

TURNING

MEGACUT

www.megacutting.com

General Index

Turning

Home Section	A2
Index	A3
Negative Inserts	A12
Positive Inserts	A78
Toolholders for External Operation	A139
Toolholders for Internal Operation	A157
Threading Insert	A167-A179
Tools Holder Threading Insert	A180-A182
Grooving Insert and Tools Holder	A194-A207
CBN-PCD insert	A209
Ceramics-Cermet insert	A228

INDEX

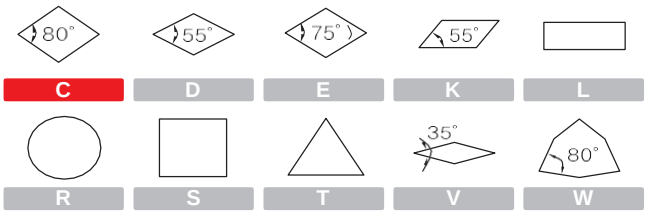
Inserts Introduction	
Insert Designation System	
Grade Designation System	
Inserts Selection Guide	
Grade Description	
Grade Application	
Negative Inserts	
Negative Inserts Section Index	
Rhombic 80° Negative	
Rhombic 55° Negative	
RoundR Negative	
Square 90° Negative	
Triangular 60° Negative	
Rhombic 35° Negative	
Trigon 80° Negative	
Parallelogram 55° Negative	
Positive Inserts	
Positive Inserts Section Index	
Rhombic 80° Positive	
Rhombic 55° Positive	
Round RPositive	
Square 90° Positive	
Triangular 60° Positive	
Rhombic 35° Positive	
Toolholders for External Operations *Toolholders for Internal Operations*	
Theding insert and Tools Holder	
Grooving Insert and Tools Holder	

Insert Designation System

C 1 N 2 M 3 G 4 12 5

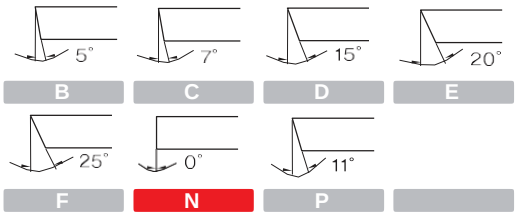
1 Insert Shape

C N M G 12 04 08 - MR



2 Relief Angle

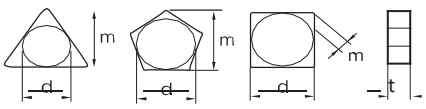
C N M G 12 04 08 - MR



3 Tolerance

C N M G 12 04 08 - MR

d: *Inscribed Circle*
t: *Thickness*
m: *Refer to figure*



(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

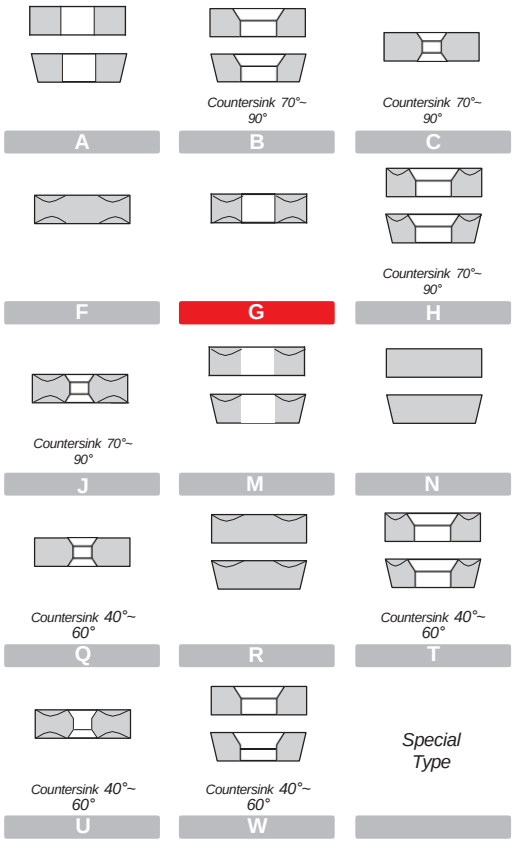
Sides are based on unground insert

Tolerance on C,E,H,M,O,P,R,S,T,W Insert Shape

d	(d) *Tollerance*		(m) *Tollerance*	
	J,K,L,M,N	U	M,N	U
6.350	±0.05	±0.08	±0.08	±0.13
9.525	±0.05	±0.08	±0.08	±0.13
12.700	±0.08	±0.13	±0.13	±0.20
15.875	±0.10	±0.18	±0.15	±0.27
19.050	±0.10	±0.18	±0.15	±0.27
25.400	±0.13	±0.25	±0.18	±0.38

4 Form and Clamping

C N M G 12 04 08 - MR



Insert Designation System

04 6 **08** 7 **MR** 8

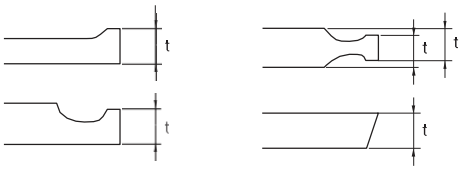
5 Cutting Edge Lenght on Incribed Circle

C N M G **12** 04 08 - MR

Symbol							IC
C	d	S	T	R	V	W	
Metric							(Ømm)
03	04	03	06	03	-	02	**3.97**
04	05	04	08	04	08	03	**4.76**
05	06	05	09	05	09	03	**5.56**
-	-	-	-	06	-	-	**6.00**
06	07	06	11	06	11	04	**6.35**
08	09	07	13	07	13	05	**7.94**
-	-	-	-	08	-	-	**8.00**
09	11	09	16	09	16	06	**9.525**
-	-	-	-	10	-	-	**10.00**
11	13	11	19	11	19	07	**11.11**
-	-	-	-	12	-	-	**12.00**
12	15	12	22	12	22	08	**12.70**
14	17	14	24	14	24	09	**14.29**
16	19	15	27	15	27	10	**15.875**
-	-	-	-	16	-	-	**16.00**
17	21	17	30	17	30	11	**17.46**
19	23	19	33	19	33	13	**19.05**
-	-	-	-	20	-	-	**20.00**
22	27	22	38	22	38	15	**22.225**
-	-	-	-	25	-	-	**25.00**
25	31	25	44	25	44	17	**25.40**
32	38	31	54	31	54	21	**31.75**
-	-	-	-	32	-	-	**32.00**

6 Thickness

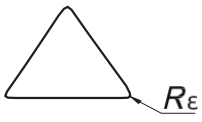
C N M G 12 **04** 08 - MR



Symbol	Thickness
Metric	mm
01	1.59
T0	1.79
T1	1.98
02	2.38
T2	2.78
03	3.18
T3	3.97
04	**4.76**
05	5.56
06	6.35
07	7.94
09	9.52
11	11.11
12	12.70

7 Corner Radius

C N M G 12 04 **08** - MR



Symbol	Corner Radius
Metric	Metric
01	0.1
02	0.2
04	0.4
08	**0.8**
12	1.2
16	1.6
20	2.0
24	2.4
28	2.8
32	3.2
M0	Round insert (Metric)

8 Chip Breaker

C N M G 12 04 08 - **MR**



Grade Designation System

M 1	G 2	P 3	1 4	5 5

1 *Brand (M= Mega)*

2 *Brand (C= Cutting)*

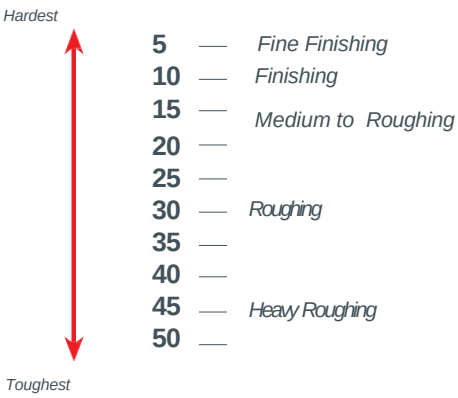
3

- **P** *Steel*
- **M** *Stainless Steel*
- **K** *Cast Iron*
- **N** *Non Ferrous*
- **S** *Heat Resistant Alloys*
- **H** *Hardened Materials*
- **U** *Universal Machining*

4 *Coating Type*

0= *Uncoated*
1= MT-CVD-Al_2O_3
2= PVD TiAlN
3= PVD AlTiN
4= *Diamond*

5 *Application Range*



Selection Guide for Negative Inserts

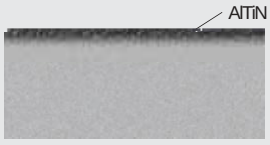
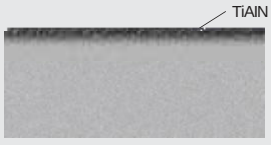
Chipbreaker*	Example insert Form	Operation	Materials Group	Continuos Cutting	Variable Cutting	Interrupt Cutting
MF		Finishing	●	MGP515	MGP515	MGP525
				-	-	-
				-	-	-
				-	-	-
				-	-	-
LC		Finishing to medium	●	MGU515	MGUU525	MGUU525
				-	-	-
				-	-	-
				-	-	-
				-	-	-
MS		Finishing to medium		-	-	-
			●	-	MGUM720	-
				-	-	-
			●	MGN010	MGN010	-
			●	MGM720	MGM720	-
SF		Finishing to medium		-	-	-
			●	MGP710	MGP710	MGM720
				-	-	-
				-	-	-
			●	MGM720	MGM720	MGM720
MR		Medium	●	MGU515	MGU525	MGU540
				-	-	-
				-	-	-
				-	-	-
				-	-	-
ST		Medium		-	-	-
				-	-	-
			●	MGK510	MGK520	MGK520
				-	-	-
				-	-	-
SS		Medium to Roughing		-	-	-
			●	MGP710	MGP710	MGM720
				-	-	-
				-	-	-
				MGM720	MGM720	MGM720
HR		Roughing	●	MGU515	MGU525	MGU540
			●	MGU515	MGU525	MGU540
			●	MGU525	MGU540	MGU540
				-	-	-
				-	-	-
..NM - HY		Heavy Roughing		-	-	-
			●	-	MGU525	MGU540
				-	-	-
				-	-	-
				-	-	-
..NM - HS		Heavy Roughing	●	MGU525	-	-
			●	MGU525	-	-
				-	-	-
				-	-	-
				-	-	-
..NM - HZ		Heavy Roughing	●	MGU525	MGU525	MGU540
				-	-	-
			●	MGK520	MGK520	MGU540
				-	-	-
				-	-	-

Selection Guide for Positive Inserts

Chipbreaker*	Example insert Form	Operation	Materials Group	Continuos Cutting	Variable Cutting	Interrupt Cutting
FP		Fine Finishing	●	MGU515	MGU515	MGU525
				-	-	-
				-	-	-
				-	-	-
				-	-	-
BO		Fine Finishing		-	-	-
			●	MGP710	MGP710	MGM720
				-	-	-
				-	-	-
				-	-	-
FM		Fine Finishing		-	-	-
			●	MGP710	MGM720	MGS725
				-	-	-
				-	-	-
			●	MGP710	MGM720	MGS725
FK		Fine Finishing		-	-	-
				-	-	-
			●	MGK510	MGK510	MGK520
				-	-	-
				-	-	-
MP		Finishing	●	MGU515	MGU525	MGU535
				-	-	-
				-	-	-
				-	-	-
				-	-	-
MM		Finishing		-	-	-
			●	MGP710	MGM720	MGS725
				-	-	-
				-	-	-
			●	MGP710	MGM720	MGS725
MK		Finishing		-	-	-
				-	-	-
			●	MGK510	MGK520	MGK520
				-	-	-
				-	-	-
FS		Fine Finishing to Finishing		-	-	-
			●	MGP710	MGM720	-
				-	-	-
				-	-	-
			●	MGP710	MGM720	-
LN		Fine Finishing to Finishing		-	-	-
				-	-	-
				-	-	-
			●	MGN010	MGN010	MGN010
				-	-	-

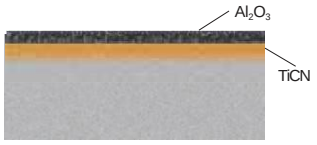
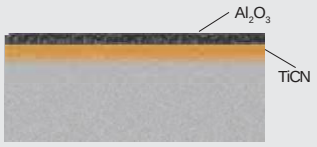
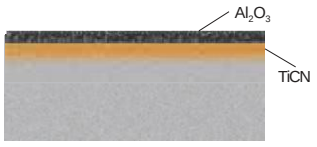
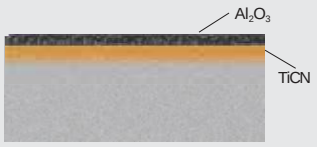
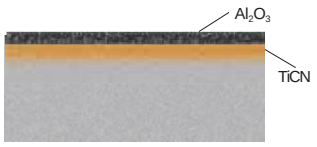
Grade Description

PVD

Grade	Description	
MGP710 P05-P10 M05-M10 S05-S15	*AlTiN PVD coated carbide grade with a very hard micro grain substrate improves wear resistance, heat dissipation and avoid built-up edge. High performance on "gummy" materials. For light turning of stainless steels and HRSA.*	
MGM720 P10-P35 M10-M25 S10-S30	*A micro grain size combined with the AlTiN PVD coating make it suitable for Roughing to Finishing operations under good cutting conditions to light interrupted cuts at medium cutting speeds. Suitable for steels, stainless steel, HRSA.*	
MGS725 M10-M30 S10-S30	*General grade for medium to finishing operations under good to medium cutting conditions. The substrate balances hardness and toughness. The combination with a wear resistant AlTiN PVD coating make it suitable to stainless steel, HRSA at medium cutting speeds.*	
MGU610 P05-P10 M05-M10 S05-S15	*TiAlN PVD coated carbide grade with a very hard micro grain substrate for light turning of steels, hardened steels, stainless steels and HRSA.*	
MGU620 P10-P35 M10-M25 S10-S30	*An advanced TiAlN PVD coated grade over a tough wear resistant sub-micro substrate for general machining of steels, stainless steels & titanium alloys.*	

Grade Description

CVD

Grade	Description	
MGU515 P01-P30 M01-M25	*Medium temperature MT-CVD coating with Al2 O3 . Carbide grade with a gradient layer close to the surface.* *Suitable for high to medium cutting speeds on steels, cast steels & cast irons.*	
MGU525 P10-P35 M05-M30	*Carbide grade suitable for medium machining of steels & cast steels at medium cutting speeds. The substrate is suitable for the adhesion of the Alumina coating Al2O3 medium temperature MT-CVD, improving the tool life.*	
MGP535* P20-P40 M15-M35 K15-K30	*A MT-CVD Coated grade suitable for Grooving and parting off operations with single side inserts. The high toughness make it the first choice in a wide range of materials with interrupted cuts.To be used at medium to low cutting speeds.*	
MGU540 P25-P45 M25-M45 K20-K40	*Substrate with medium grain size combined with a medium temperature MT-CVD coating. Suitable for roughing to heavy roughing operations with interrupted cuts at low to medium cutting speeds.*	
MGK510 P01-P10 K05-K15	*The substract grade with a very good wear resistance combined with the MT-CVD coating allow to work at high to medium cutting speeds at stable conditions. Recommend for turning of grey cast irons (GCI) or hardened steels. Can also be a solution for high alloy steels.*	
MGK520 P01-P15 K01-K25	*Medium temperature MT-CVD coating Al2O3 combined with a hard substrate make it capable of withstanding* *interrupted conditions. Recommended as general choice for roughing of all cast irons at low to medium cutting speeds. Can also be a solution for high alloy steels.*	

Uncoated

MGN010 N01-N20	*Uncoated carbide micrograin grade combining a good abrasive wear resistance and thoughness. Suitable for rough to* *finish turning of HRSA, Titanium alloys, cast irons and Aluminium alloys.*	

Grade Application

PVD

Grade	Application	ISO
MGP710	*steel / stainless steel / HRSA*	P(05-10), M(05-10), S(05-15)
MGM720	*steel / stainless steel / HRSA*	P(10-35), M(10-25), S(10-30)
MGS725	*stainless steel / HRSA*	P(10-35), M(10-30), S(10-30)
MGU610	*steel / stainless steel / HRSA*	P(05-10), M(05-10), S(05-15)
MGU620	*steel / stainless steel / titanium*	P(10-35), M(10-25), S(10-30)

CVD

Grade	Application	ISO
MGU515	*steel/stainless steel*	P (01-30), M (01-25)
MGU525	*steel/stainless steel*	P (10-35), M (05-30)
MGP535*	*steel/stainless/cast iron*	P(20-40), M(15-35), K(15-30)
MGU540	*steel/stainless/cast iron*	P(25-45), M(25-45), K(20-40)
MGK510	*steel/cast iron*	P (01-10), K (01-25)
MGK520	*steel/cast iron*	P (01-15), K (05-15)

Uncoated

Grade	Application	ISO
MGN010	*Aluminium / Non Ferrous*	N (01-20)

Inserts Index

Rhombic 80° Negative

- CNMA
- CNMG-MF
- CNMG-MS
- CNMG-SF
- CNMG-LC
- CNMG-MR
- CNMG-SS
- CNMG-ST
- CNMG-HR
- CNMG-HY
- CNMM-HS
- CNMM-HZ

Rhombic 55° Negative

- DNMA
- DNMG-MF
- DNMG-MS
- DNMG-SF
- DNMG-LC
- DNMG-MR
- DNMG-SS
- DNMG-ST
- DNMG-HR

Round R Negative

- RNMG-ST

Square 90° Negative

- SNMA
- SNMG-MF
- SNMG-MR
- SNMG-SS
- SNMG-ST
- SNMG-HR
- SNMG-HM
- SNMG-HY
- SNMG-HZ

Triangular 60° Negative

- TNMA
- TNMG-MF
- TNMG-MS
- TNMG-SF
- TNMG-LC
- TNMG-MR
- TNMG-SS
- TNMG-ST
- TNMG-HR

Rhombic 35° Negative

- VNMA
- VNMG-MF
- VNMG-MS
- VNMG-SF
- VNMG-LC
- VNMG-MR
- VNMG-SS
- VNMG-ST

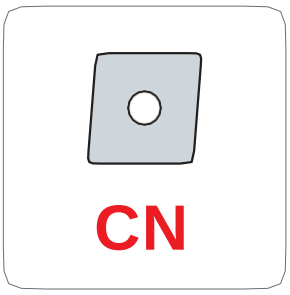
Trigon 80° Negative

- WNMA
- WNMG-MF
- WNMG-MS
- WNMG-SF
- WNMG-LC
- WNMG-MR
- WNMG-SS
- WNMG-ST
- WNMG-HR

Parallelogram 55° Negative

- KNUX-01
- KNUX-02

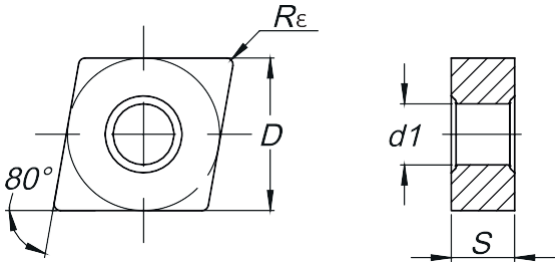
Rhombic 80° Negative



Inserts	ISO Code	Grade											
		P			M				K			N	S	
		MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
CNMA	CNMA120404	-	-	-	-	-	-	-			-	-	-	-
	CNMA120408	-	-	-	-	-	-	-			-	-	-	-
	CNMA120412	-	-	-	-	-	-	-			-	-	-	-
	CNMA120416	-	-	-	-	-	-	-			-	-	-	-
	CNMA160608	-	-	-	-	-	-	-			-	-	-	-
	CNMA160612	-	-	-	-	-	-	-			-	-	-	-
	CNMA160616	-	-	-	-	-	-	-			-	-	-	-
Roughing	CNMA190612	-	-	-	-	-	-	-			-	-	-	-
	CNMA190616	-	-	-	-	-	-	-			-	-	-	-

CNMG-MF	CNMG090304MF			-			-	-	-	-	-	-	-	-
	CNMG090308MF			-			-	-	-	-	-	-	-	-
	CNMG09T304MF		-	-		-	-	-	-	-	-	-	-	-
	CNMG09T308MF		-	-		-	-	-	-	-	-	-	-	-
	CNMG120404MF			-			-	-	-	-	-	-	-	-
	CNMG120408MF			-			-	-	-	-	-	-	-	-
Finishing	CNMG120412MF			-			-	-	-	-	-	-	-	-

Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
12,7	4,76	0,4	5,16	2,50	0,20	5,00	0,20	0,10	0,30	CNMA120404	CNMA
12,7	4,76	0,8	5,16	4,00	0,20	8,00	0,35	0,15	0,60	CNMA120408	
12,7	4,76	1,2	5,16	4,00	0,30	8,00	0,45	0,20	0,80	CNMA120412	
12,7	4,76	1,6	5,16	4,00	0,30	8,00	0,55	0,20	1,00	CNMA120416	
15,875	6,35	0,8	6,35	5,00	0,30	10,00	0,45	0,20	0,80	CNMA160608	
15,875	6,35	1,2	6,35	5,00	0,30	10,00	0,45	0,20	0,80	CNMA160612	
15,875	6,35	1,6	6,35	5,00	0,30	10,00	0,55	0,20	1,00	CNMA160616	
19,05	6,35	1,2	7,94	6,00	0,30	12,00	0,45	0,20	0,80	CNMA190612	
19,05	6,35	1,6	7,94	6,00	0,30	12,00	0,55	0,20	1,00	CNMA190616	



Roughing

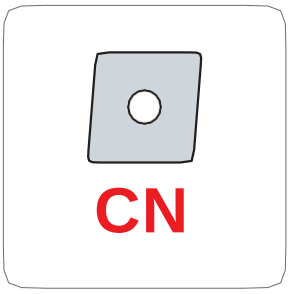
9,525	3,18	0,4	3,81	0,35	0,10	1,50	0,15	0,05	0,25	CNMG090304MF	CNMG-MF
9,525	3,18	0,8	3,81	0,35	0,10	1,50	0,20	0,10	0,40	CNMG090308MF	
9,525	3,97	0,4	3,81	0,35	0,10	1,50	0,15	0,05	0,25	CNMG09T304MF	
9,525	3,97	0,8	3,81	0,35	0,10	1,50	0,20	0,10	0,40	CNMG09T308MF	
12,7	4,76	0,4	5,16	0,40	0,10	1,50	0,15	0,05	0,25	CNMG120404MF	
12,7	4,76	0,8	5,16	0,40	0,10	1,50	0,20	0,10	0,40	CNMG120408MF	
12,7	4,76	1,2	5,16	0,80	0,50	2,50	0,25	0,15	0,50	CNMG120412MF	

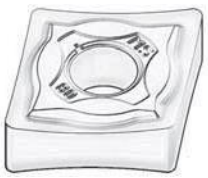
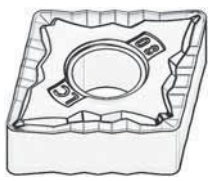


Finishing

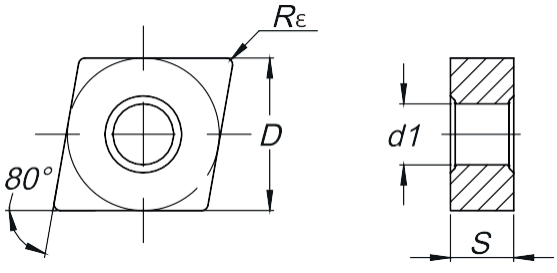
Turning - Negative Inserts

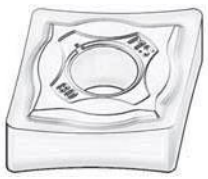
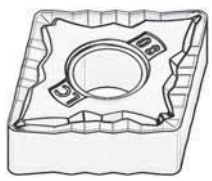
Rhombic 80° Negative



Inserts	ISO Code	Grade												
		P			M				K			N	S	
		MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
CNMG-MS	**CNMG120404MS**	-	-	-	-	-	-		-	-	-		-	
	**CNMG120408MS**	-	-	-	-	-	-		-	-	-		-	
	CNMG120412MS	-	-	-	-	-	-		-	-	-		-	
	CNMG120416MS	-	-	-	-	-	-		-	-	-	-	-	
Finishing to Medium														
CNMG-SF	**CNMG120404SF**	-	-	-	-	-			-	-	-	-		
	**CNMG120408SF**	-	-	-	-	-			-	-	-	-		
	CNMG120412SF	-	-	-	-	-			-	-	-	-		
Finishing to Medium														
CNMG-LC	**CNMG120404LC**			-	-	-	-	-	-	-	-	-	-	-
	**CNMG120408LC**			-	-	-	-	-	-	-	-	-	-	-
Finishing to Medium														

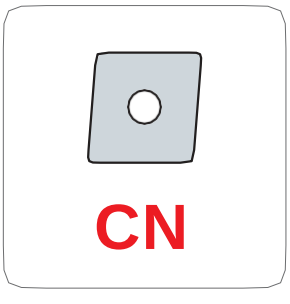
Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
12,7	4,76	0,4	5,16	1,50	0,20	3,60	0,15	0,10	0,20	**CNMG120404MS**	**CNMG-MS**
12,7	4,76	0,8	5,16	2,00	0,30	3,60	0,25	0,10	0,40	**CNMG120408MS**	
12,7	4,76	1,2	5,16	2,40	0,40	3,60	0,30	0,15	0,60	**CNMG120412MS**	
12,7	4,76	1,6	5,16	2,40	0,40	3,60	0,40	0,15	0,80	**CNMG120416MS**	
											Finishing to Medium
12,7	4,76	0,4	5,16	1,50	0,60	3,00	0,15	0,10	0,23	**CNMG120404SF**	**CNMG-SF**
12,7	4,76	0,8	5,16	1,50	0,60	3,00	0,25	0,12	0,38	**CNMG120408SF**	
12,7	4,76	1,2	5,16	1,50	0,60	3,00	0,35	0,15	0,55	**CNMG120412SF**	
											Finishing to Medium
12,7	4,76	0,4	5,16	1,00	0,40	2,50	0,10	0,07	0,30	**CNMG120404LC**	**CNMG-LC**
12,7	4,76	0,8	5,16	1,50	0,40	2,50	0,15	0,10	0,40	**CNMG120408LC**	
											Finishingto Medium

Turning - Negative Inserts

Rhombic 80° Negative

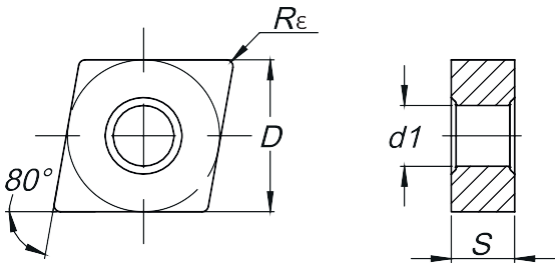


Inserts	ISO Code	Grade												
		P			M				K			N	S	
		MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
CNMG-MR	CNMG090304MR			-	-	-	-	-	-	-	-	-	-	-
	CNMG090308MR			-	-	-	-	-	-	-	-	-	-	-
	CNMG120404MR				-	-	-	-	-	-	-	-	-	-
	CNMG120408MR				-	-	-	-	-	-	-	-	-	-
	CNMG120412MR				-	-	-	-	-	-	-	-	-	-
	CNMG120416MR				-	-	-	-	-	-	-	-	-	-
	CNMG160608MR				-	-	-	-	-	-	-	-	-	-
	CNMG160612MR				-	-	-	-	-	-	-	-	-	-
	CNMG160616MR				-	-	-	-	-	-	-	-	-	-
	CNMG190612MR				-	-	-	-	-	-	-	-	-	-
	CNMG190616MR				-	-	-	-	-	-	-	-	-	-



Medium

Ordering example: Insert Code + Grade

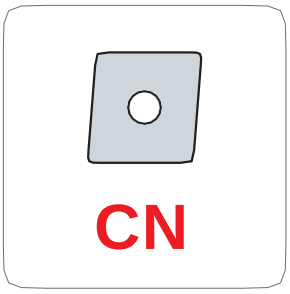


Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	*ISO Code*	*Inserts*
9,525	3,18	0,4	3,81	2,00	0,40	4,00	0,20	0,10	0,30	**CNMG090304MR**	**CNMG-MR**
9,525	3,18	0,8	3,81	2,00	0,50	4,00	0,30	0,15	0,50	**CNMG090308MR**	
12,7	4,76	0,4	5,16	3,00	0,40	5,50	0,20	0,10	0,30	**CNMG120404MR**	
12,7	4,76	0,8	5,16	3,00	0,50	5,50	0,30	0,15	0,50	**CNMG120408MR**	
12,7	4,76	1,2	5,16	3,00	0,80	5,50	0,35	0,18	0,60	**CNMG120412MR**	
12,7	4,76	1,6	5,16	3,00	1,00	5,50	0,40	0,23	0,65	**CNMG120416MR**	
15,875	6,35	0,8	6,35	4,00	0,50	7,20	0,30	0,15	0,50	**CNMG160608MR**	
15,875	6,35	1,2	6,35	4,00	0,80	7,20	0,35	0,18	0,60	**CNMG160612MR**	
15,875	6,35	1,6	6,35	4,00	1,00	7,20	0,40	0,23	0,65	**CNMG160616MR**	
19,05	6,35	1,2	7,94	4,00	0,80	8,60	0,35	0,18	0,60	**CNMG190612MR**	
19,05	6,35	1,6	7,94	4,00	1,00	8,60	0,40	0,23	0,65	**CNMG190616MR**	



Medium

Rhombic 80° Negative

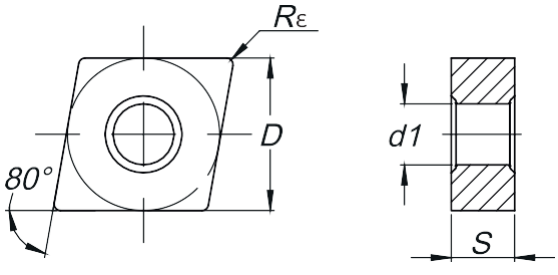


		Grade												
		P			M				K			N	S	
Inserts	ISO Code	MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
CNMG-SS	CNMG090304SS	-	-	-	-				-	-	-	-	-	-
	CNMG090308SS	-	-	-	-				-	-	-	-	-	-
	CNMG120404SS	-	-						-	-	-	-		
	CNMG120408SS	-	-						-	-	-	-		
	CNMG120412SS	-	-						-	-	-	-		
	CNMG120416SS	-	-	-	-		-	-	-	-	-	-	-	-
	CNMG160608SS	-	-	-	-		-	-	-	-	-	-	-	-
	CNMG160612SS	-	-	-	-		-	-	-	-	-	-	-	-
	CNMG190612SS	-	-	-	-		-	-	-	-	-	-	-	-
	CNMG190616SS	-	-	-	-		-	-	-	-	-	-	-	-
CNMG-ST	CNMG120404ST	-	-	-	-	-	-	-	■	■	-	-	-	-
	CNMG120408ST	-	-	-	-	-	-	-	■	■	-	-	-	-
	CNMG120412ST	-	-	-	-	-	-	-	■	■	-	-	-	-
	CNMG120416ST	-	-	-	-	-	-	-	■	■	-	-	-	-
	CNMG160608ST	-	-	-	-	-	-	-	■	■	-	-	-	-
	CNMG160612ST	-	-	-	-	-	-	-	■	■	-	-	-	-
	CNMG160616ST	-	-	-	-	-	-	-	■	■	-	-	-	-

Medium to Roughing

Medium

Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
9,525	3,18	0,4	3,81	2,00	0,50	2,50	0,20	0,10	0,25	**CNMG090304SS**	**CNMG-SS**
9,525	3,18	0,8	3,81	2,00	0,50	2,50	0,25	0,12	0,45	**CNMG090308SS**	
12,7	4,76	0,4	5,16	3,00	0,50	5,70	0,20	0,10	0,25	**CNMG120404SS**	
12,7	4,76	0,8	5,16	3,00	0,50	5,70	0,25	0,12	0,45	**CNMG120408SS**	
12,7	4,76	1,2	5,16	3,00	0,50	5,70	0,30	0,15	0,60	**CNMG120412SS**	
12,7	4,76	1,6	5,16	3,00	0,50	5,70	0,37	0,18	0,65	**CNMG120416SS**	
15,875	6,35	0,8	6,35	4,00	0,50	7,20	0,25	0,12	0,45	**CNMG160608SS**	
15,875	6,35	1,2	6,35	4,00	0,50	7,20	0,30	0,15	0,60	**CNMG160612SS**	
19,05	6,35	1,2	7,94	4,00	0,50	8,50	0,30	0,15	0,60	**CNMG190612SS**	
19,05	6,35	1,6	7,94	4,00	0,50	8,50	0,37	0,18	0,65	**CNMG190616SS**	



Medium to Roughing

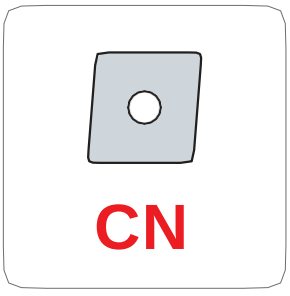
12,700	4,76	0,4	5,16	2,50	0,20	5,00	0,22	0,15	0,26	**CNMG120404ST**	**CNMG-ST**
12,700	4,76	0,8	5,16	3,00	0,20	6,00	0,35	0,15	0,50	**CNMG120408ST**	
12,700	4,76	1,2	5,16	3,00	0,30	6,00	0,40	0,15	0,60	**CNMG120412ST**	
12,700	4,76	1,6	5,16	3,00	0,30	6,00	0,45	0,20	0,70	**CNMG120416ST**	
15,875	6,35	0,8	6,35	4,00	0,20	8,00	0,35	0,15	0,50	**CNMG160608ST**	
15,875	6,35	1,2	6,35	4,00	0,30	8,00	0,40	0,15	0,60	**CNMG160612ST**	
15,875	6,35	1,6	6,35	4,00	0,30	8,00	0,45	0,20	0,70	**CNMG160616ST**	

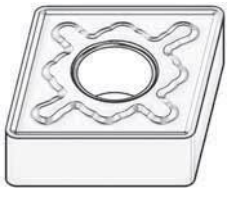


Medium

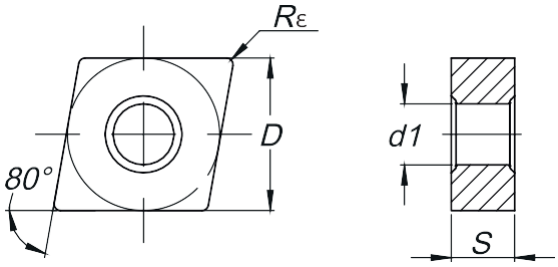
Turning - Negative Inserts

Rhombic 80° Negative

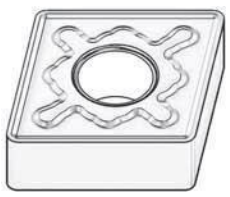


		Grade												
		P			M				K			N	S	
Inserts	*ISO Code*	MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
CNMG-HR	**CNMG120408HR**						-	-			-	-	-	-
	CNMG120412HR						-	-			-	-	-	-
	CNMG120416HR			-			-	-			-	-	-	-
	CNMG160608HR						-	-			-	-	-	-
	**CNMG160612HR**						-	-			-	-	-	-
	CNMG160616HR	-			-		-	-			-	-	-	-
	CNMG190612HR						-	-			-	-	-	-
	CNMG190616HR						-	-			-	-	-	-
Roughing	**CNMG250924HR**	-			-		-	-	-	-	-	-	-	-

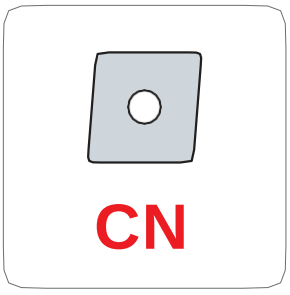
Ordering example: Insert Code + Grade

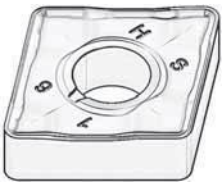
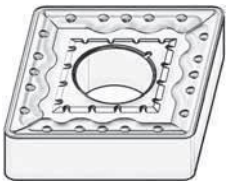


Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	*ISO Code*	*Inserts*
12,7	4,76	0,8	5,16	4,00	1,00	7,00	0,35	0,20	0,55	**CNMG120408HR**	**CNMG-HR**
12,7	4,76	1,2	5,16	4,00	1,00	7,00	0,40	0,25	0,60	**CNMG120412HR**	
12,7	4,76	1,6	5,16	4,00	1,50	7,00	0,50	0,32	0,75	**CNMG120416HR**	
15,875	6,35	0,8	6,35	5,00	1,00	8,00	0,35	0,20	0,55	**CNMG160608HR**	
15,875	6,35	1,2	6,35	5,00	1,00	8,00	0,40	0,25	0,60	**CNMG160612HR**	
15,875	6,35	1,6	6,35	5,00	1,50	8,00	0,50	0,32	0,75	**CNMG160616HR**	
19,05	6,35	1,2	7,94	5,50	2,00	10,00	0,40	0,25	0,70	**CNMG190612HR**	
19,05	6,35	1,6	7,94	5,50	2,00	10,00	0,50	0,32	0,80	**CNMG190616HR**	
25,4	9,52	2,4	9,12	6,00	2,00	15,00	0,60	0,40	1,00	**CNMG250924HR**	*Roughing*



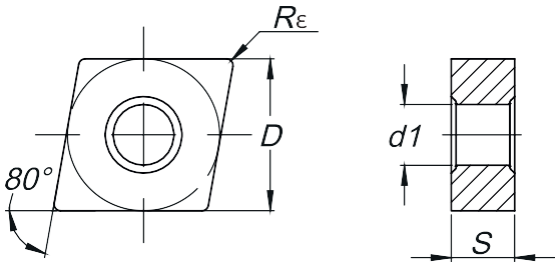
Rhombic 80° Negative

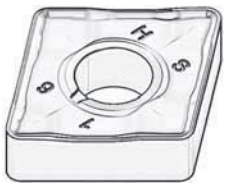
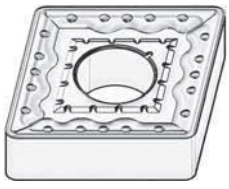


Inserts	ISO Code	Grade												
		P			M				K			N	S	
		MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
CNMM-HY	**CNMM190612HY**						-	-	-	-	-	-	-	-
	**CNMM190616HY**						-	-	-	-	-	-	-	-
	CNMM190624HY						-	-	-	-	-	-	-	-
	CNMM250924HY						-	-	-	-	-	-	-	-
Roughing to Heavy														
CNMM-HS	**CNMM190616HS**	-		-	-		-	-	-	-	-	-	-	-
	**CNMM190624HS**	-		-	-		-	-	-	-	-	-	-	-
	CNMM250924HS	-		-	-		-	-	-	-	-	-	-	-
Roughing to Heavy														
CNMM-HZ	**CNMM190612HZ**				-	-	-	-	-		-	-	-	-
	**CNMM190616HZ**				-	-	-	-	-		-	-	-	-
	CNMM190624HZ				-	-	-	-	-		-	-	-	-
	CNMM250924HZ				-	-	-	-	-		-	-	-	-
Roughing to Heavy														

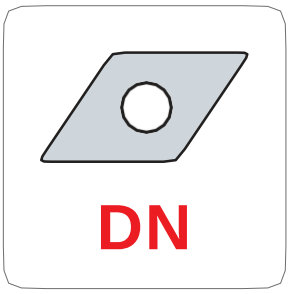
Ordering example: Insert Code + Grade

☐ *Available on request*



Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
19,05	6,35	1,2	7,94	6,00	2,00	12,00	0,50	0,35	0,80	**CNMM190612HY**	**CNMM-HY**
19,05	6,35	1,6	7,94	6,00	2,00	12,00	0,60	0,35	1,00	**CNMM190616HY**	
19,05	6,35	2,4	7,94	6,00	2,00	12,00	0,60	0,35	1,20	**CNMM190624HY**	
25,40	9,52	2,4	9,12	8,00	2,50	15,00	0,70	0,40	1,40	**CNMM250924HY**	
											Roughing to Heavy
19,05	6,35	1,6	7,94	7,00	1,80	12,00	0,55	0,35	0,90	**CNMM190616HS**	**CNMM-HS**
19,05	6,35	2,4	7,94	7,00	2,50	12,00	0,60	0,40	1,20	**CNMM190624HS**	
25,40	9,52	2,4	9,12	9,00	2,50	15,00	0,65	0,45	1,40	**CNMM250924HS**	
											Roughing to Heavy
19,05	6,35	1,2	7,94	10.00	2.40	12,00	0,65	0,50	0,80	**CNMM190612HZ**	**CNMM-HZ**
19,05	6,35	1,6	7,94	10,00	2,40	12,00	0,80	0,50	1,10	**CNMM190616HZ**	
19,05	6,35	2,4	7,94	10,00	3,20	12,00	1,00	0,60	1,60	**CNMM190624HZ**	
25,40	9,52	2,4	9,12	10,00	3,20	17,00	1,00	0,60	1,60	**CNMM250924HZ**	
											Roughing to Heavy

Rhombic 55° Negative



		Grade												
		P			M				K			N	S	
Inserts	ISO Code	MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
DNMA	**DNMA110404**	-	-	-	-	-	-	-			-	-	-	-
	DNMA150404	-	-	-	-	-	-	-			-	-	-	-
	DNMA150408	-	-	-	-	-	-	-			-	-	-	-
	DNMA150412	-	-	-	-	-	-	-			-	-	-	-
	DNMA150416	-	-	-	-	-	-	-			-	-	-	-
	DNMA150604	-	-	-	-	-	-	-			-	-	-	-
	DNMA150608	-	-	-	-	-	-	-			-	-	-	-
	DNMA150612	-	-	-	-	-	-	-			-	-	-	-
	DNMA150616	-	-	-	-	-	-	-			-	-	-	-
DNMG-MF	**DNMG110404MF**	■	■	-	■	■	-	-	-	-	-	-	-	-
	DNMG110408MF	■	■	-	■	■	-	-	-	-	-	-	-	-
	DNMG150404MF	■	■	-	■	■	-	-	-	-	-	-	-	-
	DNMG150408MF	■	■	-	■	■	-	-	-	-	-	-	-	-
	DNMG150412MF	■	■	-	■	■	-	-	-	-	-	-	-	-
	DNMG150604MF	■	■	-	■	■	-	-	-	-	-	-	-	-
	DNMG150608MF	■	■	-	■	■	-	-	-	-	-	-	-	-
	DNMG150612MF	■	■	-	■	■	-	-	-	-	-	-	-	-

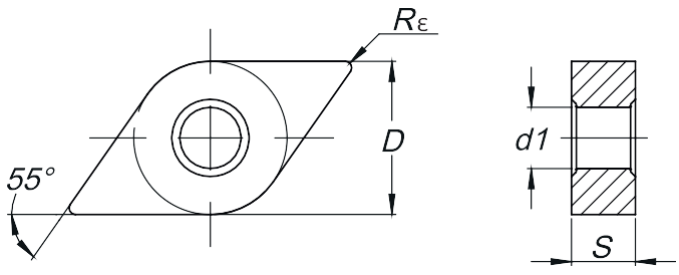


SCHRUPPEN
Roughing



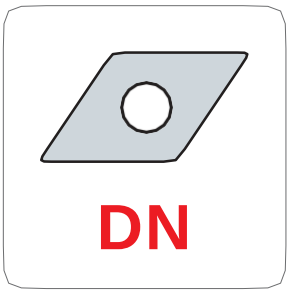
Finishing

Ordering example: Insert Code + Grade



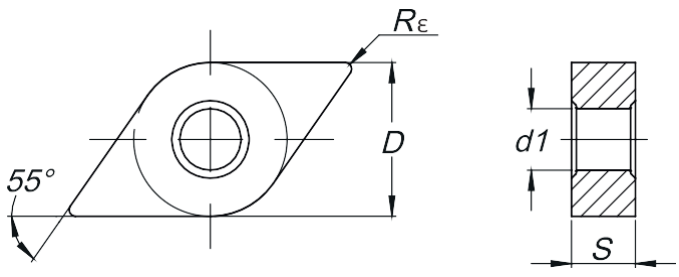
Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
9,525	4,76	0,4	3,81	2,00	0,20	3,50	0,15	0,10	0,30	**DNMA110404**	**DNMA**
12,7	4,76	0,4	3,81	3,00	0,20	4,00	0,15	0,10	0,30	**DNMA150404**	
12,7	4,76	0,8	5,16	3,00	0,20	6,00	0,35	0,15	0,60	**DNMA150408**	
12,7	4,76	1,2	5,16	3,00	0,30	6,00	0,45	0,20	0,80	**DNMA150412**	
12,7	4,76	1,6	5,16	3,00	0,30	6,00	0,55	0,20	1,00	**DNMA150416**	
12,7	6,35	0,4	5,16	3,00	0,20	4,00	0,15	0,10	0,30	**DNMA150604**	
12,7	6,35	0,8	5,16	3,00	0,20	6,00	0,35	0,15	0,60	**DNMA150608**	
12,7	6,35	1,2	5,16	3,00	0,30	6,00	0,45	0,20	0,80	**DNMA150612**	
12,7	6,35	1,6	5,16	3,00	0,30	6,00	0,55	0,20	1,00	**DNMA150616**	*Roughing*
9,525	4,76	0,4	3,81	0,40	0,10	1,50	0,15	0,05	0,25	**DNMG110404MF**	**DNMG-MF**
9,525	4,76	0,8	3,81	0,40	0,10	1,50	0,20	0,10	0,40	**DNMG110408MF**	
12,7	4,76	0,4	5,16	0,40	0,10	1,50	0,15	0,05	0,25	**DNMG150404MF**	
12,7	4,76	0,8	5,16	0,40	0,10	1,50	0,20	0,10	0,40	**DNMG150408MF**	
12,7	4,76	1,2	5,16	0,80	0,20	2,50	0,25	0,15	0,50	**DNMG150412MF**	
12,7	6,35	0,4	5,16	0,40	0,10	1,50	0,15	0,05	0,25	**DNMG150604MF**	
12,7	6,35	0,8	5,16	0,40	0,10	1,50	0,20	0,10	0,40	**DNMG150608MF**	
12,7	6,35	1,2	5,16	0,80	0,20	2,50	0,25	0,15	0,50	**DNMG150612MF**	*Finishing*

Rhombic 55° Negative



		Grade												
		P			M				K			N	S	
Inserts	ISO Code	MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
DNMG-MS	**DNMG150404MS**	-	-	-	-	-	-		-	-	-		-	
	**DNMG150408MS**	-	-	-	-	-	-		-	-	-		-	
	DNMG150412MS	-	-	-	-	-	-		-	-	-		-	
	DNMG150416MS	-	-	-	-	-	-		-	-	-	-	-	
	DNMG150604MS	-	-	-	-	-	-		-	-	-	-	-	
	DNMG150608MS	-	-	-	-	-	-		-	-	-	-	-	
Finishing to Medium	**DNMG150612MS**	-	-	-	-	-	-		-	-	-	-	-	■
DNMG-SF	**DNMG110404SF**	-	-	-	-	-	■	■	-	-	-	-	■	■
	DNMG110408SF	-	-	-	-	-	■	■	-	-	-	-	■	■
	DNMG150404SF	-	-	-	-	-	■	■	-	-	-	-	■	■
	**DNMG150408SF**	-	-	-	-	-	■	■	-	-	-	-	■	■
	DNMG150412SF	-	-	-	-	-	■	■	-	-	-	-	■	■
	DNMG150604SF	-	-	-	-	-	■	■	-	-	-	-	■	■
	DNMG150608SF	-	-	-	-	-	■	■	-	-	-	-	■	■
Finishing to Medium	**DNMG150612SF**	-	-	-	-	-	■	■	-	-	-	-	■	■

Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
12,7	4,76	0,4	5,16	1,50	0,20	3,60	0,15	0,10	0,20	**DNMG150404MS**	**DNMG-MS**
12,7	4,76	0,8	5,16	2,00	0,30	3,80	0,25	0,10	0,40	**DNMG150408MS**	
12,7	4,76	1,2	5,16	2,50	0,40	4,00	0,30	0,15	0,60	**DNMG150412MS**	
12,7	4,76	1,6	5,16	2,80	0,40	4,50	0,40	0,15	0,80	**DNMG150416MS**	
12,7	6,35	0,4	5,16	1,50	0,20	3,60	0,15	0,10	0,20	**DNMG150604MS**	
12,7	6,35	0,8	5,16	2,00	0,30	4,00	0,25	0,10	0,40	**DNMG150608MS**	
12,7	6,35	1,2	5,16	2,80	0,40	4,50	0,30	0,15	0,60	**DNMG150612MS**	
9,525	4,76	0,4	3,81	1,50	0,60	3,00	0,15	0,10	0,23	**DNMG110404SF**	**DNMG-SF**
9,525	4,76	0,8	3,81	1,50	0,60	3,00	0,25	0,12	0,38	**DNMG110408SF**	
12,7	4,76	0,4	5,16	1,50	0,60	3,00	0,15	0,10	0,23	**DNMG150404SF**	
12,7	4,76	0,8	5,16	1,50	0,60	3,00	0,25	0,12	0,38	**DNMG150408SF**	
12,7	4,76	1,2	5,16	1,50	0,60	3,00	0,35	0,15	0,55	**DNMG150412SF**	
12,7	6,35	0,4	5,16	1,50	0,60	3,00	0,15	0,10	0,23	**DNMG150604SF**	
12,7	6,35	0,8	5,16	1,50	0,60	3,00	0,25	0,12	0,38	**DNMG150608SF**	
12,7	6,35	1,2	5,16	1,50	0,60	3,00	0,35	0,15	0,55	**DNMG150612SF**	

