	4.76	5.5	1.2
CCGT-AL  Aluminum	060202-AL																						●	6.2	6.35	2.38	2.8	0.2
	060204-AL																						●	6.0	6.35	2.38	2.8	0.4
	060208-AL																						●	5.6	6.35	2.38	2.8	0.8
	09T302-AL																						●	9.4	9.525	3.97	4.4	0.2
	09T304-AL																						●	9.2	9.525	3.97	4.4	0.4
	09T308-AL																						●	8.8	9.525	3.97	4.4	0.8
	120402-AL																						●	12.6	12.7	4.76	5.5	0.4
	120404-AL																						●	12.4	12.7	4.76	5.5	0.8
	120408-AL																						●	12.0	12.7	4.76	5.5	0.4
CCGT-1L  Finishing	060202-1L																							6.2	6.35	2.38	2.8	0.2
	060204-1L																							6.0	6.35	2.38	2.8	0.4
	060208-1L																							5.6	6.35	2.38	2.8	0.8
	09T302-1L																							9.4	9.525	3.97	4.4	0.2
	09T304-1L																							9.2	9.525	3.97	4.4	0.4
	09T308-1L																							8.8	9.525	3.97	4.4	0.8
	120404-1L																							12.4	12.7	4.76	5.5	0.4
	120408-1L																							12.0	12.7	4.76	5.5	0.8

DC○○

Rhombic **55° Positive**

Relief Angle : 7°



Workpiece		TCP930S	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK520S	TCK530S	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P	●	●	◐	◐	◐	✱	✱	✱	●	●	◐	◐	✱								◐	
Stainless steel	M						✱	✱	✱	●	●	◐	◐	✱	✱								
Cast iron	K															●	●	◐	◐	✱	✱		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	◐	◐	✱									
Hardened steel	H																						

Machining types
- ● Continuous cutting
- ◐ General cutting
- ✱ Interrupted cutting

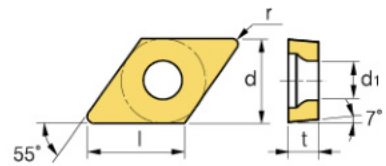
Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP930S	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK520S	TCK530S	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
DCMW	070204																							7.3	6.35	2.38	2.8	0.4
	070208																							6.8	6.35	2.38	2.8	0.8
	11T304																	●	●	●	●			11.2	9.525	3.97	4.4	0.4
	11T308																	●	●	●	●			10.8	9.525	3.97	4.4	0.8
Roughing																												
DCMT-HF	070202-HF		●	●	●	●	●					●	●											7.5	6.35	2.38	2.8	0.2
	070204-HF		●	●	●	●	●					●	●											7.3	6.35	2.38	2.8	0.4
	070208-HF																							6.8	6.35	2.38	2.8	0.8
	11T302-HF																							11.4	9.525	3.97	4.4	0.2
	11T304-HF		●	●	●	●	●					●	●											11.2	9.525	3.97	4.4	0.4
	11T308-HF		●	●																				10.8	9.525	3.97	4.4	0.8
Finishing																												
DCMT-HM	070202-HM																							7.5	6.35	2.38	2.8	0.2
	070204-HM		●	●	●	●	●	●				●	●					●	●	●	●			7.3	6.35	2.38	2.8	0.4
	070208-HM		●	●	●	●	●	●				●	●					●	●	●	●			6.8	6.35	2.38	2.8	0.8
	11T302-HM		●	●	●	●	●	●																11.4	9.525	3.97	4.4	0.2
	11T304-HM		●	●	●	●	●	●				●	●					●	●	●	●			11.2	9.525	3.97	4.4	0.4
	11T308-HM		●	●	●	●	●	●				●	●					●	●	●	●			10.8	9.525	3.97	4.4	0.8
Medium																												

Turning Insert (Positive)

DC○○

Rhombic **55° Positive**

Relief Angle : 7°



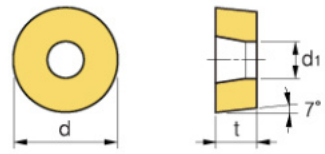
Workpiece			TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
	Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
	Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	✱	✱								
	Cast iron	K															●	●	⬌	⬌	✱	✱		●
	Non-ferrous metal	N																						●
	Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✱									
	Hardened steel	H																						

Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
DCMT-HR	070208-HR					●																		6.8	6.35	2.38	2.8	0.8
	11T304-HR					●																		11.4	9.525	3.97	4.4	0.2
	11T308-HR					●																		11.2	9.525	3.97	4.4	0.4
	11T312-HR					●																		10.8	9.525	3.97	4.4	0.8
																								10.4	9.525	9.97	4.4	1.2
Roughing																												
DCGT-AL	070202-AL																						●	7.5	6.35	2.38	2.8	0.2
	070204-AL																						●	7.3	6.35	2.38	2.8	0.4
	070208-AL																						●	6.8	6.35	2.38	2.8	0.8
	11T302-AL																						●	11.4	9.525	3.97	4.4	0.2
	11T304-AL																						●	11.2	9.525	3.97	4.4	0.4
	11T308-AL																						●	10.8	9.525	3.97	4.4	0.8
	11T312-AL																						●	10.4	9.525	3.97	4.4	1.2
Aluminum																												
DCGT-1L	070202-1L																							7.5	6.35	2.38	2.8	0.2
	070204-1L																							7.3	6.35	2.38	2.8	0.4
	11T302-1L																							11.4	9.525	3.97	4.4	0.2
	11T304-1L																							11.2	9.525	3.97	4.4	0.4
	11T308-1L																							10.8	9.525	3.97	4.4	0.8
Finishing																												

RC○○

Round R° Positive
Relief Angle : 7°



Workpiece			TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P		●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
Stainless steel	M							✱	✱	✱	●	●	⬌	⬌	✱	✱								
Cast iron	K																●	●	⬌	⬌	✱	✱		●
Non-ferrous metal	N																							●
Heat resistant alloy, Titaium alloy	S										●	●	⬌	⬌	✱									
Hardened steel	H																							

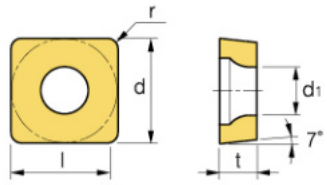
Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
RCMX  Medium	1003MO																							--	10	3.18	3.6	--
	1204MO																							--	12	4.76	4.2	--
	1606MO		●	●	●		●													●				--	16	6.35	5.2	--
	2006MO		●	●	●		●													●				--	20	6.35	6.5	--
	2507MO		●	●	●		●													●				--	25	7.94	7.25	--
	3209MO		●	●	●		●													●				--	32	9.52	9.55	--
RCGT  Medium	0602MO																							--	6	2.38	2.8	--
	0803MO																							--	8	3.18	3.35	--
	1003MO																						●	--	10	3.18	4.0	--
	10T3MO																							--	10	3.97	4.4	--
	1204MO																						●	--	12	4.76	4.4	--

Turning Insert (Positive)

SC○○

Square **90° Positive**
Relief Angle : 7°



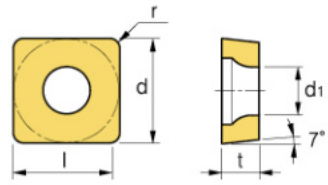
Workpiece		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	✱	✱								
Cast iron	K															●	●	⬌	⬌	✱	✱		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✱									
Hardened steel	H																						

Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
		Coated																				Uncoated		Dimensions(mm)				
SCMW  Roughing	09T304																	●	●	●	●			9.1	9.525	3.97	4.4	0.4
	09T308																	●	●	●	●			8.7	9.525	3.97	4.4	0.8
	120404																							12.3	12.7	4.76	5.5	0.4
	120408																							11.9	12.7	4.76	5.5	0.8
SCMT-HF  Finishing	09T302-HF																							9.3	9.525	3.97	4.4	0.2
	09T304-HF		●	●	●		●					●	●											9.1	9.525	3.97	4.4	0.4
	09T308-HF																							8.7	9.525	3.97	4.4	0.8
	120404-HF																							12.3	12.7	4.76	5.5	0.4
	120408-HF																							11.9	12.7	4.76	5.5	0.8
SCMT-HM  Medium	09T304-HM		●	●	●	●	●					●	●					●	●	●	●			9.1	9.525	3.97	4.4	0.4
	09T308-HM		●	●	●	●	●					●	●					●	●	●	●			8.7	9.525	3.97	4.4	0.8
	120404-HM		●	●	●	●	●					●	●					●	●	●	●			12.3	12.7	4.76	5.5	0.4
	120408-HM		●	●	●	●	●					●	●					●	●	●	●			11.9	12.7	4.76	5.5	0.8

SC○○

Square **90° Positive**
Relief Angle : 7°



Workpiece		TCP930S	TCP921S	TCP912O	TCP922S	TCP932S	TCP923S	TCP933S	TCP934S	TPM811S	TPM831S	TPM822S	TPM812S	TPM813S	TPM930	TCK520S	TCK530S	TCK521S	TCK531S	TCK522S	TCK532S	TP20	TPK01
Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	✱	✱								
Cast iron	K															●	●	⬌	⬌	✱	✱		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✱									
Hardened steel	H																						

Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

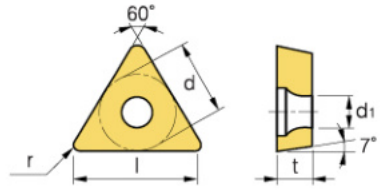
Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP930S	TCP921S	TCP912O	TCP922S	TCP932S	TCP923S	TCP933S	TCP934S	TPM811S	TPM831S	TPM822S	TPM812S	TPM813S	TPM930	TCK520S	TCK530S	TCK521S	TCK531S	TCK522S	TCK532S	TP20	TPK01	l	d	t	d1	r
SCMT-HR	09T304-HR			●	●	●	●	●				●	●					●	●	●	●			9.2	9.525	3.97	4.4	0.4
	09T308-HR			●	●	●	●	●				●	●					●	●	●	●			8.8	9.525	3.97	4.4	0.8
	120404-HR			●	●	●	●	●				●	●					●	●	●	●			12.4	12.7	4.76	5.5	0.4
	120408-HR			●	●	●	●	●				●	●					●	●	●	●			12.0	12.7	4.76	5.5	0.8
	120412-HR			●	●	●	●	●				●	●					●	●	●	●			11.6	12.7	4.76	5.5	1.2
Roughing																												
SCGT-AL	09T302-AL																						●	9.3	9.525	3.97	4.4	0.2
	09T304-AL																						●	9.1	9.525	3.97	4.4	0.4
	09T308-AL																						●	8.7	9.525	3.97	4.4	0.8
	120404-AL																						●	12.3	12.7	4.76	5.5	0.4
	120408-AL																						●	11.9	12.7	4.76	5.5	0.8
	120412-AL																						●	11.6	12.7	4.76	5.5	1.2
Aluminum																												
SCGT-1L	09T304-1L																							9.1	9.525	3.97	4.4	0.2
	09T308-1L																							8.7	9.525	3.97	4.4	0.4
	120404-1L																							12.3	12.7	4.76	5.5	0.2
	120408-1L																							11.9	12.7	4.76	5.5	0.4
	120412-1L																							11.6	12.7	4.76	5.5	0.8
Finishing																												

Turning Insert (Positive)

TC○○

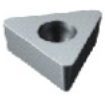
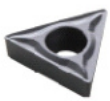
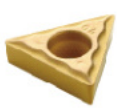
Triangular **60° Positive**

Relief Angle : 7°



Workpiece			TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P		●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
Stainless steel	M							✱	✱	✱	●	●	⬌	⬌	✱	✱								
Cast iron	K																●	●	⬌	⬌	✱	✱		●
Non-ferrous metal	N																							●
Heat resistant alloy, Titaium alloy	S										●	●	⬌	⬌	✱									
Hardened steel	H																							

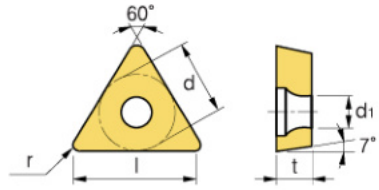
Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
TCMW  Roughing	110204																							10.0	6.35	2.38	2.8	0.4
	110208																							9.0	6.35	2.38	2.8	0.8
	16T304																	●	●	●	●			15.5	9.525	3.97	4.4	0.4
	16T308																	●	●	●	●			14.5	9.525	3.97	4.4	0.8
	16T312																	●	●	●	●			13.5	9.525	3.97	4.4	1.2
TCMT-HF  Finishing	090202-HF																							9.1	5.56	2.38	2.5	0.2
	090204-HF		●	●	●	●	●					●	●											8.6	5.56	2.38	2.5	0.4
	110202-HF		●	●	●	●	●					●	●											10.5	6.35	2.38	2.8	0.2
	110204-HF		●	●	●	●	●					●	●											10.0	6.35	2.38	2.8	0.4
	110208-HF																							9.0	6.35	2.38	2.8	0.8
	16T302-HF																							15.0	9.525	3.97	4.4	0.2
	16T304-HF		●	●	●	●	●					●	●											15.5	9.525	3.97	4.4	0.4
	16T308-HF																							14.5	9.525	3.97	4.4	0.8
TCMT-HM  Medium	090204-HM		●	●	●	●	●					●	●											8.6	5.56	2.38	2.5	0.4
	110202-HM																							10.5	6.35	2.38	2.8	0.2
	110204-HM		●	●	●	●						●	●					●	●	●	●			10.0	6.35	2.38	2.8	0.4
	110208-HM		●	●	●	●						●	●					●	●	●	●			9.0	6.35	2.38	2.8	0.8
	16T304-HM		●	●	●	●	●	●				●	●					●	●	●	●			15.5	9.525	3.97	4.4	0.2
	16T308-HM		●	●	●	●	●	●				●	●					●	●	●	●			14.5	9.525	3.97	4.4	0.4
	16T312-HM			●	●	●	●	●										●	●	●	●			13.5	9.525	3.97	4.4	0.8

TC○○

Triangular 60° Positive

Relief Angle : 7°



Workpiece		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P	●	●	⬌	⬌	⬌	✖	✖	✖	●	●	⬌	⬌	✖								⬌	
Stainless steel	M						✖	✖	✖	●	●	⬌	⬌	✖	✖								
Cast iron	K															●	●	⬌	⬌	✖	✖		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✖									
Hardened steel	H																						

Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✖ Interrupted cutting

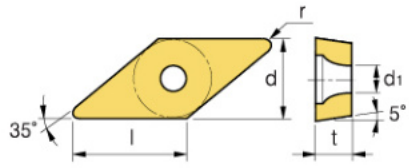
Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
TCMT-HR	090208-HR																							7.6	5.56	2.38	2.5	0.8
	110204-HR			●	●	●	●	●										●	●	●	●			10.0	6.35	2.38	2.8	0.4
	110208-HR			●	●	●	●	●										●	●	●	●			9.0	6.35	2.38	2.8	0.8
	16T304-HR			●	●	●	●	●										●	●	●	●			15.5	9.525	3.97	4.4	0.4
	16T308-HR			●	●	●	●	●										●	●	●	●			14.5	9.525	3.97	4.4	0.8
	16T312-HR																							13.5	9.525	3.97	4.4	1.2
Roughing																												
TCGT-AL	090202-AL																						●	9.1	5.56	2.38	2.5	0.2
	090204-AL																						●	8.6	5.56	2.38	2.5	0.4
	110202-AL																						●	10.5	6.35	2.38	2.8	0.2
	110204-AL																						●	10.0	6.35	2.38	2.8	0.4
	110208-AL																						●	9.0	6.35	2.38	2.8	0.8
	16T302-AL																						●	15.0	9.525	3.97	4.4	0.2
	16T304-AL																						●	15.5	9.525	3.97	4.4	0.4
	16T308-AL																						●	14.5	9.525	3.97	4.4	0.8
	16T312-AL																						●	13.5	9.525	3.97	4.4	1.2
Aluminum																												
TCGT-1L	090202-1L																							9.1	5.56	2.38	2.5	0.2
	090204-1L																							8.6	5.56	2.38	2.5	0.4
	110202-1L																							10.5	6.35	2.38	2.8	0.2
	110204-1L																							10.0	6.35	2.38	2.8	0.4
	110208-1L																							9.0	6.35	2.38	2.8	0.8
	16T304-1L																							15.0	9.525	3.97	4.4	0.4
Finishing																												

Turning Insert (Positive)

VB○○

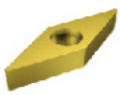
Rhombic **35° Positive**

Relief Angle : 5°



Workpiece		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	⬌	✱							⬌	
Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	✱	✱								
Cast iron	K															●	●	⬌	⬌	✱	✱		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✱									
Hardened steel	H																						

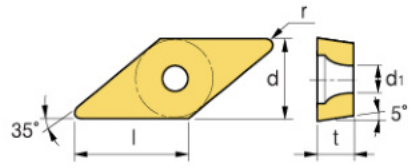
Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
VBMW	110304																							10.0	6.35	3.18	2.8	0.4
	110308																							9.0	6.35	3.18	2.8	0.8
	160404																	●						15.6	9.525	4.76	4.4	0.4
	160408																	●						14.6	9.525	4.76	4.4	0.8
	160412																	●						13.6	9.525	4.76	4.4	1.2
 Roughing																												
VBMT	160404		●	●	●	●	●	●			●	●					●	●	●					15.6	9.525	4.76	4.4	0.4
	160408		●	●	●	●	●	●			●	●					●	●	●					14.6	9.525	4.76	4.4	0.8
	160412		●	●	●	●	●	●			●	●					●	●	●					13.6	9.525	4.76	4.4	1.2
 Medium																												
VBGT-AL	110302-AL																						●	10.5	6.35	3.18	2.8	0.2
	110304-AL																						●	10.0	6.35	3.18	2.8	0.4
	110308-AL																						●	9.0	6.35	3.18	2.8	0.8
	160402-AL																						●	16.1	9.525	4.76	4.4	0.2
	160404-AL																						●	15.6	9.525	4.76	4.4	0.4
	160408-AL																						●	14.6	9.525	4.76	4.4	0.8
	160412-AL																							13.6	9.525	4.76	4.4	1.2
 Aluminum																												

VB○○

Rhombic 35° Positive

Relief Angle : 5°



Workpiece			TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
	Steel	P	●	●	⊜	⊜	⊜	✖	✖	✖	●	●	⊜	⊜	✖								⊜	
	Stainless steel	M						✖	✖	✖	●	●	⊜	⊜	✖	✖								
	Cast iron	K															●	●	⊜	⊜	✖	✖		●
	Non-ferrous metal	N																						●
	Heat resistant alloy, Titaium alloy	S									●	●	⊜	⊜	✖									
	Hardened steel	H																						

Machining types
- ● Continuous cutting
- ⊜ General cutting
- ✖ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
VBMT-HM	160404-HM			●	●	○	○	●			○	●	○				●	○	●	○			15.6	9.525	4.76	4.4	0.4
	160408-HM			●	●	○	○	●			○	●	○				●	○	●	○			14.6	9.525	4.76	4.4	0.8
	160412-HM																						13.6	9.525	4.76	4.4	1.2
VBMT-HR	160408-HR				●	●	●	●				●	●	○				●	●	●	●		14.6	9.525	4.76	4.4	0.8
	160412-HR				●	○	○	●				○	●	○				○	●	○	●		13.6	9.525	4.76	4.4	1.2
VBGT-1L	110302-1L																						10.5	6.35	3.18	2.8	0.2
	110304-1L																						10.0	6.35	3.18	2.8	0.4
	110308-1L																						9.0	6.35	3.18	2.8	0.8
	160402-1L																						16.1	9.525	4.76	4.4	0.2
	160404-1L																						15.6	9.525	4.76	4.4	0.4
	160408-1L																						14.6	9.525	4.76	4.4	0.8

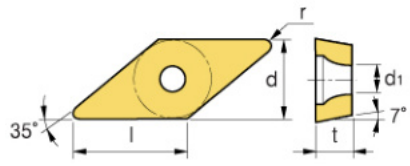
Finishing

Turning Insert (Positive)

VC○○

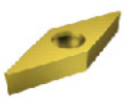
Rhombic **35° Positive**

Relief Angle : 7°



Workpiece		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01
Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	⬌	✱							⬌	
Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	⬌	✱	✱							
Cast iron	K																●	●	⬌	✱	✱	✱	●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S										●	●	⬌	⬌	✱								
Hardened steel	H																						

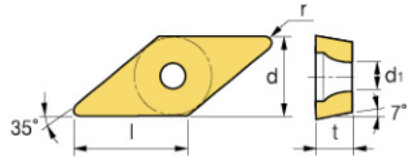
Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																				Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
VCMW	110204																							10.0	6.35	3.18	2.8	0.4
	110208																							9.0	6.35	3.18	2.8	0.8
	16T304																	●						15.6	9.525	4.76	4.4	0.4
	16T308																	●						14.6	9.525	4.76	4.4	0.8
	16T312																	●						13.6	9.525	4.76	4.4	1.2
 Roughing																												
VCMT	160404		●	●	●	●	●											●	●	●	●			15.6	9.525	4.76	4.4	0.4
	160408		●	●	●	●	●											●	●	●	●			14.6	9.525	4.76	4.4	0.8
	160412		●	●	●	●	●											●	●	●	●			13.6	9.525	4.76	4.4	1.2
 Medium																												
VCGT-AL	110302-AL																						●	10.5	6.35	3.18	2.8	0.2
	110304-AL																						●	10.0	6.35	3.18	2.8	0.4
	110308-AL																						●	9.0	6.35	3.18	2.8	0.8
	160402-AL																						●	16.1	9.525	4.76	4.4	0.2
	160404-AL																						●	15.6	9.525	4.76	4.4	0.4
	160408-AL																						●	14.6	9.525	4.76	4.4	0.8
	160412-AL																						●	13.6	9.525	4.76	4.4	1.2
 Aluminum	220516-AL																							18.0	12.7	5.56	5.6	1.6
	220525-AL																							15.6	12.7	5.56	5.6	2.5
	220530-AL																						●	14.3	12.7	5.56	5.6	3.0

VC○○

Rhombic 35° Positive

Relief Angle : 7°



Workpiece																							
Steel	P	●	●	⬌	⬌	⬌	✱	✱	✱	●	●	⬌	⬌	✱								⬌	
Stainless steel	M						✱	✱	✱	●	●	⬌	⬌	✱	✱								
Cast iron	K															●	●	⬌	⬌	✱	✱		●
Non-ferrous metal	N																						●
Heat resistant alloy, Titaium alloy	S									●	●	⬌	⬌	✱									
Hardened steel	H																						

Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Coated																			Uncoated		Dimensions(mm)				
		TCP9305	TCP9215	TCP9120	TCP9225	TCP9325	TCP9235	TCP9335	TCP9345	TPM8115	TPM8315	TPM8125	TPM8225	TPM8135	TPM930	TCK5205	TCK5305	TCK5215	TCK5315	TCK5225	TCK5325	TP20	TPK01	l	d	t	d1	r
VCGT-1L  Finishing	110302-1L																							10.5	6.35	3.18	2.5	0.2
	110304-1L																							10.0	6.35	3.18	2.8	0.4
	110308-1L																							9.0	6.35	3.18	2.8	0.8
	160402-1L																							16.1	9.525	4.76	4.4	0.2
	160404-1L																							15.6	9.525	4.76	4.4	0.4
	160408-1L																							14.6	9.525	4.76	4.4	0.8

Ceramic Grades

Excellent wear resistance and good impact resistance.

Excellent heat resistance, high oxidation resistance and high thermal shock resistance, so the cutting speed can generally be higher than carbide cutting tool 3-10 times, can realize high speed cutting and dry cutting to substantially improve production efficiency and reduce the cost of production.

Features of Ceramic

Classification	Symbol	Density (g/cm³)	Main Component	Hardness of Substrate (Gpa)	Fracture Toughness (MPa.m1/2)	Transverse Strength (Mpa)	Advantages and Applications
H	TT01	4.40	Al_2O_3+TiCN	20.0	≥5.5	750-950	· Application : Semi-roughing to finishing turning and interrupted milling of high hardness steel and cast iron. It is most suitable for cutting mangnaness steel and high strength steel.
k	TT03	4.80	Al_2O_3+TiCN	19.0	≥6.0	700-900	· Application : It is most suitable for cutting all kinds of high hardness alloy steel and alloy cast iron, especially for cutting ductile cast iron and boron-containing cast iron. It can be used for semi-roughing to finishing turning and interrupted milling.
	TT03N	4.60	Al_2O_3+TiCN (TiN COAT)	20.1	≥6.0	800-1000	
k	TS01	3.40	Si_3N_4+TiCN	17.0	≥6.5	800-1000	· Application : Roughing and high speed machining of cast iron, especially the nickel-based heat-resistant alloy has a good effect in cutting and can be used for high-feed processing and intermittent milling.

Ceramic Inserts Identification System

● Identification System

C N G A 12 04 04 — S01525

"Turning Indexable Inserts Identification System" See Page 077

Edge Prep.
(Ref. to the Table 1)

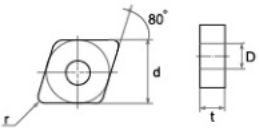
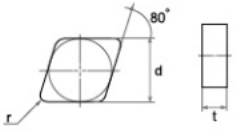
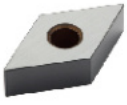
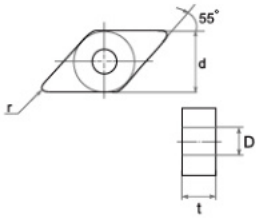
● Edge Preparation Identification System

Table 1

	Symbol	Cutting Edge Spec.	Example		Shape
Edge Prep.	S	Chamfered and Honed Cutting Edge	S01525	0.15mm x 25˚ Chamfered and Honed Cutting Edge	
	T	Chamfered Cutting Edge	T02025	0.20mm x 25˚ Chamfered Cutting Edge	

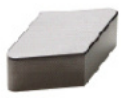
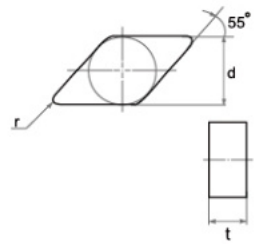
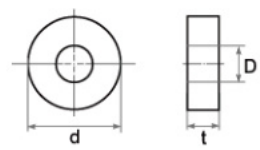
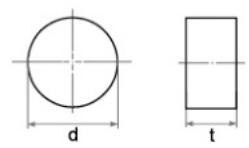
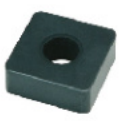
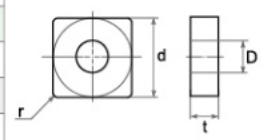
● See Page B3 for insert color

Ceramic Grades

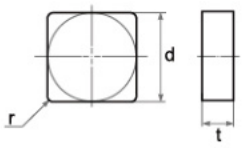
Inserts	Designation	Ddge Prep	Aluminum Oxide		PVD Coated Ceramic	Silicon Nitride Ceramic	Dimensions(mm)				Geometries(mm)
			TT01	TT03	TT03N	TS01	d	t	r	D	
 CNGA	120404	T02020	●	●			12.70	4.76	0.4	5.16	
	120408	T02020	●	●			12.70	4.76	0.8	5.16	
	120412	T02020	●	●			12.70	4.76	1.2	5.16	
	120416	T02020	●	●			12.70	4.76	1.6	5.16	
	160608	T02020					15.875	6.35	0.8	6.35	
	160612	T02020					15.875	6.35	1.2	6.35	
	160616	T02020					15.875	6.35	1.6	6.35	
	160708	T02020					15.875	7.94	0.8	6.35	
	160712	T02020					15.875	7.94	1.2	6.35	
	160716	T02020					15.875	7.94	1.6	6.35	
	190608	T02020					19.05	6.35	0.8	7.94	
	190612	T02020					19.05	6.35	1.2	7.94	
	190616	T02020					19.05	6.35	1.6	7.94	
 CNGN	120404	T02020	●	●			12.70	4.76	0.4	-	
	120408	T02020	●	●			12.70	4.76	0.4	-	
	120412	T02020	●	●			12.70	4.76	0.4	-	
	120708	T02020	●	●			12.70	7.94	0.8	-	
	120712	T02020	●	●			12.70	7.94	0.8	-	
	120716	T02020	●	●			12.70	7.94	0.8	-	
	160708	T02020	●	●			15.875	7.94	0.8	-	
	160712	T02020	●	●			15.875	7.94	0.8	-	
	160716	T02020	●	●			15.875	7.94	0.8	-	
 DNGA	150404	T02020	●	●			12.70	4.76	0.4	5.16	
	150408	T02020	●	●			12.70	4.76	0.8	5.16	
	150412	T02020	●	●			12.70	4.76	1.2	5.16	
	150416	T02020	●	●			12.70	4.76	1.6	5.16	
	150604	T02020	●	●			12.70	6.35	0.4	5.16	
	150608	T02020	●	●			12.70	6.35	0.8	5.16	
	150612	T02020	●	●			12.70	6.35	1.2	5.16	
	150616	T02020	●	●			12.70	6.35	1.6	5.16	

Turning Insert (Negative)

Ceramic Inserts

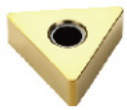
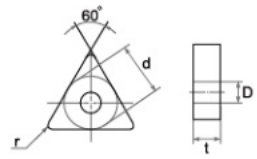
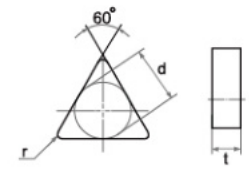
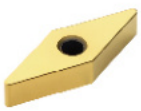
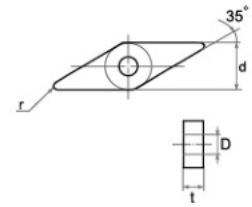
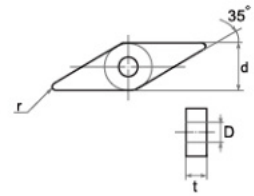
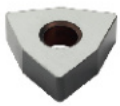
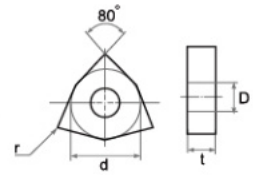
Inserts	Designation	Ddge Prep	Aluminum Oxide		PVD Coated Ceramic	Silicon Nitride Ceramic	Dimensions(mm)				Geometries(mm)
			TT01	TT03	TT03N	TS01	d	t	r	D	
 DNGN	150404	T02020	●	●			12.70	4.76	0.4	-	
	150408	T02020	●	●			12.70	4.76	0.8	-	
	150412	T02020	●	●			12.70	4.76	1.2	-	
	150416	T02020	●	●			12.70	4.76	1.6	-	
	150604	T02020	●	●			12.70	6.35	0.4	-	
	150608	T02020	●	●			12.70	6.35	0.8	-	
	150612	T02020	●	●			12.70	6.35	1.2	-	
	150616	T02020	●	●			12.70	6.35	1.6	-	
	150704	T02020	●	●			12.70	7.94	0.4	-	
	150708	T02020	●	●			12.70	7.94	0.8	-	
	150712	T02020	●	●			12.70	7.94	1.2	-	
	150716	T02020	●	●			12.70	7.94	1.6	-	
 RNGA	090400	T02020					9.525	4.76	-	3.81	
	120400	T02020					12.70	4.76	-	5.16	
	120700	T02020					12.70	7.94	-	5.16	
 RNGN	090400	T02020	●	●			9.525	4.76	-	-	
	120400	T02020	●	●			12.70	4.76	-	-	
	120700	T02020	●	●			12.70	7.94	-	-	
	150700	T02020	●	●			15.875	7.94	-	-	
	190700	T02020	●	●			19.05	7.94	-	-	
	201000	T02020	●	●			20.00	10.00	-	-	
	250700	T02020	●	●			25.40	7.94	-	-	
 SNGA	090304	T02020					9.525	3.18	0.4	3.81	
	090308	T02020					9.525	3.18	0.8	3.81	
	120404	T02020	●	●			12.70	4.76	0.4	5.16	
	120408	T02020	●	●			12.70	4.76	0.8	5.16	
	120412	T02020	●	●			12.70	4.76	1.2	5.16	
	120416	T02020	●	●			12.70	4.76	1.6	5.16	
	150608	T02020					15.875	6.35	0.8	6.35	
	150612	T02020					15.875	6.35	1.2	6.35	
	150616	T02020					15.875	6.35	1.6	6.35	
	190608	T02020					19.05	6.35	0.8	7.94	
	190612	T02020					19.05	6.35	1.2	7.94	
	190616	T02020					19.05	6.35	1.6	7.94	

Ceramic Inserts

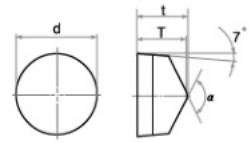
Inserts	Designation	Ddge Prep	Aluminum Oxide		PVD Coated Ceramic	Silicon Nitride Ceramic	Dimensions(mm)				Geometries(mm)
			TT01	TT03	TT03N	TS01	d	t	r	D	
 SNGN	090304	T02020	●	●			9.525	3.18	0.4	-	
	090308	T02020	●	●			9.525	3.18	0.8	-	
	090312	T02020	●	●			9.525	3.18	1.2	-	
	090404	T02020	●	●			9.525	4.76	0.4	-	
	090408	T02020					9.525	4.76	0.8	-	
	090412	T02020					9.525	4.76	1.2	-	
	120404	T02020					12.70	4.76	0.4	-	
	120408	T02020					12.70	4.76	0.8	-	
	120412	T02020					12.70	4.76	1.2	-	
	120416	T02020					12.70	4.76	2.0	-	
	120420	T02020					12.70	7.94	0.4	-	
	120708	T02020					12.70	7.94	0.8	-	
	120712	T02020					12.70	7.94	1.2	-	
	120716	T02020					12.70	7.94	1.6	-	
	120720	T02020					12.70	7.94	2.0	-	
	150708	T02020					15.875	7.94	0.8	-	
	150712	T02020					15.875	7.94	1.2	-	
	150716	T02020					15.875	7.94	1.6	-	
	190708	T15015					19.05	7.94	0.8	-	
	190712	T12015					19.05	7.94	1.2	-	
	190716	T12015					19.05	7.94	1.6	-	
	190720	T12015					19.05	7.94	2.0	-	
	250720	T20015					25.40	7.94	2.0	-	
	251012	T20015					25.40	10.00	1.2	-	

Turning Insert (Negative)

Ceramic Inserts

Inserts	Designation	Ddge Prep	Aluminum Oxide		PVD Coated Ceramic	Silicon Nitride Ceramic	Dimensions(mm)				Geometries(mm)
			TT01	TT03	TT03N	TS01	d	t	r	D	
 TNGA	160404	T02020	●	●			9.525	4.76	0.4	3.81	
	160408	T02020	●	●			9.525	4.76	0.8	3.81	
	160412	T02020	●	●			9.525	4.76	1.2	3.81	
	160416	T02020	●	●			9.525	4.76	1.6	3.81	
	220404	T02020	●	●			12.70	4.76	0.4	5.16	
	220408	T02020	●	●			12.70	4.76	0.8	5.16	
	220412	T02020	●	●			12.70	4.76	1.2	5.16	
	220416	T02020	●	●			12.70	4.76	1.6	5.16	
 TNGN	110304	T02020					6.35	3.18	0.4	-	
	110308	T02020					6.35	3.18	0.4	-	
	160404	T02020					9.525	4.76	0.4	-	
	160408	T02020					9.525	4.76	0.8	-	
	160412	T02020					9.525	4.76	1.2	-	
	220716	T02020					12.70	7.94	1.6	-	
 VNGA	160402	T02020	●	●			9.525	4.76	0.2	3.81	
	160404	T02020	●	●			9.525	4.76	0.4	3.81	
	160408	T02020	●	●			9.525	4.76	0.8	3.81	
	160412	T02020	●	●			9.525	4.76	1.2	3.81	
	160416	T02020	●	●			9.525	4.76	1.6	3.81	
 VNGN	160412	T02020	●	●			9.525	4.76	1.2	-	
	160704	T02020	●	●			9.525	7.94	0.4	-	
	160708	T02020	●	●			9.525	7.94	0.8	-	
	160712	T02020	●	●			9.525	7.94	1.2	-	
	160716	T02020	●	●			9.525	7.94	1.6	-	
 WNGA	080404	T02020	●	●			12.70	4.76	0.4	5.16	
	080408	T02020	●	●			12.70	4.76	0.8	5.16	
	080412	T02020	●	●			12.70	4.76	1.2	5.16	
	080416	T02020	●	●			12.70	4.76	1.6	5.16	

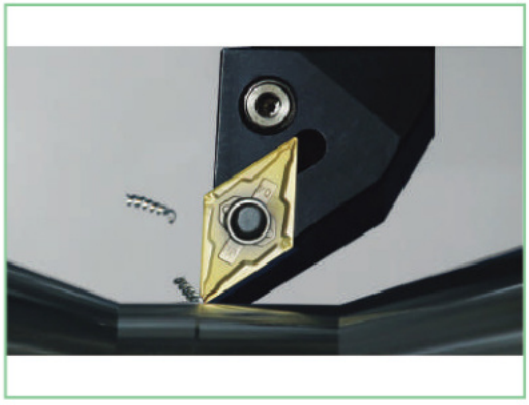
Ceramic Inserts

Inserts	Designation	Ddge Prep	Aluminum Oxide		PVD Coated Ceramic	Silicon Nitride Ceramic	Dimensions(mm)				Geometries(mm)
			TT01	TT03	TT03N	TS01	d	t	T	α	
 RCGX	060600	T02020	●	●			6.35	6.35	6.20	120°	
	090700	T02020	●	●			9.525	7.94	7.70	120°	
	120700	T02020	●	●			12.70	7.94	7.70	120°	
	151000	T02020	●	●			15.875	9.53	9.30	120°	
	191000	T02020	●	●			19.05	10.00	9.77	120°	
	251200	T15015	●	●			25.40	12.00	11.58	140°	

Cermet Grades

Cermet

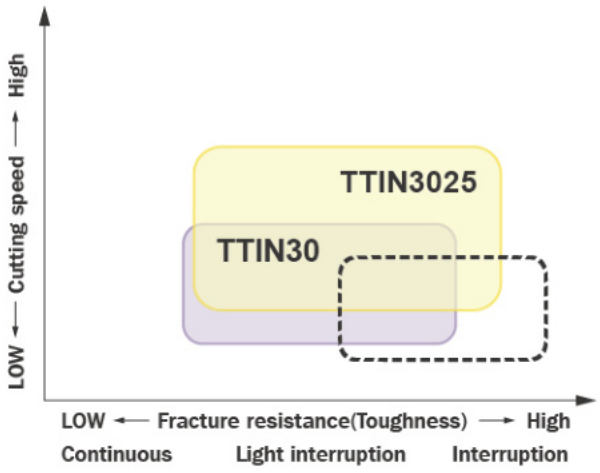
Cermets combine toughness with superior wear resistance, and provide longer toollife and excellent surface finishes.
Typical materials used in cermets are TiC, TiN, TiCN and NbC.



PVD Coated Cermet

PVD Coated Cermet is coated on cermet substrate with a thin layer of high wear resistance and high adhesion resistance by PVD (Physical Vapor Deposition) technology. Generally because of the low processing temperature of PVD compared with CVD, PVD coated cermet features less deterioration and more bending strength.

Features of Cermet and PVD Coated Cermet



■ TTIN30

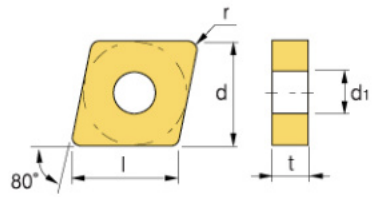
· Superior fracture resistance and wear resistance
· Application : Stable machining of steel

■ TTIN3025

· Superior wear and adhesion resistant TiCN coating on the special reinforcement cermet
· Application : The 1st choice PVD coated cermet for steel machining provides high efficient machining and high quality surface finish

CN○○

Rhombic 80° Negative



Workpiece			TTIN30	TTTIN3025
	Steel	P	●	●
	Stainless steel	M	⬌	⬌
	Cast iron	K	●	⬌
	Non-ferrous metal	N		
	Heat resistant alloy, Titaium alloy	S		
	Hardened steel	H		

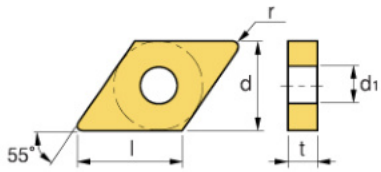
Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Grades		Dimensions(mm)					Cutting Condition	
		TTIN30	TTTIN3025	l	d	t	d1	r	fn (mm/rev)	ap (mm)
CNMG-TS 	120404-TS	●	●	12.4	12.7	4.76	5.16	0.4	0.03-0.15	0.20-1.80
	120408-TS	●	●	12.0	12.7	4.76	5.16	0.8	0.08-0.20	0.20-1.80
CNMG-HQ 	120404-HQ	●	●	12.4	12.7	4.76	5.16	0.4	0.05-0.30	0.80-4.00
	120408-HQ	●	●	12.0	12.7	4.76	5.16	0.8	0.08-0.40	0.80-4.00
CNMG-MT 	120404-MT	●		12.4	12.7	4.76	5.16	0.4	0.15-0.40	1.00-5.00
	120408-MT	●		12.0	12.7	4.76	5.16	0.8	0.17-0.55	1.20-5.00

Cermet Insert (Negative)

DN○○

Rhombic **55° Negative**



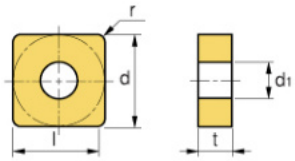
Workpiece				
Steel	P	●	●
Stainless steel	M	⬢	⬢
Cast iron	K	●	⬢
Non-ferrous metal	N		
Heat resistant alloy, Titaium alloy	S		
Hardened steel	H		

Machining types
- ● Continuous cutting
- ⬢ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Grades		Dimensions(mm)					Cutting Condition	
		TTIN30	TTTIN3025	l	d	t	d1	r	fn (mm/rev)	ap (mm)
DNMG-TS 	150404-TS	●	●	15.1	12.7	4.76	5.16	0.4	0.03-0.15	0.30-1.50
	150408-TS	○	○	14.7	12.7	4.76	5.16	0.8	0.08-0.20	0.50-1.50
DNMG-HQ 	150404-HQ	●	●	15.1	12.7	4.76	5.16	0.4	0.05-0.30	0.80-3.50
	150408-HQ	●	●	14.7	12.7	4.76	5.16	0.8	0.08-0.40	0.80-4.00
	150604-HQ	●	●	15.1	12.7	6.35	5.16	0.4	0.05-0.30	0.80-3.50
	150608-HQ	●	●	14.7	12.7	6.35	5.16	0.8	0.08-0.40	0.80-4.00
DNMG-S 	150404R-S	●	●	15.1	12.7	4.76	5.16	0.4	0.10-0.40	0.70-4.00
	150408R-S			14.7	12.7	4.76	5.16	0.8	0.12-0.45	1.00-4.50
	150404L-S			15.1	12.7	4.76	5.16	0.4	0.10-0.40	0.70-4.00
	150408L-S			14.7	12.7	4.76	5.16	0.8	0.12-0.45	1.00-4.50
DNMG-VF 	150404R-VF	●	●	15.1	12.7	4.76	5.16	0.4	0.10-0.35	0.70-4.50
	150408R-VF			14.7	12.7	4.76	5.16	0.8	0.12-0.45	1.00-4.50
	150404L-VF			15.1	12.7	4.76	5.16	0.4	0.10-0.35	0.70-4.50
	150408L-VF			14.7	12.7	4.76	5.16	0.8	0.12-0.4	1.00-4.50

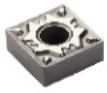
SN○○

Square 90° Negative



Workpiece				
Steel	P	●	●
Stainless steel	M	◐	◐
Cast iron	K	●	◐
Non-ferrous metal	N		
Heat resistant alloy, Titaium alloy	S		
Hardened steel	H		

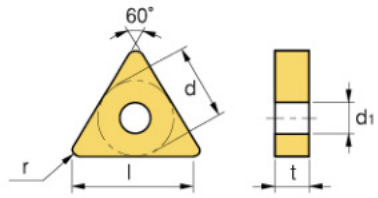
Machining types
- ● Continuous cutting
- ◐ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Grades		Dimensions(mm)					Cutting Condition	
		TTIN30	TTTIN3025	l	d	t	d1	r	fn (mm/rev)	ap (mm)
SNMG-HQ 	120404	●	●	12.3	12.7	4.76	5.16	0.4	0.05-0.30	0.80-4.00
	120408	●	●	11.9	12.7	4.76	5.16	0.8	0.08-0.40	0.80-4.00

Cermet Insert (Negative)

TN○○

Triangular **60° Negative**



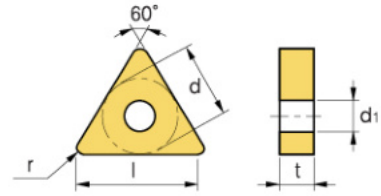
Workpiece				
Steel	P	●	●
Stainless steel	M	⬌	⬌
Cast iron	K	●	⬌
Non-ferrous metal	N		
Heat resistant alloy, Titaium alloy	S		
Hardened steel	H		

Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Grades		Dimensions(mm)					Cutting Condition	
		TTIN30	TTTN3025	l	d	t	d1	r	fn (mm/rev)	ap (mm)
TNGG-S 	160402R-S	●	●	16.0	9.525	4.76	3.81	0.2	0.03-0.20	0.10-1.50
	160404R-S	●	●	15.5	9.525	4.76	3.81	0.4	0.05-0.25	0.30-2.00
	160402L-S	●	●	16.0	9.525	4.76	3.81	0.2	0.03-0.20	0.10-1.50
	160404L-S	●	●	15.5	9.525	4.76	3.81	0.4	0.05-0.25	0.30-2.00
TNGG-C 	160402R-C			16.0	9.525	4.76	3.81	0.2	0.08-0.30	0.50-3.50
	160404R-C			15.5	9.525	4.76	3.81	0.4	0.12-0.30	1.00-3.50
	160408R-C			14.5	9.525	4.76	3.81	0.8	0.15-0.35	1.30-3.50
	160402L-C			16.0	9.525	4.76	3.81	0.2	0.08-0.30	0.50-3.50
	160404L-C			15.5	9.525	4.76	3.81	0.4	0.12-0.30	1.00-3.50
	160408L-C			14.5	9.525	4.76	3.81	0.8	0.15-0.35	1.30-3.50
TNGG-P 	160402R-P	●	●	16.0	9.525	4.76	3.81	0.2	0.10-0.30	0.50-3.50
	160404R-P			15.5	9.525	4.76	3.81	0.4	0.20-0.30	1.00-3.50
	160408R-P			14.5	9.525	4.76	3.81	0.8	0.20-0.50	1.30-3.50
	160402L-P			16.0	9.525	4.76	3.81	0.2	0.10-0.30	0.50-3.50
	160404L-P			15.5	9.525	4.76	3.81	0.4	0.20-0.30	1.00-3.50
	160408L-P			14.5	9.525	4.76	3.81	0.8	0.20-0.50	1.30-3.50
TNMG-TS 	160404-TS	●	●	15.4	9.525	4.76	3.81	0.4	0.03-0.15	0.30-1.50
	160408-TS	●	●	14.5	9.525	4.76	3.81	0.8	0.08-0.20	0.50-1.50
TNMG-HQ 	160404-HQ	●	●	15.4	9.525	4.76	3.81	0.4	0.05-0.35	0.50-3.50
	160408-HQ	●	●	14.5	9.525	4.76	3.81	0.8	0.08-0.40	0.80-4.00

TN○○

Triangular 60° Negative



Workpiece				
Steel	P	●	●
Stainless steel	M	◐	◐
Cast iron	K	●	◐
Non-ferrous metal	N		
Heat resistant alloy, Titaium alloy	S		
Hardened steel	H		

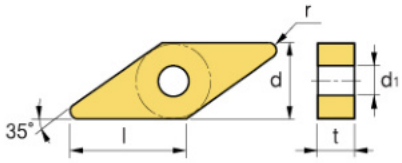
Machining types
- ● Continuous cutting
- ◐ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Grades		Dimensions(mm)					Cutting Condition	
		TTIN30	TTTIN3025	l	d	t	d1	r	fn (mm/rev)	ap (mm)
TNMG-S 	160404R-S	●	●	15.4	9.525	4.76	3.81	0.4	0.12-0.30	1.00-3.50
	160408R-S	●	●	14.5	9.525	4.76	3.81	0.8	0.15-0.35	1.30-3.40
	160404L-S	●	●	15.4	9.525	4.76	3.81	0.4	0.12-0.30	1.00-3.50
	160408L-S	●	●	14.5	9.525	4.76	3.81	0.8	0.15-0.35	1.30-3.40
TNMG-C 	160404R-C	●	●	15.5	9.525	4.76	3.81	0.4	0.20-0.35	1.30-3.50
	160408R-C	●	●	14.5	9.525	4.76	3.81	0.8	0.25-0.40	1.20-4.00
	160404L-C	●	●	15.5	9.525	4.76	3.81	0.4	0.20-0.35	1.30-3.50
	160408L-C	●	●	14.5	9.525	4.76	3.81	0.8	0.25-0.40	1.20-4.00
TNMG-VF 	160404R-VF	●	●	15.4	9.525	4.76	3.81	0.4	0.10-0.30	0.70-3.50
	160408R-VF	●		14.5	9.525	4.76	3.81	0.8	0.12-0.35	1.00-3.50
	160404L-VF	●	●	15.4	9.525	4.76	3.81	0.4	0.10-0.30	0.70-3.50
	160408L-VF	●		14.5	9.525	4.76	3.81	0.8	0.12-0.35	1.00-3.50
TNMG-MT 	160404-MT	●		15.4	9.525	4.76	3.81	0.4	0.17-0.40	1.00-3.50
	160408-MT	●		14.5	9.525	4.76	3.81	0.8	0.17-0.50	1.20-3.50

Cermet Insert (Negative)

VN○○

Rhombic **35° Negative**



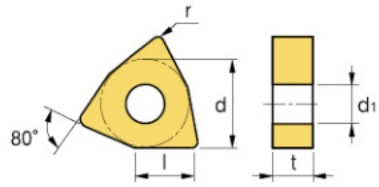
Workpiece				
Steel	P	●	●
Stainless steel	M	⬢	⬢
Cast iron	K	●	⬢
Non-ferrous metal	N		
Heat resistant alloy, Titaium alloy	S		
Hardened steel	H		

Machining types
- ● Continuous cutting
- ⬢ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Grades		Dimensions(mm)					Cutting Condition	
		TTIN30	TTTIN3025	l	d	t	d1	r	fn (mm/rev)	ap (mm)
VNMG-TS 	160404-TS	●	●	15.6	9.525	4.76	3.81	0.4	0.03-0.15	0.30-1.50
	160408-TS	○	○	14.6	9.525	4.76	3.81	0.8	0.08-0.20	0.50-1.50
VNMG-HQ 	160404-HQ			15.6	9.525	4.76	3.81	0.4	0.10-0.40	0.50-3.50
	160408-HQ	●	●	14.6	9.525	4.76	3.81	0.8	0.12-0.45	0.50-3.50
VNMG-MT 	160404-MT	●		15.6	9.525	4.76	3.81	0.4	0.15-0.36	0.80-3.00
	160408-MT	●		14.6	9.525	4.76	3.81	0.8	0.17-0.36	1.00-2.50

WN○○

Trigon 80° Negative



Workpiece				
Steel	P	●	●
Stainless steel	M	◐	◐
Cast iron	K	●	◐
Non-ferrous metal	N		
Heat resistant alloy, Titaium alloy	S		
Hardened steel	H		

Machining types
- ● Continuous cutting
- ◐ General cutting
- ✱ Interrupted cutting

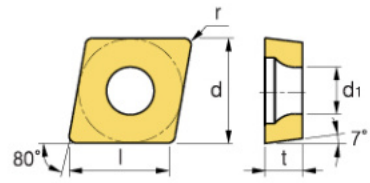
Inserts	Designation	Grades		Dimensions(mm)					Cutting Condition	
		TTIN30	TTTIN3025	l	d	t	d1	r	fn (mm/rev)	ap (mm)
WNMG-TS 	080404-TS	●	●	8.4	12.7	4.76	5.16	0.4	0.03-0.15	0.20-1.80
	080408-TS	○	○	8.3	12.7	4.76	5.16	0.8	0.08-0.20	0.20-1.80
WNMG-HQ 	080404-HQ	●	●	8.4	12.7	4.76	5.16	0.4	0.05-0.30	0.50-4.00
	080408-HQ	●	●	8.3	12.7	4.76	5.16	0.8	0.08-0.40	0.50-4.00
WNMG-S 	080404R-S	●		8.4	12.7	4.76	5.16	0.4	0.10-0.35	0.70-3.00
	080408R-S	●		8.3	12.7	4.76	5.16	0.8	0.12-0.40	1.00-3.00
	080404L-S	●		8.4	12.7	4.76	5.16	0.4	0.10-0.35	0.70-3.00
	080408L-S	●		8.3	12.7	4.76	5.16	0.8	0.12-0.40	1.00-3.00
WNMG-MT 	080404-MT	●		8.4	12.7	4.76	5.16	0.4	0.12-0.40	1.00-4.00
	080408-MT	●		8.3	12.7	4.76	5.16	0.8	0.17-0.55	1.20-4.00

Cermet Insert (Positive)

CC○○

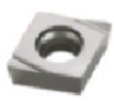
Rhombic **80° Positive**

Relief Angle : 7°



Workpiece				
Steel	P	●	●
Stainless steel	M	⬌	⬌
Cast iron	K	●	⬌
Non-ferrous metal	N		
Heat resistant alloy, Titaium alloy	S		
Hardened steel	H		

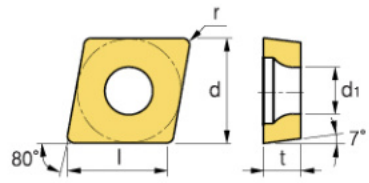
Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Grades		Dimensions(mm)					Cutting Condition	
		TTIN30	TTTIN3025	l	d	t	d1	r	fn (mm/rev)	ap (mm)
CCGT-F 	030102R-F			3.3	3.5	1.39	1.90	0.2	0.01-0.05	0.10-0.30
	030104R-F			3.1	3.5	1.39	1.90	0.4	0.01-0.05	0.10-0.30
	040102R-F			4.1	4.3	1.79	2.30	0.2	0.01-0.10	0.10-0.50
	040104R-F			3.9	4.3	1.79	2.30	0.4	0.01-0.10	0.10-0.50
	030102L-F	●	●	3.3	3.5	1.39	1.90	0.2	0.01-0.05	0.10-0.30
	030104L-F	●	●	3.1	3.5	1.39	1.90	0.4	0.01-0.05	0.10-0.30
	040102L-F	●	●	4.1	4.3	1.79	2.30	0.2	0.01-0.10	0.10-0.50
	040104L-F	●	●	3.9	4.3	1.79	2.30	0.4	0.01-0.10	0.10-0.50
CCGT-W15 	060202R-W15			6.5	6.35	2.38	2.80	0.2	0.03-0.11	0.06-1.70
	060204R-W15			6.5	6.35	2.38	2.80	0.4	0.02-0.20	0.10-2.00
	060202L-W15			6.5	6.35	2.38	2.80	0.2	0.03-0.11	0.06-1.70
	060204L-W15	●	●	6.5	6.35	2.38	2.80	0.4	0.02-0.20	0.10-2.00
CCGT-W20 	09T302R-W20			9.7	9.525	3.97	4.40	0.2	0.04-0.15	0.08-2.00
	09T304R-W20			9.7	9.525	3.97	4.40	0.4	0.05-0.20	0.10-2.00
	09T302L-W20	●	●	9.7	9.525	3.97	4.40	0.2	0.04-0.15	0.08-2.00
	09T302L-W20	●	●	9.7	9.525	3.97	4.40	0.4	0.05-0.20	0.10-2.00
CCGT-U 	060202ER-U	●	○	6.5	6.35	2.38	2.80	0.2	0.03-0.11	0.06-1.70
	060204ER-U	●	○	6.5	6.35	2.38	2.80	0.4	0.05-0.20	0.06-1.70
	09T302ER-U	●	○	9.7	9.525	3.97	4.40	0.2	0.04-0.15	0.08-2.00
	09T304ER-U	●	○	9.7	9.525	3.97	4.40	0.4	0.05-0.20	0.10-2.00
	060202EL-U	●	○	6.5	6.35	2.38	2.80	0.2	0.03-0.11	0.06-1.70
	060204EL-U	●	○	6.5	6.35	2.38	2.80	0.4	0.05-0.20	0.06-1.70
	09T302EL-U	●	○	9.7	9.525	3.97	4.40	0.2	0.04-0.15	0.08-2.00
	09T304EL-U	●	○	9.7	9.525	3.97	4.40	0.4	0.05-0.20	0.10-2.00