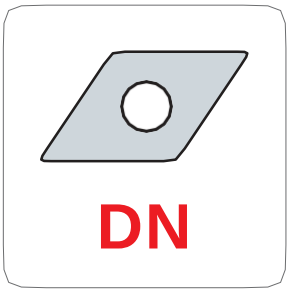


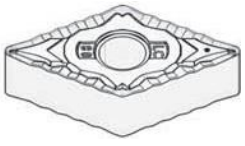
Finishing to Medium



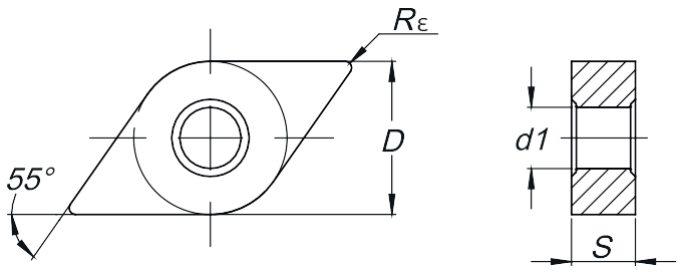
Finishing to Medium

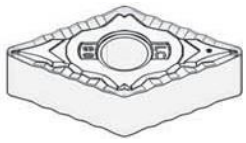
Rhombic 55° Negative



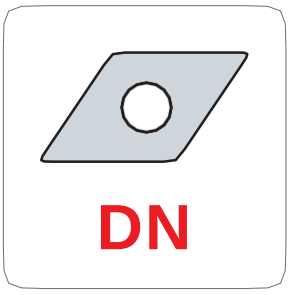
Inserts	ISO Code	Grade												
		P			M				K			N	S	
		MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
DNMG-LC	**DNMG150404LC**			-	-	-	-	-	-	-	-	-	-	-
	**DNMG150408LC**			-	-	-	-	-	-	-	-	-	-	-
	DNMG150412LC			-	-	-	-	-	-	-	-	-	-	-
	DNMG150604LC			-	-	-	-	-	-	-	-	-	-	-
Finishing to Medium	**DNMG150608LC**			-	-	-	-	-	-	-	-	-	-	-
	DNMG150612LC			-	-	-	-	-	-	-	-	-	-	-
DNMG-MR	**DNMG110404MR**	■	■	-	-	-	-	-	-	-	-	-	-	-
	**DNMG110408MR**	■	■	-	-	-	-	-	-	-	-	-	-	-
	DNMG150404MR	■	■	■	-	-	-	-	-	-	-	-	-	-
	DNMG150408MR	■	■	■	-	-	-	-	-	-	-	-	-	-
	DNMG150412MR	■	■	■	-	-	-	-	-	-	-	-	-	-
	DNMG150604MR	■	■	■	-	-	-	-	-	-	-	-	-	-
	DNMG150608MR	■	■	■	-	-	-	-	-	-	-	-	-	-
	DNMG150612MR	■	■	■	-	-	-	-	-	-	-	-	-	-
Medium	**DNMG150616MR**	-	■	-	-	-	-	-	-	-	-	-	-	-

Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
12,7	4,76	0,4	5,16	1,00	0,40	2,50	0,15	0,07	0,30	**DNMG150404LC**	**DNMG-LC**
12,7	4,76	0,8	5,16	1,50	0,40	2,50	0,20	0,10	0,40	**DNMG150408LC**	
12,7	4,76	1,2	5,16	2,00	0,80	3,00	0,25	0,15	0,50	**DNMG150412LC**	
12,7	6,35	0,4	5,16	2,00	0,40	3,00	0,15	0,07	0,30	**DNMG150604LC**	
12,7	6,35	0,8	5,16	2,00	0,40	3,00	0,20	0,10	0,40	**DNMG150608LC**	*Finishing to Medium*
12,7	6,35	1,2	5,16	2,50	0,80	3,50	0,25	0,15	0,50	**DNMG150612LC**	
9,525	4,76	0,4	3,81	2,00	0,40	5,00	0,20	0,10	0,30	**DNMG110404MR**	**DNMG-MR**
9,525	4,76	0,8	3,81	2,00	0,50	5,00	0,30	0,15	0,50	**DNMG110408MR**	
12,7	4,76	0,4	5,16	3,00	0,40	6,00	0,20	0,10	0,30	**DNMG150404MR**	
12,7	4,76	0,8	5,16	3,00	0,50	6,00	0,30	0,15	0,50	**DNMG150408MR**	
12,7	4,76	1,2	5,16	3,00	0,80	6,00	0,35	0,18	0,60	**DNMG150412MR**	
12,7	6,35	0,4	5,16	3,00	0,40	6,00	0,20	0,10	0,30	**DNMG150604MR**	
12,7	6,35	0,8	5,16	3,00	0,50	6,00	0,30	0,15	0,50	**DNMG150608MR**	
12,7	6,35	1,2	5,16	3,00	0,80	6,00	0,35	0,18	0,60	**DNMG150612MR**	
12,7	6,35	1,6	5,16	3,00	1,00	6,00	0,40	0,23	0,65	**DNMG150616MR**	*Medium*

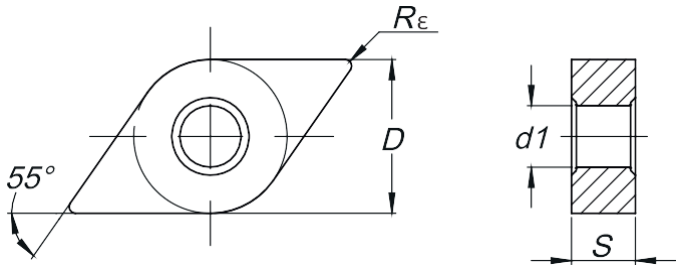
Rhombic 55° Negative



		Grade												
		P			M				K			N	S	
Inserts	ISO Code	MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
DNMG-SS	**DNMG110408SS**	-	-	-	-				-	-	-	-		
	**DNMG150404SS**	-	-						-	-	-	-		
	DNMG150408SS	-	-						-	-	-	-		
	DNMG150412SS	-	-						-	-	-	-		
	DNMG150604SS	-	-						-	-	-	-		
	DNMG150608SS	-	-						-	-	-	-		
	DNMG150612SS	-	-						-	-	-	-		
Medium to Roughing	**DNMG150616SS**	-	-	-	-		-	-	-	-	-	-	-	-
DNMG-ST	**DNMG110404ST**	-	-	-	-	-	-	-	■	■	-	-	-	-
	**DNMG110408ST**	-	-	-	-	-	-	-	■	■	-	-	-	-
	DNMG150404ST	-	-	-	-	-	-	-	■	■	-	-	-	-
	DNMG150408ST	-	-	-	-	-	-	-	■	■	-	-	-	-
	DNMG150412ST	-	-	-	-	-	-	-	■	■	-	-	-	-
	DNMG150416ST	-	-	-	-	-	-	-	■	■	-	-	-	-
	DNMG150604ST	-	-	-	-	-	-	-	■	■	-	-	-	-
	DNMG150608ST	-	-	-	-	-	-	-	■	■	-	-	-	-
	DNMG150612ST	-	-	-	-	-	-	-	■	■	-	-	-	-
Medium	**DNMG150616ST**	-	-	-	-	-	-	-	■	■	-	-	-	-

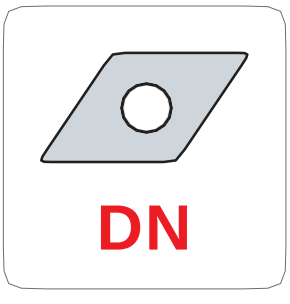
Ordering example: Insert Code + Grade

▢ *Available on request*



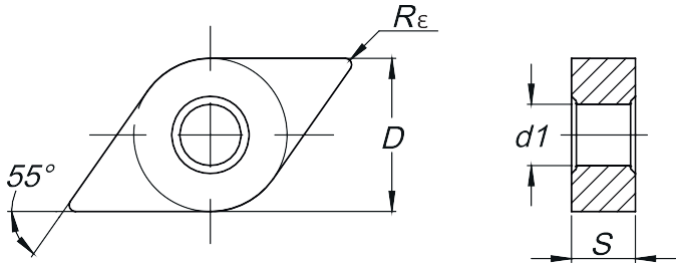
Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
9,525	4,76	0,8	3,81	2,00	0,50	4,40	0,25	0,12	0,45	DNMG110408SS	DNMG-SS
12,7	4,76	0,4	5,16	3,00	0,30	6,00	0,25	0,10	0,30	DNMG150404SS	
12,7	4,76	0,8	5,16	3,00	0,50	6,40	0,25	0,12	0,45	DNMG150408SS	
12,7	4,76	1,2	5,16	3,00	0,50	6,40	0,30	0,15	0,60	DNMG150412SS	
12,7	6,35	0,4	5,16	3,00	0,30	6,00	0,25	0,10	0,30	DNMG150604SS	
12,7	6,35	0,8	5,16	3,00	0,50	6,40	0,25	0,12	0,45	DNMG150608SS	
12,7	6,35	1,2	5,16	3,00	0,50	6,40	0,30	0,15	0,60	DNMG150612SS	
12,7	6,35	1,6	5,16	3,00	0,50	6,40	0,50	0,20	1,00	DNMG150616SS	Medium to Roughing
9,525	4,76	0,4	3,81	2,00	0,20	3,50	0,20	0,15	0,30	DNMG110404ST	DNMG-ST
9,525	4,76	0,8	3,81	2,00	0,20	3,50	0,35	0,15	0,50	DNMG110408ST	
12,7	4,76	0,4	5,16	2,50	0,20	5,00	0,20	0,15	0,30	DNMG150404ST	
12,7	4,76	0,8	5,16	2,50	0,50	5,00	0,35	0,15	0,50	DNMG150408ST	
12,7	4,76	1,2	5,16	3,00	0,50	6,00	0,50	0,25	0,70	DNMG150412ST	
12,7	4,76	1,6	5,16	3,00	0,30	6,00	0,60	0,25	1,00	DNMG150416ST	
12,7	6,35	0,4	5,16	2,50	0,20	5,00	0,20	0,15	0,30	DNMG150604ST	
12,7	6,35	0,8	5,16	2,50	0,20	5,00	0,35	0,15	0,50	DNMG150608ST	
12,7	6,35	1,2	5,16	3,00	0,30	6,00	0,50	0,15	0,70	DNMG150612ST	
12,7	6,35	1,6	5,16	3,00	0,30	6,00	0,60	0,25	1,00	DNMG150616ST	Medium

Rhombic 55° Negative



		Grade												
		P			M				K			N	S	
Inserts	ISO Code	MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
DNMG-HR	DNMG150408HR						-	-				-	-	-
	DNMG150412HR						-	-				-	-	-
	DNMG150608HR						-	-				-	-	-
	DNMG150612HR						-	-				-	-	-
Roughing	DNMG150616HR						-	-				-	-	-

Ordering example: Insert Code + Grade

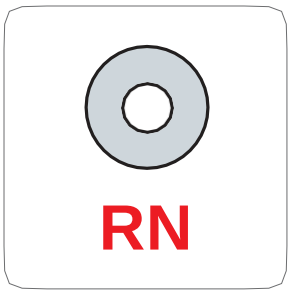


Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
12,7	4,76	0,8	5,16	4,00	0,80	6,00	0,35	0,20	0,55	**DNMG150408HR**	**DNMG-HR**
12,7	4,76	1,2	5,16	4,00	1,00	6,00	0,40	0,25	0,70	**DNMG150412HR**	
12,7	6,35	0,8	5,16	4,00	0,80	6,00	0,35	0,20	0,55	**DNMG150608HR**	
12,7	6,35	1,2	5,16	4,00	1,00	6,00	0,40	0,25	0,70	**DNMG150612HR**	
12,7	6,35	1,6	5,16	4,00	1,50	6,00	0,50	0,30	0,80	**DNMG150616HR**	



Roughing

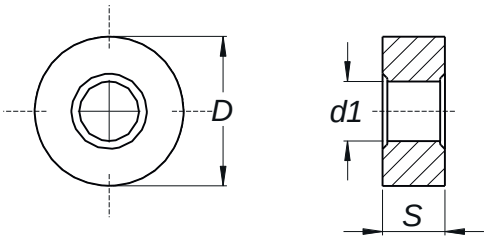
Round R Negative



		Grade												
		P			M				K			N	S	
Inserts	ISO Code	MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
RNMG-ST	RNMG090300ST	-			-		-		-	-		-	-	-
	RNMG120400ST	-			-		-		-	-		-	-	-
	RNMG150600ST	-			-		-		-	-		-	-	-
	RNMG190600ST	-			-		-		-	-		-	-	-
Medium	RNMG250900ST	-			-		-		-	-		-	-	-

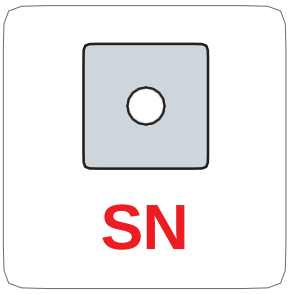
Ordering example: Insert Code + Grade

▢ Availableon request



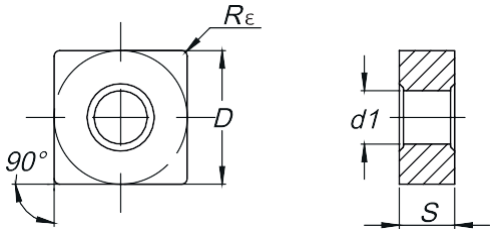
Dimension				Cutting Data							
D	**S**	**Rε**	**d1**	**ap (mm)**	**Min**	**Max**	**fn (mm/g)**	**Min**	**Max**	*ISO Code*	*Inserts*
9,525	3,18	-	3,18	2,30	0,90	4,50	0,30	0,10	0,90	**RNMG090300ST**	**RNMG-ST**
12,7	4,76	-	5,16	3,00	1,20	4,80	0,40	0,12	1,20	**RNMG120400ST**	
15,875	6,35	-	6,35	3,80	1,50	7,50	0,50	0,15	1,50	**RNMG150600ST**	
19,05	6,35	-	7,94	4,50	1,90	7,60	0,65	0,20	1,90	**RNMG190600ST**	
25,4	9,52	-	9,12	6,30	2,50	10,00	0,80	0,25	2,50	**RNMG250900ST**	*Medium*

Sqquare90° Negative



		Grade												
		P			M				K			N	S	
Inserts	ISO Code	MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
SNMA	SNMA090304	-	-	-	-	-	-	-			-	-	-	-
	SNMA090308	-	-	-	-	-	-	-			-	-	-	-
	SNMA120404	-	-	-	-	-	-	-			-	-	-	-
	SNMA120408	-	-	-	-	-	-	-			-	-	-	-
	SNMA120412	-	-	-	-	-	-	-			-	-	-	-
	SNMA120416	-	-	-	-	-	-	-			-	-	-	-
	SNMA150412	-	-	-	-	-	-	-			-	-	-	-
	SNMA150612	-	-	-	-	-	-	-			-	-	-	-
	SNMA190612	-	-	-	-	-	-	-			-	-	-	-
	SNMA190616	-	-	-	-	-	-	-			-	-	-	-
	SNMA190624	-	-	-	-	-	-	-			-	-	-	-
Roughing	SNMA250724	-	-	-	-	-	-	-			-	-	-	-

Ordering example: Insert Code + Grade

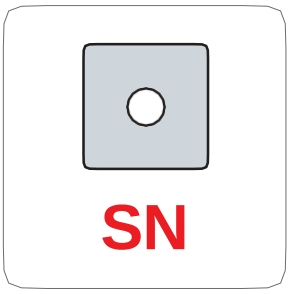


Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
9,525	3,18	0,4	3,81	2,50	0,20	4,50	0,20	0,15	0,30	**SNMA090304**	**SNMA**
9,525	3,18	0,8	3,81	2,50	0,40	4,50	0,40	0,20	0,60	**SNMA090308**	
12,7	4,76	0,4	5,16	4,00	0,20	8,00	0,20	0,15	0,30	**SNMA120404**	
12,7	4,76	0,8	5,16	4,00	0,20	8,00	0,40	0,20	0,60	**SNMA120408**	
12,7	4,76	1,2	5,16	4,00	0,30	8,00	0,45	0,20	0,80	**SNMA120412**	
12,7	4,76	1,6	5,16	4,00	0,30	8,00	0,55	0,20	1,00	**SNMA120416**	
15,875	4,76	1,2	6,35	5,00	0,30	9,00	0,45	0,20	0,80	**SNMA150412**	
15,875	6,35	1,2	6,35	5,00	0,30	10,00	0,45	0,20	0,80	**SNMA150612**	
19,05	6,35	1,2	7,94	6,00	0,30	12,00	0,45	0,20	0,80	**SNMA190612**	
19,05	6,35	1,6	7,94	6,00	0,30	12,00	0,55	0,20	1,00	**SNMA190616**	
19,05	6,35	2,4	7,94	6,00	0,30	12,00	0,60	0,20	1,20	**SNMA190624**	
25,4	7,94	2,4	9,12	6,00	0,40	12,00	0,60	0,20	1,40	**SNMA250724**	



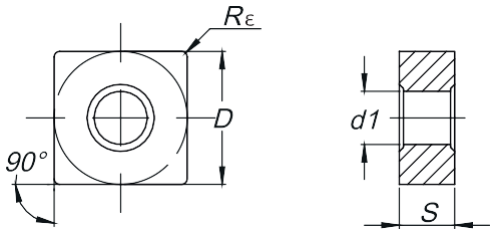
Roughing

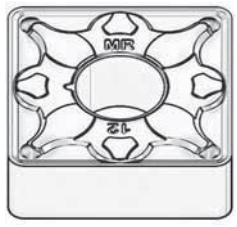
Square 90° Negative



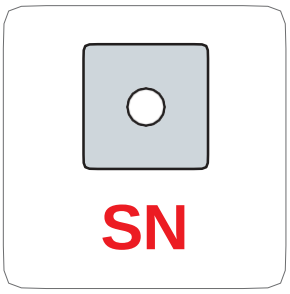
		Grade												
		P			M				K			N	S	
Inserts	ISO Code	MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
SNMG-MF	**SNMG120404MF**			-			-	-	-	-	-	-	-	-
	**SNMG120408MF**			-			-	-	-	-	-	-	-	-
	SNMG120412MF			-			-	-	-	-	-	-	-	-
Finishing														
SNMG-MR	**SNMG120404MR**	■	■	■	-	-	-	-	-	-	-	-	-	-
	SNMG120408MR	■	■	■	-	-	-	-	-	-	-	-	-	-
	SNMG120412MR	■	■	■	-	-	-	-	-	-	-	-	-	-
	SNMG120416MR	-	■	■	-	-	-	-	-	-	-	-	-	-
	**SNMG150608MR**	■	■	■	-	-	-	-	-	-	-	-	-	-
	SNMG150612MR	■	■	■	-	-	-	-	-	-	-	-	-	-
	SNMG150616MR	▢	▢	▢	-	-	-	-	-	-	-	-	-	-
	SNMG190612MR	■	■	■	-	-	-	-	-	-	-	-	-	-
Medium	**SNMG190616MR**	■	■	■	-	-	-	-	-	-	-	-	-	-

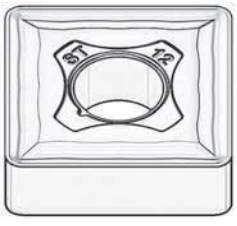
Ordering example: Insert Code + Grade



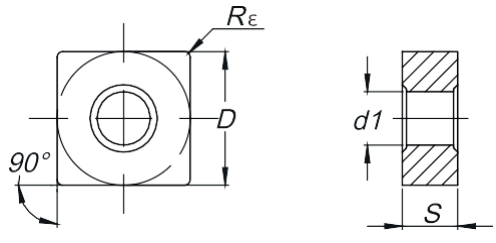
Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
12,7	4,76	0,4	5,16	0,40	0,10	1,50	0,10	0,05	0,25	**SNMG120404MF**	**SNMG-MF**
12,7	4,76	0,8	5,16	0,40	0,10	1,50	0,20	0,10	0,40	**SNMG120408MF**	
12,7	4,76	1,2	5,16	0,80	0,15	2,50	0,30	0,20	0,60	**SNMG120412MF**	
											Finishing
12,7	4,76	0,4	5,16	3,00	0,40	6,00	0,20	0,10	0,30	**SNMG120404MR**	**SNMG-MR**
12,7	4,76	0,8	5,16	3,00	0,50	6,00	0,30	0,15	0,50	**SNMG120408MR**	
12,7	4,76	1,2	5,16	3,00	0,80	6,00	0,35	0,18	0,60	**SNMG120412MR**	
12,7	4,76	1,6	5,16	3,00	1,00	6,00	0,40	0,23	0,65	**SNMG120416MR**	
15,875	6,35	0,8	6,35	4,00	0,60	7,50	0,30	0,15	0,50	**SNMG150608MR**	
15,875	6,35	1,2	6,35	4,00	0,80	7,50	0,35	0,18	0,60	**SNMG150612MR**	
15,875	6,35	1,6	6,35	4,00	1,00	7,50	0,40	0,23	0,65	**SNMG150616MR**	
19,05	6,35	1,2	7,94	5,00	0,80	9,00	0,35	0,18	0,60	**SNMG190612MR**	
19,05	6,35	1,6	7,94	5,00	1,00	9,00	0,40	0,23	0,65	**SNMG190616MR**	*Medium*

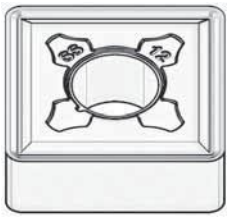
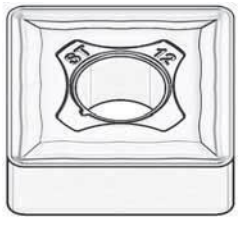
Square 90° Negative



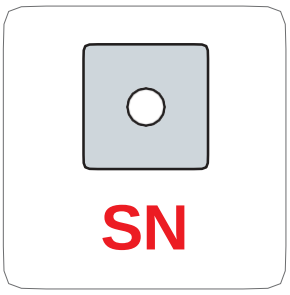
Inserts	ISO Code	Grade												
		P			M				K			N	S	
		MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
SNMG-SS	**SNMG090304SS**	-	-	-	-	-			-	-	-	-		
	SNMG090308SS	-	-	-	-	-			-	-	-	-		
	**SNMG120404SS**	-	-	-	-				-	-	-	-		
	SNMG120408SS	-	-	-	-				-	-	-	-		
	SNMG120412SS	-	-	-	-				-	-	-	-		
	SNMG120416SS	-	-	-	-		-	-	-	-	-	-	-	-
	SNMG150608SS	-	-	-	-		-	-	-	-	-	-	-	-
	SNMG150612SS	-	-	-	-		-	-	-	-	-	-	-	-
Medium to Roughing	**SNMG190616SS**	-	-	-	-		-	-	-	-	-	-	-	-
SNMG-ST	**SNMG090308ST**	-	-	-	-	-	-	-	■	■	-	-	-	-
	**SNMG120408ST**	-	-	-	-	-	-	-	■	■	-	-	-	-
	SNMG120412ST	-	-	-	-	-	-	-	■	■	-	-	-	-
	SNMG120416ST	-	-	-	-	-	-	-	■	■	-	-	-	-
	SNMG190612ST	-	-	-	-	-	-	-	■	■	-	-	-	-
Medium	**SNMG190616ST**	-	-	-	-	-	-	-	■	■	-	-	-	-

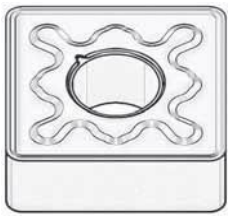
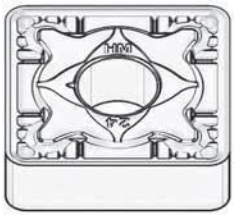
Ordering example: Insert Code + Grade



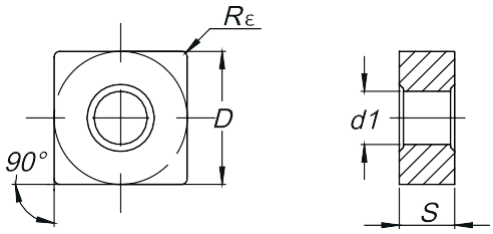
Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
9,525	3,18	0,4	3,81	2,00	0,50	4,50	0,20	0,10	0,30	**SNMG090304SS**	**SNMG-SS**
9,525	3,18	0,8	3,81	2,00	0,50	4,50	0,25	0,12	0,45	**SNMG090308SS**	
12,7	4,76	0,4	5,16	3,00	0,50	6,40	0,20	0,12	0,30	**SNMG120404SS**	
12,7	4,76	0,8	5,16	3,00	0,50	6,40	0,25	0,12	0,45	**SNMG120408SS**	
12,7	4,76	1,2	5,16	3,00	0,50	6,40	0,30	0,15	0,60	**SNMG120412SS**	
12,7	4,76	1,6	5,16	3,00	0,50	6,40	0,45	0,15	0,80	**SNMG120416SS**	
15,875	6,35	0,8	6,35	4,00	0,50	8,00	0,25	0,12	0,45	**SNMG150608SS**	
15,875	6,35	1,2	6,35	4,00	0,50	8,00	0,30	0,15	0,60	**SNMG150612SS**	
19,05	6,35	1,6	7,94	4,00	0,50	8,00	0,45	0,15	0,80	**SNMG190616SS**	*Medium to Roughing*
9,525	3,18	0,8	3,81	2,50	0,20	4,50	0,35	0,15	0,50	**SNMG090308ST**	**SNMG-ST**
12,7	4,76	0,8	5,16	3,00	0,20	6,00	0,35	0,15	0,50	**SNMG120408ST**	
12,7	4,76	1,2	5,16	3,00	0,30	6,00	0,40	0,15	0,60	**SNMG120412ST**	
12,7	4,76	1,6	5,16	3,00	0,30	6,00	0,45	0,20	0,70	**SNMG120416ST**	
19,05	6,35	1,2	7,94	4,50	0,30	9,00	0,40	0,15	0,60	**SNMG190612ST**	
19,05	6,35	1,6	7,94	4,50	0,30	9,00	0,45	0,20	0,70	**SNMG190616ST**	*Medium*

Square 90° Negative

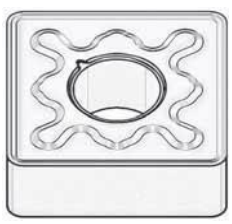


		Grade												
		P			M				K			N	S	
Inserts	ISO Code	MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
SNMG-HR	SNMG120408HR						-	-	-			-	-	-
	SNMG120412HR						-	-	-			-	-	-
	SNMG120416HR						-	-	-			-	-	-
	SNMG150612HR	-			-		-	-	-	-		-	-	-
	SNMG150616HR	-			-		-	-	-	-		-	-	-
	SNMG190612HR						-	-	-	-		-	-	-
	SNMG190616HR						-	-	-	-		-	-	-
Roughing	SNMG250924HR	-		-	-		-	-	-	-	-	-	-	-
SNMG-HM	SNMG250924HM	-	■	▢	-	■	-	-	-	-	-	-	-	-
														
Roughing														

Ordering example: Insert Code + Grade

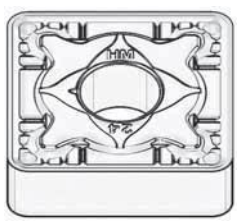


Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
12,7	4,76	0,8	5,16	4,00	0,80	7,00	0,35	0,20	0,55	**SNMG120408HR**	**SNMG-HR**
12,7	4,76	1,2	5,16	4,00	1,00	7,00	0,40	0,25	0,70	**SNMG120412HR**	
12,7	4,76	1,6	5,16	4,00	1,50	7,00	0,50	0,32	0,80	**SNMG120416HR**	
15,875	6,35	1,2	6,35	4,00	1,00	8,00	0,40	0,25	0,70	**SNMG150612HR**	
15,875	6,35	1,6	6,35	4,00	1,50	8,00	0,50	0,32	0,80	**SNMG150616HR**	
19,05	6,35	1,2	7,94	5,00	1,00	10,00	0,40	0,25	0,70	**SNMG190612HR**	
19,05	6,35	1,6	7,94	5,00	1,50	10,00	0,50	0,32	0,80	**SNMG190616HR**	
25,4	9,52	2,4	9,12	6,00	2,00	15,00	1,00	0,40	1,20	**SNMG250924HR**	



Roughing

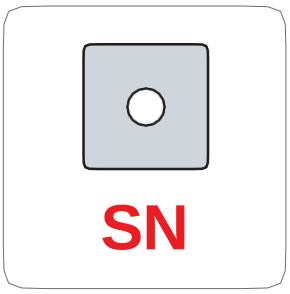
25,4	9,52	2,4	9,12	6,00	2,00	15,00	1,00	0,40	1,20	**SNMG250924HM**	**SNMG-HM**



Roughing

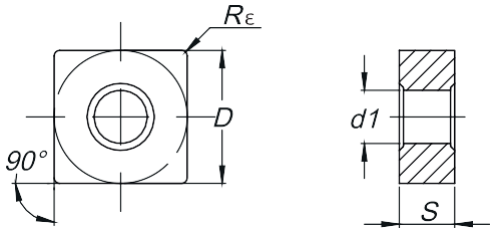
Turning - Negative Inserts

Square 90° Negative



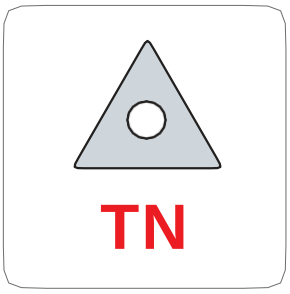
		Grade												
		P			M				K			N	S	
Inserts	*ISO Code*	MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
SNMM-HY	**SNMM190612HY**						-	-	-	-	-	-	-	-
	**SNMM190616HY**						-	-	-	-	-	-	-	-
	SNMM190624HY						-	-	-	-	-	-	-	-
	SNMM250724HY						-	-	-	-	-	-	-	-
	SNMM250924HY						-	-	-	-	-	-	-	-
Roughing to Heavy														
SNMM-HZ	**SNMM190612HZ**				-	-	-	-	-		-	-	-	-
	**SNMM190616HZ**				-	-	-	-	-		-	-	-	-
	SNMM190624HZ				-	-	-	-	-		-	-	-	-
	SNMM250724HZ				-	-	-	-	-		-	-	-	-
Roughing to Heavy	**SNMM250924HZ**				-	-	-	-	-		-	-	-	-

Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
19,05	6,35	1,2	7,94	6,00	2,00	12,00	0,60	0,35	0,90	**SNMM190612HY**	**SNMM-HY**
19,05	6,35	1,6	7,94	6,00	2,00	12,00	0,60	0,35	1,20	**SNMM190616HY**	
19,05	6,35	2,4	7,94	6,00	2,00	12,00	1,00	0,60	1,60	**SNMM190624HY**	
25,4	7,94	2,4	9,12	8,50	2,50	15,00	1,00	0,60	1,60	**SNMM250724HY**	
25,4	9,52	2,4	9,12	8,50	3,00	15,00	1,00	0,60	1,60	**SNMM250924HY**	
											Roughing to Heavy
19,05	6,35	1,2	7,94	10,00	2,40	13,00	0,60	0,35	0,90	**SNMM190612HZ**	**SNMM-HZ**
19,05	6,35	1,6	7,94	10,00	2,40	13,00	0,60	0,35	1,20	**SNMM190616HZ**	
19,05	6,35	2,4	7,94	10,00	3,20	13,00	1,00	0,60	1,60	**SNMM190624HZ**	
25,4	7,94	2,4	9,12	10,00	3,20	17,00	1,00	0,60	1,60	**SNMM250724HZ**	
25,4	9,52	2,4	9,12	10,00	3,20	17,00	1,00	0,60	1,60	**SNMM250924HZ**	
											Roughing to Heavy

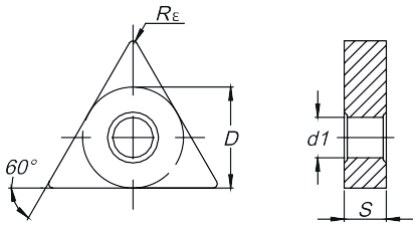
Triaangular 60° Negative



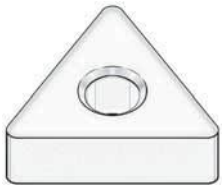
		Grade												
		P			M				K			N	S	
Inserts	ISO Code	MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
TNMA	TNMA110304	-	-	-	-	-	-	-			-	-	-	-
	TNMA110308	-	-	-	-	-	-	-			-	-	-	-
	TNMA160304	-	-	-	-	-	-	-			-	-	-	-
	TNMA160308	-	-	-	-	-	-	-			-	-	-	-
	TNMA160404	-	-	-	-	-	-	-			-	-	-	-
	TNMA160408	-	-	-	-	-	-	-			-	-	-	-
	TNMA160412	-	-	-	-	-	-	-			-	-	-	-
	TNMA160416	-	-	-	-	-	-	-			-	-	-	-
	TNMA220404	-	-	-	-	-	-	-			-	-	-	-
	TNMA220408	-	-	-	-	-	-	-			-	-	-	-
	TNMA220412	-	-	-	-	-	-	-			-	-	-	-
	TNMA220416	-	-	-	-	-	-	-			-	-	-	-
	TNMA270608	-	-	-	-	-	-	-			-	-	-	-
	TNMA270612	-	-	-	-	-	-	-			-	-	-	-
	TNMA270616	-	-	-	-	-	-	-			-	-	-	-
Roughing	TNMA330724	-	-	-	-	-	-	-			-	-	-	-



Ordering example: Insert Code + Grade

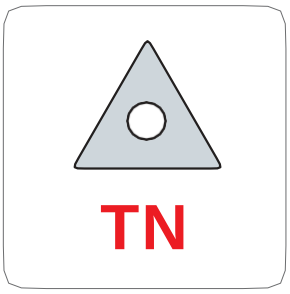


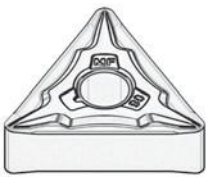
Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
6,35	3,18	0,4	2,26	2,00	0,15	4,00	0,20	0,10	0,30	**TNMA110304**	**TNMA**
6,35	3,18	0,8	2,26	2,00	0,15	4,00	0,35	0,15	0,60	**TNMA110308**	
9,525	3,18	0,4	3,81	2,50	0,20	5,00	0,20	0,10	0,30	**TNMA160304**	
9,525	3,18	0,8	3,81	2,50	0,20	5,00	0,35	0,15	0,60	**TNMA160308**	
9,525	4,76	0,4	3,81	2,50	0,20	5,00	0,20	0,10	0,30	**TNMA160404**	
9,525	4,76	0,8	3,81	3,50	0,20	7,00	0,35	0,15	0,60	**TNMA160408**	
9,525	4,76	1,2	3,81	3,50	0,30	7,00	0,45	0,20	0,80	**TNMA160412**	
9,525	4,76	1,6	3,81	3,50	0,30	7,00	0,55	0,20	1,00	**TNMA160416**	
12,7	4,76	0,4	5,16	4,00	0,20	10,00	0,20	0,10	0,30	**TNMA220404**	
12,7	4,76	0,8	5,16	5,00	0,20	10,00	0,35	0,15	0,60	**TNMA220408**	
12,7	4,76	1,2	5,16	5,00	0,30	10,00	0,45	0,20	0,80	**TNMA220412**	
12,7	4,76	1,6	5,16	5,00	0,30	10,00	0,55	0,20	1,00	**TNMA220416**	
15,875	6,35	0,8	6,35	5,00	0,30	12,00	0,35	0,15	0,60	**TNMA270608**	
15,875	6,35	1,2	6,35	5,00	0,30	12,00	0,45	0,20	0,80	**TNMA270612**	
15,875	6,35	1,6	6,35	5,00	0,30	12,00	0,55	0,20	1,00	**TNMA270616**	
19,05	7,94	2,4	7,94	6,50	0,30	15,00	0,60	0,30	2,00	**TNMA330724**	



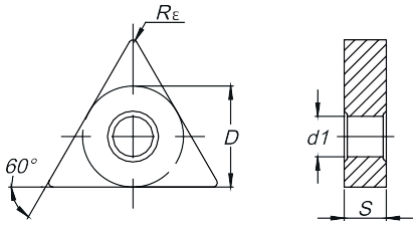
Roughing

Triaangular 60° Negative



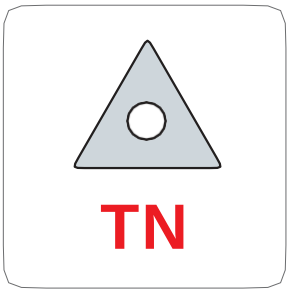
Inserts	ISO Code	Grade												
		P			M				K			N	S	
		MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
TNMG-MF	**TNMG160404MF**			-			-	-	-	-	-	-	-	-
	**TNMG160408MF**			-			-	-	-	-	-	-	-	-
	TNMG160412MF			-			-	-	-	-	-	-	-	-
	TNMG220408MF			-			-	-	-	-	-	-	-	-
Finishing														
TNMG-MS	**TNMG160404MS**	-	-	-	-	-	-		-	-	-		-	
	**TNMG160408MS**	-	-	-	-	-	-		-	-	-		-	
	TNMG160412MS	-	-	-	-	-	-		-	-	-		-	
Finishing to Medium														
TNMG-SF	**TNMG160404SF**	-	-	-	-	-			-	-	-	-		
	**TNMG160408SF**	-	-	-	-	-			-	-	-	-		
	TNMG160412SF	-	-	-	-	-			-	-	-	-		
	TNMG220408SF	-	-	-	-	-			-	-	-	-		
Finishing to Medium														

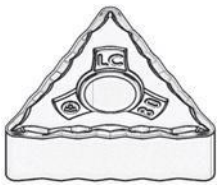
Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
9,525	4,76	0,4	3,81	0,40	0,10	1,50	0,15	0,05	0,25	TNMG160404MF	TNMG-MF
9,525	4,76	0,8	3,81	0,40	0,10	1,50	0,20	0,10	0,40	TNMG160408MF	
9,525	4,76	1,2	3,81	1,00	0,20	2,50	0,30	0,15	0,60	TNMG160412MF	
12,7	4,76	0,8	5,16	1,50	0,25	2,50	0,20	0,10	0,40	TNMG220408MF	
											 Finishing
9,525	4,76	0,4	3,81	2,00	0,30	3,80	0,15	0,10	0,20	TNMG160404MS	TNMG-MS
9,525	4,76	0,8	3,81	2,00	0,30	3,80	0,25	0,10	0,40	TNMG160408MS	
9,525	4,76	1,2	3,81	2,00	0,40	3,80	0,30	0,15	0,60	TNMG160412MS	
											 Finishing to Medium
9,525	4,76	0,4	3,81	1,50	0,60	3,00	0,15	0,10	0,23	TNMG160404SF	TNMG-SF
9,525	4,76	0,8	3,81	1,50	0,60	3,00	0,25	0,12	0,38	TNMG160408SF	
9,525	4,76	1,2	3,81	1,50	0,60	3,00	0,35	0,15	0,55	TNMG160412SF	
12,7	4,76	0,8	5,16	1,50	0,60	3,00	0,25	0,12	0,38	TNMG220408SF	
											 Finishing to Medium

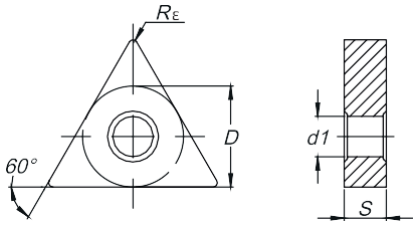
Triaangular 60° Negative

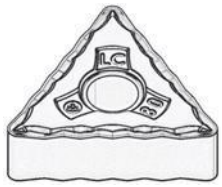


		Grade												
		P			M				K			N	S	
Inserts	ISO Code	MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
TNMG-LC	**TNMG160404LC**			-	-	-	-	-	-	-	-	-	-	-
	**TNMG160408LC**			-	-	-	-	-	-	-	-	-	-	-
	TNMG160412LC			-	-	-	-	-	-	-	-	-	-	-
	TNMG220408LC			-	-	-	-	-	-	-	-	-	-	-
	TNMG220412LC			-	-	-	-	-	-	-	-	-	-	-
Finishing to Medium														

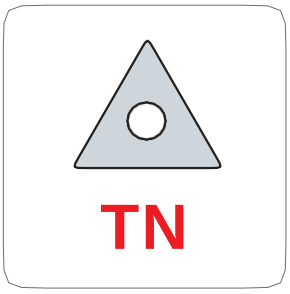
TNMG-MR	**TNMG160308MR**	■	■	-	-	-	-	-	-	-	-	-	-	-
	TNMG160404MR	■	■	■	-	-	-	-	-	-	-	-	-	-
	TNMG160408MR	■	■	■	-	-	-	-	-	-	-	-	-	-
	**TNMG160412MR**	■	■	■	-	-	-	-	-	-	-	-	-	-
	TNMG220404MR	■	■	■	-	-	-	-	-	-	-	-	-	-
	TNMG220408MR	■	■	■	-	-	-	-	-	-	-	-	-	-
	TNMG220412MR	■	■	■	-	-	-	-	-	-	-	-	-	-
	TNMG220416MR	-	■	■	-	-	-	-	-	-	-	-	-	-
Medium														

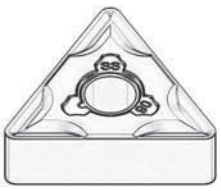
Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
9,525	4,76	0,4	3,81	1,00	0,40	2,50	0,15	0,07	0,30	**TNMG160404LC**	**TNMG-LC**
9,525	4,76	0,8	3,81	1,50	0,40	2,50	0,20	0,10	0,40	**TNMG160408LC**	
9,525	4,76	1,2	3,81	2,00	0,80	3,00	0,25	0,15	0,50	**TNMG160412LC**	
12,7	4,76	0,8	5,16	2,00	0,40	3,00	0,20	0,10	0,40	**TNMG220408LC**	
12,7	4,76	1,2	5,16	2,50	0,80	3,50	0,25	0,15	0,50	**TNMG220412LC**	
											 *Finishing to Medium*
9,525	3,18	0,8	3,81	2,80	0,30	5,00	0,30	0,15	0,50	**TNMG160308MR**	**TNMG-MR**
9,525	4,76	0,4	3,81	3,00	0,40	5,00	0,20	0,10	0,30	**TNMG160404MR**	
9,525	4,76	0,8	3,81	3,00	0,50	5,00	0,30	0,15	0,50	**TNMG160408MR**	
9,525	4,76	1,2	3,81	3,00	0,80	5,00	0,35	0,18	0,60	**TNMG160412MR**	
12,7	4,76	0,4	5,16	4,00	0,40	6,60	0,20	0,10	0,30	**TNMG220404MR**	
12,7	4,76	0,8	5,16	4,00	0,50	6,60	0,30	0,15	0,50	**TNMG220408MR**	
12,7	4,76	1,2	5,16	4,00	0,80	6,60	0,35	0,18	0,60	**TNMG220412MR**	
12,7	4,76	1,6	5,16	4,00	1,00	6,60	0,40	0,23	0,70	**TNMG220416MR**	 *Medium*

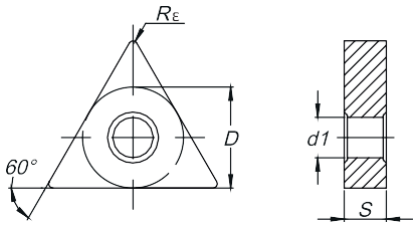
Triaangular 60° Negative



		Grade												
		P			M				K			N	S	
Inserts	ISO Code	MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
TNMG-SS	**TNMG160404SS**	-	-						-	-	-	-		
	**TNMG160408SS**	-	-						-	-	-	-		
	TNMG160412SS	-	-						-	-	-	-		
	TNMG220408SS	-	-						-	-	-	-		
	TNMG220412SS	-	-	-	-		-	-	-	-	-	-	-	-
Medium to Roughing														

TNMG-ST	**TNMG110308ST**	-	-	-	-	-	-	-	-	■	-	-	-	-
	TNMG160304ST	-	-	-	-	-	-	-	-	■	-	-	-	-
	TNMG160308ST	-	-	-	-	-	-	-	-	■	-	-	-	-
	TNMG160404ST	-	-	-	-	-	-	-	■	■	-	-	-	-
	**TNMG160408ST**	-	-	-	-	-	-	-	■	■	-	-	-	-
	TNMG160412ST	-	-	-	-	-	-	-	■	■	-	-	-	-
	TNMG160416ST	-	-	-	-	-	-	-	■	■	-	-	-	-
	TNMG220404ST	-	-	-	-	-	-	-	■	■	-	-	-	-
	TNMG220408ST	-	-	-	-	-	-	-	■	■	-	-	-	-
	TNMG220412ST	-	-	-	-	-	-	-	■	■	-	-	-	-
Medium	**TNMG220416ST**	-	-	-	-	-	-	-	■	■	-	-	-	-

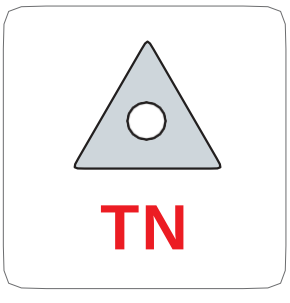
Ordering example: Insert Code + Grade

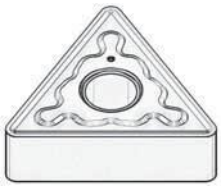


Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
9,525	4,76	0,4	3,81	2,00	0,50	4,00	0,20	0,10	0,30	**TNMG160404SS**	**TNMG-SS**
9,525	4,76	0,8	3,81	3,00	0,50	4,80	0,25	0,12	0,45	**TNMG160408SS**	
9,525	4,76	1,2	3,81	3,00	0,50	4,80	0,30	0,15	0,60	**TNMG160412SS**	
12,7	4,76	0,8	5,16	4,00	0,50	6,60	0,25	0,12	0,45	**TNMG220408SS**	
12,7	4,76	1,2	5,16	4,00	0,50	6,60	0,30	0,15	0,60	**TNMG220412SS**	
											Medium to Roughing
6,35	3,18	0,8	2,26	2,00	0,15	4,50	0,35	0,15	0,50	**TNMG110308ST**	**TNMG-ST**
9,525	3,18	0,4	3,81	3,00	0,20	5,50	0,22	0,15	0,30	**TNMG160304ST**	
9,525	3,18	0,8	3,81	3,00	0,20	5,50	0,35	0,15	0,50	**TNMG160308ST**	
9,525	4,76	0,4	3,81	3,00	0,20	5,50	0,22	0,15	0,30	**TNMG160404ST**	
9,525	4,76	0,8	3,81	3,00	0,20	5,50	0,35	0,15	0,50	**TNMG160408ST**	
9,525	4,76	1,2	3,81	3,00	0,30	5,50	0,40	0,15	0,60	**TNMG160412ST**	
9,525	4,76	1,6	3,81	3,00	0,30	5,50	0,40	0,15	0,60	**TNMG160416ST**	
12,7	4,76	0,4	5,16	4,00	0,20	8,00	0,22	0,15	0,30	**TNMG220404ST**	
12,7	4,76	0,8	5,16	4,00	0,20	8,00	0,35	0,15	0,50	**TNMG220408ST**	
12,7	4,76	1,2	5,16	4,00	0,30	8,00	0,40	0,15	0,60	**TNMG220412ST**	
12,7	4,76	1,6	5,16	4,00	0,30	8,00	0,45	0,20	0,70	**TNMG220416ST**	*Medium*

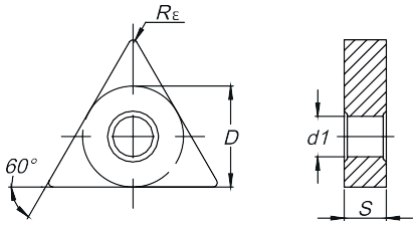
Turning - Negative Inserts

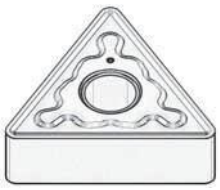
Triaangular 60° Negative



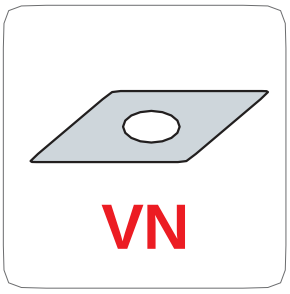
		Grade												
		P			M				K			N	S	
Inserts	*ISO Code*	MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
TNMG-HR	**TNMG160408HR**						-	-			-	-	-	-
	**TNMG160412HR**						-	-			-	-	-	-
	TNMG220408HR						-	-			-	-	-	-
	TNMG220412HR						-	-			-	-	-	-
	TNMG220416HR						-	-			-	-	-	-
Roughing														

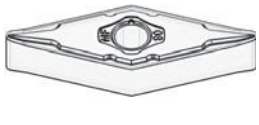
Ordering example: Insert Code + Grade



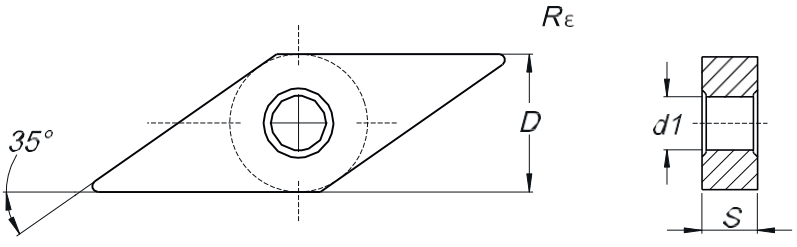
Dimension				*Cutting Data*							
D	**S**	**Rε**	**d1**	**ap (mm)**	**Min**	**Max**	**fn (mm/g)**	**Min**	**Max**	*ISO Code*	*Inserts*
9,525	4,76	0,8	3,81	3,00	0,80	6,00	0,35	0,20	0,55	**TNMG160408HR**	**TNMG-HR**
9,525	4,76	1,2	3,81	3,00	1,00	6,00	0,40	0,25	0,70	**TNMG160412HR**	
12,7	4,76	0,8	5,16	4,00	0,80	6,50	0,35	0,20	0,55	**TNMG220408HR**	
12,7	4,76	1,2	5,16	4,00	1,00	7,00	0,40	0,25	0,70	**TNMG220412HR**	
12,7	4,76	1,6	5,16	4,00	1,50	7,00	0,60	0,25	0,90	**TNMG220416HR**	*Roughing*

Rhombic 35° Negative



Inserts	ISO Code	Grade												
		P			M				K			N	S	
		MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
VNMA	**VNMA160404**	-	-	-	-	-	-	-			-	-	-	-
	VNMA160408	-	-	-	-	-	-	-			-	-	-	-
 *Roughing*														
VNMG-MF	**VNMG160404MF**			-			-	-	-	-	-	-	-	-
	VNMG160408MF			-			-	-	-	-	-	-	-	-
 *Finishing*														
VNMG-MS	**VNMG160404MS**	-	-	-	-	-	-		-	-	-		-	
	VNMG160408MS	-	-	-	-	-	-		-	-	-		-	
 *Finishing to Medium*														

Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
9,525	4,76	0,4	3,81	0,20	0,10	3,30	0,15	0,08	0,25	**VNMA160404**	**VNMA**
9,525	4,76	0,8	3,81	0,20	0,10	3,30	0,30	0,10	0,50	**VNMA160408**	



Roughing

9,525	4,76	0,4	3,81	0,40	0,10	1,50	0,15	0,05	0,25	**VNMG160404MF**	**VNMG-MF**
9,525	4,76	0,8	3,81	0,40	0,10	1,50	0,20	0,10	0,40	**VNMG160408MF**	



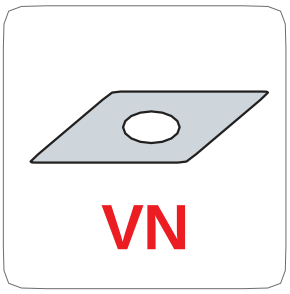
Finishing

9,525	4,76	0,4	3,81	2,00	0,20	4,00	0,15	0,10	0,20	**VNMG160404MS**	**VNMG-MS**
9,525	4,76	0,8	3,81	2,50	0,20	4,00	0,25	0,15	0,40	**VNMG160408MS**	