CC○○

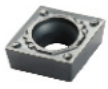
Rhombic 80° Positive

Relief Angle : 7°



Workpiece				
Steel	P	●	●
Stainless steel	M	◐	◐
Cast iron	K	●	◐
Non-ferrous metal	N		
Heat resistant alloy, Titaium alloy	S		
Hardened steel	H		

Machining types
- ● Continuous cutting
- ◐ General cutting
- ✱ Interrupted cutting

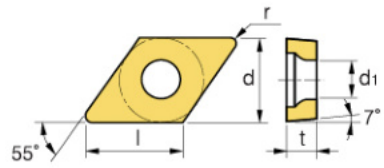
Inserts	Designation	Grades		Dimensions(mm)					Cutting Condition	
		TTIN30	TTTIN3025	l	d	t	d1	r	fn (mm/rev)	ap (mm)
CCMT-FG 	060204-FG	●		6.0	6.35	2.38	2.80	0.4	0.05-0.15	0.30-1.50
	09T304-FG	●		9.2	9.525	3.97	4.40	0.4	0.07-0.20	0.40-2.00
	09T308-FG			8.8	9.525	3.97	4.40	0.8	0.10-0.25	0.60-2.00
CCMT-PS 	060202-PS	●	●	6.2	6.35	2.38	2.80	0.2	0.05-0.20	0.30-1.00
	060204-PS	●	●	6.0	6.35	2.38	2.80	0.4	0.10-0.25	0.30-1.00
	'060208-PS			5.6	6.35	2.38	2.80	0.8	0.10-0.25	0.30-1.00
	09T302-PS	●	●	9.4	9.525	3.97	4.40	0.2	0.04-0.16	0.80-1.50
	09T304-PS	●	●	9.2	9.525	3.97	4.40	0.4	0.05-0.20	0.30-1.50
	09T308-PS	●	●	8.8	9.525	3.97	4.40	0.8	0.10-0.25	0.30-1.50
CCMT-HQ 	060202-HQ	●	●	6.2	6.35	2.38	2.80	0.2	0.04-0.14	0.50-1.50
	060204-HQ	●	●	6.0	6.35	2.38	2.80	0.4	0.10-0.20	0.50-2.00
	09T302-HQ	●	●	9.4	9.525	3.97	4.40	0.2	0.07-0.18	0.50-2.00
	09T304-HQ	●	●	9.2	9.525	3.97	4.40	0.4	0.08-0.20	0.50-2.00
	09T308-HQ	●	●	8.8	9.525	3.97	4.40	0.8	0.10-0.25	0.50-2.00
CCMT-MT 	060204-MT			6.0	6.35	2.38	2.80	0.4	0.07-0.20	0.50-2.00
	09T304-MT	●		9.2	9.525	3.97	4.40	0.4	0.10-0.25	0.70-3.50
	09T308-MT			8.8	9.525	3.97	4.40	0.8	0.13-0.30	1.00-3.50

Cermet Insert (Positve)

DC○○

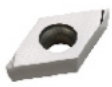
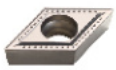
Rhombic **55° Positive**

Relief Angle : 7°



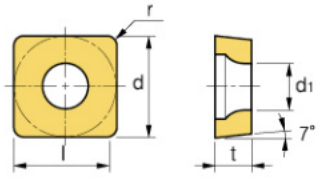
Workpiece			
Steel	P	●	●
Stainless steel	M	✱	✱
Cast iron	K	●	✱
Non-ferrous metal	N		
Heat resistant alloy, Titaium alloy	S		
Hardened steel	H		

Machining types
- ● Continuous cutting
- ✱ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Grades		Dimensions(mm)					Cutting Condition	
		TTIN30	TTTIN3025	l	d	t	d1	r	fn (mm/rev)	ap (mm)
DCGT-F 	070202R-F			7.8	6.35	2.38	2.80	0.2	0.03-0.11	0.06-1.70
	070204R-F			7.8	6.35	2.38	2.80	0.4	0.02-0.20	0.10-2.00
	070202L-F			7.8	6.35	2.38	2.80	0.2	0.03-0.11	0.06-1.70
	070204L-F			7.8	6.35	2.38	2.80	0.4	0.02-0.20	0.10-2.00
	11T302R-F			11.6	9.525	3.97	4.40	0.2	0.04-0.15	0.08-2.00
	11T304R-F			11.6	9.525	3.97	4.40	0.4	0.05-0.20	0.10-2.00
	11T302L-F			11.6	9.525	3.97	4.40	0.2	0.04-0.15	0.08-2.00
	11T304L-F			11.6	9.525	3.97	4.40	0.4	0.05-0.20	0.10-2.00
DCGT-U 	11T302ER-U	●	●	11.6	9.525	3.97	4.40	0.2	0.04-0.15	0.08-2.00
	11T304ER-U	●	●	11.6	9.525	3.97	4.40	0.4	0.05-0.20	0.10-2.50
	11T302EL-U			11.6	9.525	3.97	4.40	0.2	0.04-0.15	0.08-2.00
	11T304EL-U	●	●	11.6	9.525	3.97	4.40	0.4	0.05-0.20	0.10-2.50
DCMT-FG 	070204-FG	●	●	7.3	6.35	2.38	2.80	0.4	0.07-0.20	0.40-1.50
	11T304-FG	●	●	11.2	9.525	3.97	4.40	0.4	0.10-0.25	0.60-1.50
	11T308-FG	●	●	10.8	9.525	3.97	4.40	0.8	0.10-0.25	0.60-2.00
DCMT-PS 	070202-PS			7.5	6.35	2.38	2.80	0.2	0.03-0.10	0.06-1.00
	070204-PS	●	●	7.3	6.35	2.38	2.80	0.4	0.05-0.20	0.30-1.20
	11T302-PS	●	●	11.4	9.525	3.97	4.40	0.2	0.04-0.15	0.08-1.50
	11T304-PS	●	●	11.2	9.525	3.97	4.40	0.4	0.05-0.20	0.30-1.50
	11T308-PS	●	●	10.8	9.525	3.97	4.40	0.8	0.10-0.25	0.30-1.50
DCMT-HQ 	070202-HQ	●		7.5	6.35	2.38	2.80	0.2	0.07-0.14	0.50-2.00
	070204-HQ	●	●	7.3	6.35	2.38	2.80	0.4	0.08-0.16	0.50-2.00
	070208-HQ	●	●	6.8	6.35	2.38	2.80	0.8	0.10-0.20	0.50-2.00
	11T302-HQ	●	●	11.4	9.525	3.97	4.40	0.2	0.07-0.18	0.50-2.00
	11T304-HQ	●	●	11.2	9.525	3.97	4.40	0.4	0.08-0.20	0.50-2.00
	11T308-HQ	●		10.8	9.525	3.97	4.40	0.8	0.10-0.25	0.50-2.00
DCMT-MT 	11T304-MT	●	●	11.2	9.525	3.97	4.40	0.4	0.10-0.25	0.70-3.00
	11T308-MT	●	●	10.8	9.525	3.97	4.40	0.8	0.13-0.30	1.00-3.00

SC○○

Square 90° Positive
Relief Angle: 7°



Workpiece				
Steel	P	●	●
Stainless steel	M	◐	◐
Cast iron	K	●	◐
Non-ferrous metal	N		
Heat resistant alloy, Titaium alloy	S		
Hardened steel	H		

Machining types
- ● Continuous cutting
- ◐ General cutting
- ✱ Interrupted cutting

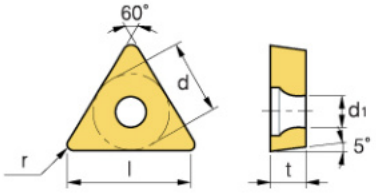
Inserts	Designation	Grades		Dimensions(mm)					Cutting Condition	
		TTIN30	TTTIN3025	l	d	t	d1	r	fn (mm/rev)	ap (mm)
SCMT-HQ 	09T304-HQ	●	●	9.1	9.525	3.97	4.40	0.4	0.08-0.16	0.50-2.00
	09T308-HQ	●	●	8.7	9.525	3.97	4.40	0.8	0.10-0.20	0.50-2.00

Cermet Insert (Positive)

TB○○

Triangular **60° Positive**

Relief Angle : 5°



Workpiece				
Steel	P	●	●
Stainless steel	M	◐	◐
Cast iron	K	●	◐
Non-ferrous metal	N		
Heat resistant alloy, Titaium alloy	S		
Hardened steel	H		

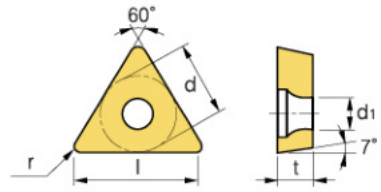
Machining types
- ● Continuous cutting
- ◐ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Grades		Dimensions(mm)					Cutting Condition	
		TTIN30	TTTIN3025	l	d	t	d1	r	fn (mm/rev)	ap (mm)
TBGT 	060102L	●	●	6.4	3.97	1.59	2.16	0.2	0.05-0.20	0.10-1.30
	060104L	●	●	5.8	3.97	1.59	2.16	0.4	0.08-0.20	0.10-1.30

TC○○

Triangular 60° Positive

Relief Angle : 7°



Workpiece				
Steel	P	●	●
Stainless steel	M	⬌	⬌
Cast iron	K	●	⬌
Non-ferrous metal	N		
Heat resistant alloy, Titaium alloy	S		
Hardened steel	H		

Machining types
- ● Continuous cutting
- ⬌ General cutting
- ✱ Interrupted cutting

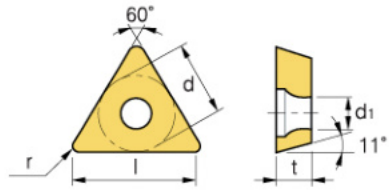
Inserts	Designation	Grades		Dimensions(mm)					Cutting Condition	
		TTIN30	TTTIN3025	l	d	t	d1	r	fn (mm/rev)	ap (mm)
TCGT 	060102L			6.4	3.97	1.59	2.16	0.2	0.05-0.20	0.10-1.30
	060104L			5.8	3.97	1.59	2.16	0.4	0.08-0.20	0.10-1.30
	080202R			7.7	4.76	2.38	2.30	0.2	0.03-0.11	0.06-1.70
	080204R			7.2	4.76	2.38	2.30	0.4	0.05-0.15	0.06-2.00
	080202L			7.7	4.76	2.38	2.30	0.2	0.03-0.11	0.06-1.70
	080204L			7.2	4.76	2.38	2.30	0.4	0.05-0.15	0.06-2.00
	110202R			10.5	6.35	2.38	2.80	0.2	0.01-0.12	0.06-2.00
	110204R			10.0	6.35	2.38	2.80	0.4	0.01-0.15	0.08-2.00
	110202L			10.5	6.35	2.38	2.80	0.2	0.01-0.12	0.06-2.00
	110204L			10.0	6.35	2.38	2.80	0.4	0.01-0.15	0.08-2.00
TCMT-PS 	090204-PS			8.6	5.56	2.38	2.50	0.4	0.05-0.20	0.10-1.70
	110202-PS			10.5	6.35	2.38	2.80	0.2	0.03-0.13	0.06-1.70
	110204-PS			10.0	6.35	2.38	2.80	0.8	0.05-0.20	0.30-1.20
	16T304-PS			15.5	9.525	3.97	4.40	0.4	0.05-0.20	0.30-1.50
	16T308-PS			14.5	9.525	3.97	4.40	0.8	0.10-0.25	0.30-1.50
TCMT-HQ 	090204-HQ	●	●	8.6	5.56	2.38	2.50	0.4	0.08-0.16	0.50-2.00
	110202-HQ	●	●	10.5	6.35	2.38	2.80	0.2	0.07-0.14	0.50-2.00
	110204-HQ	●	●	10.0	6.35	2.38	2.80	0.8	0.08-0.16	0.50-2.00
	110208-HQ	●	●	9.0	6.35	2.38	2.80	0.8	0.10-0.20	0.50-2.00
	16T304-HQ	●	●	15.5	9.525	3.97	4.40	0.4	0.08-0.20	0.50-2.00
	16T308-HQ	●	●	14.5	9.525	3.97	4.40	0.8	0.10-0.25	0.50-2.00

Cermet Insert (Positive)

TP○○

Triangular **60° Positive**

Relief Angle : 11°



Workpiece				
Steel	P	●	●
Stainless steel	M	◐	◐
Cast iron	K	●	◐
Non-ferrous metal	N		
Heat resistant alloy, Titaium alloy	S		
Hardened steel	H		

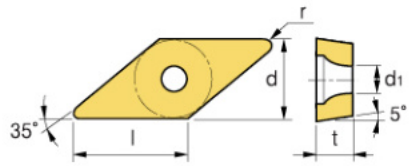
Machining types
- ● Continuous cutting
- ◐ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Grades		Dimensions(mm)					Cutting Condition	
		TTIN30	TTTIN3025	l	d	t	d1	r	fn (mm/rev)	ap (mm)
TPGH 	080202R			7.7	4.76	2.38	2.30	0.2	0.01-0.12	0.06-1.70
	080204R			7.2	4.76	2.38	2.30	0.4	0.01-0.15	0.08-1.70
	090202R			9.1	5.56	2.38	3.00	0.2	0.01-0.12	0.06-1.70
	090204R			8.6	5.56	2.38	3.00	0.4	0.01-0.15	0.08-1.70
	110302R			10.5	6.35	3.18	3.40	0.2	0.01-0.12	0.06-2.00
	110304R			10.0	6.35	3.18	3.40	0.4	0.01-0.15	0.08-2.00
	080202L	●	●	7.7	4.76	2.38	2.30	0.2	0.01-0.12	0.06-1.70
	080204L	●	●	7.2	4.76	2.38	2.30	0.4	0.01-0.15	0.08-1.70
	090202L	●	●	9.1	5.56	2.38	3.00	0.2	0.01-0.12	0.06-1.70
	090204L	●	●	8.6	5.56	2.38	3.00	0.4	0.01-0.15	0.08-1.70
	110302L	●	●	10.5	6.35	3.18	3.40	0.2	0.01-0.12	0.06-2.00
	110304L	●	●	10.0	6.35	3.18	3.40	0.4	0.01-0.15	0.08-2.00
TPMT-PS 	110304-PS			10.0	6.35	3.18	3.40	0.4	0.05-0.20	0.30-1.50
	110308-PS			9.0	6.35	3.18	3.40	0.8	0.10-0.25	0.30-1.50

VB○○

Rhombic **35° Positive**

Relief Angle : 5°



Workpiece				
Steel	P	●	●
Stainless steel	M	◐	◐
Cast iron	K	●	◐
Non-ferrous metal	N		
Heat resistant alloy, Titaium alloy	S		
Hardened steel	H		

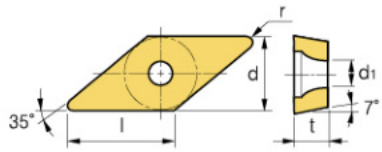
Machining types
- ● Continuous cutting
- ◐ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Grades		Dimensions(mm)					Cutting Condition	
		TTIN30	TTTIN3025	l	d	t	d1	r	fn (mm/rev)	ap (mm)
VBGT-Y 	110301R-Y	○	○	11.0	6.35	3.18	2.80	0.1	0.02-0.08	0.05-1.50
	110302R-Y	○	○	11.0	6.35	3.18	2.80	0.2	0.03-0.13	0.06-1.70
	110304R-Y	○	○	11.0	6.35	3.18	2.80	0.4	0.05-0.20	0.07-2.00
	110301L-Y	○	○	11.0	6.35	3.18	2.80	0.1	0.02-0.08	0.05-1.50
	110302L-Y	○	○	11.0	6.35	3.18	2.80	0.2	0.03-0.13	0.06-1.70
	110304L-Y	○	○	11.0	6.35	3.18	2.80	0.4	0.05-0.20	0.07-2.00
VBMT-PS 	110302-PS	●	●	10.5	6.35	3.18	2.80	0.2	0.03-0.20	0.20-1.20
	110304-PS	●	●	10.0	6.35	3.18	2.80	0.4	0.04-0.20	0.20-1.20
	160404-PS			15.6	9.525	4.76	4.40	0.4	0.05-0.20	0.30-1.50
	160408-PS			14.6	9.525	4.76	4.40	0.8	0.10-0.20	0.30-1.50
VBMT-HQ 	110302-HQ	●	●	10.5	6.35	3.18	2.80	0.2	0.07-0.14	0.50-1.50
	110304-HQ	●	●	10.0	6.35	3.18	2.80	0.4	0.08-0.16	0.50-1.50
	110308-HQ	●	●	9.0	6.35	3.18	2.80	0.8	0.10-0.20	0.50-1.50
	160404-HQ	●	●	15.6	9.525	4.76	4.40	0.4	0.08-0.16	0.50-2.00
	160408-HQ	●	●	14.6	9.525	4.76	4.40	0.8	0.10-0.20	0.50-2.00

Cermet Insert (Positive)

VC○○

Rhombic 35° Positive
Relief Angle: 7°



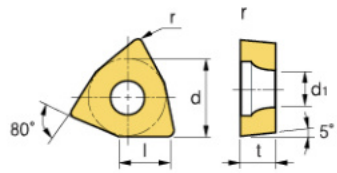
Workpiece				
Steel	P	●	●
Stainless steel	M	◐	◐
Cast iron	K	●	◐
Non-ferrous metal	N		
Heat resistant alloy, Titaium alloy	S		
Hardened steel	H		

Machining types
- ● Continuous cutting
- ◐ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Grades		Dimensions(mm)					Cutting Condition	
		TTIN30	TTTIN3025	l	d	t	d1	r	fn (mm/rev)	ap (mm)
VCMT-PS 	110302-PS	●	●	10.5	6.35	3.18	2.80	0.2	0.03-0.20	0.20-1.20
	110304-PS	●	●	10.0	6.35	3.18	2.80	0.4	0.04-0.20	0.20-1.20
	160404-PS			15.6	9.525	4.76	4.40	0.4	0.05-0.20	0.30-1.50
	160408-PS			14.6	9.525	4.76	4.40	0.8	0.10-0.20	0.30-1.50

WB○○

Trigon 80° Positive
Relief Angle: 5°



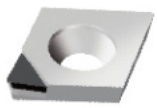
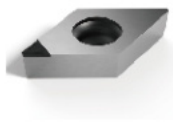
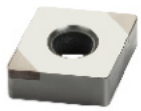
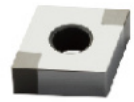
Workpiece				
Steel	P	●	●
Stainless steel	M	◐	◐
Cast iron	K	●	◐
Non-ferrous metal	N		
Heat resistant alloy, Titaium alloy	S		
Hardened steel	H		

Machining types
- ● Continuous cutting
- ◐ General cutting
- ✱ Interrupted cutting

Inserts	Designation	Grades		Dimensions(mm)					Cutting Condition	
		TTIN30	TTTIN3025	l	d	t	d1	r	fn (mm/rev)	ap (mm)
WBGT-F 	060102L-F	●	●	2.6	3.97	1.59	2.30	0.2	0.01-0.05	0.10-0.30
	060104L-F	●	●	2.5	3.97	1.59	2.30	0.4	0.01-0.10	0.10-0.50
	080202L-F			3.1	4.76	2.38	2.30	0.2	0.01-0.08	0.10-0.40
	080204L-F			3.0	4.76	2.38	2.30	0.4	0.01-0.10	0.10-0.50

CBN Grades

Insert type

High presicion		Wear resistance		Productivity	
					
for regrinding type	One use type	Multi-corner type	Multi-corner type (coated)	Solid type	

Solid CBN grade

Grade	Coating	CBN Volume	Application					Purpose
			Cast iron	Ductile cast iron	Hardness Material	Mill Rolls	Powder metallurgy	
TB1000	-	90%	●		●	●		Continuous and light interrupted turning at high speed
TB3000	-	50%			●			Medium and heavy interrupted turning
TB5000	-	75%			●			Continuous and light interrupted turning
TBX200	-	85%	●					Light to medium interrupted milling
TBX300	-	95%	●					Medium and high interrupted turning
TBX500	-	85%	●				●	Continuous turning
TBC500	TiALN	75%			●			Continuous and light interrupted turning

CBN PCBN grade

Grade	CBN Volume	Binding agent	Application					Purpose
			Cast iron	Ductile cast iron	Hardness Material	Mill Rolls	Powder metallurgy	
TB100C	75%	TiN	●		●	●		Interrupted machining
TB300C	60%	TICN			●			Continuous and medium interrupted machining
TB400C	50%	TICN			●			Continuous machining at high speed
TBX20C	90%	New binder	●					Interrupted machining for cast iron seat ring alloys
TBX30C	90%	Metal	●					Continuous machining at high speed
TBX40C	85%	TiN+Metal	●				●	Continuous and light interrupted turning
TBX50C	65%	TiN			●			Continuous processing for powder metallurgy

CBN PCBN Coating grade

Grade	CBN Volume	Binding agent	Application					Purpose
			Cast iron	Ductile cast iron	Hardness Material	Mill Rolls	Powder metallurgy	
TBC10C	75%	TiN	●		●	●		Interrupted machining
TBC30C	60%	TICN			●			Continuous and medium interrupted machining
TBC40C	50%	TICN			●			Continuous machining at high speed
TBXC2C	90%	New binder	●					Interrupted machining for cast iron seat ring alloys
TBXC3C	90%	Metal	●					Continuous machining at high speed
TBXC4C	85%	TiN+Metal	●				●	Continuous and light interrupted turning
TBXC5C	65%	TiN			●			Continuous processing for powder metallurgy

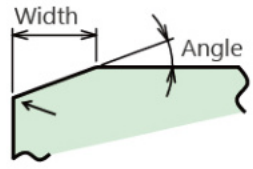
※ Order item

■ Identification System (Turning Insert)

C	N	G	A	12	04	04	-	2	N	S02020

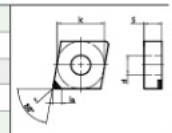
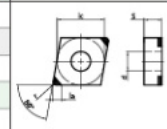
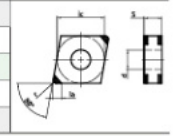
"Turning Indexable Inserts indentification System " See Page ⟹ 077 | No. of Edges | Hand | Edge Prep. (Ref. To the Table 1)

Preparation Identifi cation System

Symbol	Cutting Edge Spec.	Example		Shape
S	Chamfered and Honed Cutting Edge	S01020	0.10mm x 20°Chamfered and Honed Cutting Edge	
		S02020	0.20mm x 20°Chamfered and Honed Cutting Edge	
		S02030	0.20mm x 30°Chamfered and Honed Cutting Edge	
T	Chamfered Cutting Edge	T01020	0.10mm x 20°Chamfered and Cutting Edge	
		T02020	0.20mm x 20°Chamfered and Cutting Edge	
		T02025	0.20mm x 25°Chamfered and Cutting Edge	

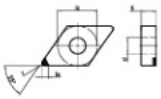
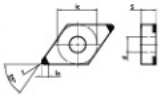
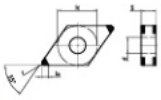
Turning Insert (Negative)

CBN Inserts

Designation		Edge Prep.	Uncoated							Dimensions(mm)					Geometries
			TB100C	TB300C	TB400C	TBX20C	TBX30C	TBX40C	TBX50C	IC	d	s	r	la	
CNGA 80° Nega	120404-1N	T01020 T01025 T02020 S02025 S02030		●						12.7	5.16	4.76	0.4	2.5	
	120408-1N			●						12.7	5.16	4.76	0.8	2.5	
	120412-1N			●						12.7	5.16	4.76	1.2	2.5	
	120404-2N		●	●		●		●		12.7	5.16	4.76	0.4	2.5	
	120408-2N		●	●		●		●		12.7	5.16	4.76	0.8	2.5	
	120412-2N		●	●		●		●		12.7	5.16	4.76	1.2	2.5	
	120404-4N									12.7	5.16	4.76	0.4	2.5	
	120408-4N									12.7	5.16	4.76	0.8	2.5	
	120412-4N									12.7	5.16	4.76	1.2	2.5	

※ Coated grades can be requested

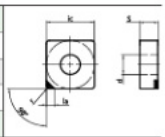
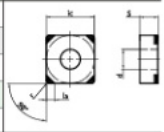
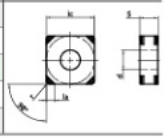
CBN Inserts

Designation		Edge Prep.	Uncoated							Dimensions(mm)					Geometries
			TB10C	TB300C	TB400C	TBX20C	TBX30C	TBX40C	TBX50C	IC	d	s	r	la	
DNGA 55° Nega	110404-1N	T01020 T01025 T02020 S02025 S02030		●						9.525	3.81	4.76	0.4	2.5	
	110408-1N			●						9.525	3.81	4.76	0.8	2.5	
	110412-1N			●						9.525	3.81	4.76	1.2	2.5	
	150404-1N			●						12.7	5.16	4.76	0.4	2.5	
	150408-1N			●						12.7	5.16	4.76	0.8	2.5	
	150412-1N			●						12.7	5.16	4.76	1.2	2.5	
	150604-1N			●						12.7	5.16	6.35	0.4	2.5	
	150608-1N			●						12.7	5.16	6.35	0.8	2.5	
	150612-1N			●						12.7	5.16	6.35	1.2	2.5	
	110404-2N		●	●		●		●		9.525	3.81	4.76	0.4	2.5	
	110408-2N		●	●		●		●		9.525	3.81	4.76	0.8	2.5	
	110412-2N		●	●		●		●		9.525	3.81	4.76	1.2	2.5	
	150404-2N		●	●		●		●		12.7	5.16	4.76	0.4	2.5	
	150408-2N		●	●		●		●		12.7	5.16	4.76	0.8	2.5	
	150412-2N		●	●		●		●		12.7	5.16	4.76	1.2	2.5	
	150604-2N		●	●		●		●		12.7	5.16	6.35	0.4	2.5	
	150608-2N		●	●		●		●		12.7	5.16	6.35	0.8	2.5	
	150612-2N		●	●		●		●		12.7	5.16	6.35	1.2	2.5	
	110404-4N									9.525	3.81	4.76	0.4	2.5	
	110408-4N									9.525	3.81	4.76	0.8	2.5	
	110412-4N									9.525	3.81	4.76	1.2	2.5	
	150404-4N									12.7	5.16	4.76	0.4	2.5	
	150408-4N									12.7	5.16	4.76	0.8	2.5	
	150412-4N									12.7	5.16	4.76	1.2	2.5	
	150604-4N									12.7	5.16	6.35	0.4	2.5	
	150608-4N									12.7	5.16	6.35	0.8	2.5	
	150612-4N									12.7	5.16	6.35	1.2	2.5	

※ Coated grades can be requested

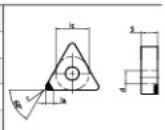
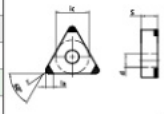
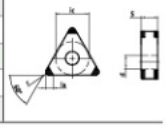
Turning Insert (Negative)

CBN Inserts

Designation		Edge Prep.	Uncoated							Dimensions(mm)					Geometries
			TB100C	TB300C	TB400C	TBX20C	TBX30C	TBX40C	TBX50C	IC	d	s	r	la	
SNGA 90° Nega	120404-1N	T01020 T01025 T02020 S02025 S02030		●						12.7	5.16	4.76	0.4	2.5	
	120408-1N			●						12.7	5.16	4.76	0.8	2.5	
	120412-1N			●						12.7	5.16	4.76	1.2	2.5	
	120404-4N		●	●		●		●		12.7	5.16	4.76	0.4	2.5	
	120408-4N		●	●		●		●		12.7	5.16	4.76	0.8	2.5	
	120412-4N		●	●		●		●		12.7	5.16	4.76	1.2	2.5	
	120404-8N									12.7	5.16	4.76	0.4	2.5	
	120408-8N									12.7	5.16	4.76	0.8	2.5	
	120412-8N									12.7	5.16	4.76	1.2	2.5	

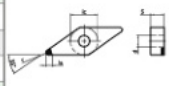
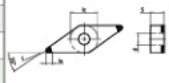
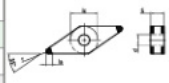
※ Coated grades can be requested

CBN Inserts

Designation		Edge Prep.	Uncoated							Dimensions(mm)					Geometries
			TB100C	TB300C	TB400C	TBX20C	TBX30C	TBX40C	TBX50C	IC	d	s	r	la	
TNGA 60° Nega	160404-1N	T01020 T02020 S01020 S02020		●						9.525	3.81	4.76	0.4	2.5	
	160408-1N			●						9.525	3.81	4.76	0.8	2.5	
	160412-1N			●						9.525	3.81	4.76	1.2	2.5	
	160404-3N		●	●		●		●		9.525	3.81	4.76	0.4	2.5	
	160408-3N		●	●		●		●		9.525	3.81	4.76	0.8	2.5	
	160412-3N		●	●		●		●		9.525	3.81	4.76	1.2	2.5	
	160404-6N									9.525	3.81	4.76	0.4	2.5	
	160408-6N									9.525	3.81	4.76	0.8	2.5	
	160412-6N									9.525	3.81	4.76	1.2	2.5	

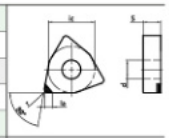
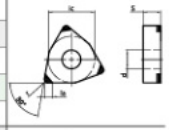
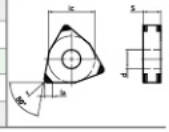
※ Coated grades can be requested

CBN Inserts

Designation		Edge Prep.	Uncoated							Dimensions(mm)					Geometries
			TB100C	TB300C	TB400C	TBX20C	TBX30C	TBX40C	TBX50C	IC	d	s	r	la	
VNGA 35° Nega	160404-1N	T01020 T02020 S01020 S02020		●						9.525	3.81	4.76	0.4	2.5	
	160408-1N			●						9.525	3.81	4.76	0.8	2.5	
	160412-1N			●						9.525	3.81	4.76	1.2	2.5	
	160404-2N		●	●		●		●		9.525	3.81	4.76	0.4	2.5	
	160408-2N		●	●		●		●		9.525	3.81	4.76	0.8	2.5	
	160412-2N		●	●		●		●		9.525	3.81	4.76	1.2	2.5	
	160404-4N									9.525	3.81	4.76	0.4	2.5	
	160408-4N									9.525	3.81	4.76	0.8	2.5	
	160412-4N									9.525	3.81	4.76	1.2	2.5	

※ Coated grades can be requested

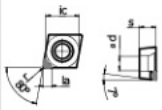
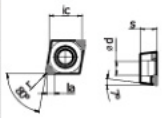
CBN Inserts

Designation		Edge Prep.	Uncoated							Dimensions(mm)					Geometries
			TB100C	TB300C	TB400C	TBX20C	TBX30C	TBX40C	TBX50C	IC	d	s	r	la	
WNGA 80° Nega	080404-1N	T01020 T01025 T02020 S02025 S02030		●						12.7	5.16	4.76	0.4	2.5	
	080408-1N			●						12.7	5.16	4.76	0.8	2.5	
	080412-1N			●						12.7	5.16	4.76	1.2	2.5	
	080404-3N		●	●		●		●		12.7	5.16	4.76	0.4	2.5	
	080408-3N		●	●		●		●		12.7	5.16	4.76	0.8	2.5	
	080412-3N		●	●		●		●		12.7	5.16	4.76	1.2	2.5	
	080404-6N									12.7	5.16	4.76	0.4	2.5	
	080408-6N									12.7	5.16	4.76	0.8	2.5	
	080412-6N									12.7	5.16	4.76	1.2	2.5	

※ Coated grades can be requested

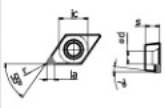
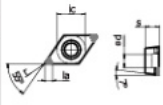
Turning Insert (Positive)

CBN Inserts

Designation		Edge Prep.	Uncoated							Dimensions(mm)					Geometries
			TB100C	TB300C	TB400C	TBX20C	TBX30C	TBX40C	TBX50C	IC	d	s	r	la	
CCGW 80° Posi	060202-1N	T01020 T01025 T02020 S02025 S02030		●						6.35	2.80	2.38	0.2	2.5	
	060204-1N			●						6.35	2.80	2.38	0.4	2.5	
	09T302-1N			●						9.525	4.40	3.97	0.2	2.5	
	09T304-1N			●						9.525	4.40	3.97	0.4	2.5	
	09T308-1N			●						9.525	4.40	3.97	0.8	2.5	
	120402-1N			●						12.7	5.50	4.76	0.2	2.5	
	120404-1N			●						12.7	5.50	4.76	0.4	2.5	
	120408-1N			●						12.7	5.50	4.76	0.8	2.5	
	120412-1N									12.7	5.50	4.76	1.2	2.5	
	060202-2N			●		●		●		6.35	2.80	2.38	0.2	2.5	
	060204-2N		●	●		●		●		6.35	2.80	2.38	0.4	2.5	
	09T302-2N			●		●		●		9.525	4.40	3.97	0.2	2.5	
	09T304-2N		●	●		●		●		9.525	4.40	3.97	0.4	2.5	
	09T308-2N		●	●		●		●		9.525	4.40	3.97	0.8	2.5	
	120402-2N		●	●		●		●		12.7	5.50	4.76	0.2	2.5	
	120404-2N		●	●		●		●		12.7	5.50	4.76	0.4	2.5	
	120408-2N		●	●		●		●		12.7	5.50	4.76	0.8	2.5	
	120412-2N									12.7	5.50	4.76	1.2	2.5	

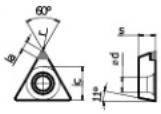
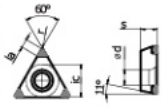
※ Coated grades can be requested

CBN Inserts

Designation		Edge Prep.	Uncoated							Dimensions(mm)					Geometries
			TB100C	TB300C	TB400C	TBX20C	TBX30C	TBX40C	TBX50C	IC	d	s	r	la	
DCGW 55° Posi	070202-1N	T01020 T01025 T02020 S02025 S02030		●						6.35	2.80	2.38	0.2	2.5	
	070204-1N			●						6.35	2.80	2.38	0.4	2.5	
	070208-1N			●						6.35	2.80	2.38	0.8	2.5	
	11T302-1N			●						9.525	4.40	3.97	0.2	2.5	
	11T304-1N			●						9.525	4.40	3.97	0.4	2.5	
	11T308-1N			●						9.525	4.40	3.97	0.8	2.5	
	11T312-1N			●						9.525	4.40	3.97	1.2	2.5	
	070202-2N			●		●		●		6.35	2.80	2.38	0.2	2.5	
	070204-2N		●	●		●		●		6.35	2.80	2.38	0.4	2.5	
	070208-2N			●		●		●		6.35	2.80	2.38	0.8	2.5	
	11T302-2N		●	●		●		●		9.525	4.40	3.97	0.2	2.5	
	11T304-2N		●	●		●		●		9.525	4.40	3.97	0.4	2.5	
	11T308-2N		●	●		●		●		9.525	4.40	3.97	0.8	2.5	
	11T312-2N		●	●		●		●		9.525	4.40	3.97	1.2	2.5	

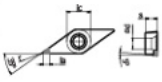
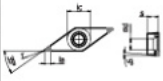
※ Coated grades can be requested

CBN Inserts

Designation		Edge Prep.	Uncoated							Dimensions(mm)					Geometries
			TB100C	TB300C	TB400C	TBX20C	TBX30C	TBX40C	TBX50C	IC	d	s	r	la	
TCGW 60° Posi	110202-1N	T01020 T02020 S01020 S02020		●						6.35	2.80	2.38	0.2	2.5	
	110204-1N			●						6.35	2.80	2.38	0.4	2.5	
	110208-1N			●						6.35	2.80	2.38	0.8	2.5	
	16T302-1N			●						9.525	4.40	3.97	0.2	2.5	
	16T304-1N			●						9.525	4.40	3.97	0.4	2.5	
	16T308-1N			●						9.525	4.40	3.97	0.8	2.5	
	16T312-1N			●						9.525	4.40	3.97	1.2	2.5	
	110202-3N			●		●		●		6.35	2.80	2.38	0.2	2.5	
	110204-3N		●	●		●		●		6.35	2.80	2.38	0.4	2.5	
	110208-3N			●		●		●		6.35	2.80	2.38	0.8	2.5	
	16T302-3N		●	●		●		●		9.525	4.40	3.97	0.2	2.5	
	16T304-3N		●	●		●		●		9.525	4.40	3.97	0.4	2.5	
	16T308-3N		●	●		●		●		9.525	4.40	3.97	0.8	2.5	
	16T312-3N		●	●		●		●		9.525	4.40	3.97	1.2	2.5	

※ Coated grades can be requested

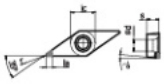
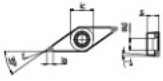
CBN Inserts

Designation		Edge Prep.	Uncoated							Dimensions(mm)					Geometries
			TB100C	TB300C	TB400C	TBX20C	TBX30C	TBX40C	TBX50C	IC	d	s	r	la	
VBGW 35° Posi	110302-1N	T01020 T02020 S01020 S02020		●						6.35	2.80	3.18	0.2	2.5	
	110304-1N			●						6.35	2.80	3.18	0.4	2.5	
	110308-1N			●						6.35	2.80	3.18	0.8	2.5	
	160402-1N			●						9.525	4.40	4.76	0.2	2.5	
	160404-1N			●						9.525	4.40	4.76	0.4	2.5	
	160408-1N			●						9.525	4.40	4.76	0.8	2.5	
	160412-1N			●						9.525	4.40	4.76	1.2	2.5	
	110302-2N			●		●		●		6.35	2.80	3.18	0.2	2.5	
	110304-2N		●	●		●		●		6.35	2.80	3.18	0.4	2.5	
	110308-2N		●	●		●		●		6.35	2.80	3.18	0.8	2.5	
	160402-2N		●	●		●		●		9.525	4.40	4.76	0.2	2.5	
	160404-2N		●	●		●		●		9.525	4.40	4.76	0.4	2.5	
	160408-2N		●	●		●		●		9.525	4.40	4.76	0.8	2.5	
	160412-2N		●	●		●		●		9.525	4.40	4.76	1.2	2.5	

※ Coated grades can be requested

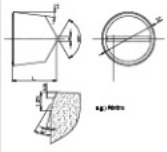
Turning Insert (Positive)

CBN Inserts

Designation		Edge Prep.	Uncoated							Dimensions(mm)					Geometries
			TB100C	TB300C	TB400C	TBX20C	TBX30C	TBX40C	TBX50C	IC	d	s	r	la	
VCGW 35° Posi	160402-1N	T01020 T02020 S01020 S02020		●						9.525	4.40	4.76	0.2	2.5	
	160404-1N			●						9.525	4.40	4.76	0.4	2.5	
	160408-1N			●						9.525	4.40	4.76	0.8	2.5	
	160412-1N			●						9.525	4.40	4.76	1.2	2.5	
	160402-2N		●	●		●		●		9.525	4.40	4.76	0.2	2.5	
	160404-2N		●	●		●		●		9.525	4.40	4.76	0.4	2.5	
	160408-2N		●	●		●		●		9.525	4.40	4.76	0.8	2.5	
	160412-2N		●	●		●		●		9.525	4.40	4.76	1.2	2.5	

※ Coated grades can be requested

CBN Inserts

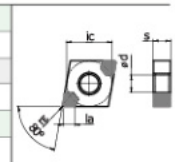
Designation		Edge Prep.	Uncoated						Coated	Dimensions(mm)				Geometries
			TB1000	TB3000	TB5000	TBX200	TBX300	TBX500	TBC500	L	IC	s	b	
RCGX Round Nega	060400	E003 E005 P07015 T01020	●	●	●		●			6	6.35	4.76	0.8	
	060600									6	6.35	6.35	0.8	
	090700	P07015 P15015 S01020 T01020 E003	●	●	●		●			9	9.525	7.94	1.0	
	120700		●	●	●		●			12	12.7	7.94	2.0	
	151000	T01020 T01025 T01030 S02020 S02030 S05020 S10020 S20020	●	●	●		●			15	15.875	10.00	2.0	
	191000		●	●	●		●			19	19.05	10.00	2.0	
	251200		●	●	●		●			25	25.4	12.00	2.0	

For cutting edge "E", "K", and "P" please refer to the table below

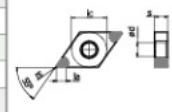
Edge Prep.			
Symbol	Cutting Edge Spec.	Example	
E	R-honed Cutting Edge	E005	R0.05mm Honed
K	Double Chamfered Cutting Edge	K20003	2.00mm x 3° Chamfered Cutting Edge
P	Double Chamfered and Honed Cutting Edge	P07015	0.70mm x 15°Chamfered and Honed Cutting Edge

Note: Symbol "K" and "P" describe only the largest chamfer width and its angle.

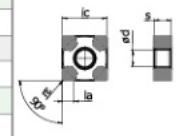
CBN Inserts

Designation		Edge Prep.	Uncoated						Coated	Dimensions(mm)					Geometries
			TB1000	TB3000	TB5000	TBX200	TBX300	TBX500	TBC500	IC	d	s	r	la	
CNGA 80° Nega	120404-4S	T01020 T01025 T02020 S02025 S02030		●	●		●			12.7	5.16	4.76	0.4	2.5	
	120408-4S			●	●		●			12.7	5.16	4.76	0.8	2.5	
	120412-4S			●	●		●			12.7	5.16	4.76	1.2	2.5	

CBN Inserts

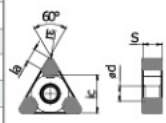
Designation		Edge Prep.	Uncoated						Coated	Dimensions(mm)					Geometries
			TB1000	TB3000	TB5000	TBX200	TBX300	TBX500	TBC500	IC	d	s	r	la	
DNGA 55° Nega	150404-4S	T01020 T01025 T02020 S02025 S02030		●	●		●			12.7	5.16	4.76	0.4	2.5	
	150408-4S			●	●		●			12.7	5.16	4.76	0.8	2.5	
	150412-4S			●	●		●			12.7	5.16	4.76	1.2	2.5	
	150604-4S			●	●		●			12.7	5.16	6.35	0.4	2.5	
	150608-4S			●	●		●			12.7	5.16	6.35	0.8	2.5	
	150612-4S			●	●		●			12.7	5.16	6.35	1.2	2.5	

CBN Inserts

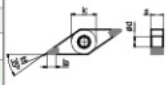
Designation		Edge Prep.	Uncoated						Coated	Dimensions(mm)					Geometries
			TB1000	TB3000	TB5000	TBX200	TBX300	TBX500	TBC500	IC	d	s	r	la	
SNGA 90° Nega	120404-8S	T01020 T01025 T02020 S02025 S02030		●	●		●			12.7	5.16	4.76	0.4	2.5	
	120408-8S			●	●		●			12.7	5.16	4.76	0.8	2.5	
	120412-8S			●	●		●			12.7	5.16	4.76	1.2	2.5	

Turning Insert (Negative)

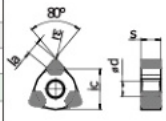
CBN Inserts

Designation		Edge Prep.	Uncoated						Coated	Dimensions(mm)					Geometries
			TB1000	TB3000	TB5000	TBX200	TBX300	TBX500	TBC500	IC	d	s	r	la	
TNGA 60° Nega	160404-6S	T01020 T02020 S01020 S02020		●	●		●			9.525	3.81	4.76	0.4	2.5	
	160408-6S			●	●		●			9.525	3.81	4.76	0.8	2.5	
	160412-6S			●	●		●			9.525	3.81	4.76	1.2	2.5	

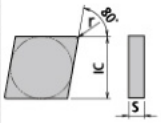
CBN Inserts

Designation		Edge Prep.	Uncoated						Coated	Dimensions(mm)					Geometries
			TB1000	TB3000	TB5000	TBX200	TBX300	TBX500	TBC500	IC	d	s	r	la	
VNGA 35° Nega	160404-4S	T01020 T02020 S01020 S02020		●	●		●			9.525	3.81	4.76	0.4	2.5	
	160408-4S			●	●		●			9.525	3.81	4.76	0.8	2.5	
	160412-4S			●	●		●			9.525	3.81	4.76	1.2	2.5	

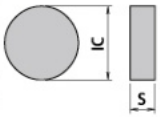
CBN Inserts

Designation		Edge Prep.	Uncoated						Coated	Dimensions(mm)					Geometries
			TB1000	TB3000	TB5000	TBX200	TBX300	TBX500	TBC500	IC	d	s	r	la	
WNGA 80° Nega	080404-6S	T01020 T01025 T02020 S02025 S02030		●	●		●			12.7	5.16	4.76	0.4	2.5	
	080408-6S			●	●		●			12.7	5.16	4.76	0.8	2.5	
	080412-6S			●	●		●			12.7	5.16	4.76	1.2	2.5	

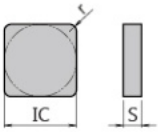
CBN Inserts

Designation		Edge Prep.	Uncoated						Coated	Dimensions(mm)					Geometries
			TB1000	TB3000	TB5000	TBX200	TBX300	TBX500	TBC500	IC	d	s	r	la	
CNMN 80° Nega	090404	T01020 T01025 T02020 S02025 S02030	●	●	●		●			9.525	-	4.76	0.4	-	
	090408		●	●	●		●			9.525	-	4.76	0.8	-	
	090412		●	●	●		●			9.525	-	4.76	1.2	-	
	120404		●	●	●		●			12.7	-	4.76	0.4	-	
	120408		●	●	●		●			12.7	-	4.76	0.8	-	
	120412		●	●	●		●			12.7	-	4.76	1.2	-	

CBN Inserts

Designation		Edge Prep.	Uncoated						Coated	Dimensions(mm)					Geometries
			TB1000	TB3000	TB5000	TBX200	TBX300	TBX500	TBC500	IC	d	s	r	la	
RNMN Round Nega	090400	T01020 T01025 T02020 S02025 S02030	●	●	●		●			9.525	-	4.76	-	-	
	120400		●	●	●		●			12.7	-	4.76	-	-	
	120700		●	●	●		●			12.7	-	7.94	-	-	
	150700		●	●	●		●			15.875	-	7.94	-	-	
	200700		●	●	●		●			20.0	-	7.94	-	-	
	201000		●	●	●		●			20.0	-	10.00	-	-	

CBN Inserts

Designation		Edge Prep.	Uncoated						Coated	Dimensions(mm)					Geometries
			TB1000	TB3000	TB5000	TBX200	TBX300	TBX500	TBC500	IC	d	s	r	la	
SNMN 90° Nega	090400	T01020 T01025 T02020 S01020 S02020 S05020 S10020	●	●	●		●			9.525	-	4.76	0.4	-	
	090408		●	●	●		●			9.525	-	4.76	0.8	-	
	090412		●	●	●		●			9.525	-	4.76	1.2	-	
	120404		●	●	●		●			12.7	-	4.76	0.4	-	
	120408		●	●	●		●			12.7	-	4.76	0.8	-	
	120412		●	●	●		●			12.7	-	4.76	1.2	-	
	150712		●	●	●		●			15.875	-	7.94	1.2	-	
	150716		●	●	●		●			15.875	-	7.94	1.6	-	
	201020		●	●	●		●			20.0	-	10.0	2.0	-	
	201024		●	●	●		●			20.0	-	10.0	2.4	-	

PCD Technical Section

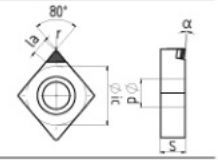
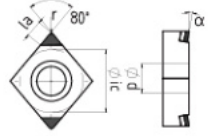
PCD grade

Grade	Features	Application	Grain size (μm)	Hardness (Hv)	TRS (kgf/mm2)
TDP10E	By use of the diamond grain having good bonding property, it is suitable for machining of non-ferrous metal, graphite.	High Si aluminum alloy, Copper, Bronze alloy, Rubber, Wood, Carbon, Cemented carbide, ceramic semi-sintered products, FRP, graphite	10	10000~12000	200
TDP30E	Coarse diamond grain has been used to get excellent wear resistance enough to machine cemented-carbide, high Si aluminum alloy.	Cemented carbide, Ceramic roughing, High Si aluminum alloy, Rock, stone	2-30	10000~12000	110
TDP01E	By use of ultra fine diamond grain, it is possible to make sharp cutting edge,. Thus it is appropriate grade to machine non-ferrous material	Plastic, Wood, Precise finishing of aluminum	1	8000~10000	220

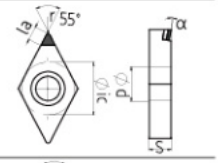
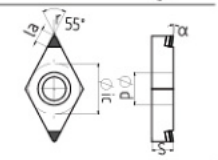
Recommended cutting condition

Workpiece	Cutting speed (m/min)	Feed (mm/rev)	Depth of cut (mm)	Recommended grade	
				1st	2nd
Aluminum alloy (4%-8% Si)	1000-3000	0.10-0.60	~3	TDP10E	TDP30E
Aluminum alloy (9%-14% Si)	600-2500	0.10-0.50	~3	TDP10E	TDP30E
Aluminum alloy (15%-18% Si)	300-700	0.10-0.40	~3	TDP10E	TDP30E
Cooper, Bronze alloy	~1000	0.05-0.20	~3	TDP10E	TDP01E
Reinforced plastic	~1000	0.10-0.30	~2	TDP10E	TDP01E
Wood	~4000	0.10-0.40	-	TDP10E	TDP01E
Cemented carbide	10~30	~0.20	~0.5	TDP30E	TDP10E

PCD Inserts

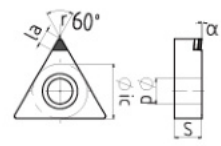
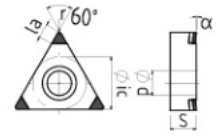
Designation			Uncoated			Dimensions(mm)						Geometries
			TDP01E	TDP10E	TDP30E	IC	d	s	r	la	α	
CN○○ 80° Nega	CNGA	120404-1N		●	●	12.7	5.16	4.76	0.4	2.5	0°	
		120408-1N		●	●	12.7	5.16	4.76	0.8	2.5	0°	
	CNGX	120404-1N		●	●	12.7	5.16	4.76	0.4	2.5	3°-5°	
		120408-1N		●	●	12.7	5.16	4.76	0.8	2.5	3°-5°	
	CNGA	120404-2N				12.7	5.16	4.76	0.4	2.5	0°	
		120408-2N				12.7	5.16	4.76	0.8	2.5	0°	
	CNGX	120404-2N				12.7	5.16	4.76	0.4	2.5	3°-5°	
		120408-2N				12.7	5.16	4.76	0.8	2.5	3°-5°	

PCD Inserts

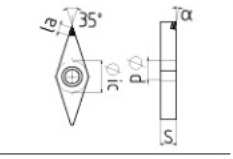
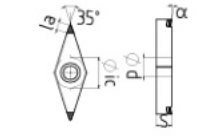
Designation			Uncoated			Dimensions(mm)						Geometries
			TDP01E	TDP10E	TDP30E	IC	d	s	r	la	α	
DN○○ 55° Nega	DNGA	150404-1N		●	●	12.7	5.16	4.76	0.4	2.5	0°	
		150408-1N		●	●	12.7	5.16	4.76	0.8	2.5	0°	
	DNGX	150404-1N		●	●	12.7	5.16	4.76	0.4	2.5	3°-5°	
		150408-1N		●	●	12.7	5.16	4.76	0.8	2.5	3°-5°	
	DNGA	150404-2N				12.7	5.16	4.76	0.4	2.5	0°	
		150408-2N				12.7	5.16	4.76	0.8	2.5	0°	
	DNGX	150404-2N				12.7	5.16	4.76	0.4	2.5	3°-5°	
		150408-2N				12.7	5.16	4.76	0.8	2.5	3°-5°	

Turning Insert (Negative)

PCD Inserts

Designation			Uncoated			Dimensions(mm)						Geometries
			TDP01E	TDP10E	TDP30E	IC	d	s	r	la	α	
TN○○ 60° Nega	TNGA	160404-1N		●	●	9.525	3.81	4.76	0.4	2.5	0°	
		160408-1N		●	●	9.525	3.81	4.76	0.8	2.5	0°	
	TNGX	160404-1N		●	●	9.525	3.81	4.76	0.4	2.5	3°-5°	
		160408-1N		●	●	9.525	3.81	4.76	0.8	2.5	3°-5°	
	TNGA	160404-3N				9.525	3.81	4.76	0.4	2.5	0°	
		160408-3N				9.525	3.81	4.76	0.8	2.5	0°	
	TNGX	160404-3N				9.525	3.81	4.76	0.4	2.5	3°-5°	
		160408-3N				9.525	3.81	4.76	0.8	2.5	3°-5°	

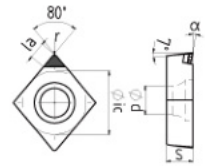
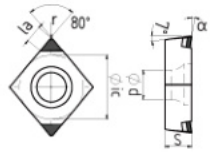
PCD Inserts

Designation			Uncoated			Dimensions(mm)						Geometries
			TDP01E	TDP10E	TDP30E	IC	d	s	r	la	α	
VN○○ 35° Nega	VNGA	160404-1N		●	●	9.525	3.81	4.76	0.4	2.5	0°	
		160408-1N		●	●	9.525	3.81	4.76	0.8	2.5	0°	
	VNGX	160404-1N		●	●	9.525	3.81	4.76	0.4	2.5	3°-5°	
		160408-1N		●	●	9.525	3.81	4.76	0.8	2.5	3°-5°	
	VNGA	160404-2N				9.525	3.81	4.76	0.4	2.5	0°	
		160408-2N				9.525	3.81	4.76	0.8	2.5	0°	
	VNGX	160404-2N				9.525	3.81	4.76	0.4	2.5	3°-5°	
		160408-2N				9.525	3.81	4.76	0.8	2.5	3°-5°	

PCD Inserts

CC○○

80° Posi

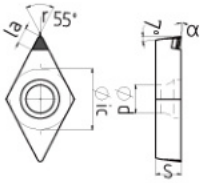
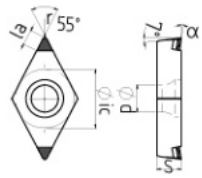
Designation			Uncoated			Dimensions(mm)						Geometries
			TDP01E	TDP10E	TDP30E	IC	d	s	r	la	α	
	CCGW	060202-1N	○	●	●	6.35	2.80	2.38	0.2	2.5	0°	
		060204-1N	○	●	●	6.35	2.80	2.38	0.4	2.5	0°	
		09T302-1N	○	●	●	9.525	4.40	3.97	0.2	2.5	0°	
		09T304-1N	○	●	●	9.525	4.40	3.97	0.4	2.5	0°	
		09T308-1N	○	●	●	9.525	4.40	3.97	0.8	2.5	0°	
		120404-1N	○	●	●	12.7	5.50	4.76	0.4	2.5	0°	
		120408-1N	○	●	●	12.7	5.50	4.76	0.8	2.5	0°	
	CCGT	060202-1N	○	●	●	6.35	2.80	2.38	0.2	2.5	3°-5°	
		060204-1N	○	●	●	6.35	2.80	2.38	0.4	2.5	3°-5°	
		09T302-1N	○	●	●	9.525	4.40	3.97	0.2	2.5	3°-5°	
		09T304-1N	○	●	●	9.525	4.40	3.97	0.4	2.5	3°-5°	
		09T308-1N	○	●	●	9.525	4.40	3.97	0.8	2.5	3°-5°	
		120404-1N	○	●	●	12.7	5.50	4.76	0.4	2.5	3°-5°	
		120408-1N	○	●	●	12.7	5.50	4.76	0.8	2.5	3°-5°	
	CCGW	060202-2N	○	○	○	6.35	2.80	2.38	0.2	2.5	0°	
		060204-2N	○	○	○	6.35	2.80	2.38	0.4	2.5	0°	
		09T302-2N	○	○	○	9.525	4.40	3.97	0.2	2.5	0°	
		09T304-2N	○	○	○	9.525	4.40	3.97	0.4	2.5	0°	
		09T308-2N	○	○	○	9.525	4.40	3.97	0.8	2.5	0°	
		120404-2N	○	○	○	12.7	5.50	4.76	0.4	2.5	0°	
		120408-2N	○	○	○	12.7	5.50	4.76	0.8	2.5	0°	
	CCGT	060202-2N	○	○	○	6.35	2.80	2.38	0.2	2.5	3°-5°	
		060204-2N	○	○	○	6.35	2.80	2.38	0.4	2.5	3°-5°	
		09T302-2N	○	○	○	9.525	4.40	3.97	0.2	2.5	3°-5°	
		09T304-2N	○	○	○	9.525	4.40	3.97	0.4	2.5	3°-5°	
		09T308-2N	○	○	○	9.525	4.40	3.97	0.8	2.5	3°-5°	
		120404-2N	○	○	○	12.7	5.50	4.76	0.4	2.5	3°-5°	
		120408-2N	○	○	○	12.7	5.50	4.76	0.8	2.5	3°-5°	

Turning Insert (Positive)

PCD Inserts

DC○○

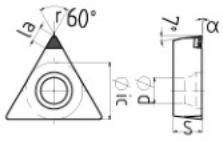
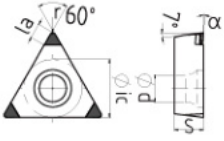
55° Posi

Designation			Uncoated			Dimensions(mm)						Geometries
			TDP01E	TDP10E	TDP30E	IC	d	s	r	la	α	
	DCGW	070202-1N	○	●	●	6.35	2.80	2.38	0.2	2.5	0°	
		070204-1N	○	●	●	6.35	2.80	2.38	0.4	2.5	0°	
		070208-1N	○	●	●	6.35	2.80	2.38	0.8	2.5	0°	
		11T302-1N	○	●	●	9.525	4.40	3.97	0.2	2.5	0°	
		11T304-1N	○	●	●	9.525	4.40	3.97	0.4	2.5	0°	
		11T308-1N	○	●	●	9.525	4.40	3.97	0.8	2.5	0°	
	DCGT	070202-1N	○	●	●	6.35	2.80	2.38	0.2	2.5	3°-5°	
		070204-1N	○	●	●	6.35	2.80	2.38	0.4	2.5	3°-5°	
		070208-1N	○	●	●	6.35	2.80	2.38	0.8	2.5	3°-5°	
		11T302-1N	○	●	●	9.525	4.40	3.97	0.2	2.5	3°-5°	
		11T304-1N	○	●	●	9.525	4.40	3.97	0.4	2.5	3°-5°	
		11T308-1N	○	●	●	9.525	4.40	3.97	0.8	2.5	3°-5°	
	DCGW	070202-2N	○	○	○	6.35	2.80	2.38	0.2	2.5	0°	
		070204-2N	○	○	○	6.35	2.80	2.38	0.4	2.5	0°	
		070208-2N	○	○	○	6.35	2.80	2.38	0.8	2.5	0°	
		11T302-2N	○	○	○	9.525	4.40	3.97	0.2	2.5	0°	
		11T304-2N	○	○	○	9.525	4.40	3.97	0.4	2.5	0°	
		11T308-2N	○	○	○	9.525	4.40	3.97	0.8	2.5	0°	
	DCGT	070202-2N	○	○	○	6.35	2.80	2.38	0.2	2.5	3°-5°	
		070204-2N	○	○	○	6.35	2.80	2.38	0.4	2.5	3°-5°	
		070208-2N	○	○	○	6.35	2.80	2.38	0.8	2.5	3°-5°	
		11T302-2N	○	○	○	9.525	4.40	3.97	0.2	2.5	3°-5°	
		11T304-2N	○	○	○	9.525	4.40	3.97	0.4	2.5	3°-5°	
		11T308-2N	○	○	○	9.525	4.40	3.97	0.8	2.5	3°-5°	

PCD Inserts

TC○○

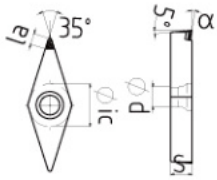
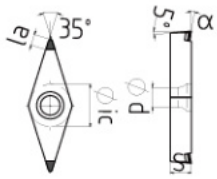
60° Posi

Designation			Uncoated			Dimensions(mm)						Geometries
			TDP01E	TDP10E	TDP30E	IC	d	s	r	la	α	
	TCGW	110202-1N	○	●	●	6.35	2.80	2.38	0.2	2.5	0°	
		110204-1N	○	●	●	6.35	2.80	2.38	0.4	2.5	0°	
		110208-1N	○	●	●	6.35	2.80	2.38	0.8	2.5	0°	
		16T302-1N	○	●	●	9.525	4.40	3.97	0.2	2.5	0°	
		16T304-1N	○	●	●	9.525	4.40	3.97	0.4	2.5	0°	
		16T308-1N	○	●	●	9.525	4.40	3.97	0.8	2.5	0°	
	TCGT	110202-1N	○	●	●	6.35	2.80	2.38	0.2	2.5	3°-5°	
		110204-1N	○	●	●	6.35	2.80	2.38	0.4	2.5	3°-5°	
		110208-1N	○	●	●	6.35	2.80	2.38	0.8	2.5	3°-5°	
		16T302-1N	○	●	●	9.525	4.40	3.97	0.2	2.5	3°-5°	
		16T304-1N	○	●	●	9.525	4.40	3.97	0.4	2.5	3°-5°	
		16T308-1N	○	●	●	9.525	4.40	3.97	0.8	2.5	3°-5°	
	TCGW	110202-3N	○	○	○	6.35	2.80	2.38	0.2	2.5	0°	
		110204-3N	○	○	○	6.35	2.80	2.38	0.4	2.5	0°	
		110208-3N	○	○	○	6.35	2.80	2.38	0.8	2.5	0°	
		16T302-3N	○	○	○	9.525	4.40	3.97	0.2	2.5	0°	
		16T304-3N	○	○	○	9.525	4.40	3.97	0.4	2.5	0°	
		16T308-3N	○	○	○	9.525	4.40	3.97	0.8	2.5	0°	
	TCGT	110202-3N	○	○	○	6.35	2.80	2.38	0.2	2.5	3°-5°	
		110204-3N	○	○	○	6.35	2.80	2.38	0.4	2.5	3°-5°	
		110208-3N	○	○	○	6.35	2.80	2.38	0.8	2.5	3°-5°	
		16T302-3N	○	○	○	9.525	4.40	3.97	0.2	2.5	3°-5°	
		16T304-3N	○	○	○	9.525	4.40	3.97	0.4	2.5	3°-5°	
		16T308-3N	○	○	○	9.525	4.40	3.97	0.8	2.5	3°-5°	

Turning Insert (Positive)

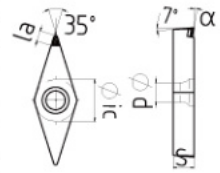
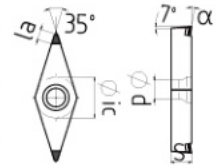
PCD Inserts

VB○○
VC○○
35° Posi

Designation			Uncoated			Dimensions(mm)						Geometries
			TDP01E	TDP10E	TDP30E	IC	d	s	r	la	α	
	VBGW	110302-1N	○	●	●	6.35	2.80	3.18	0.2	2.5	0°	
		110304-1N	○	●	●	6.35	2.80	3.18	0.4	2.5	0°	
		110308-1N	○	●	●	6.35	2.80	3.18	0.8	2.5	0°	
		160402-1N	○	●	●	9.525	4.40	4.76	0.2	2.5	0°	
		160404-1N	○	●	●	9.525	4.40	4.76	0.4	2.5	0°	
		160408-1N	○	●	●	9.525	4.40	4.76	0.8	2.5	0°	
	VBGT	110302-1N	○	●	●	6.35	2.80	3.18	0.2	2.5	3°-5°	
		110304-1N	○	●	●	6.35	2.80	3.18	0.4	2.5	3°-5°	
		110308-1N	○	●	●	6.35	2.80	3.18	0.8	2.5	3°-5°	
		160402-1N	○	●	●	9.525	4.40	4.76	0.2	2.5	3°-5°	
		160404-1N	○	●	●	9.525	4.40	4.76	0.4	2.5	3°-5°	
		160408-1N	○	●	●	9.525	4.40	4.76	0.8	2.5	3°-5°	
	VBGW	110302-2N	○	○	○	6.35	2.80	3.18	0.2	2.5	0°	
		110304-2N	○	○	○	6.35	2.80	3.18	0.4	2.5	0°	
		110308-2N	○	○	○	6.35	2.80	3.18	0.8	2.5	0°	
		160402-2N	○	○	○	9.525	4.40	4.76	0.2	2.5	0°	
		160404-2N	○	○	○	9.525	4.40	4.76	0.4	2.5	0°	
		160408-2N	○	○	○	9.525	4.40	4.76	0.8	2.5	0°	
	VBGT	110302-2N	○	○	○	6.35	2.80	3.18	0.2	2.5	3°-5°	
		110304-2N	○	○	○	6.35	2.80	3.18	0.4	2.5	3°-5°	
		110308-2N	○	○	○	6.35	2.80	3.18	0.8	2.5	3°-5°	
		160402-2N	○	○	○	9.525	4.40	4.76	0.2	2.5	3°-5°	
		160404-2N	○	○	○	9.525	4.40	4.76	0.4	2.5	3°-5°	
		160408-2N	○	○	○	9.525	4.40	4.76	0.8	2.5	3°-5°	

PCD Inserts

VB○○
VC○○
35° Posi

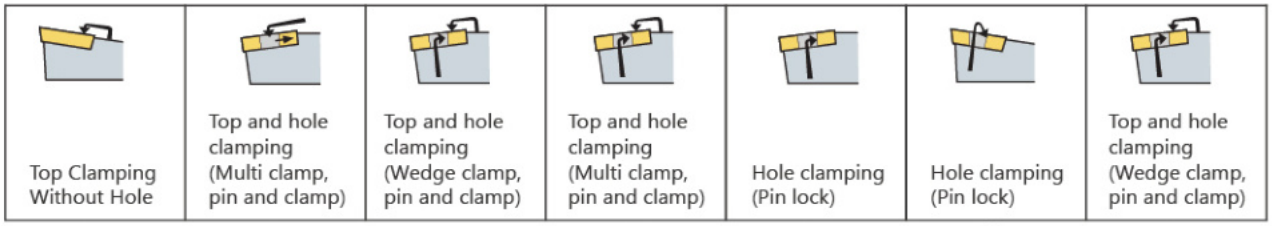
Designation			Uncoated			Dimensions(mm)						Geometries
			TDP01E	TDP10E	TDP30E	IC	d	s	r	la	α	
	VCGW	110302-1N	○	●	●	6.35	2.80	3.18	0.2	2.5	0°	
		110304-1N	○	●	●	6.35	2.80	3.18	0.4	2.5	0°	
		110308-1N	○	●	●	6.35	2.80	3.18	0.8	2.5	0°	
		160402-1N	○	●	●	9.525	4.40	4.76	0.2	2.5	0°	
		160404-1N	○	●	●	9.525	4.40	4.76	0.4	2.5	0°	
		160408-1N	○	●	●	9.525	4.40	4.76	0.8	2.5	0°	
	VCGT	110302-1N	○	●	●	6.35	2.80	3.18	0.2	2.5	3°-5°	
		110304-1N	○	●	●	6.35	2.80	3.18	0.4	2.5	3°-5°	
		110308-1N	○	●	●	6.35	2.80	3.18	0.8	2.5	3°-5°	
		160402-1N	○	●	●	9.525	4.40	4.76	0.2	2.5	3°-5°	
		160404-1N	○	●	●	9.525	4.40	4.76	0.4	2.5	3°-5°	
		160408-1N	○	●	●	9.525	4.40	4.76	0.8	2.5	3°-5°	
	VCGW	110302-2N	○	○	○	6.35	2.80	3.18	0.2	2.5	0°	
		110304-2N	○	○	○	6.35	2.80	3.18	0.4	2.5	0°	
		110308-2N	○	○	○	6.35	2.80	3.18	0.8	2.5	0°	
		160402-2N	○	○	○	9.525	4.40	4.76	0.2	2.5	0°	
		160404-2N	○	○	○	9.525	4.40	4.76	0.4	2.5	0°	
		160408-2N	○	○	○	9.525	4.40	4.76	0.8	2.5	0°	
	VCGT	110302-2N	○	○	○	6.35	2.80	3.18	0.2	2.5	3°-5°	
		110304-2N	○	○	○	6.35	2.80	3.18	0.4	2.5	3°-5°	
		110308-2N	○	○	○	6.35	2.80	3.18	0.8	2.5	3°-5°	
		160402-2N	○	○	○	9.525	4.40	4.76	0.2	2.5	3°-5°	
		160404-2N	○	○	○	9.525	4.40	4.76	0.4	2.5	3°-5°	
		160408-2N	○	○	○	9.525	4.40	4.76	0.8	2.5	3°-5°	

External tool Holder Code System (ISO)

P	S	K	N	R	25	25	–	M	12
1	2	3	4	5	6	7		8	9

1 Clamping Method of inserts

P S K N R 25 25 – M 12



Top Clamping Without Hole	Top and hole clamping (Multi clamp, pin and clamp)	Top and hole clamping (Wedge clamp, pin and clamp)	Top and hole clamping (Multi clamp, pin and clamp)	Hole clamping (Pin lock)	Hole clamping (Pin lock)	Top and hole clamping (Wedge clamp, pin and clamp)
C	D	B	M	P	S	W

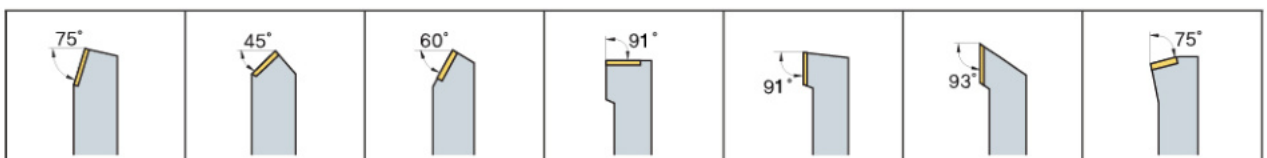
2 Insert Shape

P S K N R 25 25 – M 12

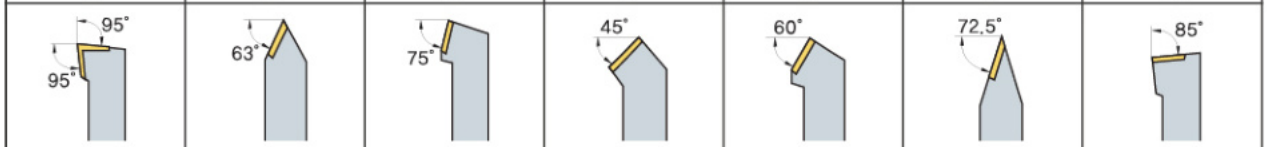
C	D	E	K	L	R	S	T	V	W

3 Holder Style

P S K N R 25 25 – M 12



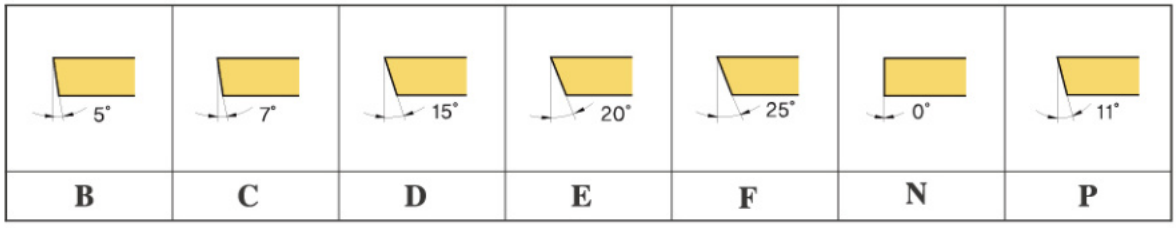
B	D	E	F	G	J	K



L	N	R	S	T	V	Y

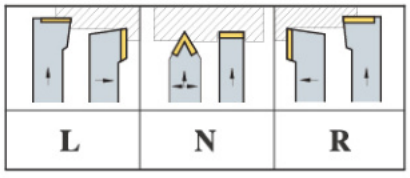
4 Clearance Angle of Inserts

P S K **N** R 25 25 – M 12



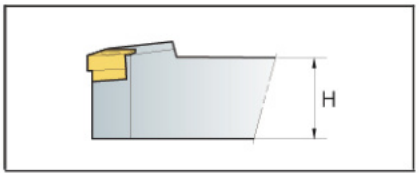
5 Hand of Tool

P S K N **R** 25 25 – M 12



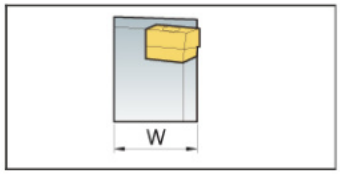
6 Height of Shank

P S K N R **25** 25 – M 12



7 Width of Shank

P S K N R 25 **25** – M 12



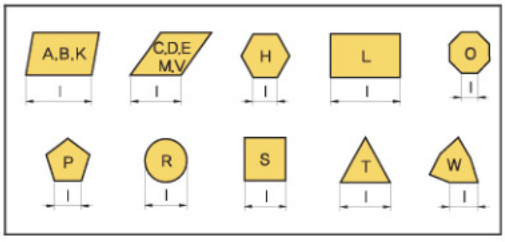
8 Length of Holder

P S K N R 25 25 – **M** 12

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

9 Length of Insert Cutting Edge

P S K N R 25 25 – M **12**



Boring Bar Code System (ISO)

S	12	M	–	S	T	F	P	R	–	11
1	2	3		4	5	6	7	8		9

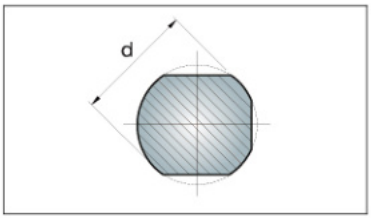
1 Type of Bar

S 12 M – S T F P R – 11

"A" Steel with coolant hole
"E" Carbide bar with fixed steel head and coolant hole
"C" Carbide shank
"S" Steel shank
"X" Special type

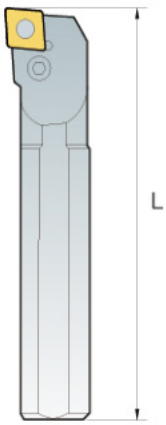
2 Bar Diameter

S 12 M – S T F P R – 11



3 Bar Length

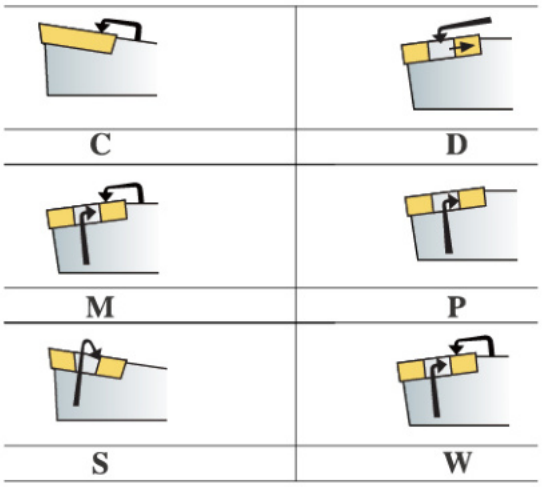
S 12 M – S T F P R – 11



长度 Length(L)	(mm)
H	100
J	110
K	125
M	150
N	160
Q	180
R	200
S	250
T	300
U	350
V	400
W	450
Y	500

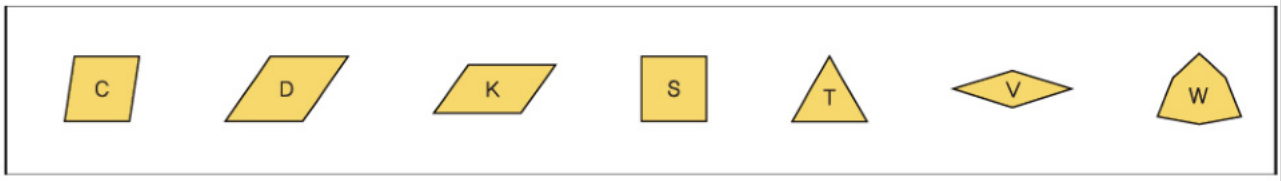
4 Method of Mounting Insert

S 12 M – S T F P R – 11



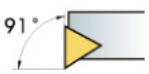
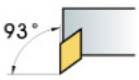
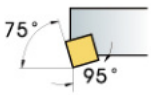
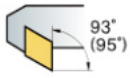
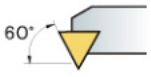
5 Insert Shape

S 12 M - S **T** F P R - 11



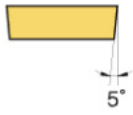
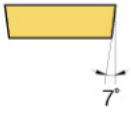
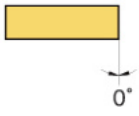
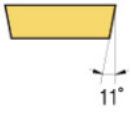
6 Lead Angle of Boring Bar

S 12 M - S T **F** P R - 11

		
L	F	U
		
K	Q	Z
		
J	W	

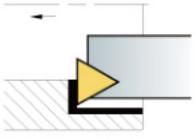
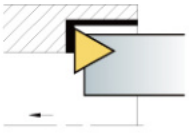
7 Relief Angle of Insert

S 12 M - S T F **P** R - 11

	
B	C
	
N	P

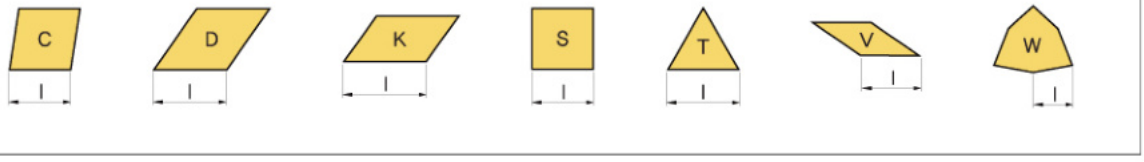
8 Hand of Bar

S 12 M - S T F P **R** - 11

	
R	L

8 Length of Cutting Edge

S 12 M - S T F P R - **11**



Cartridge Code System (ISO)

S	T	F	C	R	12	C	A	–	16
1	2	3	4	5	6	7	8		9

1 Method of mounting insert

S T F C R 12 C A – 16

TOP CLAMPING	HOLE CLAMPING	SCREW ON
C	P	S

2 Insert Shape

S T F C R 12 C A – 16

C	S	T

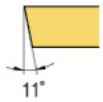
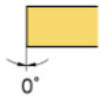
3 Holder style

S T F C R 12 C A – 16

95°	45°	90°	75°
L	S	F	R
75°	90°	60°	60°
K	G	W	T

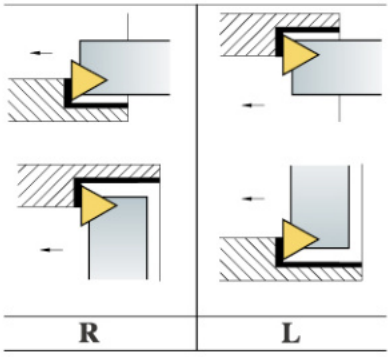
4 Relief angle of insert

S T F **C** R 12 C A - 16

		
C	P	N

5 Hand of tool

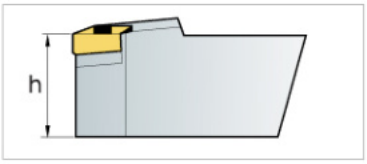
S T F C **R** 12 C A - 16



R	L

6 Hand of tool

S T F C R **12** C A - 16



7 Cartrige code

S T F C R 12 **C** A - 16

C
(cartridge)

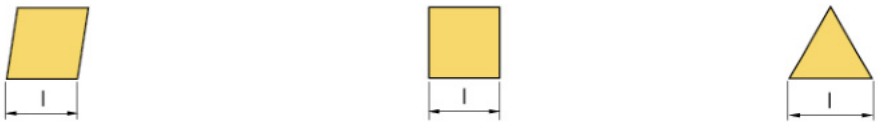
8 Type of cartridge

S T F C R 12 C **A** - 16

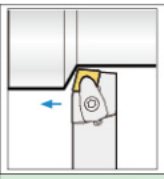
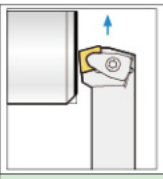
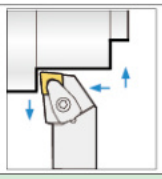
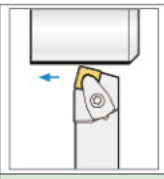
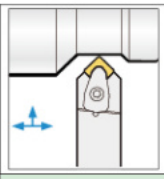
A
(ISO5611)

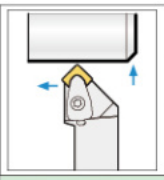
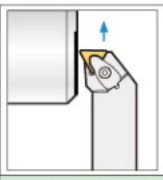
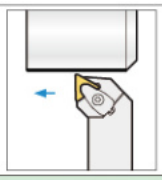
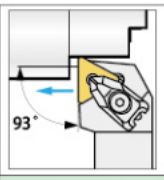
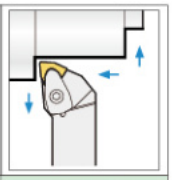
9 Length of cutting edge

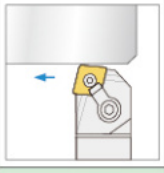
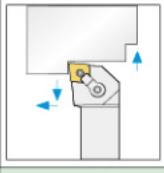
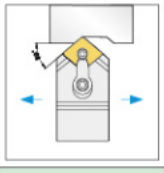
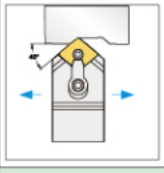
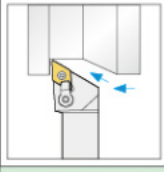
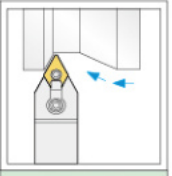
S T F C R 12 C A - **16**

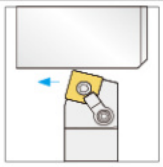
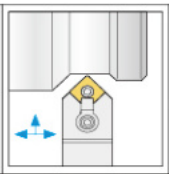
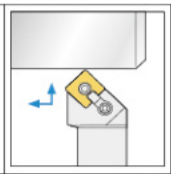
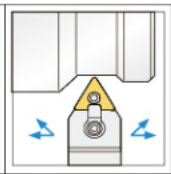


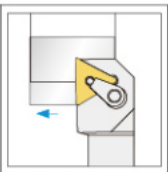
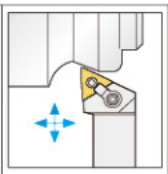
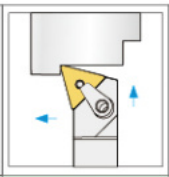
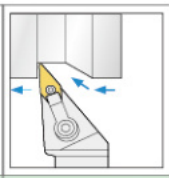
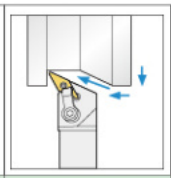
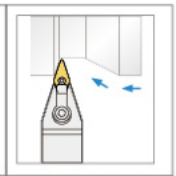
Index for Tool Holder

Cutting Shape							
Designation	DCBNR/L	DCKNR/L	DCLNR/L	DDJNR/L	DSBNR/L	DSDNN	DSKNR/L
Approach angle	45 °	75 °	95 °	93 °	75 °	45 °	75 °
Page	177	177	178	178	179	179	180
Chamfering						●	
Back turning			●	●			
Turning	●		●	●	●	●	
Copying				●			
Facing		●	●				●

Cutting Shape							
Designation	DSSNR/L	DTFNR/L	DTGNR/L	DTJNR/L	DVJNR/L	DVVNN	DWLNR/L
Approach angle	45 °	90 °	90 °	90 °	93 °	72.5°	95 °
Page	180	181	181	182	182	183	183
Chamfering							
Back turning	●			●	●		●
Turning	●		●	●	●	●	●
Copying				●	●	●	
Facing	●	●					●

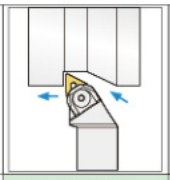
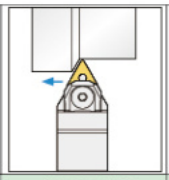
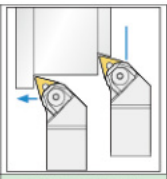
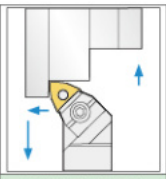
Cutting Shape							
Designation	MCBNR/L	MCKNR/L	MCLNR/L	MCMNN	MCMNN-100	MDJNR/L	MDPNN
Approach angle	75°	75°	95°	50°	40°	93 °	62.5 °
Page	184	184	185	185	186	186	187
Chamfering				●	●		
Back turning			●			●	
Turning	●		●	●	●	●	●
Copying						●	●
Facing		●	●		●		

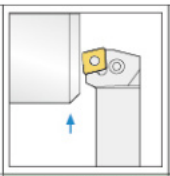
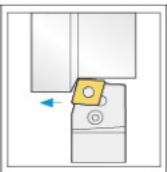
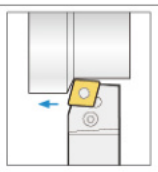
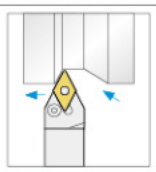
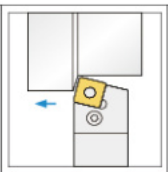
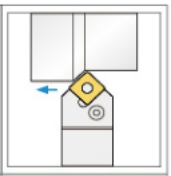
Cutting Shape							
Designation	MDQNR/L	MSBNR/L	MSDNN	MSKNR/L	MSSNR/L	MTENN	MTFNR/L
Approachangle	107.5°	75°	45°	75°	45°	60°	91°
Page	187	188	188	189	189	190	190
Chamfering			●		●	●	
Back turning	●						
Turning	●	●	●	●	●	●	●
Copying	●					●	
Facing				●	●		●

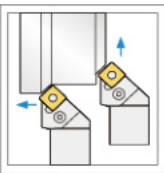
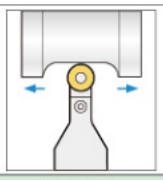
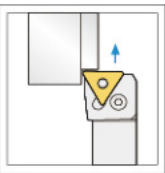
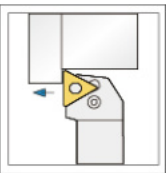
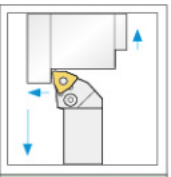
Cutting Shape							
Designation	MTGNR/L	MTJNR/L	MTQNR/L	MVJNR/L	MVQNR/L	MVUNR/L	MVVNN
Approachangle	91°	93°	105°	93°	117.5°	95°	72.5°
Page	191	191	192	192	193	193	194
Chamfering							
Back turning		●		●	●	●	
Turning	●	●	●	●	●	●	●
Copying		●	●	●	●	●	●
Facing	●	●	●				

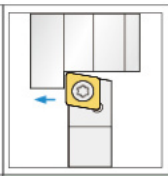
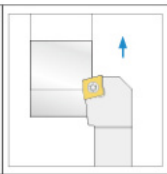
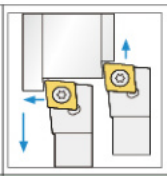
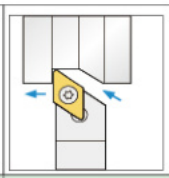
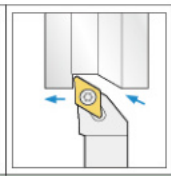
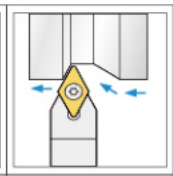
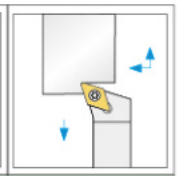
Cutting Shape							
Designation	MWLNR/L						
Approachangle	95°						
Page	194						
Chamfering							
Back turning	●						
Turning	●						
Copying							
Facing	●						

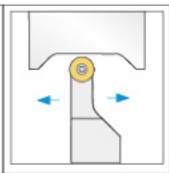
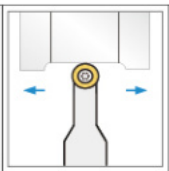
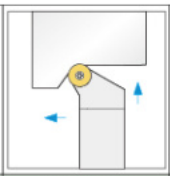
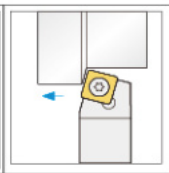
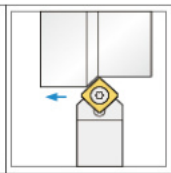
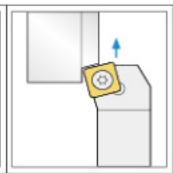
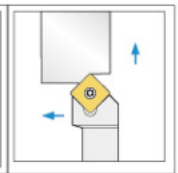
Index for Tool Holder

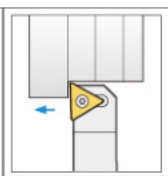
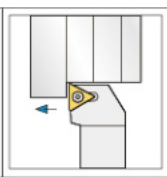
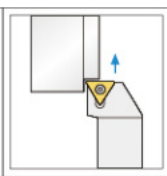
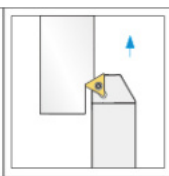
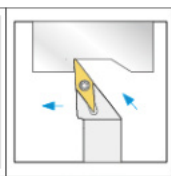
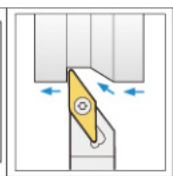
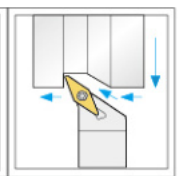
Cutting Shape							
Designation	WTJNR/L	WTENN	WTQNR/L	WWLNR/L			
Approach angle	93°	60°	105°	95°			
Page	195	195	196	196			
Chamfering		●					
Back turning	●		●	●			
Turning	●	●	●	●			
Copying	●	●	●				
Facing			●	●			

Cutting Shape							
Designation	PCKNR/L	PCLNR/L	PCBNR/L	PDJNR/L	PDNNR/L	PSBNR/L	PSDNN
Approach angle	75°	95°	75°	93°	62.5°	75°	45°
Page	197	197	198	198	199	199	200
Chamfering					●		●
Back turning		●		●			
Turning	●	●	●	●	●	●	●
Copying				●	●		
Facing	●	●					

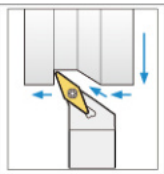
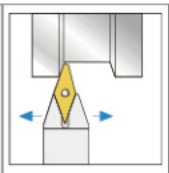
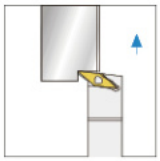
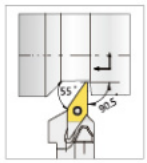
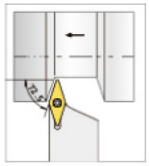
Cutting Shape							
Designation	PSKNR/L	PSSNR/L	PRDCN	PRGCR/L	PTFNR/L	PTG(J)NR/L	PWLNR/L
Approach angle	75°	45°	-	-	91°	90°	95°
Page	200	201	201	202	202	203	203
Chamfering		●					
Back turning							
Turning	●	●	●	●	●	●	●
Copying			●	●			
Facing	●				●		●

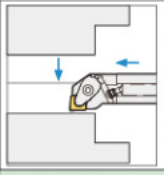
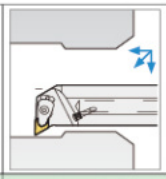
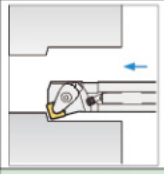
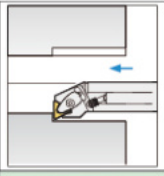
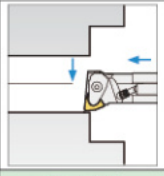
Cutting Shape							
Designation	SCACR/L	SCKCR/L	SCLCR/L	SDACR/L	SDJCR/L	SDNCN	SDQCR/L
Approachangle	90°	75°	95°	90°	93°	62.5°	107.5°
Page	204	204	205	205	206	206	207
Chamfering							
Back turning			●	●	●		●
Turning	●	●	●	●	●	●	●
Copying				●	●	●	●
Facing		●	●				●

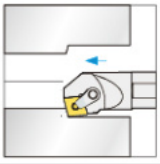
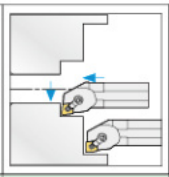
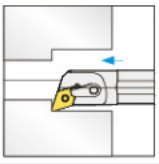
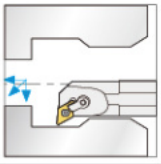
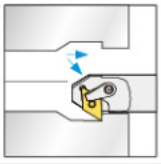
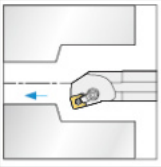
Cutting Shape							
Designation	SRACR/L	SRDCN	SRGCR/L	SSBCR/L	SSDCN	SSKCR/L	SSSCR/L
Approachangle	-	-	-	75°	45°	75°	45°
Page	207	208	208	209	209	210	210
Chamfering					●		●
Back turning							
Turning	●	●	●	●	●	●	●
Copying	●	●	●				
Facing						●	●

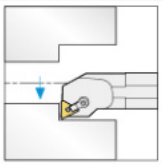
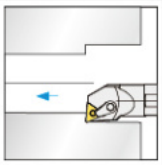
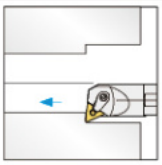
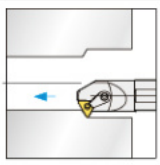
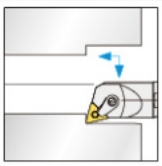
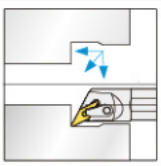
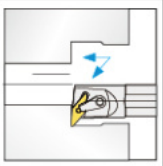
Cutting Shape							
Designation	STACR/L	STGCR/L	STFCR/L	STWCR/L	SVJBR/L SVJCR/L	SVABR/L SVACR/L	SVQBR/L
Approachangle	90°	91°	91°	60 °	93°	90°	117.5 °
Page	211	211	212	212	213	214	215
Chamfering				●			
Back turning					●	●	●
Turning	●	●	●	●	●	●	●
Copying					●	●	●
Facing			●	●			

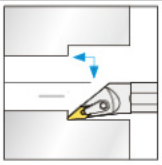
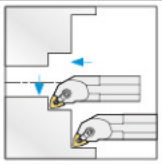
Index for Tool Holder

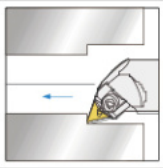
Cutting Shape							
Designation	SVHBR/L SVHCR/L	SVVBN SVVCN	SVUBR/L SVUCR/L	SVKCR	SVVCR/L		
Approachangle	107.5°	72.5°	95°	90.5°	92.5°		
Page	216	217	218	214	218		
Chamfering					●		
Back turning	●						
Turning	●	●	●	●	●		
Copying	●	●		●	●		
Facing			●	●			

Cutting Shape							
Designation	DCLNR/L	DDUNR/L	DSKNR/L	DTFNR/L	DWLNR/L		
Approachangle	95°	93°	75°	90°	95°		
Page	219	220	221	221	222		
Chamfering							
Back turning		●					
Turning	●	●	●	●	●		
Copying		●					
Facing	●				●		

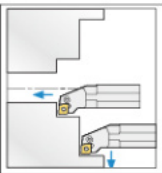
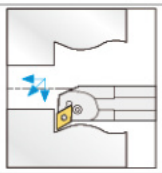
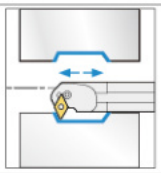
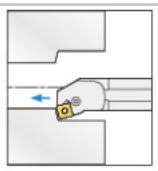
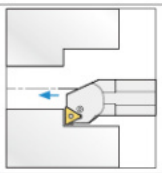
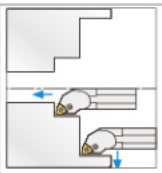
Cutting Shape							
Designation	MCKNR/L	MCLNR/L	MCWNR/L	MDQNR/L	MDUNR/L	MDZNR/L	MSKNR/L
Approachangle	75°	95°	50°	107.5°	95°	93°	75°
Page	223	224	223	224	225	225	226
Chamfering			●				
Back turning				●	●	●	
Turning	●	●	●	●	●	●	●
Copying				●	●	●	
Facing		●					

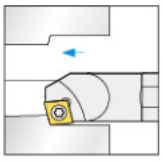
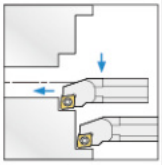
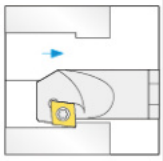
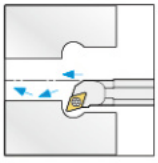
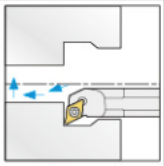
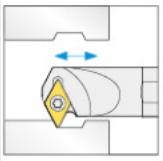
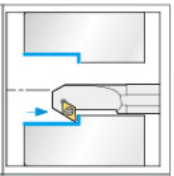
Cutting Shape							
Designation	MTFNR/L	MTUNR/L	MTUNR/L-R	MTWNR/L	MTQNR/L	MVQNR/L	MVUNR/L
Approach angle	91°	95°	95°	60°	105°	117.5°	95°
Page	226	227	227	228	228	229	229
Chamfering				●			
Back turning						●	●
Turning	●	●	●	●	●	●	●
Copying						●	●
Facing	●		●				

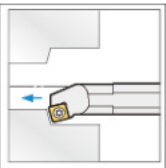
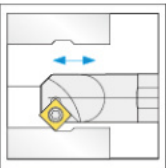
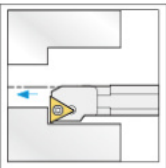
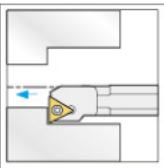
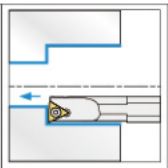
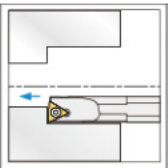
Cutting Shape							
Designation	MVXNR/L	MWLNR/L					
Approach angle	139°	95°					
Page	230	230					
Chamfering							
Back turning							
Turning	●	●					
Copying	●						
Facing		●					

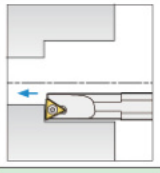
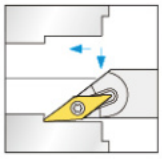
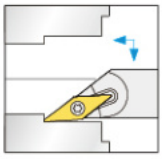
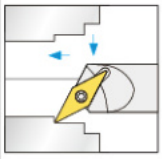
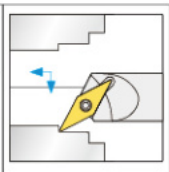
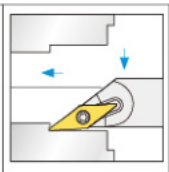
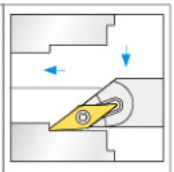
Cutting Shape							
Designation	WTQNR	WTUNR					
Approach angle	105°	95°					
Page	231	231					
Chamfering							
Back turning							
Turning	●	●					
Copying							
Facing							

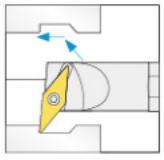
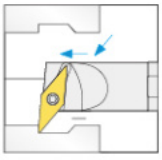
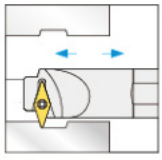
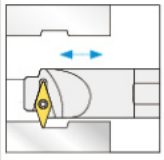
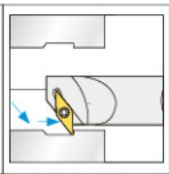
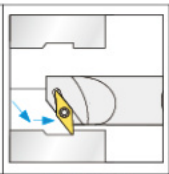
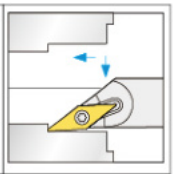
Index for Tool Holder

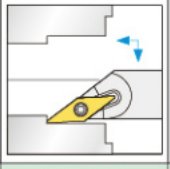
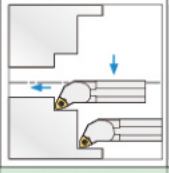
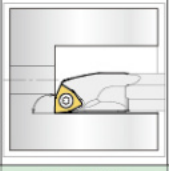
Cutting Shape							
Designation	PCLNR/L	PDUNR/L	PDSNR/L	PSKNR/L	PTFNR/L	PWLNR/L	
Approachangle	95°	93°	62.5°	75°	91°	95°	
Page	232	232	233	233	234	234	
Chamfering							
Back turning		●	●			●	
Turning	●	●	●	●	●	●	
Copying		●	●				
Facing	●			●		●	

Cutting Shape							
Designation	SCKCR/L	SCLCR/L	SCZCR/L	SDQCR/L	SDUCR/L	SDWCR/L	SDZCR/L
Approachangle	75°	95°	93°	107.5°	93°	62.5°	93°
Page	235	235-236	237	237	238	239	238
Chamfering						●	
Back turning			●	●	●	●	●
Turning	●	●	●	●	●	●	●
Copying				●	●	●	
Facing		●					

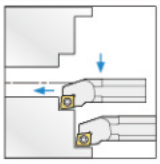
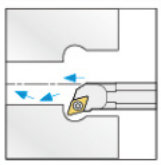
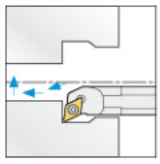
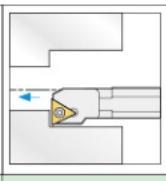
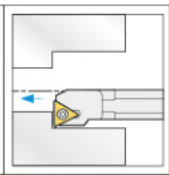
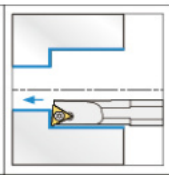
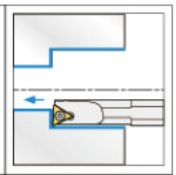
Cutting Shape							
Designation	SSKCR/L	SSSCR/L	STFCR/L	STFPR/L	STUCR/L	STUPR/L	STWCR/L
Approachangle	75°	45°	91°	91°	93°	93°	60°
Page	239	240	241	240	242	243	244
Chamfering							●
Back turning		●					●
Turning	●	●	●	●	●	●	
Copying		●					●
Facing							

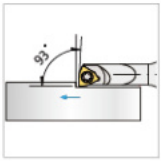
Cutting Shape							
Designation	STUBR/L	SVJBR/L	SVJCR/L	SVQBR/L	SVQCR/L	SVXBR/L	SVXCR/L
Approachangle	93°	93°	93°	117.5°	117.5°	96°	96°
Page	243	245	245	246	246	247	247
Chamfering							
Back turning				●	●		
Turning	●	●	●	●	●	●	●
Copying		●	●	●	●		
Facing						●	●

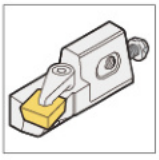
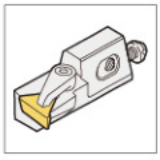
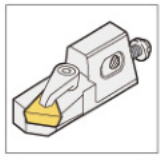
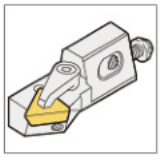
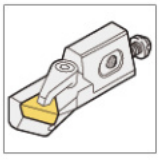
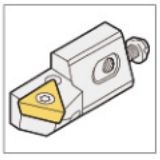
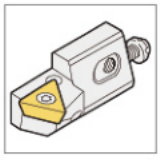
Cutting Shape							
Designation	SVUBR/L	SVUCR/L	SVWBR/L	SVWCR/L	SVZBR/L	SVZCR/L	SVJBR/L
Approachangle	93°	93°	72.5°	72.5°	93°	93°	93°
Page	248	248	249	249	250	250	251
Chamfering							
Back turning	●	●	●	●	●	●	
Turning	●	●	●	●	●	●	●
Copying	●	●			●	●	●
Facing							

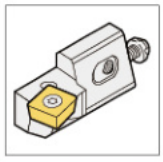
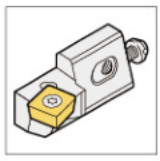
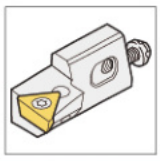
Cutting Shape							
Designation	SVJCR/L	SWLCR/L	SWUBR/L	SEXP			
Approachangle	93°	95°	93°	100°			
Page	251	251	252	252			
Chamfering							
Back turning		●					
Turning	●	●	●	●			
Copying	●						
Facing		●					

Index for Tool Holder

Cutting Shape							
Designation	SCLCR/L	SDQCR/L	SDUCR/L	STFPR/L	STFCR/L	STUPR/L	STUCR/L
Approach angle	95°	107.5°	93°	91°	91°	93°	93°
Page	253	254	254	255	255	256	256
Chamfering							
Back turning		●	●				
Turning	●	●	●	●	●	●	●
Copying		●					
Facing	●						

Cutting Shape							
Designation	SWUBR/L						
Approach angle	93°						
Page	257						
Chamfering							
Back turning							
Turning	●						
Copying							
Facing	●						

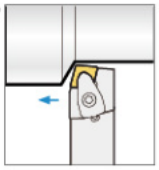
Cutting Shape							
Designation	CSKPR/L	CTFPR/L	CTSPR/L	CTTPR/L	CTWPR/L	STTCR/L	STWCR/L
Approachangle	75°	90°	45°	60°	60°	60°	60°
Page	261	261	262	262	263	264	264
Chamfering							
Back turning							
Turning	●	●	●	●	●	●	●
Copying							
Facing	●						

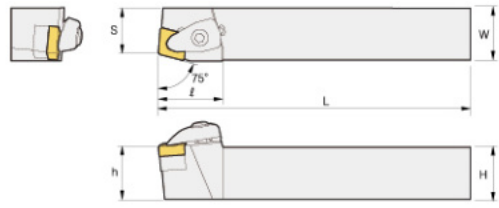
Cutting Shape							
Designation	SSKCR/L	SSSCR/L	STFCR/L				
Approachangle	75°	45°	90°				
Page	265	265	266				
Chamfering		●					
Back turning							
Turning	●	●	●				
Copying							
Facing	●						

Double Clamp System

DCBNR/L

75°



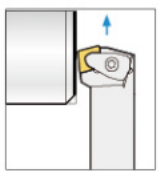


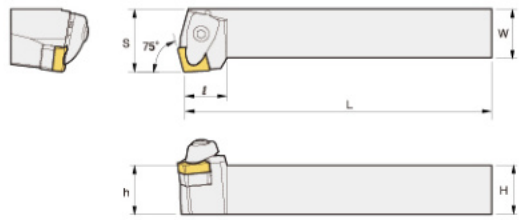
• R type insert

Designation		Stock		Size						Inserts	Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
		R	L	H	W	L	ℓ	h	S							
DCBNR/L	2020K12	●	●	20	20	125	31	20	17	CN□□1204□□	CVH54	CHX0518	MSC-432	DSP0611F	SPR0714	HW30L
	2525M12	●	●	25	25	150	31	25	22							
	3232P12			32	32	170	31	32	22							

DCKNR/L

75°



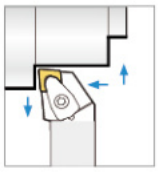


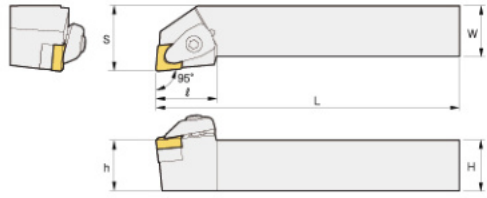
• R type insert

Designation		Stock		Size						Inserts	Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
		R	L	H	W	L	ℓ	h	S							
DCKNR/L	2020K12	●	●	20	20	125	21	20	25	CN□□1204□□	CVH54	CHX0518	MSC-432	DSP0611F	SPR0714	HW30L
	2525M12	●	●	25	25	150	21	25	32							
	3225P12			32	25	170	21	32	32							
	3232P12			32	32	170	21	32	32							

DCLNR/L

95°



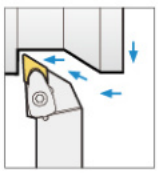


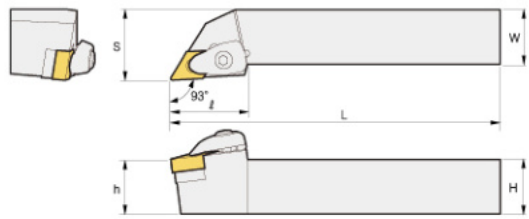
· R type insert

Designation		Stock R	Stock L	Size H	Size W	Size L	Size ℓ	Size h	Size S	Inserts	Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
DCLNR/L	2020K09	●	●	20	20	125	24.5	20	25	CN□□0903□□	CVH43	CHX0415	MSC-322	DSP0408F	SPR0510	HW25L
	2525M09	●	●	25	25	150	24.5	25	32							
	2020K12	●	●	20	20	125	30	20	25	CN□□1204□□	CVH54	CHX0518	MSC-432	DSP0611F	SPR0714	HW30L
	2525M12	●	●	25	25	150	30	25	32							
	3225P12	●	●	32	25	170	30	32	32							
	3232P12	●	●	32	32	170	30	32	40							

DDJNR/L

93°





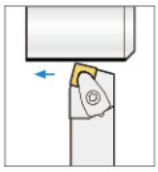
· R type insert

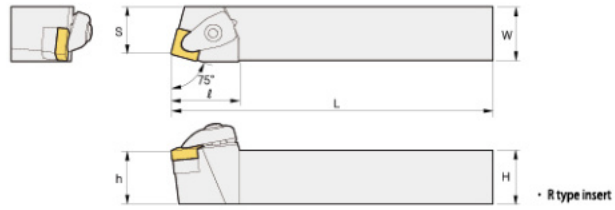
Designation		Stock R	Stock L	Size H	Size W	Size L	Size ℓ	Size h	Size S	Inserts	Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
DDJNR/L	2020K11	●	●	20	20	125	30	20	25	DN□□1104□□	CVH43	CHX0415	MSD-322	DSP0408F	SPR0510	HW25L
	2525M11	●	●	25	25	150	30	25	32							
	3225P11			32	25	170	30	32	32							
	3232P11			32	32	170	30	32	40							
	2020K15	●	●	20	20	125	35	20	25	DN□□1504□□ DN□□1506□□	CVH54	CHX0518	MSD-432 MSD-442	DSP0611F	SPR0714	HW30L
	2525M15	●	●	25	25	150	35	25	32							
	3225P15			32	25	170	35	32	32							
	3232P15	●	●	32	32	170	35	32	40							

Double Clamp System

DSBNR/L

75°

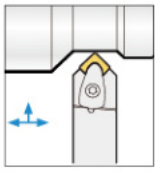


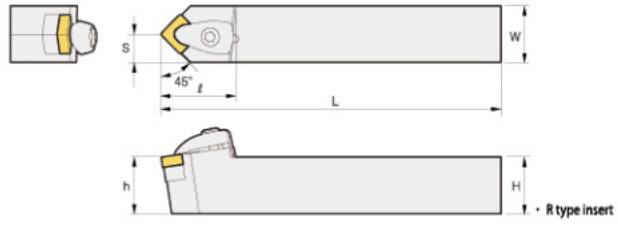


Designation		Stock		Size						Inserts	Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
		R	L	H	W	L	ℓ	h	S							
DSBNR/L	2020K12	●	●	20	20	125	32	20	17	SN□□1204□□	CVH54	CHX0518	MSS-432	DSP0611F	SPR0714	HW30L
	2525M12	●	●	25	25	150	32	25	22							
	3232P12			32	32	170	32	32	22							

DSDNN

45°

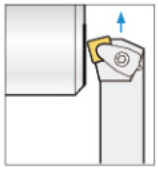


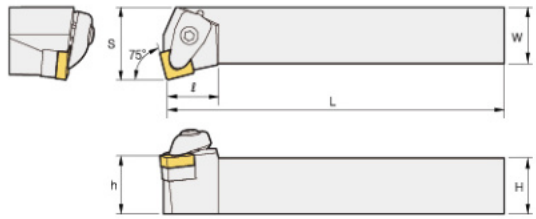


Designation		Stock		Size						Inserts	Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
		R	L	H	W	L	ℓ	h	S							
DSDNN	2020K09			20	20	125	26.5	20	10	SN□□0903□□	CVH43	CHX0415	MSS-322	DSP0408F	SPR0510	HW25L
	2020K12	●	●	20	20	125	33	20	10	SN□□1204□□	CVH54	CHX0518	MSS-432	DSP0611F	SPR0714	HW30L
	2525M12	●	●	25	25	150	33	25	12.5							
	3225P12			32	25	170	33	32	12.5							
	3232P12	●	●	32	32	170	33	32	16							