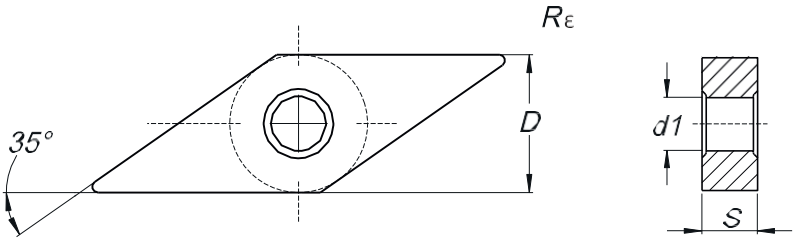
Finishing to Medium

Rhombic 35° Negative



Inserts	ISO Code	Grade												
		P			M				K			N	S	
		MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
VNMG-SF	**VNMG160402SF**	-	-	-	-	-			-	-	-	-		
	VNMG160404SF	-	-	-	-	-			-	-	-	-		
	**VNMG160408SF**	-	-	-	-	-			-	-	-	-		
	VNMG160412SF													
Finishing to Medium														
VNMG-LC	**VNMG160404LC**			-	-	-	-	-	-	-	-	-	-	-
	VNMG160408LC			-	-	-	-	-	-	-	-	-	-	-
														
Finishing to Medium														
VNMG-MR	**VNMG160404MR**				-	-	-	-	-	-	-	-	-	-
	VNMG160408MR				-	-	-	-	-	-	-	-	-	-
	**VNMG220408MR**				-	-	-	-	-	-	-	-	-	-
Medium														

Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
9,525	4,76	0,2	3,81	1,50	0,60	3,00	0,15	0,10	0,23	**VNMG160402SF**	**VNMG-SF**
9,525	4,76	0,4	3,81	1,50	0,60	3,00	0,25	0,12	0,38	**VNMG160404SF**	
9,525	4,76	0,8	3,81	1,50	0,60	3,00	0,35	0,15	0,55	**VNMG160408SF**	
9,525	4,76	1,2	3,81	1,50	0,60	3,00	0,35	0,15	0,55	**VNMG160412SF**	



Finishing to Medium

9,525	4,76	0,8	3,81	1,50	0,40	2,50	0,15	0,10	0,40	**VNMG160408LC**	**VNMG-LC**



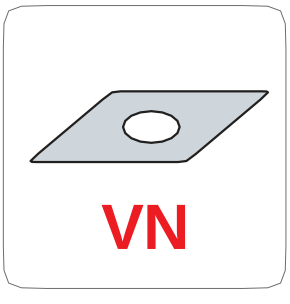
Finishing to Medium

9,525	4,76	0,4	3,81	3,00	1,00	4,00	0,25	0,10	0,30	**VNMG160404MR**	**VNMG-MR**
9,525	4,76	0,8	3,81	3,00	1,00	4,00	0,30	0,15	0,50	**VNMG160408MR**	
12,7	4,76	0,8	5,16	4,00	1,50	5,00	0,35	0,15	0,50	**VNMG220408MR**	



Medium

Rhombic 35° Negative



Inserts	ISO Code	Grade												
		P			M				K			N	S	
		MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
VNMG-SS	**VNMG160404SS**	-	-	-	-				-	-	-	-		
	VNMG160408SS	-	-	-	-				-	-	-	-		



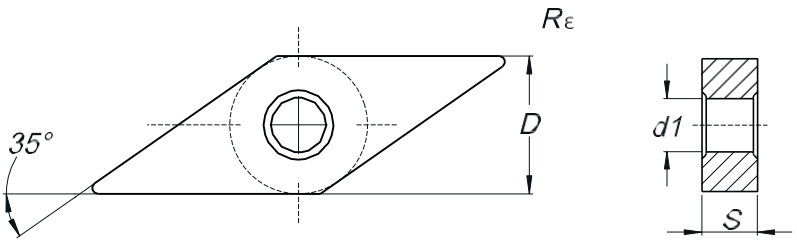
Medium to Roughing

VNMG-ST	**VNMG160404ST**	-	-	-	-	-	-	-			-	-	-	-
	VNMG160408ST	-	-	-	-	-	-	-			-	-	-	-



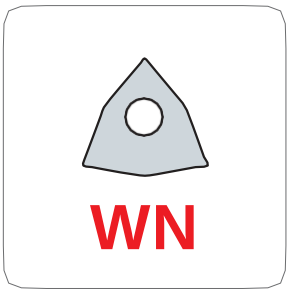
Medium

Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
9,525	4,76	0,4	3,81	1,50	0,50	4,00	0,20	0,10	0,30	**VNMG160404SS**	**VNMG-SS**
9,525	4,76	0,8	3,81	2,00	0,50	4,00	0,25	0,12	0,45	**VNMG160408SS**	 *Medium to Roughing*
9,525	4,76	0,4	3,81	2,00	0,20	3,50	0,30	0,15	0,40	**VNMG160404ST**	**VNMG-ST**
9,525	4,76	0,8	3,81	2,00	0,30	3,50	0,35	0,15	0,50	**VNMG160408ST**	 *Medium*

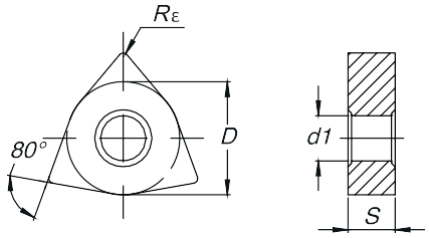
Triggon 80° Negative



Inserts	ISO Code	Grade												
		P			M				K			N	S	
		MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
WNMA	**WNMA060408**	-	-	-	-	-	-	-			-	-	-	-
	**WNMA080404**	-	-	-	-	-	-	-			-	-	-	-
	WNMA080408	-	-	-	-	-	-	-			-	-	-	-
	WNMA080412	-	-	-	-	-	-	-			-	-	-	-
	WNMA080416	-	-	-	-	-	-	-			-	-	-	-
Roughing														

WNMG-MF	**WNMG06T304MF**	■	■	-	■	■	-	-	-	-	-	-	-	-
	WNMG06T308MF	■	■	-	■	■	-	-	-	-	-	-	-	-
	WNMG06T312MF	■	■	-	■	■	-	-	-	-	-	-	-	-
	**WNMG060404MF**	■	■	-	■	■	-	-	-	-	-	-	-	-
	WNMG060408MF	■	■	-	■	■	-	-	-	-	-	-	-	-
	WNMG060412MF	■	■	-	■	■	-	-	-	-	-	-	-	-
	WNMG080404MF	■	■	-	■	■	-	-	-	-	-	-	-	-
	WNMG080408MF	■	■	-	■	■	-	-	-	-	-	-	-	-
	WNMG080412MF	■	■	-	■	■	-	-	-	-	-	-	-	-
Finishing														

Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
9,525	4,76	0,8	3,81	2,50	0,20	4,00	0,35	0,15	0,60	**WNMA060408**	**WNMA**
12,7	4,76	0,4	5,16	2,80	0,20	5,00	0,22	0,15	0,30	**WNMA080404**	
12,7	4,76	0,8	5,16	3,00	0,20	5,00	0,35	0,15	0,60	**WNMA080408**	
12,7	4,76	1,2	5,16	3,00	0,30	5,00	0,45	0,20	0,80	**WNMA080412**	
12,7	4,76	1,6	5,16	3,00	0,30	5,00	0,55	0,20	1,00	**WNMA080416**	



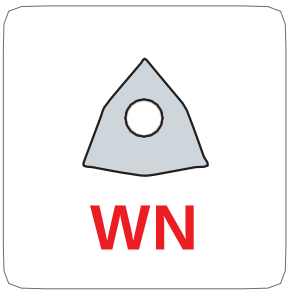
Roughing

9,525	3,97	0,4	3,81	0,40	0,10	1,50	0,15	0,05	0,30	**WNMG06T304MF**	**WNMG-MF**
9,525	3,97	0,8	3,81	0,40	0,10	1,50	0,20	0,10	0,40	**WNMG06T308MF**	
9,525	3,97	1,2	3,81	0,40	0,15	1,50	0,30	0,15	0,60	**WNMG06T312MF**	
9,525	4,76	0,4	3,81	0,40	0,10	1,50	0,15	0,05	0,30	**WNMG060404MF**	
9,525	4,76	0,8	3,81	0,40	0,10	1,50	0,20	0,10	0,40	**WNMG060408MF**	
9,525	4,76	1,2	3,81	0,40	0,15	1,50	0,30	0,15	0,60	**WNMG060412MF**	
12,7	4,76	0,4	5,16	0,60	0,10	2,00	0,15	0,05	0,30	**WNMG080404MF**	
12,7	4,76	0,8	5,16	0,60	0,10	2,00	0,20	0,10	0,40	**WNMG080408MF**	
12,7	4,76	1,2	5,16	0,60	0,15	2,00	0,30	0,15	0,60	**WNMG080412MF**	



Finishing

Triggon 80° Negative

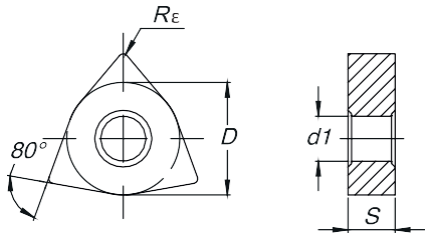


		Grade												
		P			M				K			N	S	
Inserts	ISO Code	MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
WNMG-MS	WNMG060404MS	-	-	-	-	-	-		-	-	-	-	-	
	WNMG060408MS	-	-	-	-	-	-		-	-	-	-	-	
	WNMG080408MS	-	-	-	-	-	-		-	-	-		-	
	WNMG080412MS	-	-	-	-	-	-		-	-	-		-	



Finishing to Medium

Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	**S**	**Rε**	**d1**	**ap (mm)**	**Min**	**Max**	**fn (mm/g)**	**Min**	**Max**	*ISO Code*	*Inserts*
9,525	4,76	0,4	3,81	1,20	0,30	2,20	0,15	0,10	0,20	**WNMG060404MS**	**WNMG-MS**
9,525	4,76	0,8	3,81	1,20	0,30	2,20	0,25	0,20	0,40	**WNMG060408MS**	
12,7	4,76	0,8	5,16	2,50	0,70	4,00	0,25	0,20	0,40	**WNMG080408MS**	
12,7	4,76	1,2	5,16	2,50	1,00	4,00	0,30	0,25	0,55	**WNMG080412MS**	*Finishing to Medium*

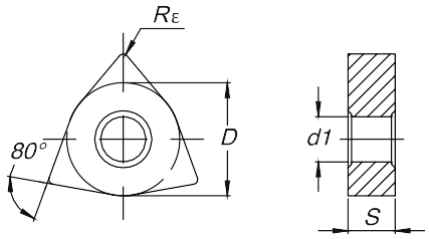
Triggon 80° Negative

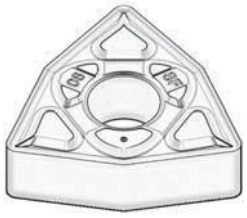
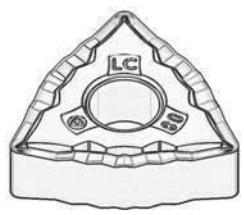


WN

Inserts	ISO Code	Grade												
		P			M				K			N	S	
		MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
WNMG-SF	**WNMG060404SF**	-	-	-	-	-			-	-	-	-		
	**WNMG060408SF**	-	-	-	-	-			-	-	-	-		
	WNMG060412SF	-	-	-	-	-			-	-	-	-		
	WNMG080404SF	-	-	-	-	-			-	-	-	-		
	WNMG080408SF	-	-	-	-	-			-	-	-	-		
Finishing to Medium	**WNMG080412SF**	-	-	-	-	-			-	-	-	-	■	■
WNMG-LC	**WNMG080408LC**	■	■	-	-	-	-	-	-	-	-	-	-	-
														
Finishing to Medium														

Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	**S**	**Rε**	**d1**	**ap (mm)**	**Min**	**Max**	**fn (mm/g)**	**Min**	**Max**	*ISO Code*	*Inserts*
9,525	4,76	0,4	3,81	1,50	0,60	3,00	0,15	0,10	0,23	**WNMG060404SF**	**WNMG-SF**
9,525	4,76	0,8	3,81	1,50	0,60	3,00	0,25	0,12	0,38	**WNMG060408SF**	
9,525	4,76	1,2	3,81	1,50	0,60	3,00	0,35	0,15	0,55	**WNMG060412SF**	
12,7	4,76	0,4	3,81	1,50	0,60	3,00	0,15	0,10	0,23	**WNMG080404SF**	
12,7	4,76	0,8	3,81	1,50	0,60	3,00	0,25	0,12	0,38	**WNMG080408SF**	
12,7	4,76	1,2	3,81	1,50	0,60	3,00	0,35	0,15	0,55	**WNMG080412SF**	*Finishing to Medium*
12,7	4,76	0,8	5,16	1,50	0,40	2,50	0,15	0,10	0,40	**WNMG080408LC**	**WNMG-LC**
											
											Finishing to Medium

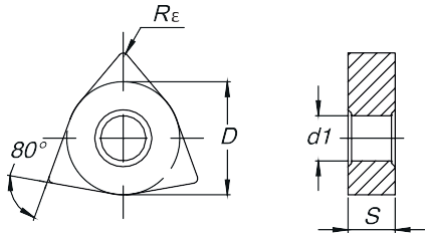
Triggon 80° Negative



WN

Inserts	ISO Code	Grade												
		P			M				K			N	S	
		MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
WNMG-MR	**WNMG06T304MR**			-	-	-	-	-	-	-	-	-	-	-
	WNMG06T308MR			-	-	-	-	-	-	-	-	-	-	-
	WNMG06T312MR			-	-	-	-	-	-	-	-	-	-	-
	WNMG060404MR			-	-	-	-	-	-	-	-	-	-	-
	WNMG060408MR			-	-	-	-	-	-	-	-	-	-	-
	WNMG060412MR			-	-	-	-	-	-	-	-	-	-	-
	WNMG080404MR				-	-	-	-	-	-	-	-	-	-
	WNMG080408MR				-	-	-	-	-	-	-	-	-	-
	WNMG080412MR				-	-	-	-	-	-	-	-	-	-
Medium	**WNMG080416MR**				-	-	-	-	-	-	-	-	-	-
WNMG-SS	**WNMG060404SS**	-	-	-					-	-	-	-		
	WNMG060408SS	-	-	-					-	-	-	-		
	WNMG080404SS	-	-						-	-	-	-		
	WNMG080408SS	-	-						-	-	-	-		
Medium to Roughing	**WNMG080412SS**	-	-						-	-	-	-		

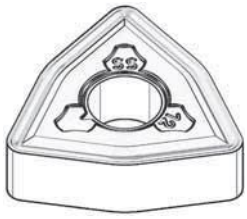
Ordering example: Insert Code + Grade



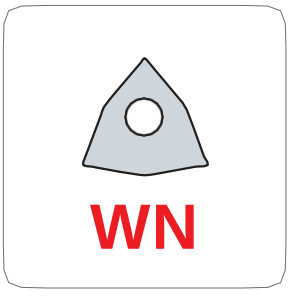
Dimension				Cutting Data							
D	**S**	**Rε**	**d1**	**ap (mm)**	**Min**	**Max**	**fn (mm/g)**	**Min**	**Max**	*ISO Code*	*Inserts*
9,525	3,97	0,4	3,81	2,00	0,50	3,00	0,22	0,10	0,30	**WNMG06T304MR**	**WNMG-MR**
9,525	3,97	0,8	3,81	2,00	0,50	3,00	0,30	0,15	0,50	**WNMG06T308MR**	
9,525	3,97	1,2	3,81	2,00	0,80	3,00	0,35	0,18	0,60	**WNMG06T312MR**	
9,525	4,76	0,4	3,81	2,00	0,50	3,00	0,22	0,10	0,30	**WNMG060404MR**	
9,525	4,76	0,8	3,81	2,00	0,50	3,00	0,30	0,15	0,50	**WNMG060408MR**	
9,525	4,76	1,2	3,81	2,00	0,80	3,00	0,35	0,18	0,60	**WNMG060412MR**	
12,7	4,76	0,4	5,16	2,50	0,50	4,00	0,22	0,10	0,30	**WNMG080404MR**	
12,7	4,76	0,8	5,16	2,50	0,50	4,00	0,30	0,15	0,50	**WNMG080408MR**	
12,7	4,76	1,2	5,16	2,50	0,80	4,00	0,35	0,18	0,60	**WNMG080412MR**	
12,7	4,76	1,6	5,16	3,00	1,00	4,00	0,40	0,23	0,65	**WNMG080416MR**	*Medium*



9,525	4,76	0,4	3,81	2,00	0,50	3,00	0,20	0,12	0,30	**WNMG060404SS**	**WNMG-SS**
9,525	4,76	0,8	3,81	2,00	0,50	3,00	0,25	0,12	0,45	**WNMG060408SS**	
12,7	4,76	0,4	5,16	2,00	0,50	3,00	0,20	0,12	0,30	**WNMG080404SS**	
12,7	4,76	0,8	5,16	2,50	0,50	4,00	0,25	0,12	0,45	**WNMG080408SS**	
12,7	4,76	1,2	5,16	2,50	0,50	4,00	0,30	0,15	0,60	**WNMG080412SS**	*Medium to Roughing*



Triggon 80° Negative



Inserts	ISO Code	Grade												
		P			M				K			N	S	
		MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
WNMG-ST	**WNMG080404ST**	-	-	-	-	-	-	-			-	-	-	-
	WNMG080408ST	-	-	-	-	-	-	-			-	-	-	-
	WNMG080412ST	-	-	-	-	-	-	-			-	-	-	-
	WNMG080416ST	-	-	-	-	-	-	-			-	-	-	-
WNMG-HR	**WNMG080408HR**	■	■	■	■	■	-	-	■	■	■	-	-	-
	WNMG080412HR	■	■	■	■	■	-	-	■	■	■	-	-	-

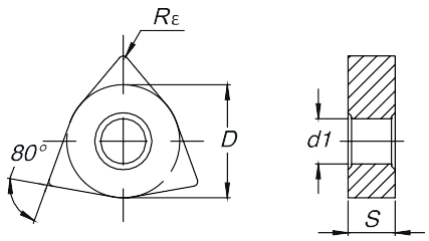


Medium



Roughing

Ordering example: Insert Code + Grade

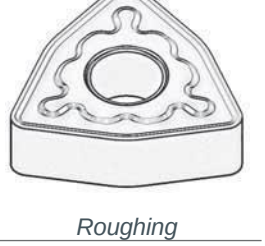


Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
12,7	4,76	0,4	5,16	2,50	0,20	5,00	0,22	0,15	0,30	**WNMG080404ST**	**WNMG-ST**
12,7	4,76	0,8	5,16	2,50	0,20	5,00	0,35	0,15	0,50	**WNMG080408ST**	
12,7	4,76	1,2	5,16	2,50	0,30	5,00	0,40	0,15	0,60	**WNMG080412ST**	
12,7	4,76	1,6	5,16	2,50	0,30	5,00	0,45	0,20	0,70	**WNMG080416ST**	



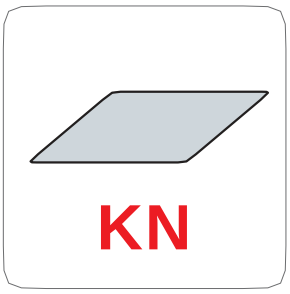
Medium

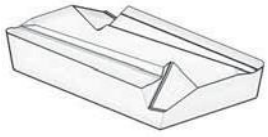
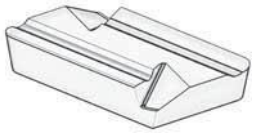
12,7	4,76	0,8	5,16	4,00	0,80	5,00	0,35	0,20	0,55	**WNMG080408HR**	**WNMG-HR**
12,7	4,76	1,2	5,16	4,00	1,50	5,00	0,40	0,25	0,70	**WNMG080412HR**	



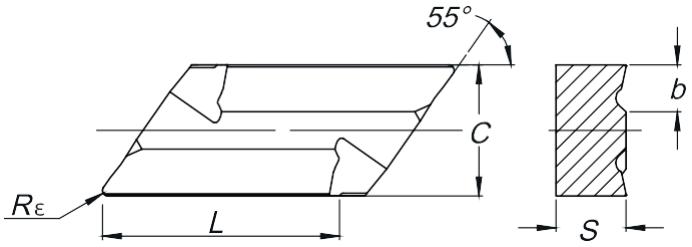
Roughing

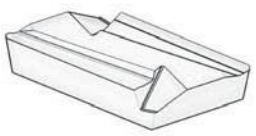
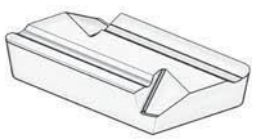
Parrallelogram 55° Negative



		Grade												
		P			M				K			N	S	
Inserts	ISO Code	MGU515	MGU525	MGU540	MGU515	MGU525	MGP710	MGM720	MGK510	MGK520	MGU540	MGN010	MGP710	MGM720
KNUX-01	**KNUX160405L01**			-			-	-	-	-	-	-	-	-
	**KNUX160405R01**			-			-	-	-	-	-	-	-	-
Finishing														
KNUX-02	**KNUX160410L02**	■	■	-	■	■	-	-	-	-	-	-	-	-
	**KNUX160410R02**	■	■	-	■	■	-	-	-	-	-	-	-	-
Medium														

Ordering example: Insert Code + Grade



Dimension					Cutting Data							
L	**C**	**Rε**	**S**	**b**	**ap (mm)**	**Min**	**Max**	**fn (mm/g)**	**Min**	**Max**	*ISO Code*	*Inserts*
16,5	9,525	0,5	4,76	2,5	3,00	1,00	6,00	0,30	0,20	0,35	**KNUX160405L01**	**KNUX-01**
16,5	9,525	0,5	4,76	2,5	3,00	1,00	6,00	0,30	0,20	0,35	**KNUX160405R01**	 *Finishing*
16,5	9,525	1,0	4,76	3,2	4,00	1,50	6,00	0,50	0,40	0,70	**KNUX160410L02**	**KNUX-02**
16,5	9,525	1,0	4,76	3,2	4,00	1,50	6,00	0,50	0,40	0,70	**KNUX160410R02**	 *Medium*

Turning







Inserts

Positive



Turning

Turning - Positive Inserts

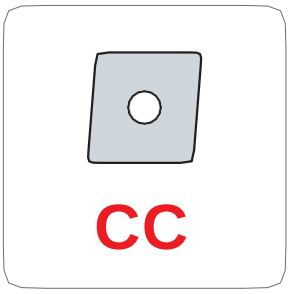
Turning

Inserts Index

Rhombic 80° Positive	
CCMT-FP	
CCMT-BO	
CCMT-FM	
CCMT-FK	
CCMT-MP	
CCMT-MM	
CCMT-MK	
CCMT-FS	
CCGT-LN	
Rhombic 55° Positive	
DCMT-FP	
DCMT-FM	
DCMT-FK	
DCMT-MP	
DCMT-MM	
DCMT-MK	
DCGT-FS	
DCGT-LN	
Round R Positive	
RCMT-ST	
RCGT-LN	
Square 90° Positive	
SCMT-FP	
SCMT-FM	
SCMT-FK	
SCMT-MP	
SCMT-MM	
SCMT-MK	
SCGT-LN	
Triangular 60° Positive	
TCMT-FP	
TCMT-FM	
TCMT-FK	
TCMT-MP	
TCMT-MM	

Triangular 60° Positive	
TCMT-MK	
TCGT-LN	
Rhombic 35° Positive	
VBMT-FP	
VBMT-FM	
VBMT-FK	
VBMT-MP	
VBMT-MM	
VBMT-MK	
VCMT-FP	
VCMT-FM	
VCMT-FK	
VCMT-MP	
VCMT-MM	
VCMT-MK	
VCGT-LN	

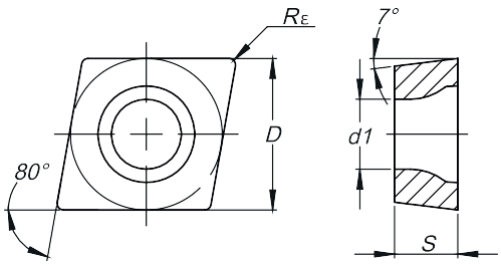
Rhombic 80° Positive



Inserts	ISO Code	Grade																
		P						M					K		N	S		
		MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725
CCMT-FP	CCMT060202FP	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CCMT060204FP			-		-	-	-	-	-	-	-	-	-	-	-	-	-
	CCMT09T302FP	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CCMT09T304FP			-		-	-	-	-	-	-	-	-	-	-	-	-	-
	CCMT09T308FP			-		-	-	-	-	-	-	-	-	-	-	-	-	-
	CCMT120404FP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fine Finishing																		

CCMT-BO	CCMT060202BO	-	-	-	-	■	■	-	-	■	■	-	-	-	-	-	-	-
	CCMT060204BO	-	-	-	-	■	■	-	-	■	■	-	-	-	-	-	-	-
	CCMT09T304BO	-	-	-	-	■	■	-	-	■	■	-	-	-	-	-	-	-
	CCMT09T308BO	-	-	-	-	■	■	-	-	■	■	-	-	-	-	-	-	-
	CCMT120404BO	-	-	-	-	■	■	-	-	■	■	-	-	-	-	-	-	-
Fine Finishing	CCMT120408BO	-	-	-	-	■	■	-	-	■	■	-	-	-	-	-	-	-

Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
6,35	2,38	0,2	2,80	0,30	0,06	1,70	0,06	0,03	0,11	**CCMT060202FP**	**CCMT-FP**
6,35	2,38	0,4	2,80	0,30	0,10	1,70	0,08	0,05	0,17	**CCMT060204FP**	
9,525	3,97	0,2	4,40	0,35	0,08	2,00	0,08	0,04	0,13	**CCMT09T302FP**	
9,525	3,97	0,4	4,40	0,35	0,11	2,00	0,11	0,06	0,23	**CCMT09T304FP**	
9,525	3,97	0,8	4,40	0,35	0,15	2,00	0,20	0,08	0,45	**CCMT09T308FP**	
12,7	4,76	0,4	5,50	0,42	0,14	2,40	0,14	0,07	0,27	**CCMT120404FP**	



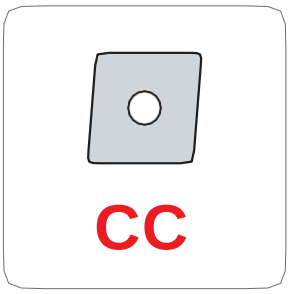
Fine Finishing

6,35	2,38	0,2	2,80	0,50	0,30	1,00	0,08	0,05	0,13	**CCMT060202BO**	**CCMT-BO**
6,35	2,38	0,4	2,80	0,50	0,30	1,00	0,13	0,08	0,20	**CCMT060204BO**	
9,525	3,97	0,4	4,40	0,80	0,50	1,20	0,13	0,08	0,20	**CCMT09T304BO**	
9,525	3,97	0,8	4,40	0,80	0,50	1,20	0,20	0,10	0,30	**CCMT09T308BO**	
12,7	4,76	0,4	5,50	1,00	0,50	1,50	0,13	0,08	0,20	**CCMT120404BO**	
12,7	4,76	0,8	5,50	1,00	0,50	1,50	0,20	0,10	0,30	**CCMT120408BO**	



Fine Finishing

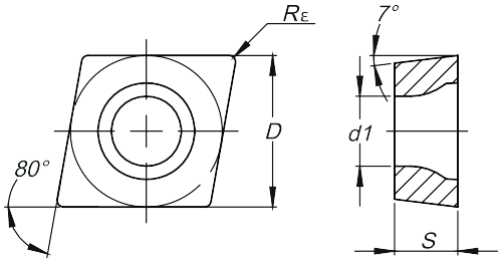
Rhombic 80° Positive



Inserts	ISO Code	Grade																
		P						M					K		N	S		
		MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725
CCMT-FM	CCMT060202FM	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
	CCMT060204FM	-	-	-	-	-	-	-				-	-	-	-			-
	CCMT09T302FM	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	
	CCMT09T304FM	-	-	-	-	-	-	-				-	-	-	-			-
	CCMT09T308FM	-	-	-	-	-	-	-				-	-	-	-			-
	CCMT120404FM	-	-	-	-	-	-	-					-	-	-	-	-	■
Fine Finishing																		

CCMT-FK	CCMT060202FK	-	-	-	-	-	-	-	-	-	-	-	■	-	-	-	-	-
	CCMT060204FK	-	-	-	-	-	-	-	-	-	-	-	■	-	-	-	-	-
	CCMT09T302FK	-	-	-	-	-	-	-	-	-	-	-	■	-	-	-	-	-
	CCMT09T304FK	-	-	-	-	-	-	-	-	-	-	-	■	-	-	-	-	-
	CCMT120404FK	-	-	-	-	-	-	-	-	-	-	-	■	-	-	-	-	-
Fine Finishing																		

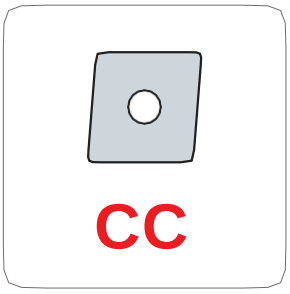
Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
6,35	2,38	0,2	2,80	0,30	0,06	1,70	0,06	0,03	0,11	**CCMT060202FM**	**CCMT-FM**
6,35	2,38	0,4	2,80	0,30	0,10	1,70	0,08	0,05	0,17	**CCMT060204FM**	
9,525	3,97	0,2	4,40	0,35	0,08	2,00	0,08	0,04	0,13	**CCMT09T302FM**	
9,525	3,97	0,4	4,40	0,35	0,11	2,00	0,11	0,06	0,23	**CCMT09T304FM**	
9,525	3,97	0,8	4,40	0,35	0,15	2,00	0,20	0,08	0,45	**CCMT09T308FM**	
12,7	4,76	0,4	5,50	0,42	0,14	2,40	0,14	0,07	0,27	**CCMT120404FM**	
											Fine Finishing
6,35	2,38	0,2	2,80	0,30	0,06	1,70	0,06	0,03	0,11	**CCMT060202FK**	**CCMT-FK**
6,35	2,38	0,4	2,80	0,30	0,10	1,70	0,08	0,05	0,17	**CCMT060204FK**	
9,525	3,97	0,2	4,40	0,35	0,08	2,00	0,08	0,04	0,13	**CCMT09T302FK**	
9,525	3,97	0,4	4,40	0,35	0,11	2,00	0,11	0,06	0,23	**CCMT09T304FK**	
12,7	4,76	0,4	5,50	0,42	0,14	2,40	0,14	0,07	0,27	**CCMT120404FK**	
											Fine Finishing

Turning - Positive Inserts

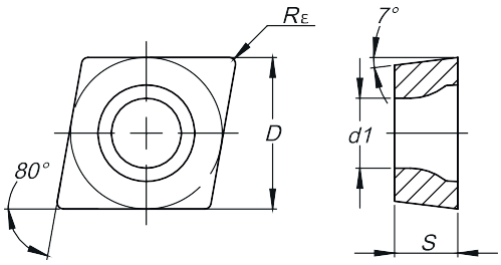
Rhombic 80° Positive



		Grade																
		P						M					K		N	S		
Inserts	*ISO Code*	MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725
CCMT-MP	**CCMT060204MP**			-		-	-	-	-	-	-	-	-	-	-	-	-	-
	**CCMT060208MP**			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CCMT09T304MP			-		-	-	-	-	-	-	-	-	-	-	-	-	-
	CCMT09T308MP			-		-	-	-	-	-	-	-	-	-	-	-	-	-
	CCMT120404MP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	CCMT120408MP			-		-	-	-	-	-	-	-	-	-	-	-	-	-
Finishing	**CCMT120412MP**			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

CCMT-MM	**CCMT060204MM**	-	-	-	-	-	-	■	-	■	■	-	-	-	-	■	■	-
	**CCMT060208MM**	-	-	-	-	-	-	■	-	-	-	■	-	-	-	-	-	■
	CCMT09T304MM	-	-	-	-	-	-	■	-	■	■	-	-	-	-	■	■	-
	CCMT09T308MM	-	-	-	-	-	-	■	-	■	■	-	-	-	-	■	■	-
	CCMT120404MM	-	-	-	-	-	-	■	-	-	-	■	-	-	-	-	-	■
	CCMT120408MM	-	-	-	-	-	-	■	-	■	■	-	-	-	-	■	■	-
SCHLICHTEN *Finishing*	**CCMT120412MM**	-	-	-	-	-	-	■	-	-	-	■	-	-	-	-	-	■

Ordering example: Insert Code + Grade



Dimension				CuttingData							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
6,35	2,38	0,4	2,80	0,64	0,20	2,40	0,11	0,06	0,17	**CCMT060204MP**	CCMT-MP
6,35	2,38	0,8	2,80	0,64	0,40	2,40	0,18	0,08	0,35	**CCMT060208MP**	
9,525	3,97	0,4	4,40	0,64	0,25	3,00	0,15	0,08	0,23	**CCMT09T304MP**	
9,525	3,97	0,8	4,40	0,80	0,50	3,00	0,20	0,10	0,40	**CCMT09T308MP**	
12,7	4,76	0,4	5,50	0,96	0,30	3,60	0,18	0,09	0,27	**CCMT120404MP**	
12,7	4,76	0,8	5,50	0,96	0,60	3,60	0,24	0,12	0,45	**CCMT120408MP**	
12,7	4,76	1,2	5,50	0,96	0,72	3,60	0,35	0,14	0,60	**CCMT120412MP**	



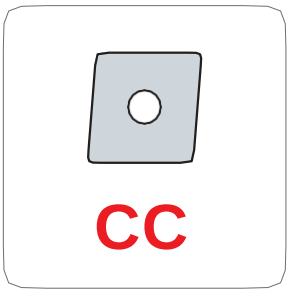
Finishing

6,35	2,38	0,4	2,80	0,64	0,20	2,40	0,11	0,06	0,17	**CCMT060204MM**	CCMT-MM
6,35	2,38	0,8	2,80	0,64	0,40	2,40	0,18	0,08	0,35	**CCMT060208MM**	
9,525	3,97	0,4	4,40	0,64	0,25	3,00	0,15	0,08	0,23	**CCMT09T304MM**	
9,525	3,97	0,8	4,40	0,80	0,50	3,00	0,20	0,10	0,40	**CCMT09T308MM**	
12,7	4,76	0,4	5,50	0,96	0,30	3,60	0,18	0,09	0,27	**CCMT120404MM**	
12,7	4,76	0,8	5,50	0,96	0,60	3,60	0,24	0,12	0,45	**CCMT120408MM**	
12,7	4,76	1,2	5,50	0,96	0,72	3,60	0,35	0,14	0,60	**CCMT120412MM**	



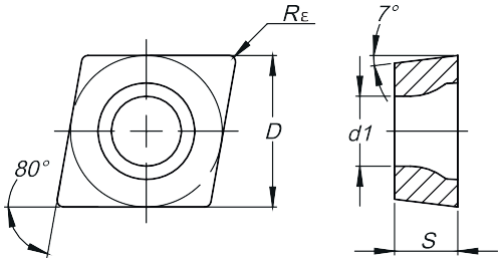
Finishing

Rhombic 80° Positive



Inserts	ISO Code	Grade																	
		P						M					K		N	S			
		MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725
CCMT-MK	**CCMT060204MK**	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
	**CCMT060208MK**	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
	CCMT09T304MK	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
	CCMT09T308MK	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
	CCMT120404MK	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
Finishing	**CCMT120408MK**	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
CCGT-FS	**CCGT060201FS**	-	-	-	-	■	■	-	-	■	■	-	-	-	-	■	■	-
	**CCGT060202FS**	-	-	-	-	■	■	-	-	■	■	-	-	-	-	■	■	-
	CCGT060204FS	-	-	-	-	■	■	-	-	■	■	-	-	-	-	■	■	-
	CCGT09T301FS	-	-	-	-	■	■	-	-	■	■	-	-	-	-	■	■	-
	CCGT09T302FS	-	-	-	-	■	■	-	-	■	■	-	-	-	-	■	■	-
Fine Finishing to Finishing	**CCGT09T304FS**	-	-	-	-	■	■	-	-	■	■	-	-	-	-	■	■	-

Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
6,35	2,38	0,4	2,80	0,64	0,20	2,40	0,11	0,06	0,17	**CCMT060204MK**	**CCMT-MK**
6,35	2,38	0,8	2,80	0,64	0,40	2,40	0,18	0,08	0,35	**CCMT060208MK**	
9,525	3,97	0,4	4,40	0,64	0,25	3,00	0,15	0,08	0,23	**CCMT09T304MK**	
9,525	3,97	0,8	4,40	0,80	0,50	3,00	0,20	0,10	0,40	**CCMT09T308MK**	
12,7	4,76	0,4	5,50	0,96	0,30	3,60	0,18	0,09	0,27	**CCMT120404MK**	
12,7	4,76	0,8	5,50	0,96	0,60	3,60	0,24	0,12	0,45	**CCMT120408MK**	



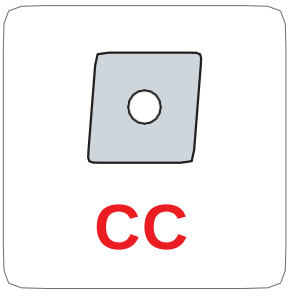
Finishing

6,35	2,38	0,1	2,80	0,30	0,10	1,00	0,03	0,01	0,06	**CCGT060201FS**	**CCGT-FS**
6,35	2,38	0,2	2,80	0,50	0,10	1,50	0,07	0,02	0,12	**CCGT060202FS**	
6,35	2,38	0,4	2,80	0,80	0,15	1,50	0,20	0,08	0,25	**CCGT060204FS**	
9,525	3,97	0,1	4,40	0,50	0,10	1,50	0,03	0,01	0,06	**CCGT09T301FS**	
9,525	3,97	0,2	4,40	1,00	0,10	2,00	0,07	0,02	0,12	**CCGT09T302FS**	
9,525	3,97	0,4	4,40	1,25	0,15	2,50	0,15	0,08	0,25	**CCGT09T304FS**	



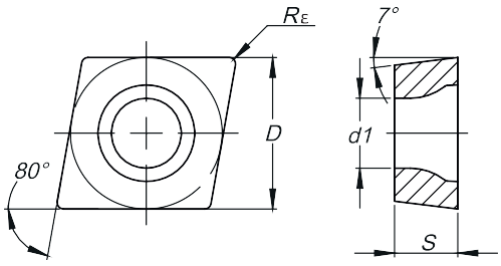
Fine Finishing to Finishing

Rhombic 80° Positive



		Grade																	
		P						M					K		N	S			
Inserts	ISO Code	MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725	
CCGT-LN	CCGT060202LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
	CCGT060204LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
	CCGT09T302LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
	CCGT09T304LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
	CCGT09T308LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
	CCGT120402LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
	CCGT120404LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
Fine Finishing to Finishing	CCGT120408LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	

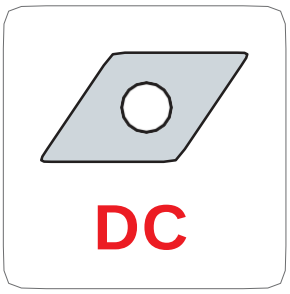
Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	**S**	**Rε**	**d1**	**ap (mm)**	**Min**	**Max**	**fn (mm/g)**	**Min**	**Max**	*ISO Code*	*Inserts*
6,35	2,38	0,2	2,80	1,00	0,05	3,00	0,07	0,05	0,12	**CCGT060202LN**	**CCGT-LN**
6,35	2,38	0,4	2,80	1,55	0,10	3,00	0,15	0,10	0,20	**CCGT060204LN**	
9,525	3,97	0,2	4,40	1,53	0,05	3,00	0,07	0,05	0,12	**CCGT09T302LN**	
9,525	3,97	0,4	4,40	2,55	0,10	5,00	0,16	0,10	0,22	**CCGT09T304LN**	
9,525	3,97	0,8	4,40	2,55	0,10	5,00	0,22	0,15	0,45	**CCGT09T308LN**	
12,7	4,76	0,2	5,50	2,03	0,05	4,00	0,07	0,05	0,12	**CCGT120402LN**	
12,7	4,76	0,4	5,50	2,55	0,10	5,00	0,17	0,10	0,26	**CCGT120404LN**	
12,7	4,76	0,8	5,50	2,80	0,10	5,50	0,25	0,15	0,50	**CCGT120408LN**	*Fine Finishing to Finishing*



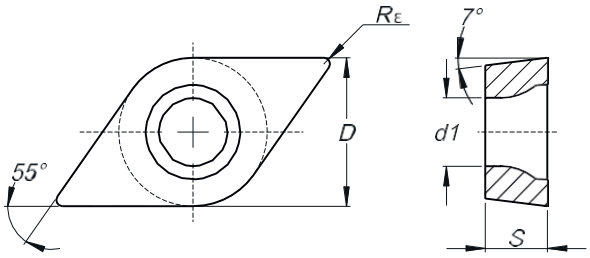
Rhombic 55° Positive



Inserts	ISO Code	Grade																
		P						M					K		N	S		
		MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725
DCMT-FP	DCMT070202FP	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DCMT070204FP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DCMT11T302FP	-		-		-	-	-	-	-	-	-	-	-	-	-	-	-
	DCMT11T304FP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DCMT11T308FP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fine Finishing																		

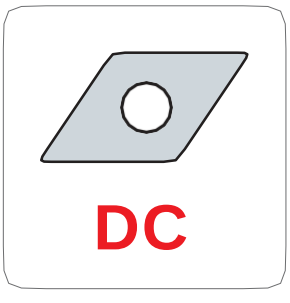
DCMT-FM	DCMT070202FM	-	-	-	-	-	-	-	-	-	-	■	-	-	-	-	-	■
	DCMT070204FM	-	-	-	-	-	-	-	■	-	-	■	-	-	-	-	-	■
	DCMT11T302FM	-	-	-	-	-	-	-	-	■	■	-	-	-	-	■	■	-
	DCMT11T304FM	-	-	-	-	-	-	-	■	-	-	■	-	-	-	-	-	■
FineFinishing	DCMT11T308FM	-	-	-	-	-	-	-	■	■	■	-	-	-	-	■	■	-

Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
6,35	2,38	0,2	2,80	0,26	0,06	1,50	0,06	0,03	0,11	**DCMT070202FP**	**DCMT-FP**
6,35	2,38	0,4	2,80	0,26	0,08	1,50	0,08	0,05	0,17	**DCMT070204FP**	
9,525	3,97	0,2	4,40	0,35	0,08	2,00	0,08	0,04	0,15	**DCMT11T302FP**	
9,525	3,97	0,4	4,40	0,35	0,11	2,00	0,11	0,06	0,23	**DCMT11T304FP**	
9,525	3,97	0,8	4,40	0,35	0,15	2,00	0,15	0,08	0,30	**DCMT11T308FP**	
											Fine Finishing
6,35	2,38	0,2	2,80	0,26	0,06	1,50	0,06	0,03	0,11	**DCMT070202FM**	**DCMT-FM**
6,35	2,38	0,4	2,80	0,26	0,08	1,50	0,08	0,05	0,17	**DCMT070204FM**	
9,525	3,97	0,2	4,40	0,35	0,08	2,00	0,08	0,04	0,15	**DCMT11T302FM**	
9,525	3,97	0,4	4,40	0,35	0,11	2,00	0,11	0,06	0,23	**DCMT11T304FM**	
9,525	3,97	0,8	4,40	0,35	0,15	2,00	0,15	0,08	0,30	**DCMT11T308FM**	
											Fine Finishing

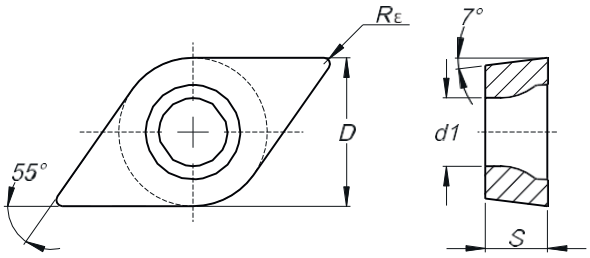
Rhombic 55° Positive



		Grade																
		P						M					K		N	S		
Inserts	ISO Code	MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725
DCMT-FK	DCMT070202FK	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
	DCMT070204FK	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
	DCMT11T302FK	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
	DCMT11T304FK	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
Fine Finishing																		

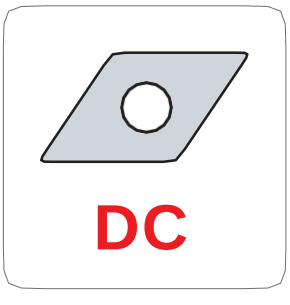
DCMT-MP	DCMT070204MP	■	■	-	■	-	-	-	-	-	-	-	-	-	-	-	-	-
	DCMT070208MP	■	■	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	DCMT11T304MP	■	■	-	■	-	-	-	-	-	-	-	-	-	-	-	-	-
	DCMT11T308MP	■	■	-	■	-	-	-	-	-	-	-	-	-	-	-	-	-
Finishing	DCMT11T312MP	■	■	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
6,35	2,38	0,2	2,80	0,26	0,06	1,50	0,06	0,03	0,11	**DCMT070202FK**	**DCMT-FK**
6,35	2,38	0,4	2,80	0,26	0,08	1,50	0,08	0,05	0,17	**DCMT070204FK**	
9,525	3,97	0,2	4,40	0,35	0,08	2,00	0,08	0,04	0,15	**DCMT11T302FK**	
9,525	3,97	0,4	4,40	0,35	0,11	2,00	0,11	0,06	0,23	**DCMT11T304FK**	*Fine Finishing*
6,35	2,38	0,4	2,80	0,60	0,19	2,25	0,11	0,06	0,17	**DCMT070204MP**	**DCMT-MP**
6,35	2,38	0,8	2,80	0,60	0,38	2,25	0,20	0,08	0,35	**DCMT070208MP**	
9,525	3,97	0,4	4,40	0,80	0,25	3,00	0,15	0,08	0,23	**DCMT11T304MP**	
9,525	3,97	0,8	4,40	0,80	0,50	3,00	0,25	0,10	0,40	**DCMT11T308MP**	
9,525	3,97	1,2	4,40	0,80	0,60	3,00	0,35	0,12	0,60	**DCMT11T312MP**	*Finishing*

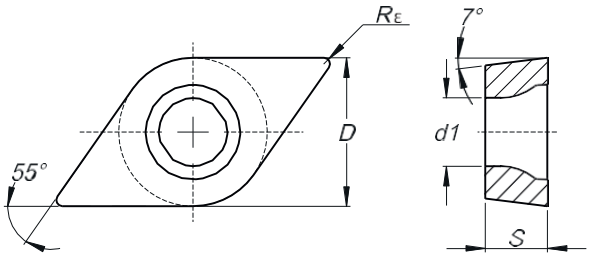
Rhombic 55° Positive



		Grade																	
		P						M					K		N	S			
Inserts	ISO Code	MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725
DCMT-MM	DCMT070204MM	-	-	-	-	-	-		-				-	-	-			
	DCMT070208MM	-	-	-	-	-	-		-				-	-	-			
	DCMT11T304MM	-	-	-	-	-	-		-				-	-	-			
	DCMT11T308MM	-	-	-	-	-	-		-				-	-	-			
	DCMT11T312MM	-	-	-	-	-	-		-				-	-	-			
Fine Finishing																			

DCMT-MK	DCMT070204MK	-	-	-	-	-	-	-	-	-	-	-	■	■	-	-	-	-	
	DCMT070208MK	-	-	-	-	-	-	-	-	-	-	-	■	■	-	-	-	-	
	DCMT11T304MK	-	-	-	-	-	-	-	-	-	-	-	■	■	-	-	-	-	
	DCMT11T308MK	-	-	-	-	-	-	-	-	-	-	-	■	■	-	-	-	-	
Finishing	DCMT11T312MK	-	-	-	-	-	-	-	-	-	-	-	■	■	-	-	-	-	

Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
6,35	2,38	0,4	2,80	0,60	0,19	2,25	0,11	0,06	0,17	**DCMT070204MM**	**DCMT-MM**
6,35	2,38	0,8	2,80	0,60	0,38	2,25	0,20	0,08	0,35	**DCMT070208MM**	
9,525	3,97	0,4	4,40	0,80	0,25	3,00	0,15	0,08	0,23	**DCMT11T304MM**	
9,525	3,97	0,8	4,40	0,80	0,50	3,00	0,25	0,10	0,40	**DCMT11T308MM**	
9,525	3,97	1,2	4,40	0,80	0,60	3,00	0,35	0,12	0,60	**DCMT11T312MM**	



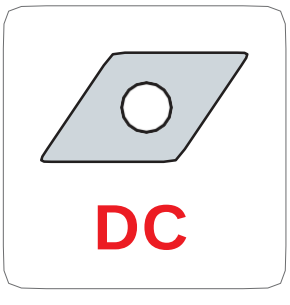
Fine Finishing

6,35	2,38	0,4	2,80	0,60	0,19	2,25	0,11	0,06	0,17	**DCMT070204MK**	**DCMT-MK**
6,35	2,38	0,8	2,80	0,60	0,38	2,25	0,20	0,08	0,35	**DCMT070208MK**	
9,525	3,97	0,4	4,40	0,80	0,25	3,00	0,15	0,08	0,23	**DCMT11T304MK**	
9,525	3,97	0,8	4,40	0,80	0,50	3,00	0,25	0,10	0,40	**DCMT11T308MK**	
9,525	3,97	1,2	4,40	0,80	0,50	3,00	0,35	0,12	0,60	**DCMT11T312MK**	



Finishing

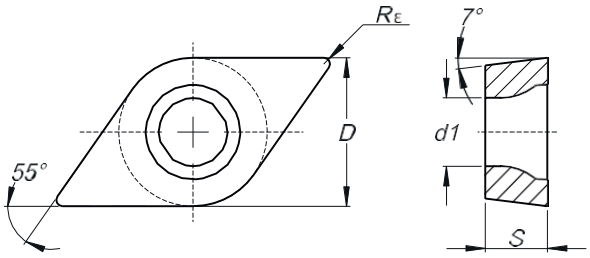
Rhombic 55° Positive



		Grade																	
		P						M					K		N	S			
Inserts	ISO Code	MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725
DCGT-FS	**DCGT070201FS**	-	-	-	-			-	-			-	-	-	-			-
	**DCGT070202FS**	-	-	-	-			-	-			-	-	-	-			-
	DCGT070204FS	-	-	-	-			-	-			-	-	-	-			-
	DCGT11T301FS	-	-	-	-			-	-			-	-	-	-			-
	DCGT11T302FS	-	-	-	-			-	-			-	-	-	-			-
	DCGT11T304FS	-	-	-	-			-	-			-	-	-	-			-
Fine Finishing																			