DSKNR/L

75°



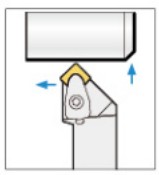


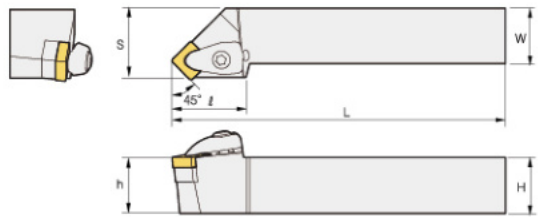
· R type insert

Designation		Stock		Size						Inserts	Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
		R	L	H	W	L	ℓ	h	S							
DSKNR/L	2020K09			20	20	125	20	20	25	SN□□0903□□	CVH43	CHX0415	MSS-322	DSP0408F	SPR0510	HW25L
	2020K12	●	●	20	20	125	23	20	25	SN□□1204□□	CVH54	CHX0518	MSS-432	DSP0611F	SPR0714	HW30L
	2525M12	●	●	25	25	150	23	25	32							
	3232P12	●	●	32	32	170	23	32	40							

DSSNR/L

45°





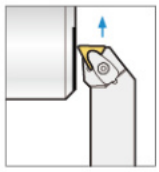
· R type insert

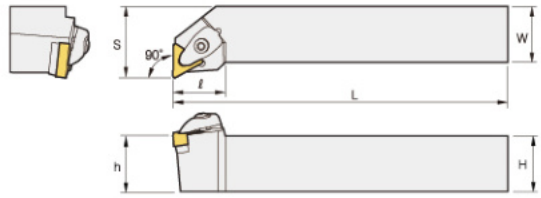
Designation		Stock		Size						Inserts	Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
		R	L	H	W	L	ℓ	h	S							
DSSNR/L	2020K09			20	20	125	28.5	20	25	SN□□0903□□	CVH43	CHX0415	MSS-322	DSP0408F	SPR0510	HW25L
	2020K12	●	●	20	20	125	35	20	25	SN□□1204□□	CVH54	CHX0518	MSS-432	DSP0611F	SPR0714	HW30L
	2525M12	●	●	25	25	150	35	25	32							
	3225P12			32	25	170	35	32	32							
	3232P12	●	●	32	32	170	35	32	40							

Double Clamp System

DTFNR/L

90°



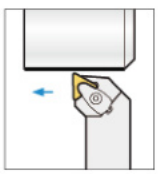


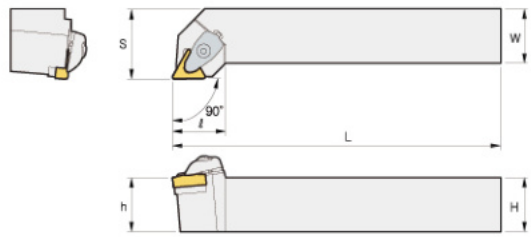
• R type insert

Designation		Stock R	Stock L	Size H	Size W	Size L	Size ℓ	Size h	Size S	Inserts	Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
DTFNR/L	2020K16	●	●	20	20	125	24.5	20	25	TN□□1604□□	CVH43	CHX0415	MST-322	DSP0408F	SPR0510	HW25L
	2525M16	●	●	25	25	150	24.5	25	32							
	3232P16	●	●	32	32	170	23.5	32	40							
	2525M22	●		25	25	150	33	25	32	TN□□2204□□	CVH54	CHX0518	MST-432	DSP0611F	SPR0714	HW30L
	3225P22			32	25	170	33	32	32							
	3232P22	●		32	32	170	33	32	40							

DTGNR/L

90°

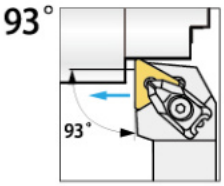


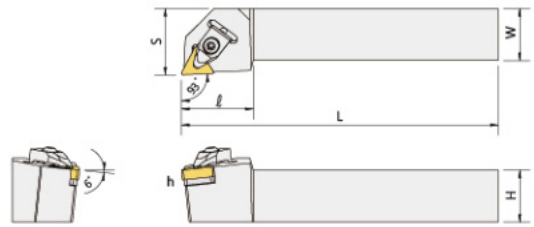


• R type insert

Designation		Stock R	Stock L	Size H	Size W	Size L	Size ℓ	Size h	Size S	Inserts	Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
DTGNR/L	2020K16	●	●	20	20	125	24.5	20	25	TN□□1604□□	CVH43	CHX0415	MST-322	DSP0408F	SPR0510	HW25L
	2525M16	●	●	25	25	150	24.5	25	32							
	3232P16	●	●	32	32	170	24.5	32	40							
	2525M22	●		25	25	150	32.6	25	32	TN□□2204□□	CVH54	CHX0518	MST-432	DSP0611F	SPR0714	HW30L
	3225P22			32	25	170	32.6	32	32							
	3232P22	●		32	32	170	32.6	32	40							

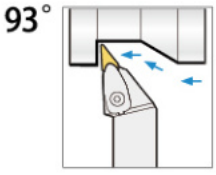
DTJNR/L

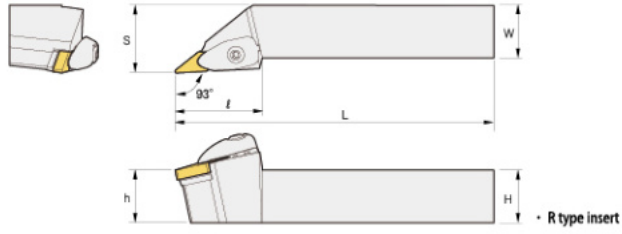




Designation		Stock		Size						Inserts	Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
		R	L	H	W	L	ℓ	h	S							
DTJNR/L	2020K16	●	●	20	20	125	24.5	20	25	TN□□1604□□	CVH43	CHX0415	MST-322	DSP0408F	SPR0510	HW25L
	2525M16	●	●	25	25	150	24.5	25	32							
	3232P16	●	●	32	32	170	24.5	32	40							
	2525M22	●		25	25	150	32.6	25	32	TN□□2204□□	CVH54	CHX0518	MST-432	DSP0611F	SPR0714	HW30L
	3225P22			32	25	170	32.6	32	32							
	3232P22	●		32	32	170	32.6	32	40							

DVJNR/L



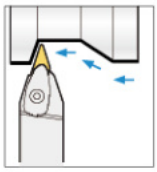


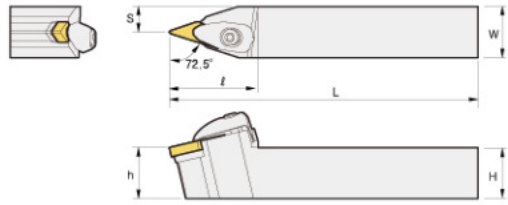
Designation		Stock		Size						Inserts	Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
		R	L	H	W	L	ℓ	h	S							
DVJNR/L	2020K16	●	●	20	20	125	41.5	20	25	VN□□1604□□	CVH63	CHX0518	MSV-322	DSP0408F	SPR0714	HW25L HW30L
	2525M16	●	●	25	25	150	41.5	25	32							
	3232P16	●	●	32	32	170	41.5	32	40							

Double Clamp System

DVVNN

72.5°



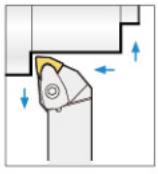


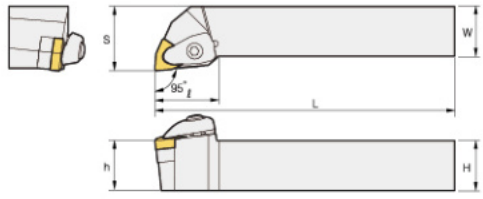
· R type insert

Designation		Stock		Size						Inserts	Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
		R	L	H	W	L	ℓ	h	S							
DVVNN	2020K16	●		20	20	125	40	20	10	VN□□1604□□	CVH63	CHX0518	MSV-322	DSP0408F	SPR0714	HW25L HW30L
	2525M16	●		25	25	150	40	25	12.5							
	3232P16	●		32	32	170	40	32	16							

DWLNR/L

95°

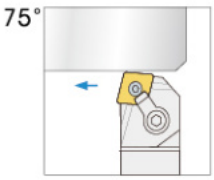


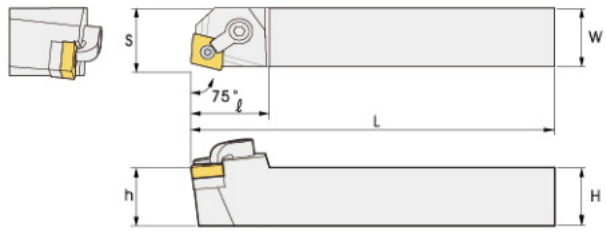


· R type insert

Designation		Stock		Size						Inserts	Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
		R	L	H	W	L	ℓ	h	S							
DWLNR/L	2020K06	●		20	20	125	26	20	25	WN□□0603□□	CVH43	CHX0415	MSW-322	DSP0408F	SPR0510	HW25L
	2525M06	●		25	25	150	26	25	32							
	2020K08	●	●	20	20	125	32	20	25	WN□□0804□□	CVH54	CHX0518	MSW-432	DSP0611F	SPR0714	HW30L
	2525M08	●	●	25	25	150	32	25	32							
	3225P08	●		32	25	170	32	32	32							
	3232P08	●	●	32	32	170	32	32	40							

MCBNR/L

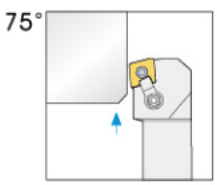


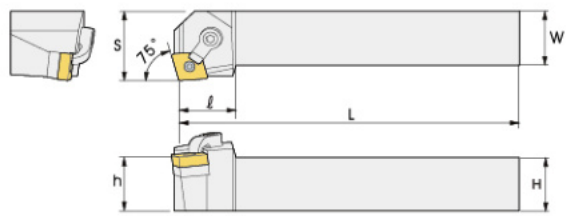


• R type insert

Designation	Stock		Size						Inserts	Shim	Pin	Clamp	screw	Wrench
	R	L	H	W	L	ℓ	h	S						
MCBNR/L 2020K12	●	●	20	20	125	32	20	20.7	CN□□1204□□	MSC-432	MLP406	MCP618	MCS625-3	HW25L HW30L
2525M12	●	●	25	25	150	32	25	25.2						
3232P12	●	●	32	32	170	32	32	30.8						
2525M16			25	25	150	36	25	22.0	CN□□1606□□	MSC-533	MLP508	MCP822	MCS830-4	HW30L HW40L
3232P16			32	32	170	40	32	31.9						
3232P19			32	32	170	40	32	32.7	CN□□1906□□	MSC-633	MLP610	MCP822	MCS830-4	HW40L

MCKNR/L





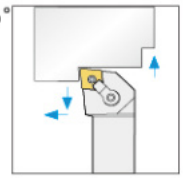
• R type insert

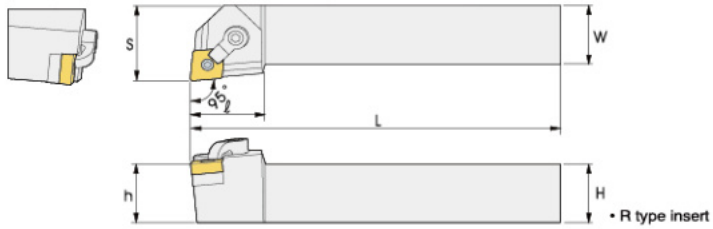
Designation	Stock		Size						Inserts	Shim	Pin	Clamp	screw	Wrench
	R	L	H	W	L	ℓ	h	S						
MCKNR/L 2020K12	●	●	20	20	125	28	20	25	CN□□1204□□	MSC-432	MLP406	MCP618	MCS625-3	HW25L HW30L
2525M12	●	●	25	25	150	28	25	32						
3232P12	●	●	32	32	170	35	32	40						
2525M16			25	25	150	32	25	32	CN□□1606□□	MSC-533	MLP508	MCP822	MCS830-4	HW30L HW40L
3232P16			32	32	170	35	32	40						
3232P19			32	32	170	38	32	40	CN□□1906□□	MSC-633	MLP610	MCP822	MCS830-4	HW40L

Multi Lock System

MCLNR/L

95°

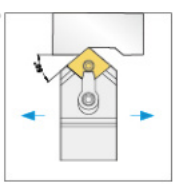


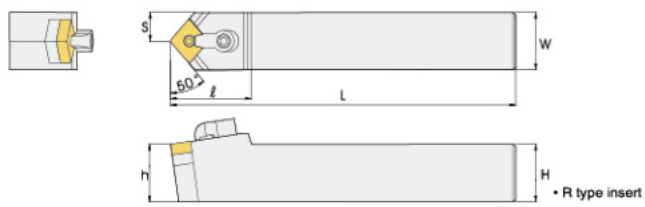


Designation		Stock R	Stock L	Size H	Size W	Size L	Size ℓ	Size h	Size S	Inserts	Shim	Pin	Clamp	screw	Wrench
MCLNR/L	1616H09			16	16	100	25	16	20	CN□□0903□□	MSC-322	MLP305	MCP618	MCS625-3	HW20L HW30L
	2020K09			20	20	125	25	20	20						
	2020K12	●	●	20	20	125	32	20	25	CN□□1204□□	MSC-432	MLP406	MCP618	MCS625-3	HW25L HW30L
	2525M12	●	●	25	25	150	32	25	32						
	3232P12	●	●	32	32	170	32	32	40						
	2525M16	●	●	25	25	150	34	25	32	CN□□1606□□	MSC-533	MLP508	MCP822	MCS830-4	HW30L HW40L
	3225P16			32	25	170	35	32	32						
	3232P16	●	●	32	32	170	34	32	40						
	3232P19			32	32	170	38	32	40	CN□□1906□□	MSC-633	MLP610	MCP822	MCS830-4	HW40L
	4040R19			40	40	200	38	40	50						
	4040S25			40	40	250	38	40	50	CN□□2507□□ CN□□2509□□	MSC-844 MSC-854	MLP812	MCP1032	MCS1035-6	HW40L HW50L

MCMNN

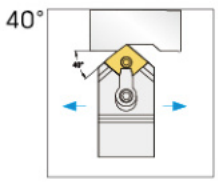
50°

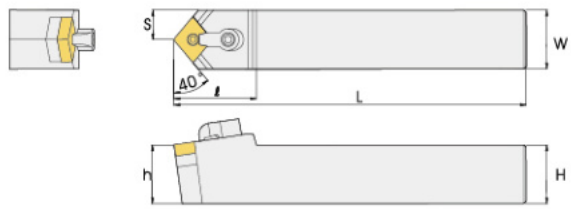




Designation		Stock R	Stock L	Size H	Size W	Size L	Size ℓ	Size h	Size S	Inserts	Shim	Pin	Clamp	screw	Wrench
MCMNN	2020K12	●		20	20	125	35	20	10	CN□□1204□□	MSC-432	MLP406	MCP618	MCS625-3	HW25L HW30L
	2525M12	●		25	25	150	35	25	12.5						
	3232P12			32	32	170	38	32	16						
	2525M16			25	25	150	43	25	12.5	CN□□1606□□	MSC-533	MLP508	MCP822	MCS830-4	HW30L HW40L
	3232P16			32	32	170	42	32	16						

MCMNN-100

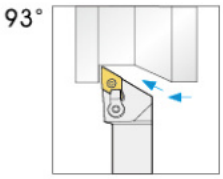


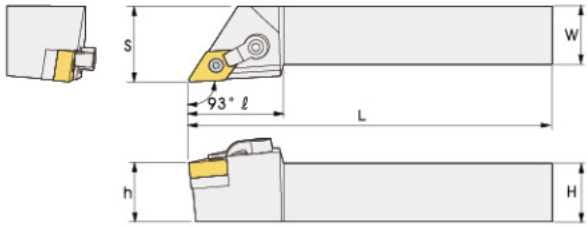


• R type insert

Designation	Stock		Size						Inserts	Shim	Pin	Clamp	screw	Wrench
	R	L	H	W	L	ℓ	h	S						
MCMNN 2020K12-100	●		20	20	125	35	20	10	CN□□1204□□	MSC-432	MLP406	MCP618	MCS625-3	HW25L HW30L
2525M12-100	●		25	25	150	35	25	12.5						
3232P12-100			32	32	170	35	32	16						
2525M16-100			25	25	150	43	25	12.5	CN□□1606□□	MSC-533	MLP508	MCP822	MCS830-4	HW30L HW40L
3232P16-100			32	32	170	45	32	16						

MDJNR/L

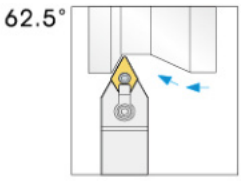


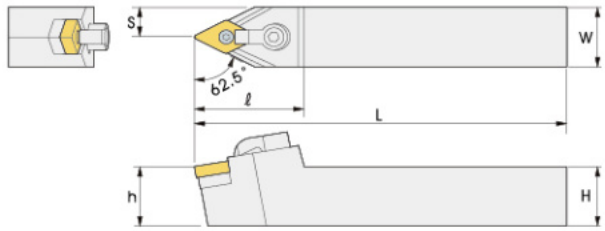


• R type insert

Designation	Stock		Size						Inserts	Shim	Pin	Clamp	screw	Wrench
	R	L	H	W	L	ℓ	h	S						
MDJNR/L 1616H11	●	●	16	16	100	34	16	20	CN□□1204□□	MSD-322	MLP305	MCP621	MCS625-3	HW20L HW30L
2020K11	●	●	20	20	125	34	20	25						
2525M11	●	●	25	25	150	34	25	32						
2020K15	●	●	20	20	125	38	20	25	DN□□1504□□ DN□□1506□□	MSD-432 MSD-442	MLP406L	MCP621	MCS625-3	HW25L HW35L
2525M15	●	●	25	25	150	38	25	32						
3232P15	●	●	32	32	170	40	32	40						
4040R15			40	40	200	40	40	48						

MDPNN

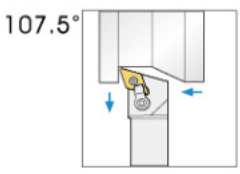


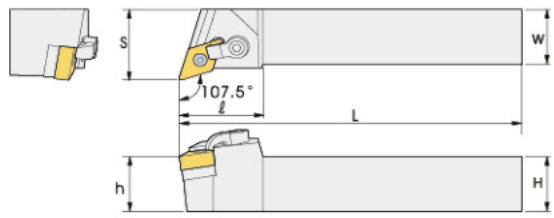


• R type insert

Designation		Stock R	Stock L	Size H	Size W	Size L	Size ℓ	Size h	Size S	Inserts	Shim	Pin	Clamp	screw	Wrench
MDPNN	1616H11	●		16	16	100	38	16	8	DN□□1104□□	MSD-322	MLP305	MCP621	MCS625-3	HW20L HW30L
	2020K11	●		20	20	125	38	20	10						
	2525M11	●		25	25	150	37	25	12.5						
	2020K15	●		20	20	125	43	20	10	DN□□1504□□ DN□□1506□□	MSD-432 MSD-442	MLP406L	MCP621	MCS625-3	HW25L HW35L
	2525M15	●		25	25	150	43	25	12.5						
	3232P15	●		32	32	170	44	32	16						

MDQNR/L

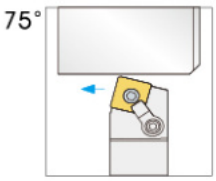


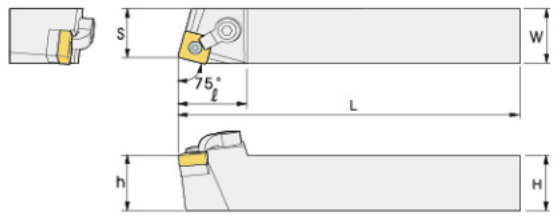


• R type insert

Designation		Stock R	Stock L	Size H	Size W	Size L	Size ℓ	Size h	Size S	Inserts	Shim	Pin	Clamp	screw	Wrench
MDQNR/L	1616H11	●	●	16	16	100	31	16	20	DN□□1104□□	MSD-322	MLP305	MCP618	MCS625-3	HW20L HW30L
	2020K11	●	●	20	20	125	31	20	25						
	2525M11	●	●	25	25	150	34	25	32						
	2020K15	●	●	20	20	125	37	20	25	DN□□1504□□ DN□□1506□□	MSD-432 MSD-442	MLP406L	MCP621	MCS625-3	HW25L HW35L
	2525M15	●	●	25	25	150	34	25	32						
	3232P15	●	●	32	32	170	37	32	40						

MSBNR/L

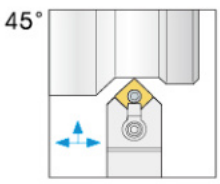


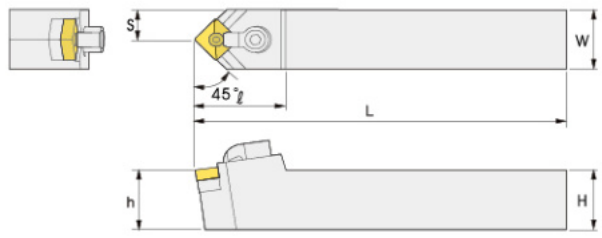


• R type insert

Designation		Stock		Size						Inserts	Shim	Pin	Clamp	screw	Wrench
		R	L	H	W	L	ℓ	h	S						
MSBNR/L	2020K12	●	●	22	22	125	32	20	17	SN□□1204□□	MSS-432	MLP406	MCP618	MCS625-3	HW25L HW30L
	2525M12	●	●	25	25	150	32	25	22						
	3232P12	●	●	32	32	170	35	32	29						
	2525M15			25	25	150	35	25	22	SN□□1506□□	MSS-533	MLP508	MCP822	MCS830-4	HW30L HW40L
	3232P15			32	32	170	35	32	27						
	3232P19			32	32	170	42	32	27	SN□□1906□□	MSS-633	MLP610	MCP822	MCS830-4	HW40L
	4040R19			40	40	200	42	40	35						

MSDNN





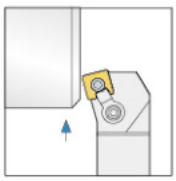
• R type insert

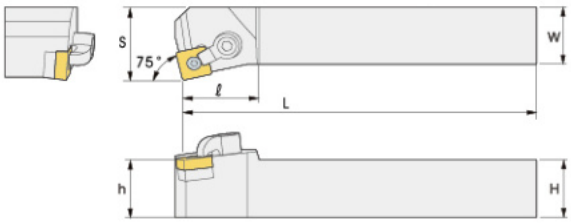
Designation		Stock		Size						Inserts	Shim	Pin	Clamp	screw	Wrench
		R	L	H	W	L	ℓ	h	S						
MSDNN	1616H12	●		16	16	100	35	16	8	SN□□1204□□	MSS-432	MLP406	MCP618	MCS625-3	HW25L HW30L
	2020K12	●		20	20	125	35	20	10						
	2525M12	●		25	25	150	35	25	12.5						
	3232P12	●		32	32	170	38	32	16						
	2525M15			25	25	150	43	25	12.5	SN□□1506□□	MSS-533	MLP508	MCP822	MCS830-4	HW30L HW40L
	3232P15			32	32	170	45	32	16						
	3232P19			32	32	170	47	32	16	SN□□1906□□	MSS-633	MLP610	MCP822	MCS830-4	HW40L
	4040R19			40	40	200	47	40	20						
	4040S25			40	40	250	60	40	20	SN□□2507□□ SN□□2509□□	MSS-844 MSS-854	MLP812	MCP1032	MCS1035-6	HW40L HW50L

Multi Lock System

MSKNR/L

75°



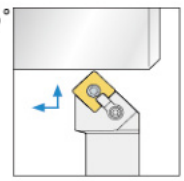


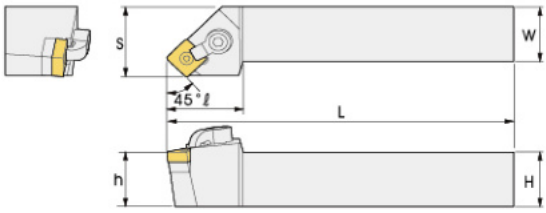
• R type insert

Designation	Stock R	Stock L	Size H	Size W	Size L	Size ℓ	Size h	Size S	Inserts	Shim	Pin	Clamp	screw	Wrench
MSKNR/L 2020K12	●	●	20	20	125	29	20	25	SN□□1204□□	MSS-432	MLP406	MCP618	MCS625-3	HW25L HW30L
2525M12	●	●	25	25	150	29	25	32						
3232P12	●	●	32	32	170	32	32	40						
2525M15	●	●	25	25	150	33	25	32	SN□□1506□□	MSS-533	MLP508	MCP822	MCS830-4	HW30L HW40L
3232P15			32	32	170	35	32	40						
3232P19			32	32	170	35	32	40	SN□□1906□□	MSS-633	MLP610	MCP822	MCS830-4	HW40L
4040R19			40	40	200	38	40	50						

MSSNR/L

45°



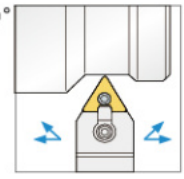


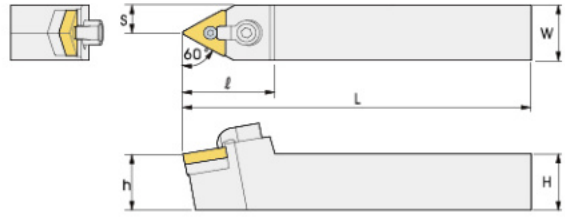
• R type insert

Designation	Stock R	Stock L	Size H	Size W	Size L	Size ℓ	Size h	Size S	Inserts	Shim	Pin	Clamp	screw	Wrench
MSSNR/L 1616H12	●	●	16	16	100	34	16	20	SN□□1204□□	MSS-432	MLP406	MCP618	MCS625-3	HW25L HW30L
2020K12	●	●	20	20	125	33	20	25						
2525M12	●	●	25	25	150	35	25	32						
3232P12	●	●	32	32	170	35	32	40						
2525M15	●	●	25	25	150	41	25	32	SN□□1506□□	MSS-533	MLP508	MCP822	MCS830-4	HW30L HW40L
3232P15			32	32	170	42	32	40						
3232P19			32	32	170	45	32	40	SN□□1906□□	MSS-633	MLP610	MCP822	MCS830-4	HW40L
4040R19			40	40	200	45	40	50						
4040S25			40	40	250	60	40	20	SN□□2507□□ SN□□2509□□	MSS-844 MSS-854	MLP812	MCP1032	MCS1035-6	HW40L HW50L

MTENN

60°

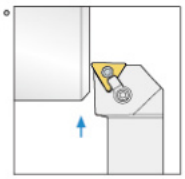


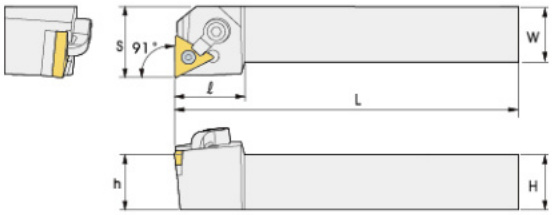


Designation		Stock R	Stock L	Size H	Size W	Size L	Size ℓ	Size h	Size S	Inserts	Shim	Pin	Clamp	screw	Wrench
MTENN	1616H16	●		16	16	100	34	16	8	TN□□1604□□	MST-322	MLP305	MCP618	MCS625-3	HW20L HW30L
	2020K16	●		20	20	125	34	20	10						
	2525M16	●		25	25	150	34	25	12.5						
	3232P16	●		32	32	170	34	32	16						
	4040R16			40	40	200	35	40	20						
	2525M22	●		25	25	150	38	25	12.5	TN□□2204□□	MST-432	MLP406	MCP819	MCS830-4	HW25L HW40L
	3232P22	●		32	32	170	40	32	16						
	4040R22			40	40	200	38	40	20						
	3232P27			32	32	170	40	32	16	TN□□2706□□	MST-533	MLP508	MCP822	MCS830-4	HW30L HW40L

MTFNR/L

91°





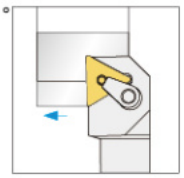
• R type insert

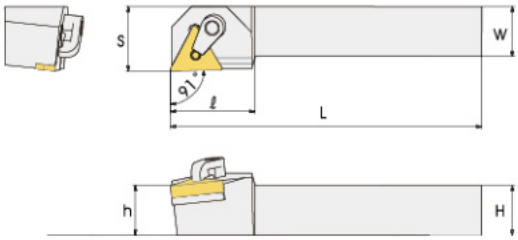
Designation		Stock R	Stock L	Size H	Size W	Size L	Size ℓ	Size h	Size S	Inserts	Shim	Pin	Clamp	screw	Wrench
MTFNR/L	1616H16	●	●	16	16	100	29	16	20	TN□□1604□□	MST-322	MLP305	MCP618	MCS625-3	HW20L HW30L
	2020K16	●	●	20	20	125	29	20	25						
	2525M16	●	●	25	25	150	30	25	32						
	3232P16			32	32	170	32	32	40						
	2525M22			25	25	150	36	25	32	TN□□2204□□	MST-432	MLP406	MCP819	MCS830-4	HW25L HW40L
	3232P22			32	32	170	36	32	40						

Multi Lock System

MTGNR/L

91°



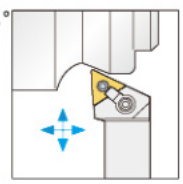


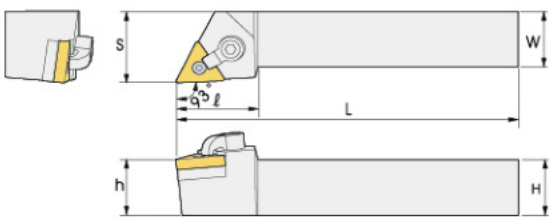
• R type insert

Designation		Stock R	Stock L	Size H	Size W	Size L	Size ℓ	Size h	Size S	Inserts	Shim	Pin	Clamp	screw	Wrench
MTGNR/L	1616H16	●	●	16	16	100	29	16	20	TN□□1604□□	MST-322	MLP305	MCP618	MCS625-3	HW20L HW30L
	2020K16	●	●	20	20	125	29	20	25						
	2525M16	●	●	25	25	150	30	25	32						
	3232P16			32	32	170	32	32	40						
	2525M22			25	25	150	32	25	32	TN□□2204□□	MST-432	MLP406	MCP819	MCS830-4	HW25L HW40L
	3232P22			32	32	170	32	32	40						

MTJNR/L

93°



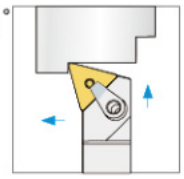


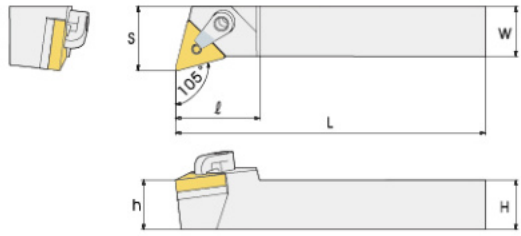
• R type insert

Designation		Stock R	Stock L	Size H	Size W	Size L	Size ℓ	Size h	Size S	Inserts	Shim	Pin	Clamp	screw	Wrench
MTJNR/L	1616H16	●	●	16	16	100	30	16	20	TN□□1604□□	MST-322	MLP305	MCP618	MCS625-3	HW20L HW30L
	2020K16	●	●	20	20	125	30	20	25						
	2525M16	●	●	25	25	150	32	25	32						
	3232P16	●		32	32	170	35	32	40						
	4040R16			40	40	200	28	40	50						
	2525M22	●		25	25	150	34	25	32	TN□□2204□□	MST-432	MLP406	MCP819	MCS830-4	HW25L HW40L
	3232P22	●		32	32	170	35	32	40						
	4040R22			40	40	200	38	40	50						
	3232P27			32	32	170	35	32	40	TN□□2706□□	MST-533	MLP508	MCP822	MCS830-4	HW30L HW40L
	4040S27			40	40	250	35	40	50						

MTQNR/L

105°



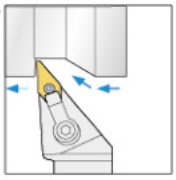


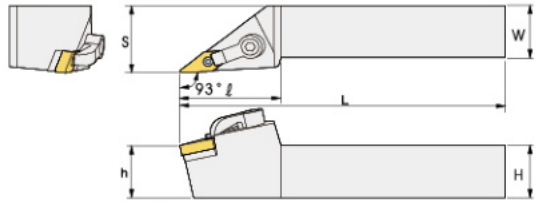
• R type insert

Designation	Stock		Size						Inserts	Shim	Pin	Clamp	screw	Wrench
	R	L	H	W	L	ℓ	h	S						
MTQNR/L 1616H16	●	●	16	16	100	30	16	20	TN□□1604□□	MST-322	MLP305	MCP618	MCS625-3	HW20L HW30L
2020K16	●	●	20	20	125	30	20	25						
2525M16	●	●	25	25	150	32	25	32						
3232P16	●		32	32	170	35	32	40						
2525M22	●	●	25	25	150	32	25	32	TN□□2204□□	MST-432	MLP406	MCP819	MCS830-4	HW25L HW40L
3232P22			32	32	170	35	32	40						

MVJNR/L

93°



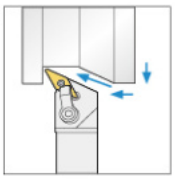


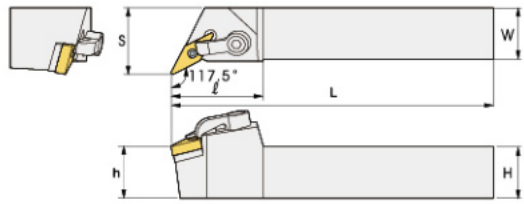
• R type insert

Designation	Stock		Size						Inserts	Shim	Pin	Clamp	screw	Wrench
	R	L	H	W	L	ℓ	h	S						
MVJNR/L 1616K16	●	●	16	16	125	44	16	20	VN□□1604□□	MSV-322	MLP305	MCP618	MCS625-3	HW20L HW30L
2020K16	●	●	20	20	125	44	20	25						
2525M16	●	●	25	25	150	44	25	32						
3232P16	●	●	32	32	170	46	32	40						

MVQNR/L

117.5°



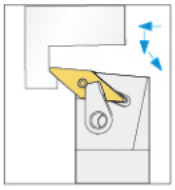


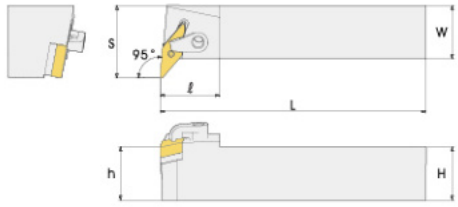
• R type insert

Designation		Stock		Size						Inserts	Shim	Pin	Clamp	screw	Wrench
		R	L	H	W	L	ℓ	h	S						
MVQNR/L	2020K16	●	●	20	20	125	40	20	25	VN□□1604□□	MSV-322	MLP305	MCP618	MCS625-3	HW20L HW30L
	2525M16	●	●	25	25	150	40	25	32						
	3232P16			32	32	170	40	32	40						

MVUNR/L

95°



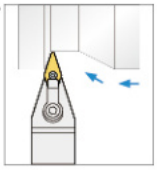


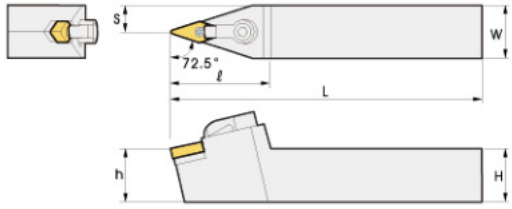
• R type insert

Designation		Stock		Size						Inserts	Shim	Pin	Clamp	screw	Wrench
		R	L	H	W	L	ℓ	h	S						
MVUNR/L	2020K16	●	●	20	20	125	30	20	29	VN□□1604□□	MSV-322	MLP305	MCP618	MCS625-3	HW20L HW30L
	2525M16	●	●	25	25	150	30	25	34						

MVVNN

72.5°

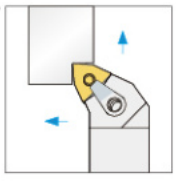


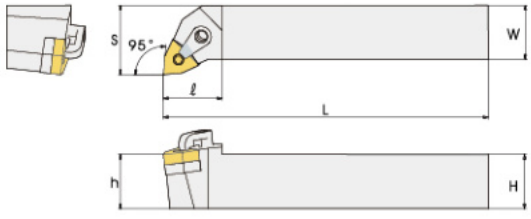


Designation		Stock		Size						Inserts	Shim	Pin	Clamp	screw	Wrench
		R	L	H	W	L	ℓ	h	S						
MVVNN	2020K16	●		20	20	125	25	20	10	VN□□1604□□	MST-322	MLP305	MCP618	MCS625-3	HW20L HW30L
	2525M16	●		25	25	150	32	25	12.5						
	3232P16	●		32	32	170	42	32	16						

MWLNR/L

95°





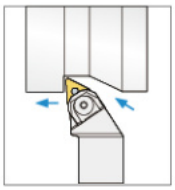
• R type insert

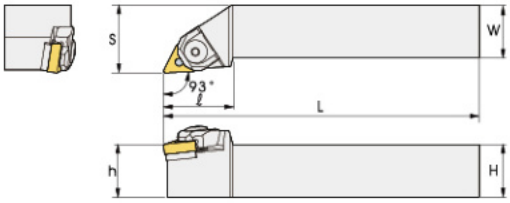
Designation		Stock		Size						Inserts	Shim	Pin	Clamp	screw	Wrench
		R	L	H	W	L	ℓ	h	S						
MWLNR/L	1616H06	●	●	16	16	100	27	16	20	WN□□0604□□	MSW-322	MLP305	MCP618	MCS625-3	HW20L HW30L
	2020K06	●	●	20	20	125	27	20	25						
	2525M06	●	●	25	25	150	27	25	32						
	1616H08	●	●	16	16	100	27	16	20	MW□□0804□□	MSW-432	MLP406	MCP819	MCS830-4	HW25L HW40L
	2020K08	●	●	20	20	125	28	20	25						
	2525M08	●	●	25	25	150	30	25	32						
	3232P08	●	●	32	32	170	30	32	40						
	4040R08	●	●	40	40	200	38	40	50						

Multi Lock System

WTJNR/L

93°



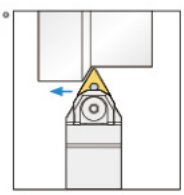


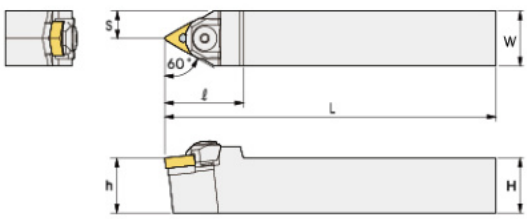
• R type insert

Designation		Stock R	Stock L	Size H	Size W	Size L	Size ℓ	Size h	Size S	Inserts	Wedge Clamp	Screw	Slopper ring	Shim	Pin	Wrench
WTJNR/L	1316H16	●	●	13	16	125	20	16	20	TN□□1604□□	WCP16TL	WCS626	ER04	MST-32M	MLP305-S	HW25L HW40L
	1616K16	●	●	16	16	125	32	16	21							
	2020K16	●	●	20	20	125	32	20	25							
	2525M16	●	●	25	25	150	35	25	32							
	3232P16	●	●	32	32	170	36	32	40							
	2525M22	●	●	25	25	150	36	25	32	TN□□2204□□	WCP22TL	WCS626	ER04	MST-432	MLP406-S	HW30L HW40L
	3232P22	●	●	32	32	170	36	32	40							

WTENN

60°

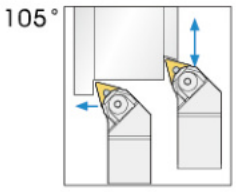


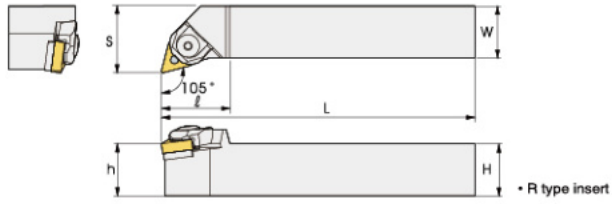


• R type insert

Designation		Stock R	Stock L	Size H	Size W	Size L	Size ℓ	Size h	Size S	Inserts	Wedge Clamp	Screw	Slopper ring	Shim	Pin	Wrench
WTENN	2020K16	●		20	20	125	34	20	10	TN□□1604□□	WCP16TL	WCS626	ER04	MST-32M	MLP305-S	HW25L HW40L
	2525M16	●		25	25	150	35	25	12.5							
	2525M22	●		25	25	150	38	25	12.5	TN□□2204□□	WCP22TL	WCS626	ER04	MST-432	MLP406-S	HW30L HW40L
	3232P22	●		32	32	170	38	32	16							

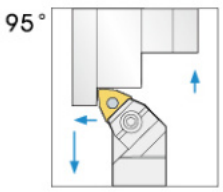
WTQNR/L

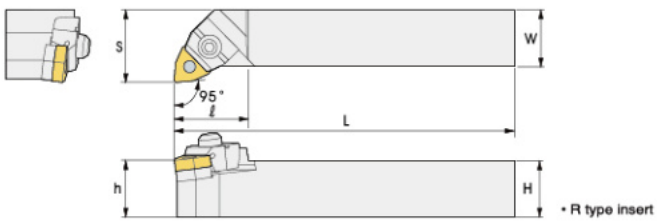




Designation	Stock		Size						Inserts	Wedge Clamp	Screw	Slopper ring	Shim	Pin	Wrench
	R	L	H	W	L	ℓ	h	S							
WTQNR/L 1616K16	●	●	16	16	125	34	16	20	TN□□1604□□	WCP16TL	WCS626	ER04	MST-32M	MLP305-S	HW25L HW40L
2020K16	●	●	20	20	125	32	20	26							
2525M16			25	25	150	32	25	32							
3232P16			32	32	170	35	32	40							
2525M22			25	25	150	36	25	38	TN□□2204□□	WCP22TL	WCS626	ER04	MST-432	MLP406-S	HW30L HW40L
3232P22			32	32	170	36	32	50							

WWLNR/L



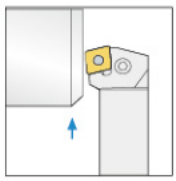


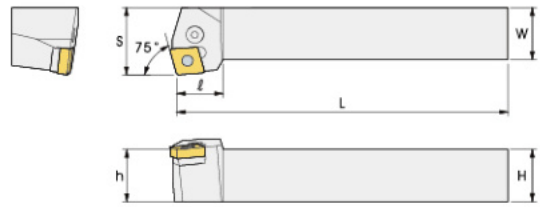
Designation	Stock		Size						Inserts	Wedge Clamp	Screw	Slopper ring	Shim	Pin	Wrench
	R	L	H	W	L	ℓ	h	S							
WWLNR/L 1616K08	●	●	16	16	125	32	16	22	WN□□0804□□	WCP08WL	WCS626	ER04	MSW-43M	MLP406-S	HW30L HW40L
2020K08	●	●	20	20	125	32	20	26							
2525M08	●	●	25	25	150	35	25	32							
3232P08	●	●	32	32	170	35	32	40							

Wedge Clamp System

PCKNR/L

75°



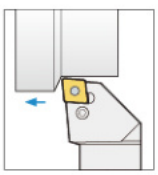


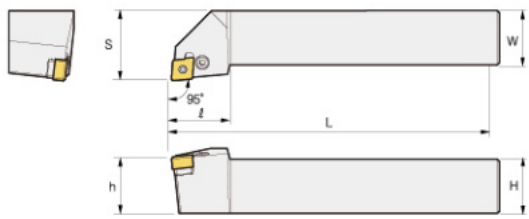
• R type insert

Designation		Stock R	Stock L	Size H	Size W	Size L	Size ℓ	Size h	Size S	Inserts	Shim	Lever	Screw	Shim pin	Wrench
PCKNR/L	1616H12			16	16	100	27	16	20	CN□□1204□□	SC42	LV4	VHX0821	SP4	HW30L
	2020K12	●		20	20	125	27	20	25						
	2525M12	●		25	25	150	30	25	32						
	2525M16			25	25	150	33	25	32	CN□□1606□□	SC53	LV5	VHX0825	SP5	HW30L
	3232P16			32	32	170	33	32	40						
	3232P19			32	32	170	38	32	32	CN□□1906□□	SC63N	LV6	VHX1027N	SP6N	HW40L

PCLNR/L

95°



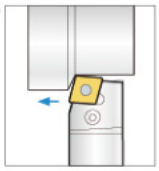


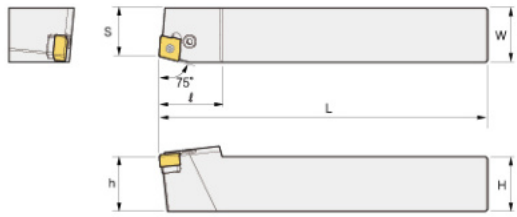
• R type insert

Designation		Stock R	Stock L	Size H	Size W	Size L	Size ℓ	Size h	Size S	Inserts	Shim	Lever	Screw	Shim pin	Wrench
PCLNR/L	1616H09			16	16	100	22	16	20	CN□□0903□□	SC32	LV3	VHX0617	SP3	HW25L
	2020K09			20	20	125	22	20	25						
	2525M09			25	25	150	22	25	32						
	1616H12	●	●	16	16	100	28	16	20	CN□□1204□□	SC42	LV4	VHX0821	SP4	HW30L
	2020K12	●	●	20	20	125	28	20	25						
	2525M12	●	●	25	25	150	28	25	32						
	3232P12	●	●	32	32	170	30	32	40						
	2525M16	●		25	25	150	34	25	32	CN□□1606□□	SC53	LV5	VHX0825	SP5	HW30L
	3232P16	●		32	32	170	34	32	40						
	3232P19	●		32	32	170	38	32	40	CN□□1906□□	SC63N	LV6	VHX1027N	SP6N	HW40L
	4040S19			40	40	250	38	40	50						
	4040S25			40	40	250	47	40	50	CN□□2507□□ CN□□2509□□	SC84N	LV8N	VHX1236N	SP8N	HW50L
	5050T25			50	50	300	47	50	60						

PCBNR/L

75°



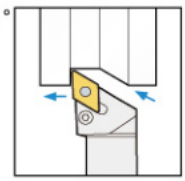


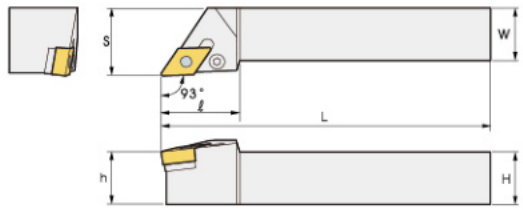
• R type insert

Designation	Stock R	Stock L	Size H	Size W	Size L	Size ℓ	Size h	Size S	Inserts	Shim	Lever	Screw	Shim pin	Wrench
PCBNR/L 2020K12	●	●	20	20	125	30	20	17	CN□□1204□□	SC42	LV4	VHX0821	SP4	HW30L
2525M12	●	●	25	25	150	26	25	22						
3232P12	●	●	32	32	170	27	32	29						
2525M16			25	25	150	32	25	22	CN□□1606□□	SC53	LV5	VHX0825	SP5	HW30L
3232P16			32	32	170	33	32	27						
3232P19			32	32	170	38	32	27	CN□□1906□□	SC63N	LV6	VHX1027N	SP6N	HW40L
4040S19			40	40	250	38	40	35						
4040S25			40	40	250	50	40	37	CN□□2507□□ CN□□2509□□	SC84N	LV8N	VHX1236N	SP8N	HW50L
5050T25			50	50	300	50	50	43						

PDJNR/L

93°



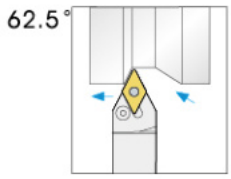


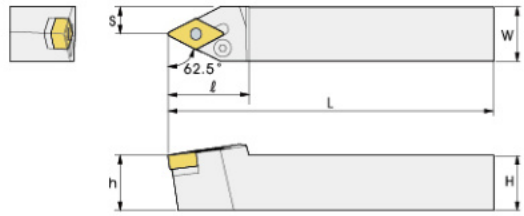
• R type insert

Designation	Stock R	Stock L	Size H	Size W	Size L	Size ℓ	Size h	Size S	Inserts	Shim	Lever	Screw	Shim pin	Wrench
PDJNR/L 1616H11			16	16	100	26	16	20	DN□□1104□□	SD17	LV3	VHX0617	SP3	HW25L
2020K11			20	20	125	26	20	25						
2525M11			25	25	150	26	25	32						
2020K1504	●	●	20	20	125	36	20	25	DN□□1504□□	SD42	LV4	VHX0821	SP4	HW30L
2525M1504	●	●	25	25	150	36	25	32						
3232P1504			32	32	170	36	32	40						
2020K1506			20	20	125	36	20	25	DN□□1506□□	SD42	LV4B	VHX0821	SP4	HW30L
2525M1506	●	●	25	25	150	36	25	32						
3232P1506	●	●	32	32	170	36	32	40						

Lever Lock System

PDNNR/L

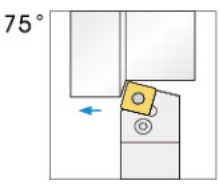


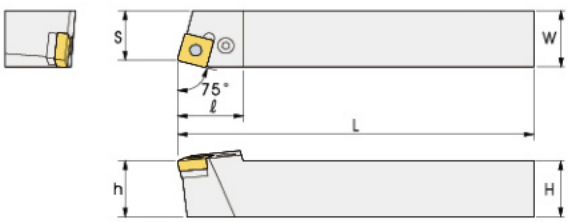


• R type insert

Designation	Stock		Size						Inserts	Shim	Lever	Screw	Shim pin	Wrench
	R	L	H	W	L	ℓ	h	S						
PDNNR/L 2020K1504			20	20	125	37	20	10	DN□□1504□□	SD42	LV4	VHX0821	SP4	HW30L
2525M1504	●		25	25	150	37	25	12.5						
3232P1504			32	32	170	37	32	16						
2020K1506			20	20	125	37	20	10	DN□□1506□□	SD42	LV4B	VHX0821	SP4	HW30L
2525M1506	●		25	25	150	37	25	12.5						
3232P1506			32	32	170	37	32	16						

PSBNR/L

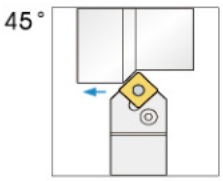


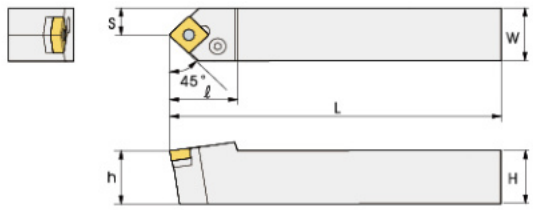


• R type insert

Designation	Stock		Size						Inserts	Shim	Lever	Screw	Shim pin	Wrench
	R	L	H	W	L	ℓ	h	S						
PSBNR/L 1616H09			16	16	100	21	16	13	SN□□0903□□	SS32	LV3	VHX0617	SP3	HW25L
2020K09			20	20	125	23	20	17						
2020K12	●		20	20	125	30	20	17	SN□□1204□□	SS42	LV4	VHX0821	SP4	HW30L
2525M12	●		25	25	150	30	25	22						
3232P12	●		32	32	170	42	32	27						
2525M15	●		25	25	150	35	25	22	SN□□1506□□	SS53	LV5	VHX0825	SP5	HW30L
3232P15	●		32	32	170	35	32	27						
3232P19	●		32	32	170	40	32	27	SN□□1906□□	SS63N	LV6	VHX1027	SP6	HW40L
4040S19			40	40	250	40	40	35						
4040S25			40	40	250	50	40	35	SN□□2507□□	SS84N	LV8N	VHX1236N	SP8N	HW50L
5050T25			50	50	300	50	50	43	SN□□2509□□					

PSDNN

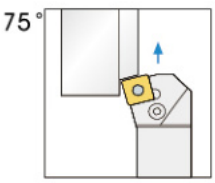


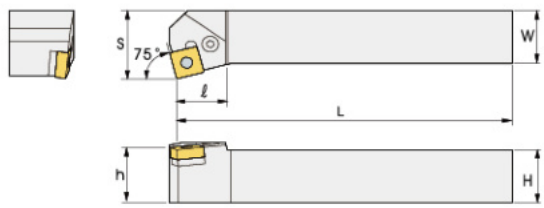


• R type insert

Designation		Stock R	Stock L	Size H	Size W	Size L	Size ℓ	Size h	Size S	Inserts	Shim	Lever	Screw	Shim pin	Wrench
PSDNN	2020K12	●		20	20	125	32	20	10	SN□□1204□□	SS42	LV4	VHX0821	SP4	HW30L
	2525M12	●		25	25	150	32	25	12.5						
	3232P12	●		32	32	170	35	32	16						
	2525M15	●		25	25	150	40	25	12.5	SN□□1506□□	SS53	LV5	VHX0825	SP5	HW30L
	3232P15	●		32	32	170	40	32	16						
	3232P19			32	32	170	40	32	16	SN□□1906□□	SS63N	LV6	VHX1027	SP6	HW40L
	4040S19			40	40	250	40	40	20						
	4040S25			40	40	250	50	40	20	SN□□2507□□	SS84N	LV8N	VHX1236N	SP8N	HW50L
	5050T25			50	50	300	50	50	25	SN□□2509□□					

PSKNR/L



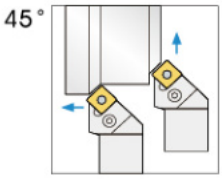


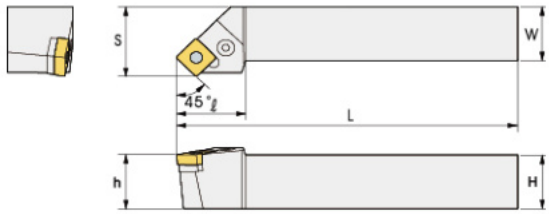
• R type insert

Designation		Stock R	Stock L	Size H	Size W	Size L	Size ℓ	Size h	Size S	Inserts	Shim	Lever	Screw	Shim pin	Wrench
PSKNR/L	1616H09			16	16	100	17	16	20	SN□□0903□□	SS32	LV3	VHX0617	SP3	HW25L
	2020K09			20	20	125	20	20	25						
	2020K12	●	●	20	20	125	29	20	25	SN□□1204□□	SS42	LV4	VHX0821	SP4	HW30L
	2525M12	●	●	25	25	150	29	25	32						
	3232P12	●	●	32	32	170	29	32	40						
	2525M15	●	●	25	25	150	28	25	32	SN□□1506□□	SS53	LV5	VHX0825	SP5	HW30L
	3232P15	●	●	32	32	170	28	32	40						
	3232P19	●		32	32	170	41.5	32	40	SN□□1906□□	SS63N	LV6	VHX1027	SP6	HW40L
	4040S19			40	40	250	41.5	40	50						
	4040S25			40	40	250	46	40	50	SN□□2507□□	SS84N	LV8N	VHX1236N	SP8N	HW50L
	5050T25			50	50	300	37.5	50	60	SN□□2509□□					

Lever Lock System

PSSNR/L

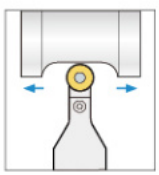


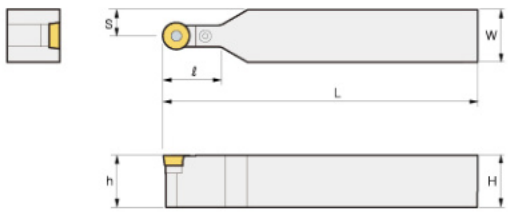


• R type insert

Designation	Stock		Size						Inserts	Shim	Lever	Screw	Shim pin	Wrench
	R	L	H	W	L	ℓ	h	S						
PSSNR/L 1616H09			16	16	100	25	16	20	SN□□0903□□	SS32	LV3	VHX0617	SP3	HW25L
2020K09			20	20	125	30	20	25						
2020K12	●	●	20	20	125	30	20	25	SN□□1204□□	SS42	LV4	VHX0821	SP4	HW30L
2525M12	●	●	25	25	150	36	25	32						
3232P12	●	●	32	32	170	40	32	40						
2525M15	●	●	25	25	150	36	25	32	SN□□1506□□	SS53	LV5	VHX0825	SP5	HW30L
3232P15	●	●	32	32	170	45	32	40						
3232P19	●		40	40	170	41.5	32	40	SN□□1906□□	SS63N	LV6	VHX1027	SP6	HW40L
4040S19			40	40	250	41.5	40	50						
4040S25			40	40	250	48	40	50	SN□□2507□□	SS84N	LV8N	VHX1236N	SP8N	HW50L
5050T25			50	50	300	37.5	50	60	SN□□2509□□					