DCGT-LN	**DCGT070202LN**	-	-	-	-	-	-	-	-	-	-	-	-	-	■	-	-	-
	**DCGT070204LN**	-	-	-	-	-	-	-	-	-	-	-	-	-	■	-	-	-
	DCGT11T302LN	-	-	-	-	-	-	-	-	-	-	-	-	-	■	-	-	-
	DCGT11T304LN	-	-	-	-	-	-	-	-	-	-	-	-	-	■	-	-	-
Fine Finishing	**DCGT11T308LN**	-	-	-	-	-	-	-	-	-	-	-	-	-	■	-	-	-

Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
6,35	2,38	0,1	2,80	0,30	0,10	1,00	0,03	0,01	0,06	**DCGT070201FS**	**DCGT-FS**
6,35	2,38	0,2	2,80	0,50	0,10	1,50	0,07	0,02	0,12	**DCGT070202FS**	
6,35	2,38	0,4	2,80	0,80	0,15	1,50	0,15	0,08	0,25	**DCGT070204FS**	
9,525	3,97	0,1	4,40	0,50	0,10	1,50	0,03	0,01	0,06	**DCGT11T301FS**	
9,525	3,97	0,2	4,40	1,00	0,10	2,00	0,07	0,02	0,12	**DCGT11T302FS**	
9,525	3,97	0,4	4,40	1,50	0,15	3,00	0,15	0,08	0,25	**DCGT11T304FS**	



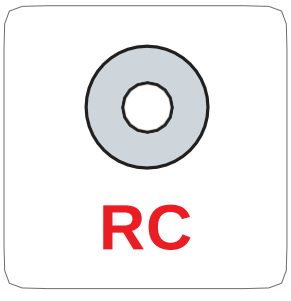
Fine Finishing

6,35	2,38	0,2	2,80	1,00	0,05	3,00	0,07	0,05	0,12	**DCGT070202LN**	**DCGT-LN**
6,35	2,38	0,4	2,80	2,05	0,10	4,00	0,15	0,10	0,20	**DCGT070204LN**	
9,525	3,97	0,2	4,40	2,03	0,05	4,00	0,07	0,05	0,12	**DCGT11T302LN**	
9,525	3,97	0,4	4,40	2,55	0,10	5,00	0,16	0,10	0,22	**DCGT11T304LN**	
9,525	3,97	0,8	4,40	2,55	0,10	5,00	0,22	0,15	0,50	**DCGT11T308LN**	



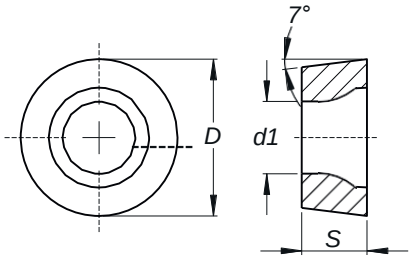
Fine Finishing

Round R° Positive



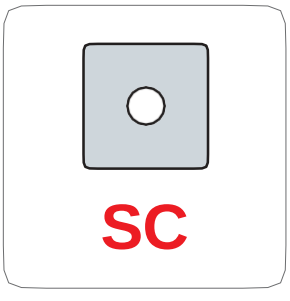
		Grade																	
		P						M					K		N	S			
Inserts	ISO Code	MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725
RCMT-ST	**RCMT0803M0ST**			-	-	-	-			-	-	-		-	-	-	-	-
	**RCMT1003M0ST**			-	-	-	-			-	-	-		-	-	-	-	-
	RCMT10T3M0ST			-	-	-	-			-	-	-		-	-	-	-	-
	RCMT1204M0ST			-	-	-	-			-	-	-		-	-	-	-	-
	RCMT1606M0ST			-	-	-	-			-	-	-		-	-	-	-	-
Medium to Roughing	**RCMT2006M0ST**			-	-	-	-			-	-	-		-	-	-	-	-
RCGT-LN	**RCGT0602M0LN**	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
	**RCGT0803M0LN**	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
	RCGT1003M0LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
Fine Finishing	**RCGT1204M0LN**	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-

Ordering example: Insert Code + Grade



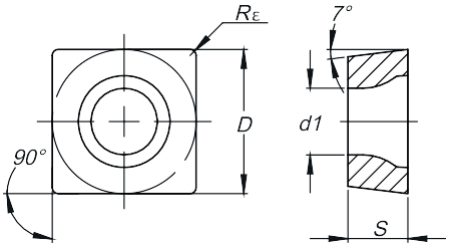
Dimension				Cutting Data							
D	**S**	**Rε**	**d1**	**ap (mm)**	**Min**	**Max**	**fn (mm/g)**	**Min**	**Max**	*ISO Code*	*Inserts*
8,0	3,18	-	3,40	2,00	0,80	3,20	0,20	0,05	0,25	**RCMT0803M0ST**	**RCMT-ST**
10,0	3,18	-	3,40	2,50	1,00	4,00	0,25	0,06	0,32	**RCMT1003M0ST**	
10,0	3,97	-	4,40	2,50	1,00	4,00	0,25	0,06	0,32	**RCMT10T3M0ST**	
12,0	4,76	-	4,40	3,00	1,20	4,80	0,30	0,08	0,38	**RCMT1204M0ST**	
16,0	6,35	-	5,50	3,50	1,60	6,40	0,37	0,10	0,51	**RCMT1606M0ST**	
20,0	6,35	-	6,50	4,00	2,00	8,00	0,45	0,13	0,63	**RCMT2006M0ST**	*Medium to Roughing*
6,0	2,38	-	2,80	1,25	0,50	2,00	0,13	0,05	0,20	**RCGT0602M0LN**	**RCGT-LN**
8,0	3,18	-	3,40	1,50	0,50	2,50	0,15	0,05	0,25	**RCGT0803M0LN**	
10,0	3,18	-	4,40	2,00	1,00	3,00	0,20	0,10	0,30	**RCGT1003M0LN**	
12,0	4,76	-	4,40	2,25	1,00	3,50	0,23	0,10	0,35	**RCGT1204M0LN**	*Fine Finishing*

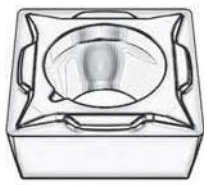
Square 90° Positive



		Grade																
		P						M					K		N	S		
Inserts	ISOCode	MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725
SCMT-FP	SCMT09T304FP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SCMT09T308FP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FineFinishing																		
SCMT-FM	SCMT09T304FM	-	-	-	-	-	-	-		-	-		-	-	-	-	-	
	SCMT09T308FM	-	-	-	-	-	-	-		-	-		-	-	-	-	-	
Fine Finishing																		
SCMT-FK	SCMT09T304FK	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
	SCMT09T308FK	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
Fine Finishing																		

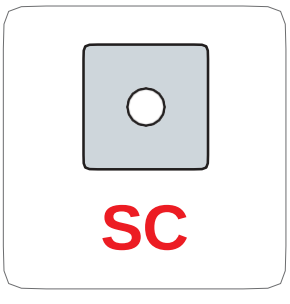
Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	**S**	**Rε**	**d1**	**ap (mm)**	**Min**	**Max**	**fn (mm/g)**	**Min**	**Max**	*ISO Code*	*Inserts*
9,525	3,97	0,4	4,40	0,35	0,11	2,00	0,11	0,06	0,23	**SCMT09T304FP**	**SCMT-FP**
9,525	3,97	0,8	4,40	0,35	0,15	2,00	0,15	0,08	0,30	**SCMT09T308FP**	 *Fine Finishing*
9,525	3,97	0,4	4,40	0,35	0,11	2,00	0,11	0,06	0,23	**SCMT09T304FM**	**SCMT-FM**
9,525	3,97	0,8	4,40	0,35	0,15	2,00	0,15	0,08	0,30	**SCMT09T308FM**	 *Fine Finishing*
9,525	3,97	0,4	4,40	0,35	0,11	2,00	0,11	0,06	0,23	**SCMT09T304FK**	**SCMT-FK**
9,525	3,97	0,8	4,40	0,35	0,15	2,00	0,15	0,08	0,30	**SCMT09T308FK**	 *Fine Finishing*

Turning - Positive Inserts

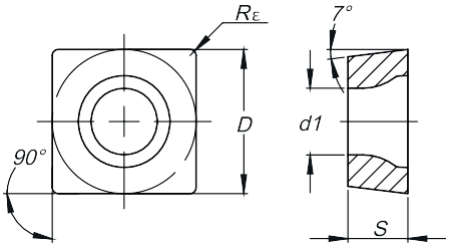
Square 90° Positive



		Grade																
		P						M					K		N	S		
Inserts	*ISO Code*	MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725
SCMT-MP	**SCMT09T304MP**			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	**SCMT09T308MP**			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SCMT120404MP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SCMT120408MP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	SCMT120412MP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Finishing																		

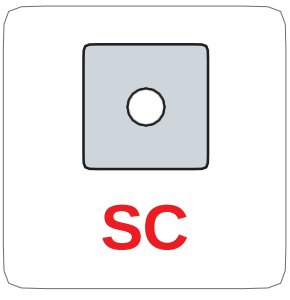
SCMT-MM	**SCMT09T304MM**	-	-	-	-	-	-		-	-	-		-	-	-	-	-	
	**SCMT09T308MM**	-	-	-	-	-	-		-	-	-		-	-	-	-	-	
	SCMT120404MM	-	-	-	-	-	-		-	-	-		-	-	-	-	-	
	SCMT120408MM	-	-	-	-	-	-		-	-	-		-	-	-	-	-	
	SCMT120412MM	-	-	-	-	-	-		-	-	-		-	-	-	-	-	
Finishing																		

Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
9,525	3,97	0,4	4,40	0,80	0,25	3,00	0,15	0,08	0,23	**SCMT09T304MP**	**SCMT-MP**
9,525	3,97	0,8	4,40	0,80	0,50	3,00	0,25	0,10	0,40	**SCMT09T308MP**	
12,7	4,76	0,4	5,50	0,96	0,30	3,60	0,18	0,09	0,27	**SCMT120404MP**	
12,7	4,76	0,8	5,50	0,96	0,60	3,60	0,25	0,12	0,45	**SCMT120408MP**	
12,7	4,76	1,2	5,50	0,96	0,72	3,60	0,35	0,14	0,60	**SCMT120412MP**	
											Finishing
9,525	3,97	0,4	4,40	0,80	0,25	3,00	0,15	0,08	0,23	**SCMT09T304MM**	**SCMT-MM**
9,525	3,97	0,8	4,40	0,80	0,50	3,00	0,25	0,10	0,40	**SCMT09T308MM**	
12,7	4,76	0,4	5,50	0,96	0,30	3,60	0,18	0,09	0,27	**SCMT120404MM**	
12,7	4,76	0,8	5,50	0,96	0,60	3,60	0,25	0,12	0,45	**SCMT120408MM**	
12,7	4,76	1,2	5,50	0,96	0,72	3,60	0,35	0,14	0,60	**SCMT120412MM**	
											Finishing

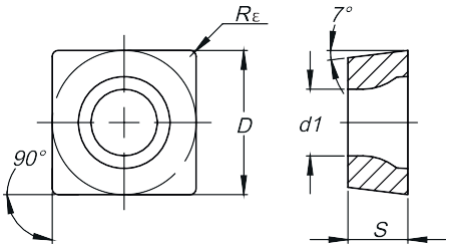
Square 90° Positive



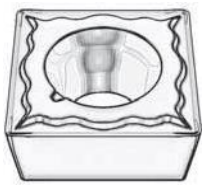
		Grade																	
		P						M					K		N	S			
Inserts	ISO Code	MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725	
SCMT-MK	**SCMT09T304MK**	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	
	**SCMT09T308MK**	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	
	SCMT120408MK	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	
Finishing																			

SCGT-LN	**SCGT09T304LN**	-	-	-	-	-	-	-	-	-	-	-	-	-	▢	-	-	-	
	**SCGT09T308LN**	-	-	-	-	-	-	-	-	-	-	-	-	-	▢	-	-	-	
	SCGT120404LN	-	-	-	-	-	-	-	-	-	-	-	-	-	▢	-	-	-	
	SCGT120408LN	-	-	-	-	-	-	-	-	-	-	-	-	-	■	-	-	-	
Fine Finishing to Finishing																			

Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	**S**	**Rε**	**d1**	**ap (mm)**	**Min**	**Max**	**fn (mm/g)**	**Min**	**Max**	*ISO Code*	*Inserts*
9,525	3,97	0,4	4,40	0,80	0,25	3,00	0,15	0,08	0,23	**SCMT09T304MK**	**SCMT-MK**
9,525	3,97	0,8	4,40	0,80	0,50	3,00	0,25	0,10	0,40	**SCMT09T308MK**	
12,7	4,76	0,8	5,50	0,96	0,60	3,60	0,25	0,12	0,45	**SCMT120408MK**	



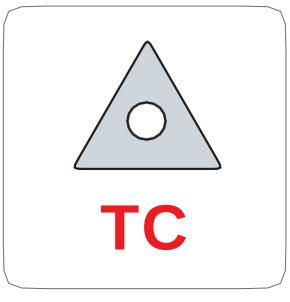
Finishing

9,525	3,97	0,4	4,40	2,05	0,10	4,00	0,16	0,10	0,26	**SCGT09T304LN**	**SCGT-LN**
9,525	3,97	0,8	4,40	2,55	0,10	5,00	0,22	0,15	0,40	**SCGT09T308LN**	
12,7	4,76	0,4	5,50	2,55	0,10	5,00	0,20	0,10	0,26	**SCGT120404LN**	
12,7	4,76	0,8	5,50	2,55	0,10	5,00	0,30	0,15	0,50	**SCGT120408LN**	

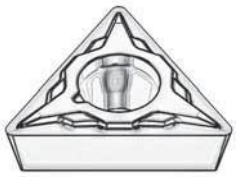


Fine Finishing to Finishing

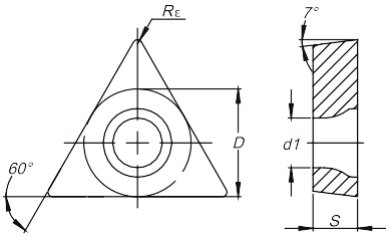
Triangular 60° Positive



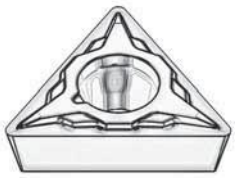
		Grade																
		P						M					K		N	S		
Inserts	ISO Code	MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725
TCMT-FP	TCMT06T102FP	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TCMT06T104FP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TCMT06T108FP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TCMT090202FP	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TCMT090204FP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TCMT110202FP	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TCMT110204FP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TCMT110208FP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TCMT110302FP	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TCMT110304FP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TCMT110308FP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fine Finishing to Finishing	TCMT16T304FP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Ordering example: Insert Code + Grade

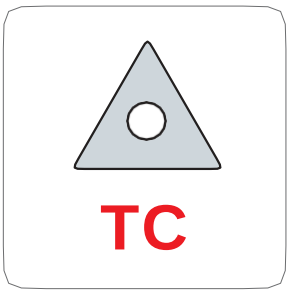


Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
3,97	1,98	0,2	2,15	0,26	0,06	1,50	0,06	0,03	0,11	**TCMT06T102FP**	**TCMT-FP**
3,97	1,98	0,4	2,15	0,26	0,08	1,50	0,08	0,05	0,17	**TCMT06T104FP**	
3,97	1,98	0,8	2,15	0,26	0,11	1,50	0,11	0,06	0,23	**TCMT06T108FP**	
5,56	2,38	0,2	2,50	0,30	0,06	1,70	0,06	0,03	0,13	**TCMT090202FP**	
5,56	2,38	0,4	2,50	0,30	0,10	1,70	0,10	0,05	0,19	**TCMT090204FP**	
6,35	2,38	0,2	2,80	0,30	0,06	1,70	0,06	0,03	0,13	**TCMT110202FP**	
6,35	2,38	0,4	2,80	0,30	0,10	1,70	0,10	0,05	0,19	**TCMT110204FP**	
6,35	2,38	0,8	2,80	0,30	0,13	1,70	0,13	0,07	0,26	**TCMT110208FP**	
6,35	3,18	0,2	2,80	0,30	0,06	1,70	0,06	0,03	0,13	**TCMT110302FP**	
6,35	3,18	0,4	2,80	0,30	0,10	1,70	0,10	0,05	0,19	**TCMT110304FP**	
6,35	3,18	0,8	2,80	0,30	0,13	1,70	0,13	0,07	0,26	**TCMT110308FP**	
9,525	3,97	0,4	4,40	0,35	0,11	2,00	0,11	0,06	0,23	**TCMT16T304FP**	



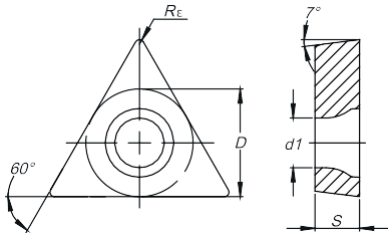
Fine Finishing to Finishing

Triangular 60° Positive



		Grade																
		P						M					K		N	S		
Inserts	ISO Code	MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725
TCMT-FM	TCMT06T102FM	-	-	-	-	-	-	-		-	-		-	-	-	-	-	
	TCMT06T104FM	-	-	-	-	-	-	-		-	-		-	-	-	-	-	
	TCMT06T108FM	-	-	-	-	-	-	-		-	-		-	-	-	-	-	
	TCMT090202FM	-	-	-	-	-	-	-		-	-		-	-	-	-	-	
	TCMT090204FM	-	-	-	-	-	-	-		-	-		-	-	-	-	-	
	TCMT110202FM	-	-	-	-	-	-	-		-	-		-	-	-	-	-	
	TCMT110204FM	-	-	-	-	-	-	-		-	-		-	-	-	-	-	
	TCMT110208FM	-	-	-	-	-	-	-		-	-		-	-	-	-	-	
	TCMT110302FM	-	-	-	-	-	-	-		-	-		-	-	-	-	-	
	TCMT110304FM	-	-	-	-	-	-	-		-	-		-	-	-	-	-	
	TCMT110308FM	-	-	-	-	-	-	-		-	-		-	-	-	-	-	
Fine Finishing to Finishing	TCMT16T304FM	-	-	-	-	-	-	-		-	-		-	-	-	-	-	

Ordering example: Insert Code + Grade

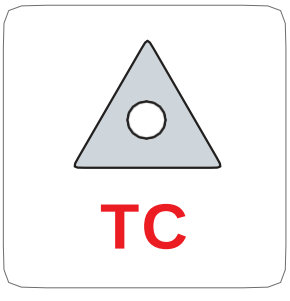


Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	*ISO Code*	*Inserts*
3,97	1,98	0,2	2,15	0,26	0,06	1,50	0,06	0,03	0,11	**TCMT06T102FM**	**TCMT-FM**
3,97	1,98	0,4	2,15	0,26	0,08	1,50	0,08	0,05	0,17	**TCMT06T104FM**	
3,97	1,98	0,8	2,15	0,26	0,11	1,50	0,11	0,06	0,23	**TCMT06T108FM**	
5,56	2,38	0,2	2,50	0,30	0,06	1,70	0,06	0,03	0,13	**TCMT090202FM**	
5,56	2,38	0,4	2,50	0,30	0,10	1,70	0,10	0,05	0,19	**TCMT090204FM**	
6,35	2,38	0,2	2,80	0,30	0,06	1,70	0,06	0,03	0,13	**TCMT110202FM**	
6,35	2,38	0,4	2,80	0,30	0,10	1,70	0,10	0,05	0,19	**TCMT110204FM**	
6,35	2,38	0,8	2,80	0,30	0,13	1,70	0,13	0,07	0,26	**TCMT110208FM**	
6,35	3,18	0,2	2,80	0,30	0,06	1,70	0,06	0,03	0,13	**TCMT110302FM**	
6,35	3,18	0,4	2,80	0,30	0,10	1,70	0,10	0,05	0,19	**TCMT110304FM**	
6,35	3,18	0,8	2,80	0,30	0,13	1,70	0,13	0,07	0,26	**TCMT110308FM**	
9,525	3,97	0,4	4,40	0,35	0,11	2,00	0,11	0,06	0,23	**TCMT16T304FM**	*Fine Finishing to Finishing*



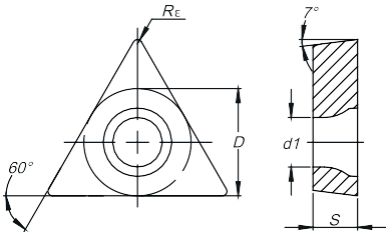
Turning - Positive Inserts

Triangular 60° Positive

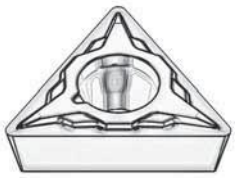


		Grade																
		P						M					K		N	S		
Inserts	*ISO Code*	MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725
TCMT-FK	**TCMT06T102FK**	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
	TCMT06T104FK	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
	TCMT06T108FK	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
	TCMT090202FK	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
	TCMT090204FK	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
	TCMT110202FK	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
	TCMT110204FK	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
	TCMT110302FK	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
	TCMT110304FK	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
Fine Finishing to Finishing	**TCMT16T304FK**	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-

Ordering example: Insert Code + Grade

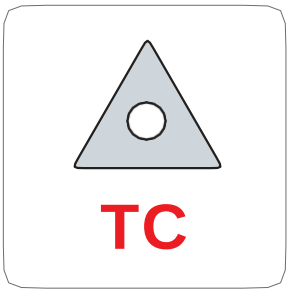


Dimension				Cutting Data							
D	**S**	**Rε**	**d1**	**ap (mm)**	**Min**	**Max**	**fn (mm/g)**	**Min**	**Max**	*ISO Code*	*Inserts*
3,97	1,98	0,2	2,15	0,26	0,06	1,50	0,06	0,03	0,11	**TCMT06T102FK**	**TCMT-FK**
3,97	1,98	0,4	2,15	0,26	0,08	1,50	0,08	0,05	0,17	**TCMT06T104FK**	
3,97	1,98	0,8	2,15	0,26	0,11	1,50	0,11	0,06	0,23	**TCMT06T108FK**	
5,56	2,38	0,2	2,50	0,30	0,06	1,70	0,06	0,03	0,13	**TCMT090202FK**	
5,56	2,38	0,4	2,50	0,30	0,10	1,70	0,10	0,05	0,19	**TCMT090204FK**	
6,35	2,38	0,2	2,80	0,30	0,06	1,70	0,06	0,03	0,13	**TCMT110202FK**	
6,35	2,38	0,4	2,80	0,30	0,10	1,70	0,10	0,05	0,19	**TCMT110204FK**	
6,35	3,18	0,2	2,80	0,30	0,06	1,70	0,06	0,03	0,13	**TCMT110302FK**	
6,35	3,18	0,4	2,80	0,30	0,10	1,70	0,10	0,05	0,19	**TCMT110304FK**	
9,525	3,97	0,4	4,40	0,35	0,11	2,00	0,11	0,06	0,23	**TCMT16T304FK**	*Fine Finishing to Finishing*



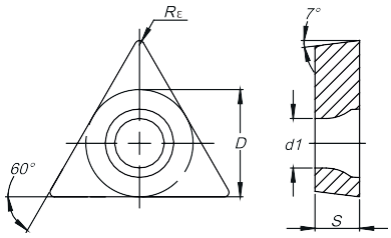
Turning - Positive Inserts

Triangular 60° Positive



		Grade																	
		P						M					K		N	S			
Inserts	*ISO Code*	MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725
TCMT-MP	**TCMT090204MP**			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TCMT090208MP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TCMT110204MP					-	-	-	-	-	-	-	-	-	-	-	-	-
	TCMT110208MP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	**TCMT110212MP**			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TCMT110304MP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TCMT110308MP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TCMT110312MP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TCMT16T304MP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TCMT16T308MP					-	-	-	-	-	-	-	-	-	-	-	-	-
	TCMT16T312MP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Finishing	**TCMT220408MP**			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

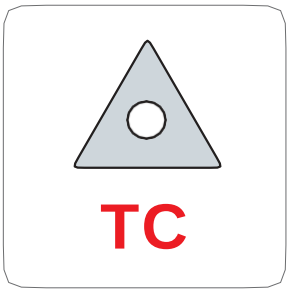
Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	**S**	**Rε**	**d1**	**ap (mm)**	**Min**	**Max**	**fn (mm/g)**	**Min**	**Max**	*ISO Code*	*Inserts*
5,56	2,38	0,4	2,50	0,60	0,19	2,25	0,11	0,06	0,17	**TCMT090204MP**	**TCMT-MP**
5,56	2,38	0,8	2,50	0,60	0,38	2,25	0,15	0,08	0,23	**TCMT090208MP**	
6,35	2,38	0,4	2,80	0,67	0,21	2,50	0,13	0,06	0,19	**TCMT110204MP**	
6,35	2,38	0,8	2,80	0,67	0,42	2,50	0,17	0,09	0,26	**TCMT110208MP**	
6,35	2,38	1,2	2,80	0,67	0,50	2,50	0,20	0,10	0,40	**TCMT110212MP**	
6,35	3,18	0,4	2,80	0,67	0,21	2,50	0,13	0,06	0,19	**TCMT110304MP**	
6,35	3,18	0,8	2,80	0,67	0,42	2,50	0,20	0,09	0,40	**TCMT110308MP**	
6,35	3,18	1,2	2,80	0,67	0,50	2,50	0,30	0,10	0,50	**TCMT110312MP**	
9,525	3,97	0,4	4,40	0,80	0,25	3,00	0,15	0,08	0,25	**TCMT16T304MP**	
9,525	3,97	0,8	4,40	0,80	0,50	3,00	0,22	0,10	0,45	**TCMT16T308MP**	
9,525	3,97	1,2	4,40	0,80	0,60	3,00	0,35	0,12	0,60	**TCMT16T312MP**	*Finishing*
12,7	4,76	0,8	5,50	0,96	0,60	3,60	0,25	0,12	0,45	**TCMT220408MP**	

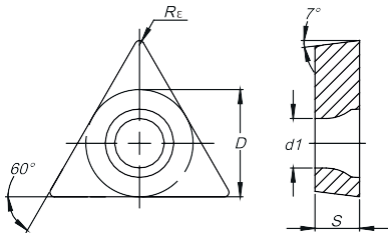


Triangular 60° Positive



		Grade																
		P						M					K		N	S		
Inserts	ISO Code	MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725
TCMT-MM	TCMT090204MM	-	-	-	-	-	-		-	-	-		-	-	-	-	-	
	TCMT090208MM	-	-	-	-	-	-		-	-	-		-	-	-	-	-	
	TCMT110204MM	-	-	-	-	-	-		-			-	-	-	-			-
	TCMT110208MM	-	-	-	-	-	-		-	-	-		-	-	-	-	-	
	TCMT110304MM	-	-	-	-	-	-		-	-	-		-	-	-	-	-	
	TCMT110308MM	-	-	-	-	-	-		-	-	-		-	-	-	-	-	
	TCMT16T304MM	-	-	-	-	-	-		-	-	-		-	-	-	-	-	
	TCMT16T308MM	-	-	-	-	-	-		-			-	-	-	-			-
	TCMT16T312MM	-	-	-	-	-	-		-	-	-		-	-	-	-	-	
Finishing	TCMT220408MM	-	-	-	-	-	-		-	-	-		-	-	-	-	-	

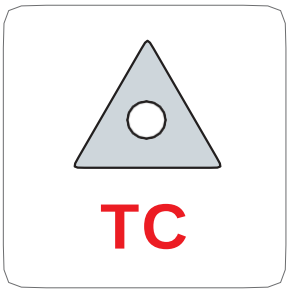
Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	**S**	**Rε**	**d1**	**ap (mm)**	**Min**	**Max**	**fn (mm/g)**	**Min**	**Max**	*ISO Code*	*Inserts*
5,56	2,38	0,4	2,50	0,60	0,19	2,25	0,11	0,06	0,17	**TCMT090204MM**	**TCMT-MM**
5,56	2,38	0,8	2,50	0,60	0,38	2,25	0,15	0,08	0,23	**TCMT090208MM**	
6,35	2,38	0,4	2,80	0,67	0,21	2,50	0,13	0,06	0,19	**TCMT110204MM**	
6,35	2,38	0,8	2,80	0,67	0,42	2,50	0,17	0,09	0,26	**TCMT110208MM**	
6,35	3,18	0,4	2,80	0,67	0,21	2,50	0,13	0,06	0,19	**TCMT110304MM**	
6,35	3,18	0,8	2,80	0,67	0,42	2,50	0,20	0,09	0,40	**TCMT110308MM**	
9,525	3,97	0,4	4,40	0,80	0,25	3,00	0,15	0,08	0,23	**TCMT16T304MM**	
9,525	3,97	0,8	4,40	0,80	0,50	3,00	0,22	0,10	0,45	**TCMT16T308MM**	
9,525	3,97	1,2	4,40	0,80	0,60	3,00	0,35	0,12	0,60	**TCMT16T312MM**	
12,7	4,76	0,8	5,50	0,96	0,60	3,60	0,25	0,12	0,45	**TCMT220408MM**	*Finishing*

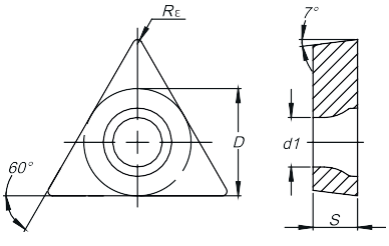


Triangular 60° Positive



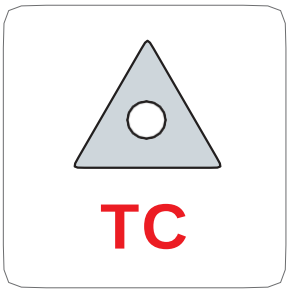
		Grade																	
		P						M					K		N	S			
Inserts	ISO Code	MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725
TCMT-MK	TCMT090204MK	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
	TCMT090208MK	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
	TCMT110204MK	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
	TCMT110208MK	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
	TCMT110304MK	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
	TCMT110308MK	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
	TCMT16T304MK	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
	TCMT16T308MK	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
	TCMT16T312MK	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-
Finishing	TCMT220408MK	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-

Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	**S**	**Rε**	**d1**	**ap (mm)**	**Min**	**Max**	**fn (mm/g)**	**Min**	**Max**	*ISO Code*	*Inserts*
5,56	2,38	0,4	2,50	0,60	0,19	2,25	0,11	0,06	0,17	**TCMT090204MK**	**TCMT-MK**
5,56	2,38	0,8	2,50	0,60	0,38	2,25	0,15	0,08	0,23	**TCMT090208MK**	
6,35	2,38	0,4	2,80	0,67	0,21	2,50	0,13	0,06	0,19	**TCMT110204MK**	
6,35	2,38	0,8	2,80	0,67	0,42	2,50	0,17	0,09	0,26	**TCMT110208MK**	
6,35	3,18	0,4	2,80	0,67	0,21	2,50	0,13	0,06	0,19	**TCMT110304MK**	
6,35	3,18	0,8	2,80	0,67	0,42	2,50	0,20	0,09	0,40	**TCMT110308MK**	
9,525	3,97	0,4	4,40	0,80	0,25	3,00	0,15	0,08	0,23	**TCMT16T304MK**	
9,525	3,97	0,8	4,40	0,80	0,50	3,00	0,22	0,10	0,45	**TCMT16T308MK**	
9,525	3,97	1,2	4,40	0,80	0,60	3,00	0,35	0,12	0,60	**TCMT16T312MK**	
12,7	4,76	0,8	5,50	0,96	0,60	3,60	0,25	0,12	0,45	**TCMT220408MK**	*Finishing*

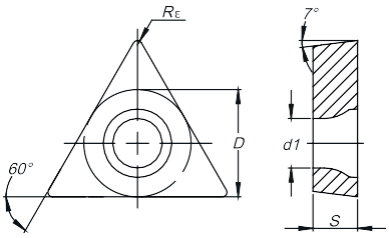
Triangular 60° Positive



		Grade																
		P						M					K		N	S		
Inserts	ISO Code	MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725
TCGT-LN	TCGT090202LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
	TCGT090204LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
	TCGT110202LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
	TCGT110204LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
	TCGT110208LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
	TCGT16T302LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
	TCGT16T304LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
	TCGT16T308LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
	TCGT16T312LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
Fine Finishing to Finishing	TCGT16T316LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-



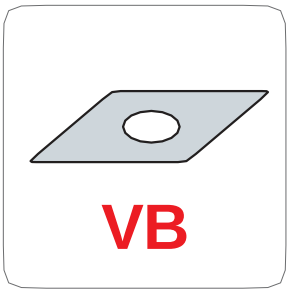
Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
5,56	2,38	0,2	2,50	1,00	0,05	2,50	0,10	0,07	0,15	**TCGT090202LN**	**TCGT-LN**
5,56	2,38	0,4	2,50	1,00	0,05	2,50	0,15	0,10	0,20	**TCGT090204LN**	
6,35	2,38	0,2	2,80	2,03	0,05	4,00	0,12	0,07	0,15	**TCGT110202LN**	
6,35	2,38	0,4	2,80	2,05	0,10	4,00	0,15	0,10	0,20	**TCGT110204LN**	
6,35	2,38	0,8	2,80	2,05	0,10	4,00	0,25	0,15	0,50	**TCGT110208LN**	
9,525	3,97	0,2	4,40	2,53	0,05	5,00	0,10	0,07	0,15	**TCGT16T302LN**	
9,525	3,97	0,4	4,40	2,80	0,10	5,50	0,15	0,10	0,20	**TCGT16T304LN**	
9,525	3,97	0,8	4,40	2,80	0,10	5,50	0,25	0,15	0,50	**TCGT16T308LN**	
9,525	3,97	1,2	4,40	3,00	0,15	5,50	0,45	0,15	0,70	**TCGT16T312LN**	
9,525	3,97	1,6	4,40	3,00	0,15	5,50	0,65	0,20	0,90	**TCGT16T316LN**	*Fine Finishing to Finishing*

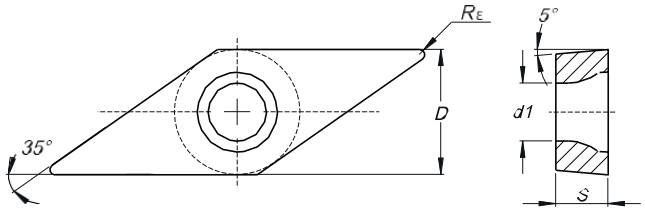


Rhombic 35° Positive



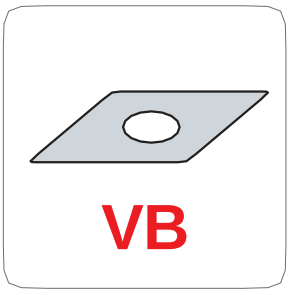
Inserts	ISO Code	Grade																
		P						M					K		N	S		
		MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725
VBMT-FP	**VBMT110302FP**	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	**VBMT110304FP**			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VBMT110308FP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VBMT110312FP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VBMT160402FP	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VBMT160404FP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VBMT160408FP				-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fine Finishing to Finishing	**VBMT160412FP**			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VBMT-FM	**VBMT110302FM**	-	-	-	-	-	-	-	■	-	-	■	-	-	-	-	-	■
	**VBMT110304FM**	-	-	-	-	-	-	-	■	-	-	■	-	-	-	-	-	■
	VBMT110308FM	-	-	-	-	-	-	-	■	-	-	■	-	-	-	-	-	■
	VBMT160402FM	-	-	-	-	-	-	-	■	-	-	■	-	-	-	-	-	■
	VBMT160404FM	-	-	-	-	-	-	-	■	-	-	■	-	-	-	-	-	■
	VBMT160408FM	-	-	-	-	-	-	-	■	-	-	■	-	-	-	-	-	■
Fine Finishing to Finishing	**VBMT160412FM**	-	-	-	-	-	-	-	■	-	-	■	-	-	-	-	-	■

Ordering example: Insert Code + Grade



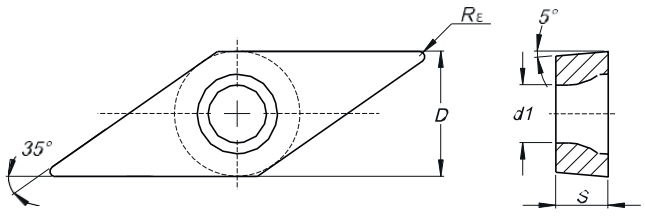
Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	*ISO Code*	*Inserts*
6,35	3,18	0,2	2,80	0,30	0,06	1,70	0,06	0,03	0,13	**VBMT110302FP**	**VBMT-FP**
6,35	3,18	0,4	2,80	0,30	0,10	1,70	0,10	0,05	0,19	**VBMT110304FP**	
6,35	3,18	0,8	2,80	0,30	0,13	1,70	0,13	0,07	0,26	**VBMT110308FP**	
6,35	3,18	1,2	2,80	0,30	0,13	1,70	0,15	0,08	0,31	**VBMT110312FP**	
9,525	4,76	0,2	4,40	0,32	0,07	1,80	0,07	0,04	0,14	**VBMT160402FP**	
9,525	4,76	0,4	4,40	0,32	0,10	1,80	0,10	0,05	0,20	**VBMT160404FP**	
9,525	4,76	0,8	4,40	0,32	0,14	1,80	0,14	0,07	0,27	**VBMT160408FP**	
9,525	4,76	1,2	4,40	0,32	0,14	1,80	0,16	0,09	0,32	**VBMT160412FP**	*Fine Finishing to Finishing*
6,35	3,18	0,2	2,80	0,30	0,06	1,70	0,06	0,03	0,13	**VBMT110302FM**	**VBMT-FM**
6,35	3,18	0,4	2,80	0,30	0,10	1,70	0,10	0,05	0,19	**VBMT110304FM**	
6,35	3,18	0,8	2,80	0,30	0,13	1,70	0,13	0,07	0,26	**VBMT110308FM**	
9,525	4,76	0,2	4,40	0,32	0,07	1,80	0,07	0,04	0,14	**VBMT160402FM**	
9,525	4,76	0,4	4,40	0,32	0,10	1,80	0,10	0,05	0,20	**VBMT160404FM**	
9,525	4,76	0,8	4,40	0,32	0,14	1,80	0,14	0,07	0,27	**VBMT160408FM**	
9,525	4,76	1,2	4,40	0,32	0,14	1,80	0,16	0,09	0,32	**VBMT160412FM**	*Fine Finishing to Finishing*

Rhombic 35° Positive



Inserts	ISO Code	Grade																
		P						M					K		N	S		
		MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725
VBMT-FK	**VBMT110302FK**	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
	**VBMT110304FK**	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
	VBMT110308FK	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
	VBMT160402FK	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
	VBMT160404FK	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
Fine Finishing to Finishing	**VBMT160408FK**	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
VBMT-MP	**VBMT160404MP**	■	■	■	■	-	-	-	-	-	-	-	-	-	-	-	-	-
	**VBMT160408MP**	■	■	■	■	-	-	-	-	-	-	-	-	-	-	-	-	-
	VBMT160412MP	■	■	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Finishing																		

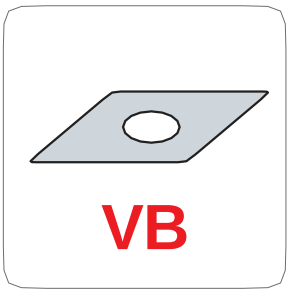
Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
6,35	3,18	0,2	2,80	0,30	0,06	1,70	0,06	0,03	0,13	**VBMT110302FK**	**VBMT-FK**
6,35	3,18	0,4	2,80	0,30	0,10	1,70	0,10	0,05	0,19	**VBMT110304FK**	
6,35	3,18	0,8	2,80	0,30	0,13	1,70	0,13	0,07	0,26	**VBMT110308FK**	
9,525	4,76	0,2	4,40	0,32	0,07	1,80	0,07	0,04	0,14	**VBMT160402FK**	
9,525	4,76	0,4	4,40	0,32	0,10	1,80	0,10	0,05	0,20	**VBMT160404FK**	
9,525	4,76	0,8	4,40	0,32	0,14	1,80	0,14	0,07	0,27	**VBMT160408FK**	*Fine Finishing to Finishing*
9,525	4,76	0,4	4,40	0,72	0,23	2,70	0,14	0,07	0,20	**VBMT160404MP**	**VBMT-MP**
9,525	4,76	0,8	4,40	0,72	0,45	2,70	0,18	0,09	0,27	**VBMT160408MP**	
9,525	4,76	1,2	4,40	0,72	0,54	2,70	0,22	0,11	0,32	**VBMT160412MP**	
											Finishing

Turning - Positive Inserts

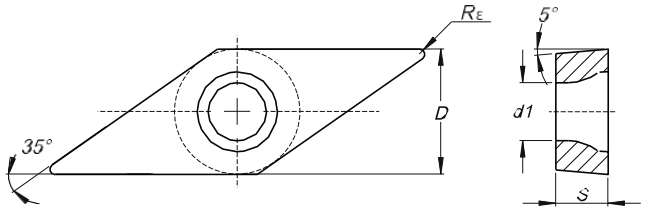
Rhombic 35° Positive



		Grade																	
		P						M					K		N	S			
Inserts	*ISO Code*	MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725
VBMT-MM	**VBMT160404MM**	-	-	-	-	-	-		-			-	-	-	-			-
	VBMT160408MM	-	-	-	-	-	-		-			-	-	-	-			-
	**VBMT160412MM**	-	-	-	-	-	-		-	-	-		-	-	-	-	-	
Finishing																			

VBMT-MK	**VBMT160404MK**	-	-	-	-	-	-	-	-	-	-	-	■	■	-	-	-	-	
	VBMT160408MK	-	-	-	-	-	-	-	-	-	-	-	■	■	-	-	-	-	
	**VBMT160412MK**	-	-	-	-	-	-	-	-	-	-	-	■	■	-	-	-	-	
Finishing																			

Ordering example: Insert Code + Grade

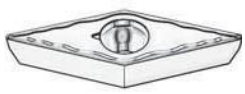


Dimension				Cutting Data							
D	**S**	**Rε**	**d1**	**ap (mm)**	**Min**	**Max**	**fn (mm/g)**	**Min**	**Max**	*ISO Code*	*Inserts*
9,525	4,76	0,4	4,40	0,72	0,23	2,70	0,14	0,07	0,20	**VBMT160404MM**	**VBMT-MM**
9,525	4,76	0,8	4,40	0,72	0,45	2,70	0,18	0,09	0,27	**VBMT160408MM**	
9,525	4,76	1,2	4,40	0,72	0,54	2,70	0,22	0,11	0,32	**VBMT160412MM**	



Finishing

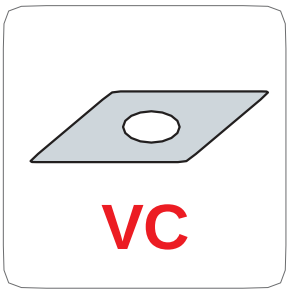
9,525	4,76	0,4	4,40	0,72	0,23	2,70	0,14	0,07	0,20	**VBMT160404MK**	**VBMT-MK**
9,525	4,76	0,8	4,40	0,72	0,45	2,70	0,18	0,09	0,27	**VBMT160408MK**	
9,525	4,76	1,2	4,40	0,72	0,54	2,70	0,22	0,11	0,32	**VBMT160412MK**	



Finishing

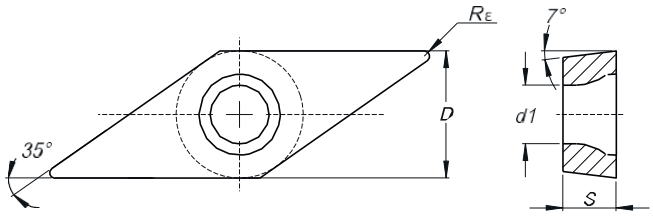
Turning - Positive Inserts

Rhombic 35° Positive



		Grade																
		P						M					K		N	S		
Inserts	*ISOCode*	MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725
VCMT-FP	**VCMT110302FP**	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	**VCMT110304FP**			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VCMT160402FP	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VCMT160404FP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VCMT160408FP			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FineFinishingto Finishing	**VCMT160412FP**		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VCMT-FM	**VCMT110302FM**	-	-	-	-	-	-	-	■	-	-	■	-	-	-	-	-	■
	**VCMT110304FM**	-	-	-	-	-	-	-	■	-	-	■	-	-	-	-	-	■
	VCMT160402FM	-	-	-	-	-	-	-	■	-	-	■	-	-	-	-	-	■
	VCMT160404FM	-	-	-	-	-	-	-	■	-	-	■	-	-	-	-	-	■
	VCMT160408FM	-	-	-	-	-	-	-	■	-	-	■	-	-	-	-	-	■
Fine Finishing to Finishing	**VCMT160412FM**	-	-	-	-	-	-	-	■	-	-	■	-	-	-	-	-	■

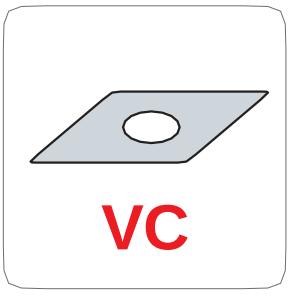
Ordering example: Insert Code + Grade



ABMESSUNG *Dimension*				SCHNITTDATEN *CuttingData*							
D	**S**	**Rε**	**d1**	**ap (mm)**	**Min**	**Max**	**fn (mm/g)**	**Min**	**Max**	**ISOBEZEICHNUNG** *ISOCode*	**WENDESCHNEIDPLATTEN** *Inserts*
6,35	3,18	0,2	2,80	0,30	0,07	1,50	0,07	0,03	0,13	**VCMT110302FP**	**VCMT-FP**
6,35	3,18	0,4	2,80	0,30	0,10	1,50	0,10	0,05	0,20	**VCMT110304FP**	
9,525	4,76	0,2	4,40	0,32	0,07	1,80	0,07	0,04	0,14	**VCMT160402FP**	
9,525	4,76	0,4	4,40	0,32	0,10	1,80	0,10	0,05	0,20	**VCMT160404FP**	
9,525	4,76	0,8	4,40	0,32	0,14	1,80	0,14	0,07	0,27	**VCMT160408FP**	
9,525	4,76	1,2	4,40	0,32	0,14	1,80	0,16	0,09	0,32	**VCMT160412FP**	
											FEINSCHLICHTEN BIS SCHLICHTEN *FineFinishing to Finishing*

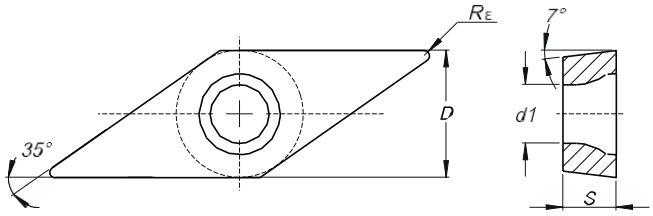
6,35	3,18	0,2	2,80	0,30	0,07	1,50	0,07	0,03	0,13	**VCMT110302FM**	**VCMT-FM**
6,35	3,18	0,4	2,80	0,30	0,10	1,50	0,10	0,05	0,20	**VCMT110304FM**	
9,525	4,76	0,2	4,40	0,32	0,07	1,80	0,07	0,04	0,14	**VCMT160402FM**	
9,525	4,76	0,4	4,40	0,32	0,10	1,80	0,10	0,05	0,20	**VCMT160404FM**	
9,525	4,76	0,8	4,40	0,32	0,14	1,80	0,14	0,07	0,27	**VCMT160408FM**	
9,525	4,76	1,2	4,40	0,32	0,14	1,80	0,16	0,09	0,32	**VCMT160412FM**	
											FEINSCHLICHTEN BIS SCHLICHTEN *FineFinishing to Finishing*

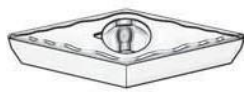
Rhombic 35° Positive



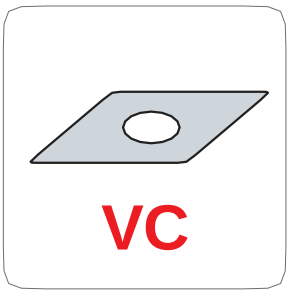
		Grade																
		P						M					K		N	S		
Inserts	ISOCode	MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725
VCMT-FK	VCMT110304FK	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
	VCMT160402FK	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
	VCMT160404FK	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
	VCMT160408FK	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
Fine Finishing to Finishing																		
VCMT-MP	VCMT110304MP	■	■	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VCMT110308MP	■	■	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VCMT160404MP	■	■	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	VCMT160408MP	■	■	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Finishing	VCMT160412MP	■	■	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Ordering example: Insert Code + Grade



Dimension				Cutting Data							
D	**S**	**Rε**	**d1**	**ap (mm)**	**Min**	**Max**	**fn (mm/g)**	**Min**	**Max**	*ISO Code*	*Inserts*
6,35	3,18	0,4	2,80	0,30	0,10	1,50	0,10	0,05	0,20	**VCMT110304FK**	**VCMT-FK**
9,525	4,76	0,2	4,40	0,32	0,07	1,80	0,07	0,04	0,14	**VCMT160402FK**	
9,525	4,76	0,4	4,40	0,32	0,10	1,80	0,10	0,05	0,20	**VCMT160404FK**	
9,525	4,76	0,8	4,40	0,32	0,14	1,80	0,14	0,07	0,27	**VCMT160408FK**	
											Fine Finishing to Finishing
6,35	3,18	0,4	2,80	0,77	0,31	2,55	0,15	0,10	0,25	**VCMT110304MP**	**VCMT-MP**
6,35	3,18	0,8	2,80	0,77	0,61	2,55	0,20	0,13	0,33	**VCMT110308MP**	
9,525	4,76	0,4	4,40	0,72	0,23	2,70	0,14	0,07	0,20	**VCMT160404MP**	
9,525	4,76	0,8	4,40	0,72	0,45	2,70	0,18	0,09	0,27	**VCMT160408MP**	
9,525	4,76	1,2	4,40	0,72	0,54	2,70	0,22	0,11	0,32	**VCMT160412MP**	
											Finishing