PRDCN

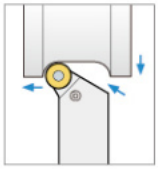


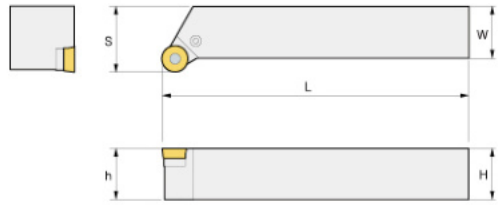


• R type insert

Designation	Stock		Size						Inserts	Shim	Lever	Screw	Shim pin	Wrench
	R	L	H	W	L	ℓ	h	S						
PRDCN 2020K12	●		20	20	125	25	20	10	RC□□1204□□	SR12	LR12	VHX0617	SP3	HW25L
2525M12	●		25	25	150	25	25	12.5						
2525M16	●		25	25	150	35	25	10	RC□□1606□□	SR16	LR16	VHX0621	SP4	HW25L
3232P16	●		32	32	170	32	32	16						
3232P20	●		32	32	170	40	32	16	RC□□2006□□	SR20	LR20	VHX0830	SP20	HW30L
4040T20			40	40	300	45	40	20						
3232P25			32	32	170	45	32	16	RC□□2507□□	SR25	LR25	VHX1030	SP6N	HW40L
4040T25			40	40	300	50	40	20						

PRGCR/L

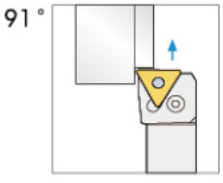


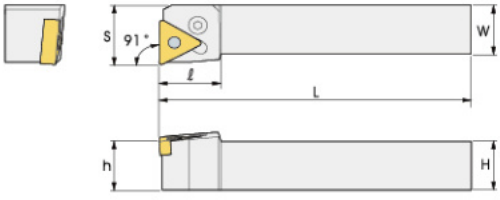


• R type insert

Designation	Stock		Size					Inserts	Shim	Lever	Screw	Shim pin	Wrench
	R	L	H	W	L	h	S						
PRGCR/L 2020K12	●		20	20	125	20	25	RC□□1204□□	SR12	LR12	VHX0617	SP3	HW25L
2525M12	●		25	25	150	25	32						
2525M16	●		25	25	150	25	25	RC□□1606□□	SR16	LR16	VHX0621	SP4	HW25L
3232P16	●		32	32	170	32	42						
3232P20	●		32	32	170	32	40	RC□□2006□□	SR20	LR20	VHX0830	SP20	HW30L
4040T20			40	40	300	40	50						
3232P25			32	32	170	32	45	RC□□2507□□	SR25	LR25	VHX1030	SP6N	HW40L
4040T25			40	40	300	40	56						

PTFNR/L





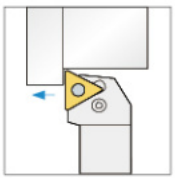
• R type insert

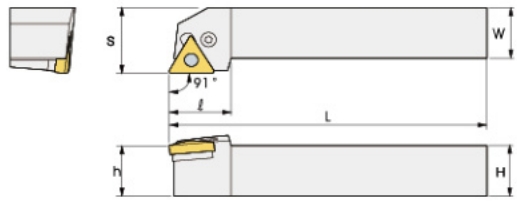
Designation	Stock		Size						Inserts	Shim	Lever	Screw	Shim pin	Wrench
	R	L	H	W	L	ℓ	h	S						
PTFNR/L 1616H16	●	●	16	16	100	20	16	20	TN□□1604□□	ST317	LV3	VHX0617	SP3	HW25L
2020K16	●	●	20	20	125	26	20	25						
2525M16	●	●	25	25	150	26	25	32						
2525M22			25	25	150	25	25	32	TN□□2204□□	ST42	LV4	VHX0821	SP4	HW30L
3232P22			32	32	170	30	32	40						
3232P27			32	32	170	35	32	40	TN□□2706□□	ST53	LV5	VHX0825	SP5	HW30L
4040S27			40	40	250	34	40	50						

Lever Lock System

PTGNR/L

91°



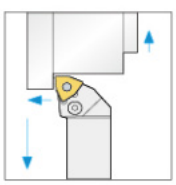


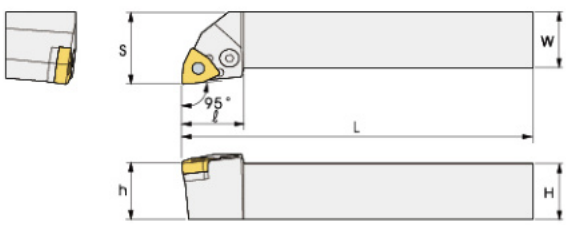
• R type insert

Designation	Stock		Size						Inserts	Shim	Lever	Screw	Shim pin	Wrench
	R	L	H	W	L	ℓ	h	S						
PTGNR/L 1616H11			16	16	100	18	16	20	TN□□1103□□	-	LV2	VHX0509B	-	HW20L
2020K11			20	20	125	19	20	25						
2525M11			25	25	100	20	25	32						
1616H16	●	●	16	16	100	26	16	20	TN□□1604□□	ST317	LV3	VHX0617	SP3	HW25L
2020K16	●	●	20	20	125	26	20	25						
2525M16	●	●	25	25	150	26	25	32						
3232P16			32	32	170	20	32	40						
2525M22			25	25	150	28	25	32	TN□□2204□□	ST42	LV4	VHX0821	SP4	HW30L
3232P22			32	32	170	30	32	40						
3232P27			32	32	170	33	32	40	TN□□2706□□	ST53	LV5	VHX0825	SP5	HW30L
4040S27			40	40	250	33	40	50						

PWLNR/L

95°

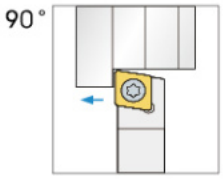


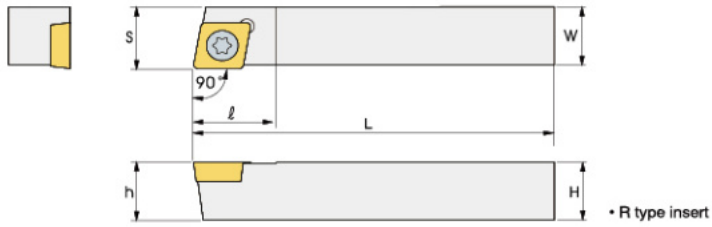


• R type insert

Designation	Stock		Size						Inserts	Shim	Lever	Screw	Shim pin	Wrench
	R	L	H	W	L	ℓ	h	S						
PWLNR/L 1616H06	●	●	16	16	100	20	16	20	WN□□0604□□	SW317	LV3	VHX0617	SP3	HW25L
2020K06	●	●	20	20	125	26	20	25						
2525M06	●	●	25	25	150	28	25	32						
1616H08	●	●	16	16	100	26	16	20	WN□□0804□□	SW42	LV4	VHX0821	SP4	HW30L
2020K08	●	●	20	20	125	28	20	25						
2525M08	●	●	25	25	150	27	25	32						
3232P08	●	●	32	32	170	26	32	37						

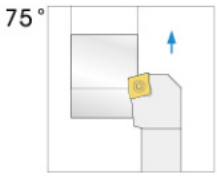
SCACR/L

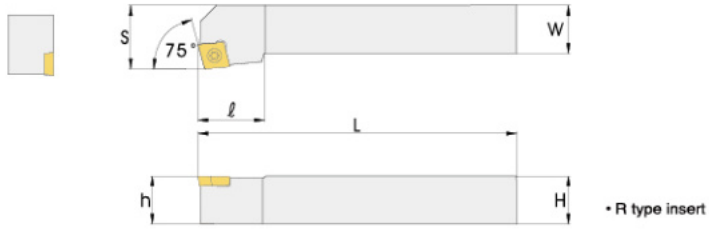




Designation	Stock		Size						Inserts	Screw	Wrench
	R	L	H	W	L	ℓ	h	S			
SCACR/L 0808F06	●		8	8	80	10	8	8	CC□□0602□□	M2.5X6	T-8
1010H06	●		10	10	100	10	10	10			
1212H06	●		12	12	100	13	12	12			
1212H09	●		12	12	100	13	12	12	CC□□09T3□□	M3.5X9	T-15

SCKCR/L



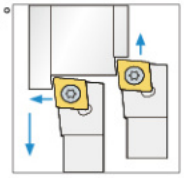


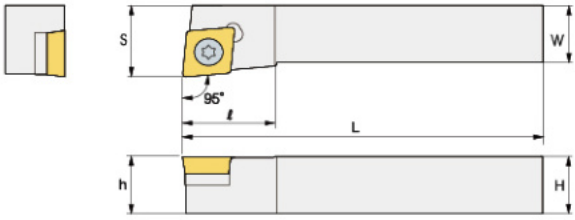
Designation	Stock		Size						Inserts	Screw	Wrench
	R	L	H	W	L	ℓ	h	S			
SCKCR/L 2020K09	●		20	20	125	23	20	25	CC□□09T3□□	M3.5X9	T-15
2525M09	●		25	25	150	23	25	32			
2020K12	●		20	20	125	28	20	25	CC□□1204□□	M5.0X12	T-20
2525M12	●		25	25	150	28	25	32			

Screw On System

SCLCR/L

95°



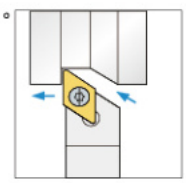


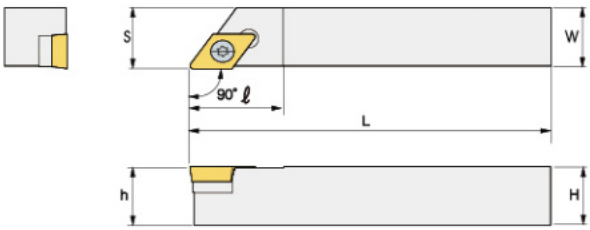
• R type insert

Designation	Stock		Size						Inserts	Screw	Wrench
	R	L	H	W	L	ℓ	h	S			
SCLCR/L 0808D06	●	●	08	08	60	10	08	10	CC□□0602□□	M2.5X6.5	T-8
1010F06	●	●	10	10	80	12	10	12			
1212F09	●	●	12	12	80	16	12	16	CC□□09T3□□	M3.5X9	T-15
1616H09	●	●	16	16	100	16	16	20			
2020K09	●	●	20	20	125	16	20	25			
2525M09	●	●	25	25	150	16	25	32			
2020K12	●	●	20	20	125	20	20	25	CC□□1204□□	M5.0X12	T-20
2525M12	●	●	25	25	150	20	25	32			
3232P12	●	●	32	32	170	20	32	40			

SDACR/L

90°



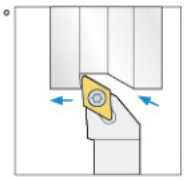


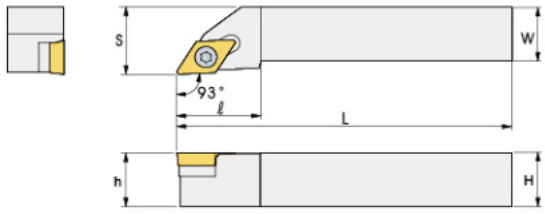
• R type insert

Designation	Stock		Size						Inserts	Screw	Wrench
	R	L	H	W	L	ℓ	h	S			
SDACR/L 0808F07	●		08	08	80	15	8	8	DC□□0602□□	M2.5X8	T-8
1010F07	●		10	10	80	15	10	10			
1212F07	●		12	12	80	15	12	12			
1212H11	●		12	12	100	22	12	12	DC□□11T3□□	M3.5X9	T-15
1616H11	●	●	16	16	100	22	16	16			
2020K11	●		20	20	125	22	20	20			
2525M11	●		25	25	150	22	25	25			

SDJCR/L

93°



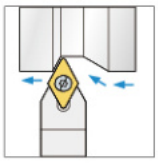


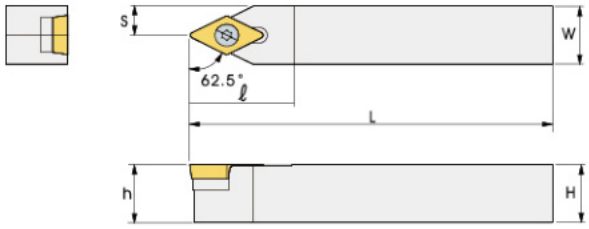
• R type insert

Designation		Stock R	Stock L	Size H	Size W	Size L	Size ℓ	Size h	Size S	Inserts	Screw	Shim	Shim Screw	Wrench
SDJCR/L	1010F07	●		10	10	80	14	10	12	DC□□0702□□	M2.5x6.5	-	-	T-8
	1212F07	●		12	12	80	14	12	16					
	1616H07	●	●	16	16	100	14	16	20					
	2020K07	●	●	20	20	125	15	20	25					
	1212F11	●		12	12	80	20	12	16	DC□□11T3□□	M3.5X9	-	-	T-15
	1616H11	●	●	16	16	100	20	16	20					
	2020K11			20	20	125	20	20	25		M3.5X12	SD32S	SHXN0509F	T-15 HW35L
	2525M11			25	25	150	22	25	32					
	3232P11			32	32	170	23	32	40					

SDNCN

62.5°



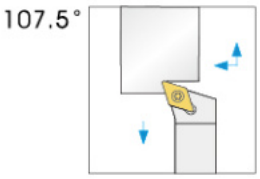


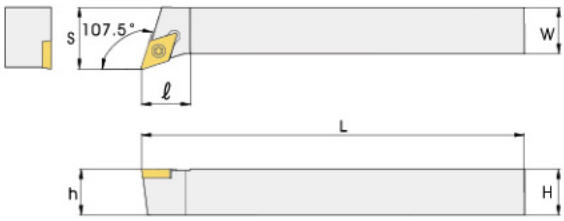
• R type insert

Designation		Stock R	Stock L	Size H	Size W	Size L	Size ℓ	Size h	Size S	Inserts	Screw	Shim	Shim Screw	Wrench
SDNCN	0808F07	●		8	8	80	14	8	4	DC□□0702□□	M2.5x6.5	-	-	T-8
	1010F07	●		10	10	80	14	10	5					
	1212F07	●		12	12	80	14	12	6					
	1212F11	●		12	12	100	21	12	6	DC□□11T3□□	M3.5X9	-	-	T-15
	1616H11	●		16	16	100	21	16	8					
	2020K11			20	20	125	21	20	10		M3.5X12	SD32S	SHXN0509F	T-15 HW35L
	2525M11			25	25	150	21	25	12.5					

Screw On System

SDQCR/L

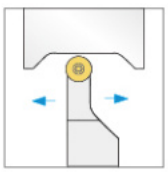


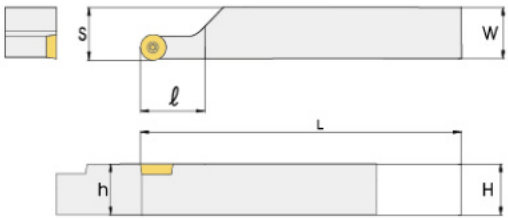


• R type insert

Designation	Stock		Size						Inserts	Screw	Shim	Shim Screw	Wrench
	R	L	H	W	L	ℓ	h	S					
SDQCR/L 1010F07	●	●	10	10	80	5	10	12	DC□□0702□□	M2.5x6.5	-	-	T-8
1212F07	●	●	12	12	80	13	12	16					
1212F11	●	●	12	12	80	14	12	16	DC□□11T3□□	M3.5X9	-	-	T-15
1616H11			16	16	100	14	16	20					
2020K11			20	20	125	16	20	25		M3.5X12	SD32S	SHXN0509F	T-15 HW35L
2525M11			25	25	150	22	25	32					

SRACR/L

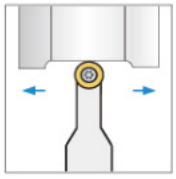


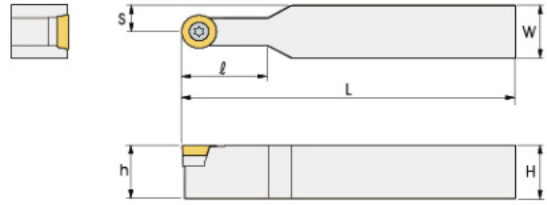


• R type insert

Designation	Stock		Size						Inserts	Screw	Wrench
	R	L	H	W	L	ℓ	h	S			
SRACR/L 1616H08	●	●	16	16	100	16	16	16.5	RC□□0803□□	M3.0x8	T-8
2020K08	●	●	20	20	125	16	20	20.5			
2525M08	●	●	25	25	150	16	25	25.5			
2020K10	●	●	20	20	125	20.3	20	20.4	RC□□1003□□	M3.5X9	T-15
2525M10	●	●	25	25	150	20.3	25	25.4			
2020K12	●	●	20	20	125	28	20	20.4	RC□□1204□□	M3.5X12	T-15
2525M12	●	●	25	25	150	28	25	25.4			

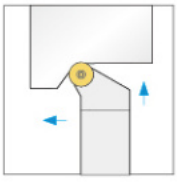
SRDCN

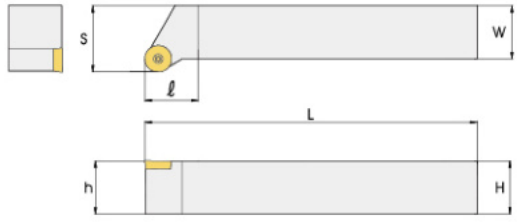




Designation		Stock		Size						Inserts	Screw	Wrench
		R	L	H	W	L	ℓ	h	S			
SRDCN	1616H08	●		16	16	100	16	16	8	RC□□0803□□	M3.0x8	T-8
	2020K08	●		20	20	125	16	20	10			
	2525M08	●		25	25	150	16	25	12.5			
	1616H10	●		16	16	100	20.3	16	8	RC□□1003□□	M3.5X9	T-15
	2020K10	●		20	20	125	20.3	20	10			
	2525M10	●		25	25	150	20.3	25	12.5			
	2020K12	●		20	20	125	28	20	10	RC□□1204□□	M3.5X12	T-15
	2525M12	●		25	25	150	28	25	12.5			

SRGCR/L



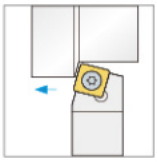


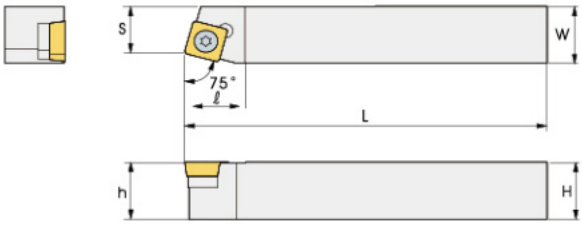
• R type insert

Designation		Stock		Size						Inserts	Screw	Wrench
		R	L	H	W	L	ℓ	h	S			
SRGCR/L	1616H08	●	●	16	16	100	20	16	20	RC□□0803□□	M3.0x8	T-8
	2020K08	●	●	20	20	125	20	20	25			
	2525M08	●	●	25	25	150	20	25	32			
	1616H10	●	●	16	16	100	20	16	20	RC□□1003□□	M3.5X9	T-15
	2020K10	●	●	20	20	125	20	20	25			
	2525M10	●	●	25	25	150	20	25	32			
	2020K12	●	●	20	20	125	20	20	25	RC□□1204□□	M3.5X12	T-15
	2525M12	●	●	25	25	150	20	25	32			

Screw On System

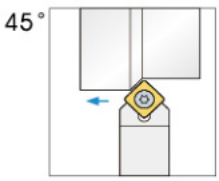
SSBCR/L

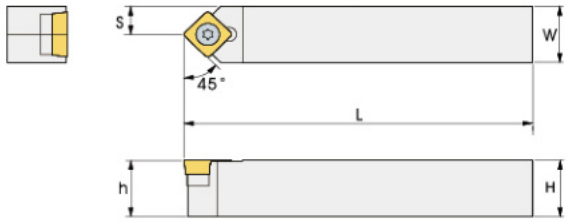




Designation		Stock		Size						Inserts	Screw	Wrench
		R	L	H	W	L	ℓ	h	S			
SSBCR/L	1212F09	●	●	12	12	80	18	12	9.5	SC□□09T3□□	M3.5X9	T-15
	1616H09	●	●	16	16	100	18	16	12			
	2020K09	●	●	20	20	125	18	20	17			
	2020K12	●	●	20	20	125	22	20	17	SC□□1204□□	M3.5X12	T-20
	2525M12	●		25	25	150	22	25	22			

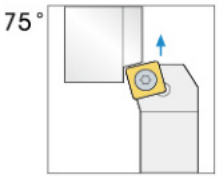
SSDCN

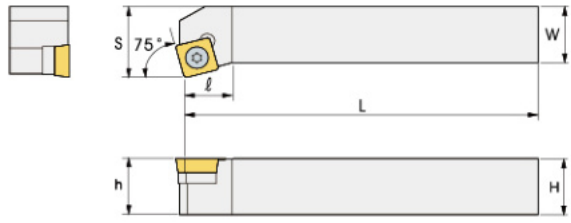




Designation		Stock		Size						Inserts	Screw	Wrench
		R	L	H	W	L	ℓ	h	S			
SSDCN	1212F09	●		12	12	80	16	12	6	SC□□09T3□□	M3.5X9	T-15
	1616H09	●		16	16	100	16	16	8			
	2020K09	●		20	20	125	16	20	10			
	2525M09	●		25	25	150	16	25	12.5	SC□□1204□□	M5.0X12	T-20
	2020K12	●		20	20	125	25	20	10			
	2525M12			25	25	150	25	25	12.5			

SSKCR/L

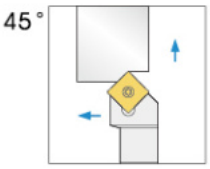


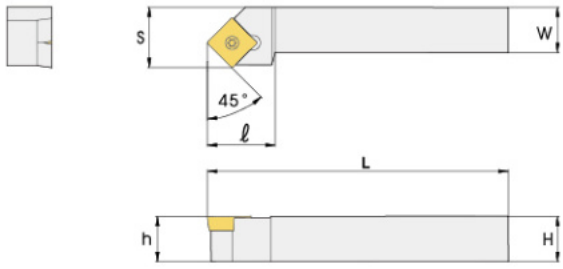


• R type insert

Designation	Stock		Size						Inserts	Screw	Wrench
	R	L	H	W	L	ℓ	h	S			
SSKCR/L 1212F09	●		12	12	80	16	12	16	SC□□09T3□□	M3.5X9	T-15
1616H09	●		16	16	100	16	16	20			
2020K09	●		20	20	125	18	20	25			
2525M09	●		25	25	150	25	25	32			
2020K12	●		20	20	125	18	20	25	SC□□1204□□	M5.0X12	T-20
2525M12	●		25	25	150	22	25	32			

SSSCR/L





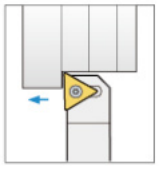
• R type insert

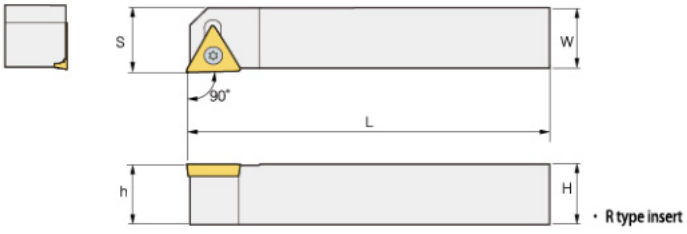
Designation	Stock		Size						Inserts	Screw	Wrench
	R	L	H	W	L	ℓ	h	S			
SSSCR/L 1212F09	●	●	12	12	80	16	12	16	SC□□09T3□□	M3.5X9	T-15
1616H09	●	●	16	16	100	16	16	20			
2020K09	●	●	20	20	125	18	20	25			
2525M09	●	●	25	25	150	25	25	32			
2020K12	●		20	20	125	23	20	21	SC□□1204□□	M5.0X12	T-20
2525M12	●		25	25	150	25	25	26			

Screw On System

STACR/L

90°

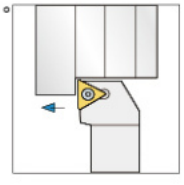


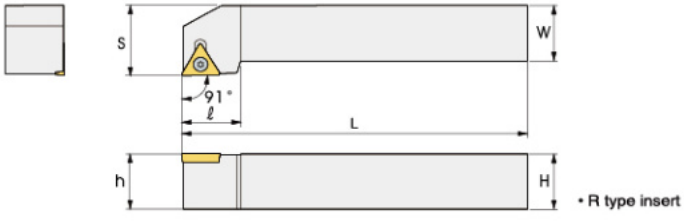


Designation	Stock		Size						Inserts	Screw	Wrench
	R	L	H	W	L	ℓ	h	S			
STACR/L 1010E09	●		10	10	70	11	10	10.5	TC□□0902□□	M2.2x6	T-6
1212F11	●		12	12	80	14	12	12.5	TC□□1102□□	M2.5x6.5	T-8
1616H11	●		16	16	100	16	16	16.5			

STGCR/L

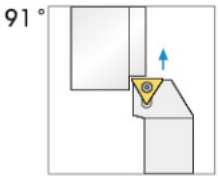
91°

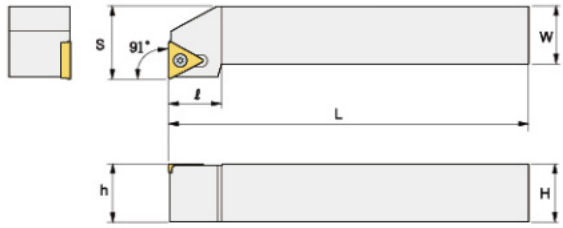




Designation	Stock		Size						Inserts	Screw	Wrench
	R	L	H	W	L	ℓ	h	S			
STGCR/L 0808D09	●	●	8	8	60	11	8	10	TC□□0902□□	M2.2X6	T-6
1010E09	●	●	10	10	70	11	10	12			
1212F11	●	●	12	12	80	14	12	16	TC□□1102□□	M2.5X6.5	T-8
1616H11	●	●	16	16	100	14	16	20			
1616H16	●		16	16	100	14	16	20	TC□□16T3□□	M3.5X9	T-15
2020K16	●		20	20	125	20	20	25			
2525M16			25	25	150	20	25	32			

STFCR/L

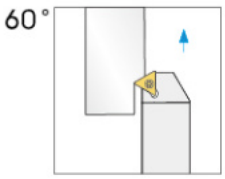


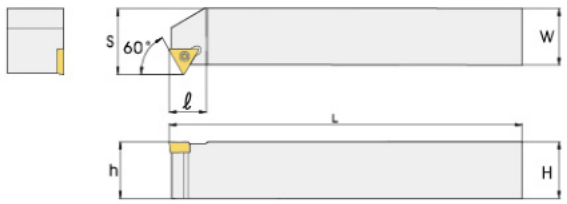


• R type insert

Designation	Stock		Size						Inserts	Screw	Wrench
	R	L	H	W	L	ℓ	h	S			
STFCR/L 1212F09	●	●	12	12	80	14	12	16	TC□□0902□□	M2.2X6	T-6
1212F11	●	●	12	12	80	14	12	16	TC□□1102□□	M2.5X8	T-8
1616H11	●	●	16	16	100	14	16	20			
1616H16	●	●	16	16	100	22	16	20	TC□□16T3□□	M3.5X9	T-15
2020K16	●		20	20	125	22	20	25			
2525M16	●		25	25	150	22	25	32			
3232P16			32	32	170	22	32	40			

STWCR/L



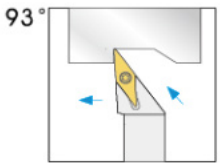


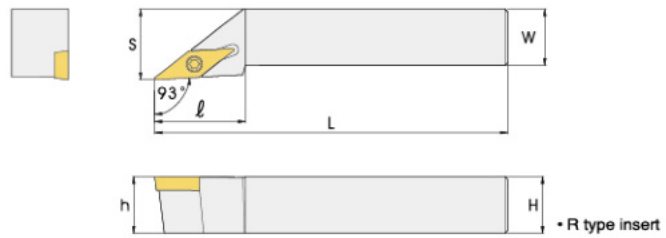
• R type insert

Designation	Stock		Size						Inserts	Screw	Wrench
	R	L	H	W	L	ℓ	h	S			
STWCR/L 1616H11			16	16	100	8	16	19.3	TC□□1102□□	M2.5X8	T-8
2020K11	●		20	20	125	8	20	23.3			
2525M11			25	25	150	8	25	28.3			
1616H16			16	16	100	12	16	21	TC□□16T3□□	M3.5X9	T-15
2020K16			20	20	125	12	20	26			
2525M16	●		25	25	150	12	25	31			
3232P16	●		32	32	170	12	32	38			

Screw On System

SVJBR/L,SVJCR/L

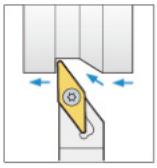


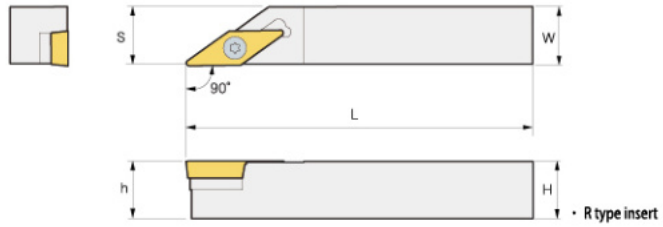


Designation		Stock		Size						Inserts	Screw	Shim	Shim Screw	Wrench
		R	L	H	W	L	ℓ	h	S					
SVJBR/L	1212F11	●	●	12	12	80	22	12	16	-	M2.5x6.5	-	-	T-8
	1616H11	●	●	16	16	100	25	16	20					
	2020K11	●	●	20	20	125	32	20	25					
	2525M11	●	●	25	25	150	38	25	32					
	1616H16	●	●	16	16	100	30	16	20	VB□□1604□□	M3.5X9	-	-	T-15
	2020K16			20	20	125	32	20	25		M3.5X12	SV32S	SHXN0509F	T-15 HW35L
	2525M16			25	35	150	40	25	32					
	3225P16			32	25	170	55	32	32					
	3232P16			32	32	170	55	32	40					
SVJCR/L	1212F11	●	●	12	12	80	22	12	16	-	M2.5x6.5	-	-	T-8
	1616H11	●	●	16	16	100	25	16	20					
	2020K11	●	●	20	20	125	32	20	25					
	1616H16	●	●	16	16	100	30	16	20					
	2020K16			20	20	125	32	20	25	VC□□1604□□	M3.5X9	-	-	T-15
	2525M16			25	25	150	40	25	32		M3.5X12	SV32S	SHXN0509F	T-15 HW35L
	3225P16			32	25	170	55	32	32					
	3232P16			32	32	170	55	32	40					

SVABR/L, SVACR/L

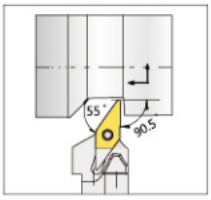
90°

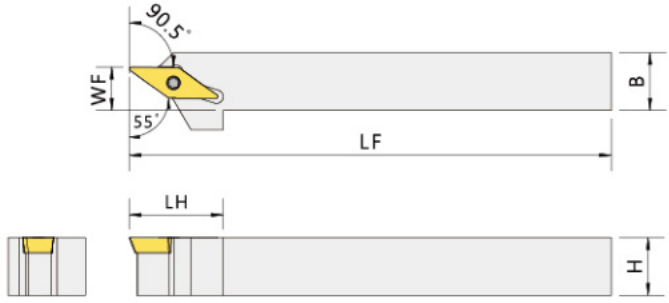




Designation		Stock		Size						Inserts	Screw	Shim	Shim Screw	Wrench
		R	L	H	W	L	ℓ	h	S					
SVABR/L	1616H16			16	16	100	32	16	16.5	VB□□1604□□	M3.5X9	-	-	T-15
	2020K16			20	20	125	32	20	20.5		M3.5X12	SV32S	SHXN0509F	T-15 HW35L
	2525M16			25	25	150	38	25	25.5					
SVACR/L	1616H16			16	16	100	32	16	16.5	VC□□1604□□	M3.5X9	-	-	T-15
	2020K16			20	20	125	32	20	20.5		M3.5X12	SV32S	SHXN0509F	T-15 HW35L
	2525M16			25	25	150	38	25	25.5					

SVKCR

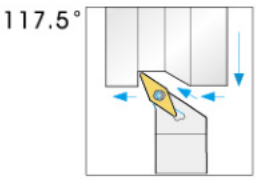


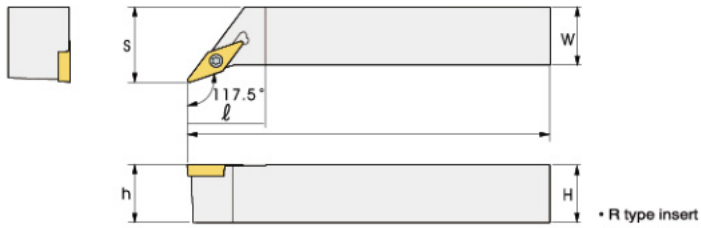


Designation		Stock		Size						Inserts	Screw	Wrench
		R	L	H	W	L	ℓ	h	S			
SVKCR	1212H11			12	12	100	14	12	9	VC□□1103□□	M2.5x6.5	T-8

Screw On System

SVQBR/L

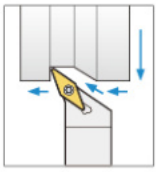


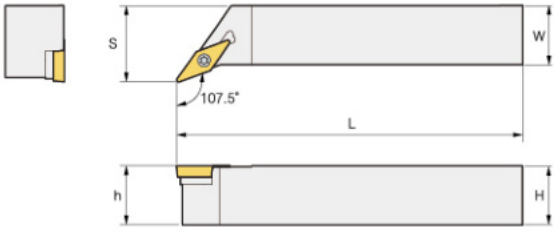


Designation		Stock		Size						Inserts	Screw	Shim	Shim Screw	Wrench
		R	L	H	W	L	ℓ	h	S					
SVQBR/L	1616H11	●	●	16	16	100	35	16	20	-	M2.5x6.5	-	-	T-8
	2020K11			20	20	125	35	20	25					
	2525M11			25	25	150	35	25	32					
	1616H16			16	16	100	35	16	20	VB□□1604□□	M3.5X9	-	-	T-15
	2020K16			20	20	125	35	20	25		M3.5X12	SV32S	SHXN0509F	T-15 HW35L
	2525M16			25	25	150	35	25	32					
	3232P16			32	32	170	35	32	40					
SVQCR/L	1616H11	●	●	16	16	100	35	16	20	-	M2.5x6.5	-	-	T-8
	2020K11			20	20	125	35	20	25					
	2525M11			25	25	150	35	25	32					
	1616H16			16	16	100	35	16	20	VC□□1604□□	M3.5X9	-	-	T-15
	2020K16			20	20	125	35	20	25		M3.5X12	SV32S	SHXN0509F	T-15 HW35L
	2525M16			25	25	150	35	25	32					
	3232P16			32	32	170	35	32	40					

SVHBR/L, SVHCR/L

107.5°



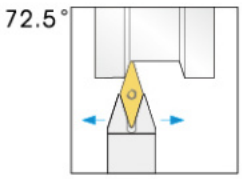


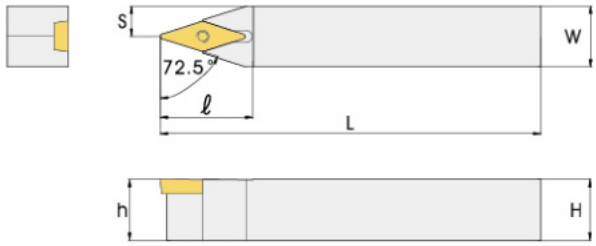
· R type insert

Designation	Stock		Size						Inserts	Screw	Shim	Shim Screw	Wrench
	R	L	H	W	L	ℓ	h	S					
SVHBR/L 1212F11			12	12	80	13	12	16	VB□□1103□□	M2.5x6.5	-	-	T-8
1616H11			16	16	100	13	16	20					
2020K11			20	20	125	16.5	20	25					
2020K16			20	20	125	17	20	25	VB□□1604□□	M3.5X12	SV32S	SHXN0509F	T-15
2525M16			25	25	150	23	25	32					
3232P16			32	32	170	26.5	32	40					
SVHCR/L 1212F11			12	12	80	13	12	16	VC□□1103□□	M2.5x6.5	-	-	T-8
1616H11			16	16	100	13	16	20					
2020K11			20	20	125	16.5	20	25					
2020K16			20	20	125	17	20	25	VC□□1604□□	M3.5X12	SV32S	SHXN0509F	
2525M16			25	25	150	23	25	32					
3232P16			32	32	170	26.5	32	40					

Screw On System

SVVBN, SVVCN

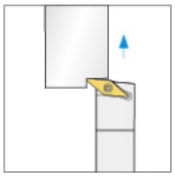


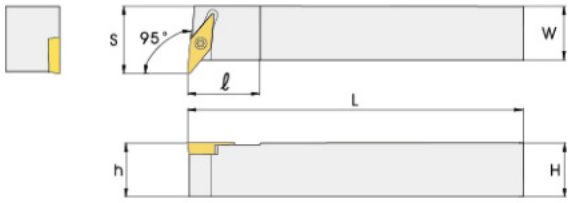


Designation		Stock		Size						Inserts	Screw	Shim	Shim Screw	Wrench
		R	L	H	W	L	ℓ	h	S					
SVVBN	1212F11	●		12	12	80	24	12	6	VB□□1103□□	M2.5x6.5	-	-	T-8
	1616H11	●		16	16	100	24	16	8					
	2020K11	●		20	20	125	24	20	10					
	2525M11	●		25	25	150	24	25	12.5	VB□□1604□□	M3.5X9	-	-	T-15
	1616H16	●		16	16	100	34	16	8		M3.5X12	SV32S	SHXN0509F	T-15
	2020K16			20	20	125	34	20	10					
	2525M16			25	25	150	34	25	12.5					
	3232P16			32	32	170	34	32	16					
SVVCN	1212F11	●		12	12	80	24	12	6	VC□□1103□□	M2.5x6.5	-	-	T-8
	1616H11	●		16	16	100	24	16	8					
	2020K11	●		20	20	125	24	20	10					
	2525M11	●		25	25	150	24	25	12.5	VC□□1604□□	M3.5X9	-	-	T-15
	1616H16	●		16	16	100	34	16	8		M3.5X12	SV32S	SHXN0509F	T-15
	2020K16			20	20	125	34	20	10					
	2525M16			25	25	150	34	25	12.5					
	3232P16			32	32	170	34	32	16					

SVUBR/L, SVUCR/L

95°

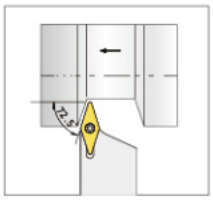


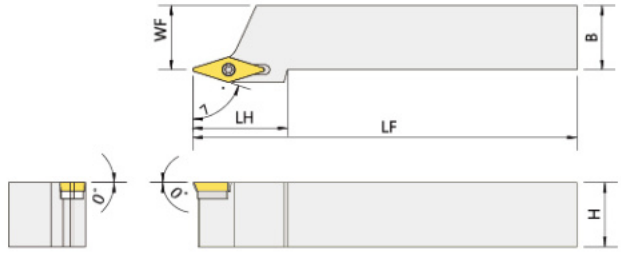


• R type insert

Designation	Stock		Size						Inserts	Screw	Shim	Shim Screw	Wrench
	R	L	H	W	L	ℓ	h	S					
SVUBR/L 1212H11	●	●	12	12	100	14	12	20	VB□□1103□□	M2.5x6.5	-	-	T-8
1616H11	●	●	16	16	100	14	16	20					
2020K16			20	20	125	18	20	30	VB□□1604□□	M3.5X12	SV32S	SHXN0509F	T-15
2525M16			25	25	150	18	25	35					
SVUCR/L 1212H11	●	●	12	12	100	14	12	20	VB□□1103□□	M2.5x6.5	-	-	T-8
1616H11	●	●	16	16	100	14	16	20					
2020K16			20	20	125	18	20	30	VB□□1604□□	M3.5X12	SV32S	SHXN0509F	T-15
2525M16			25	25	150	18	25	35					

SVVCR/L

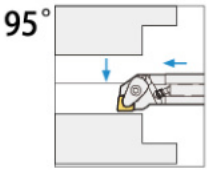


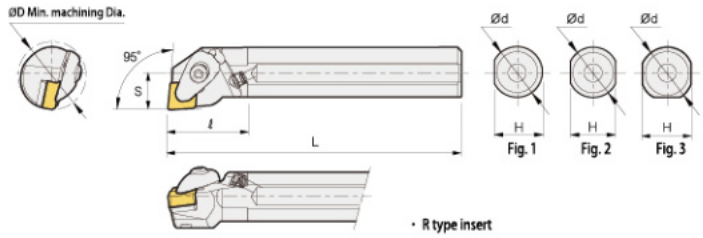


Designation	Stock		Size						Inserts	Screw	Wrench
	R	L	H	W	L	ℓ	h	S			
SVVCR/L 2020K16			20	20	125	37	25	20	VC□□1604□□	M3.5x9	T-15
2525M16			25	25	150	37	25	25			

Double Clamp System

DCLNR/L

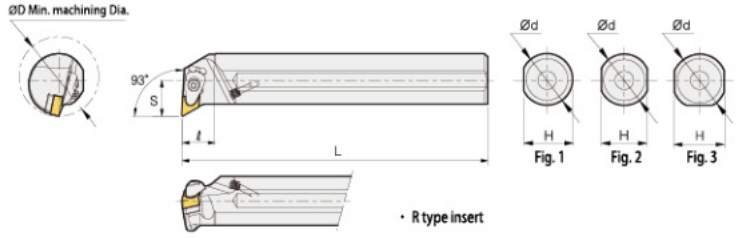




Designation	Stock		Size						Inserts	Clamp	Clamp Screw	Shim	Shim screw	Spring	Wrench	Fig.
	R	L	ØDmin	Ød	H	L	ℓ	S								
S20Q-DCLNR/L09			25	20	18	180	40	14	CN□□0903□□	CVH43	CHX0415	-	-	SPR0510	HW25L	1
S25R-DCLNR/L09			32	25	24	200	40	17								1
S25R-DCLNR/L12	●	●	32	25	24	200	40	17	CN□□1204□□	CVH54	CHX0518	-	-	SPR0714	HW30L	1
S32S-DCLNR/L12	●	●	40	32	30	250	50	22				MSC-432	DSP0611F			3
S40T-DCLNR/L12	●	●	48	40	38	300	60	27								3
S50U-DCLNR/L12			58	50	48	350	70	35								3
A25R-DCLNR/L12			32	25	24	200	40	17				-	-			1
A32S-DCLNR/L12			40	32	30	250	50	22				MSC-432	DSP0611F			3
A40T-DCLNR/L12			48	40	38	300	60	27								3
A50U-DCLNR/L12			58	50	48	350	70	35								3

DDUNR/L

93°

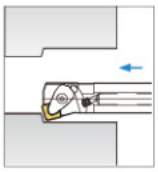


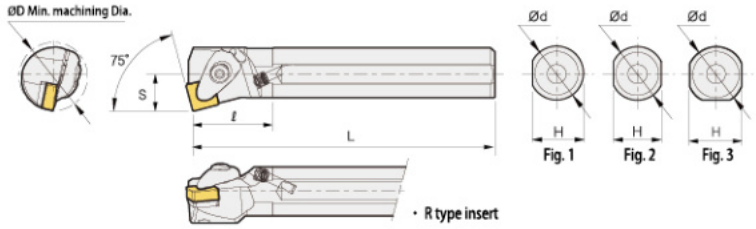
Designation	Stock		Size						Inserts	Clamp	Clamp Screw	Shim	Shim screw	Spring	Wrench	Fig.
	R	L	ØDmin	Ød	H	L	ℓ	S								
S20Q-DDUNR/L11			25	20	18	180	40	14	DN□□1104□□	CVH43	CHX0415	-	-	SPR0510	HW25L	1
S25R-DDUNR/L11			32	25	24	200	40	17								1
S25R-DDUNR/L15	●	●	32	25	24	200	40	17	DN□□1504□□ DN□□1506□□	CVH54	CHX0518	-	-	SPR0714	HW30L	1
S32S-DDUNR/L15	●	●	40	30	30	250	50	22				MSD-432 MSD-442	DSP0611F			3
S40T-DDUNR/L15	●	●	50	40	38	300	60	27								3
S50U-DDUNR/L15			63	50	47	350	70	35								3
A25R-DDUNR/L15			32	25	24	200	40	17				-	-			1
A32S-DDUNR/L15			40	30	30	250	50	22				MSD-432 MSD-442	DSP0611F			3
A40T-DDUNR/L15			50	40	38	300	60	27								3
A50U-DDUNR/L15			63	50	47	350	70	35								3

Double Clamp System

DSKNR/L

75°

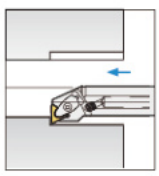


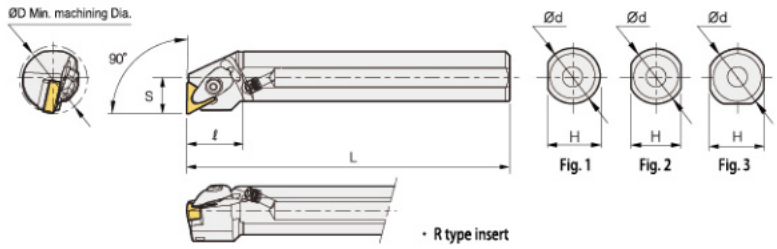


Designation	Stock		Size						Inserts	Clamp	Clamp Screw	Shim	Shim screw	Spring	Wrench	Fig.
	R	L	ØDmin	Ød	H	L	ℓ	S								
S20Q-DSKNR/L09			25	20	18	180	40	14	SN□□0903□□	CVH43	CHX0415	-	-	SPR0510	HW25L	1
S25R-DSKNR/L09			32	25	24	200	40	17								1
S25R-DSKNR/L12	●	●	32	25	24	200	40	17	SN□□1204□□	CVH54	CHX0518	-	-	SPR0714	HW30L	1
S32S-DSKNR/L12	●	●	40	32	30	250	50	22				MSS-432	DSP0611F			3
S40T-DSKNR/L12	●	●	50	40	38	300	60	27								3
S50U-DSKNR/L12			63	50	48	350	70	35								3
A25R-DSKNR/L12			32	25	24	200	40	17				-	-			1
A32S-DSKNR/L12			40	32	30	250	50	22				MSS-432	DSP0611F			3
A40T-DSKNR/L12			50	40	38	300	60	27								3
A50U-DSKNR/L12			63	50	48	350	70	35								3

DTFNR/L

90°

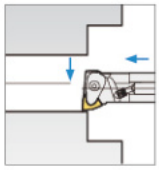


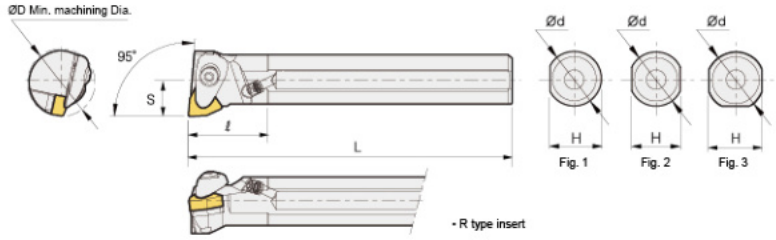


Designation	Stock		Size						Inserts	Clamp	Clamp Screw	Shim	Shim screw	Spring	Wrench	Fig.
	R	L	ØDmin	Ød	H	L	ℓ	S								
S20Q-DTFNR/L16	●	●	28	20	18	180	40	14	TN□□1604□□	CVH43	CHX0415	-	-	SPR0510	HW25L	1
S25R-DTFNR/L16	●	●	32	25	24	200	40	17								1
S32S-DTFNR/L16	●	●	40	32	30	250	50	22				MST-322	DSP0408F			3
S40T-DTFNR/L16	●	●	50	40	38	300	60	27								3
A20Q-DTFNR/L16			28	20	18	180	40	14				-	-			1
A25R-DTFNR/L16			32	25	24	200	40	17								1
A32S-DTFNR/L16			40	32	30	250	50	22				MST-322	DSP0408F			3
A40T-DTFNR/L16			50	40	38	300	60	27								3

DWLNR/L

95°

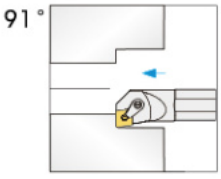


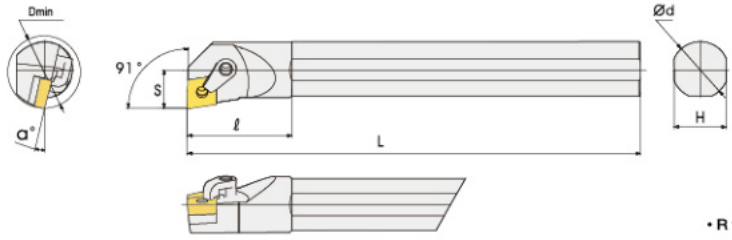


Designation	Stock		Size						Inserts	Clamp	Clamp Screw	Shim	Shim screw	Spring	Wrench	Fig.
	R	L	ØDmin	Ød	H	L	ℓ	S								
S20Q-DWLNR/L06			25	20	18	180	40	13	WN□□0603□□	CVH43	CHX0415	-	-	SPR0510	HW25L	1
S25R-DWLNR/L06			32	25	24	200	40	17								1
S25R-DWLNR/L08	●	●	32	25	24	200	40	17	WN□□0804□□	CVH54	CHX0518	-	-	SPR0714	HW30L	1
S32S-DWLNR/L08	●	●	40	32	30	250	50	22				MSW-432	DSP0611F			3
S40T-DWLNR/L08	●	●	50	40	38	300	60	27								3
S50U-DWLNR/L08			63	50	47	350	70	35								3
A25R-DWLNR/L08			32	25	24	200	40	17				-	-			1
A32S-DWLNR/L08			40	32	30	250	50	22				MSW-432	DSP0611F			3
A40T-DWLNR/L08			50	40	38	300	60	27								3
A50U-DWLNR/L08			63	50	47	350	70	35								3

Multi Lock System

MCKNR/L

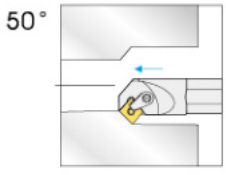


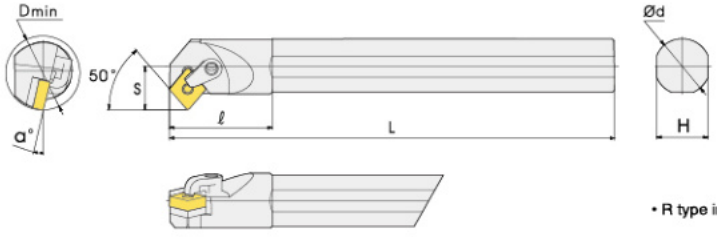


• R type insert

Designation	Stock		Size							Inserts	Shim	pin	Clamp	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α						
S20Q-MCKNR/L12	●	●	24	20	18	180	45	14	15°	CN□□1204□□	-	MLP44A	MCP618-2	MCS622-3	HW25L HW30L
S25R-MCKNR/L12	●	●	30	25	23	200	45	17	13°				MCP618	MCS625-3	
S32S-MCKNR/L12	●	●	38	32	30	250	50	22.5	17°		MSC-432	MLP406	MCP618	MCS625-3	HW25L HW30L
S40T-MCKNR/L12			47	25	38	300	55	27	15°						
S50U-MCKNR/L12			60	32	48	350	70	35	12°						

MCWNR/L

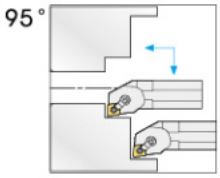


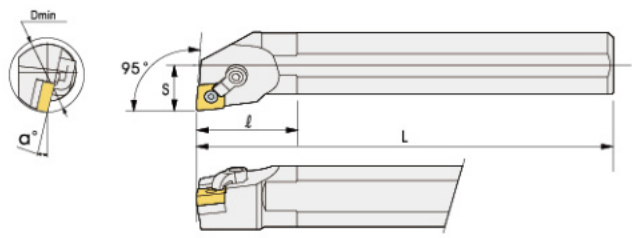


• R type insert

Designation	Stock		Size							Inserts	Shim	pin	Clamp	Screw	Wrench
	R	L	ØDmin	Ød	H	L	l	S	α						
S20Q-MCWNR/L12			27	20	18	180	40	14	15°	CN□□1204□□	-	MLP44A	MCP618-2	MCS622-3	HW25L HW30L
S25R-MCWNR/L12			31	25	23	200	45	17	12°				MCP618	MCS622-3	
S32S-MCWNR/L12			39	32	30	250	50	22.5	17°		MSC-432	MLP406	MCP618	MCS625-3	HW25L HW30L
S40T-MCWNR/L12			47	40	38	300	55	27	15°						

MCLNR/L

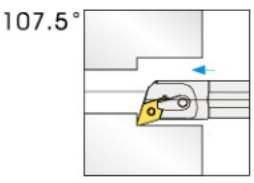


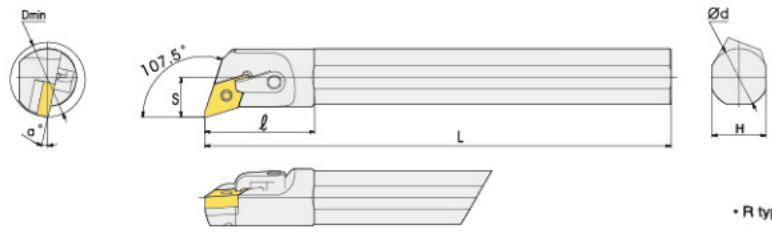


• R type insert

Designation	Stock		Size							Inserts	Shim	pin	Clamp	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α						
S16Q-MCLNR/L09	●	●	22	16	11	180	35	15	17°	CN□□0903□□	-	MLP33A	MCP515	MCS519-2.5	HW20L HW25L
S20Q-MCLNR/L09	●	●	23	20	18	180	33	13	15°						
S20Q-MCLNR/L12	●	●	23	20	18	180	45	13	15°	CN□□1204□□	-	MLP44A	MCP618-2	MCS625-3	HW25L HW30L
S25R-MCLNR/L12	●	●	30	25	23	200	45	17	12°				MCP618	MCS625-3	
S32S-MCLNR/L12	●	●	38	32	30	250	50	22.5	17°		MSC-432	MLP406	MCP618	MCS625-3	HW25L HW30L
S40T-MCLNR/L12	●	●	47	40	38	300	55	27	15°						
S50U-MCLNR/L12			60	50	48	350	70	31	12°						
S32S-MCLNR/L16			38	32	30	250	50	22.5	17°	CN□□1606□□	MSC-533	MLP508	MCP822	MCS830-4	HW40L
S40T-MCLNR/L16			47	40	38	300	55	27	15°						
S50U-MCLNR/L16			60	50	48	350	75	31	12°						

MDQNR/L

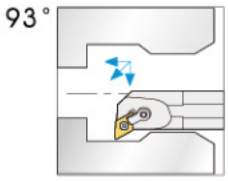


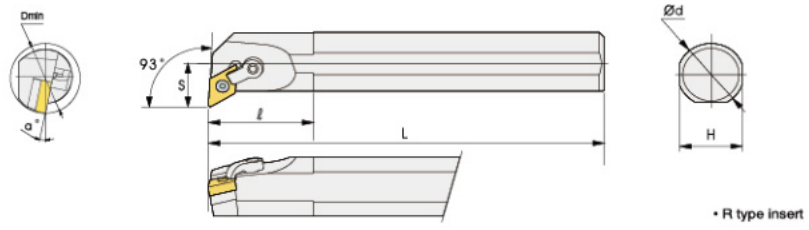


• R type insert

Designation	Stock		Size							Inserts	Shim	pin	Clamp	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α						
S25R-MDQNR/L15	●	●	32	25	23	200	45	17	12°	CN□□1204□□	-	MLP44A	MCP621	MCS625-3	HW25L HW30L
S32S-MDQNR/L15	●	●	42	32	30	250	50	22.5	17°	DN□□1504□□	MSD-432	MLP406			
S40T-MDQNR/L15	●		50	40	38	300	60	27	15°	DN□□1506□□	MSD-442				
S50U-MDQNR/L15			63	50	48	350	70	33	12°						