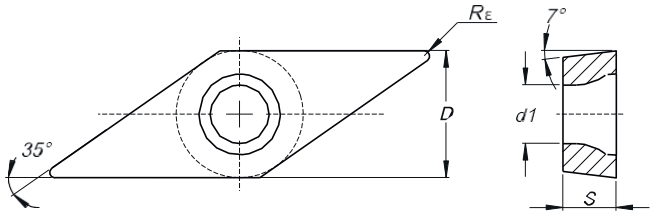
Rhombic 35° Positive



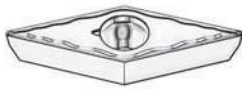
		Grade																	
		P						M					K		N	S			
Inserts	ISO Code	MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725	
VCMT-MM	VCMT110304MM	-	-	-	-	-	-		-	-	-		-	-	-	-	-		
	VCMT110308MM	-	-	-	-	-	-		-	-	-		-	-	-	-	-		
	VCMT160404MM	-	-	-	-	-	-		-	-	-		-	-	-	-	-		
	VCMT160408MM	-	-	-	-	-	-		-	-	-		-	-	-	-	-		
	VCMT160412MM	-	-	-	-	-	-		-	-	-		-	-	-	-	-		
Finishing																			

VCMT-MK	VCMT110308MK	-	-	-	-	-	-	-	-	-	-	-	■	■	-	-	-	-	
	VCMT160404MK	-	-	-	-	-	-	-	-	-	-	-	■	■	-	-	-	-	
	VCMT160408MK	-	-	-	-	-	-	-	-	-	-	-	■	■	-	-	-	-	
	VCMT160412MK	-	-	-	-	-	-	-	-	-	-	-	■	■	-	-	-	-	
Finishing																			

Ordering example: Insert Code + Grade

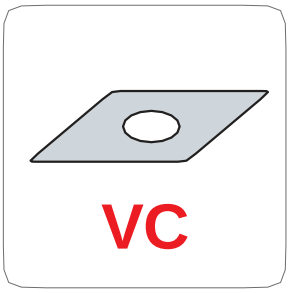


Dimension				Cutting Data							
D	S	Rε	d1	ap (mm)	Min	Max	fn (mm/g)	Min	Max	ISO Code	Inserts
6,35	3,18	0,4	2,80	0,77	0,31	2,55	0,15	0,10	0,25	**VCMT110304MM**	VCMT-MM
6,35	3,18	0,8	2,80	0,77	0,61	2,55	0,20	0,13	0,33	**VCMT110308MM**	
9,525	4,76	0,4	4,40	0,72	0,23	2,70	0,14	0,07	0,20	**VCMT160404MM**	
9,525	4,76	0,8	4,40	0,72	0,45	2,70	0,18	0,09	0,27	**VCMT160408MM**	
9,525	4,76	1,2	4,40	0,72	0,54	2,70	0,22	0,11	0,32	**VCMT160412MM**	
											Finishing

6,35	3,18	0,8	2,80	0,77	0,61	2,55	0,20	0,13	0,33	**VCMT110308MK**	**VCMT-MK**
9,525	4,76	0,4	4,40	0,72	0,23	2,70	0,14	0,07	0,20	**VCMT160404MK**	
9,525	4,76	0,8	4,40	0,72	0,45	2,70	0,18	0,09	0,27	**VCMT160408MK**	
9,525	4,76	1,2	4,40	0,72	0,54	2,70	0,22	0,11	0,32	**VCMT160412MK**	
											Finishing

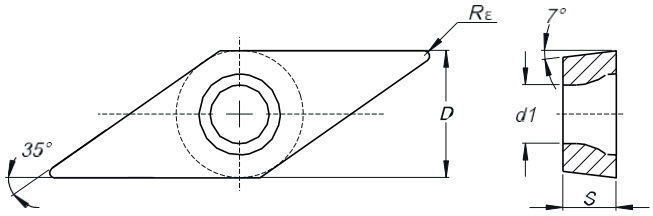
Turning - Positive Inserts

Rhombic 35° Positive



		Grade																	
		P						M					K		N	S			
Inserts	*ISO Code*	MGU515	MGU525	MGU610	MGU620	MGP710	MGM720	MGU515	MGU525	MGP710	MGM720	MGS725	MGK510	MGK520	MGN010	MGP710	MGM720	MGS725
VCGT-LN	**VCGT110302LN**	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
	**VCGT110304LN**	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
	VCGT110308LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
	VCGT130302LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
	VCGT130304LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
	VCGT160402LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
	VCGT160404LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
	VCGT160408LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
	VCGT160412LN	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
Fine Finishing to Finishing	**VCGT220530LN**	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-

Ordering example: Insert Code + Grade



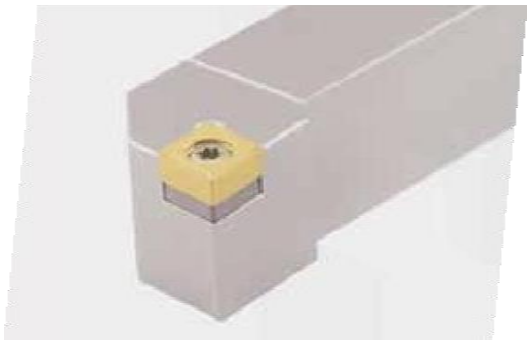
Dimension				Cutting Data							
D	**S**	**Rε**	**d1**	**ap (mm)**	**Min**	**Max**	**fn (mm/g)**	**Min**	**Max**	*ISO Code*	*Inserts*
6,35	3,18	0,2	2,80	1,53	0,05	3,00	0,07	0,05	0,12	**VCGT110302LN**	**VCGT-LN**
6,35	3,18	0,4	2,80	1,53	0,05	3,00	0,15	0,10	0,25	**VCGT110304LN**	
6,35	3,18	0,8	2,80	1,53	0,05	3,00	0,22	0,15	0,45	**VCGT110308LN**	
7,94	3,18	0,2	3,40	2,00	0,10	4,00	0,07	0,05	0,12	**VCGT130302LN**	
7,94	3,18	0,4	3,40	2,00	0,10	4,00	0,15	0,10	0,25	**VCGT130304LN**	
9,525	4,76	0,2	4,40	2,30	0,10	5,00	0,07	0,05	0,12	**VCGT160402LN**	
9,525	4,76	0,4	4,40	2,55	0,10	5,00	0,15	0,10	0,25	**VCGT160404LN**	
9,525	4,76	0,8	4,40	2,55	0,10	5,00	0,22	0,15	0,45	**VCGT160408LN**	
9,525	4,76	1,2	4,40	2,55	0,10	5,00	0,40	0,15	0,60	**VCGT160412LN**	
12,7	5,56	3,0	5,50	3,55	0,10	7,00	0,80	0,15	1,60	**VCGT220530LN**	*Fine Finishing to Finishing*

MEGACUT

DREHEN

Turning







DREHHALTER › *Toolholders*

FUER AUSSENBEARBEITUNG
WENDESCHNEIDPLATTEN NEGATIV UND POSITIV
For External Operation
Negative and Positive Inserts

ANWENDUNGSBEREICHE
Fields of Competence









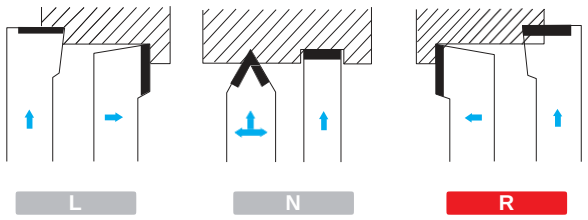

MEGACUT

DREHHALTER BEZEICHNUNGS SYSTEM
Toolholders Designation System

25 6	25 7	M 8	12 9

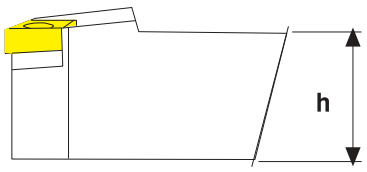
5 SCHNEIDRICHTUNG› *Cutting Direction*

P S K N **R** 25 25 - M 12



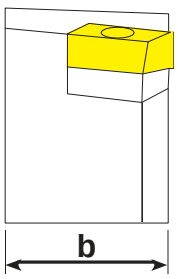
6 SCHAFTHOEHE› *Shankheight*

P S K N R **25** 25 - M 12



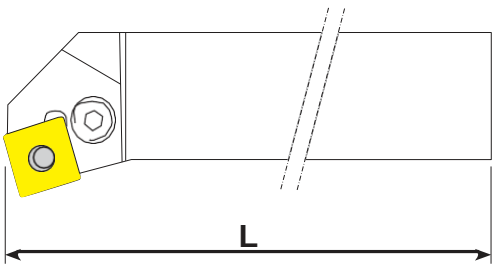
7 SCHAFTBREITE› *Shank Width*

P S K N R 25 **25** - M 12



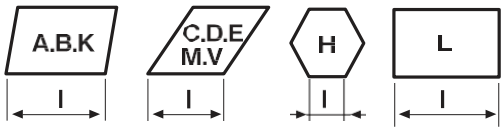
8 GESAMTLAENGE› *Total Length*

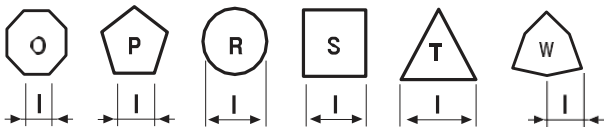
P S K N R 25 25 - **M** 12



9 WENDESCHNEIDPLATTENGROESSE› *Insert Size*

P S K N R 25 25 - M **12**





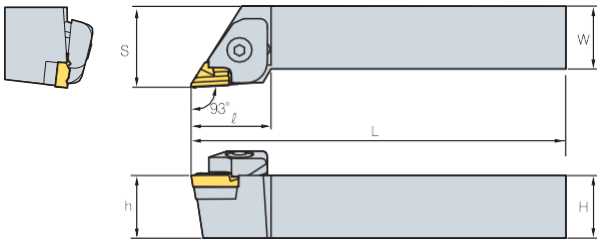
A-32	M-150
B-40	N-160
C-50	P-170
D-60	Q-180
E-70	R-200
F-80	S-125
G-90	L-140
H-100	**M-150**
J-110	N-160
K-125	P-170
L-140	X-SPECIAL

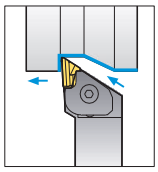
DREHEN - KEIL SPANN SYSTEM › *Turning - Wedge lock System*

CKJNR/L



KN□□



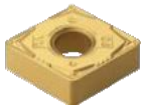


93°
• R type insert
(mm)

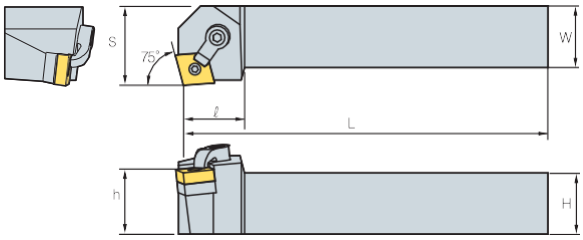
Designation		Stock	H	W	L	S	h	ε	Insert	Clamp	ClampScrew	Spring	Shim	Pin+Spring	ShimScrew	Wrench
CKJNR	**2020-K16**	•	20	20	125	25	20	32	KN□□1604□□R	CK6R1	MRS0625	SP3	SJ33C	PN0515 SR4	SX0310	HT20L HT40L
	2525-M16	•	25	25	150	32	25	32								
	3225-M16		32	25	150	32	32	32								
	3225-P16	•	32	25	170	32	32	32								
	3232-P16	•	32	32	170	40	32	32								
	4040-R16	•	40	40	200	50	40	32								
CKJNL	**2020-K16**	•	20	20	125	25	20	32	KN□□1604□□L	CK6L1	MRS0625	SP3	SJ33CL	PN0515 SR4	SX0310	HT20L HT40L
	2525-M16	•	25	25	150	32	25	32								
	3232-P16	•	32	32	170	40	32	32								
	4040-R16		40	40	200	50	40	32								

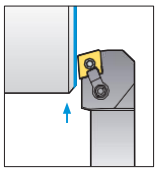
• : Stock item

MCKNR/L



CN□□





75°
• R type insert
(mm)

Designation		Stock R	Stock L	H	W	L	S	h	ε	Insert	Clamp	ClampScrew	Shim	ShimPin	Wrench
MCKNR/L	**2020-K12**			20	20	125	25	20	32	CN□□ 1204□□	HL1813	ML0625	MC1204	CTM613	L2.5 L3
	2525-M12	•		25	25	150	32	25	32						
	3232-P12			32	32	170	40	32	32						

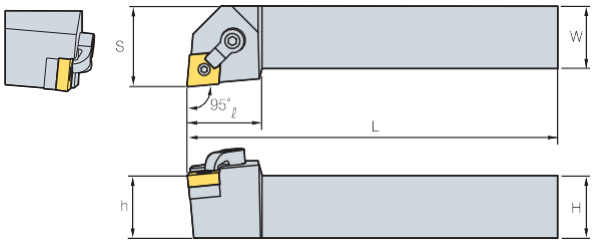
• : Stock item

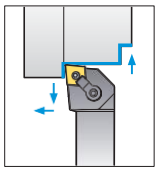
DREHEN - HEBEL SPANN SYSTEM › *Turning - Lever lock System*

MCLNR/L



CN□□





95°

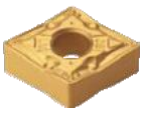
• R type insert

(mm)

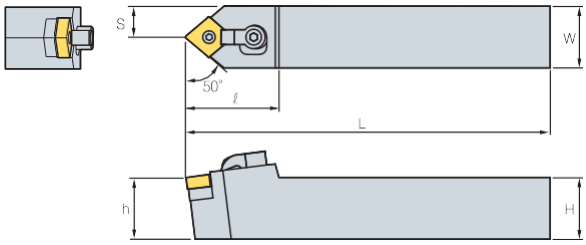
Designation		Stock R	Stock L	H	W	L	S	h	ε	Insert	Clamp	ClampScrew	Shim	ShimPin	Wrench
	2020-K12			20	20	125	25	20	32	CN□□1204□□	HL1813	ML0625	MC1204	CTM613	L2.5 L3
	2525-M12	•		25	25	150	32	25	32						
	3225-P12			32	25	170	32	32	32						
	3232-P12	•		32	32	170	40	32	32						
	2525-M16	•		25	25	150	32	25	33	CN□□1606□□	HL2217	ML0830	MC1604	CTM822	L3 L4
	3232-P16	•		32	32	170	40	32	33						
	4040-S16			40	40	250	50	40	33						
	2525-M19			25	25	150	32	25	38	CN□□1906□□	HL2217	ML0830	MC1604	CTM1022	L4
	3232-P19			32	32	170	40	32	38						
	4040-S19			40	40	250	50	40	38						

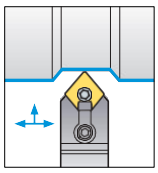
• : Stock item

MCMNN



CN□□





50°

• R type insert

(mm)

Designation		Stock	H	W	L	S	h	ε	Insert	Clamp	ClampScrew	Shim	ShimPin	Wrench
MCMNN	2020-K12		20	20	125	10	20	32	CN□□1204□□	HL1813	ML0625	MC1204	CTM613	L2.5 L3
	2525-M12		25	25	150	12.5	25	32						
	3232-P12		32	32	170	16	32	32						
	2525-M16		25	25	150	12.5	25	40	CN□□1606□□	HL2217	ML0830	MC1604	CTM822	L3 L4
	3232-P16		32	32	170	16	32	40						
	3232-P19		32	32	170	16	32	40	CN□□1906□□	HL2217	ML0830	MC1604	CTM1022	L4
	4040-S19		40	40	250	20	40	32						

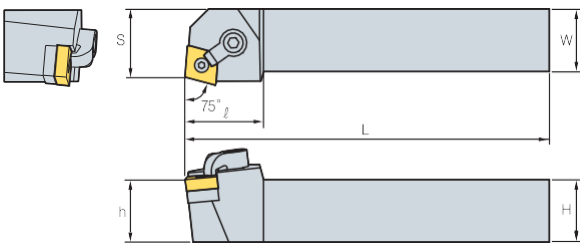
• : Stock item

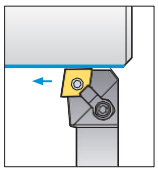
DREHEN - HEBEL SPANN SYSTEM › *Turning - Lever lock System*

MCRNR/L



CN□□





75°

• R type insert

(mm)

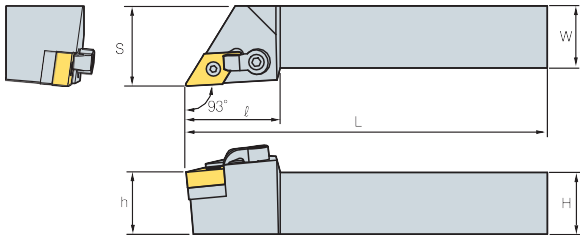
Designation		Stock R	Stock L	H	W	L	S	h	ε	Insert	Clamp	ClampScrew	Shim	ShimPin	Wrench
MCRNR/L	2020-K12			20	20	125	22	20	32	CN□□1204□□	HL1813	ML0625	MC1204	CTM613	L2.5 L3
	2525-M12			25	25	150	27	25	32						
	2525-M16			25	25	150	27	25	33	CN□□1606□□	HL2217	ML0830	MC1604	CTM822	L3 L4
	3232-P16			32	32	170	35	32	33						
	3232-P19			32	32	170	35	32	38	CN□□1906□□	HL2217	ML0830	MC1604	CTM1022	L4
	4040-S19			40	40	250	43	40	38						

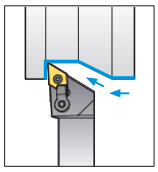
• : Stock item

MDJNR/L



DN□□





93°

• R type insert

(mm)

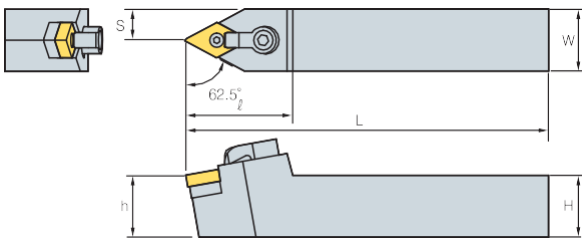
Designation		Stock R	Stock L	H	W	L	S	h	ε	Insert	Clamp	ClampScrew	Shim	ShimPin	Wrench
MDJNR/L	2020-K11			20	20	125	25	20	32	DN□□1104□□	HL1813	ML0625	MD1103	CTM513	L2 L3
	2525-M11			25	25	150	32	25	32						
	2020-K15-3	•		20	20	125	25	20	36	DN□□1504□□	HL2114	ML0625	MD1506	CTM619	L2.5 L3
	2525-M15-3	•		25	25	150	32	25	36						
	3232-P15-3			32	32	170	40	32	36						
	2020-K15			20	20	125	25	20	36	DN□□1506□□	HL2114	ML0625	MD1504	CTM619	L2.5 L3
	2525-M15			25	25	150	32	25	36						
	3232-P15			32	32	170	40	32	36						

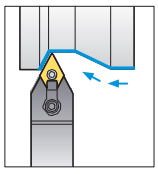
• : Stock item

MDNNN



DN□□





62.5°

(mm)

Designation		Stock	H	W	L	S	h	ε	Insert	Clamp	ClampScrew	Shim	ShimPin	Wrench
MDNNN	2525-M15-3	•	25	25	150	12.5	25	41	DN□□ 1504□□	HL2114	ML0625	MD1506	CTM619	L2.5-L3
	2525-M15		25	25	150	12.5	25	41	DN□□ 1506□□	HL2114	ML0625	MD1504	CTM619	L2.5-L3

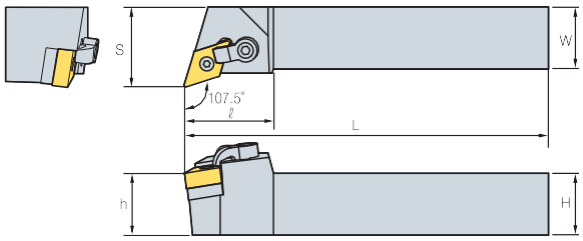
• : Stock item

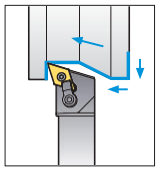
DREHEN - HEBEL SPANN SYSTEM › *Turning - Lever lock System*

MDQNR/L



DN□□





107.5°

• R type insert

(mm)

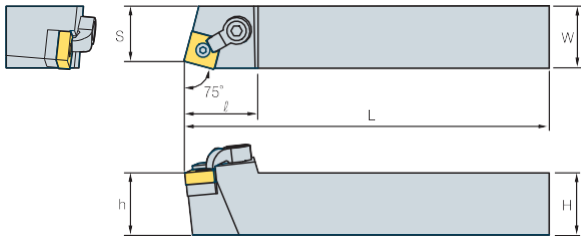
Designation		Stock R	Stock L	H	W	L	S	h	ε	Insert	Clamp	ClampScrew	Shim	ShimPin	Wrench
MDQNR/L	**2020-K11**			20	20	125	25	20	32	DN□□1104□□	HL1813	ML0625	MD1103	CTM513	L2 L3
	2525-M11			25	25	150	32	25	32						
	2020-K15-3	•		20	20	125	25	20	36	DN□□1504□□	HL2114	ML0625	MD1506	CTM619	L2.5 L3
	2525-M15-3	•		25	25	150	32	25	36						

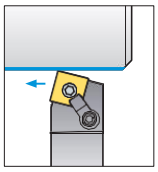
• : Stock item

MSBNR/L



SN□□





75°

• R type insert

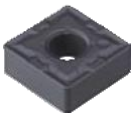
(mm)

Designation		Stock R	Stock L	H	W	L	S	h	ε	Insert	Clamp	ClampScrew	Shim	ShimPin	Wrench
MSBNR/L	**2020-K12**			20	20	125	17	20	32	SN□□1204□□	HL1813	ML0625	MS1204	CTM613	L2.5 L3
	2525-M12			25	25	150	22	25	32						
	2525-M15			25	25	150	22	25	35	SN□□1506□□	HL2217	ML0830	MS1504	CTM822	L4
	3232-P15			32	32	170	22	32	35						
	3232-P19			32	32	170	27	32	40	SN□□1906□□	HL2217	ML0830	MS1904	CTM1022	L4
	4040-S19			40	40	250	35	40	40						

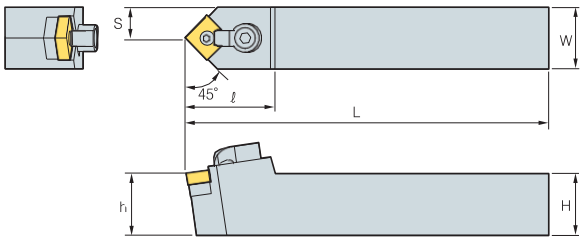
• : Stock item

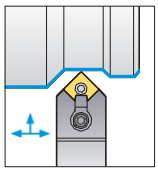
DREHEN - HEBEL SPANN SYSTEM › *Turning - Lever lock System*

MSDNN



SN□□





45°

(mm)

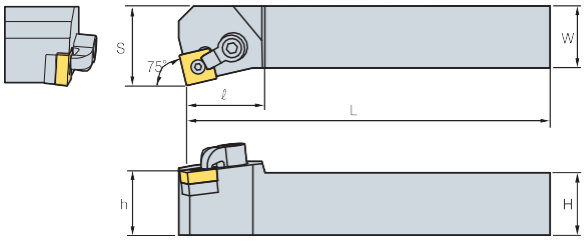
Designation		Stock	H	W	L	S	h	ε	Insert	Clamp	ClampScrew	Shim	ShimPin	Wrench
MSDNN	2020-K12		20	20	125	10	20	32	SN□□1204□□	HL1813	ML0625	MS1204	CTM613	L2.5 L3
	2525-M12		25	25	150	12.5	25	32						
	3225-P12		32	25	170	12.5	32	32						
	2525-M15		25	25	150	12.5	25	35	SN□□1506□□	HL2217	ML0830	MS1504	CTM822	L4
	3225-P15		32	25	170	12.5	32	35						
	3232-P15		32	32	170	16	32	35						
	4040-S15		40	40	250	20	40	35						
	3232-P19		32	32	170	16	32	42	SN□□1906□□	HL2217	ML0830	MS1904	CTM1022	L4
	4040-S19		40	40	250	20	40	42						

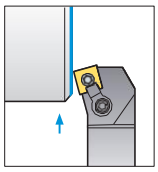
● : Stock item

MSKNR/L



SN□□





75°

• R type insert

(mm)

Designation		Stock R	Stock L	H	W	L	S	h	ε	Insert	Clamp	ClampScrew	Shim	ShimPin	Wrench
MSKNR/L	2020-K12			20	20	125	25	20	32	SN□□1204□□	HL1813	ML0625	MS1204	CTM613	L2.5 L3
	2525-M12			25	25	150	32	25	32						
	3225-P12			32	25	170	32	32	32						
	2525-M15			25	25	150	32	25	35	SN□□1506□□	HL2217	ML0830	MS1504	CTM822	L4
	3225-P15			32	32	170	40	32	35						
	3232-P19			32	32	170	40	32	40	SN□□1906□□	HL2217	ML0830	MS1904	CTM1022	L4
	4040-S19			40	40	250	50	40	40						

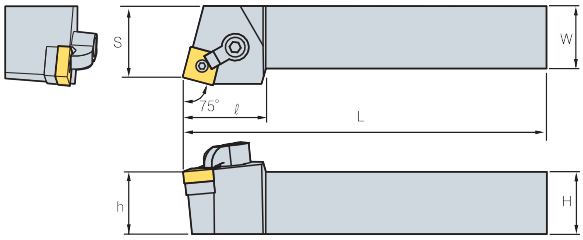
● : Stock item

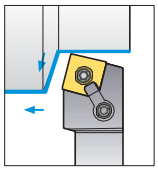
DREHEN - HEBEL SPANN SYSTEM › *Turning - Lever lock System*

MSRNR/L



SN□□





75°

• R type insert

(mm)

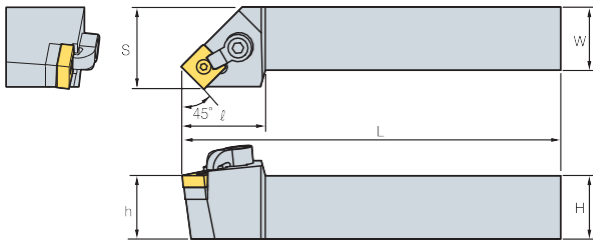
Designation		Stock R	Stock L	H	W	L	S	h	ε	Insert	Clamp	ClampScrew	Shim	ShimPin	Wrench
MSRNR/L	2020-K12			20	20	125	22	20	32	SN□□1204□□	HL1813	ML0625	MS1204	CTM613	L2.5 L3
	2525-M12			25	25	150	27	25	32						
	2525-M15			25	25	150	27	25	35	SN□□1506□□	HL2217	ML0830	MS1504	CTM822	L4
	3232-P15			32	32	170	35	32	35						
	3225-P19			32	25	170	27	32	40						
	3232-P19			32	32	170	35	32	40	SN□□1906□□	HL2217	ML0830	MS1904	CTM1022	L4
	4040-S19			40	40	250	43	40	40						

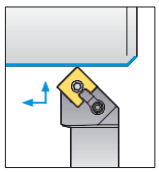
• : Stock item

MSSNR/L



SN□□





45°

• R type insert

(mm)

Designation		Stock R	Stock L	H	W	L	S	h	ε	Insert	Clamp	ClampScrew	Shim	ShimPin	Wrench
MSSNR/L	2020-K12			20	20	125	25	20	32	SN□□1204□□	HL1813	ML0625	MS1204	CTM613	L2.5 L3
	2525-M12			25	25	150	32	25	32						
	2525-M15			25	25	150	32	25	35	SN□□1506□□	HL2217	ML0830	MS1504	CTM822	L4
	3232-P15			32	32	170	40	32	35						
	3232-P19			32	32	170	40	32	40	SN□□1906□□	HL2217	ML0830	MS1904	CTM1022	L4
	4040-S19			40	40	250	50	40	40						

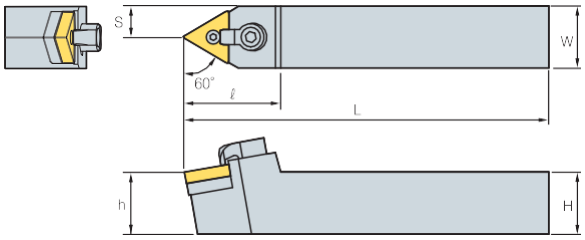
• : Stock item

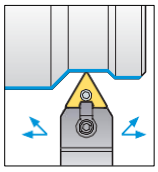
DREHEN - HEBEL SPANN SYSTEM › *Turning - Lever lock System*

MTENN



TN□□





60°

(mm)

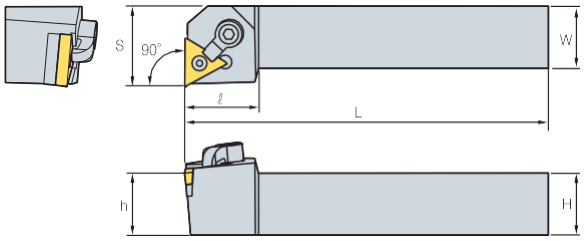
Designation		Stock	H	W	L	S	h	ε	Insert	Clamp	ClampScrew	Shim	ShimPin	Wrench
MTENN	**2020-K16**		20	20	125	10	20	32	TN□□1604□□	HL1813	ML0625	MT1603	CTM513	L2.5 L3
	2525-M16		25	25	150	12.5	25	32						
	2525-M22		25	25	150	12.5	25	35	TN□□2204□□	HL1917	ML0830	MT2204	CTM617	L2.5 L4

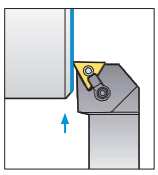
• : Stock item

MTFNR/L



TN□□





90°

• R type insert

(mm)

Designation		Stock R	Stock L	H	W	L	S	h	ε	Insert	Clamp	ClampScrew	Shim	ShimPin	Wrench
MTFNR/L	**1616-H16**			16	16	100	20	16	32	TN□□1604□□	HL1813	ML0625	MT1603	CTM513	L2.5 L3
	2020-K16			20	20	125	25	20	32						
	2525-M16			25	25	150	32	25	32						
	2525-M22			25	25	150	32	25	32	TN□□2204□□	HL1917	ML0830	MT2204	CTM617	L2.5 L4
	3232-P22			32	32	170	40	32	32						
	4040-S22			40	40	250	50	40	32						

• : Stock item

BESTELLBEISPIEL: PSDNN2020 + K12 › *Orderingexample: PSDNN2020 + K12*

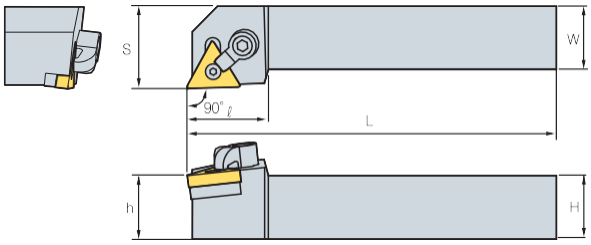
Tools Holder

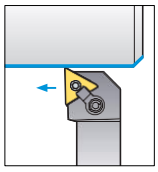
DREHEN - HEBEL SPANN SYSTEM › *Turning - Lever lock System*

MTGNR/L



TN□□





90°

• R type insert

(mm)

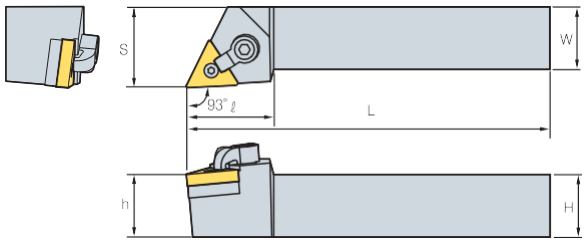
Designation		Stock R	Stock L	H	W	L	S	h	ε	Insert	Clamp	ClampScrew	Shim	ShimPin	Wrench
MTGNR/L	**1616-H16**			16	16	100	20	16	32	TN□□1604□□	HL1813	ML0625	MT1603	CTM513	L2.5 L3
	2020-K16			20	20	125	25	20	32						
	2525-M16			25	25	150	32	25	32						
	2525-M22			25	25	150	32	25	32	TN□□2204□□	HL1917	ML0830	MT2204	CTM617	L2.5 L4
	3232-P22			32	32	170	40	32	32						

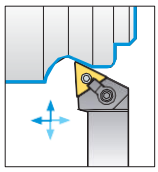
• : Stock item

MTJNR/L



TN□□





93°

• R type insert

(mm)

Designation		Stock R	Stock L	H	W	L	S	h	ε	Insert	Clamp	ClampScrew	Shim	ShimPin	Wrench
MTJNR/L	**2020-K16**			20	20	125	25	20	32	TN□□1604□□	HL1813	ML0625	MT1603	CTM513	L2.5 L3
	2525-M16	•		25	25	150	32	25	32						
	2525-M22			25	25	150	32	25	32	TN□□2204□□	HL1917	ML0830	MT2204	CTM617	L2.5 L4
	3232-P22			32	32	170	40	32	32						

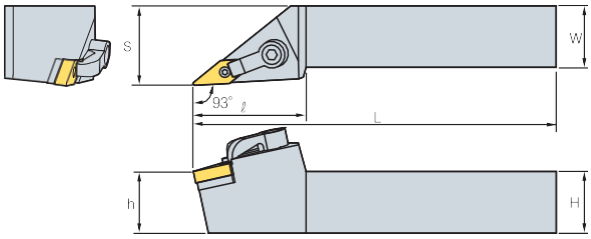
• : Stock item

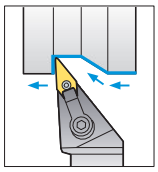
DREHEN - HEBEL SPANN SYSTEM › *Turning - Lever lock System*

MVJNR/L



VN□□





93°

• R type insert

(mm)

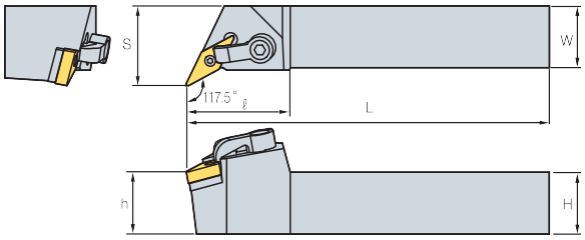
Designation		Stock R	Stock L	H	W	L	S	h	ε	Insert	Clamp	ClampScrew		ShimPin	Wrench
MVJNR/L	**2020-K16**			20	20	125	25	20	37	VN□□1604□□	HL2414	ML0625	MV1603	CTM513	L2.5 L3
	2525-M16			25	25	150	32	25	37						
	3232-P16			32	32	170	40	32	37						

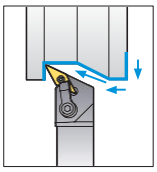
• : Stock item

MVQNR/L



VN□□





117.5°

• R type insert

(mm)

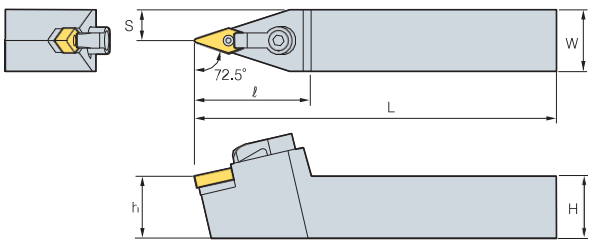
Designation		Stock R	Stock L	H	W	L	S	h	ε	Insert	Clamp	ClampScrew		ShimPin	Wrench
MVQNR/L	**2020-K16**			20	20	125	25	20	37	VN□□1604□□	HL2414	ML0625	MV1603	CTM513	L2.5 L3
	2525-M16			25	25	150	32	25	37						
	3232-P16			32	32	170	40	32	37						

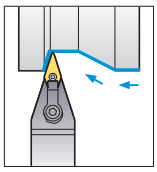
• : Stock item

MVVNN



VN□□





72.5°

(mm)

Designation		Stock	H	W	L	S	h	ε	Insert	Clamp	ClampScrew	Shim	ShimPin	Wrench
MVVNN	**2020-K16**	•	20	20	125	25	20	42	VN□□1604□□	HL2414	ML0625	MV1603	CTM513	L2.5 L3
	2525-M16	•	25	25	150	32	25	42						

• : Stock item

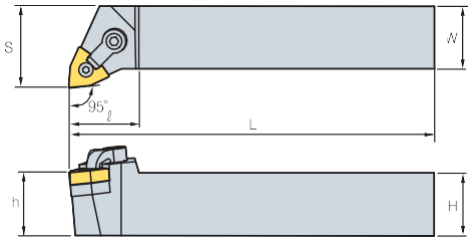
DREHEN - HEBEL SPANN SYSTEM › *Turning - Lever lock System*

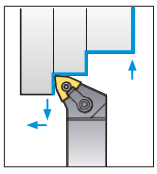
MWLNR/L



WN□□







95°

• R type insert

(mm)

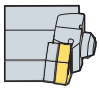
Designation		Stock R	Stock L	H	W	L	S	h	ε	Insert	Clamp	ClampScrew	Shim	ShimPin	Wrench
MWLNR/L	2020-K06			20	20	125	25	20	32	WN□□0604□□	HL1813	ML0625	MW0603	CTM513	L2.5 L3
	2525-M06			25	25	150	32	25	32						
	3232-P06			32	32	170	40	32	32						
	2020-K08	•		20	20	125	25	20	32	WN□□0804□□	HL1813	ML0625	MW0804	CTM617	L2.5 L3
	2525-M08	•	•	25	25	150	32	25	32						
	3232-P08			32	32	170	40	32	32						

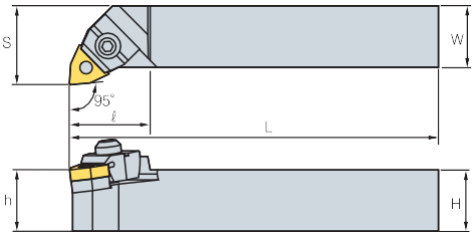
• : Stock item

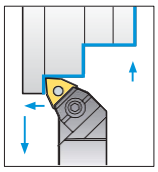
WWLNR/L



WN□□







95°

• R type insert

Designation		Stock R	Stock L	H	W	L	S	h	ε	Insert	WedgeClamp	Screw	C-Ring	Shim	ShimPin	Wrench
WWLNR/L	2020-K08	•	•	20	20	125	25	20	32	WN□□0804□□	WW-Y	M6-25L	CR05	SW0804	CTM618	L3 L4
	2525-M08	•	•	25	25	150	32	25	33							

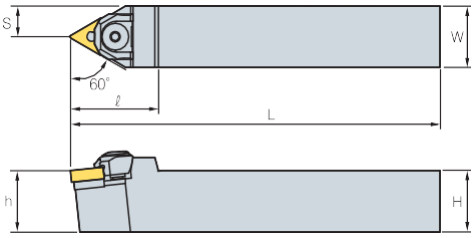
• : Stock item

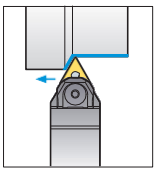
WTENN



TN□□







60°

• R type insert

(mm)

Designation		Stock	H	W	L	S	h	ε	Insert	WedgeClamp	Screw	StopperRing	Shim	ShimPin	Wrench
WTENN	2020-K16	•	20	20	125	10	20	36	TN □□1604□□	WT-Y	M5-25L	CR04	ST1603	CTM515	L3-L4
	2525-M16	•	25	25	150	12.5	25	36							

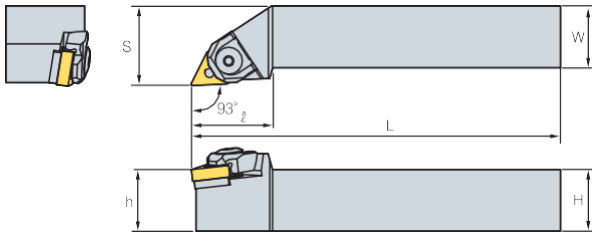
• : Stock item

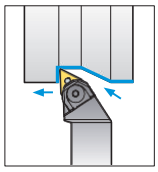
DREHEN - HEBEL SPANN SYSTEM › *Turning - Lever lock System*

WTJNR/L



TN□□





93°

• R type insert

(mm)

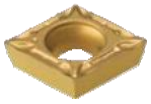
Designation		Stock	H	W	L	S	h	ε	Insert	Wedge Clamp	Screw	Stopper Ring	Shim	Shim Pin	Wrench
WTJNR/L	**2020-K16**	•	20	20	125	10	20	36	TN□□1604□□	WT-Y	M5-25L	CR04	ST1603	CTM515	L3-L4
	2525-M16	•	25	25	150	12.5	25	36							

• : Stock item

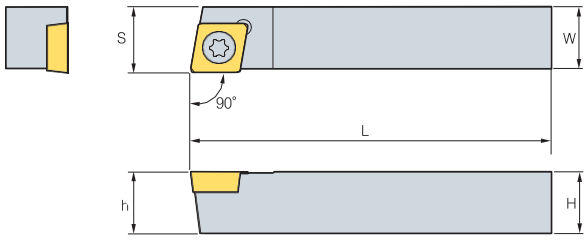
Tools Holder

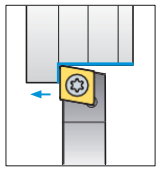
DREHEN - HEBEL SPANN SYSTEM › *Turning - Lever lock System*

SCACR/L



CC□□





90°

• R type insert

(mm)

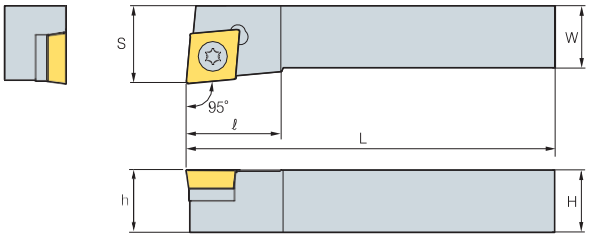
Designation		Stock R	Stock L	H	W	L	S	h	Insert	Screw	Shim	ShimScrew	Wrench
SCACR/L	**1010-E06**		•	10	10	70	10.5	10	CC□□0602□□	4008-M2.5x6	-	-	T08
	1212-F09			12	12	80	12.5	12	CC□□09T3□□	4015-M3.5x11	-	-	T15

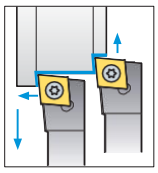
• : Stock item

SCLCR/L



CC□□





95°

• R type insert

(mm)

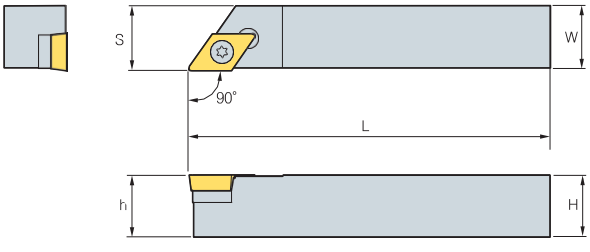
Designation		Stock R	Stock L	H	W	L	S	h	ε	Insert	Screw	Shim	ShimScrew	Wrench
SCLCR/L	**0808-D06**	•	•	08	08	60	10	08	10	CC□□0602□□	4008-M2.5x6	-	-	T07
	1010-E06	•	•	10	10	70	16	10	10					
	1212-F09	•	•	12	12	80	20	12	16	CC□□09T3□□	4015-M3.5X9			
	1616-H09	•	•	16	16	100	20	16	16		4015-M3.5X11			T15
	2020-K09	•	•	20	20	125	25	20	16		4015-M3.5X14			
	2020-K12	•	•	20	20	125	25	20	25	CC□□1204□□	1020-M5x11	AACN-2-0003	AAV-07-M4.5X13	T20 L4
	2525-M12	•	•	25	25	150	32	25	26					

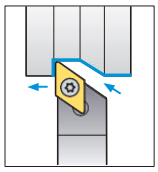
• : Stock item

SDACR/L



DC□□





90°

• R type insert

(mm)

Designation		Stock R	Stock L	H	W	L	S	h	Insert	Screw	Shim	ShimScrew	Wrench
SDACR/L	**1010-E07**			10	10	70	10.5	10	DC□□0702□□	4008-M2.5x6	-	-	T8
	1212-F11	•		12	12	80	12.5	12	DC□□11T3□□	4015-M3.5X9	-	-	T15
	1616-H11	•		16	16	100	16.5	16		4015-M3.5X11	AADN-20001	AAV-06-M3.5X11	T15

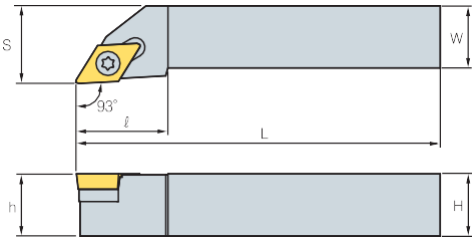
• : Stock item

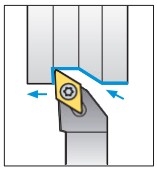
SDJCR/L



DC□□







93°

• R type insert

(mm)

Designation		Stock R	Stock L	H	W	L	S	h	ε	Insert	Screw	Shim	ShimScrew	Wrench
SDJCR/L	**1010-E07**	•		10	10	70	12	10	15	DC□□0702□□	4008-M2.5x6	-	-	T8
	1212-F07	•	•	12	12	80	16	12	15					
	1616-H07	•		16	16	100	20	16	18					
	2020-K07	•	•	20	20	125	25	20	15					
	1212-F11	•		12	12	80	16	12	15	DC□□11T3□□	4015-M3.5X11	AADN-2.0001	AAV-06-M3.5X11	T15
	1616-H11	•	•	16	16	100	20	16	24					
	2020-K11	•	•	20	20	125	25	20	24					
	2525-M11	•	•	25	25	150	32	25	29					

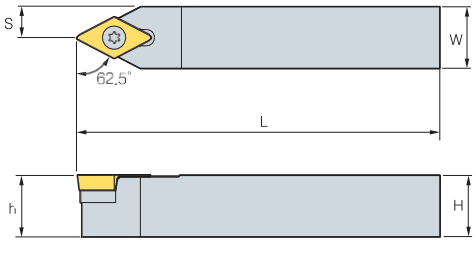
• : Stock item

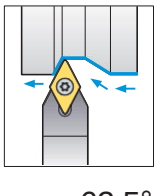
SDNCN



DC□□







62.5°

(mm)

Designation		Stock	H	W	L	S	h	Insert	Screw	Shim	ShimScrew	Wrench
SDNCN	**1010-E07**	•	10	10	70	5	10	DC□□0702□□	4008-M2.5x6	-	-	T8
	1212-F07	•	12	12	80	6	12					
	1212-H11	•	12	12	100	6	12	DC□□11T3□□	4015-M3.5X9	-	-	T15
	1616-H11	•	16	16	100	8	16	DC□□11T3□□	4015-M3.5X11	AADN-2.0001	AAV-06-M3.5X11	T15
	2020-K11	•	20	20	125	10	20					

• : Stock item

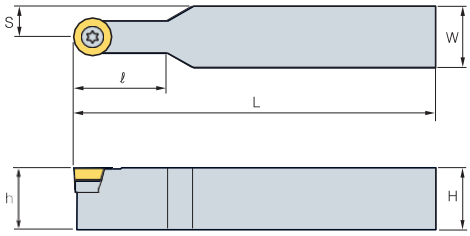
DREHEN - HEBEL SPANN SYSTEM › *Turning - Lever lock System*

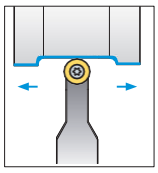
SRDCN



RCGT







(mm)

Designation		Stock	H	W	L	S	h	ε	Insert	Screw	Shim	ShimScrew	Wrench
SRDCN	**1010-E06**		10	10	70	5	10	10	RCGT 0602M0	3008-M2.5x6	-	-	T8
	1212-F06	•	12	12	80	6	12	12					
	1616-H06		16	16	100	8	16	12					
	2525-M06	•	25	25	150	12.5	25	20					
	1616-H08	•	16	16	100	8	16	16	RCGT 0803M0	3008-M3x8	-	-	T8
	2020-K08		20	20	125	10	20	20					
	2525-M08	•	25	25	150	12.5	25	20					
	1616-H10		16	16	100	8	16	25	RCGT 1003M0	4015-M3.5x11			T15
	2020-K10	•	20	20	125	10	20	25					
	2525-M10	•	25	25	150	12.5	25	25					
	2020-K12		20	20	125	10	20	28	RCGT 1204M0	4015-M3.5x11			T15
	2525-M12	•	25	25	150	12.5	25	28					

Applicable inserts **B82**

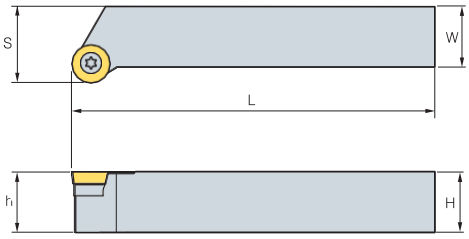
• : Stock item

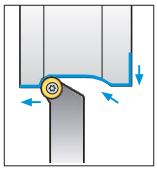
SRGCR/L



RCGT







• R type insert

(mm)

Designation		Stock R	Stock L	H	W	L	S	h	Insert	Screw	Shim	ShimScrew	Wrench
SRGCR/L	**1010-E06**			10	10	70	12	10	RCGT 0602M0	3008-M2.5x6	-	-	T8
	1212-F06	•		12	12	80	16	12					
	1616-H06			16	16	100	20	16					
	1616-H08			16	16	100	20	16	RCGT 0803M0	3008-M3x8	-	-	T8
	2020-K08			20	20	125	25	20					
	2525-M08			25	25	150	32	25					
	1616-H10			16	16	100	20	16	RCGT 1003M0	4015-M3.5x11			T15
	2020-K10	•	•	20	20	125	25	20					
	2525-M10			25	25	150	32	25					
	2020-K12	•	•	20	20	125	25	20	RCGT 1204M0	4015-M3.5x11			T15
	2525-M12	•	•	25	25	150	32	25					

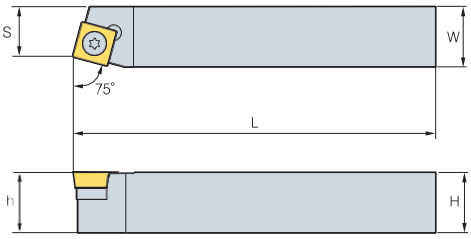
• : Stock item

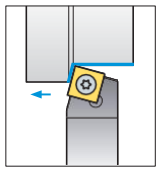
SSBCR/L



SC□□







75°

• R type insert

(mm)

Designation		Stock R	Stock L	H	W	L	S	h	Insert	Screw	Shim	ShimScrew	Wrench
SSBCR/L	1212-F09			12	12	80	11	12	SC□□09T3□□	4015-M3.4X11	-	-	T15
	1616-H09	•		16	16	100	13	16		4015-M3.4X11	AASN-2-0001	AAV-06-M3.5X11	T15
	2020-K12			20	20	125	17	20	SC□□1204□□	4020-M4.5X12	AASN-2-0004	AAV-07-M4.5X13	T15

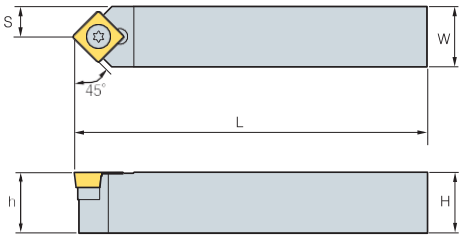
• : Stock item

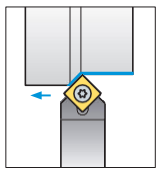
SSDCN



SC□□







45°

(mm)

Designation		Stock	H	W	L	S	h	Insert	Screw	Shim	ShimScrew	Wrench
SSDCN	1212-F09	•	12	12	80	6	12	□□ □□ SC 09T3	4015-M3.4X11	-	-	T15
	1616-H09	•	16	16	100	8	16		4015-M3.4X11	AASN-2-0004	AAV-06-M3.5X11	T15

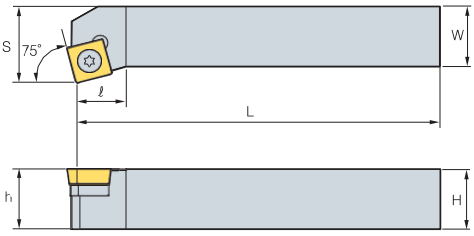
• : Stock item

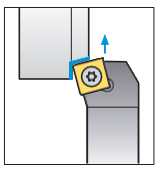
SSKCR/L



SC□□







75°

• R type insert

(mm)

Designation		Stock R	Stock L	H	W	L	S	h	ε	Insert	Screw	Shim	ShimScrew	Wrench
SSKCR/L	1616-H09			16	16	100	20	16	13	SC□□ 09T3 □□	4015-M3.4X11	AASN-2-0004	AAV-06-M3.5X11	T15

• : Stock item

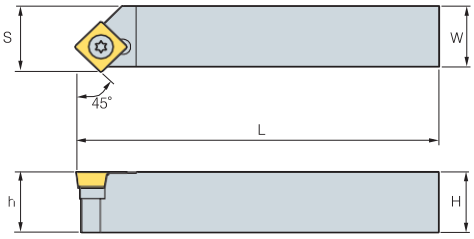
DREHEN - HEBEL SPANN SYSTEM › *Turning - Lever lock System*

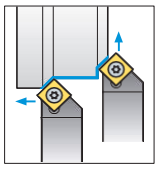
SSSCR/L



SC□□







45°

• R type insert

(mm)

Designation		Stock R	Stock L	H	W	L	S	h	Insert	Screw	Shim	ShimScrew	Wrench
SSSCR/L	**1616-H09**	•		16	16	100	17	16	SC□□09T3□□	FTGA03512	SS32S	SHXN0509F	TW15P, HW35L
	2020-K12	•	•	20	20	125	21	20	SC□□1204□□	FTGA0411F	SS42S	SHXN0610F	TW15P, HW40L
	2525-M12	•	•	25	25	150	26	25	SC□□1204□□	FTGA0411F	SS42S	SHXN0610F	TW15P, HW40L

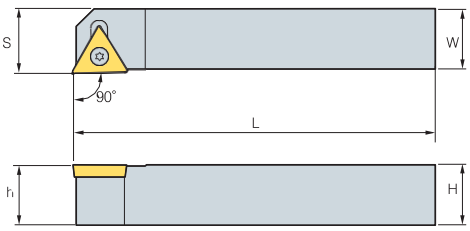
• : Stock item

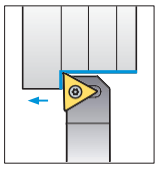
STACR/L



TC□□







90°

• R type insert

(mm)

Designation		Stock R	Stock L	H	W	L	S	h	Insert	Screw	Shim	ShimScrew	Wrench
STACR/L	**1010-E09**			10	10	70	10.5	10	TC□□0902□□	FTKA02206	-	-	TW06P
	1212-F11	•		12	12	80	12.5	12	TC□□1102□□	FTKA02565	-	-	TW07P

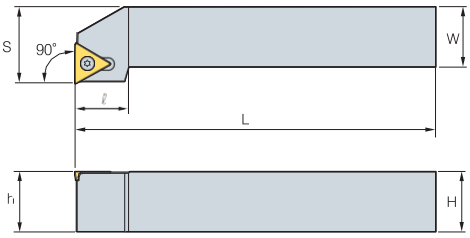
• : Stock item

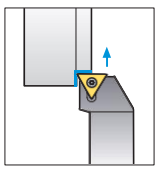
STFCR/L



TC□□







90°

• R type insert

(mm)

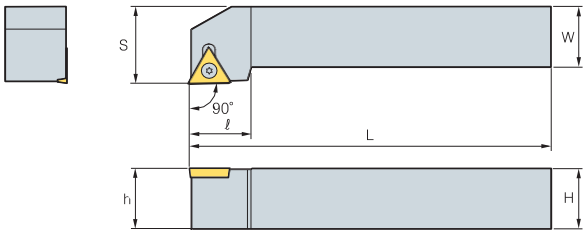
Designation		Stock R	Stock L	H	W	L	S	h	ε	Insert	Screw	Shim	ShimScrew	Wrench
STFCR/L	**1010-E09**			10	10	70	12	10	10	TC□□0902□□	FTKA02206	-	-	TW06P
	1212-F11	•		12	12	80	16	12	14	TC□□1102□□	FTKA02565	-	-	W07P
	1616-H11	•		16	16	100	20	16	14					
	1616-H16			16	16	100	20	16	19	TC□□16T3□□	FTGA03512	ST32S	SHXN0509F	TW15P, HW35L
	2020-K16	•	•	20	20	125	25	20	19					
	2525-M16	•	•	25	25	150	32	25	25.2	TC□□16T3□□	FTGA03512	ST32S	SHXN0509F	TW15P, HW35L

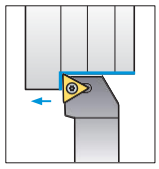
• : Stock item

STGCR/L



TC□□





90°

• R type insert

(mm)

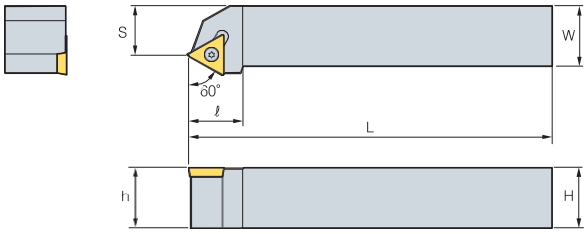
Designation		Stock R	Stock L	H	W	L	S	h	ε	Insert	Screw	Shim	ShimScrew	Wrench
STGCR/L	0808-D09			08	08	60	10	08	11	TC□□0902□□	FTKA02206	-	-	TW06P
	1010-E09	•		10	10	70	12	10	11					
	1212-F11	•	•	12	12	80	16	12	14	TC□□1102□□	FTKA02565	-	-	TW07P
	1616-H11	•	•	16	16	100	20	16	16					
	1616-H16	•	•	16	16	100	20	16	21	TC□□16T3□□	FTGA03512	ST32S	SHXN0509F	TW15P, HW35L
	2020-K16	•	•	20	20	125	25	20	21					
	2525-M16	•	•	25	25	150	32	25	21					

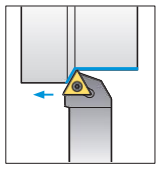
• : Stock item

STTCR/L



TC□□





60°

• R type insert

(mm)

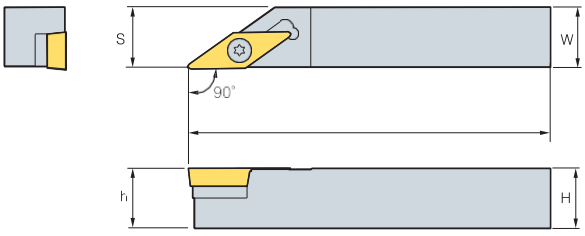
Designation		Stock R	Stock L	H	W	L	S	h	ε	Insert	Screw	Shim	ShimScrew	Wrench
STTCR/L	1616-H11			16	16	100	13	16	14	TC□□1102□□	FTKA02565	-	-	TW07P
	1616-H16			16	16	100	13	16	19	TC□□16T3□□	FTGA03512	ST32S	SHXN0509F	TW15P, HW35L
	2020-K16			20	20	125	17	20	19					

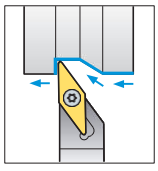
• : Stock item

SVABR/L



VB□□





90°

• R type insert

(mm)

Designation		Stock R	Stock L	H	W	L	S	h	Insert	Screw	Shim	ShimScrew	Wrench
SVABR/L	1616-H16			16	16	100	16.5	16	VB□□1604□□	FTGA03512	SV32S	SHXN0509F	TW15P, HW35L
	2020-K16			20	20	125	20.5	20					

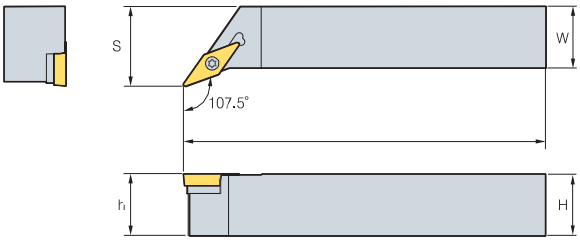
• : Stock item

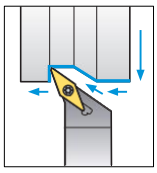
DREHEN - HEBEL SPANN SYSTEM › *Turning - Lever lock System*

SVHBR/L



VB□□





107.5°
• R type insert
(mm)

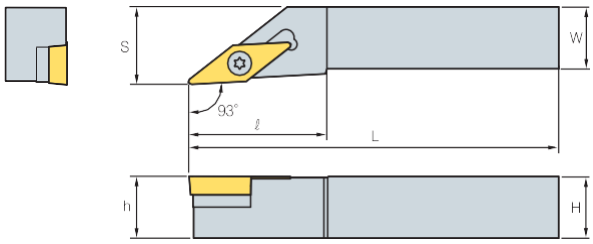
Designation		Stock R	Stock L	H	W	L	S	h	Insert	Screw	Shim	ShimScrew	Wrench
SVHBR/L	**2525-M16**	•	•	25	25	150	32	25	VB□□1604□□	FTGA03512	SV32S	SHXN0509F	TW15P, HW35L
	3225-P16	•	•	32	25	170	32	32					

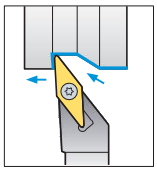
• : Stock item

SVJBR/L



VB□□





93°
• R type insert
(mm)

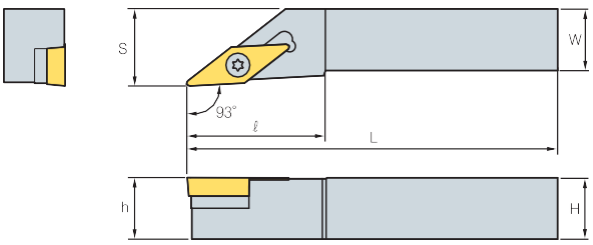
Designation		Stock R	Stock L	H	W	L	S	h	ε	Insert	Screw	Shim	ShimScrew	Wrench
SVJBR/L	**1212-F11**	•	•	12	12	80	16	12	27	VB□□1102□□	FTKA02565	-	-	TW07P
	1616-H11	•		16	16	100	20	16	27					
	2020-K11	•	•	20	20	125	25	20	27					
	1616-H16	•		16	16	100	20	16	36	VB□□1604□□	FTGA03512	SV32S	SHXN0509F	TW15P, HW35L
	2020-K16	•	•	20	20	125	25	20	41					
	2525-M16	•	•	25	25	150	32	25	41	VB□□1604□□	FTGA03512	SV32S	SHXN0509F	TW15P, HW35L
	3225-P16	•	•	32	25	170	32	32	55					
	3232-P16	•		32	32	170	40	33	55					

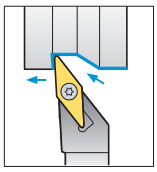
• : Stock item

SVJCR/L



VC□□





93°
• R type insert
(mm)

Designation		Stock R	Stock L	H	W	L	S	h	ε	Insert	Screw	Shim	ShimScrew	Wrench
SVJCR/L	**1212-F11**	•		12	12	80	16	12	25	VC□□1103□□	FTKA02565	-	-	TW07P
	1616-H11	•		16	16	100	20	16	25					
	2020-K11	•	•	20	20	125	25	20	25					
	1212-F13			12	12	80	16	12	32	VC□□1303□□	FTKA0307	-	-	TW09P
	1616-H13			16	16	100	20	16	32					
	2020-K13	•		20	20	125	25	20	32					
	1616-H16			16	16	100	20	16	40	VC□□1604□□	FTGA03512	SV32S	SHXN0509F	TW15P HW35L
	2020-K16	•	•	20	20	125	25	20	40					
	2525-M16	•	•	25	25	150	32	25	40					

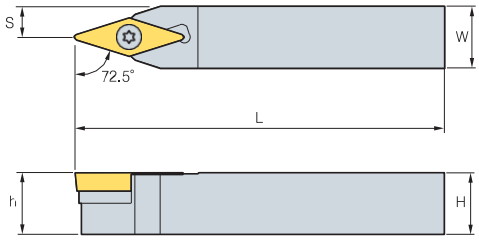
• : Stock item

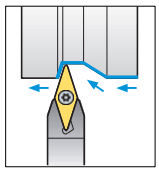
SVVBN



VB□□







72.5°

(mm)

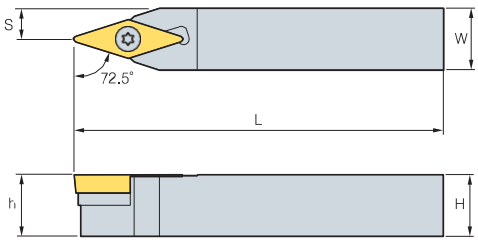
Designation		Stock	H	W	L	S	h	Insert	Screw	Shim	ShimScrew	Wrench
SVVBN	**1212-F11**	•	12	12	80	6	12	VB□□1102□□	FTKA02565	-	-	TW07P
	1616-H11		16	16	100	8	16					
	2020-K11	•	20	20	125	10	20					
	1616-H16	•	16	16	100	8	16	VB□□1604□□	FTGA03512	SV32S	SHXN0509F	TW15P, HW35L
	2020-K16	•	20	20	125	10	20					
	2525-M16	•	25	25	150	12.5	25					
	3225-P16	•	32	25	170	12.5	32					

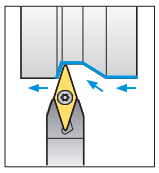
SVVCN



VC□□







72.5°

(mm)

Designation		Stock	H	W	L	S	h	Insert	Screw	Shim	ShimScrew	Wrench
SVVCN	**1212-F11**	•	12	12	80	6	12	VC□□1103□□	FTKA02565	-	-	TW07P
	1616-H11		16	16	100	8	16					
	2020-K11	•	20	20	125	10	20					
	1212-F13		12	12	80	6	12	VC□□1303□□	FTNA0307	-	-	TW09P
	1616-H13		16	16	100	8	16					
	2020-K13		20	20	125	10	20					
	1616-H16		16	16	100	8	16	VC□□1604□□	FTGA03512	SV32S	SHXN0509F	TW15P HW35L
	2020-K16	•	20	20	125	10	20					
	2525-M16	•	25	25	150	12.5	25					

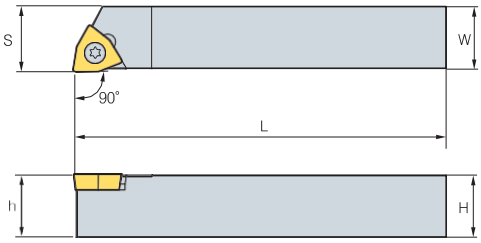
• : Stock item

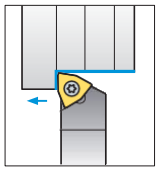
SWACR/L



WC□□







90°

• R type insert

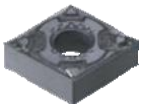
(mm)

Designation		Stock R	Stock L	H	W	L	S	h	Insert	Screw	Wrench
SWACR/L	**1010-E04**			10	10	70	10.1	10	WC□□0402□□	FTKA02565	TW07P
	1212-F04			12	12	80	12.1	12			
	1616-H06			16	16	100	16.1	16	WC□□06T3□□	FTGA03508	TW15P
	2020-K08			20	20	125	20.1	20	WC□□0804□□	FTGA0411F	TW15P

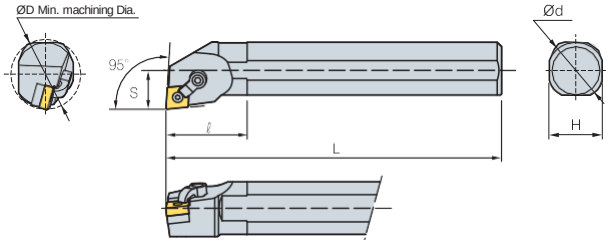
• : Stock item

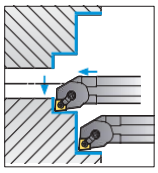
DREHEN - HEBEL SPANN SYSTEM › *Turning - Lever lock System*

MCLNR/L



CN□□





• R type insert 95°

(mm)

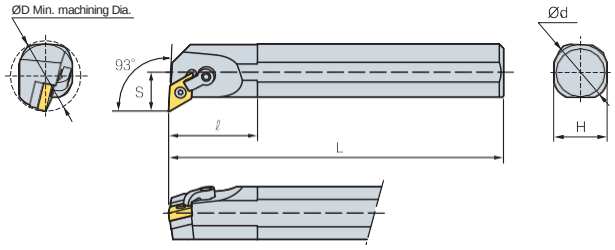
Designation	Stock R	Stock L	ØD	Ød	H	L	S	A	Insert	Clamp	ClampScrew	Shim	Shim pin	Wrench
S20S-MCLNR/L-09			25	20	18	250	13	30	CN□□0903□□	CDH7N	DHA1032-19	-	SP3D3	HW19.8L HW23.8L
S25R-MCLNR/L-09			32	25	23	200	17	36						
S25R-MCLNR/L-12	•		32	25	23	200	17	36	CN□□1204□□	CDH6N	DHA1/4-21	-	SP4DS	HW31.8L HW23.8L
S32S-MCLNR/L-12	•		40	32	30	250	22	50				SC43D	SP4D	
S40T-MCLNR/L-12			50	40	37	300	27	60						
A25R-MCLNR/L-12			32	25	23	200	17	40	CN□□1204□□	CDH6N	DHA1/4-21	-	SP4DS	HW31.8L HW23.8L
A32S-MCLNR/L-12			40	32	30	250	22	50				SC43D	SP4D	

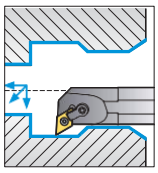
• : Stock item

MDUNR/L



DN□□





• R type insert 93°

(mm)

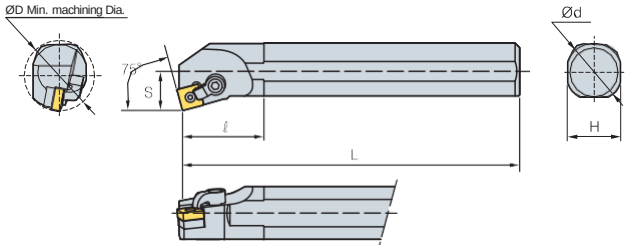
Designation	Stock R	Stock L	ØD	Ød	H	L	S	A	Insert	Clamp	ClampScrew	Shim	Shim pin	Wrench
S32S-MDUNR/L-15-3			40	32	30	250	22	50	DN□□1504□□	CDH6N	DHA1/4-21	SD43D	SP4D	HW31.8L HW23.8L
S40T-MDUNR/L-15-3			50	40	37	300	27	60						
A32S-MDUNR/L-15-3			40	32	30	250	22	50						

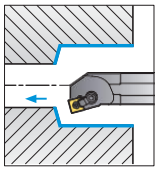
• : Stock item

MSKNR/L



SN□□





• R type insert 75°

(mm)

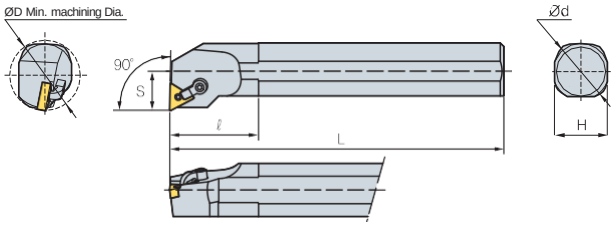
Designation	Stock R	Stock L	ØD	Ød	H	L	S	A	Insert	Clamp	ClampScrew	Shim	Shim pin	Wrench
S25R-MSKNR/L-12			32	25	23	200	17	36	SN□□1204□□	CDH8N1	DHA5/16-28	-	SP4DS	HW39.7L HW23.8L
S32S-MSKNR/L-12			40	32	30	250	22	50				SS43D	SP4D	
S40T-MSKNR/L-12			50	40	37	300	27	60						
A25R-MSKNR/L-12			32	25	23	200	17	40	SN□□1204□□	CDH8N1	DHA5/16-28	-	SP4DS	HW39.7L HW23.8L
A32S-MSKNR/L-12			40	32	30	250	22	50				SS43D	SP4D	
A40T-MSKNR/L-12			50	40	37	300	27	60						

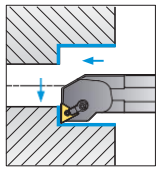
• : Stock item

MTFNR/L



TN□□





• R type insert 90°

(mm)

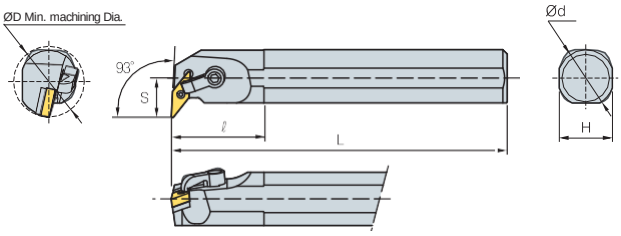
Designation	Stock R	Stock L	ØD	Ød	H	L	S	A	Insert	Clamp	ClampScrew	Shim	Shim pin	Wrench
S25R-MTFNR/L-16			32	25	23	200	17	36	TN□□1604□□	CDH7N1	DHA1032-19	-	SP3D3	HW23.8L
S32S-MTFNR/L-16			40	32	30	250	22	50		CDH7N1	DHA1032-19	ST32D	SP3D	HW19.8L
S40T-MTFNR/L-16			50	40	37	300	27	60						
A25R-MTFNR/L-16			32	25	23	200	17	40	TN□□1604□□	CDH7N1	DHA1032-19	-	SP3D3	HW23.8L
A32S-MTFNR/L-16			40	32	30	250	22	50		CDH7N1	DHA1032-19	ST32D	SP3D	HW19.8L

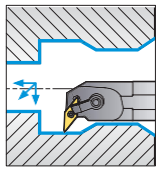
• : Stock item

MVUNR/L



VN□□





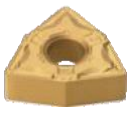
• R type insert 93°

(mm)

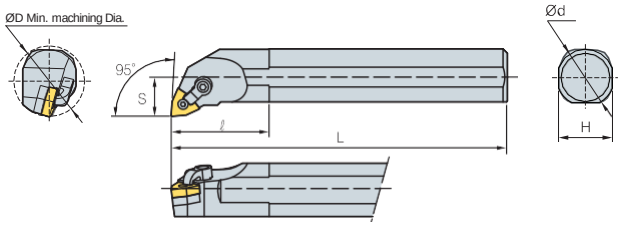
Designation	Stock R	Stock L	ØD	Ød	H	L	S	A	Insert	Clamp	ClampScrew	Shim	Shim pin	Wrench
S32S-MVUNR/L-16			40	32	30	250	22	50	VN□□1604□□	CDH8N2	DHA5/16-28	SV32D	SP3D	HW39.7L HW19.8L
S40T-MVUNR/L-16			50	40	37	300	27	60						
A32S-MVUNR/L-16			40	32	30	250	22	50	VN□□1604□□	CDH8N2	DHA5/16-28	SV32D	SP3D	HW39.7L HW19.8L
A40T-MVUNR/L-16			50	40	37	300	27	60						

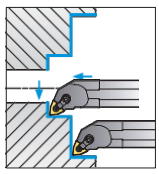
• : Stock item

MWLNR/L



WN□□





• R type insert 95°

(mm)

Designation	Stock R	Stock L	ØD	Ød	H	L	S	A	Insert	Clamp	ClampScrew	Shim	Shim pin	Wrench
S25R-MWLNR/L-06	•		32	25	23	200	17	36	WN□□0604□□	CDH7N	DHA1032-19	-	SP3D3	HW23.8L HW19.8L
S32S-MWLNR/L-06			40	32	30	250	22	50				SW32D	SP3D	
S40T-MWLNR/L-06			50	40	37	300	27	60						
S25R-MWLNR/L-08	•	•	32	25	23	200	17	36	WN□□0804□□	CDH6N	DHA1/4-21	-	SP4DS	HW31.8L HW23.8L
S32S-MWLNR/L-08	•		40	32	30	250	22	50				SW43D	SP4D	
S40T-MWLNR/L-08	•		50	40	37	300	27	60						
A25R-MWLNR/L-06			32	25	23	200	17	40	WN□□0604□□	CDH7N	DHA1032-19	-	SP3D3	HW31.8L HW19.8L
A32S-MWLNR/L-06			40	32	30	250	22	50				SW32D	SP3D	
A25R-MWLNR/L-08			32	25	23	200	17	40	WN□□0804□□	CDH6N	DHA1/4-21	-	SP4DS	HW31.8L HW23.8L
A32S-MWLNR/L-08			40	32	30	250	22	50				SW43D	SP4D	

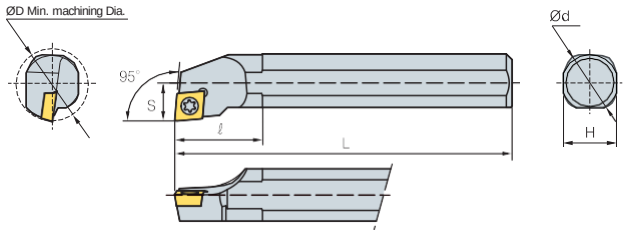
• : Stock item

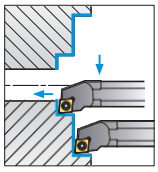
DREHEN - HEBEL SPANN SYSTEM › *Turning - Lever lock System*

SCLCR/L



CC□□





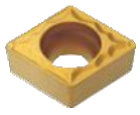
• R type insert 95°

(mm)

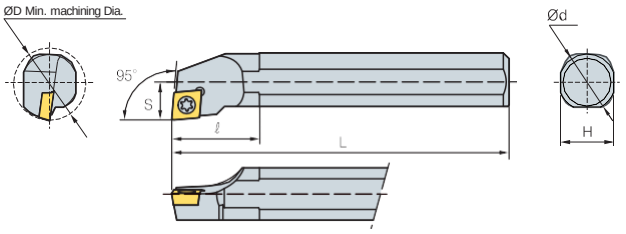
Designation	Stock		ØD	Ød	H	L	S	A	Insert	Screw	Shim	ShimScrew	Wrench
	R	L											
S08K-SCLCR/L-06	•	•	10	8	7	125	5	14	CC□□0602□□	FTKA02555			TWO7
S10K-SCLCR/L-06	•		12	10	9	125	6	14		FTKA02565	-	-	TWO7P
S10M-SCLCR/L-06			12	10	9	150	6	14					
S12M-SCLCR/L-06	•	•	16	12	11	150	9	25					
S16R-SCLCR/L-06	•		20	16	15	200	11	32					
S12M-SCLCR/L-09	•	•	16	12	11	150	9	25	CC□□09T3□□	FTGA03508	-	-	TW15P
S16R-SCLCR/L-09	•	•	20	16	15	200	11	32.5					
S20S-SCLCR/L-09	•	•	25	20	18	250	13	38					
S25R-SCLCR/L-09	•	•	32	25	23	200	17	45		FTGA03510			TW15P
S25R-SCLCR/L-12	•	•	32	25	23	200	17	45	CC□□1204□□	FTGA0411F	-	-	TW15P
S32S-SCLCR/L-12	•	•	40	32	30	250	22	50		FTGA0411F	SC42S	SHXN0610F	HW40L TW15P
S40T-SCLCR/L-12	•	•	50	40	37	300	27	60					
A08F-SCLCR/L-06			10	8	7.5	80	5	14	CC□□0602□□	FTKA02555	-	-	TW07P
A10H-SCLCR/L-06			12	10	9.5	100	6	14		FTKA02565	-	-	TW07P
A12K-SCLCR/L-06			16	12	11	125	9	25					
A12K-SCLCR/L-09			16	12	11	125	9	25	CC□□09T3□□	FTGA03508	-	-	TW15P
A16M-SCLCR/L-09			20	16	15	150	11	32.5					
A20Q-SCLCR/L-09	•		25	20	19	180	13	-					
A25R-SCLCR/L-09			32	25	24	200	17	45		FTGA03510	-	-	TW15P
A25R-SCLCR/L-12			32	25	24	200	17	45	CC□□1204□□	FTGA0411F	-	-	TW15P
A32S-SCLCR/L-12			40	32	31	250	32	50		FTGA0411F	SC42S	SHXN0610F	HW40L TW15P

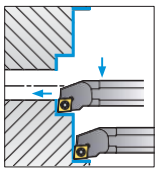
• : Stock item

SCLPR/L



CP□□





• R type insert 95°

(mm)

Designation	Stock		ØD	Ød	H	L	S	A	Insert	Screw	Wrench
	R	L									
S10M-SCLPR/L-08	•		12	10	9	150	6	-	CP□□0802□□	FTNA0305	TW09P
S12M-SCLPR/L-08	•		16	12	11	150	8	15		FTNA0307	TW09P
S16N-SCLPR/L-09	•		20	16	15	160	10	15	CP□□0903□□	FTNA0408	TW15P
S16R-SCLPR/L-09	•		20	16	15	200	11	35			
S20N-SCLPR/L-09	•		25	20	18	160	12.5	20			
S20S-SCLPR/L-09	•		25	20	15	250	12.5	20			
A10H-SCLPR/L-08			12	10	9.5	100	9	-	CP□□0802□□	FTNA0305	TW09P
A12K-SCLPR/L-08			16	12	11	125	8	20		FTNA0307	TW09P
A16M-SCLPR/L-09			20	16	15	150	10	25	CP□□0903□□	FTNA0408	TW15P
A20Q-SCLPR/L-09			25	20	19	180	12.5	28			

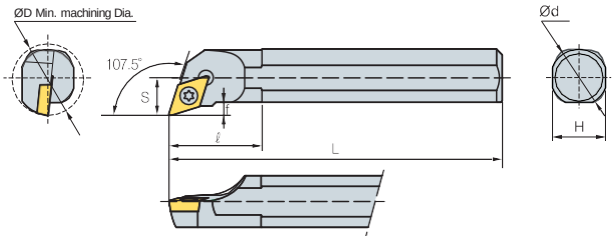
• : Stock item

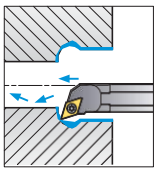
www.megacutting.com

SDQCR/L



DC□□





• R type insert 107.5°

(mm)

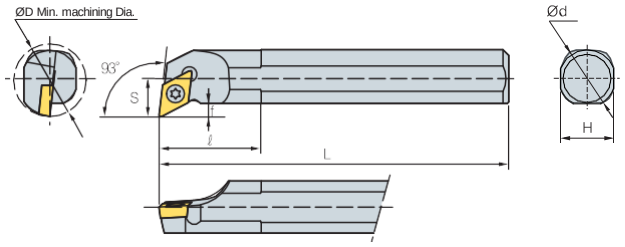
Designation	Stock		ØD	Ød	H	L	S	A	f	Insert	Screw	Wrench
	R	L										
S10M-SDQCR/L-07	•	•	13	10	9	150	7	20	2.5	DC□□0702□□	FTKA02555	TW07P
S12M-SDQCR/L-07	•	•	16	12	11	150	9	22	3.5		FTGA03510	TW07P
S16R-SDQCR/L-07	•	•	20	16	15	200	11	27	4			
S16R-SDQCR/L-11	•	•	20	16	15	200	11	32	4	DC□□11T3□□	FTGA03508	TW15P
S20S-SDQCR/L-11	•	•	25	20	18	250	13	32	4.5			
S25R-SDQCR/L-11	•	•	32	25	23	200	17	32	7		FTGA03510	TW15P
A10H-SDQCR/L-07			13	10	9.5	100	7	20	2	DC□□0702□□	FTKA02555	TW07P
A12K-SDQCR/L-07			16	12	11	125	9	22	3		FTKA02565	TW07P
A16M-SDQCR/L-11			20	16	15	150	11	27	3	DC□□11T3□□	FTGA03508	TW15P
A20Q-SDQCR/L-11			25	20	19	180	13	32	3			
A25R-SDQCR/L-11			32	25	24	200	17	32	4		FTGA03510	TW15P

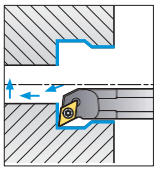
• : Stock item

SDUCR/L



DC□□





• R type insert 93°

(mm)

Designation	Stock		ØD	Ød	H	L	S	A	f	Insert	Screw	Wrench
	R	L										
S10M-SDUCR/L-07	•	•	13	10	9	150	7	-	2.5	DC□□0702□□	FTKA02555	TW07P
S12M-SDUCR/L-07	•	•	16	12	11	150	9	22	3.5		FTKA02565	TW07P
S16R-SDUCR/L-07	•	•	20	16	15	200	11	27	4			
S16R-SDUCR/L-11	•	•	20	16	15	200	11	27	4	DC□□11T3□□	FTGA03508	TW15P
S20S-SDUCR/L-11	•	•	25	20	18	250	13	35	4.3			
S25R-SDUCR/L-11	•	•	32	25	23	200	17	46	6.8		FTGA03510	TW15P
S32S-SDUCR/L-11	•	•	40	32	30	250	22	50	8.4			
A10H-SDUCR/L-07			13	10	9.5	100	7	-	2	DC□□0702□□	FTKA02555	TW07P
A12K-SDUCR/L-07			16	12	11	125	9	22	3		FTKA02565	TW07P
A16M-SDUCR/L-07			20	16	15	150	11	27	3			
A20Q-SDUCR/L-11			25	20	19	180	13	35	3	DC□□11T3□□	FTGA03508	TW15P
A25R-SDUCR/L-11	•		32	25	24	200	17	46	4.5		FTGA03510	TW15P

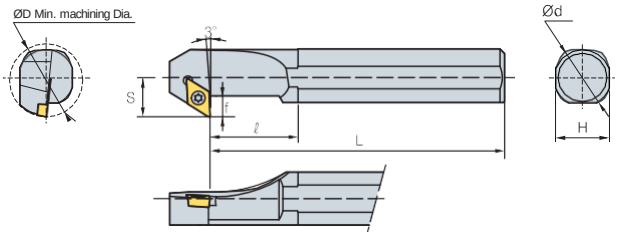
• : Stock item

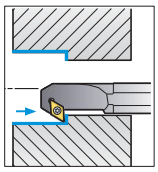
DREHEN - HEBEL SPANN SYSTEM › *Turning - Lever lock System*

SDZCR/L



DC□□





• R type insert 3°

(mm)

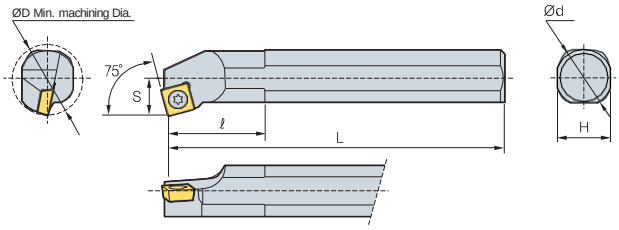
Designation	Stock R	Stock L	ØD	Ød	H	L	S	A	f	Insert	Screw	Shim	ShimScrew	Wrench
S16R-SDZCR/L-07	•		20	16	15	200	11	29	4	DC□□0702□□	FTKA02565	-	-	TW07P
S20S-SDZCR/L-07	•		25	20	18	250	13	36.5	4.5					
S25R-SDZCR/L-11	•		32	25	23	200	17	30	6.9	DC□□11T3□□	FTGA03510	-	-	TW15P
S32S-SDZCR/L-11	•		40	32	30	250	22	39	8.4		FTGA03512	SD32S	SHXN0509F	TW15P, HW35L
S40T-SDZCR/L-11	•		50	40	37	300	27	47	9.4					
A25R-SDZCR/L-11			32	25	24	200	17	30	4.5		FTGA03510	-	-	TW15P
A32S-SDZCR/L-11			40	32	31	250	22	39	6		FTGA03512	SD32S	SHXN0509F	TW15P,HW35L

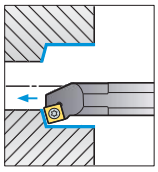
• : Stock item

SSKCR/L



SC□□





• R type insert 75°

(mm)

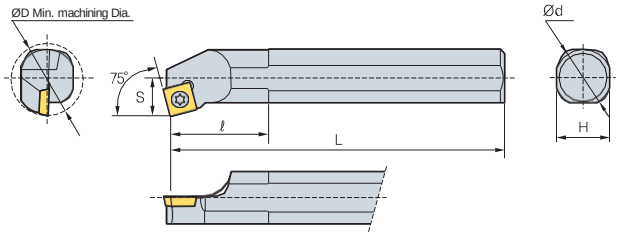
Designation	Stock R	Stock L	ØD	Ød	H	L	S	A	Insert	Screw	Shim	ShimScrew	Wrench
S12M-SSKCR/L-09	•		16	20	11	150	9	26	SC□□09T3□□	FTGA03507	-	-	TW15P
S16R-SSKCR/L-09	•		20	16	15	200	11	40		FTGA03508	-	-	TW15P
S20S-SSKCR/L-09	•		25	20	18	250	13	46					
S25R-SSKCR/L-12	•		32	25	23	200	17	36	SC□□1204□□	FTGA0411F	SS42S	SHXN0610F	TW15P
S32S-SSKCR/L-12	•		40	32	30	250	22	43			SS42S	SHXN0610F	TW15P,HW40L
A12K-SSKCR/L-09			16	12	11	125	9	26	SC□□09T3□□	FTGA03507			TW15P
A16M-SSKCR/L-09			20	16	15	150	11	32		FTGA03508	-	-	
A20Q-SSKCR/L-09			25	20	19	180	13	34		TW15P			
A25R-SSKCR/L-12			32	25	24	200	17	36	SC□□1204□□	FTGA0411F	SS42S	SFXN0610F	TW15P
A32S-SSKCR/L-12			40	32	31	250	22	43		FTGA0411F	SS42S	SFXN0610F	TW15P,HW40L

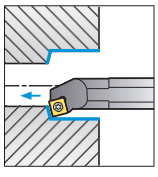
• : Stock item

SSKPR/L



SP□□





• R type insert 75°

(mm)

Designation	Stock R	Stock L	ØD	Ød	H	L	S	A	Insert	Screw	Wrench
S12M-SSKPR/L-09	•	•	16	12	11	150	8	18	SP□□0903□□	FTNA0307	TW09P
S16N-SSKPR/L-09			20	16	15	160	10	30			
S16R-SSKPR/L-09	•		20	16	15	200	10	32			
S20N-SSKPR/L-09			25	20	18	160	12.5	32			
S20S-SSKPR/L-09	•		25	20	18	250	12.5	35			
A12K-SSKPR/L-09			16	12	11	125	8	21	SP□□0903□□	FTNA0305	TW09P
A16M-SSKPR/L-09			20	16	15	150	10	30		FTNA0307	
A20Q-SSKPR/L-09			25	20	19	180	12.5	32		TW09P	

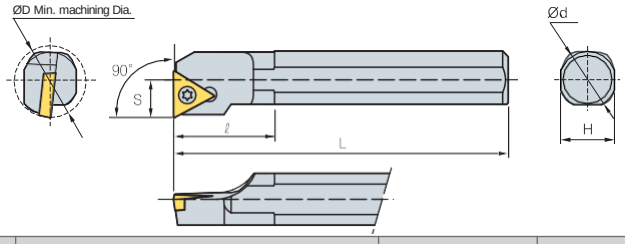
• : Stock item

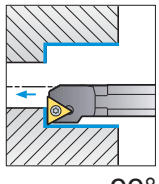
www.megacutting.com

STFCR/L



TC□□





• R type insert 90°

(mm)

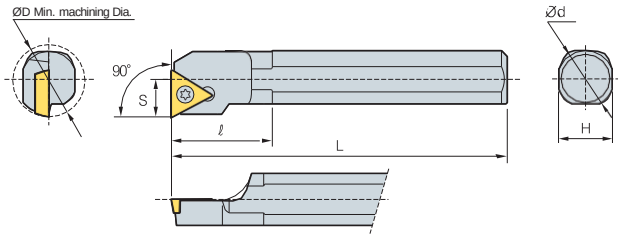
Designation	Stock		ØD	Ød	H	L	S	A	Insert	Screw	Shim	ShimScrew	Wrench
	R	L											
S10M-STFCR/L-09	•	•	13	10	9	150	7	23	TC□□0902□□	FTKA02206	-	-	TW06P
S12M-STFCR/L-09	•		16	12	11	150	9	28					
S12M-STFCR/L-11	•	•	16	12	11	150	9	30	TC□□1102□□	FTKA02565	-	-	TW07P
S16R-STFCR/L-11	•	•	20	16	15	200	11	35					
S20S-STFCR/L-11	•	•	25	20	18	250	13	36					
S20S-STFCR/L-16	•		25	20	18	250	13	36	TC□□16T3□□	FTGA03510	-	-	TW15P
S25R-STFCR/L-16	•	•	32	25	23	200	17	49					
S32S-STFCR/L-16	•		40	32	30	250	22	50	TC□□16T3□□	FTGA03512	ST32S	SHXN0509F	TW15P,HW35L
S40T-STFCR/L-16	•		50	40	37	300	27	60					
A10H-STFCR/L-09			13	10	9.5	100	7	23	TC□□0902□□	FTKA02206	-	-	TW06P
A12K-STFCR/L-09			16	12	11	125	9	23					
A12K-STFCR/L-11			16	12	11	125	9	30					
A16M-STFCR/L-11	•		20	16	15	150	11	30	TC□□1102□□	FTKA02565	-	-	TW07P
A20Q-STFCR/L-11			25	20	19	180	13	36					
A25R-STFCR/L-16			32	25	24	200	17	49	TC□□16T3□□	FTKA03510	-	-	TW15P
A32S-STFCR/L-16			40	32	31	250	22	50		FTGA03512	ST32S	SHXN0509F	TW15P,HW35L

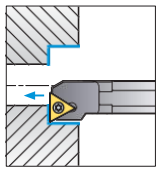
• : Stock item

STFPR/L



TP□□





• R type insert 90°

(mm)

Designation	Stock		ØD	Ød	H	L	S	A	Insert	Screw	Wrench
	R	L									
S10M-STFPR/L-11	•		12	10	9	150	6	–	TP□□1103□□	FTNA0305	TW09P
S12M-STFPR/L-11	•		16	12	11	150	8	10		FTNA0307	TW09P
S16N-STFPR/L-11	•		20	16	15	160	10	12			
S16R-STFPR/L-11	•	•	20	16	15	200	10	12			
S20N-STFPR/L-16	•		25	20	18	160	12.5	32	TP□□1604□□	FTNA0408	TW15P
S20S-STFPR/L-16	•		25	20	18	250	12.5	14			
A10H-STFPR/L-11			12	10	9.5	100	6	–	TP□□1103□□	FTNA0305	TW09P
A12K-STFPR/L-11			16	12	11	125	8	10		FTNA0307	TW09P
A16M-STFPR/L-11			20	16	15	150	10	23			
A20Q-STFPR/L-16			25	20	19	180	12.5	41	TP□□1604□□	FTNA0408	TW15P

• Use left handed insert for right handed holder

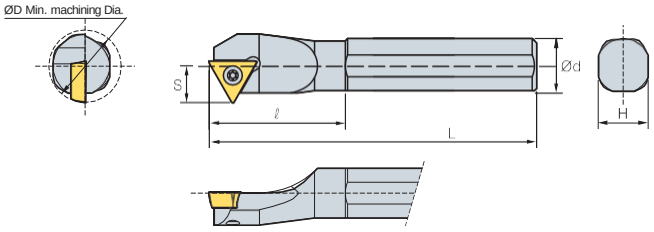
• : Stock item

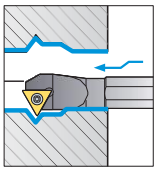
DREHEN - HEBEL SPANN SYSTEM › *Turning - Lever lock System*

STWPR/L



TP□□





• R type insert 60°

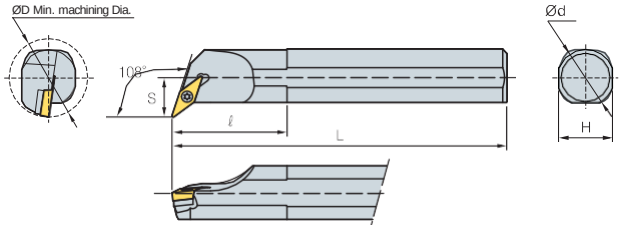
(mm)

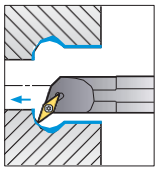
Designation	Stock		ØD	Ød	H	L	S	A	Insert	Screw	Wrench
	R	L									
S10M-STWPR/L-11	•		12	10	9	150	6	23	TPGH1102□□	FTNA0305	TW09P
S12M-STWPR/L-11	•		16	12	11	150	8	30	TPGH1103□□ TPMT1103□□	FTNA0306	TW09P
S16R-STWPR/L-11	•		20	16	15	180	10	35			
S20R-STWPR/L-11	•		25	20	19	200	12.5	40			

SVQBR/L



VB□□





• R type insert 108°

(mm)

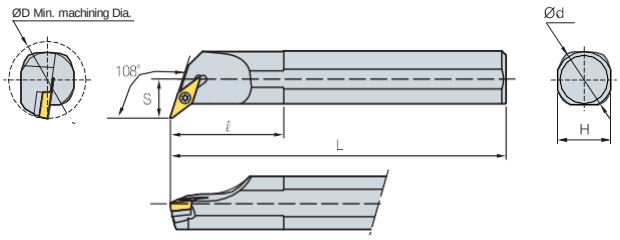
Designation	Stock		ØD	Ød	H	L	S	A	Insert	Screw	Shim	ShimScrew	Wrench
	R	L											
S32S-SVQBR/L-16	•	•	40	32	30	250	22	56	VB□□1604□□	FTGA03512	SV32S	SHXN0509F	TW15P HW35L
S40T-SVQBR/L-16	•		50	40	37	300	27	64					
A32S-SVQBR/L-16			40	32	31	250	22	56					

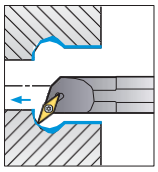
• : Stock item

SVQCR/L



VC□□





• R type insert 108°

(mm)

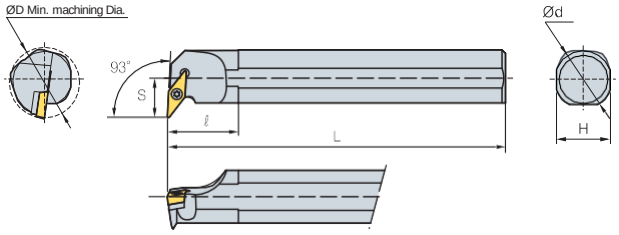
Designation	Stock		ØD	Ød	H	L	S	A	Insert	Screw	Shim	ShimScrew	Wrench
	R	L											
S16R-SVQCR/L-11	•		20	16	15	200	11	35	VC□□1103□□	FTKA02565	-	-	TW07P
S20S-SVQCR/L-11			25	20	18	250	13	38					
S25R-SVQCR/L-11			32	25	23	200	17	42					
S20S-SVQCR/L-13			25	20	18	250	13	42	VC□□1303□□	FTKA0307	-	-	TW09P
S25R-SVQCR/L-13			32	25	23	200	17	45					
S25R-SVQCR/L-16	•	•	32	25	23	200	17	50	VC□□1604□□	FTGA03510	-	-	TW15P
S32S-SVQCR/L-16	•		40	32	30	250	22	56		FTGA03512	SV32S	SHXN0509F	TW15P HW35L
S40T-SVQCR/L-16	•		50	40	37	300	27	64					

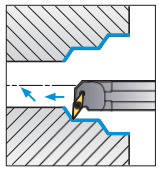
• : Stock item

SVUBR/L



VB□□





• R type insert 93°

(mm)

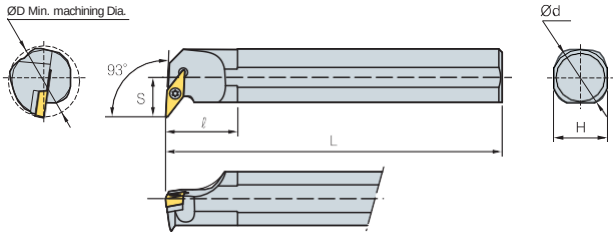
Designation	Stock R	Stock L	ØD	Ød	H	L	S	A	Insert	Screw	Shim	ShimScrew	Wrench
S32S-SVUBR/L-16	•	•	40	32	30	250	22	56	VB□□1604□□	FTGA03512	SV32S	SHXN0509F	TW15P HW35L
S40T-SVUBR/L-16	•		50	40	37	300	27	64					
A32S-SVUBR/L-16			40	32	31	250	22	56					

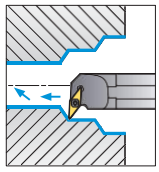
• : Stock item

SVUCR/L



VC□□





• R type insert 93°

(mm)

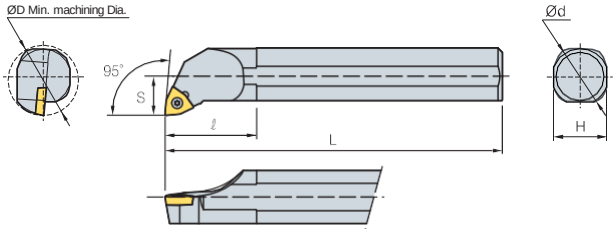
Designation	Stock R	Stock L	ØD	Ød	H	L	S	A	Insert	Screw	Shim	ShimScrew	Wrench
S16R-SVUCR/L-11	•		22	16	15	200	13	30	VC□□1103□□	FTKA02565	-	-	TW07P
S20S-SVUCR/L-11			25	20	18	250	14	33					
S25T-SVUCR/L-11			32	25	23	300	17	38					
S20S-SVUCR/L-13	•		28	20	18	250	16	35	VC□□1303□□	FTKA0307	-	-	TW09P
S25R-SVUCR/L-13			32	25	23	200	17	40					
S25R-SVUCR/L-16	•	•	32	25	23	200	19	50	VC□□1604□□	FTGA03510	-	-	TW15P
S32S-SVUCR/L-16	•		40	32	30	250	22	56		FTGA03512	SV32S	SHXN0509F	TW15P HW35L
S40T-SVUCR/L-16	•	•	50	40	37	300	27	64					

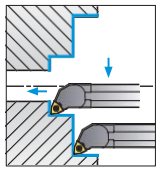
• : Stock item

SWLCR/L



WC□□





• R type insert 95°

(mm)

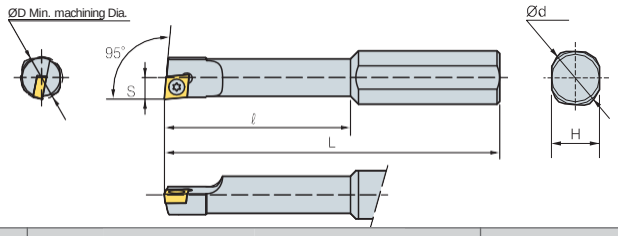
Designation	Stock R	Stock L	ØD	Ød	H	L	S	A	Insert	Screw	Wrench
S25R-SWLCR/L-08			32	25	23	200	17	46	WC□□0804□□	FTGA0411F	TW15P
S32S-SWLCR/L-08			40	32	30	250	22	51			
A25R-SWLCR/L-08			32	25	24	200	17	46	WC□□0804□□	FTGA0411F	TW15P
A32S-SWLCR/L-08			40	32	31	250	22	51			

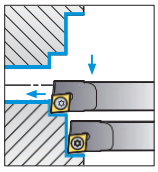
DREHEN - HEBEL SPANN SYSTEM › *Turning - Lever lock System*

SCLCR/L



CCET





• R type insert 95°

(mm)

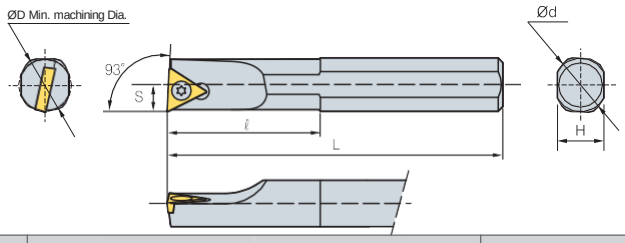
Designation	Stock R	Stock L	ØD	Ød	H	L	S	A	Insert	Screw	Wrench
S10H-SCLCR/L-0305			5	10	9	100	2.5	25	CCET 0301□□	FTNA01633	TW06P
S10H-SCLCR/L-0306			6	10	9	100	3.0	25			
S10J-SCLCR/L-0407			7	10	9	110	3.5	30	CCET 0401□□	FTNA0238	TW06P
S10J-SCLCR/L-0408			8	10	9	110	4.0	30			

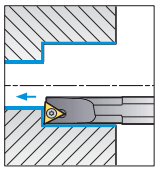
• : Stock item

STUBR/L



TB□□





• R type insert 93°

(mm)

Designation	Stock R	Stock L	ØD	Ød	H	L	S	A	Insert	Screw	Wrench
S08K-STUBR/L-06			8	8	7	125	4	30	TB□□0601□□R/L	FTNA0204	TW06P
A08F-STUBR/L-06			8	8	7.5	80	4	30			

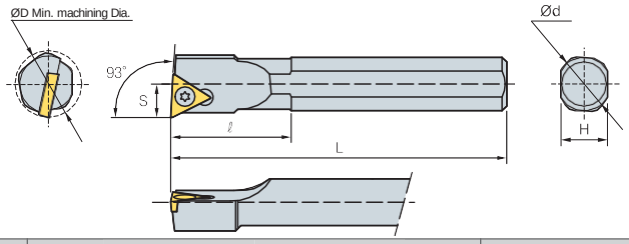
• Use left handed insert for right handed holder

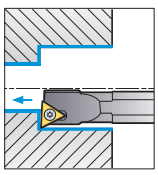
• : Stock item

STUPR/L



TP□□





• R type insert 93°

(mm)

Designation	Stock R	Stock L	ØD	Ød	H	L	S	A	Insert	Screw	Wrench
S08K-STUPR/L-08			10	8	7	125	4	18	TP□□0802□□R/L	FTNA02205	TW06P
A08F-STUPR/L-08			10	8	7.5	80	4	18			

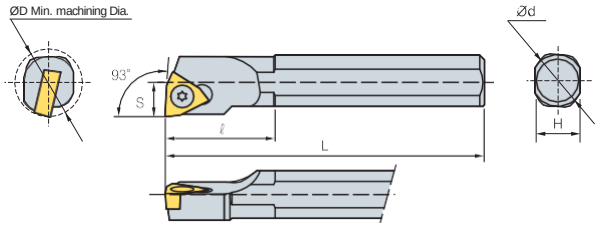
• Use left handed insert for right handed holder

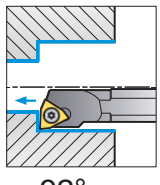
• : Stock item

SWUBR/L



WBGT





• R type insert 93°

(mm)

Designation	Stock R	Stock L	ØD	Ød	H	L	S	A	Insert	Screw	Wrench
S05H-SWUBR/L-02			5.5	5	4.5	100	2.75	-	WBGT 0201□□R/L	FTNA0203	TW06P
S08K-SWUBR/L-02			8	8	7	125	4	30		FTNA02033	
S08K-SWUBR/L-S3			10	8	7	125	5	18	WBGT S302 R/L	FTNA02205	TW06P
A08F-SWUBR/L-02			8	8	7.5	80	4	30	WBGT 0201 R/L	FTNA0203	TW06P
A08F-SWUBR/L-S3			10	8	7.5	80	5	16	WBGT S302 R/L	FTNA02205	TW06P

• Use left handed insert for right handed holder

• : Stock item

MEGACUT

6series

- ***ISO metric thread***
  ISO 미터 나사
- ***General pitch thread***
  일반 피치 나사
- ***Whitworth thread***
  휘트워스 스레드
- ***Unified thread***
  통합 스레드
- ***British standard pipe thread***
  영국 표준 파이프 나사
- ***American standard pipe thread***
  미국 표준 파이프 나사



Threading and Grooving insert

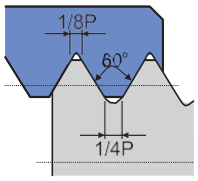
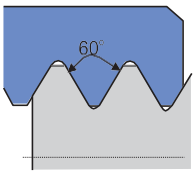
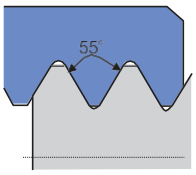
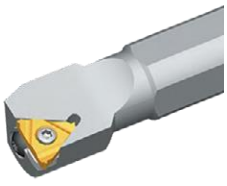
Fully ground high precision inserts for high quality, high precision threading in a variety of materials e.g. steel, stainless steel, hard-to-machine materials.