MDUNR/L

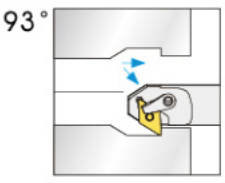


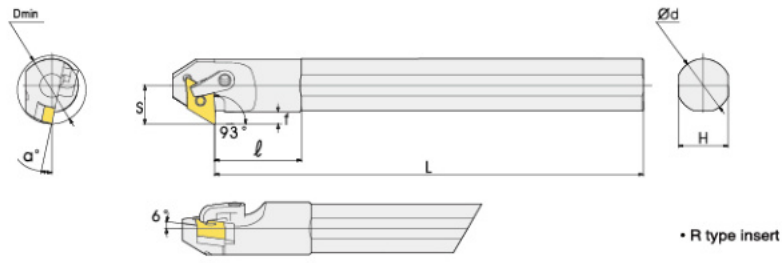


• R type insert

Designation	Stock		Size							Inserts	Shim	pin	Clamp	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α						
S20Q-MDUNR/L11	●	●	26	20	18	180	33	13	15°	DN□□1104□□	-	MLP33A	MCP621	MCS625-3	HW25L HW30L
S25R-MDUNR/L11	●	●	30	25	23	180	45	17	12°						
S25R-MDUNR/L15	●	●	38	25	23	200	45	17	12°	DN□□1504□□	-	MLP44A			
S32S-MDUNR/L15	●	●	47	32	30	250	50	22	17°	DN□□1504□□	MSD-432	MLP406			
S40T-MDUNR/L15	●		50	40	38	300	60	27	15°	DN□□1506□□	MSD-442				
S50U-MDUNR/L15			60	50	48	350	70	32	12°						

MDZNR/L

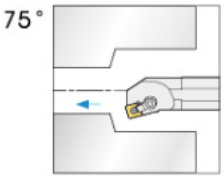


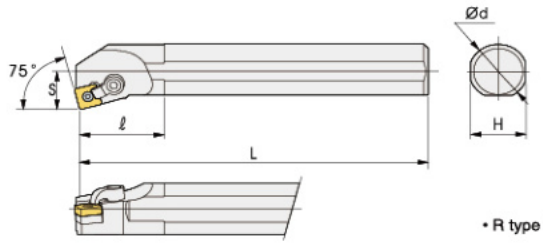


• R type insert

Designation	Stock		Size							Inserts	Shim	pin	Clamp	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α						
S25R-MDZNR/L15	●	●	30	25	23	200	45	18	13°	DN□□1504□□	-	MLP44A	MCP621	MCS622-3	HW25L HW30L
S32S-MDZNR/L15	●		38	32	30	250	50	22	17°	DN□□1504□□	MSD-432	MLP406		MCS625-3	
S40T-MDZNR/L15	●		47	40	38	300	55	27	13°	DN□□1506□□	MSD-442				
S50U-MDZNR/L15			60	50	48	350	70	33	12°						

MSKNR/L

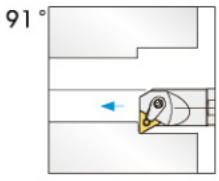


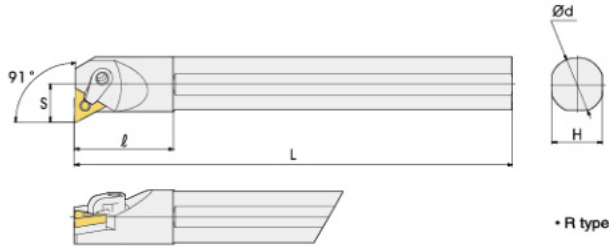


• R type insert

Designation	Stock		Size							Inserts	Shim	pin	Clamp	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α						
S20Q-MSKNR/L12	●		25	20	18	180	45	13	15°	SN□□1204□□	-	MLP44A	MCP618-2	MCS622-3	HW25L HW30L
S25R-MSKNR/L12	●		30	25	23	200	45	17	12°				MCP618	MCS625-3	
S32S-MSKNR/L12	●		38	32	30	250	50	22	12°		MSS-432	MLP406	MCP618	MCS625-3	
S40T-MSKNR/L12			47	40	38	300	55	27	15°						
S50U-MSKNR/L12			60	50	48	350	70	34	12°						

MTFNR/L

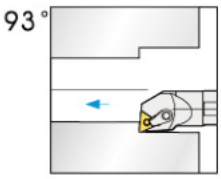


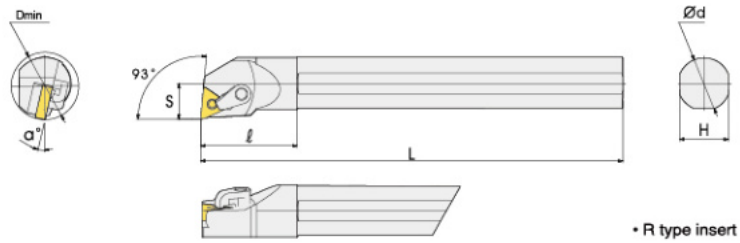


• R type insert

Designation	Stock		Size							Inserts	Shim	pin	Clamp	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α						
S20Q-MTFNR/L16	●	●	25	20	18	180	40	13	15°	TN□□1604□□	-	MLP33A	MCP618-2	MCS622-3	HW20L HW30L
S25R-MTFNR/L16	●	●	30	25	23	200	45	17	12°				MCP618	MCS625-3	
S32S-MTFNR/L16	●	●	38	32	30	250	54	22	17°		MST-322	MLP305	MCP618	MCS625-3	
S40T-MTFNR/L16	●		47	40	38	300	60	27	15°						
S50U-MTFNR/L16			60	50	48	350	65	31	12°						
S40T-MTFNR/L22			50	40	38	300	55	27	15°	TN□□2204□□	MST-432	MLP406	MCP819	MCS830-4	HW25L HW40L
S50U-MTFNR/L22			60	50	48	350	70	31	12°						

MTUNR/L

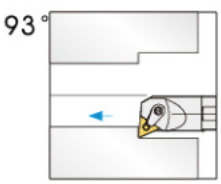


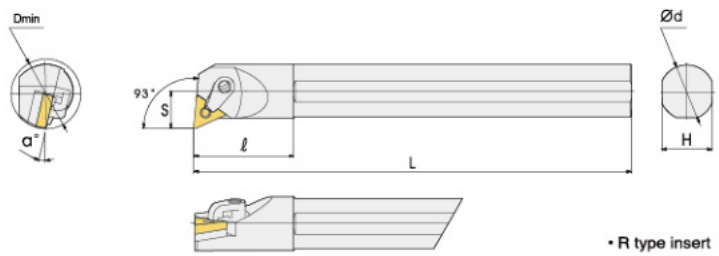


• R type insert

Designation	Stock		Size							Inserts	Shim	pin	Clamp	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α						
S20Q-MTUNR/L16	●	●	25	20	18	180	42	13	15°	TN□□1604□□	-	MLP33A	MCP618-2	MCS622-3	HW20L HW30L
S25R-MTUNR/L16	●	●	30	25	23	200	45	17	12°				MCP618	MCS625-3	
S32S-MTUNR/L16	●	●	38	32	30	250	54	22	17°		MST-322	MLP305	MCP618	MCS625-3	
S40T-MTUNR/L16	●		47	40	38	300	60	27	15°						
S50U-MTUNR/L16			60	50	48	350	65	31	12°						
S40T-MTUNR/L22			47	40	38	300	55	27	15°	TN□□2204□□	MST-432	MLP406	MCP819	MCS830-4	HW25L HW40L
S50U-MTUNR/L22			60	50	48	350	70	31	12°						

MTUNR/L-A

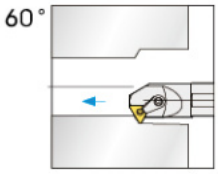


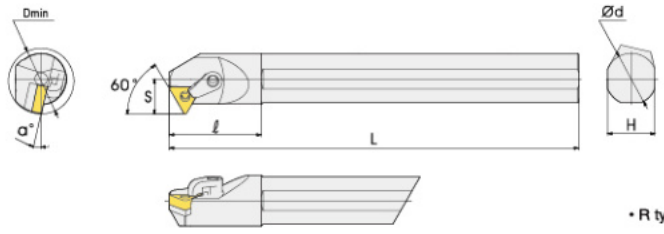


• R type insert

Designation	Stock		Size							Inserts	Shim	pin	Clamp	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α						
S20Q-MTUNR/L16A	●	●	25	20	18	180	40	13	15°	TN□□1604□□	-	MLP33A	MCP618-2	MCS622-3	HW20L HW30L
S25R-MTUNR/L16A	●	●	30	25	23	200	45	17	12°				MCP618	MCS625-3	
S32S-MTUNR/L16A	●	●	38	32	30	250	54	22	17°		MST-322	MLP305	MCP618	MCS625-3	
S40T-MTUNR/L16A			47	40	38	300	60	27	15°						
S50U-MTUNR/L16A			60	50	48	350	65	31	12°						

MTWNR/L

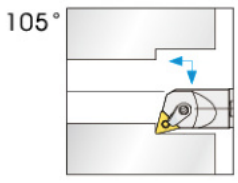


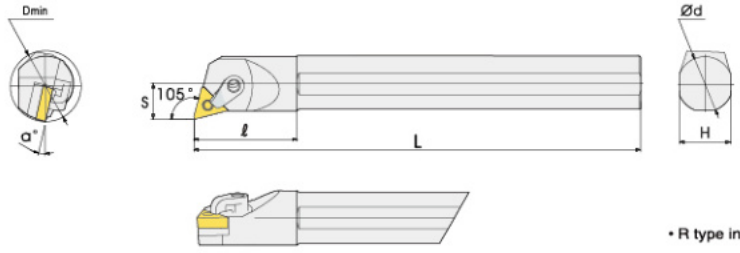


• R type insert

Designation	Stock		Size							Inserts	Shim	pin	Clamp	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α						
S20Q-MTWNR/L16	●		25	20	18	180	40	14	15°	TN□□1604□□	-	MLP33A	MCP618-2	MCS622-3	HW20L HW30L
S25R-MTWNR/L16	●		30	25	23	200	45	17	12°				MCP618	MCS625-3	
S32S-MTWNR/L16	●		38	32	30	250	54	22	17°		MST-322	MLP305	MCP618	MCS625-3	
S40T-MTWNR/L16			47	40	38	300	60	27	15°						
S50U-MTWNR/L16			60	50	48	350	65	31	12°						

MTQNR/L

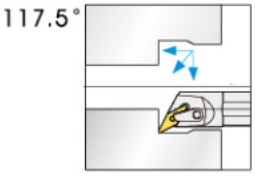


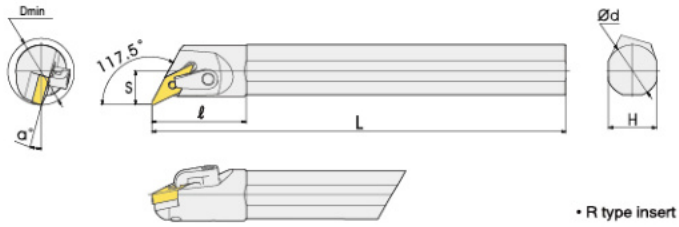


• R type insert

Designation	Stock		Size							Inserts	Shim	pin	Clamp	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α						
S20Q-MTQNR/L16	●	●	25	20	18	180	42	13	15°	TN□□1604□□	-	MLP33A	MCP618-2	MCS622-3	HW20L HW30L
S25R-MTQNR/L16	●	●	30	25	23	200	45	17	12°				MCP618	MCS625-3	
S32S-MTQNR/L16	●	●	38	32	30	250	54	22	17°		MST-322	MLP305	MCP618	MCS625-3	
S40T-MTQNR/L16	●		47	40	38	300	60	27	15°						
S50U-MTQNR/L16			60	50	48	350	65	31	12°						

MVQNR/L

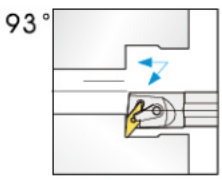


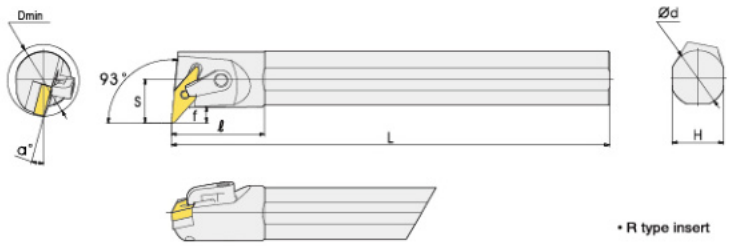


• R type insert

Designation	Stock		Size							Inserts	Shim	pin	Clamp	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α						
S25R-MVQNR/L16	●	●	30	25	23	200	45	17	12°	VN□□1604□□	-	MLP33A	MCP824	MCS625-3	HW20L HW30L
S32S-MVQNR/L16	●	●	38	32	30	250	50	22	17°		MSV-322	MLP305			
S40T-MVQNR/L16			47	40	38	300	55	27	15°						
S50U-MVQNR/L16			60	50	48	350	70	31	12°						

MVUNR/L

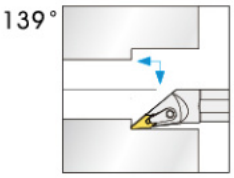


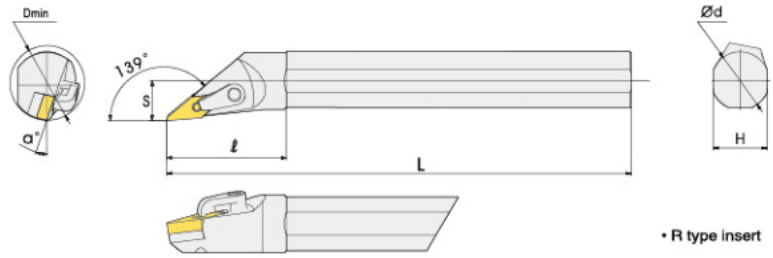


• R type insert

Designation	Stock		Size							Inserts	Shim	pin	Clamp	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α						
S25R-MVUNR/L16	●	●	32	25	23	200	45	20	12°	VN□□1604□□	-	MLP33A	MCP721	MCS625-3	HW20L HW30L
S32S-MVUNR/L16	●	●	38	32	30	250	50	22	17°		MSV-322	MLP305			
S40T-MVUNR/L16			47	40	38	300	55	27	15°						
S50U-MVUNR/L16			60	50	48	350	70	31	12°						

MVXNR/L

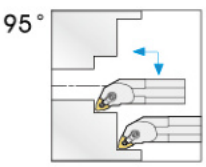


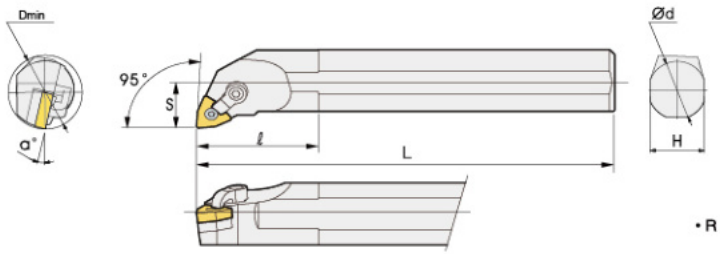


• R type insert

Designation	Stock		Size							Inserts	Shim	pin	Clamp	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α						
S20Q-MVXNR/L16	●	●	24	20	18	180	45	14	15°	VN□□1604□□	-	MLP33A	MCP824-2	MCS622-3	HW20L HW30L
S25R-MVXNR/L16	●	●	30	25	23	200	50	17	12°				MCP824	MCS625-3	
S32S-MVXNR/L16	●	●	38	32	30	250	55	22	17°		MSV-322	MLP305			
S40T-MVXNR/L16			47	40	38	300	60	27	15°						
S50U-MVXNR/L16			60	50	48	350	65	31	12°						

MWLNR/L



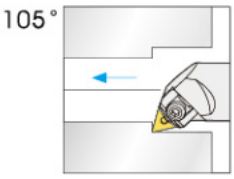


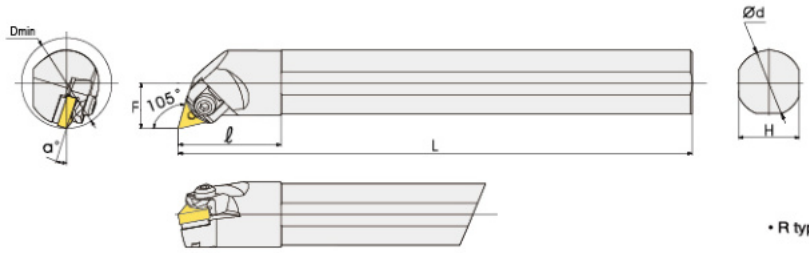
• R type insert

Designation	Stock		Size							Inserts	Shim	pin	Clamp	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α						
S16Q-MWLNR/L06	●	●	19	16	15	180	28	11	18°	WN□□0604□□	-	MLP33A	MCP824-2	MCS519-2.5	HW20L HW25L
S20Q-MWLNR/L06	●	●	23	20	18	180	42	13	15°						
S25R-MWLNR/L06	●	●	30	25	23	200	45	17	12°				MCP618	MCS625-3	HW20L HW30L
S20Q-MWLNR/L08	●	●	23	20	18	180	40	13	15°	WN□□0804□□	-	MLP44A	MCP618-2	MCS622-3	HW25L HW30L
S25R-MWLNR/L08	●	●	30	25	23	200	45	17	12°				MCP618	MCS625-3	
S32S-MWLNR/L08	●	●	38	32	30	250	50	22	17°		MSW-432	MLP406			
S40T-MWLNR/L08			47	40	38	300	55	27	15°						
S50U-MWLNR/L08			60	50	48	350	70	31	12°						

Multi Lock System

WTQNR

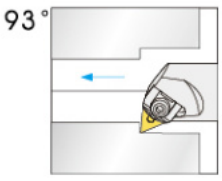


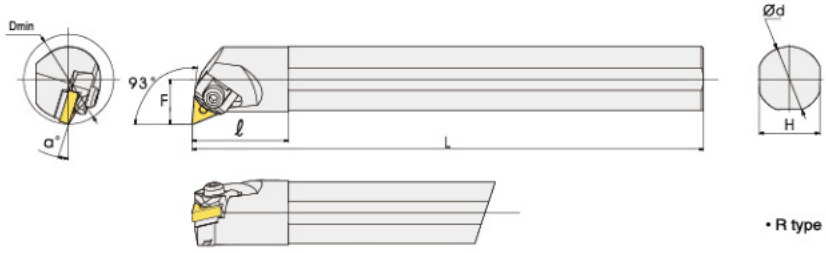


• R type insert

Designation	Stock		Size							Inserts	Shim	pin	Wedge	Screw	Slopper ring	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α							
S25R-WTQNR/L16			32	25	23	200	47	17	13°	TN□□1604□□	-	SCP311	MCW3-P25N	WCS626-4	ER04	HW25L HW40L
S32S-WTQNR/L16			40	32	30	250	47	22	17°		MST-32M	SCP317	MCW3-P25			
S40T-WTQNR/L16			50	40	38	300	60	27	15°							
S32S-WTQNR/L22			44	32	30	250	47	22	17°	TN□□2204□□	MST-432	SCP418	MCW4-P30N	WCS626-4	ER04	HW30L HW40L
S40T-WTQNR/L22			52	40	38	300	60	27	15°							

WTUNR

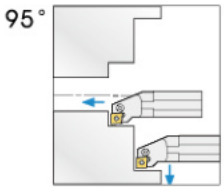


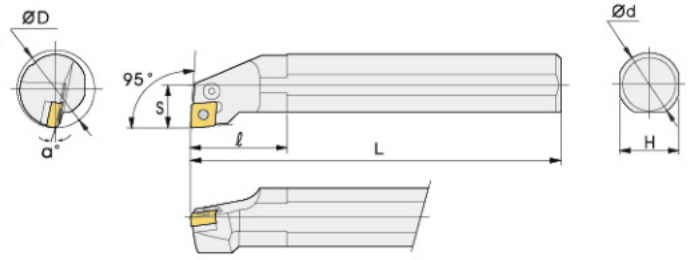


• R type insert

Designation	Stock		Size							Inserts	Shim	pin	Wedge	Screw	Slopper ring	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α							
S20S-WTUNR/L16			32	20	18	250	47	16	17°	TN□□1604□□	-	SCP311	MCW3-P25N	WCS626-4	ER04	HW25L HW40L
S25T-WTUNR/L16			32	25	23	300	47	17	12°							
S32U-WTUNR/L16			40	32	30	350	60	22	10°		MST-32M	SCP317	MCW3-P25			
S40V-WTUNR/L16			50	40	38	400	47	27	10°							
S40V-WTUNR/L22			50	40	38	400	60	27	10°	TN□□2204□□	MST-432	SCP418	MCW4-P30N	WCS626-4	ER04	HW30L HW40L
S50W-WTUNR/L22			63	50	48	450	60	35	8°							

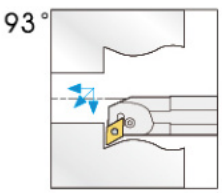
PCLNR/L

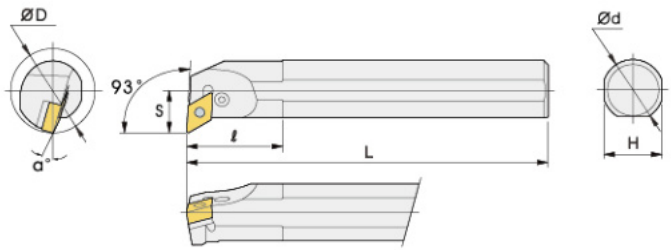




Designation	Stock		Size							Inserts	Lever	Screw	Shim	Shim Pin	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α						
S16Q-PCLNR/L09			20	16	15	180	28	11	12°	CN□□0903□□	LV3C	VHX0509B	-	-	HW20L
S20Q-PCLNR/L09			25	20	18	180	32	13	11°						
S25R-PCLNR/L09			32	25	23	200	36	17	10°						
S25R-PCLNR/L12			32	25	23	200	40	17	12°	CN□□1204□□	LV4A	VHX0613A	-	-	HW25L
S32S-PCLNR/L12			40	32	30	250	50	22	11°		LV4	VHX0821	SC42B	SP4	HW30L
S40T-PCLNR/L12			50	40	37	300	55	27	10°						
S50U-PCLNR/L12			63	50	47	350	55	35	10°						
S50U-PCLNR/L19			70	50	47	350	63	35	10°	CN□□1906□□	LV6	VHX1207	SC63	SP6	HW40L

PDUNR/L



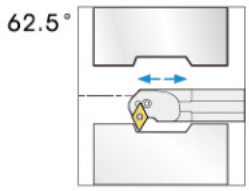


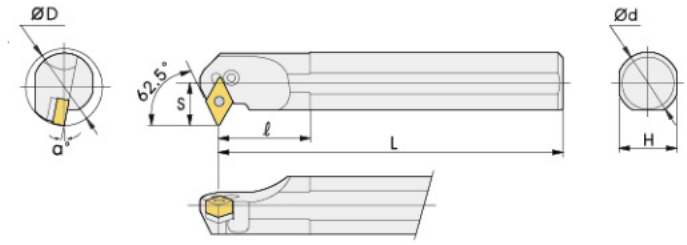
• R type insert

Designation	Stock		Size							Inserts	Lever	Screw	Shim	Shim Pin	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α						
S20Q-PDUNR/L11			25	20	18	180	30	13	16°	DN□□1104□□	LV3D	VHX0509B	-	-	HW20L
S25R-PDUNR/L11			32	25	23	200	35	17	13°						
S32S-PDUNR/L11			40	32	30	250	40	22	16°		LV3	VHX0617	SD317	SP3	HW25L
S32S-PDUNR/L1506			40	32	30	250	50	22	16°	DN□□1506□□	LV4B	VHX0821	SD42	SP4	HW30L
S40T-PDUNR/L1506			50	40	37	300	50	27	11°						
S32S-PDUNR/L1504			40	32	30	250	50	22	16°	DN□□1504□□	LV4	VHX0821	SD42	SP4	HW40L
S40T-PDUNR/L1504			50	40	37	300	50	27	11°						

Lever Lock System

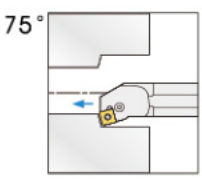
PDSNR/L

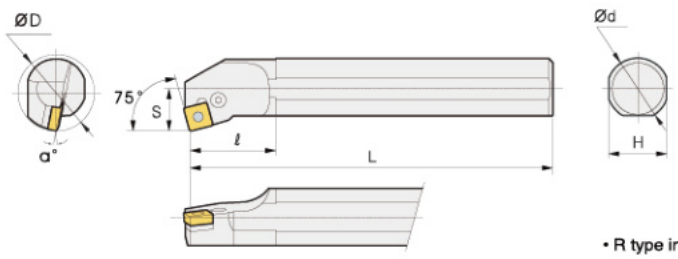




Designation	Stock		Size							Inserts	Lever	Screw	Shim	Shim Pin	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α						
S32S-PDSNR/L1506	●		40	32	30	250	45	22	11°	DN□□1506□□	LV4B	VHX0821	SD42	SP4	HW30L
S40T-PDSNR/L1506	●		50	40	37	300	45	27	11°						
S32S-PDSNR/L1504	●		40	32	30	250	45	22	11°	DN□□1504□□	LV4	VHX0821	SD42	SP4	HW30L
S40T-PDSNR/L1504	●		50	40	37	300	45	27	11°						

PSKNR/L

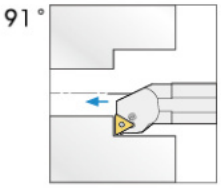


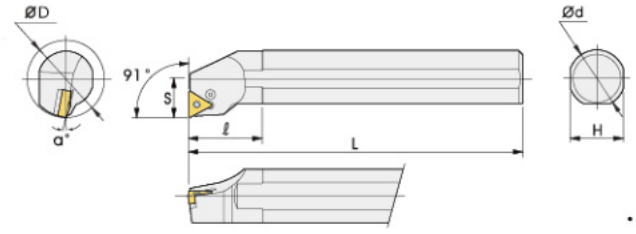


• R type insert

Designation	Stock		Size							Inserts	Lever	Screw	Shim	Shim Pin	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α						
S25R-PSKNR/L12	●	●	32	25	23	200	42	17	12°	SN□□1204□□	LV4B	VHX0613A	-	-	HW25L
S32S-PSKNR/L12	●	●	40	32	30	250	45	22	12°		LV4	VHX0821	SS42B	SP4	HW30L
S40T-PSKNR/L12	●	●	50	40	37	300	50	27	12°						

PTFNR/L

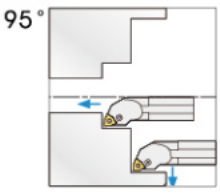


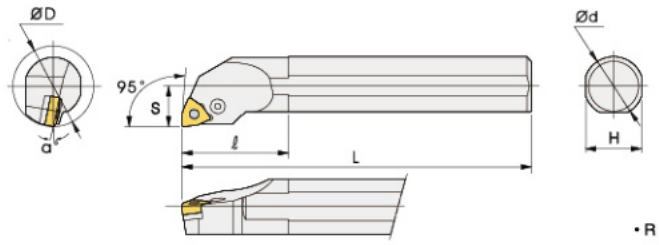


• R type insert

Designation	Stock		Size							Inserts	Lever	Screw	Shim	Shim Pin	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α						
S16Q-PTFNR/L11			20	16	23	180	25	11	20°	TN□□1604□□	LV2	VHX0509B	-	-	HW25L
S20Q-PTFNR/L11			25	20	30	180	32	13	18°						
S25R-PTFNR/L11			32	25	38	200	40	17	15°						
S25R-PTFNR/L16	●	●	32	25	23	200	42	17	15°	TN□□1103□□	LV3B	VHX0512B	-	-	HW20L
S32S-PTFNR/L16	●	●	44	32	30	250	50	22	12°		LV3	VHX0617	ST317B	SP3	HW25L
S40T-PTFNR/L16	●	●	54	40	37	300	55	27	10°						

PWLNR/L





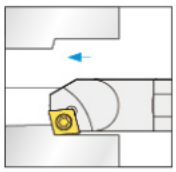
• R type insert

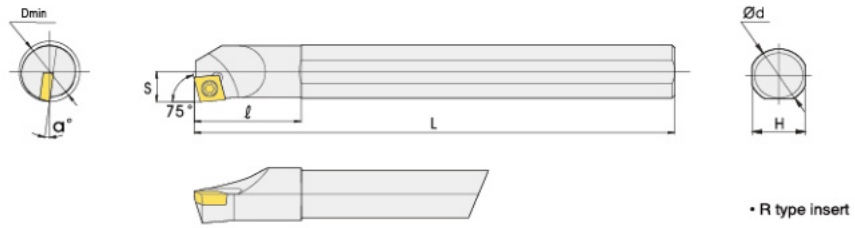
Designation	Stock		Size							Inserts	Lever	Screw	Shim	Shim Pin	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α						
S16Q-PWLNR/L06			20	16	15	180	25	11	13°	WN□□0604□□	LV3B	VHX0512B	-	-	HW20L
S20Q-PWLNR/L06			25	20	18	180	40	13	12°						
S25R-PWLNR/L06			32	25	23	200	40	17	12°						
S32S-PWLNR/L06	●	●	44	32	30	250	45	22	10°		LV3	VHX0617	SW317	SP3	HW25L
S20Q-PWLNR/L08	●	●	25	20	18	180	32	13	13°	WN□□0804□□	LV4A	VHX0613A	-	-	HW25L
S25R-PWLNR/L08	●	●	32	25	23	200	45	17	12°						
S32S-PWLNR/L08	●	●	44	32	30	250	50	22	10°		LV4	VHX0821	SW42	SP4	HW30L
S40T-PWLNR/L08	●	●	50	40	42	300	55	30	13°						

Screw on System

SCKCR/L

75°



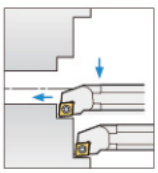


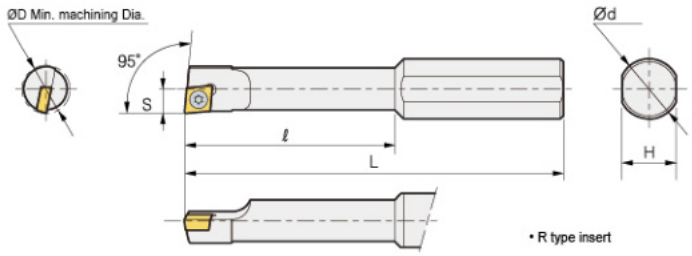
• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S08K-SCKCR/L06	●		10	8	7	125	21	5.5	13°	CC□□0602□□	M2.5X5	T-8
S10K-SCKCR/L06	●		11	10	9	125	25	6	12°		M2.5X6	
S12M-SCKCR/L06	●		13	12	11	150	25	7	10°			
S12M-SCKCR/L09	●		14	12	11	150	30	8	12°			
S16Q-SCKCR/L09	●		17	16	15	180	36	9.5	10°	CC□□09T3□□	M3.5X9	T-15
S20Q-SCKCR/L09	●		21	20	18	180	38	11.5	8°			
S25R-SCKCR/L12			27	26	23	200	42	15	8°	CC□□1204□□	M5X12	T-20

SCLCR/L

95°

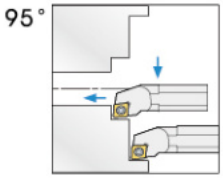


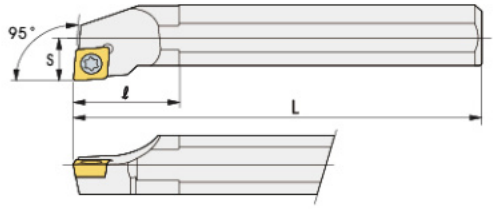


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S0510J-SCLCR/L03			6	10	9	110	15	3	15°	CC□□0301□□	M1.6x3	T-6
S0610J-SCLCR/L03			7	10	9	110	15	3	15°			
S0610J-SCLCR/L04			7	10	9	110	15	3.5	13°	CC□□0401□□	M2.0x4	T-6
S0612K-SCLCR/L04	●	●	7	12	11	125	18	3.5	13°			
S0812K-SCLCR/L06	●	●	10	12	11	125	24	5	13°	CC□□0602□□	M2.5X6	T-8
S0616M-SCLCR/L06	●	●	7	16	11	150	18	3.5	12°			
S1016M-SCLCR/L06	●	●	13	16	15	150	30	6	12°			
S1216M-SCLCR/L06	●	●	16	16	15	150	36	7	10°			
S1020M-SCLCR/L06	●	●	13	20	18	150	30	6	8°			
S1220M-SCLCR/L06	●	●	16	20	18	150	36	7	8°			
S1220M-SCLCR/L09			16	20	18	150	36	7.5	8°	CC□□09T3□□	M3.5X9	T-15

SCLCR/L



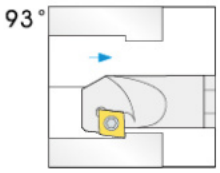


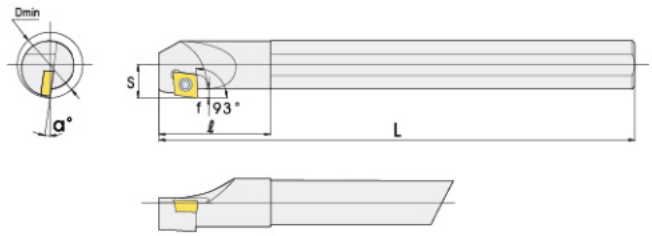
• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S07K-SCLCR/L06	●	●	8	8	7	125	18	5	15°	CC□□0602□□	M2.5X5	T-8
S08K-SCLCR/L06	●	●	9	8	7	125	18	5.5	13°			
S10K-SCLCR/L06	●	●	11	10	9	125	22	7	12°			
S12M-SCLCR/L06	●	●	13	12	11	150	25	8	10°		M2.5X6	
S12M-SCLCR/L09	●	●	16	14	13	150	27	5.5	10°	CC□□09T3□□	M3.5X9	T-15
S14Q-SCLCR/L09	●	●	15	12	11	180	27	8	12°			
S16Q-SCLCR/L09	●	●	17	16	15	180	34	11	10°			
S20Q-SCLCR/L09	●	●	21	20	18	180	38	13	8°			
S25R-SCLCR/L09	●	●	26	25	23	200	45	17	6°			
S32S-SCLCR/L09	●	●	33	32	30	250	45	22	4°			
S20Q-SCLCR/L12	●	●	21	20	18	180	42	13	8°	CC□□1204□□	M5.0X12	T-20
S25R-SCLCR/L12	●	●	26	25	23	200	45	17	8°			
S32S-SCLCR/L12	●	●	33	32	30	250	45	22	6°			
S40T-SCLCR/L12			41	40	38	300	48	27	4°			

Screw on System

SCZCR/L

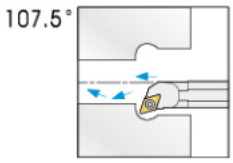


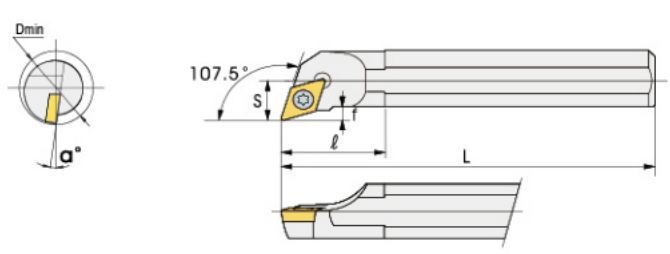


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S08K-SCZCR/L06B	●		10	8	7	125	25	6.5	13°	CC□□0602□□	M2.5X5	T-8
S10K-SCZCR/L06B	●	●	12	10	9	125	27	7.5	12°		M2.5X6	
S12M-SCZCR/L06B	●	●	14	12	11	150	32	8.5	10°			
S16Q-SCZCR/L09	●	●	21	16	15	180	35	13	10°			
S20Q-SCZCR/L09			25	20	18	180	40	15	8°	CC□□09T3□□	M3.5X9	T-15
S25R-SCZCR/L09			32	28	23	200	42	18	6°			

SDQCR/L

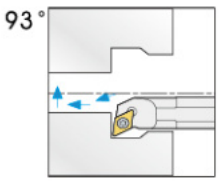


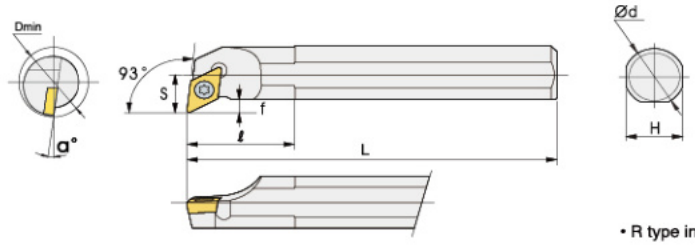


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S08K-SDQCR/L07	●	●	10	7	7	125	18	6	12°	DC□□0702□□	M2.5X5	T-8
S10K-SDQCR/L07	●	●	11	10	9	125	24	7	10°			
S12M-SDQCR/L07	●	●	15	12	11	150	30	9	8°		M2.5X6	
S16Q-SDQCR/L07	●	●	17	16	15	180	30	11	6°			
S20Q-SDQCR/L07	●	●										
S16Q-SDQCR/L11	●	●								DC□□11T3□□	M3.5X9	T-15
S20Q-SDQCR/L11	●	●	23	20	18	180	42	13	5°			
S25R-SDQCR/L11	●	●	29	25	23	200	42.5	17	4°			
S32S-SDQCR/L11	●	●	40	32	30	250	45	22	4°			

SDUCR/L

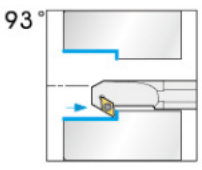


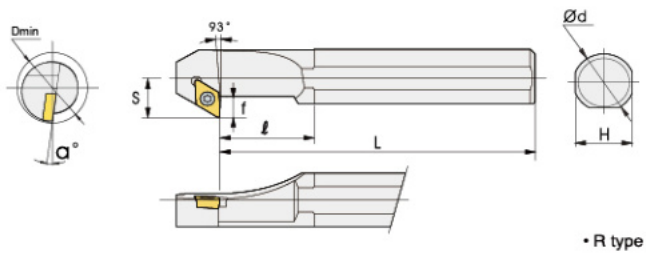


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S08K-SDUCR/L07	●	●								DC□□0702□□	M2.5X5	T-8
S10K-SDUCR/L07	●	●	15	10	9	125	25	8	10°			
S12M-SDUCR/L07	●	●	17	12	11	150	25	9	8°		M2.5X6	
S16Q-SDUCR/L07	●	●	22	16	15	180	30	11	6°			
S16Q-SDUCR/L11	●	●	19	16	15	180	34	11	8°			
S20Q-SDUCR/L11	●	●	23	20	18	180	40	13	6°	DC□□11T3□□	M3.5X9	T-15
S25R-SDUCR/L11	●	●	29	25	23	200	42	17	5°			
S32S-SDUCR/L11	●	●	38	32	30	250	45	22	4°			
S40T-SDUCR/L11			45	40	38	300	50	25	4°			
S50U-SDUCR/L11			60	50	48	350	55	31	0°			

SDZCR/L

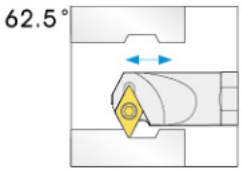


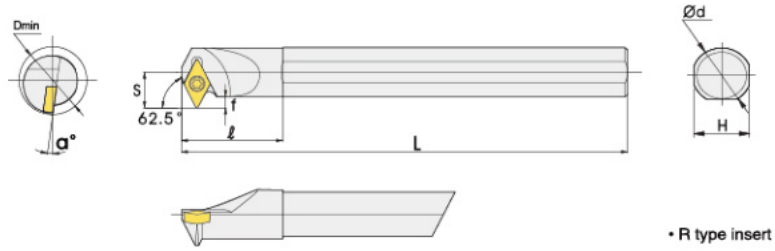


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S10K-SDZCR/L07	●	●	13	10	9	125	22	8.5	12°	DC□□0702□□	M2.5X5	T-8
S12M-SDZCR/L07	●	●	16	12	11	150	31	10	10°			
S16Q-SDZCR/L07	●	●	21	16	15	180	37	13	6°		M2.5X8	
S20Q-SDZCR/L11	●	●	25	20	18	180	50	15	8°	DC□□11T3□□	M3.5X9	T-15
S25R-SDZCR/L11	●	●	29	25	23	202	45	17	6°			

SDWCR/L

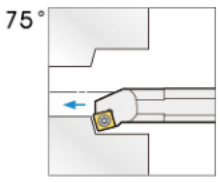


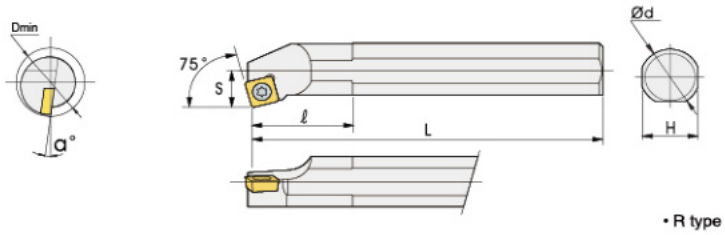


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S10K-SDWCR/L07	●	●	16	12	11	150	25	10.5	10°	DC□□0702□□	M2.5X5	T-8
S12M-SDWCR/L07	●	●	20	16	15	180	34.5	12.5	8°			
S16Q-SDWCR/L07	●	●	27	20	18	180	30	14.5	6°		M2.5X6	
S20Q-SDWCR/L07	●	●	24	20	18	180	40	14.5	6°			
S20Q-SDWCR/L11	●	●	29	25	23	200	45	17	5°	DC□□11T3□□	M3.5X9	T-15
S25R-SDWCR/L11	●	●	40	32	30	250	45	22	2°			
S32S-SDWCR/L11	●	●										

SSKCR/L

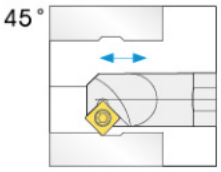


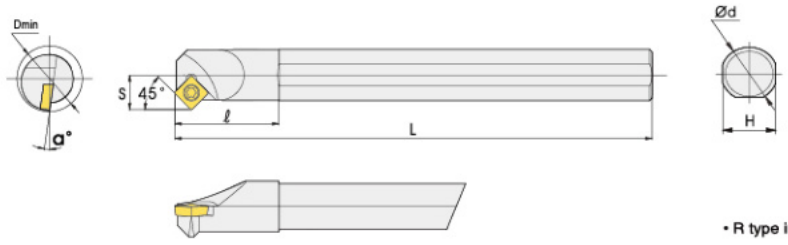


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S12M-SSKCR/L09	●	●	16	12	11	150	30	8.5	12°	SC□□09T13□□	M3.5X9	T-15
S16Q-SSKCR/L09	●	●	18	16	15	180	32.6	11.5	10°			
S20Q-SSKCR/L09	●		23	20	16	180	40	13	8°			
S25R-SSKCR/L09	●		31	25	23	200	40	17	6°			

SSSCR/L

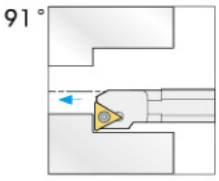


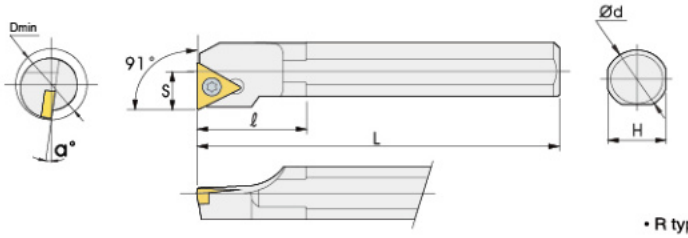


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S12M-SSSCR/L09	●	●	15	12	11	150	32	9	12°	SC□□09T3□□	M3.5X9	T-15
S16Q-SSSCR/L09	●	●	19	16	15	180	32	11.5	10°			
S20Q-SSSCR/L09	●		27	20	18	180	40	13.5	8°			
S25R-SSSCR/L09	●		27	25	23	200	40	15	6°			
S32S-SSSCR/L09			38	32	30	250	46	22	6°			
S20Q-SSSCR/L12			20	20	18	180	42	13.5	8°	SC□□1204□□	M5.0X12	T-20
S25R-SSSCR/L12			25	25	23	200	40	17	6°			
S32S-SSSCR/L12			32	32	30	250	46	22	4°			

STFPR/L

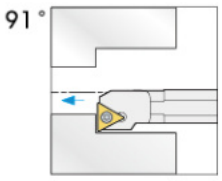


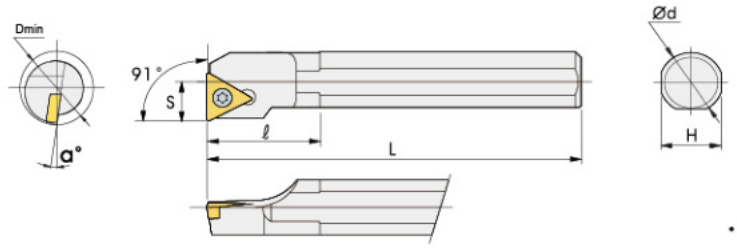


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S08K-STFPR/L09	●	●	9	8	7	125	20	5	10°	TP□□0902□□	M2.5X6	T-8
S10K-STFPR/L09	●	●	11	10	9	125	22	6	13°			
S10K-STFPR/L11	●	●	11	10	9	125	22	6	12°	TP□□1103□□	M3.0X6	T-8
S12M-STFPR/L11	●	●	12	12	11	150	24	7	10°		M3.0X8	
S16Q-STFPR/L11	●	●	17	16	15	180	30	9	8°			
S20Q-STFPR/L11	●	●	21	20	18	180	37	11	6°			

STFCR/L

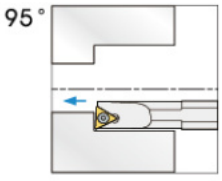


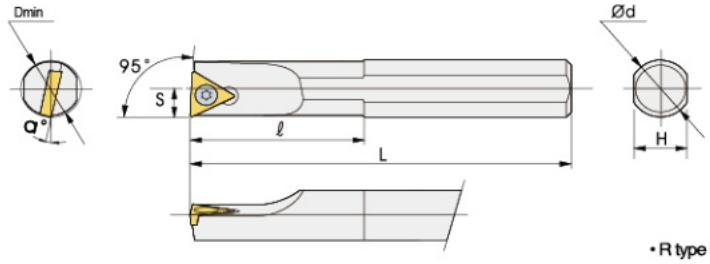


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S08K-STFCR/L09	●	●	9	8	7	125	20	5.5	15°	TC□□0902□□	M2.2X5	T-6
S10K-STFCR/L09	●	●	11	10	9	125	24	6	13°			
S12M-STFCR/L09	●	●	13	12	11	150	27	7	10°			
S10K-STFCR/L11	●	●	11	10	9	125	24	6	12°	TC□□1102□□	M2.5X6	T-8
S12M-STFCR/L11	●	●	13	12	11	150	26	7	10°			
S16Q-STFCR/L11	●	●	17	16	15	180	32	9	8°		M2.5X8	
S20Q-STFCR/L11	●	●	21	20	18	180	40	11	6°			
S20Q-STFCR/L16	●	●	22	20	18	180	42	11.5	8°	TC□□16T3□□	M3.5X9	T-15
S25R-STFCR/L16	●	●	26	25	23	200	42	14	6			
S32S-STFCR/L16	●	●	33	32	30	250	45	17.5	6°			
S40T-STFCR/L16			43	40	38	300	60	23.5	4°			
S50U-STFCR/L16			51	50	48	350	65	26.5	4°			

STUCR/L

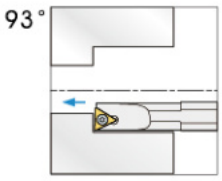


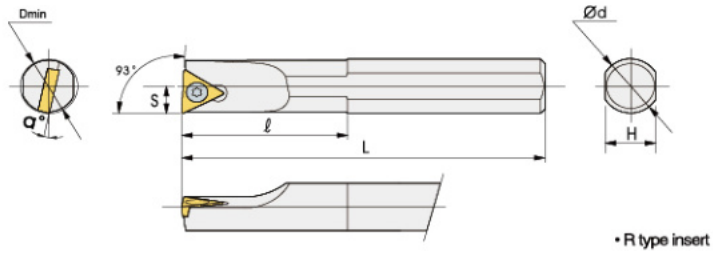


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S08K-STUCR/L09	●	●	9	8	7	125	20	5.5	15°	TC□□0902□□	M2.2X5	T-6
S08K-STUCR/L09-A16	●	●	9	16	15	125	30	5.5	15°			
S10K-STUCR/L09	●	●	11	10	9	125	22	6.5	13°			
S10K-STUCR/L09-A16	●	●	11	16	15	125	30	6.5	13°			
S10K-STUCR/L11	●	●	11	10	9	125	24	6	12°	TC□□1102□□	M2.5X5	T-8
S10K-STUCR/L11-A16	●	●	11	16	15	125	30	6	12°			
S12M-STUCR/L11	●	●	13	12	11	150	27	7	10°		M2.5X6	
S12M-STUCR/L11-A16	●	●	13	16	15	150	30	7	10°			
S16Q-STUCR/L11	●	●	17	16	15	180	32	9	8°			
S20Q-STUCR/L11	●	●	21	20	18	180	37	11	6°		M2.5X8	
S25R-STUCR/L11	●	●	26	25	23	200	42	14	6°			
S20Q-STUCR/L16	●	●	23	20	18	180	42	13	7°	TC□□16T3□□	M3.5X9	T-15
S25R-STUCR/L16	●		26	25	23	200	45	14	6°			
S32S-STUCR/L16	●		33	32	30	250	47	17.5	4°			
S40T-STUCR/L16	●		42	40	38	300	55	22	4°			
S50U-STUCR/L16			51	50	48	350	65	26.5	4°			

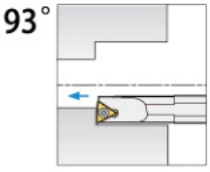
STUPR/L

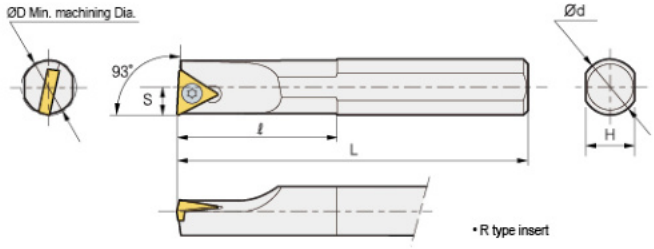




Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S08K-STUPR/L09	●	●	9	8	7	125	20	6	10°	TP□□0902□□	M2.5X6	T-8
S10K-STUPR/L09	●	●	11	10	9	125	22	7	13°			
S10K-STUPR/L11	●	●	11	10	9	125	22	6	12°	TP□□1103□□	M3.0X6	T-8
S12M-STUPR/L11	●	●	13	12	11	150	27	7	10°			
S16Q-STUPR/L11	●	●	17	16	15	180	32	9	8°		M3.0X8	
S20Q-STUPR/L11	●	●	21	20	18	180	37	11	6°			

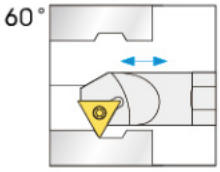
STUBR/L

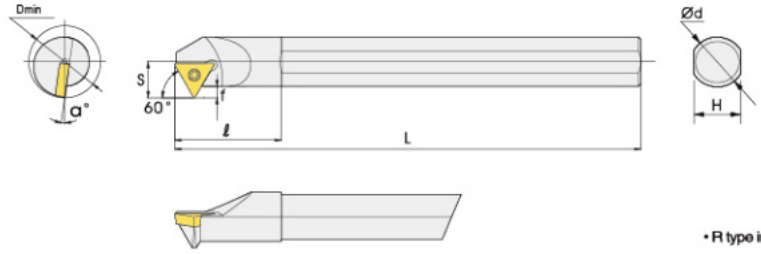




Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S06H-STUBR/L06	●	●	7	6	5	100	30	3.5	12°	TB□□0601□□	M2.0X4	T-6
S07K-STUBR/L06	●	●	8	8	6	125	30	4	12°			
S08K-STUBR/L06	●	●	10	8	7	125	30	5	12°			
S0608J-STUBR/L06	●	●	7	8	7	110	20	3.5	12°			
S0610K-STUBR/L06	●	●	7	10	9	125	20	3.5	12°			
S0712K-STUBR/L06	●	●	8	12	11	125	20	4	12°			
S0616K-STUBR/L06	●	●	7	16	15	125	30	3.5	12°			
S0716M-STUBR/L06	●	●	8	16	15	150	30	4	12°			

STWCR/L



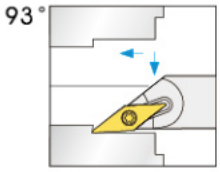


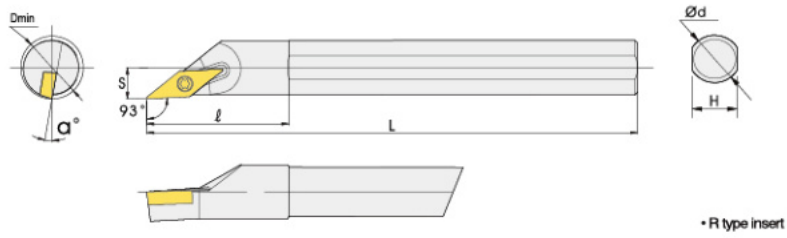
• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S08K-STWCR/L09	●		11	8	7	125	25	6	12°	TC□□0902□□	M2.2X5	T-8
S10K-STWCR/L11	●		13	10	9	125	23	8	10°	TC□□1102□□	M2.5X6	T-8
S12M-STWCR/L11	●		15	12	11	150	30	9	8°			
S16Q-STWCR/L11	●		19	16	15	180	35	11	6°		M2.5X8	
S20Q-STWCR/L11			23	20	18	180	35	13	4°			
S20Q-STWCR/L16			25	20	19	180	40	14.5	8°	TC□□16T3□□	M3.5X9	T-15
S25R-STWCR/L16			29	25	24	200	35	17	6°			
S32S-STWCR/L16			39	32	30	250	40	22	4°			
S40T-STWCR/L16			50	40	38	320	50	27	2°			
S50U-STWCR/L16			60	50	48	350	60	31	0°			

Screw on system

SVJBR/L

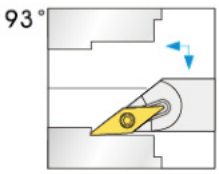


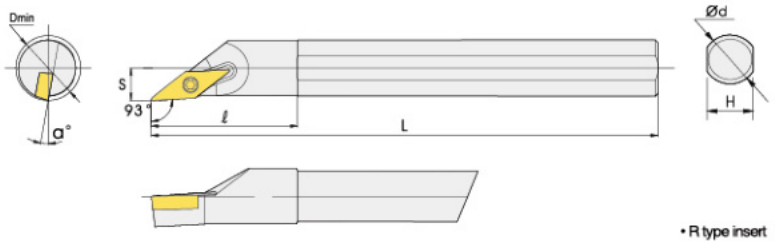


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S10K-SVJBR/L11	●		11	10	9	125	28	6	13°	VB□□1103□□	M2.5x6	T-8
S12M-SVJBR/L11	●	●	13	12	11	150	35	7	10°			
S16Q-SVJBR/L11	●	●	17	16	15	180	40	9.5	10°			
S20Q-SVJBR/L11	●	●	21	20	18	180	45	11.5	8°		M2.5x8	
S16Q-SVJBR/L16	●		19	16	15	180	48	11.5	11°	VB□□1604□□	M3.5x9	T-15
S20Q-SVJBR/L16			21	20	18	180	52	11.5	11°			
S25R-SVJBR/L16			26	25	23	200	54	14	7°			