다양한 소재의 고품질 고정밀 나사 가공을 위한 완전 연마 고정밀 인서트. 강철, 스테인리스 강, 기계 가공이 어려운 재료.

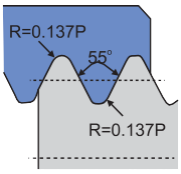
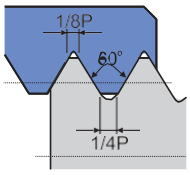
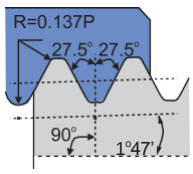
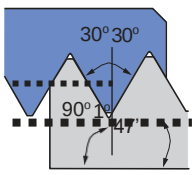
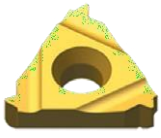
TURNING

MEGACUT

Threading , Grooving

Applications		For general use		
Legend				
Thread name		ISO metric thread With end	General pitch thread Without end	General pitch thread Without end
Profil		**GM**	**60**	**55**
Shape of insert (length: 11, 16, 22mm)		R style shown  A280-281	R style shown  A282	R style shown  A282
Tool holder \ Pitch	Dimensions (mm) (H×W×L) (Dia×L×Min. dia)	Pitch/mm	Pitch/mm (pitch/Inch)	Pitch/mm (pitch/Inch)
External thread	 R-type shown A288	16×16×100 20×20×125 25×25×150 32×25×170 32×32×170 40×40×250	0.5~6.0	0.5~5.0 (5~48)	0.5~5.0 (5~48)
Internal thread	 R-type shown A289	16×125×12 16×150×16 16×150×20 20×150×25 20×180×25 25×150×32 32×200×40 32×250×40 40×300×50 50×350×63	0.5~6.0	0.5~5.0 (5~48)	0.5~5.0 (5~48)

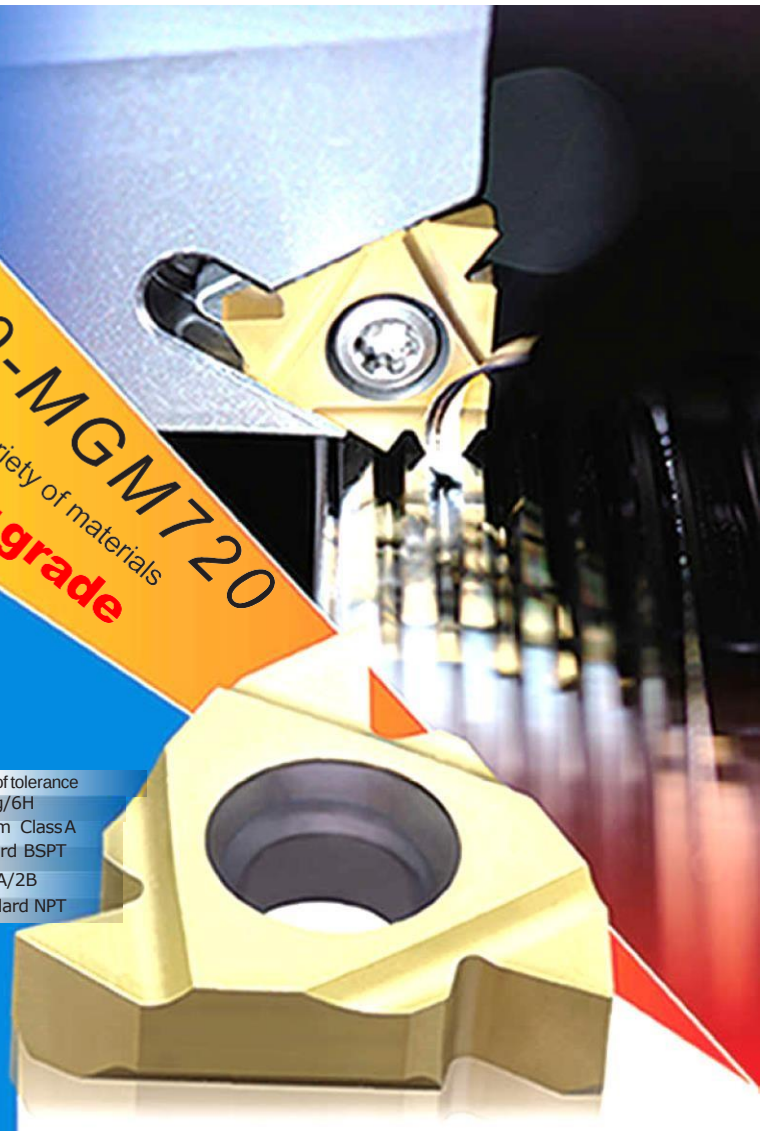
Threading tools overview

For general use	For aerospace industry	Heater, gas and water pipe thread	For gas and water faucet and pipe connection
			
Whitworth thread	Unified thread (American standard threads)	British standard taper piper threads	American standard taper pipe threads
W	**UN**	**BSPT**	**NPT**
R style shown  A283	R style shown  A284	R style shown  A285	R style shown  A286
Pitch/mm (pitch/Inch)	Pitch/mm (pitch/Inch)	Pitch/mm (pitch/Inch)	Pitch/mm (pitch/Inch)
8~19	8~24	11~28	8~27
8~19	8~24	11~28	8~27

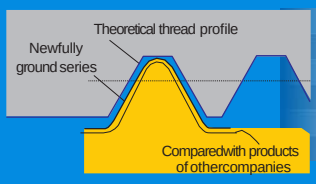
MGU540-MGM720

suitable for threading in a variety of materials

New nano coating grade



- **Specially treated edge for superior surface quality**
- **Sharp nose with small cutting resistance and superior performance**
- **Full ground inserts with high dimensional precision for high quality threading**



Thread type	Grade of tolerance
ISO metric thread	6g/6H
Whitworth thread W	Medium Class A
British standard pipe thread	Standard BSPT
Unified thread	2A/2B
American standard pipe thread	Standard NPT

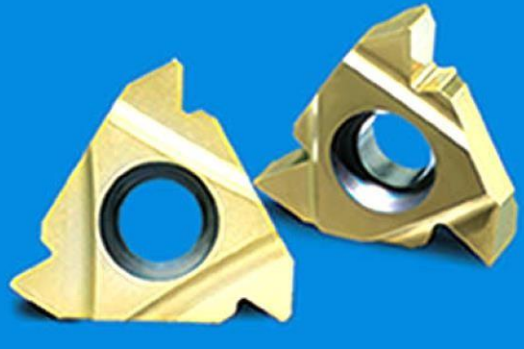
- **New nano coating grade specially designed for threading with longer insert life**



Advanced surface treatment techniques effectively reduce friction and allows for better wear observation.

Advanced TiAlN substrate nano coating, in combination with proper coating ingredients, improves the mechanical and thermal properties of coating.

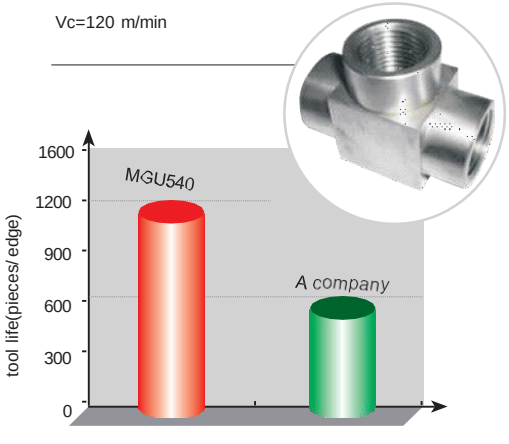
Further optimizing coating structre, improving coating stress, enhancing bond strength of coating and substrate.



Case:

Workpiece material: 42CrMo(HB260) Insert: 16ER 2.0ISO MGU540

Thread pitch: p=2.0mm Cutting data: Vc=120 m/min



84% tool life improvement of MEGACUT product than that of company A under the same cutting condition.

Threading tools overview

Threading insert

Threading inserts code key

Insert size

Code	Diameter of IC(mm)
11	**ø6.35**
16	**ø9.525**
22	**ø12.7**

Cutting style

E-External threading inserts

I-Internal threading inserts

Cutting direction

R-Righ

L-Left

16 E R 2.0 ISO (P)

Screw pitch

Full profile (Range of screw pitch is indicated by numbers).

mm	TPI
0.5-6.0	**48-5**

V profile (Range of screw pitch is indicated by letters).

	mm	TPI
A	**0.5-1.5**	**48-16**
AG	**0.5-3.0**	**48-8**
G	**1.75-3.0**	**14-8**
N	**3.5-5.0**	**7-5**

Thread specification	Range of thread pitch
ISO metric thread	**0.5-6.0**
General pitch thread	**0.5-5.0**
Whitworth thread W	**8-19**
British standard pipe thread	**11-28**
Unified thread	**8-24**
American standard pipe thread	**8-27**

Profile

ISO—ISO metric 60° thread

60—60° general pitch thread

55—55° general pitch thread

W—Whitworth thread

UN—Unified thread(American standard threads)

BSPT—British standard taper piper thread

NPT—American standard taper piper thread

Chip breaker

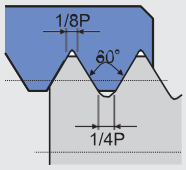
□-fully ground edge insert

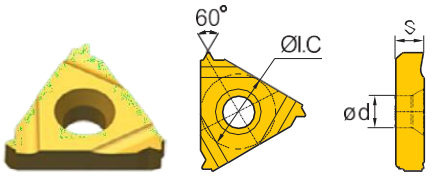
P –3-Dimensional chip-breaking insert

Threading insert

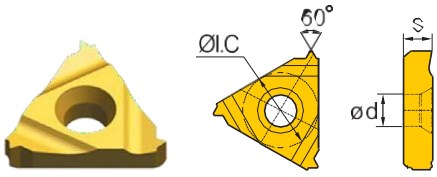
ISO metric thread (with end)

ISO 965-1980 DIN 13
GB/T 197-2003 Tolerance class：6g/6H





R type



L type

	Type		Basic dimensions(mm)				Recommended coating grade	
	The right hand tools	The left hand tools	Pitch	S	ØI.C	ød	MGU540	MGM720
External thread	16ER0.5ISO	16EL0.5ISO	0.50	3.52	9.525	4.0	★	○
	16ER0.75ISO	16EL0.75ISO	0.75	3.52	9.525	4.0	★	○
	16ER1.0ISO	16EL1.0ISO	1.00	3.52	9.525	4.0	★	○
	16ER1.25ISO	16EL1.25ISO	1.25	3.52	9.525	4.0	★	○
	16ER1.5ISO	16EL1.5ISO	1.50	3.52	9.525	4.0	★	○
	16ER1.75ISO	16EL1.75ISO	1.75	3.52	9.525	4.0	★	○
	16ER2.0ISO	16EL2.0ISO	2.00	3.52	9.525	4.0	★	○
	16ER2.5ISO	16EL2.5ISO	2.50	3.52	9.525	4.0	★	○
	16ER3.0ISO	16EL3.0ISO	3.00	3.52	9.525	4.0	★	○
	22ER3.5ISO	22EL3.5ISO	3.50	4.65	12.7	5.0	★	○
	22ER4.0ISO	22EL4.0ISO	4.00	4.65	12.7	5.0	★	○
	22ER4.5ISO	22EL4.5ISO	4.50	4.65	12.7	5.0	★	○
	22ER5.0ISO	22EL5.0ISO	5.00	4.65	12.7	5.0	★	○
	22ER5.5ISO	22EL5.5ISO	5.50	4.65	12.7	5.0	★	○
	22ER6.0ISO	22EL6.0ISO	6.00	4.65	12.7	5.0	★	○

★Recommended grade (always stock available) •Available grade (always stock available) ○Make-to-order

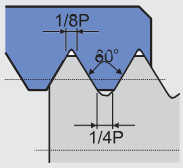
www.megacutting.com

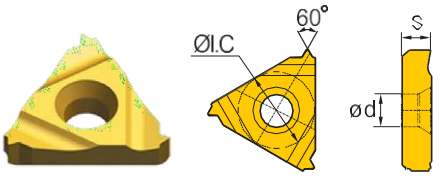
Threading tools overview

Threading insert

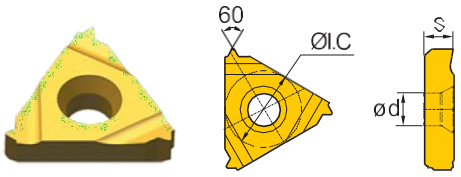
ISO metric thread (with end)

ISO 965-1980 DIN 13
GB/T 197-2003 Tolerance class：6g/6H





R type



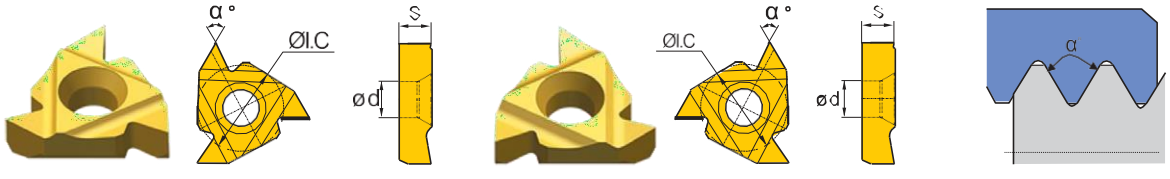
L type

	Type		Basic dimensions(mm)				Recommended coating grade	
	The right hand tools	The left hand tools	Pitch	S	ØI.C	ød	MGU540	MGM720
Internal thread	11IR0.5ISO	11IL0.5ISO	0.50	3.05	6.35	3.2	★	○
	11IR0.75ISO	11IL0.75ISO	0.75	3.05	6.35	3.2	★	○
	11IR1.0ISO	11IL1.0ISO	1.00	3.05	6.35	3.2	★	○
	11IR1.25ISO	11IL1.25ISO	1.25	3.05	6.35	3.2	★	○
	11IR1.5ISO	11IL1.5ISO	1.50	3.05	6.35	3.2	★	○
	11IR1.75ISO	11IL1.75ISO	1.75	3.05	6.35	3.2	★	○
	11IR2.0ISO	11IL2.0ISO	2.00	3.05	6.35	3.2	★	○
	16IR0.5ISO	16IL0.5ISO	0.50	3.52	9.525	4.0	★	○
	16IR0.75ISO	16IL0.75ISO	0.75	3.52	9.525	4.0	★	○
	16IR1.0ISO	16IL1.0ISO	1.00	3.52	9.525	4.0	★	○
	16IR1.25ISO	16IL1.25ISO	1.25	3.52	9.525	4.0	★	○
	16IR1.5ISO	16IL1.5ISO	1.50	3.52	9.525	4.0	★	○
	16IR1.75ISO	16IL1.75ISO	1.75	3.52	9.525	4.0	★	○
	16IR2.0ISO	16IL2.0ISO	2.00	3.52	9.525	4.0	★	○
	16IR2.5ISO	16IL2.5ISO	2.50	3.52	9.525	4.0	★	○
	16IR3.0ISO	16IL3.0ISO	3.00	3.52	9.525	4.0	★	○
	22IR3.5ISO	22IL3.5ISO	3.50	4.65	12.7	5.0	★	○
	22IR4.0ISO	22IL4.0ISO	4.00	4.65	12.7	5.0	★	○
	22IR4.5ISO	22IL4.5ISO	4.50	4.65	12.7	5.0	★	○
	22IR5.0ISO	22IL5.0ISO	5.00	4.65	12.7	5.0	★	○
	22IR5.5ISO	22IL5.5ISO	5.50	4.65	12.7	5.0	★	○
	22IR6.0ISO	22IL6.0ISO	6.00	4.65	12.7	5.0	★	○

★Recommended grade (always stock available) • Available grade (always stock available) ○ Make-to-order

Threading insert

General pitch thread (without end)



R type L type

		Type		Basic dimensions(mm)					Recommended coating grade	
		The right hand tools	The left hand tools	Pitch/mm (pitch/Inch)	S	ØI.C	ød	α°	MGU540	MGM720
External thread	55°	16ERA55	16ELA55	0.5-1.5(48-16)	3.52	9.525	4.0	55°	★	○
		16ERG55	16ELG55	1.75-3.0(14-8)	3.52	9.525	4.0	55°	★	○
		16ERAG55	16ELAG55	0.5-3.0(48-8)	3.52	9.525	4.0	55°	★	○
		22ERN55	22ELN55	3.5-5.0(7-5)	4.65	12.7	5.0	55°	★	○
	60°	16ERA60	16ELA60	0.5-1.5(48-16)	3.52	9.525	4.0	60°	★	○
		16ERG60	16ELG60	1.75-3.0(14-8)	3.52	9.525	4.0	60°	★	○
		16ERAG60	16ELAG60	0.5-3.0(48-8)	3.52	9.525	4.0	60°	★	○
		22ERN60	22ELN60	3.5-5.0(7-5)	4.65	12.7	5.0	60°	★	○

★Recommended grade (always stock available) • Available grade (always stock available) ○ Make-to-order



R type L type

		Type		Basic dimensions(mm)					Recommended coating grade	
		The right hand tools	The left hand tools	Pitch/mm (pitch/Inch)	S	ØI.C	ød	α°	MGU540	MGM720
Internal thread	55°	11IRA55	11ILA55	0.5-1.5(48-16)	3.05	6.35	3.2	55°	★	○
		16IRA55	16ILA55	0.5-1.5(48-16)	3.52	9.525	4.0	55°	★	○
		16IRG55	16ILG55	1.75-3.0(14-8)	3.52	9.525	4.0	55°	★	○
		16IRAG55	16ILAG55	0.5-3.0(48-8)	3.52	9.525	4.0	55°	★	○
		22IRN55	22ILN55	3.5-5.0(7-5)	4.65	12.7	5.0	55°	★	○
	60°	11IRA60	11ILA60	0.5-1.5(48-16)	3.05	6.35	3.2	60°	★	○
		16IRA60	16ILA60	0.5-1.5(48-16)	3.52	9.525	4.0	60°	★	○
		16IRG60	16ILG60	1.75-3.0(14-8)	3.52	9.525	4.0	60°	★	○
		16IRAG60	16ILAG60	0.5-3.0(48-8)	3.52	9.525	4.0	60°	★	○
		22IRN60	22ILN60	3.5-5.0(7-5)	4.65	12.7	5.0	60°	★	○

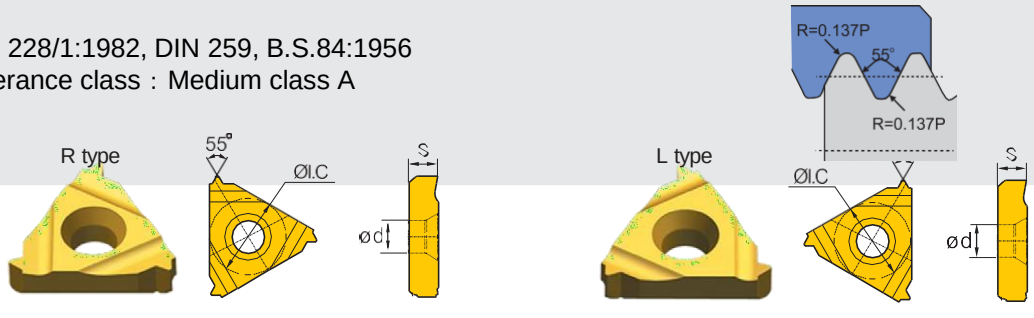
★Recommended grade (always stock available) • Available grade (always stock available) ○ Make-to-order

Threading tools overview

Whitworth thread (with end)

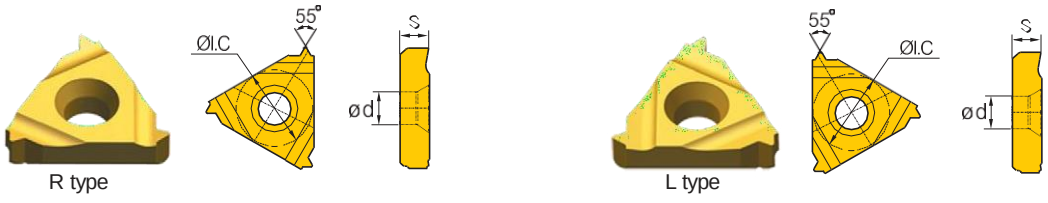
Threading insert

ISO 228/1:1982, DIN 259, B.S.84:1956
Tolerance class：Medium class A



	Type		Basic dimensions(mm)				Recommended coating grade	
	The right hand tools	The left hand tools	Pitch/mm (pitch/Inch)	S	ØI.C	ød	MGU540	MGM720
External thread	16ER8W	16EL8W	8	3.52	9.525	4.0	★	○
	16ER9W	16EL9W	9	3.52	9.525	4.0	★	○
	16ER10W	16EL10W	10	3.52	9.525	4.0	★	○
	16ER11W	16EL11W	11	3.52	9.525	4.0	★	○
	16ER12W	16EL12W	12	3.52	9.525	4.0	★	○
	16ER14W	16EL14W	14	3.52	9.525	4.0	★	○
	16ER16W	16EL16W	16	3.52	9.525	4.0	★	○
	16ER18W	16EL18W	18	3.52	9.525	4.0	★	○
	16ER19W	16EL19W	19	3.52	9.525	4.0	★	○

★Recommended grade (always stock available) • Available grade (always stock available) ○ Make-to-order



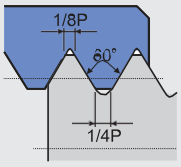
	Type		Basic dimensions(mm)				Recommended coating grade	
	The right hand tools	The left hand tools	Pitch/mm (pitch/Inch)	S	ØI.C	ød	MGU540	MGM720
Internal thread	16IR8W	16IL8W	8	3.52	9.525	4.0	★	○
	16IR9W	16IL9W	9	3.52	9.525	4.0	★	○
	16IR10W	16IL10W	10	3.52	9.525	4.0	★	○
	16IR11W	16IL11W	11	3.52	9.525	4.0	★	○
	16IR12W	16IL12W	12	3.52	9.525	4.0	★	○
	16IR14W	16IL14W	14	3.52	9.525	4.0	★	○
	16IR16W	16IL16W	16	3.52	9.525	4.0	★	○
	16IR18W	16IL18W	18	3.52	9.525	4.0	★	○
	16IR19W	16IL19W	19	3.52	9.525	4.0	★	○

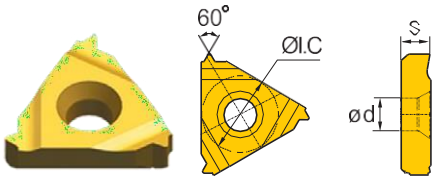
★Recommended grade (always stock available) • Available grade (always stock available) ○ Make-to-order

Threading insert

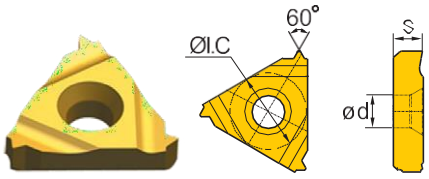
Unified thread (with end)

ASME B1.1-1989
Tolerance class：2A/2B





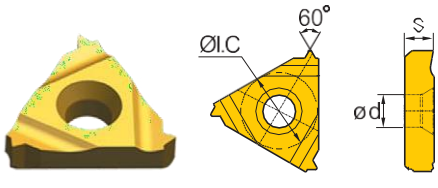
R type



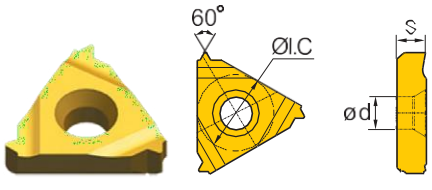
L type

	Type		Basic dimensions(mm)				Recommended coating grade	
	The right hand tools	The left hand tools	Pitch/mm (pitch/Inch)	S	ØI.C	ød	MGU540	MGM720
External thread	16ER8UN	16EL8UN	8	3.52	9.525	4.0	★	○
	16ER10UN	16EL10UN	10	3.52	9.525	4.0	★	○
	16ER12UN	16EL12UN	12	3.52	9.525	4.0	★	○
	16ER14UN	16EL14UN	14	3.52	9.525	4.0	★	○
	16ER16UN	16EL16UN	16	3.52	9.525	4.0	★	○
	16ER18UN	16EL18UN	18	3.52	9.525	4.0	★	○
	16ER20UN	16EL20UN	20	3.52	9.525	4.0	★	○
	16ER24UN	16EL24UN	24	3.52	9.525	4.0	★	○

★Recommended grade (always stock available) • Available grade (always stock available) ○ Make-to-order



R type



L type

	Type		Basic dimensions(mm)				Recommended coating grade	
	The right hand tools	The left hand tools	Pitch/mm (pitch/Inch)	S	ØI.C	ød	MGU540	MGM720
Internal thread	16IR8UN	16IL8UN	8	3.52	9.525	4.0	★	○
	16IR10UN	16IL10UN	10	3.52	9.525	4.0	★	○
	16IR12UN	16IL12UN	12	3.52	9.525	4.0	★	○
	16IR14UN	16IL14UN	14	3.52	9.525	4.0	★	○
	16IR16UN	16IL16UN	16	3.52	9.525	4.0	★	○
	16IR18UN	16IL18UN	18	3.52	9.525	4.0	★	○
	16IR20UN	16IL20UN	20	3.52	9.525	4.0	★	○
	16IR24UN	16IL24UN	24	3.52	9.525	4.0	★	○

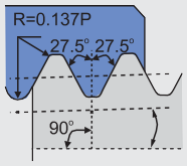
★Recommended grade (always stock available) • Available grade (always stock available) ○ Make-to-order

Threading tools overview

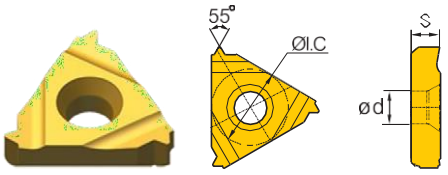
Threading insert

British standard taper piper thread (with end)

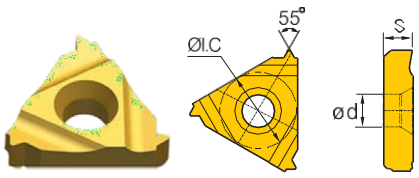
ISO
7/1:1994
B.S.21:19
85
Standard BSPT



1°47'



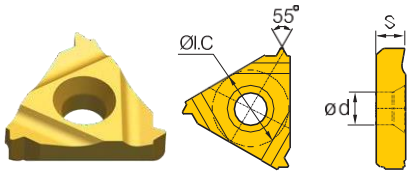
R type



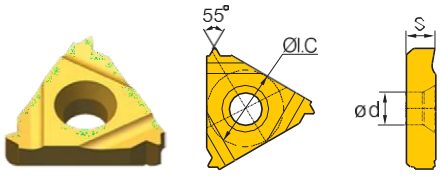
L type

	Type		Basic dimensions(mm)				Recommended coating grade	
	The right hand tools	The left hand tools	Pitch/mm (pitch/Inch)	S	ØI.C	ød	MGU540	MGM720
External thread	16ER11BSPT	16EL11BSPT	11	3.52	9.525	4.0	★	○
	16ER14BSPT	16EL14BSPT	14	3.52	9.525	4.0	★	○
	16ER19BSPT	16EL19BSPT	19	3.52	9.525	4.0	★	○
	16ER28BSPT	16EL28BSPT	28	3.52	9.525	4.0	★	○

★Recommended grade (always stock available) • Available grade (always stock available) ○ Make-to-order



R type



L type

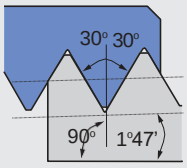
	Type		Basic dimensions(mm)				Recommended coating grade	
	The right hand tools	The left hand tools	Pitch/mm (pitch/Inch)	S	ØI.C	ød	MGU540	MGM720
Internal thread	16IR11BSPT	16IL11BSPT	11	3.52	9.525	4.0	★	○
	16IR14BSPT	16IL14BSPT	14	3.52	9.525	4.0	★	○
	16IR19BSPT	16IL19BSPT	19	3.52	9.525	4.0	★	○
	16IR28BSPT	16IL28BSPT	28	3.52	9.525	4.0	★	○

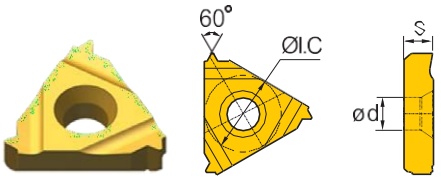
★Recommended grade (always stock available) • Available grade (always stock available) ○ Make-to-order

Threading insert

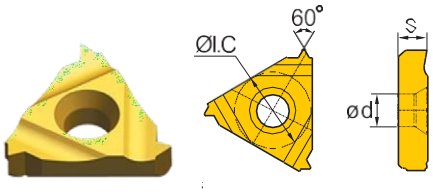
American standard taper piper thread (with end)

ASME B1.20.1-1983
Standard NPT





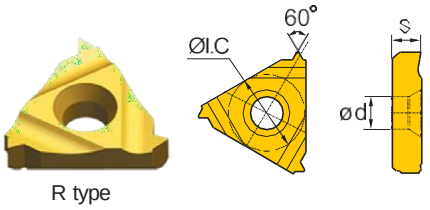
R type



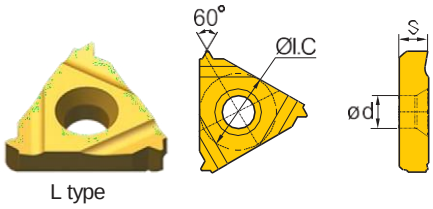
L type

	Type		Basic dimensions(mm)				Recommended coating grade	
	The right hand tools	The left hand tools	Pitch/mm (pitch/Inc)	S	ØI.C	ød	MGU540	MGM720
xternal thread	16ER8NPT	16EL8NPT	8	3.52	9.525	4.0	★	○
	16ER11.5NPT	16EL11.5NPT	11.5	3.52	9.525	4.0	★	○
	16ER14NPT	16EL14NPT	14	3.52	9.525	4.0	★	○
	16ER18NPT	16EL18NPT	18	3.52	9.525	4.0	★	○
	16ER27NPT	16EL27NPT	27	3.52	9.525	4.0	★	○

★Recommended grade (always stock available) • Available grade (always stock available) ○ Make-to-order



R type



L type

	Type		Basic dimensions(mm)				Recommended coating grade	
	The right hand tools	The left hand tools	Pitch/mm (pitch/Inch)	S	ØI.C	ød	MGU540	MGM720
Internal thread	16IR8NPT	16IL8NPT	8	3.52	9.525	4.0	★	○
	16IR11.5NPT	16IL11.5NPT	11.5	3.52	9.525	4.0	★	○
	16IR14NPT	16IL14NPT	14	3.52	9.525	4.0	★	○
	16IR18NPT	16IL18NPT	18	3.52	9.525	4.0	★	○
	16IR27NPT	16IL27NPT	27	3.52	9.525	4.0	★	○

★Recommended grade (always stock available) • Available grade (always stock available) ○ Make-to-order

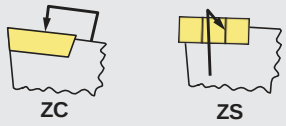
Threading tools overview

Threading Tools

Threading tools code key

Clamping system

Top clamping — Screw clamping



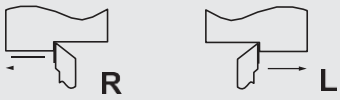
Thread type

I — Internal thread

E — External thread

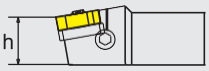
Cutting direction

Right hand — Left hand



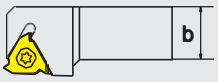
S	E	R	20	20	K	16

Nose height



Note: 00 for round tool holder.
Only to integer, for example:
h=8mm is labeled as 08.

Shank width



Note: Diameter for round tool holder
for example: b=8mm is labeled as 08.

Tool length

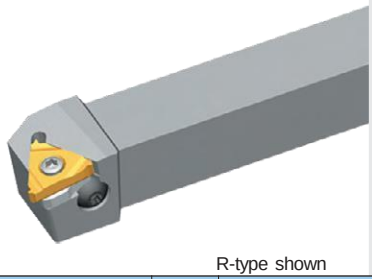
Code	H	K	M	P	Q	R	S	T	U
Length	100	125	150	170	180	200	250	300	350

Insert size

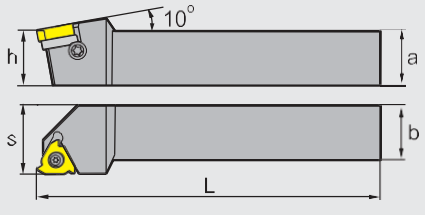
Code	11	16	22
Triangle side length	11	16	22
Inscribed circle	6.35	9.525	12.70

Threading Tools

External threading tools



R-type shown

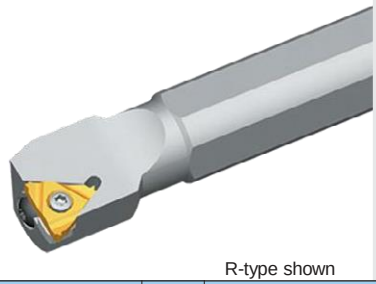


Type		Stock	Basic dimensions(mm)					Applicable inserts	Inserts screw	Shim	Shim screw	Wrench
			a	h	b	L	s					
SER	1616H16	▲	16	16	16	100	20	16ER	710-U5-40x12.2	ATS-16E	AAV-11-U5-40x4.5	08-T15
	2020K16	▲	20	20	20	125	25					
	2525M16	▲	25	25	25	150	32					
	3225P16	▲	32	32	25	170	32					
	3232P16	▲	32	32	32	170	40					
	2525M22	▲	25	25	25	150	32	22ER	1720-U8-32x15	ATS-22E	AAV-12-U8-32x5.5	08-T20
	3225P22	▲	32	32	25	170	32					
	3232P22	▲	32	32	32	170	40					
	4040S22	△	40	40	40	250	50					
SEL	1616H16	▲	16	16	16	100	20	16EL	710-U5-40x12.2	ATS-16I	AAV-11-U5-40x4.5	08-T15
	2020K16	▲	20	20	20	125	25					
	2525M16	▲	25	25	25	150	32					
	3225P16	▲	32	32	25	170	32					
	3232P16	▲	32	32	32	170	40					
	2525M22	▲	25	25	25	150	32	22EL	1720-U8-32x15	ATS-22I	AAV-12-U8-32x5.5	08-T20
	3225P22	▲	32	32	25	170	32					
	3232P22	▲	32	32	32	170	40					
	4040S22	△	40	40	40	250	50					

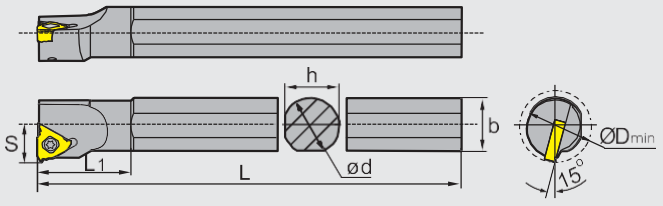
▲Stock available △Make-to-order

Threading Tools

Internal threading tools



R-type shown



Type		Stock	Basic dimensions(mm)							Applicable inserts	Inserts screw	Shim	Shim screw	Wrench
			d	L	b	D_{min}	s	h	L_1					
SIR	0016K11	▲	16	125	16	12	10	15	20.9	11IR□□□□	4008-M2.5x6	---	---	08-T8
	0016M11	▲	16	150	15.5	16	10.5	15	25.9					
	0016M16	▲	16	150	15.5	20	12	15	27	16IR□□□□	M3.5x114015	---	---	08-T15
	0020M16	▲	20	150	19	25	14	18	28.7		M3.5x114015	ATS-16E	AAV-11-U5-40x4.5	
	0020Q16	▲	20	180	19	25	14	18	34					
	0025M16	▲	25	150	24	32	17	23	28.8					
	0032R16	▲	32	200	31	40	22	30	30.9					
	0032S16	▲	32	250	31	40	22	30	30.9					
	0040T16	▲	40	300	38.5	50	27	37	31.5					
	0050U16	▲	50	350	49.5	63	35	49	40.2					
	0020Q22	▲	20	180	21.5	25	15	18	35	22IR□□□□	U8-32x151720	---	---	08-T20
	0025R22	▲	25	200	24	32	19	23	39		U8-32x151720	ATS-22E	AAV-12-U8-32x5.5	
	0032S22	▲	32	250	31	40	22	30	36.4					
	0040T22	▲	40	300	38.5	50	27	37	37.2					
	0050U22	▲	50	350	48.5	63	35	47	42.6					
SIL	0016K11	▲	16	125	16	12	10	15	20.9	11IL□□□□	4008-M2.5x6	---	---	08-T8
	0016M11	▲	16	150	15.5	16	10.5	15	25.9					
	0016M16	▲	16	150	15.5	20	12	15	27	16IL□□□□	M3.5x114015	---	---	08-T15
	0020M16	▲	20	150	19	25	14	18	28.7		M3.5x114015	ATS-16E	AAV-11-U5-40x4.5	
	0020Q16	▲	20	180	19	25	14	18	34					
	0025M16	▲	25	150	24	32	17	23	28.8					
	0032R16	▲	32	200	31	40	22	30	30.9					
	0032S16	▲	32	250	31	40	22	30	30.9					
	0040T16	▲	40	300	38.5	50	27	37	31.5					
	0050U16	▲	50	350	49.5	63	35	49	40.2					
	0020Q22	▲	20	180	21.5	25	15	18	35	22IL□□□□	U8-32x15172	---	---	08-T20
	0025R22	▲	25	200	24	32	19	23	39		U8-32x151720	ATS-22E	AAV-12-U8-32x5.5	
	0032S22	▲	32	250	31	40	22	30	36.4					
	0040T22	▲	40	300	38.5	50	27	37	37.2					
	0050U22	▲	50	350	48.5	63	35	47	42.6					

▲Stock available △Make-to-order

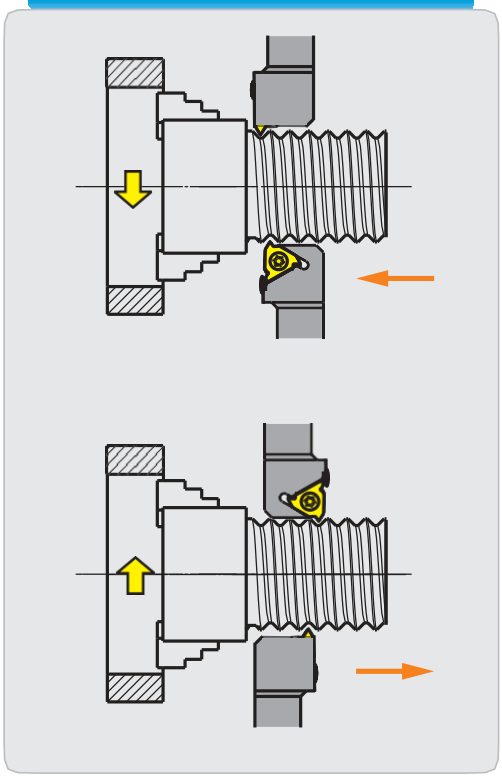
Threading Tools

Please follow the following steps to get the best threading result:

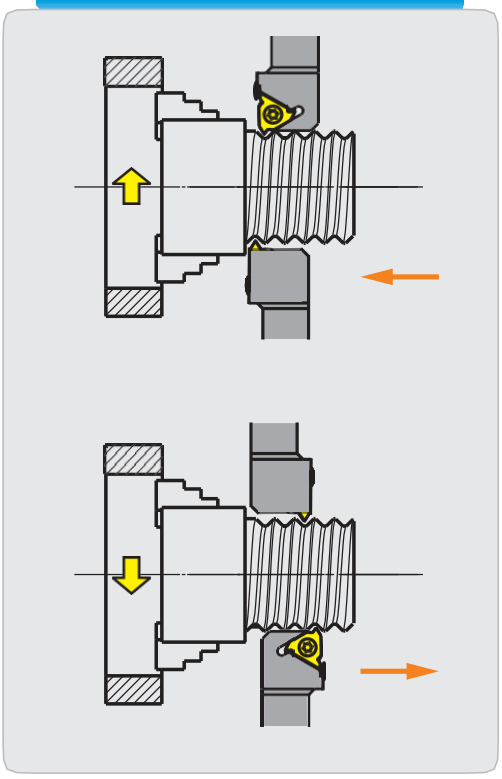
1. Select proper thread machining method.
2. Define helical angle and select shim.
3. Select proper insert and tool holder size.
4. By checking reference table of standard threading programs, select feasible cutting parameters.
5. Select feed way.

Machining method of threading tools

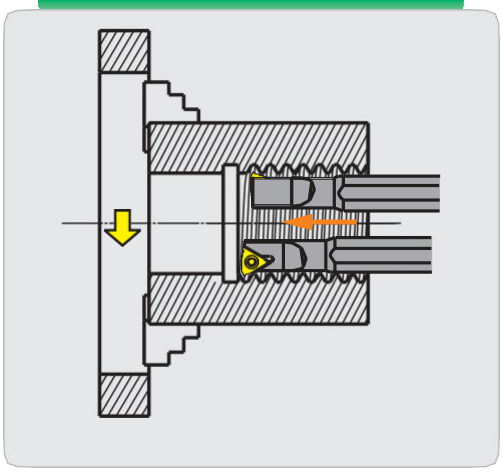
External threading machining (Right thread)



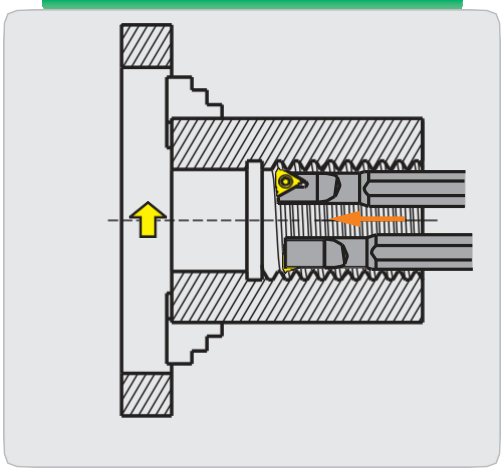
External threading machining (Left thread)



Internal threading machining (Right thread)



Internal threading machining (Left thread)



Application information of threading

Decide helical angle and select shim

The clearance angle of threading inserts is actually along the edge (flank). This has significant effect on heat diffusion, spread of abrasion as well as tool life, security and pitch quality. The clearance angle of threading pitch on clearance face is determined by thread helical angle. These two angles are similar to each other to some extent. If inclined angle of insert is different from the helical angle, then the clearance angle won't be the same either.

The helical angle of pitch has to be the same with the inclined angle of insert to prevent over wearing on the clearance face which could affect tool life. the helical angle is calculated as below:

$$e = \arctan \frac{P}{d_2 \times \pi}$$

P= Pitch

d_2= pitchdiameter

The most common inclined angle is 1°.MT standard shim and its inclined angle is also1°.

Calculation of clearance angle:

Clearance angle is calculated as below:

$$\beta = \arctan (\tan\theta \times \tan\alpha)$$

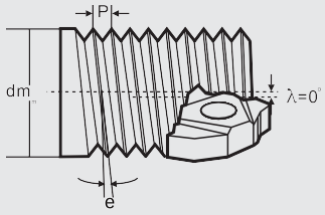
2θ=Thread profileangle

α=The rake angle of external standard threading tools is 10°;the rake angle of internal standard threading tools is 15°.

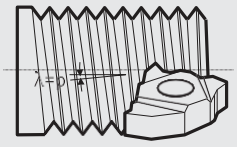
The shim has to be changed when helical angle of thread is ≤ clearance angle of tool, which could cause intervene on insert flank.