SVJCR/L

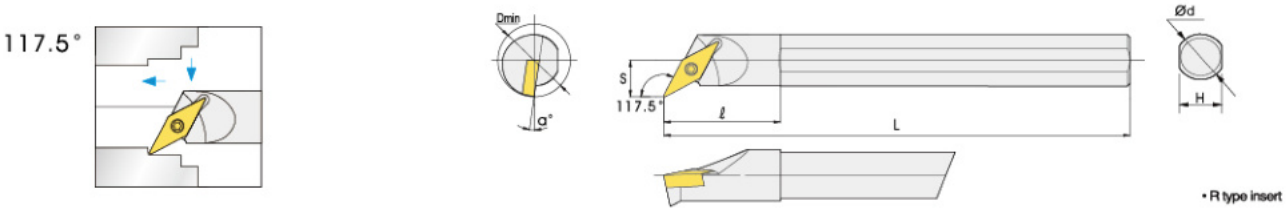




• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S10K-SVJCR/L11	●	●	11	10	9	125	28	6	13°	VC□□1103□□	M2.5x6	T-8
S12M-SVJCR/L11	●	●	13	12	11	150	35	7	10°			
S16Q-SVJCR/L11	●	●	17	16	15	180	40	9.5	10°			
S20Q-SVJCR/L11	●	●	21	20	18	180	45	11.5	8°		M2.5x8	
S16Q-SVJCR/L16	●	●	19	16	15	180	48	11.5	11°	VC□□1604□□	M3.5x9	T-15
S20Q-SVJCR/L16	●		21	20	18	180	52	14	11°			
S25R-SVJCR/L16	●		26	25	23	200	54	11.5	7°			

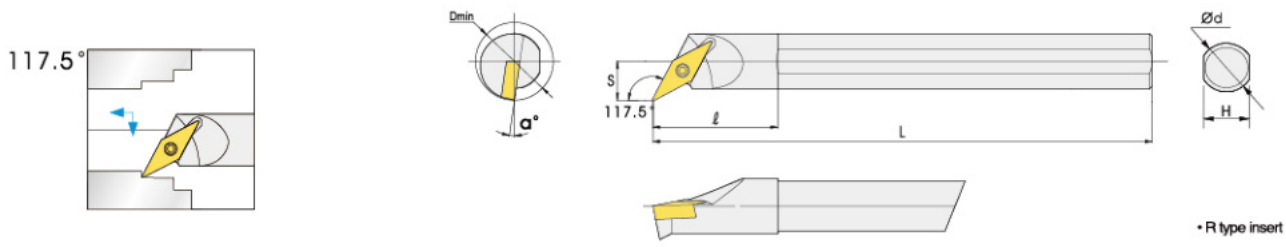
SVQBR/L



• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S12M-SVQBR/L11	●	●	16	12	11	150	30	10	10°	VB□□1103□□	M2.5x6	T-8
S16Q-SVQBR/L11	●	●	19	16	15	180	34	11.5	10°		M2.5x8	
S20Q-SVQBR/L11	●	●	24	20	18	180	45	14	8°			
S20Q-SVQBR/L16	●	●	24	20	18	180	50	14	8°	VB□□1604□□	M3.5x9	T-15
S25R-SVQBR/L16	●	●	29	25	23	200	50	17	6°			
S32S-SVQBR/L16	●	●	38	32	30	250	55	22.5	8°			
S40T-SVQBR/L16			47	40	38	300	55	27	6°			
S50U-SVQBR/L16			57	50	48	350	65	32	4°			

SVQCR/L

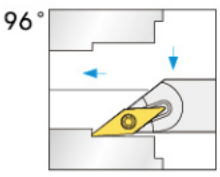


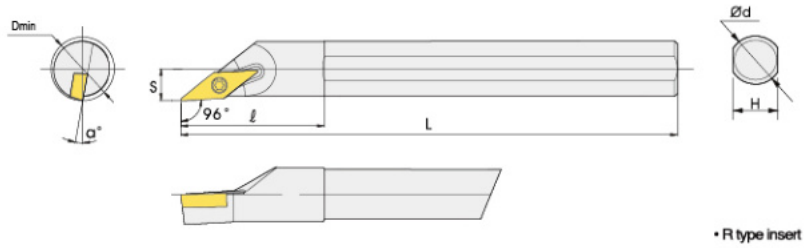
• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S12M-SVQCR/L11			16	12	11	150	30	10	10°	VC□□1103□□	M2.5x6	T-8
S16Q-SVQCR/L11	●	●	22	19	15	180	35	11.5	10°		M2.5x8	
S20Q-SVQCR/L11	●	●	27	24	18	180	34	14	8°			
S20Q-SVQCR/L16	●	●	27	24	18	180	45	14	8°	VC□□1604□□	M3.5x9	T-15
S25R-SVQCR/L16	●	●	32	29	23	200	50	17	6°			
S32S-SVQCR/L16	●	●	41	38	30	250	55	22.5	8°			
S40T-SVQCR/L16	●		50	47	38	300	55	27	6°			
S50U-SVQCR/L16			61	60	48	350	65	32	4°			

Screw on system

SVXBR/L

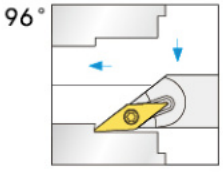


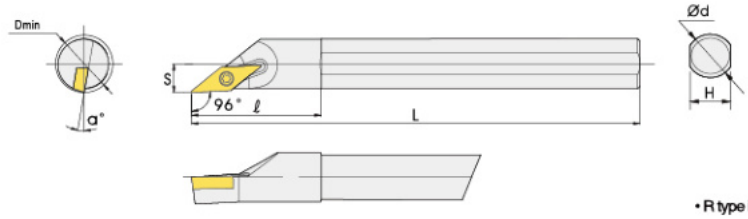


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S16Q-SVXBR/L11			19	16	15	180	40	11	10°	VB□□1103□□	M2.5x8	T-8
S20Q-SVXBR/L11	●	●	23	20	18	180	45	13	8°			
S20Q-SVXBR/L16	●	●	23	20	18	180	45	13	8°	VB□□1604□□	M3.5x9	T-15
S25R-SVXBR/L16	●	●	30	25	23	200	50	17	6°			
S32S-SVXBR/L16	●	●	38	32	30	250	60	22	8°			
S40T-SVXBR/L16	●	●	47	40	38	300	65	27	6°			

SVXCR/L

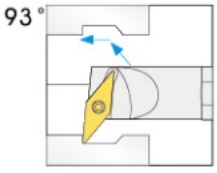


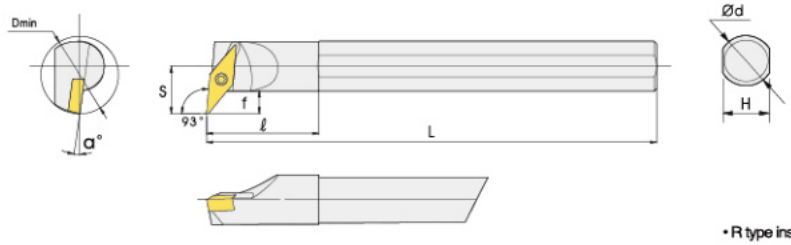


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S16Q-SVXCR/L11	●	●	19	16	15	180	40	11	10°	VC□□1103□□	M2.5x8	T-8
S20Q-SVXCR/L11	●	●	23	20	18	180	45	13	8°			
S20Q-SVXCR/L16	●	●	23	20	18	180	50	13	8°	VC□□1604□□	M3.5x9	T-15
S25R-SVXCR/L16	●	●	30	25	23	200	50	17	6°			
S32S-SVXCR/L16	●		38	32	30	250	60	22	8°			
S40T-SVXCR/L16			47	40	38	300	65	27	6°			

SVUBR/L

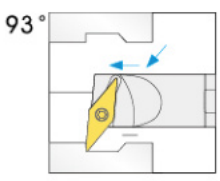


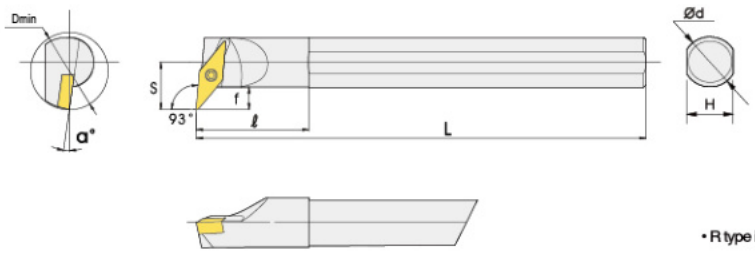


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S16Q-SVUBR/L11	●	●	20	16	15	180	30	11.5	10°	VB□□1103□□	M2.5x8	T-8
S20Q-SVUBR/L11	●	●	24	20	18	180	30	14	8°			
S20R-SVUBR/L16	●	●	29	20	18	200	45	19	8°	VB□□1604□□	M3.5x9	T-15
S25R-SVUBR/L16	●	●	32	25	23	200	50	20	6°			
S32S-SVUBR/L16	●	●	38	32	30	250	50	22	6°			
S40T-SVUBR/L16			47	40	38	300	55	27	4°			

SVUCR/L



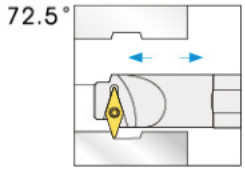


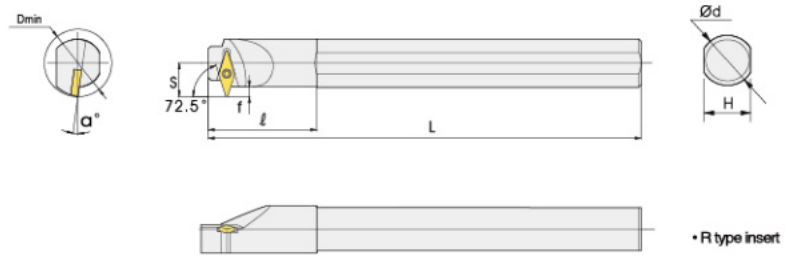
• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S16Q-SVUCR/L11	●	●	20	16	15	180	30	11.5	10°	VC□□1103□□	M2.5x8	T-8
S20Q-SVUCR/L11	●	●	24	20	18	180	30	14	8°			
S20R-SVUCR/L16	●	●	29	20	18	200	45	19	8°	VC□□1604□□	M3.5x9	T-15
S25R-SVUCR/L16	●	●	32	25	23	200	50	20	6°			
S32S-SVUCR/L16	●	●	38	32	30	250	50	22	6°			
S40T-SVUCR/L16			47	40	38	300	55	27	4°			

Screw on system

SVWBR/L

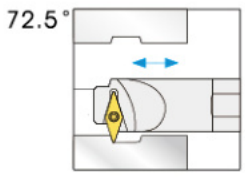


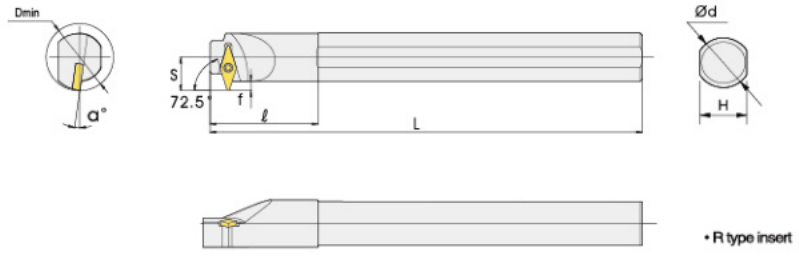


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S20Q-SVWBR/L11	●		24	20	18	180	35	14	8°	VB□□1103□□	M2.5x8	T-8
S25R-SVWBR/L16	●	●	35	25	23	200	40	23	5°	VB□□1604□□	M3.5x9	T-15
S32S-SVWBR/L16	●	●	42	32	30	250	45	26	5°			

SVWCR/L

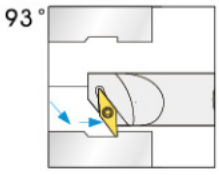


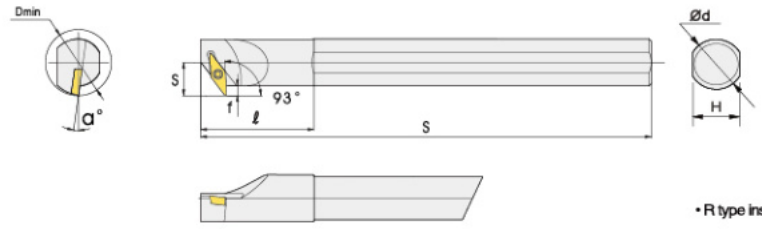


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S20Q-SVWCR/L11	●		24	20	18	180	35	14	8°	VC□□1103□□	M2.5x8	T-8
S25R-SVWCR/L16	●	●	35	25	23	200	40	23	5°	VC□□1604□□	M3.5x9	T-15
S32S-SVWCR/L16	●	●	42	32	30	250	45	26	5°			

SVZBR/L

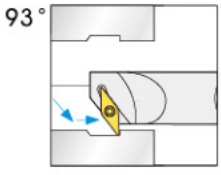


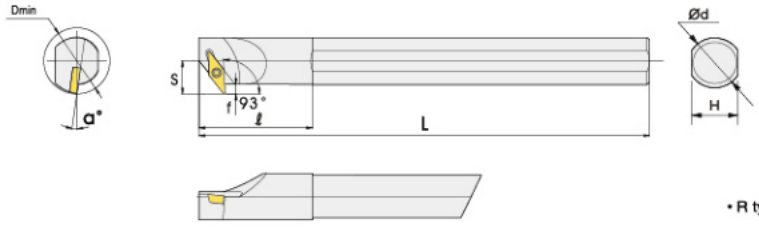


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S16Q-SVZBR/L11	●		19	16	15	180	30	11.5	10°	VB□□1103□□	M2.5x8	T-8
S20Q-SVZBR/L11	●	●	24	20	18	180	35	14	8°			
S25R-SVZBR/L16	●	●	33	25	23	200	50	19.5	6°	VB□□1604□□	M3.5x9	T-15
S32S-SVZBR/L16			39	32	30	250	50	23.5	8°			
S40T-SVZBR/L16			47	40	38	300	60	27	6°			

SVZCR/L



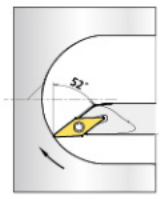


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S16Q-SVZCR/L11	●		19	16	15	180	30	11.5	10°	VC□□1103□□	M2.5x8	T-8
S20Q-SVZCR/L11	●		24	20	18	180	35	14	8°			
S25R-SVZCR/L16	●		33	25	23	200	50	19.5	6°	VC□□1604□□	M3.5x9	T-15
S32S-SVZCR/L16			39	32	30	250	50	23.5	8°			
S40T-SVZCR/L16			47	40	38	300	60	27	6°			

Screw on system

SVJBR/L, SVJCR/L



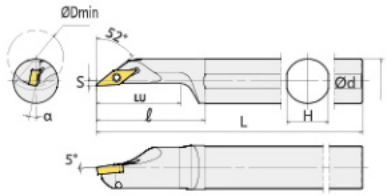


Fig. 1

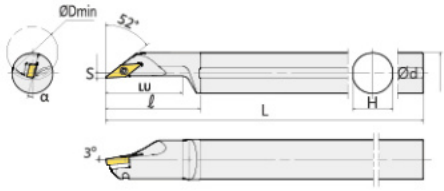
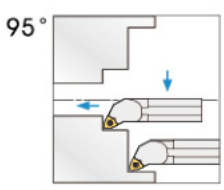
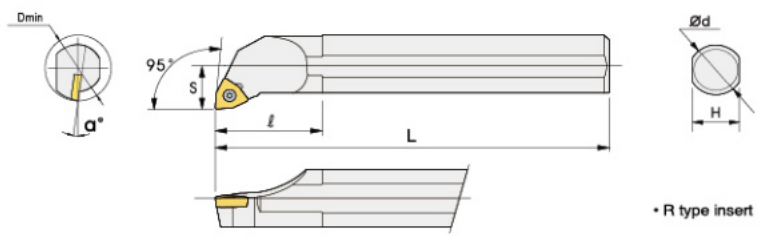


Fig. 2

Designation	Stock		Size								Inserts	Screw	Wrench	Fig.
	R	L	ØDmin	Ød	H	L	ℓ	LU	S	α				
S12M-SVJCR/L08-16A	●	●	16	12	11	150	33	26	2	5°	VC□□0802□□	M2.0x5	T-6	1
S16Q-SVJCR/L08-20A			20	16	15	180	43	36	2	5°				1
S20Q-SVJBR/L11-25A			25	20	19	180	48	37.5	2	5°	VB□□1103□□	M2.5x7	T-8	1
S25R-SVJBR/L11-30A			30	25	24	200	58	45	3.5	5°				1
S32S-SVJBR/L16-40A			40	32	31	250	74	60	3.5	8°	VB□□1604□□	M3.5x9	T-15	2
S40T-SVJBR/L16-50A			50	40	39	300	91	75	4.5	7°				2

SWLCR/L

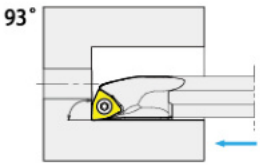


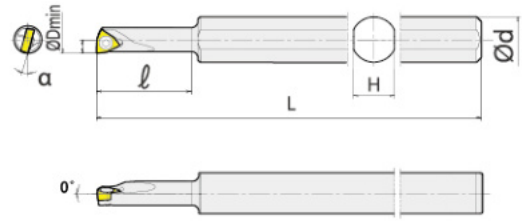


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S12M-SWLCR/L06			14	12	11	150	37	8.5	13°	WC□□06T3□□	M3.5x9	T-15
S16Q-SWLCR/L06			19	16	15	180	40	11	10°			
S20Q-SWLCR/L06			23	20	18	180	40	13	8°			
S25R-SWLCR/L06			31	25	23	200	40	17	6°			

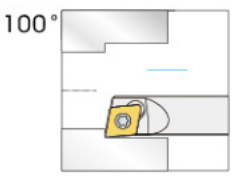
SWUBR/L

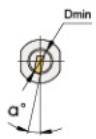


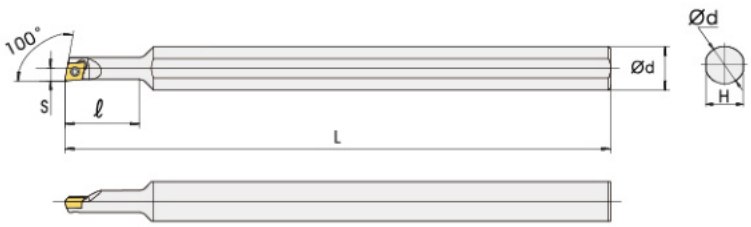


Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
S0507H-SWUBR/L06			5.5	7	6	100	18	3	15°	WB□□0601□□	M2.0x3	T-6
S0508H-SWUBR/L06			5.5	8	7	100	18	3	15°			
S0608J-SWUBR/L06			7	8	7	110	18	3.5	13°			
S0510K-SWUBR/L06	●	●	6	10	9	125	21	3	15°			
S0610K-SWUBR/L06	●	●	7	10	9	125	25	3.5	13°			
S0710K-SWUBR/L06	●	●	8	10	9	125	28	4	13°		M2.0x4	
S0810K-SWUBR/L06	●	●	10	10	9	125	-	5	13°			
S0512K-SWUBR/L06	●	●	6	12	11	125	15	3	12°		M2.0x3	
S0612K-SWUBR/L06			7	12	11	125	15	3.5	12°			
S0712K-SWUBR/L06			8	12	11	125	15	4	12°		M2.0x4	
S0812K-SWUBR/L06			10	12	11	125	15	5	12°			
S0716M-SWUBR/L06			8	16	15	150	15	4	12°			

SEXP

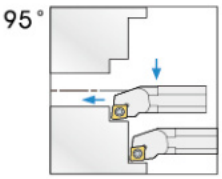


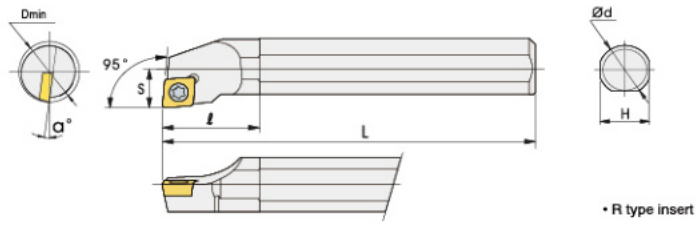




Designation	Stock		Size						Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S			
S08H-SEXPR045-A10			5.7	10	9	100	17	2.85	EPG040104	M2x4	T-6
S08H-SEXPR047-A12			7.1	12	11	100	20	3.55			

SCLCR/L

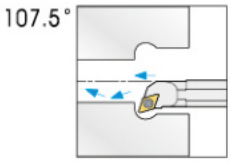


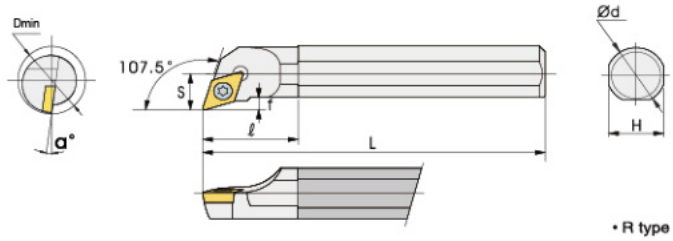


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
C04G-SCLCR/L03	●		5	4	3.7	90	15	2.5	15°	CC□□0301□□	M1.6x3	T-6
C05H-SCLCR/L03	●		6	5	4.7	100	15	3	13°			
C05H-SCLCR/L04	●		6	5	4.7	100	15	3	13°	CC□□0401□□	M2.0x4	
C06J-SCLCR/L04	●		7	6	5.7	100	15	3.5	13°			
C07K-SCLCR/L06	●		8	8	7	125	18	5	15°	CC□□0602□□	M2.5x5	T-8
C08K-SCLCR/L06	●		9	8	7	125	18	5.5	13°			
C10M-SCLCR/L06	●		11	10	9	125	22	7	12°		M2.5x6	
C12Q-SCLCR/L06	●		13	12	11	150	25	8	10°			
C12Q-SCLCR/L09	●		16	14	13	150	27	5.5	10°	CC□□09T3□□	M3.5x9	T-15
C16R-SCLCR/L09	●		17	16	15	180	34	11	10°			
C20S-SCLCR/L09	●		21	20	18	180	38	13	8°			
C25T-SCLCR/L09			26	25	23	200	45	17	6°			

SDQCR/L

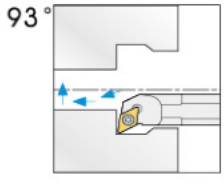


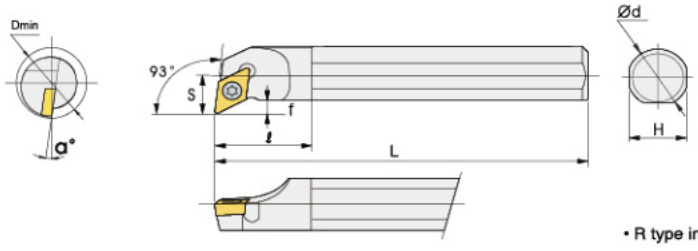


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
C08K-SDQCR/L07	●		10	7	7	125	18	6	12°	DC□□0702□□	M2.5x5	T-8
C10M-SDQCR/L07	●		11	10	9	125	24	7	10°			
C12Q-SDQCR/L07	●		15	12	11	150	30	9	8°		M2.5x6	
C16R-SDQCR/L07	●		17	16	15	180	30	11	6°			
C20S-SDQCR/L11	●		23	20	18	180	42	13	5°	DC□□11T3□□	M3.5x9	T-15
C25T-SDQCR/L11	●		29	25	23	200	42.5	17	4°			

SDUCR/L



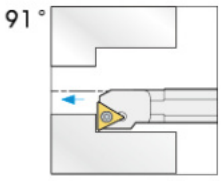


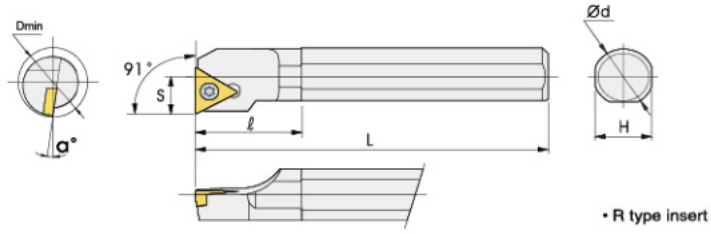
• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
C10M-SDUCR/L07	●		15	10	9	125	25	8	10°	DC□□0702□□	M2.5x5	T-8
C12Q-SDUCR/L07	●		17	12	11	150	25	9	8°		M2.5x6	
C16R-SDUCR/L07	●		22	16	15	180	30	11	6°			
C20S-SDUCR/L11	●		23	20	18	180	40	13	6°	DC□□11T3□□	M3.5x9	T-15
C25T-SDUCR/L11	●		29	25	23	200	42	17	5°			

Carbide Shank System

STFPR/L

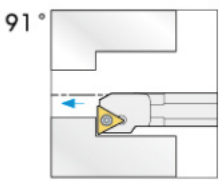


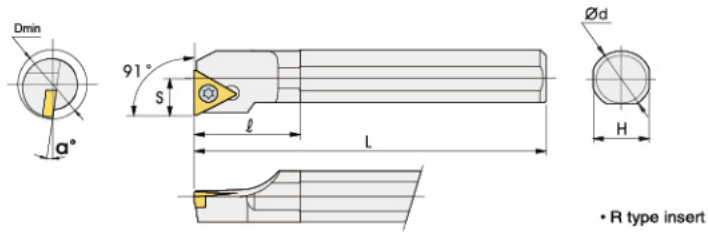


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
C08K-STFPR/L09	●		9	8	7	125	20	5.5	15°	TP□□0902□□	M2.5x6	T-6
C10M-STFPR/L09	●		11	10	9	125	24	6	13°			
C12Q-STFPR/L09	●		13	12	11	150	27	7	10°			
C10M-STFPR/L11	●		11	10	9	125	24	6	12°	TP□□1103□□	M3.0x6	T-8
C12Q-STFPR/L11	●		13	12	11	150	26	7	10°			
C16R-STFPR/L11	●		17	16	15	180	32	9	8°		M3.0x8	
C20S-STFPR/L11	●		21	20	18	180	40	11	6°			

STFCR/L

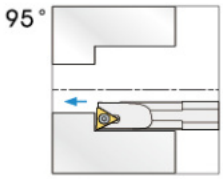


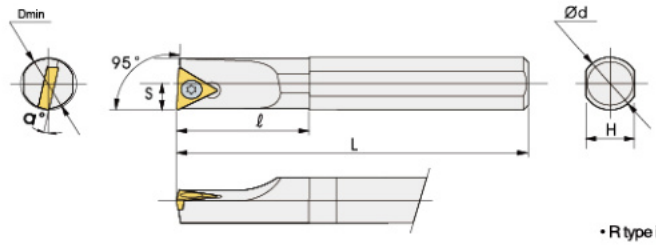


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
C08K-STFCR/L09	●		9	8	7	125	20	5.5	15°	TC□□0902□□	M2.2x5	T-6
C10M-STFCR/L09	●		11	10	9	125	24	6	13°			
C12Q-STFCR/L09	●		13	12	11	150	27	7	10°			
C10M-STFCR/L11	●		11	10	9	125	24	6	12°	TC□□1102□□	M2.5x6	T-8
C12Q-STFCR/L11	●		13	12	11	150	26	7	10°			
C16R-STFCR/L11	●		17	16	15	180	32	9	8°		M2.5x8	
C20S-STFCR/L11	●		21	20	18	180	40	11	6°			
C20S-STFCR/L16			22	20	18	180	42	11.5	8°	TC□□16T3□□	M3.5x9	T-15
C25T-STFCR/L16			26	25	23	200	42	14	6°			

STUPR/L

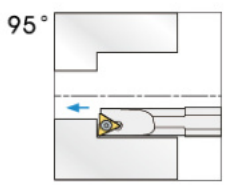


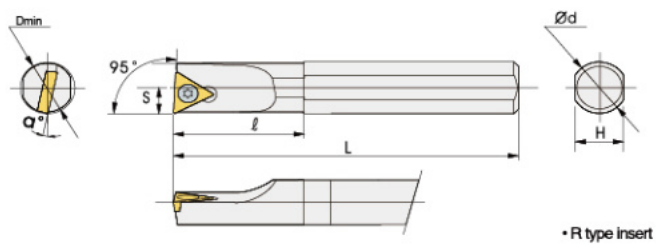


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
C08K-STUPR/L09	●		9	8	7	125	20	5.5	15°	TP□□0902□□	M2.5x6	T-6
C10M-STUPR/L09	●		11	10	9	125	24	6	13°			
C12Q-STUPR/L09	●		13	12	11	150	27	7	10°			
C10M-STUPR/L11	●		11	10	9	125	24	6	12°	TP□□1103□□	M3.0x6	T-8
C12Q-STUPR/L11	●		13	12	11	150	26	7	10°			
C16R-STUPR/L11	●		17	16	15	180	32	9	8°		M3.0x8	
C20S-STUPR/L11	●		21	20	18	180	40	11	6°			

STUCR/L

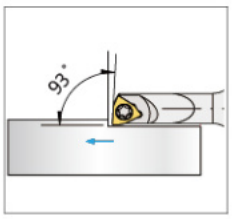


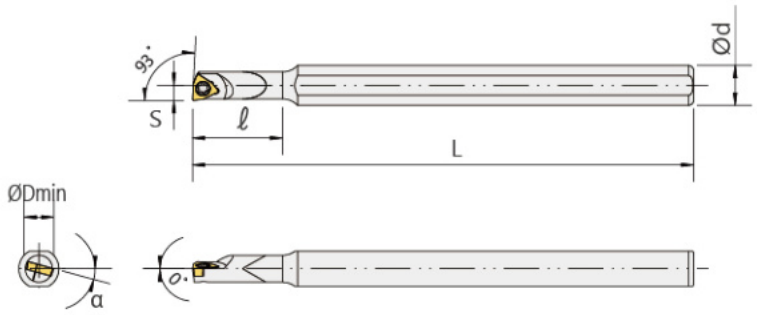


• R type insert

Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
C08K-STUCR/L09	●		9	8	7	125	20	5.5	15°	TC□□0902□□	M2.2x5	T-6
C10M-STUCR/L09	●		11	10	9	125	24	6	13°			
C12Q-STUCR/L09	●		13	12	11	150	27	7	10°			
C10M-STUCR/L11	●		11	10	9	125	24	6	12°	TC□□1102□□	M2.5x6	T-8
C12Q-STUCR/L11	●		13	12	11	150	26	7	10°			
C16R-STUCR/L11	●		17	16	15	180	32	9	8°		M2.5x8	
C20S-STUCR/L11	●		21	20	18	180	40	11	6°			
C20S-STUCR/L16	●		22	20	18	180	42	11.5	8°	TC□□16T3□□	M3.5x9	T-15
C25T-STUCR/L16	●		26	25	23	200	42	14	6°			

SWUBR/L





Designation	Stock		Size							Inserts	Screw	Wrench
	R	L	ØDmin	Ød	H	L	ℓ	S	α			
C05H-SWUBR/L06	●		5.5	5	4.7	100	-	3	15°	WB□□0601□□	M2.0x4	T-6
C06J-SWUBR/L06	●		7	6	5.7	110	-	3.5	13°			
C07K-SWUBR/L06	●		8	7	6.7	125	-	4	13°			
C08K-SWUBR/L06	●		9	8	7	125	30	4.5	13°			

Mini Boring Bar Sleeve

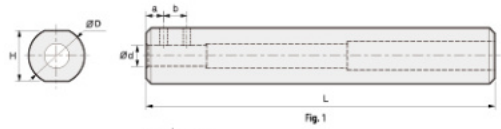


Fig. 1

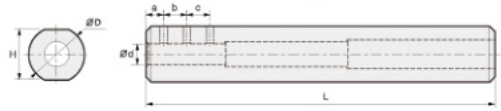


Fig. 2

Designation		Stock	Size							Screw	Wrench	Fig.
			ØDmin	Ød	L	H	a	b	c			
TSL	1603-100L	●	16	3	100	14	5	-	-	M3	HW15L	1
	1604-100L	●	16	4	100	14	5	6	-	M4	HW20L	1
	1605-100L	●	16	5	100	14	5	8	-	M4	HW20L	1
	1606-100L	●	16	6	100	14	5	6	6	M4	HW20L	2
	1607-100L	●	16	7	100	14	5	6	8	M4	HW20L	2
	1608-100L	●	16	8	100	14	5	10	10	M4	HW20L	2
	2003-100L	●	20	3	100	18	5	-	-	M3	HW15L	1
	2004-100L	●	20	4	100	18	5	6	-	M4	HW20L	1
	2005-100L	●	20	5	100	18	5	8	-	M4	HW20L	1
	2006-100L	●	20	6	100	18	5	6	6	M4	HW20L	2
	2007-100L	●	20	7	100	18	5	6	8	M4	HW20L	2
	2008-100L	●	20	8	100	18	5	10	10	M4	HW20L	2
	2010-100L	●	20	10	100	18	5	10	10	M5	HW20L	2

Sleeve for Boring Bars

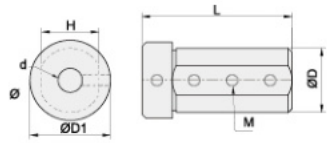


Fig.-1

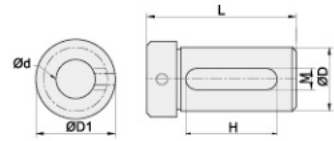


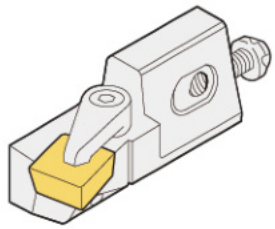
Fig.-2

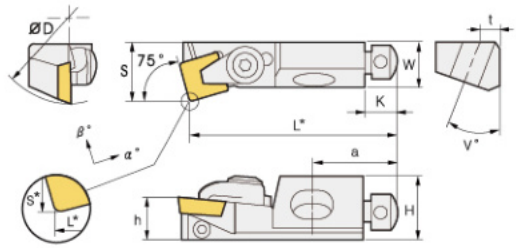
Designation		Stock	Size						Fig.
			ØDmin	Ød	L	H	D1	M	
NC	1603	●	20	3	62	14.5	19	M4	1
	1604	●	20	4	62	14.5	19	M5	1
	1605	●	20	5	62	14.5	19	M5	1
	1606	●	20	6	62	14.5	19	M5	1
	1607	●	20	7	62	14.5	19	M5	1
	1608	●	20	8	62	14.5	19	M5	1
	1609	●	20	9	62	14.5	19	M5	1
	1610	●	20	10	62	14.5	19	M5	1
	1612	●	20	12	62	49.0	19	11	2
	2004	●	20	4	65	17.5	26	M5	1
	2005	●	20	5	65	17.5	26	M5	1
	2006	●	20	6	65	17.5	26	M6	1
	2007	●	20	7	65	17.5	26	M6	1
	2008	●	20	8	65	17.5	26	M6	1
	2009	●	20	9	65	17.5	26	M6	1
	2010	●	20	10	65	17.5	26	M6	1
	2012	●	20	12	65	17.5	26	M6	1
	2014	●	20	14	65	54.0	26	13	2
	2016	●	20	16	65	54.0	26	13	2
	2506	●	25	6	70	23.5	30	M6	1
	2507	●	25	7	70	23.5	30	M6	1
	2508	●	25	8	70	23.5	30	M6	1
	2510	●	25	10	70	23.5	30	M6	1
	2512	●	25	12	70	23.5	30	M6	1
	2514	●	25	14	70	51.0	30	12	2
	2516	●	25	16	70	51.0	30	12	2
	2518	●	25	18	70	51.0	30	12	2
	2520	●	25	20	70	51.0	30	12	2
	3206	●	32	6	85	29.5	36	M6	1
	3207	●	32	7	85	29.5	36	M6	1
	3208	●	32	8	85	29.5	36	M8	1

Designation		Stock	Size						Fig.
			ØDmin	Ød	L	H	D1	M	
NC	3210	●	32	10	85	29.5	36	M8	1
	3212	●	32	12	85	29.5	36	M8	1
	3214	●	32	14	85	29.5	36	M8	1
	3216	●	32	16	85	29.5	36	M8	1
	3218	●	32	18	85	29.5	36	M8	1
	3220	●	32	20	85	77.0	36	14	2
	3222	●	32	22	85	77.0	36	14	2
	3225	●	32	25	85	77.0	36	14	2
	4006	●	40	6	100	38.0	46	M6	1
	4008	●	40	8	100	38.0	46	M8	1
	4010	●	40	10	100	38.0	46	M8	1
	4012	●	40	12	100	38.0	46	M8	1
	4014	●	40	14	100	38.0	46	M8	1
	4016	●	40	16	100	38.0	46	M8	1
	4018	●	40	18	100	38.0	46	M8	1
	4020	●	40	20	100	78.0	46	14	2
	4025	●	40	25	100	78.0	46	14	2
	4032	●	40	32	100	78.0	46	14	2
	5008	●	50	8	115	48.0	58	M8	1
	5010	●	50	10	115	48.0	58	M8	1
	5012	●	50	12	115	48.0	58	M8	1
	5014	●	50	14	115	48.0	58	M8	1
	5016	●	50	16	115	48.0	58	M8	1
	5018	●	50	18	115	48.0	58	M8	1
	5020	●	50	20	115	48.0	58	M8	1
	5022	●	50	22	115	48.0	58	M8	1
	5025	●	50	25	115	48.0	58	M8	1
	5032	●	50	32	115	77.0	58	14	2
	5040	●	50	40	115	77.0	58	14	2

Clamp on System

CSKPR/L

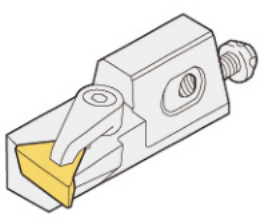


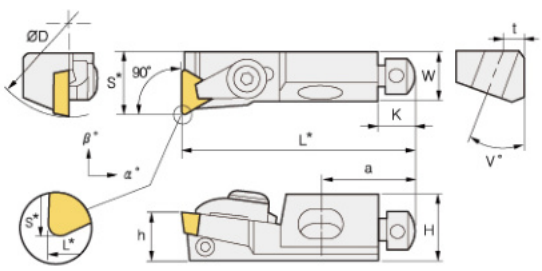


Designation		Stock		Size												Inserts
		R	L	ØDmin	H	W	L	S	H	K	α	β	a	t	v	
CSKPR/L	10CA-09			40	15	11	50	14	10	8	6	0	20	5	20	SP□R0903□□
	12CA-12			50	20	15	55	20	12	8	6	0	20	6	20	SP□R1203□□

Designation		Clamp	Axial Adjust Screw	Radial Ajust Screw	Mounting Screw	Wrench
CSKPR/L	10CA-09	CS5R1	AS02508	KHA0304C	MCS511-2.5	HW15L HW25L
	12CA-12	CS6R1	AS02508	KHA0306C	MCS616-3	HW15L HW30L

CTFPR/L

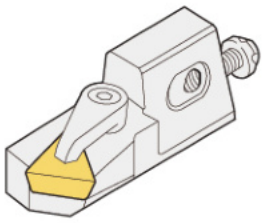


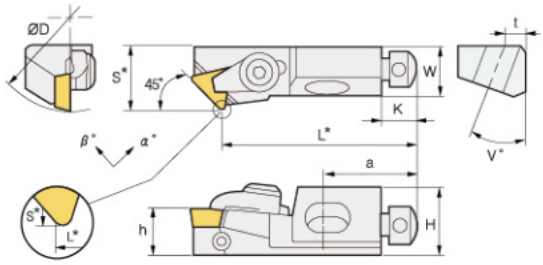


Designation		Stock		Size												Inserts
		R	L	ØDmin	H	W	L	S	H	K	α	β	a	t	v	
CTFPR/L	10CA-11			40	15	11	50	14	10	8	6	0	20	5	20	TP□R1103□□
	12CA-16			50	20	15	55	20	12	8	6	0	20	6	20	TP□R1603□□

Designation		Clamp	Axial Ajust Screw	Radial Ajust Screw	Mounting Screw	Wrench
CTFPR/L	10CA-11	CS5R1	AS02508	KHA0304C	MCS511-2.5	HW15L HW25L
	12CA-16	CS6R1	AS02508	KHA0306C	MCS616-3	HW15L HW30L

CTSPR/L

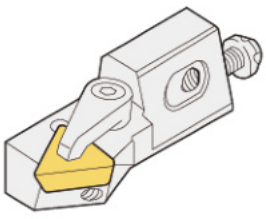


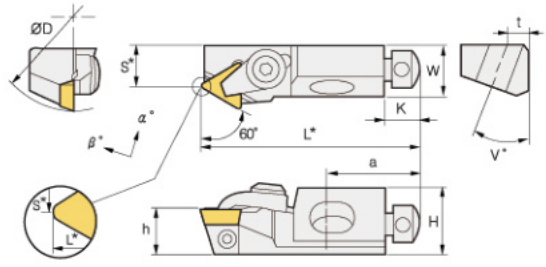


Designation	Stock		Size												Inserts
	R	L	ØDmin	H	W	L	S	H	K	α	β	a	t	v	
CTSPR/L 10CA-11			40	15	11	44	14	10	8	4	0	20	5	20	SP□R0903□□
12CA-16			50	20	15	47	20	12	8	5	0	20	6	20	SP□R1203□□

Designation	Clamp	Axial Ajust Screw	Radial Ajust Screw	Mounting Screw	Wrench
CTSPR/L 10CA-11	CS5R1	AS02508	KHA0304C	MCS511-2.5	HW15L HW25L
12CA-16	CS6R1	AS02508	KHA0306C	MCS616-3	HW15L HW30L

CTTPR/L

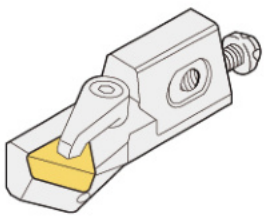


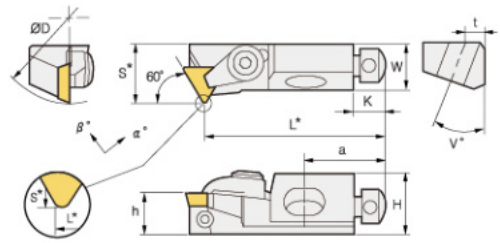


Designation	Stock		Size												Inserts
	R	L	ØDmin	H	W	L	S	H	K	α	β	a	t	v	
CTTPR/L 10CA-11			40	15	11	50	9	10	8	5	0	20	5	20	TP□R1103□□
12CA-16			50	20	15	55	20	12	8	5	0	20	6	20	TP□R1603□□

Designation	Clamp	Axail Ajust Screw	Radial Ajust Screw	Mounting Screw	Wrench
CTTPR/L 10CA-11	CS5R1	AS02508	KHA0304C	MCS511-2.5	HW15L HW25L
12CA-16	CS6R1	AS02508	KHA0306C	MCS616-3	HW15L HW30L

CTWPR/L

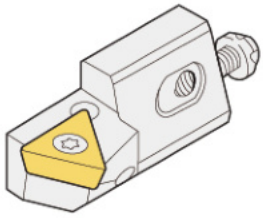


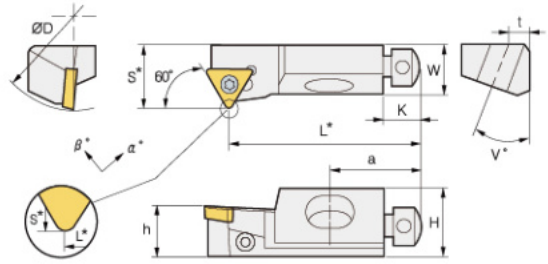


Designation	Stock		Size												Inserts
	R	L	ØDmin	H	W	L	S	H	K	α	β	a	t	v	
CTWPR/L 10CA-11			40	15	11	44	14	10	8	5	0	20	5	20	TP□R1103□□
12CA-16			50	20	15	47	20	12	8	5	0	20	6	20	TP□R1603□□

Designation	Clamp	Axial Ajust Screw	Radial Ajust Screw	Mounting Screw	Wrench
CTWPR/L 10CA-11	M3.5X9	AS02508	KHA0304C	MCS511-2.5	HW15L HW25L
12CA-16	M5X12	AS02508	KHA0306C	MCS616-3	HW15L HW30L

STTCR/L

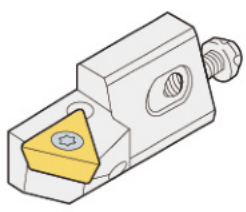


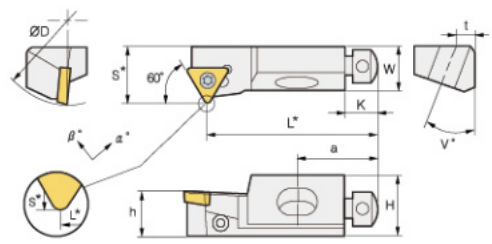


Designation	Stock		Size												Inserts
	R	L	ØDmin	H	W	L	S	H	K	α	β	a	t	v	
STTCR/L 10CA-11			40	15	11	50	9	10	8	-5	0	20	5	20	TC□T1102□□
12CA-16			50	20	15	47	20	12	8	-3	0	20	6	20	TC□T16T3□□

Designation	Insert Screw	Axial Ajust Screw	Radial Ajust Screw	Wrench	Wrench
STTCR/L 10CA-11	M2.5X6	AS02508	KHA0304C	T8	L1.5
12CA-16	M3.5X9	AS02508	KHA0306C	T15	L1.5

STWCR/L



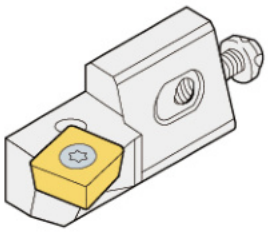


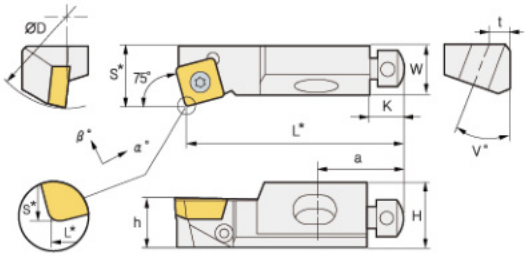
Designation	Stock		Size												Inserts
	R	L	ØDmin	H	W	L	S	H	K	α	β	a	t	v	
STWCR/L 10CA-11			40	15	11	44	14	10	8	0	-4	20	5	20	TC□T1102□□
12CA-16			50	20	15	47	20	12	8	-5	0	20	6	20	TC□T16T3□□

Designation	Insert Screw	Axail Ajust Screw	Radial Ajust Screw	Wrench	Wrench
STWCR/L 10CA-11	M2.5X6	AS02508	KHA0304C	T8	L1.5
12CA-16	M3.5X9	AS02508	KHA0306C	T15	L1.5

Screw on System

SSKCR/L

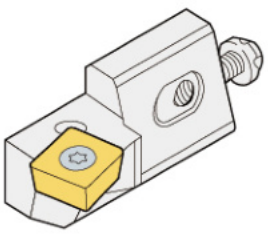


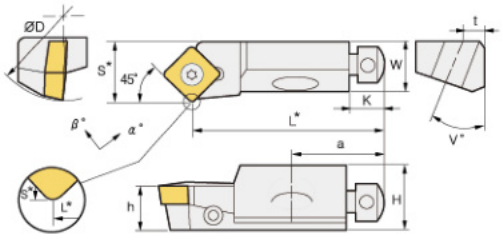


Designation		Stock		Size												Inserts
		R	L	ØDmin	H	W	L	S	H	K	α	β	a	t	v	
SSKCR/L	10CA-09			40	15	11	50	14	10	8	0	-4	20	5	20	SC□T09T3□□
	12CA-12			50	20	15	55	20	12	8	0	-4	20	6	20	SC□T1204□□

Designation		Insert Screw	Axial Ajust Screw	Radial Ajust Screw	Wrench	Wrench
SSKCR/L	10CA-09	M3.5X9	AS02508	KHA0304C	T15	L1.5
	12CA-12	M5X12	AS02508	KHA0306C	T20	L1.5

SSSCR/L

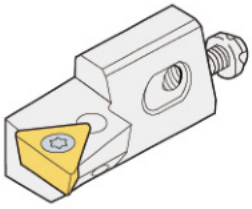


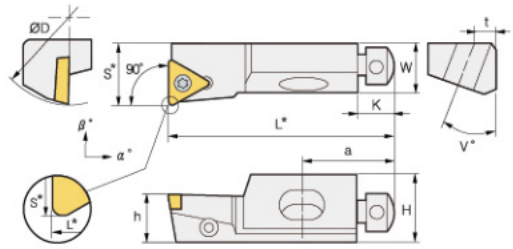


Designation		Stock		Size												Inserts
		R	L	ØDmin	H	W	L	S	H	K	α	β	a	t	v	
SSSCR/L	10CA-09			40	15	11	44	14	10	8	-5	0	20	5	20	SC□T09T3□□
	12CA-12			50	20	15	47	20	12	8	-5	0	20	6	20	SC□T1204□□

Designation		Insert Screw	Axial Ajust Screw	Radial Ajust Screw	Wrench	Wrench
SSSCR/L	10CA-09	M3.5X9	AS02508	KHA0307C	T15	L1.5
	12CA-12	M5X12	AS02508	KHA0306C	T20	L1.5

STFCR/L

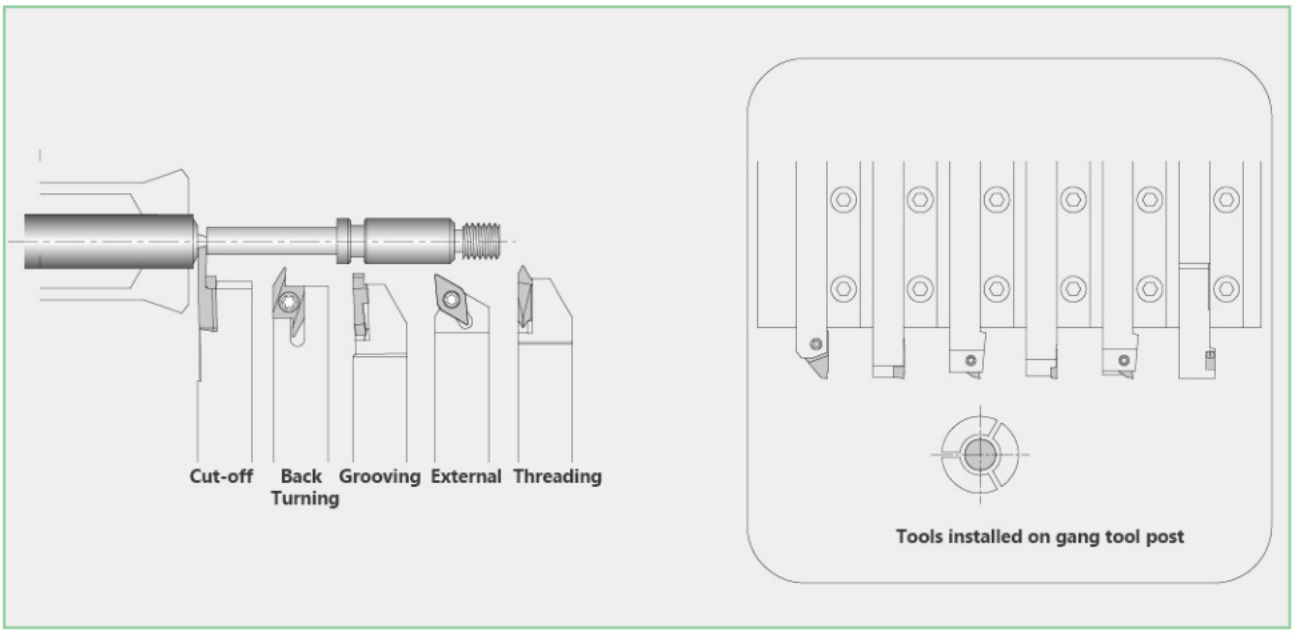




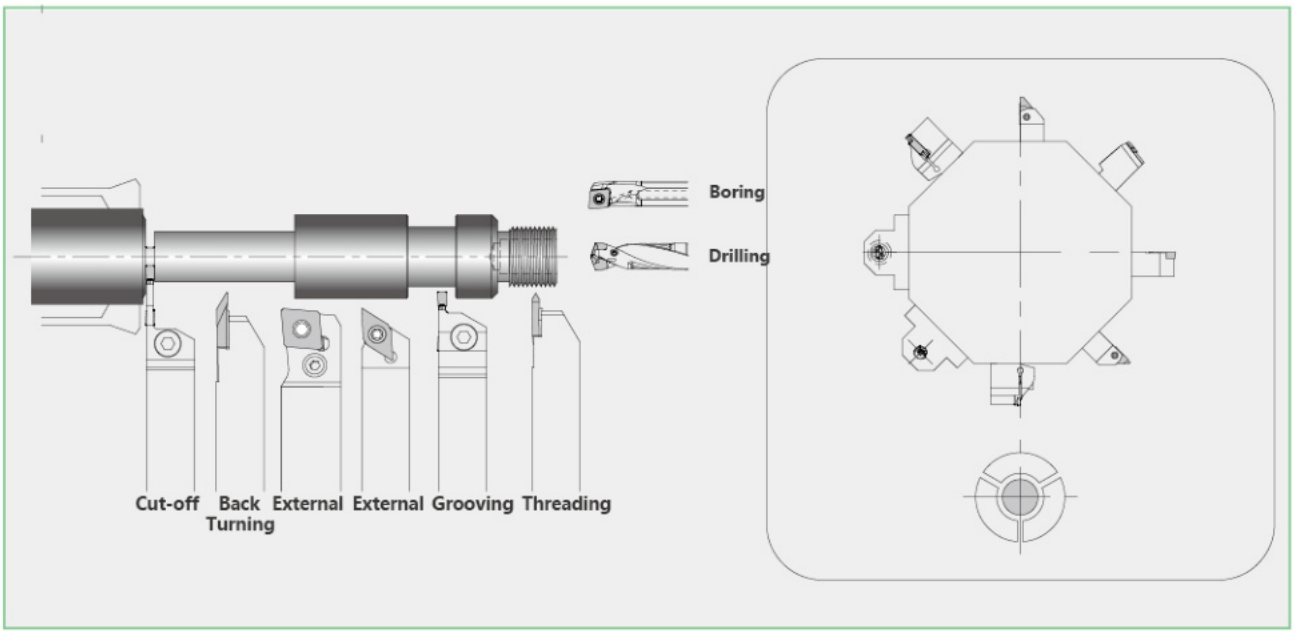
Designation		Stock		Size												Inserts
		R	L	ØDmin	H	W	L	S	H	K	α	β	a	t	v	
STFCR/L	10CA-11			40	15	11	50	14	10	8	0	-3	20	5	20	TC□T1102□□
	12CA-16			50	20	15	55	20	12	8	0	-3	20	6	20	TC□T16T3□□

Designation		 Insert Screw	 Axial Ajust Screw	 Radial Ajust Screw	 Wrench	 Wrench
STFCR/L	10CA-11	M2.5X6	AS02508	KHA0304C	T8	L1.5
	12CA-16	M3.5X9	AS02508	KHA0306C	T15	L1.5

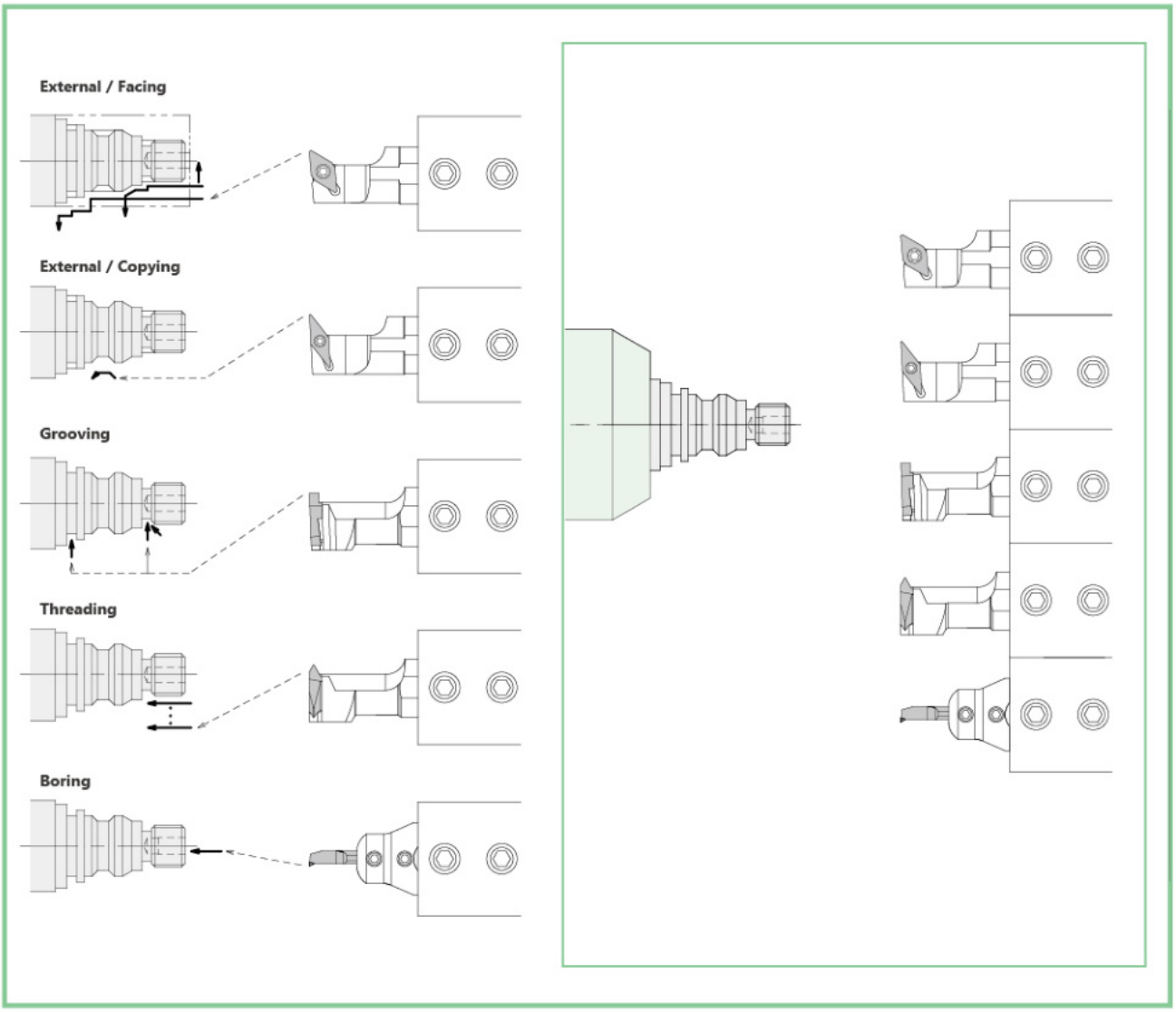
Tooling example for a small CNC automatic Lathe(gang type)



Tooling example for a small CNC automatic Lathe(turret type)



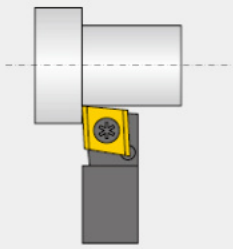
Recommendation for Auto Tooling



General Turning Inserts Explained

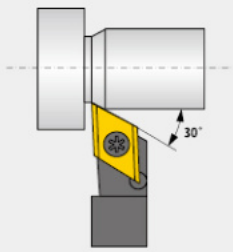
Advantage for each geometry

CC.. Style (80°)



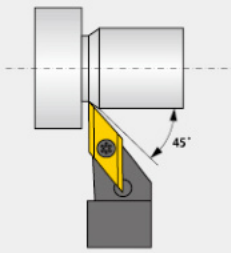
Increased toughness. Cutting edge is close to insert pocket. Not applicable to undercut

DC.. Style (55°)



Versatile geometry. Toughness of CC.. with flexibility of VC.. Up to 30 deg. undercuts

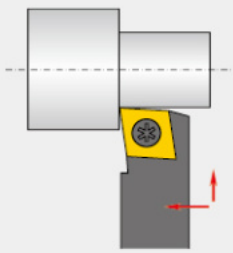
VB / VC / VP Style (35°)



Wide coverage in work geometry. Up to 45 deg. undercuts

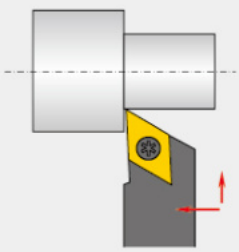
Chip Control and Finish

SCLCR



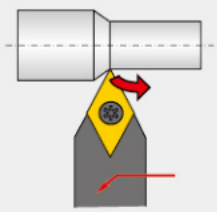
Rigid clamping
High dimensional repeatability

SDJCR



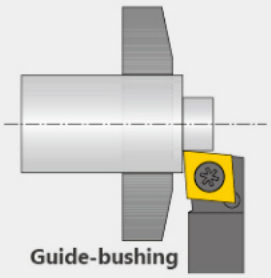
Increased room for chip evacuation creates better surface finish

SDNCN

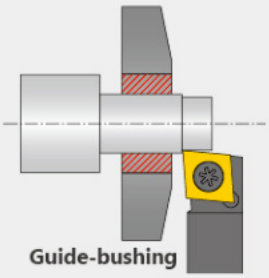


Chips flow away from the work

Roughing and Finishing Long Work on Swiss Lathes

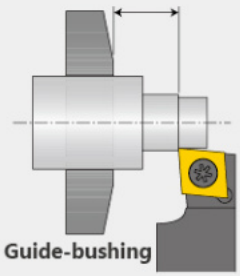


Single pass machining is common in Swiss front turning operations.



Conventional toolholders are not suitable for roughing or finishing of long parts. The guide-bushing cannot hold machined bar stock.

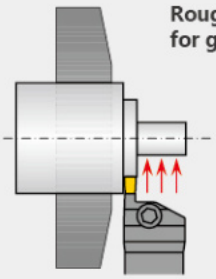
Shifted Holders



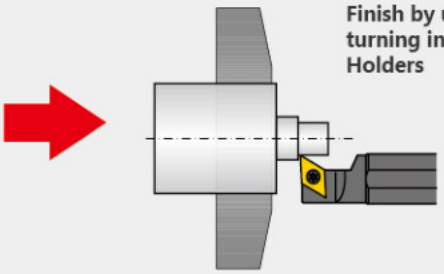
SCLC-N-F
SDJC-N-F
SVJC-N-F

Shifted Holders make a finishing process possible without worrying about the bar stock coming out of the guide-bushing.
Coolant flows effectively which improves chip control thanks to the increased room between the tools and guide-bushing.

Combination of Grooving Tool and DS Holders



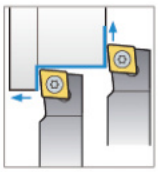
Rough with grooving tool for good chip control



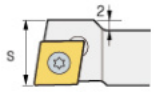
Finish by using general turning inserts with DS Holders

SCACR/L-FF

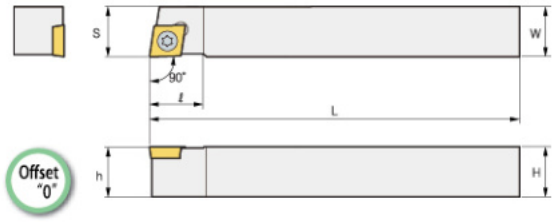
Without setoff, External / Facing



90°



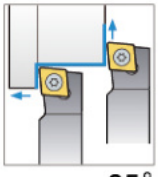
※ Only SCACR/L1010-X09A is designed as above picture.



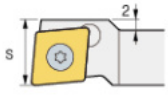
Designation	Stock		Dimensions(mm)						Insert	Spare parts	
	R	L	H	W	h	ℓ	L	S		screw	Wrench
SCACR/L 0808-X06FF			8	8	8	10	120	8	CC□T0602□□	M2.5x6	T-8
1010-X06FF			10	10	10	10	120	10			
1010-X09FF			10	10	10	13	120	10	CC□T09T3□□	M3.5x9	T-15
1212-X09FF			12	12	12	16	120	12			
1616-X09FF			16	16	16	16	120	16			

SCLCR/L-FF

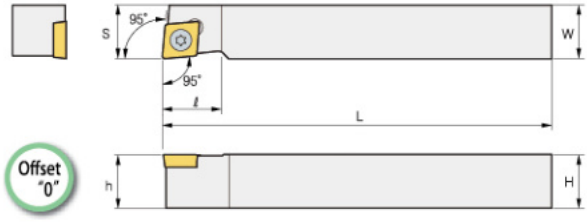
Without setoff, External / Facing



95°



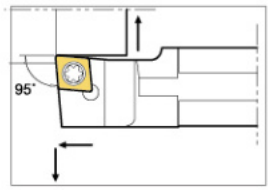
※ Only SCLCR/L1010-X09A is designed as above picture.

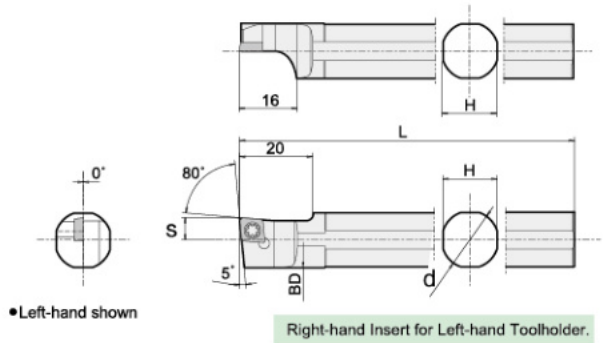


Designation	Stock		Dimensions(mm)						Insert	Spare parts	
	R	L	H	W	h	ℓ	L	S		screw	Wrench
SCLCR/L 0808-X06FF			8	8	8	10	120	8	CC□T0602□□	M2.5x6	T-8
1010-X06FF			10	10	10	10	120	10			
1010-X09FF			10	10	10	13	120	10	CC□T09T3□□	M3.5x9	T-15
1212-X09FF			12	12	12	16	120	12			
1616-X09FF			16	16	16	16	120	16			

S-SCLCL

External Sleeve Holder (External / Facing)



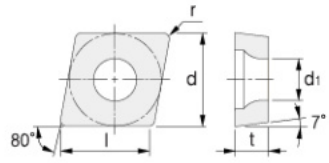


Right-hand Insert for Left-hand Toolholder.

Designation	Stock		Dimensions(mm)					Insert	Spare parts	
	R	L	d	H	L	S	BD		screw	Wrench
S12F-SCLCL06			12.000	11	80	6	13.4	CC□T0602□□	M2.5x6	T-8
S14H-SCLCL06			14.000	13	100	6	13.4			
S15F-SCLCL06			15.875	15	85	6	15.4		M2.5x6	T-8
S16F-SCLCL06			16.000	15	85	6	15.4			
S19G-SCLCL06			19.050	17	90	6	18.4			
S19K-SCLCL06			19.050	17	120	6	18.4			
S20G-SCLCL06			20.000	18	90	6	19.4			
S20K-SCLCL06			20.000	18	120	6	19.4			
S19G-SCLCL09			19.050	17	90	10	18.4	CC□T09T3□□	M3.5x9	T-15
S19K-SCLCL09			19.050	17	120	10	18.4			
S20G-SCLCL09			20.000	18	90	10	19.4			
S20K-SCLCL09			20.000	18	120	10	19.4			
S25H-SCLCL09			25.000	23	100	10	24.4			
S25K-SCLCL09			25.400	23	120	10	24.8			

Inserts

CCGT



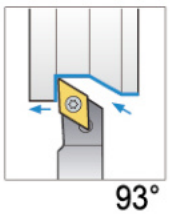
Workpiece			Machining Type	TPM8020	TPU15B	TPM8115S	TPM8125	TPM8225	TPM8135	TPM930	TPK01	TTIN30	TTIN3025
	Steel	P		⧗	⧗		⧗					⧗	⧗
	Stainless steel	M		⧗	⧗	⧗	⧗	⧗	✱	⧗			
	Cast iron	K			⧗						●	⧗	⧗
	Non-ferrous metal	N	● Continuous cutting								●		
	Heat resistant alloy, Titanium alloy	S	⧗ General cutting		⧗	⧗	⧗	⧗	✱		●		
	Hardened steel	H	✱ Interrupted cutting			✱					●		

Designations		Dimensions(mm)					Coated							Uncoated	Cermet	
		l	d	t	r	d1	TPM8020	TPU15B	TPM8115S	TPM8125	TPM8225	TPM8135	TPM930	TPK01	TTIN30	TTIN3025
CCGT-F	030102R-F	4.0	3.500	1.39	0.2	1.9		○		○						
	030104R-F	4.0	3.500	1.39	0.4	1.9		○		○						
	030102L-F	4.0	3.500	1.39	0.2	1.9	●	●		○				●	●	●
	030104L-F	4.0	3.500	1.39	0.4	1.9	●	●		○				●	●	●
	040102R-F	4.8	4.300	1.79	0.2	2.3		○		○						
	040104R-F	4.8	4.300	1.79	0.4	2.3		○		○						
	040102L-F	4.8	4.300	1.79	0.2	2.3	●	●		○				●	●	●
	040104L-F	4.8	4.300	1.79	0.4	2.3	●	●		○				●	●	●
CCGT-U	060202ER-U	6.5	6.350	2.38	0.2	2.8	●	●		○					●	●
	060204ER-U	6.5	6.350	2.38	0.4	2.8	●	●		○					●	●
	060202EL-U	6.5	6.350	2.38	0.2	2.8		●		○					●	●
	060204EL-U	6.5	6.350	2.38	0.4	2.8		●		○					●	●
	09T302ER-U	9.7	9.525	3.97	0.2	4.4	●	●		○					●	●
	09T304ER-U	9.7	9.525	3.97	0.4	4.4	●	●		○					●	●
	09T302EL-U	9.7	9.525	3.97	0.2	4.4		●		○					●	
	09T304EL-U	9.7	9.525	3.97	0.4	4.4		●		○					●	
CCGT-W	060202R-W15	6.5	6.350	2.38	0.2	2.8	●	●		○					●	●
	060204R-W15	6.5	6.350	2.38	0.4	2.8	●	●		○					●	●
	060202L-W15	6.5	6.350	2.38	0.2	2.8		●		○					●	●
	060204L-W15	6.5	6.350	2.38	0.4	2.8		●		○					●	●
	09T302R-W20	9.7	9.525	3.97	0.2	4.4	●	●		○					●	●
	09T304R-W20	9.7	9.525	3.97	0.4	4.4	●	●		○					●	●
	09T302L-W20	9.7	9.525	3.97	0.2	4.4		●		○					●	●
	09T304L-W20	9.7	9.525	3.97	0.4	4.4		●		○					●	●

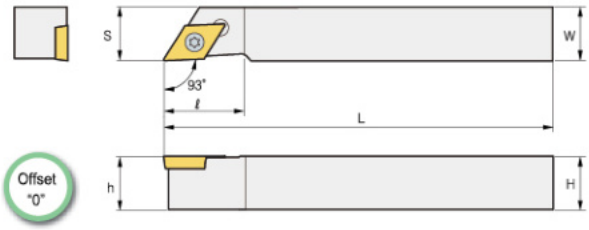
Auto Tools (ISO Type)

SDJCR/L-FF

Without setoff, External / Copying



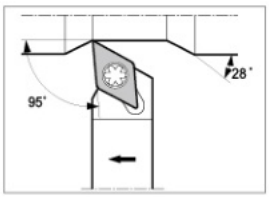
※ Only SDJCR/L0808-X07A, 1010-X11A, 1212-X11A is designed as above picture.

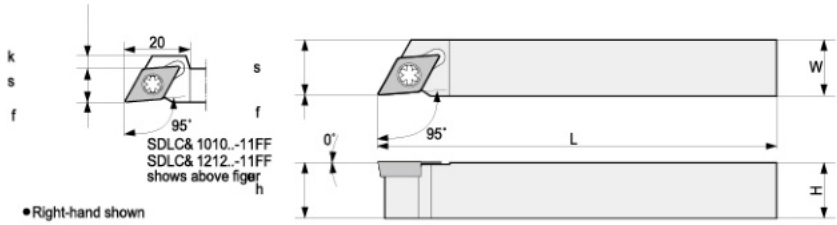


Designation	Stock		Dimensions(mm)							Insert	Spare parts	
	R	L	H	W	h	ℓ	L	S	K		screw	Wrench
SDJCR/L 0808-X07FF			8	8	8	18	120	8	2	DC□T0702□□	M2.5x7	T-8
1010-X07FF			10	10	10	15	120	12	-			
1010-X11FF			10	10	10	18	120	10	4	DC□T11T3□□	M4.0x10	T-15
1212-X11FF			12	12	12	18	120	10	2			
1616-X11FF			16	16	16	22	120	12	-			

SDLCR/L-FF

Without setoff, External / Copying



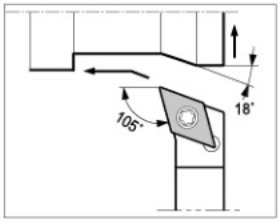


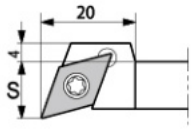
●Right-hand shown

Designation	Stock		Dimensions(mm)							Insert	Spare parts	
	R	L	H	W	h	L	S	K	f		screw	Wrench
SDLCR/L 1010-X07FF			10	10	10	120	10	-	0	DC□T0702□□	M2.5x6	T-8
1212-X07FF			12	12	12	120	12	-	0			
1616-X07FF			16	16	16	120	16	-	0			
1010-X11FF			10	10	10	120	10	4	0	DC□T11T3□□	M3.5x9	T-15
1212-X11FF			12	12	12	120	12	2	0			
1616-X11FF			16	16	16	120	16	-	0			
1212 -F07FF			12	12	12	80	12	-	0	DC□T0702□□	M2.5x6	T-8
1010 -F11FF			10	10	10	80	10	4	0	DC□T11T3□□	M3.5x9	T-15
1212 -F11FF			12	12	12	80	12	2	0			
1616 -H11FF			16	16	16	100	16	-	0			

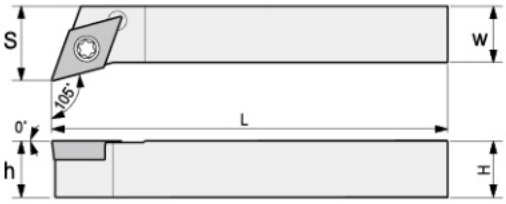
SDXCR/L

External / Facing / Copying





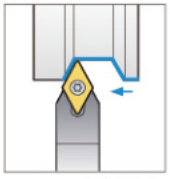
SDXC$^{R}/_{L}$ 1010JX-11
shows above figure
●Right-hand shown



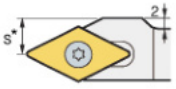
Designation	Stock		Dimensions(mm)					Insert	Spare parts	
	R	L	H	W	h	L	S		screw	Wrench
SDXCR/L 1010-X07			10	10	10	120	12	DC□T0702□□	M2.5x6	T-8
1010-X11			10	10	10	120	12	DC□T11T3□□	M3.5x9	T-15
1212-X11			12	12	12	120	16			
1616-X11			16	16	16	120	20			

SDNCN-FF

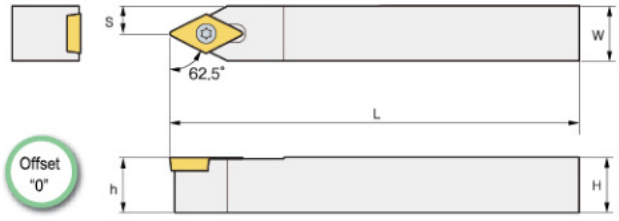
Without setoff, External / Copying



62.5°



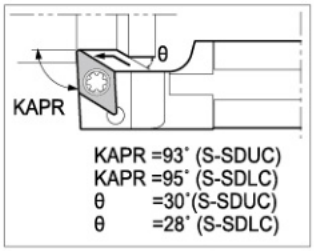
※ Only SDNCN1010-X11A is designed as above picture.

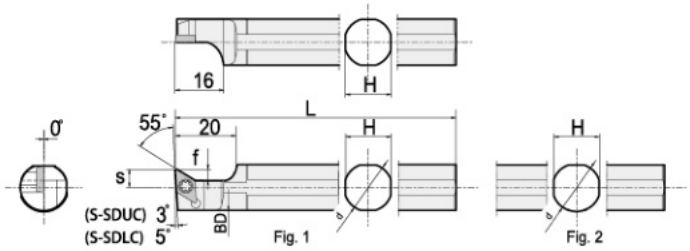


Designation	Stock		Dimensions(mm)					Insert	Spare parts	
	R	L	H	W	h	L	S		screw	Wrench
SDNCN 0808-X07FF			10	10	10	120	4	DC□T0702□□	M2.5x6	T-8
1010-X07FF			12	12	12	120	5			
1010-X11FF			10	10	10	120	7	DC□T11T3□□	M3.5x9	T-15
1212-X11FF			12	12	12	120	6			
1616-X11FF			16	16	16	120	8			

S-SDUCL / SDLCL

External Sleeve Holder (External / Facing)





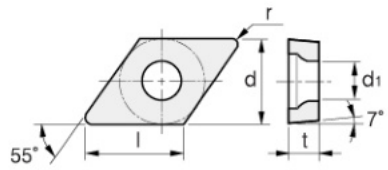
• Left-hand shown

Right-hand Insert for Left-hand Toolholder.

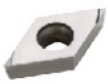
Designation	Stock		Dimensions(mm)					Insert	Spare parts		Fig.
	R	L	d	H	L	S	f		screw	Wrench	
S14H-SDUCL07			14.000	13	100	6	3.8	DC□T0702□□	M2.5x6	T-8	1
S15F-SDUCL07			15.875	15	85	6	3.8				1
S19G-SDUCL07			19.050	17	90	6	3.8				1
S19K-SDUCL07			19.050	17	120	6	3.8				1
S20G-SDUCL07			20.000	18	90	6	3.8				1
S20K-SDUCL07			20.000	18	120	6	3.8				1
S19G-SDUCL11			19.050	17	90	10	5.8	DC□T11T3□□	M3.5x9	T-15	1
S19K-SDUCL11			19.050	17	120	10	5.8				1
S20G-SDUCL11			20.000	18	90	10	5.8				1
S20K-SDUCL11			20.000	18	120	10	5.8				1
S22K-SDUCL11			22.000	20	120	10	5.8				1
S25H-SDUCL11			25.000	23	100	10	5.8				1
S25K-SDUCL11			25.400	23	120	10	5.8				1
S12F-SDLCL07			12.000	11	80	6	3.8	DC□T0702□□	M2.5x6	T-8	1
S14H-SDLCL07			14.000	13	100	6	3.8				2
S15F-SDLCL07			15.875	15	85	6	3.8				2
S16F-SDLCL07			16.000	15	85	6	3.8				2
S19G-SDLCL07			19.050	17	90	6	3.8				2
S19K-SDLCL07			19.050	17	120	6	3.8				2
S20G-SDLCL07			20.000	18	90	6	3.8				2
S20K-SDLCL07			20.000	18	120	6	3.8				2
S19G-SDLCL11			19.050	17	90	10	5.8	DC□T11T3□□	M3.5x9	T-15	2
S19K-SDLCL11			19.050	17	120	10	5.8				2
S20G-SDLCL11			20.000	18	90	10	5.8				2
S20K-SDLCL11			20.000	18	120	10	5.8				2
S22K-SDLCL11			22.000	20	120	10	5.8				2
S25H-SDLCL11			25.000	23	100	10	5.8				2
S25K-SDLCL11			25.400	23	120	10	5.8				2

Inserts

DCGT



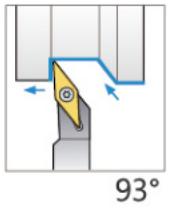
Workpiece			Machining Type	TPM8020	TPU15B	TPM8115S	TPM8125	TPM8225	TPM8135	TPM930	TPK01	TTIN30	TTIN3025
	Steel	P		⚙	⚙		⚙					⚙	⚙
	Stainless steel	M		⚙	⚙	⚙	⚙	⚙	✖	⚙			
	Cast iron	K			⚙						●	⚙	⚙
	Non-ferrous metal	N	● Continuous cutting								●		
	Heat resistant alloy, Titanium alloy	S	⚙ General cutting		⚙	⚙	⚙	⚙	✖		●		
	Hardened steel	H	✖ Interrupted cutting			✖					●		

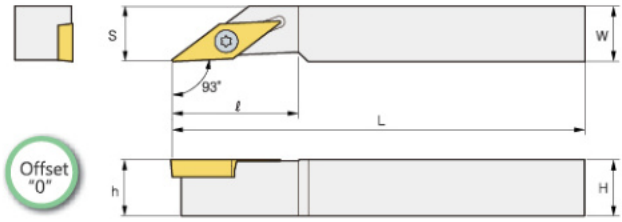
Designations		Dimensions(mm)					Coated							Uncoated	Cermet	
		l	d	t	r	d1	TPM8020	TPU15B	TPM8115S	TPM8125	TPM8225	TPM8135	TPM930	TPK01	TTIN30	TTIN3025
DCGT-F	070202R-F	7.8	6.350	2.38	0.2	2.8		○		○						
	070204R-F	7.8	6.350	2.38	0.4	2.8		○		○						
	070202L-F	7.8	6.350	2.38	0.2	2.8		○		○						
	070204L-F	7.8	6.350	2.38	0.4	2.8		○		○						
	11T302R-F	11.6	9.525	3.97	0.2	4.4		○		○						
	11T304R-F	11.6	9.525	3.97	0.4	4.4		○		○						
	11T302L-F	11.6	9.525	3.97	0.2	4.4		○		○						
	11T302L-F	11.6	9.525	3.97	0.4	4.4		○		○						
DCGT-U	070202ER-U	7.8	6.350	2.38	0.2	2.8		○		○						
	070204ER-U	7.8	6.350	2.38	0.4	2.8		○		○						
	070202EL-U	7.8	6.350	2.38	0.2	2.8				○						
	070204EL-U	7.8	6.350	2.38	0.4	2.8				○						
	11T302ER-U	11.6	9.525	3.97	0.2	4.4	●	●		○					●	●
	11T304ER-U	11.6	9.525	3.97	0.4	4.4	●	●		○					●	●
	11T302EL-U	11.6	9.525	3.97	0.2	4.4		●		○					●	●
	11T304EL-U	11.6	9.525	3.97	0.4	4.4		●		○					●	●

Auto Tools (ISO Type)

SVJBR/L-FF

Without setoff, External / Copying

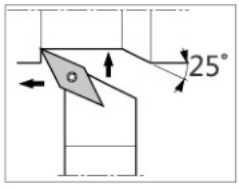


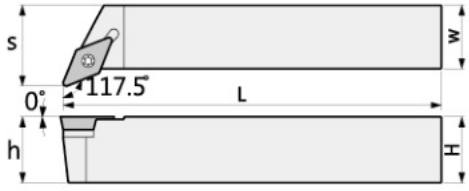


Designation	Stock		Dimensions(mm)						Insert	Spare parts	
	R	L	H	W	h	ℓ	L	S		screw	Wrench
SVJBR/L 1010-X11FF			10	10	10	22	120	10	VB□T1103□□	M2.5x6	T-8
1212-X11FF			10	12	12	22	120	12			
1616-X11FF			12	16	16	24	120	16			
2020-X11FF			16	20	20	30	120	20			

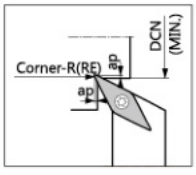
SVPBR/L

External / Facing / Copying / Undercutting





•Right-hand shown

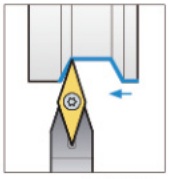


Corner (RE)	ap (mm)	DCN (MIN.)
0.4	0.5	ø25
	1	ø30
0.8	0.5	ø45
	1	ø55

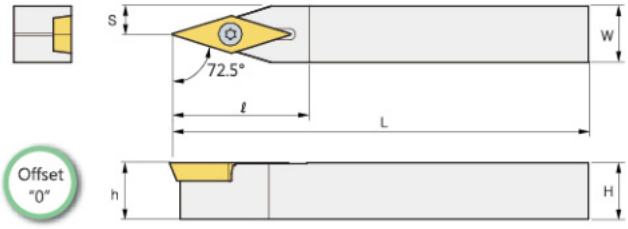
Designation	Stock		Dimensions(mm)						Insert	Spare parts	
	R	L	H	W	h	L	S	RE		screw	Wrench
SVPBR/L 1010-X11			10	10	10	120	14.5	0.4	VB□T1103□□	M2.5x6	T-8
1212-X11			12	12	12	120	16.5	0.4			
1616-X11			16	16	16	120	20.5	0.4			
2020-K11			20	20	20	125	25.0	0.4			
2525-M11			25	25	25	150	32.0	0.4			
2020-K16			20	20	20	125	25.0	0.8	VB□T1604□□	M3.5x9	T-15
2525-M16			25	25	25	150	32.0	0.8			

SVVBN

Without setoff, External / Copying



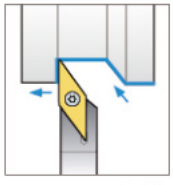
72.5°



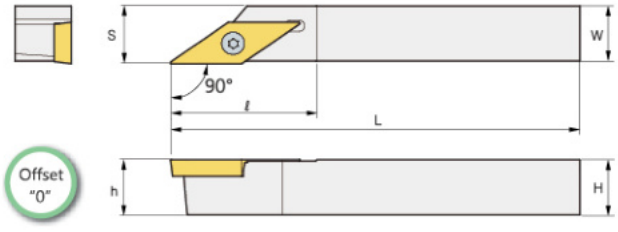
Designation	Stock		Dimensions(mm)						Insert	Spare parts	
	R	L	H	W	h	ℓ	L	S		screw	Wrench
SVVBN 1010-X11FF			10	10	10	24	120	5	VB□T1103□□	M2.5x6	T-8
1212-X11FF			12	12	12	24	120	6			
1616-X11FF			16	16	16	28	120	8			

SVACR/L

Without setoff, External / Copying



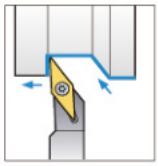
90°

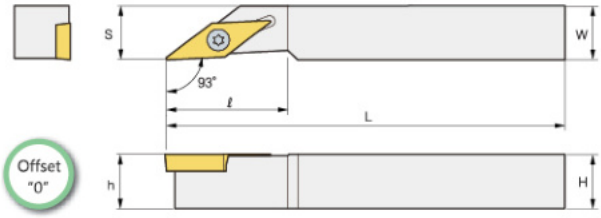


Designation	Stock		Dimensions(mm)						Insert	Spare parts	
	R	L	H	W	h	ℓ	L	S		screw	Wrench
SVACR/L 0808-X11FF			8	8	8	26	120	8.5	VC□T1103□□	M2.5x6	T-8
1010-X11FF			10	10	10	26	120	10.5			
1212-X11FF			12	12	12	26	120	12.5			
1616-X11FF			16	16	16	26	120	16.5			

SVJCR/L-FF

Without setoff, External / Copying

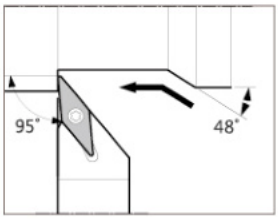


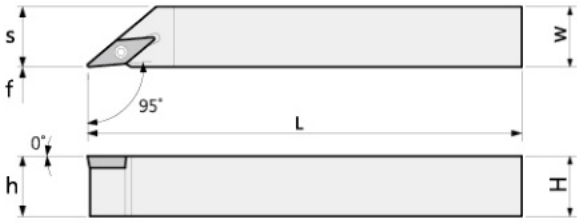


Designation	Stock		Dimensions(mm)						Insert	Spare parts	
	R	L	H	W	h	ℓ	L	S		screw	Wrench
SVJCR/L 1010-X11FF			10	10	10	22	120	10	VC□T1103□□	M2.5x6	T-8
1212-X11FF			12	12	12	22	120	12			
1616-X11FF			16	16	16	24	120	16			
2020-X11FF			20	20	20	30	120	20			

SVLCR/L-FF

Without setoff, External / Copying

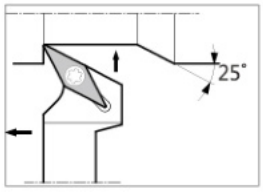


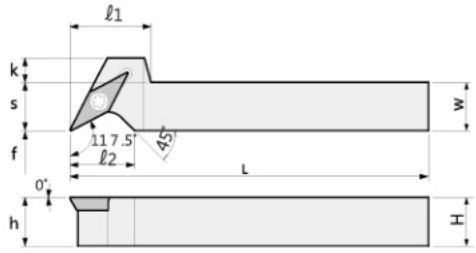


Designation	Stock		Dimensions(mm)						Insert	Spare parts	
	R	L	H	W	h	L	S	f		screw	Wrench
SVLCR/L 1010-X11FF			10	10	10	120	10	0	VC□T1103□□	M2.5x6	T-8
1212-X11FF			12	12	12	120	12	0			
1616-X11FF			16	16	16	120	16	0			
2020-X11FF			20	20	20	120	20	0			

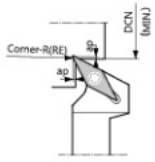
SVPCR/L-FF

Without setoff, External / Facing / Copying / Undercutting





Undercutting diameter of SVPC-FF

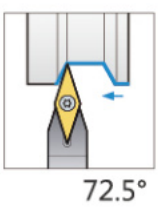


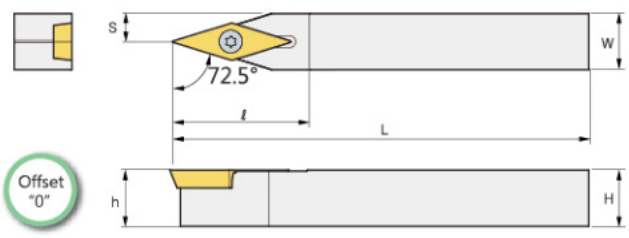
Corner-R (RE)	ap (mm)	DCN (MIN.)
0.2	0.5	ø20
	0.7	ø25

Designation		Stock		Dimensions(mm)									Insert	Spare parts	
		R	L	H	W	h	ℓ1	ℓ2	L	S	K	f		screw	Wrench
SVPCR/L	1010-X11FF			10	10	10	20	16	120	10	8	0	VC□T1103□□	M2.5x6	T-8
	1212-F11FF			12	12	12	20	16	80	12	6	0			
	1212-X11FF			12	12	12	20	16	120	12	6	0			
	1616-X11FF			16	16	16	20	20	120	16	2	0			

SVVCN

Without setoff, External / Copying

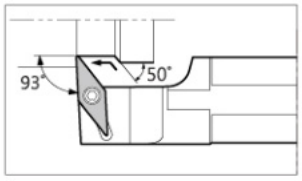


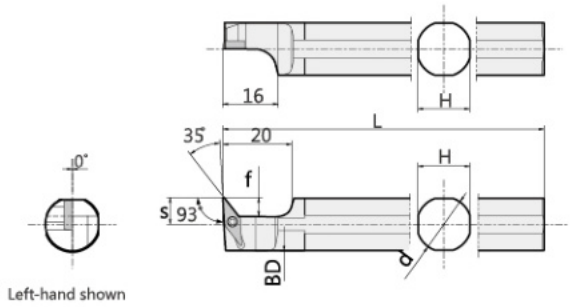


Designation		Stock		Dimensions(mm)						Insert	Spare parts	
		R	L	H	W	h	ℓ	L	S		screw	Wrench
SVVCN	1010-X11FF			10	10	10	24	120	5	VC□T1103□□	M2.5x6	T-8
	1212-X11FF			12	12	12	24	120	6			
	1616-X11FF			16	16	16	28	120	8			

S-SVUBL / SVUCL

External Sleeve Holder (External / Copying)



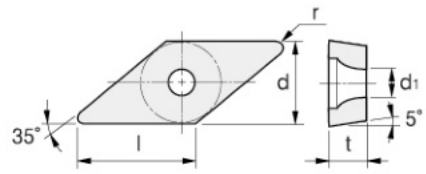


Right-hand Insert for Left-hand Toolholder.

Designation	Stock		Dimensions(mm)						Insert	Spare parts	
	R	L	d	H	L	S	f	BD		screw	Wrench
S19G-SVUBL11			19.05	17	90	10.5	8	18.4	VB□T1103□□	M2.5x6	T-8
S19K-SVUBL11			19.05	17	125	10.5	8	18.4			
S20G-SVUBL11			20.00	18	90	10.5	8	19.4			
S20K-SVUBL11			20.00	18	125	10.5	8	19.4			
S25H-SVUBL11			25.00	23	100	10.5	8	24.4			
S25K-SVUBL11			25.40	23	125	10.5	8	24.8			
S19G-SVUCL11			19.05	17	90	10.5	8	18.4	VC□T1103□□	M2.5x6	T-8
S19K-SVUCL11			19.05	17	125	10.5	8	18.4			
S20G-SVUCL11			20.00	18	90	10.5	8	19.4			
S20K-SVUCL11			20.00	18	125	10.5	8	19.4			
S25H-SVUCL11			25.00	23	100	10.5	8	24.4			
S25K-SVUCL11			25.40	23	125	10.5	8	24.8			

Inserts

VBGT



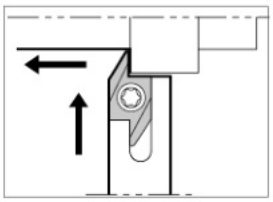
Workpiece			Machining Type	TPM8020	TPU15B	TPM8115S	TPM8125	TPM8225	TPM8135	TPM930	TPK01	TTIN30	TTIN3025
Steel	P		⦿ Continuous cutting	⦿	⦿		⦿					⦿	⦿
Stainless steel	M		⦿ General cutting	⦿	⦿	⦿	⦿	⦿	✱	⦿			
Cast iron	K		✱ Interrupted cutting		⦿						●	⦿	⦿
Non-ferrous metal	N										●		
Heat resistant alloy, Titanium alloy	S				⦿	⦿	⦿	⦿	✱		●		
Hardened steel	H					✱					●		

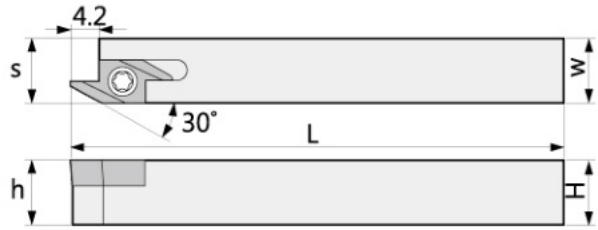
Designations		Dimensions(mm)					Coated							Uncoated	Cermet	
		l	d	t	r	d1	TPM8020	TPU15B	TPM8115S	TPM8125	TPM8225	TPM8135	TPM930	TPK01	TTIN30	TTIN3025
VBGT-F	110301R-F	11.2	6.350	3.18	0.1	2.8		○	○				○			
	110302R-F	11.2	6.350	3.18	0.2	2.8		○	○				○			
	110301L-F	11.2	6.350	3.18	0.1	2.8		○	○				○			
	110302L-F	11.2	6.350	3.18	0.2	2.8		○	○				○			
VBGT-Y	110301R-Y	11.2	6.350	3.18	0.1	2.8		○	○				○		●	●
	110302R-Y	11.2	6.350	3.18	0.2	2.8	●	●	○				○		●	●
	110304R-Y	11.2	6.350	3.18	0.4	2.8	●	●	○				○		●	●
	110301L-Y	11.2	6.350	3.18	0.1	2.8		●	○				○		○	○
	110302L-Y	11.2	6.350	3.18	0.2	2.8	●	●	○				○		●	●
	110304L-Y	11.2	6.350	3.18	0.4	2.8	●	●	○				○		●	●
	160402R-Y	16.6	9.525	4.76	0.2	4.4		○	○				○			
	160404R-Y	16.6	9.525	4.76	0.4	4.4		○	○				○			
	160402L-Y	16.6	9.525	4.76	0.2	4.4		○	○				○			
	160404L-Y	16.6	9.525	4.76	0.4	4.4		○	○				○			

Auto Tools for Back Turning

SABS-40F

Edge Width : 2.8mm, MAX. Depth : 4mm

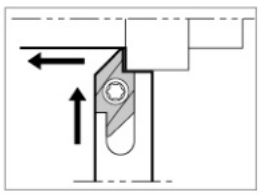


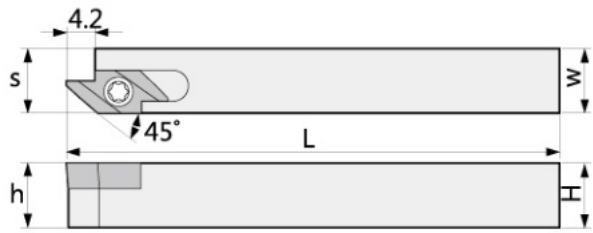


Designation		Stock		Dimensions(mm)					Insert	Spare parts	
		R	L	H	W	h	L	S		screw	Wrench
SABSR	1010-X40F			10	10	10	120	10.2	ABS15R	M3.0x8	T-10
	1212-X40F			12	12	12	120	12.2			
	1616-X40F			16	16	16	120	16.2			
	1212-F40F			12	12	12	80	12.2			
	2020-K40F			20	20	20	125	20.2			

SABW-40F

Edge Width : 4.7mm, MAX. Depth : 4mm

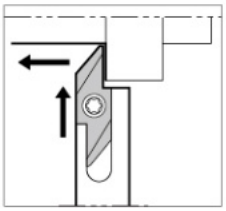


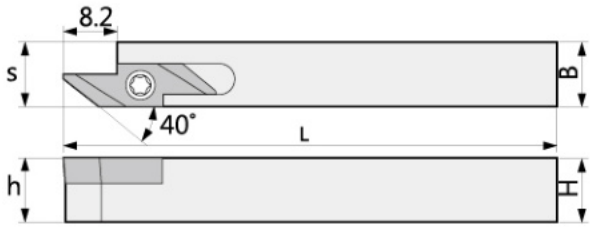


Designation		Stock		Dimensions(mm)					Insert	Spare parts	
		R	L	H	W	h	L	S		screw	Wrench
SABWR	1010-X40F			10	10	10	120	10.2	ABW15R	M3.0x8	T-10
	1212-X40F			12	12	12	120	12.2			
	1616-X40F			16	16	16	120	16.2			
	2020-K40F			20	20	20	125	20.2			

SABW-50F

Edge Width : 4.7mm, MAX. Depth : 5mm

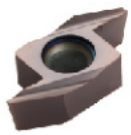
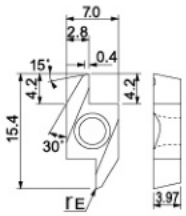
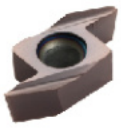
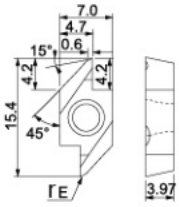
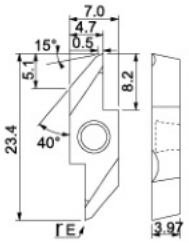




Designation	Stock		Dimensions(mm)					Insert	Spare parts	
	R	L	H	W	h	L	S		screw	Wrench
SABWR 1010-X50F			10	10	10	120	10.2	ABW23R	M3.0x8	T-10
1212-X50F			12	12	12	120	12.2			
1616-X50F			16	16	16	120	16.2			
2020-K50F			20	20	20	125	20.2			

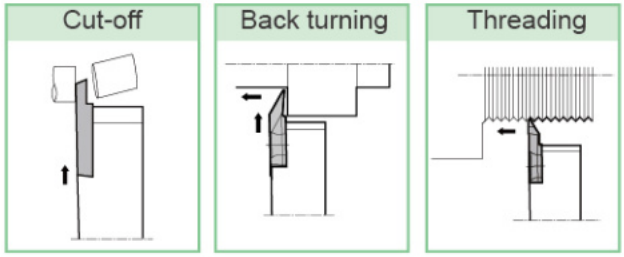
Auto Tools for Back Turning

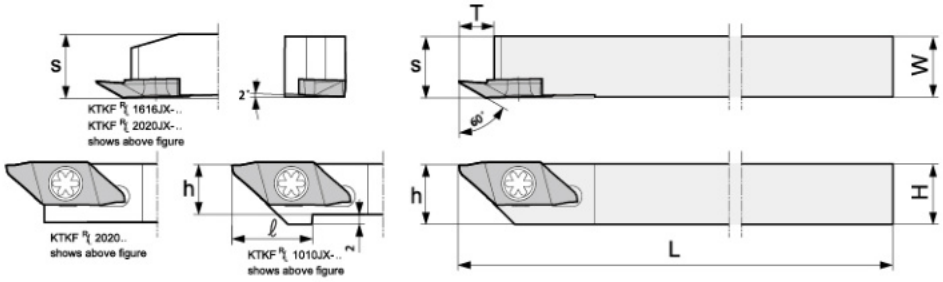
Workpiece			Machining Type	TPM8020	TPU15B	TPM8115S	TPM8125	TPM8225	TPM8135	TPM930	TPK01	TTIN30	TTIN3025
Steel	P			⚙	⚙		⚙					⚙	⚙
Stainless steel	M			⚙	⚙	⚙	⚙	⚙	✖	⚙			
Cast iron	K				⚙						●	⚙	⚙
Non-ferrous metal	N		● Continuous cutting								●		
Heat resistant alloy, Titanium alloy	S		⚙ General cutting		⚙	⚙	⚙	⚙	✖		●		
Hardened steel	H		✖ Interrupted cutting			✖					●		

Picture		Dimensions(mm) Designations		r	Coated TPM8020	TPU15B	TPM8115S	TPM8125	TPM8225	TPM8135	TPM930	Uncoated TPK01	Cermet TTIN30	TTIN3025
		ABS	15R4005	0.05		●	●							
			15R4015	0.15		●	●							
		ABW	15R4005	0.05		●	●							
			15R4015	0.15		●	●							
		ABW	23R5005	0.05		●	●							
			23R5015	0.15		●	●							

KTKFR/L

For Small Diameter Cut-off, Turning & Threading

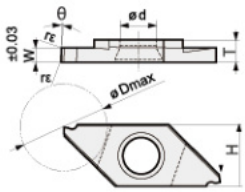
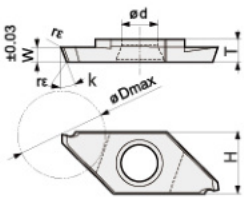


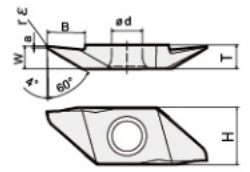


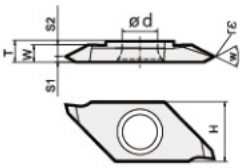
Designation	Stock		Dimensions(mm)							Insert	Spare parts	
	R	L	H	W	h	ℓ	T	L	S		screw	Wrench
KTKFR/L 1010JX-12	●		10	10	10	15	6	120	10	TKF□12R/L	M4.5x9	T-15
1212JX-12	●		12	12	12	-	6	120	12			
1616JX-12	●		16	16	16	-	6	120	16			
2020JX-12	●		20	20	20	-	6	120	20			
1010JX-16	●		10	10	10	20	8	120	10	TKF□16R/L	M4.5x9	T-15
1212JX-16	●		12	12	12	-	8	120	12			
1616JX-16	●		16	16	16	-	8	120	16			
2020JX-16	●		20	20	20	-	8	120	20			

Auto Tools for Multi Utility

Inserts

Shape	Designation	Size							Coated		Configuration
		W±0.03	Dmax	rε	H	T	d	θ*	TPM8115S	TPM8125	
	**TKFC12R/L** 050-S	0.50	5	0.03	8.7	3	5	0°		●	
	070-S	0.70	8	0.03	8.7	3	5	0°		●	
	100-S	1.00	12	0.03	8.7	3	5	0°		●	
	125-S	1.25	12	0.03	8.7	3	5	0°		●	
	150-S	1.50	12	0.03	8.7	3	5	0°		●	
	200-S	2.00	12	0.03	8.7	3	5	0°		●	
	TKFC16R/L 150-S	1.50	16	0.05	9.5	4	5	0°		●	
	200-S	2.00	16	0.05	9.5	4	5	0°		●	
	**TKFC12R/L** 050-S-16DR	0.50	5	0.03	8.7	3	5	16°		●	
	070-S-16DR	0.70	8	0.03	8.7	3	5	16°		●	
	100-S-16DR	1.00	12	0.03	8.7	3	5	16°		●	
	125-S-16DR	1.25	12	0.03	8.7	3	5	16°		●	
	150-S-16DR	1.50	12	0.03	8.7	3	5	16°		●	
	200-S-16DR	2.00	12	0.03	8.7	3	5	16°		●	
	TKFC16R/L 150-S-16DR	1.50	16	0.05	9.5	4	5	16°		●	
	200-S-16DR	2.00	16	0.05	9.5	4	5	16°		●	

Shape	Designation	Size							Coated		Configuration
		W	α	rε	H	T	d	B	TPM8115S	TPM8125	
	**TKFB12R/L** 15-005-M	1.50	0.25	<0.05	8.7	3	5.2	2.6		●	
	28-005-M	2.80	0.30	<0.05	8.7	3	5.2	4.6		●	
	28-010-M	2.80	0.30	<0.10	8.7	3	5.2	4.6		●	
	TKFB16R/L 38-005-M	3.80	0.30	<0.05	9.5	4	5.2	6.3		●	
	38-010-M	3.80	0.30	<0.10	9.5	4	5.2	6.3		●	

Shape	Designation	Pitch		Size								Coated		Configuration
		mm	TPI	T	W	H	S1	S2	rε	d	θ*	TPM8115S	TPM8125	
TKFT12R/L 	A60-000	0.20-0.60	64-48	3	2.5	9	0.40	2.10	max 0.05 Flat	5.2	60°		●	
	B60-000	0.20-0.60	64-48	3	2.5	9	2.10	0.40		5.2			●	
	A60-005	0.50-1.25	48-24	3	2.5	9	0.80	1.70	0.05	5.2			●	
	B60-005	0.50-1.25	48-24	3	2.5	9	1.70	0.80		5.2			●	
	N60-010	1.00-1.50	24-18	3	2.5	9	1.25	1.25	0.1	5.2			●	
	A55-005	-	40-16	3	2.5	9	0.80	1.70	0.05	5.2	55°			
	B55-005	-	40-16	3	2.5	9	1.70	0.80		5.2				

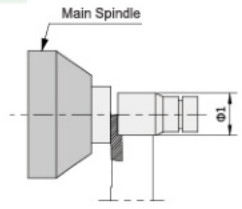
Lead angle(θ) indicates the angle when installed in toolholder.

Insert Cutting Diameter Dmax

When Using Main Spindle Only

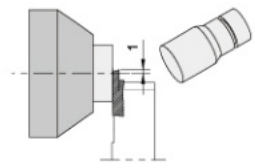
Workpiece max,D1=Dmax. Even if the cutting edge runs beyond the center line, the insert does not contact the workpiece,since the workpiece falls off.(The clearance between the insert and the work is 0.2mm)

Fig. 1



When the edge is at the center.

Fig. 2

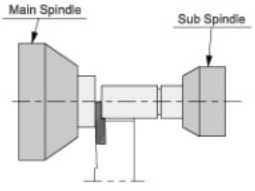


When the edge is 1mm beyond the center.

When Using Both Main and Sub Spindle

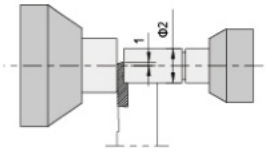
Workpiece max, D2=Dmax-(Programmed distance beyond the center)x2 In this case, when the cutting dege runs beyond the center line, the insert will contact the workpiece, since the workpiece does not fall off. Therefore the programmed distance beyond the center must be considered .
When the cutting edge is programmed to run 1mm beyond the center, [D2=Dmax-1mmx2] (Max. clearance between insert and workpiece is 0.2mm in radius)

Fig. 3



When the cutting edge locates at the workpiece center.

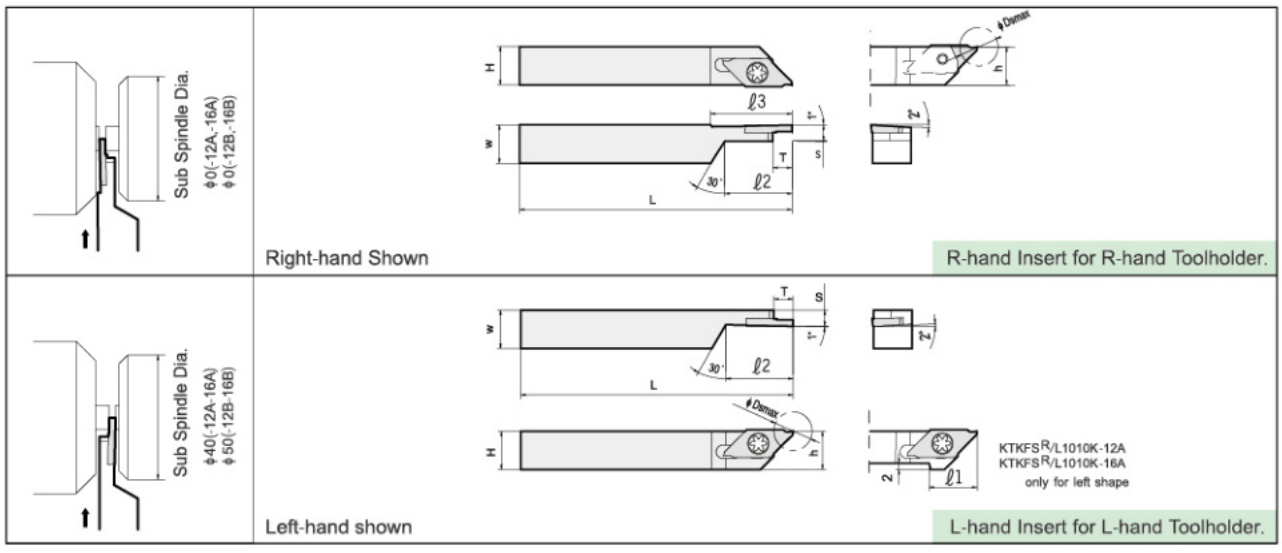
Fig. 4



When the cutting edge exceeds 1mm over the workpiece.

KTKFSR/L

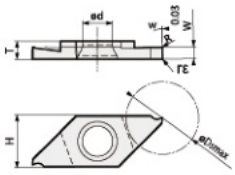
For Micro Diameter Cutt-off at Sub Spindle



Designation	ΦD max*	Dimensions(mm)									Insert	Spare parts	
		H	W	h	ℓ1	ℓ2	ℓ3	L	S	T		screw	Wrench
KTKFSR/L 1010-K12A	6-12	10	10	10	15	22	26	125	5	6	TKF□12R/L	M4.5x9	T-15
1212-F12A	6-12	12	12	12	-	22	26	85	5	6			
1212-K12B	6-12	12	12	12	-	26	26	125	5	6			
1010-K16A	14-16	10	10	10	20	22	30	125	5	6	TKF□16R/L	M4.5x9	T-15
1212-F16A	14-16	12	12	12	-	22	30	85	5	6			
1212-K16B	14-16	12	12	12	-	26	30	125	5	6			

※ Dimension T shows the distance from the Toolholder to the cutting edge.
Cutting diameter (ϕ Dsmax) depends on the insert grooving width.
Only Right-hand is available for l3 dimension.

Inserts

Shape	Designation		Size							Coated		Configuration
			W±0.03	Dmax	rε	H	T	d	θ*	TPM8020	TPM8125	
	**TKFS12R/L**	100-S	1.00	6	0.05	8.7	2.2	4.4	0°			
		150-S	1.50	9	0.05	8.7	2.2	4.4	0°			
		200-S	2.00	12	0.05	8.7	2.2	4.4	0°			
	TKFS16R/L	150-S	1.50	14	0.05	9.5	2.2	4.4	0°			
		200-S	2.00	16	0.05	9.5	2.2	4.4	0°			

※ As Fig. 1 shows, cutting diameter of Insert indicates the cutting diameter when the top of the cutting edge is programmed to run 1mm beyond center. Lead angle (θ) shows the angle when installed in toolholder.

As Fig.1 shows, KTKFS is applicable when minimal clearance exists between the main spindle and sub spindle.

As Fig.2 shows, please use KTKFL when additional clearance is available. This will offer improve rigidity.