Please change the shim to adjust the difference between helical angle of thread and inclined angle of shim to bewithin 2°~0°.

e= Helical angle



λ = Inclined angle

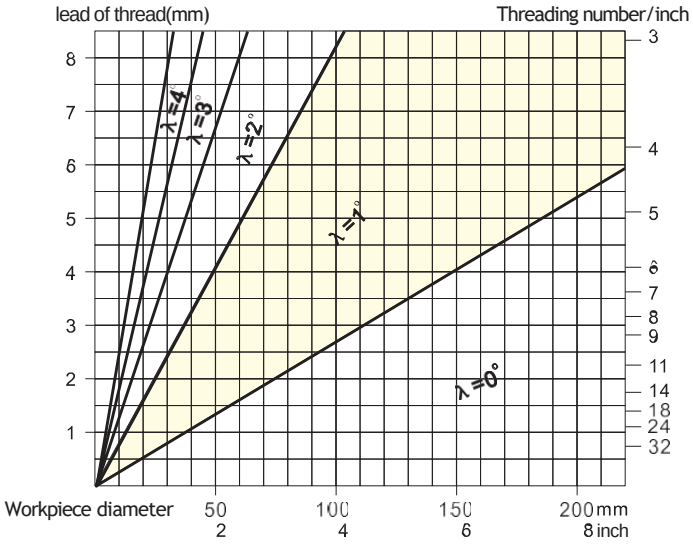


Please refer to the table below for actual value:

Thread profile angle 2θ	β	
	External thread	Internal thread
60°	5.8°	8.79°
55°	5.24°	7.94°
30°	2.7°	4.1°
29°	2.6°	3.96°

For example: when P=1.5, d2=24mm,
helical angle1.14°-(2°~0°)=inclined angle (-0.86°~1.14°)
it is feasible to use standard shim1°.

Select shim:



Shim specification table is as follows:

Screw pitch range	Insert dimensions	Inclined angle	Shim
0.5-3.0	16	0	MT16-00MN
		1	MT16-01MN
		2	MT16-02MN
		3	MT16-03MN
3.5-6.0	22	0	MT22-00MN
		1	MT22-01MN
		2	MT22-02MN
		3	MT22-03MN

Note: the standard angle of shim for our threading tools is 1°.
((MT16-01MN or MT22-01MN)

Application information of threading

Select properinserts and size of tool holder(Please refer to detailed table of threading tools and inserts)

Parameter table for threading program under different standards

Table of recommended in-feed for metric ISO external threading with wiper edge

Screw pitch	1.0	1.25	1.5	1.75	2.0	2.5	3.0	4.0	5.0
Total in-feed	0.72	0.86	1.02	1.17	1.33	1.63	1.94	2.58	3.21
Number of passes	5	6	7	8	9		13	15	17
Order to follow in threading operation	Value of radial in-feed (X) and flank in-feed (Z)								
	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z
1	0.20/-	0.20/-	0.21/-	0.22/-	0.24/-	0.25/-	0.26/-	0.35/-	0.40/-
	0.18/0.10	0.18/0.10	0.18/0.10						
3	0.16/0.09	0.14/0.09	0.18/0.10	0.18/0.10	0.20/0.12	0.21/0.12	0.20/0.12	0.25/0.14	0.30/0.17
	0.10/0.06	0.10/0.08	0.15/0.09	0.15/0.09	0.15/0.09	0.18/0.10			
5	0.08/-	0.08/0.06	0.12/0.07	0.13/0.08	0.12/0.07	0.15/0.09	0.18/0.10	0.18/0.10	0.25/0.14
			0.10/0.06	0.11/0.06			0.15/0.09	0.18//0.10	
7			0.08/-	0.10/0.06	0.10/0.06	0.12/0.07	0.13/0.08	0.16/0.09	0.18/0.10
					0.10/0.06	0.10/0.06		0.15/0.09	0.16/0.09
9					0.08/-	0.10/0.06	0.10/0.06	0.15/0.09	0.15/0.09
							0.10/0.06	0.13/0.08	0.15/0.09
11						0.08/-	0.08/0.06	0.12/0.07	0.13/0.08
									0.13/0.08
13								0.11/0.06	0.12/0.07
14								0.10/0.06	
15								0.08/-	0.11/0.06
									0.10/0.06
17									0.08/-

Threading tools overview

Application information of threading

Table of recommended in-feed for metric ISO internal threading with wiper edge

Screw pitch	1.00	1.25	1.5	1.75	2.0	2.5	3.0	4.0	5.0
Total in-feed	0.62	0.77	0.92	1.06	1.21	0.15	1.79	2.36	2.95
Number of passes	5						13	15	
Order to follow in threading operation	Value of radial in-feed (X) and flank in-feed (Z)								
	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z
1	0.18/-	0.20/-	0.22/-	0.23/-	0.24/-	0.25/-	0.26/-	0.30/-	0.32/-
		0.15/0.09	0.16/0.09	0.16/0.09	0.18/0.10				
3	0.12/0.07	0.12/0.07	0.14/0.08	0.14/0.08	0.15/0.09	0.15/0.09	0.20/0.12	0.22/0.13	0.25/0.14
	0.10/0.06			0.13/0.08		0.15/0.09	0.18/0.10		
5	0.08/-	0.10/0.06	0.11/0.06	0.12/0.07	0.12/0.07	0.13/0.08	0.15/0.09	0.18/0.10	0.21/0.12
				0.10/0.06	0.11/0.06			0.15/0.09	
7			0.08/-	0.10/0.06	0.10/0.06	0.12/0.07	0.12/0.07	0.15/0.09	0.18/0.10
						0.10/0.06	0.10/0.06	0.15/0.09	0.18/0.10
9					0.08/-	0.10/0.06	0.10/0.06	0.12/0.07	0.15/0.09
							0.10/0.06		0.15/0.09
11						0.08/-	0.10/0.06	0.12/0.07	0.15/0.09
								0.11/0.06	0.15/0.09
13								0.11/0.06	0.12/0.07
14								0.10/0.06	0.11/0.06
15								0.08/-	0.10/0.06
									0.10/0.06
17									0.08/-

Application information of threading

Table of recommended in-feed for American unified standard external threading with wiper edge

Screw pitch	24	20	18	16	14	12							5
Total in-feed	0.649	0.779	0.866	0.974	1.113	1.299	1.416	1.558	1.731	1.948	2.226	2.597	3.116
Number of passes	5		6	7	9				12		14	15	
Order to follow in threading operation	Value of radial in-feed (X) and flank in-feed (Z)												
	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z
1	0.208 / —	0.210 / —	0.233 / —	0.228 / —	0.198 / —	0.229 / —	0.220 / —	0.214 / —	0.210 / —	0.211 / —	0.213 / —	0.218 / —	0.229 / —
	0.148 / 0.088	0.163 / 0.094	0.181 / 0.104	0.188 / 0.109	0.189 / 0.110	0.222 / 0.128	0.228 / 0.132	0.240 / 0.139	0.256 / 0.148	0.276 / 0.160	0.304 / 0.176	0.343 / 0.198	0.399 / 0.230
3	0.114 / 0.068	0.125 / 0.072	0.139 / 0.080	0.145 / 0.083	0.146 / 0.084	0.170 / 0.098	0.176 / 0.102	0.184 / 0.106	0.196 / 0.113	0.212 / 0.122	0.234 / 0.135	0.263 / 0.152	0.306 / 0.177
	0.096 / 0.055	0.105 / 0.061	0.117 / 0.068	0.122 / 0.070	0.123 / 0.071	0.143 / 0.083	0.148 / 0.086	0.155 / 0.090	0.165 / 0.095	0.179 / 0.103	0.197 / 0.114	0.222 / 0.128	0.258 / 0.149
5	0.085 / 0.049	0.093 / 0.054	0.103 / 0.059	0.107 / 0.062	0.108 / 0.062	0.126 / 0.073	0.131 / 0.075	0.137 / 0.079	0.146 / 0.084	0.158 / 0.091	0.173 / 0.100	0.195 / 0.113	0.227 / 0.131
		0.084 / 0.048	0.093 / 0.054	0.097 / 0.056	0.098 / 0.056	0.114 / 0.066	0.118 / 0.068	0.124 / 0.072	0.132 / 0.076	0.142 / 0.082	0.157 / 0.091	0.177 / 0.102	0.205 / 0.119
7				0.089 / 0.052	0.090 / 0.052	0.105 / 0.061	0.109 / 0.063	0.114 / 0.066	0.121 / 0.070	0.131 / 0.076	0.144 / 0.083	0.163 / 0.094	0.189 / 0.109
					0.084 / 0.048	0.098 / 0.056	0.101 / 0.058	0.106 / 0.061	0.113 / 0.065	0.122 / 0.070	0.134 / 0.078	0.151 / 0.087	0.176 / 0.101
9					0.079 / 0.045	0.092 / 0.053	0.095 / 0.055	0.100 / 0.057	0.106 / 0.061	0.114 / 0.066	0.126 / 0.073	0.142 / 0.082	0.165 / 0.095
							0.090 / 0.052	0.094 / 0.054	0.100 / 0.058	0.108 / 0.063	0.119 / 0.069	0.134 / 0.078	0.156 / 0.090
11								0.090 / 0.052	0.095 / 0.055	0.103 / 0.059	0.113 / 0.065	0.128 / 0.074	0.149 / 0.086
									0.091 / 0.053	0.098 / 0.057	0.108 / 0.063	0.122 / 0.071	0.142 / 0.082
13										0.094 / 0.054	0.104 / 0.060	0.117 / 0.068	0.136 / 0.079
14											0.100 / 0.058	0.113 / 0.065	0.131 / 0.076
15												0.109 / 0.063	0.126 / 0.073
													0.122 / 0.071

Application information of threading

Table of recommended in-feed for American unified standard internal threading with wiper edge

Screw pitch	24	20	18	16	14	12	11	10	9	8	7		5
Total in-feed	0.573	0.687	0.764	0.860	0.982	1.146	1.250	1.375	1.528	1.719	1.964	2.291	2.750
Number of passes	5							10	11	12	13	14	15
Order to follow in threading operation	Value of radial in-feed (X) and flank in-feed (Z)												
	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z
1	0.193 / —	0.200 / —	0.222 / —	0.219 / —	0.220 / —	0.228 / —	0.250 / —	0.247 / —	0.246 / —	0.252 / —	0.262 / —	0.278 / —	0.302 / —
	0.127 / 0.073	0.239 / 0.081	0.155 / 0.089	0.161 / 0.093	0.173 / 0.100	0.190 / 0.110	0.207 / 0.120	0.216 / 0.125	0.229 / 0.132	0.247 / 0.142	0.271 / 0.156	0.304 / 0.176	0.353 / 0.204
3	0.098 / 0.056	0.107 / 0.062	0.119 / 0.069	0.124 / 0.072	0.132 / 0.076	0.146 / 0.084	0.159 / 0.092	0.166 / 0.096	0.176 / 0.101	0.189 / 0.109	0.208 / 0.120	0.234 / 0.135	0.271 / 0.156
	0.082 / 0.048	0.090 / 0.052	0.100 / 0.058	0.104 / 0.060	0.112 / 0.064	0.123 / 0.071	0.134 / 0.077	0.140 / 0.081	0.148 / 0.086	0.160 / 0.092	0.175 / 0.101	0.197 / 0.114	0.228 / 0.132
5	0.073 / 0.042	0.079 / 0.046	0.088 / 0.051	0.092 / 0.053	0.098 / 0.057	0.108 / 0.062	0.118 / 0.068	0.123 / 0.071	0.130 / 0.075	0.141 / 0.081	0.1543 / 0.089	0.173 / 0.100	0.201 / 0.116
		0.072 / 0.041	0.080 / 0.046	0.083 / 0.048	0.089 / 0.051	0.098 / 0.056	0.107 / 0.062	0.111 / 0.064	0.118 / 0.068	0.127 / 0.073	0.140 / 0.081	0.157 / 0.091	0.182 / 0.105
7				0.077 / 0.044	0.082 / 0.047	0.090 / 0.052	0.098 / 0.057	0.102 / 0.059	0.108 / 0.063	0.117 / 0.067	0.128 / 0.074	0.144 / 0.083	0.167 / 0.097
					0.076 / 0.044	0.084 / 0.048	0.091 / 0.053	0.095 / 0.055	0.101 / 0.058	0.109 / 0.063	0.119 / 0.069	0.134 / 0.078	0.156 / 0.090
9						0.079 / 0.045	0.086 / 0.050	0.090 / 0.052	0.095 / 0.055	0.102 / 0.059	0.112 / 0.065	0.126 / 0.073	0.146 / 0.084
								0.085 / 0.049	0.090 / 0.052	0.097 / 0.056	0.106 / 0.061	0.119 / 0.069	0.138 / 0.080
11									0.085 / 0.049	0.092 / 0.053	0.101 / 0.058	0.113 / 0.065	0.131 / 0.076
										0.088 / 0.051	0.096 / 0.056	0.108 / 0.063	0.126 / 0.073
13											0.092 / 0.053	0.101 / 0.060	0.121 / 0.070
14												0.100 / 0.058	0.116 / 0.067
15													0.112 / 0.065

Application information of threading

Table of recommended in-feed for British standard internal and external threading with wiper edge

Screw pitch	28	20	19	16	14	12	11	10	9	8	7	6	5
Total in-feed	0.581	0.813	0.856	1.017	1.162	1.355	1.479	1.626	1.807	2.033	2.324	2.711	3.253
Number of passes	5							10	11	12	14	15	
Order to follow in threading operation	Value of radial in-feed (X) and flank in-feed (Z)												
	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z	X/Z
1	0.179 / —	0.211 / —	0.223 / —	0.196 / —	0.223 / —	0.226 / —	0.246 / —	0.236 / —	0.230 / —	0.255 / —	0.195 / —	0.197 / —	0.204 / —
	0.134 / 0.070	0.172 / 0.089	0.181 / 0.094	0.186 / 0.097	0.213 / 0.111	0.234 / 0.122	0.255 / 0.133	0.226 / 0.139	0.282 / 0.147	0.304 / 0.158	0.322 / 0.167	0.361 / 0.189	0.421 / 0.219
3	0.104 / 0.054	0.132 / 0.069	0.139 / 0.072	0.143 / 0.074	0.163 / 0.085	0.180 / 0.093	0.197 / 0.102	0.206 / 0.106	0.216 / 0.113	0.233 / 0.121	0.247 / 0.128	0.278 / 0.145	0.323 / 0.168
	0.087 / 0.045	0.111 / 0.058	0.117 / 0.061	0.120 / 0.063	0.138 / 0.072	0.151 / 0.079	0.165 / 0.086	0.172 / 0.090	0.182 / 0.095	0.197 / 0.102	0.208 / 0.108	0.234 / 0.122	0.272 / 0.142
5	0.077 / 0.040	0.098 / 0.051	0.103 / 0.054	0.106 / 0.055	0.121 / 0.063	0.133 / 0.069	0.145 / 0.076	0.152 / 0.079	0.161 / 0.084	0.1738 / 0.090	0.183 / 0.095	0.207 / 0.108	0.240 / 0.125
		0.089 / 0.046	0.093 / 0.049	0.096 / 0.050	0.110 / 0.057	0.121 / 0.063	0.131 / 0.068	0.137 / 0.071	0.145 / 0.076	0.157 / 0.082	0.166 / 0.086	0.187 / 0.097	0.217 / 0.113
7				0.088 / 0.046	0.101 / 0.052	0.111 / 0.058	0.121 / 0.063	0.126 / 0.066	0.134 / 0.070	0.144 / 0.075	0.152 / 0.079	0.172 / 0.089	0.200 / 0.104
				0.082 / 0.043	0.093 / 0.049	0.103 / 0.054	0.113 / 0.059	0.117 / 0.061	0.124 / 0.065	0.134 / 0.070	0.142 / 0.074	0.160 / 0.083	0.186 / 0.097
9						0.097 / 0.050	0.106 / 0.055	0.110 / 0.057	0.117 / 0.061	0.126 / 0.066	0.133 / 0.069	0.150 / 0.078	0.174 / 0.091
								0.104 / 0.054	0.111 / 0.058	0.119 / 0.062	0.126 / 0.066	0.142 / 0.074	0.165 / 0.086
11									0.105 / 0.055	0.113 / 0.059	0.120 / 0.062	0.135 / 0.070	0.157 / 0.082
										0.108 / 0.056	0.114 / 0.060	0.129 / 0.067	0.150 / 0.078
13											0.110 / 0.055	0.124 / 0.064	0.144 / 0.075
14												0.119 / 0.062	0.138 / 0.072
15												0.115 / 0.060	0.133 / 0.069
													0.129 / 0.067

Table of recommended in-feed for NPT internal and external threading with wiper edge

Screw pitch	27		14	11.5	
Total in-feed	0.75	1.129	1.451	1.767	2.54
Number of passes				12	14
Order to follow in threading operation	Value of radial in-feed (X) and flank in-feed (Z)				
	X/Z	X/Z	X/Z	X/Z	X/Z
1	0.19/-	0.22/-	0.240/-	0.24/-	0.255/-
	0.15/0.087	0.181/0.104			
3	0.13/0.075	0.152/0.088	0.170/0.098	0.182/0.105	0.245/0.141
	0.11/0.063		0.150/0.086	0.168/0.097	0.230/0.133
5	0.09/0.052	0.131/0.075	0.140/0.081	0.155/0.089	0.210/0.121
			0.130/0.075		0.195/0.112
7		0.101/0.058	0.120/0.069	0.138/0.079	0.180/0.104
			0.110/0.063		0.175/0.101
9			0.100/0.058	0.117/0.067	0.170/0.098
				0.105/0.060	0.155/0.089
11				0.095/0.055	0.140/0.080
				0.090/0.052	
13					0.110/0.063
14					0.100/0.058

Table of recommended in-feed for BSPT internal and external threading with wiper edge

Screw pitch	28		14	
Total in-feed	0.581	0.856	1.162	1.479
Number of passes	5			
Order to follow in threading operation	Value of radial in-feed (X) and flank in-feed (Z)			
	X/Z	X/Z	X/Z	X/Z
1	0.179/-	0.223/-	0.222/-	0.214/-
	0.134/0.070	0.181/0.094	0.213/0.111	
3	0.103/0.054	0.139/0.072	0.163/0.085	0.186/0.097
		0.117/0.061	0.138/0.072	0.157/0.082
5	0.078/0.040	0.103/0.054	0.121/0.063	0.138/0.072
		0.093/0.049	0.110/0.057	
7			0.101/0.052	0.115/0.060
				0.107/0.056
9				0.100/0.052
				0.095//0.049

Application information of threading

ISO	Material		Unit cuttingforce Kc0.4 N/mm²	Hardness HB	Grade MGU540 MGM720 Cutting speed(m/min)
P	Carbon steel	C=0.15%	1900	125	150-175
		C=0.35%	2100	150	140-155
		C=0.60%	2250	200	130-145
	Alloy steel	Anneal	2100	180	110-130
		Hardened	2600	275	80-100
		Hardened	2700	300	70-90
		Hardened	2850	350	60-80
	High alloy steel	Anneal	2600	200	90-115
		Hardened	3900	325	70-90
	Cast steel	Non-alloy	2000	180	180-210
		lowalloy	2500	200	90-115
		highalloy	2700	225	90-115
		Martensite steel 12%Mn	3600	250	40-50
M	Stainless steel	Austenite	2450	180	110-130
		Martensite/Ferrite	2300	200	130-170
K	Malleable cast iron	Ferrite Pearlite	1100	130	110-140
			1100	230	85-105
	Gray cast iron	Low tensile-strength	1100	180	110-140
		Hightensile-strength	1500	260	90-115
	Nodular cast iron	Ferrite Pearlite	1100	160	110-130
			1800	250	80-100
N	Al alloy	Non-agingtreatment	500	60	1300-1450
		Aging treatment	800	100	450-500
	Cast aluminum alloy	Non-agingtreatment	750	75	430-470
		Aging treatment	900	90	250-290
S	Heat resistant alloy	Iron base Anneal	3000	200	35-50
		Iron base Aging	3050	280	25-35
		Ni- orCo-base Anneal	3500	250	15-25
		Ni- orCo-base Aging	4150	350	10-20
		Ni- orCo-base Casting	4150	320	10-15
H	Hardened steel	Hardened steel	4500	HRC55	40-50

Note: •The values in the above table are range values. High values in the range could be considered in actual cutting. When trying new cutting speed, please check the cutting edge condition before operation.
•In stainless steel threading, high cutting speed should be used to prevent built-up edge.
•The cutting parameters should be reduced when cutting small pitch thread and when using tools with small nose radius.
•When cutting thread by tools with small nose radius, such as NPT standard thread, it is advisable to use tools with big nose radius first to rough, so as to improve the life of tools with small nose radius.

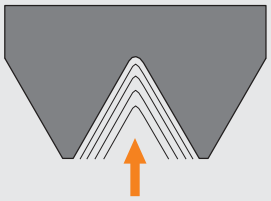
Threading tools overview

Application informtion of threading



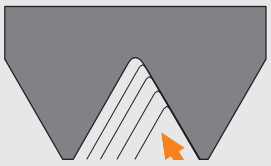
In-feed way of threading tools

Radial in-feed



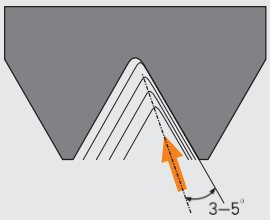
- Easy operating, high general.
- V-shape chip caused by long chip steel workpiece will produce big bend stress on cutting edge.
- It requires low cutting depth, sharp cutting edge and good tough material.
- Big quantity of heat when cutting ,V-shape chip is hard to control.
- Because the interface of cutting chips on the right and left side is long, so it is easy to cause vibration and make the cutting edge suffer more overloading.

Flank in-feed



- Cutting edge suffer small bend stress, stable estate, it is easy for chips formation in deep cutting depth.
- There are enough space to leave chips flow when flank in-feed.
- Big abrasion on right flank.

Modified flank in-feed



- Right Cutting Edge also engage on cutting depth to a certain extent, it can reduce the abrasion on right side of clearance face.
- Cutting edge suffer small bend stress, stable estate, it is easy for chips formation in deep cutting depth.
- Good Cutting Performance.

Alternate flank in-feed



- Cutting edge trade off when machining, equality abrasion on left and right side of clearance face on cutting edge, it can improve the life of tools.
- Chips are flowing from both of right and left side, good chips flowing.
- Recommend using in big screw-pitch thread cutting.

Recommend adopting flank in-feed or alternate flank in-feed under allowable range of machining equipment or programmer, it can eliminate the machining vibration effectively, and it has enough space discharge the chips between pitch. Cutting edge suffer a small stress, machining stable, it likes the general turning process when machining thread, good chip control without extra chips.

Application information of threading

Common problems in threading and solutions

Problem	Cause	Solutions
Wear on clearance face	Cutting speed too high.	Reduce cutting speed.
	Low cutting depth, abrasion.	Reduce frequency of feed and friction of cutting edge.
	Inserts are over the center line.	Adopt correct center height.
Asymmetric wear on right and left cutting edge	The inclined angle of insert is different from the helical angle of thread.	Change to proper shim to get correct inclined angle.
	Flank in-feed is not correct.	Change the way of flank in-feed.
Breakage	Cutting speed too low.	Increase cutting speed.
	Cutting force too high.	Increase frequency of feed and reduce Max in-feed.
	Unstable clamping.	Check if workpiece vibrates. Reduce overhang of tool. Verify clamping of workpiece and tool.
	Chip twisting.	Increase the pressure of cooling liquid to blow away chips.
Plastic deformation	High cutting speed, high temperature on cutting area.	Reduce cutting speed. Increase feed frequency and reduce Max cutting depth.
	Insufficient cooling fluid.	Increase cooling fluid supply.
Low thread surface quality	Cutting speed too low. The insert is over the center line. Chips are not under control.	Increase cutting speed. Adjust centre height. Change the operation way of tools to well control chips.
Incorrect profile	Incorrect center height.	Adjust centre height.
	Pitch on machine is not correct.	Adjust machine.
Shallow profile	Cutting speed set wrong.	Adjust cutting depth.
Surface damage	Chips involved or contacted.	Change to flank in-feed to control chip flow direction.
Built-up edge	Temperature of cutting edge is too low. Usually occur when machining stainless steel and low carbon steel.	Increase cutting speed as well as pressure and concentration of cooling fluid. Choose inserts with good toughness.
Crack on surface	Cutting force too high	Reduce the cutting depth of each feed.
Vibration	Incorrect clamping of workpiece or tool	Verify clamping of workpiece and tool. Minimize overhang of tool.
	Incorrect cutting parameters	Increase cutting speed or reduce it substantially.
	Incorrect tool clamping	Adjust center height.

Parting and grooving tools



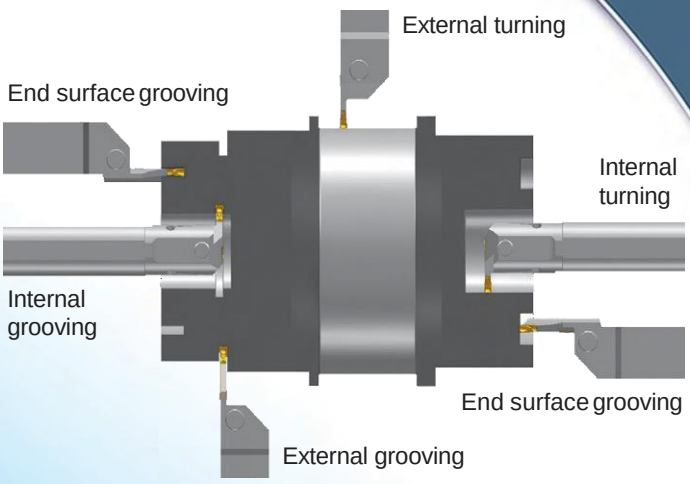
-MG Chipbreaker

Customized -MG chipbreaker series

Suitable for parting ,grooving, profile turning and turning, etc. Easy machining and unobstructed chip flow lead to improved surface quality.

Human-centered design realizes various application of one single insert, reducing number of tools needed

Inserts of the same edge with can work with corresponding tool holders to satisfy the requirements of external, internal and surface grooving and turning by using minimum numbers of inserts and tool holders, effectively reducing cost of tool storage and management.

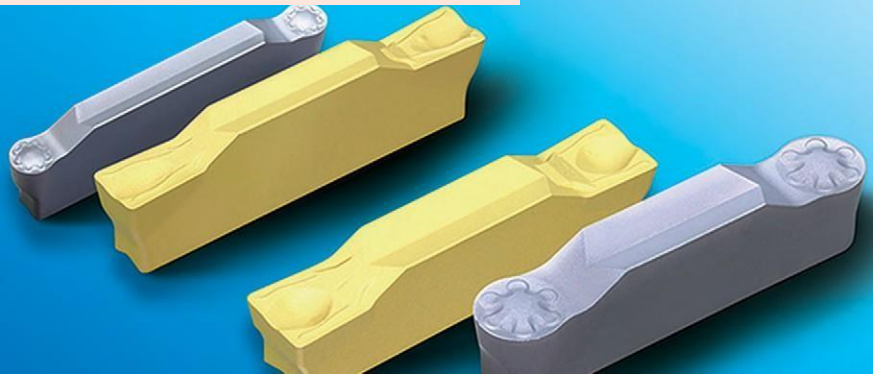




The cutting force is reduced by 20%, and the vibration is diminished.

Unique and professional structure design of parting inserts

- A special flank structure is designed to reduce cutting resistant force by 20% and diminish vibration, which improves the surface quality.
- A special edge design requires less rigidity of machine. It can be used on low power machines.

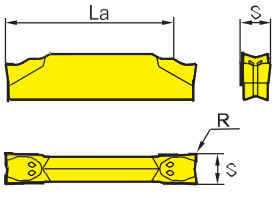


Little squirrel series parting and grooving inserts

Parting inserts



Double edges



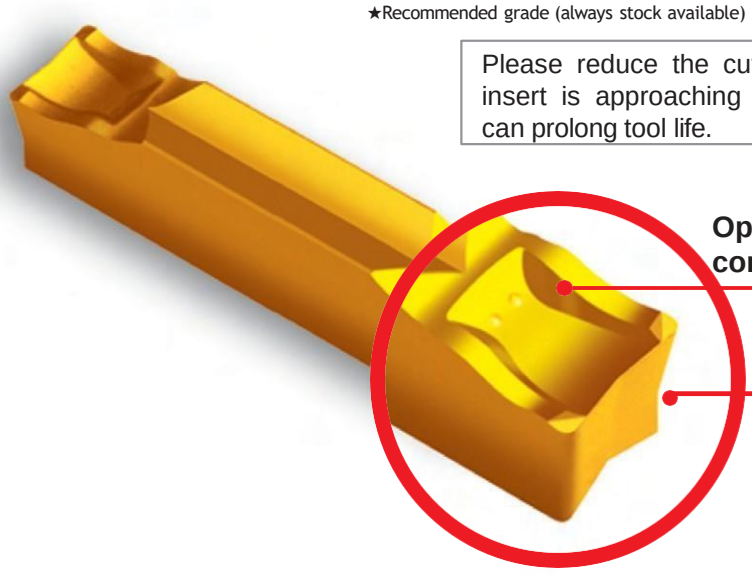
edge

Type		Basic dimensions(mm)			Grade				
					CVD Coating		PVD Coating		Cemented carbide
		$S^{+0.1}_{0}$	$R^{\pm 0.1}$	Cutting depth La_{max}	MGU515	MGU540	MGM720	MGK510	MGN010
Double edges	MGGN01502-MG	1.5	0.2	16	○	○	★	○	○
	MGGN0202-MG	2.0	0.2	16	○	○	★	○	○
	MGGN02502-MG	2.5	0.2	18.5	○	○	★	★	○
	MGGN0302-MG	3.0	0.2	21	○	○	★	○	○
	MGGN0404-MG	4.0	0.4	21	○	○	★	○	○
	MGGN0504-MG	5.0	0.4	26	○	○	★	○	○
	MGGN0604-MG	6.0	0.4	26	○	○	★	○	○

The single-edge insert is only mounted on parting blade.

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Please reduce the cutting speed by 30% when the insert is approaching the centre of workpiece. This can prolong tool life.



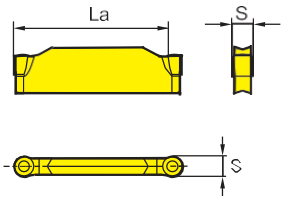
Optimal chipbreaker structure can well control chip flow and curling.

Cutting resistant force is reduced by 20% and vibration is diminished.

Little squirrel series parting and grooving inserts

Profiling inserts





Type		Basic dimensions(mm)		Grade				
				CVD Coating		PVD Coating		Cemented carbide
		$S^{+0.1}_{0}$	Cutting depth La_{max}	MGU515	MGU540	MGM720	MGK510	MGN010
Double edges	MGRN020-MG	2.0	16.0	○	○	•	★	○
	MGRN03-MG	3.0	21	○	○	•	★	○
	MGRN04-MG	4.0	21	○	○	•	★	○
	MGRN05-MG	5.0	26	○	○	○	★	○
	MGRN06-MG	6.0	16	○	○	•	★	○

★Recommended grade (always stock available) • Available grade (always stock available) ○ Make-to-order

The cutting parameters recommended are suitable for wet machining.

Insert size	Recommended feed rate(mm/r)					
Insert width(mm)	Parting	Grooving	Grooving(-MM)	Turning	Turning(-MM)	Profiling
1.5-2.5	0.05-0.15	0.05-0.15	0.05-0.2	0.05-0.15	0.05-0.2	0.05-0.15
3	0.05-0.15	0.05-0.15	0.05-0.2	0.07-0.15	0.07-0.2	0.1-0.2
4	0.05-0.2	0.05-0.2	0.05-0.25	0.07-0.25	0.07-0.3	0.1-0.2
5	0.07-0.2	0.07-0.22	0.07-0.25	0.1-0.25	0.1-0.3	0.15-0.3
6	0.1-0.3	0.07-0.25	0.07-0.3	0.1-0.3	0.1-0.35	0.15-0.3

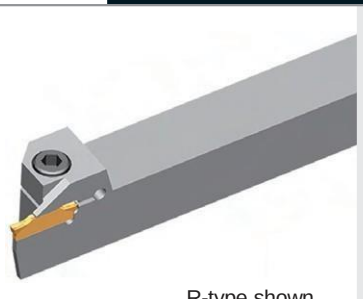
Workpiece material		Hardness	MGU515	MGU540	MGM720	MGK510	MGN010
P	Carbon steel	125≤HB≤170	120-260	140-280	150-280		
	Low alloy steel	180≤HB≤275	80-175	100-240	110-200		
	High alloy steel	180≤HB≤325	80-160	100-220	110-190		
	Cast steel	180≤HB≤250	75-140	80-160	100-170		
M	Ferrite, Martensite	200≤HB≤300		70-170	100-200		
	Austenite	180≤HB≤300		80-200	110-220		
K	Malleable cast iron	130≤HB≤230		100-200	130-220	90-160	
	Grey cast iron	180≤HB≤220		90-170	120-200	80-140	
	Nodular cast iron	160≤HB≤250		80-150	110-180	60-140	
N	Al alloy	--					200-400
S	Hightemperature alloy	≤400			20-70		30-60

The cutting parameters recommended are suitable for wet machining.
Advice: internal machining and end machining, The cutting speed should be reduced by 30%-40%.

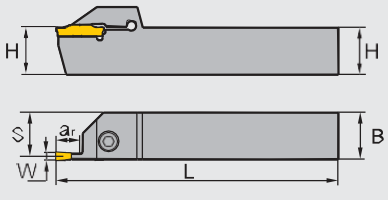
Grooving tools overview

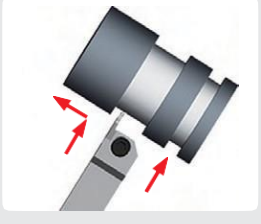
Little squirrel series parting and grooving inserts

External parting, grooving and turning tools



R-type shown





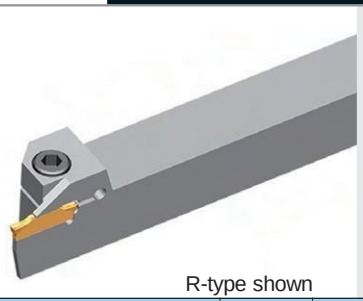
Type		Stock		Basic dimensions(mm)					Applicable inserts	Screw	Wrench
		R	L	H×B	L	S	W	ar max			
MGKT	1212R/L-1.5-T15	▲	▲	12×12	100	12.15	1.5	15	MGGN015	AKV-02-M6x22	AAL-03-3
	1616R/L-1.5-T15	▲	▲	16×16	125	16.15	1.5	15	MGGN015		
	2020R/L-1.5-T15	▲	▲	20×20	125	20.15	1.5	15	MGGN015		
MGKT	1212R/L-2.0-T15	▲	▲	12×12	100	12.165	2	15	MGGN-MGRN020	AKV-02-M6x22	AAL-03-3
	1616R/L-2.0-T10	▲	▲	16×16	125	16.165	2	10	MGGN-MGRN020		
	1616R/L-2.0-T15	▲	▲	16×16	125	16.165	2	15	MGGN-MGRN020		
	2020R/L-2.0-T15	▲	▲	20×20	150	20.165	2	15	MGGN-MGRN020		
	2525R/L-2.0-T15	▲	▲	25×25	150	25.165	2	15	MGGN-MGRN020		
	3232R/L-2.0-T15	▲	▲	32×32	170	32.165	2	15	MGGN-MGRN020		
	1616R/L-2.5-T15	▲	▲	16×16	125	16.165	2.5	15	MGGN025		
	2020R/L-2.5-T15	▲	▲	20×20	150	20.165	2.5	15	MGGN025		
	2525R/L-2.5-T15	▲	▲	25×25	150	25.165	2.5	15	MGGN025		
MGKT	1212R/L-3.0-T15	▲	▲	12×12	100	12.165	3	15	MGGN-MGRN030	2004-M8X1X20	AAL-05-4
	1616R/L-3.0-T15	▲	▲	16×16	125	16.165	3	15	MGGN-MGRN030		
	2020R/L-3.0-T10	▲	▲	20×20	150	20.165	3	10	MGGN-MGRN030		
	2020R/L-3.0-T20	▲	▲	20×20	150	20.165	3	20	MGGN-MGRN030		
	2020R/L-3.0-R28	▲	▲	25×25	150	20.165	3	28	MGGN-MGRN030		
	2525R/L-3.0-T10	▲	▲	25×25	150	25.165	3	10	MGGN-MGRN030		
	2525R/L-3.0-R15	▲	▲	25×25	150	25.165	3	15	MGGN-MGRN030		
	2525R/L-3.0-T22	▲	▲	25×25	150	25.165	3	22	MGGN-MGRN030		
	3232R/L-3.0-T22	▲	▲	32×32	170	32.165	3	22	MGGN-MGRN030		
MGKT	2020R/L-4.0-T10	▲	▲	20×20	150	20.165	4	10	MGGN-MGRN030	2004-M8X1X20	AAL-05-4
	2020R/L-4.0-T20	▲	▲	20×20	150	20.165	4	20	MGGN-MGRN040		
	2020R/L-4.0-R25	▲	▲	25×25	150	20.165	4	25	MGGN-MGRN040		
	2525R/L-4.0-T10	▲	▲	25×25	150	25.165	4	10	MGGN-MGRN040		
	2525R/L-4.0-T18	▲	▲	25×25	150	25.165	4	15	MGGN-MGRN040		
	2525R/L-4.0-T22	▲	▲	25×25	150	25.165	4	22	MGGN-MGRN040		
	3232R/L-4.0-T22	▲	▲	32×32	170	32.165	4	22	MGGN-MGRN040		

▲Stock available △Make-to-order

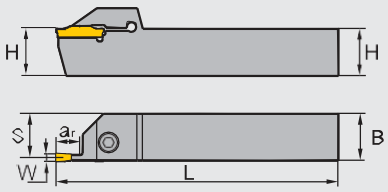
Grooving

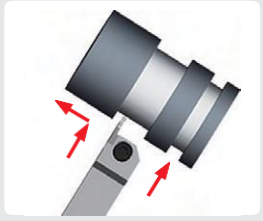
Little squirrel series parting and grooving inserts

External parting, grooving and turning tools



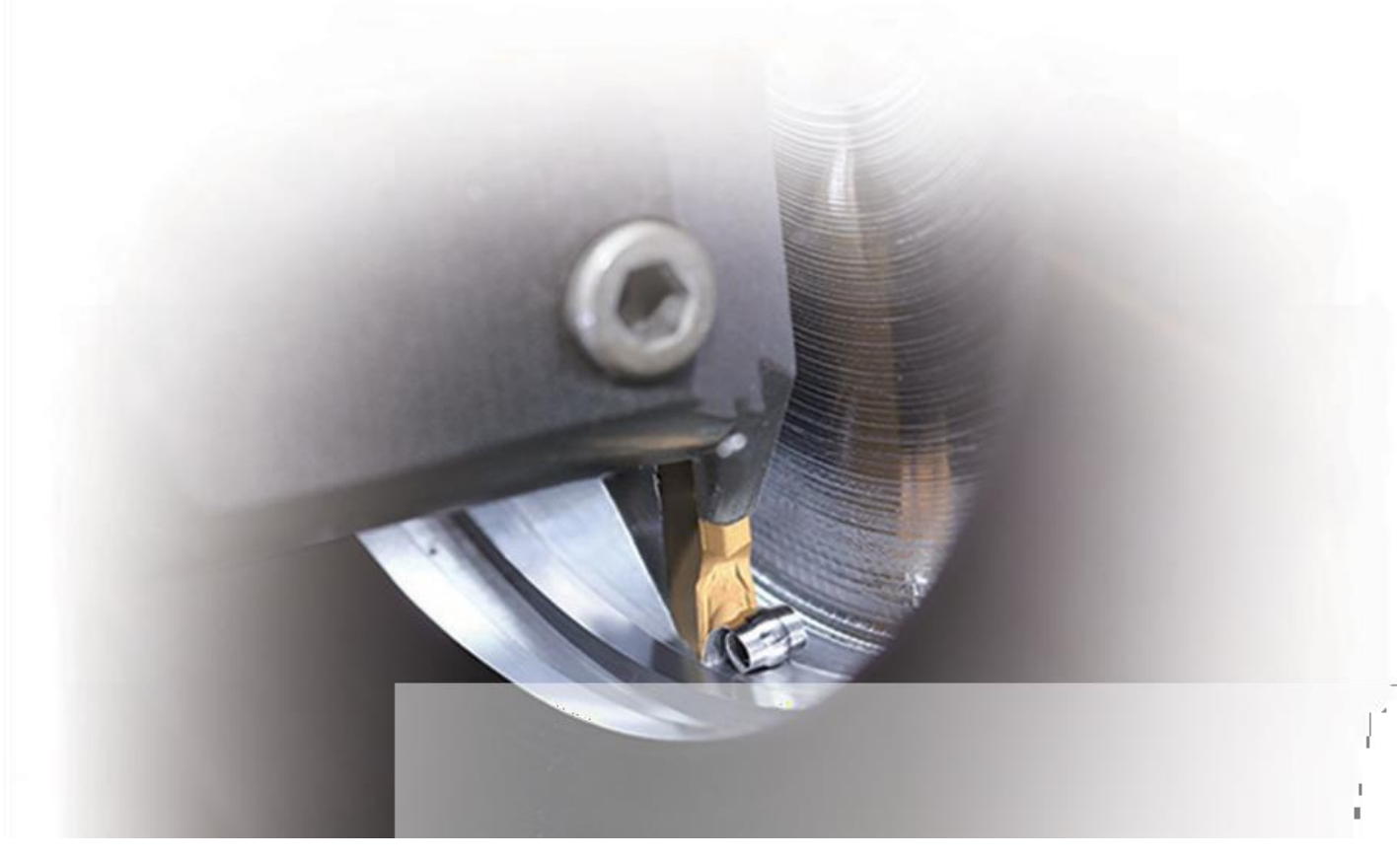
R-type shown





Type		Stock		Basic dimensions(mm)					Applicable inserts	Screw	Wrench
		R	L	H×B	L	S	W	ar max			
MGKT	2020R/L-5.0-T20	▲	▲	20×20	125	20.165	5	20	MGGN-MGRN050	2004-M8X1X20	AAL-05-4
	2525R/L-5.0-T15	▲	▲	25×25	150	25.165	5	15	MGGN-MGRN050		
	2525R/L-5.0-T18	▲	▲	25×25	150	25.165	5	18	MGGN-MGRN050		
	2525R/L-5.0-T25	▲	▲	25×25	150	25.165	5	25	MGGN-MGRN050		
	3232R/L-5.0-T25	▲	▲	32×32	170	30	5	25	MGGN-MGRN050		
	2525R/L-6.0-T15	▲	▲	25×25	150	25.165	6	15	MGGN-MGRN060		
	2525R/L-6.0-T25	▲	▲	25×25	150	25.165	6	25	MGGN-MGRN060		
	3232R/L-6.0-T25	▲	▲	32×32	170	30	6	25	MGGN-MGRN060		

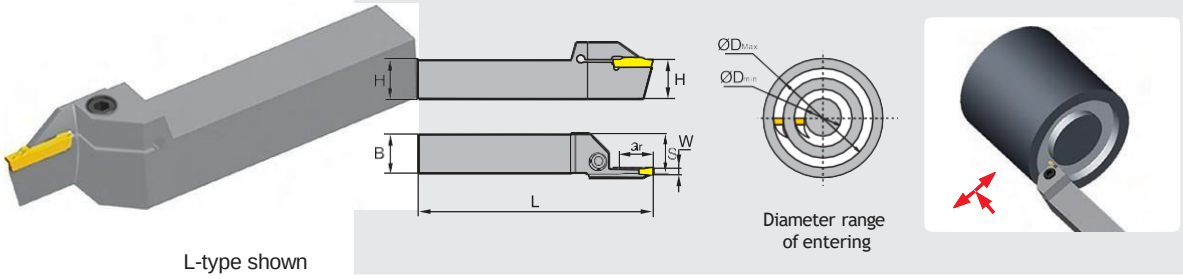
▲Stock available △Make-to-order



Grooving tools overview

Little squirrel series parting and grooving inserts

End surface grooving and turning tools



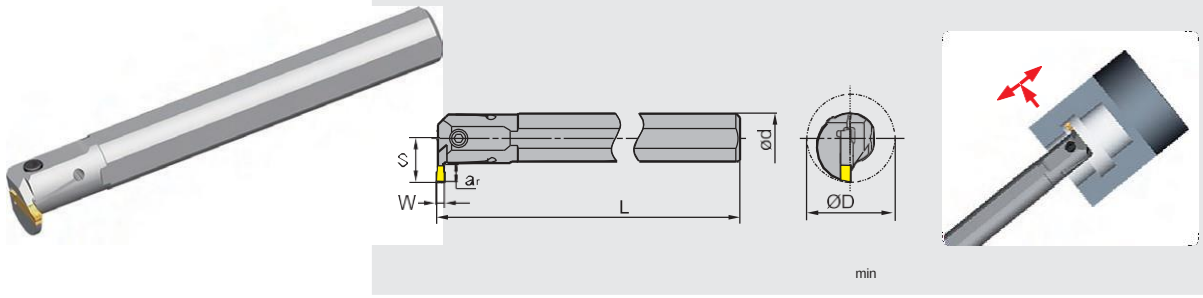
L-type shown

Type		Stock		Basic dimensions(mm)						Applicable inserts	Screw	Wrench
		R	L	H×B	L	S	W	ar max	ØD (min-max)			
MGKT	2525R/L-34/45-3-T17	▲	▲	25×25	150	26	3	17	34-45	MGGN-MGRN030	2004-M8X1X20	AAL-05-4
	2525R/L-39/55-3-T17	▲	▲	25×25	150	26	3	17	39-55			
	2525R/L-49/80-3-T17	▲	▲	25×25	150	26	3	17	49-80			
	2525R/L-70/110-3-T17	▲	▲	25×25	150	26	3	17	70-110			
	2525R/L-100/150-3-T17	△	△	25×25	150	26	3	17	100-150			
	2525R/L-80/180-3-T32	△	△	25×25	150	26	3	32	80-180			
	2525R/L-175/215-3-T22	▲	▲	25×25	150	26	3	22	175-215			
	2525R/L-700/800-3-T17	▲	▲	25×25	150	26	3	17	700-800			
	2525R/L-40/85-4-T22	▲	▲	25×25	150	26	4	22	40-85	MGGN-MGRN040		
	2525R/L-70/110-4-T22	▲	▲	25×25	150	26	4	22	70-110			
	2525R/L-100/150-4-T22	▲	▲	25×25	150	26	4	22	100-150			
	2525R/L-80/180-4-T32	▲	▲	25×25	150	26	4	32	80-180			
	2525R/L-180/800-4-T32	▲	▲	25×25	150	26	4	32	180-800			
	2525R/L-70/110-5-T25	▲	▲	25×25	150	26	5	25	70-110	MGGN-MGRN050		
	2525R/L-100/150-5-T25	▲	▲	25×25	150	26	5	25	100-150			
	2525R/L-80/180-5-T32	▲	▲	25×25	150	26	5	32	80-180			
	2525R/L-140/200-5-T25	▲	▲	25×25	150	26	5	25	140-200			
	2525R/L-180/800-5-T32	▲	▲	25×25	150	26	5	32	180-800			
	2525R/L-60/100-6-T25	△	△	25×25	150	26	6	25	60-100	MGGN-MGRN060		
	2525R/L-60/100-6-T35	▲	▲	25×25	150	26	6	35	60-100			
	2525R/L-100/200-6-T25	△	△	25×25	150	26	6	25	100-200			
	2525R/L-100/200-6-T35	▲	▲	25×25	150	26	6	35	100-200			
	2525R/L-100/200-6-T45	△	△	25×25	150	26	6	45	100-200			
	2525R/L-140/300-6-T35	▲	▲	25×25	150	26	6	35	140-300			

▲Stock available △Make-to-order

Little squirrel series parting and grooving inserts

Internal grooving and turning tools



R-type shown

Type	Stock		Basic dimensions(mm)						Applicable inserts	Screw	Wrench
	R	L	ød	L	S	W	armax	ØDmin			
MGIT-R/L-16-2-T4	▲	▲	16	150	12	2.0	4	21	MGGN-MGRN020	2503-M4x10	AAL-03-3
MGIT-R/L-20-2-T4	▲	▲	20	170	14	2.0	4	25		2503-M4x10	
MGIT-R/L-25-2-T6	▲	▲	25	200	18.5	2.0	6	32		2504-M5x10	AAL-05-4
MGIT-R/L-20-3-T6	▲	▲	20	170	16	3	6	27	MGGN-MGRN030	2504-M5x12	
MGIT-R/L-20-3-T7	▲	▲	20	170	13	3	7	25			
MGIT-R/L-25-3-T6	▲	▲	25	200	18.5	3	6	32		2504-M5x16	
MGIT-R/L-25-3-T10	▲	▲	25	200	17.0	3	10	32			
MGIT-R/L-32-3-T6	▲	▲	32	250	22.0	3	6	39		2004-M8x1x20	
MGIT-R/L-32-3-T12	▲	▲	32	250	22.0	3	12	39			
MGIT-R/L-40-3-T6	▲	▲	40	300	26.0	3	6	47			
MGIT-R/L-40-3-T12	▲	▲	40	300	27.0	3	12	48			
MGIT-R/L-20-4-T6	▲	▲	20	170	16.0	4	6	27	MGGN-MGRN040	2504-M5x12	
MGIT-R/L-20-4-T7	▲	▲	20	170	13.0	4	7	25			
MGIT-R/L-25-4-T6	▲	▲	25	200	18.5	4	6	32		2504-M5x16	
MGIT-R/L-25-4-T10	▲	▲	25	200	17.0	4	10	32			
MGIT-R/L-32-4-T6	▲	▲	32	250	22.0	4	6	39		2004-M8x1x20	
MGIT-R/L-32-4-T12	▲	▲	32	250	22.0	4	12	39			
MGIT-R/L-40-4-T6	▲	▲	40	300	26.0	4	6	47			
MGIT-R/L-40-4-T12	▲	▲	40	300	27.0	4	12	48			
MGIT-R/L-25-5-T7	▲	▲	25	200	19.5	5	7	33		2504-M5x16	
MGIT-R/L-32-5-T7	▲	▲	32	250	23.0	5	7	40		2004-M8x1x20	
MGIT-R/L-40-5-T6	▲	▲	40	300	27.0	5	7	48			
MGIT-R/L-40-5-T12	▲	▲	40	300	27.0	5	12	48			

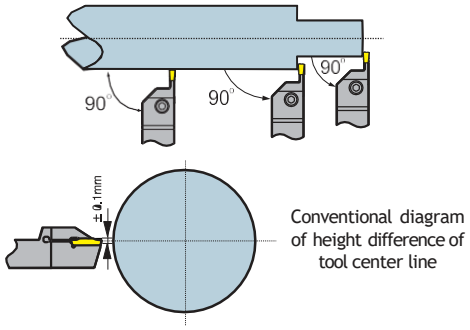
▲Stock available △Make-to-order

Grooving tools overview

Little squirrel series parting and grooving inserts

Center height control of parting and grooving tools

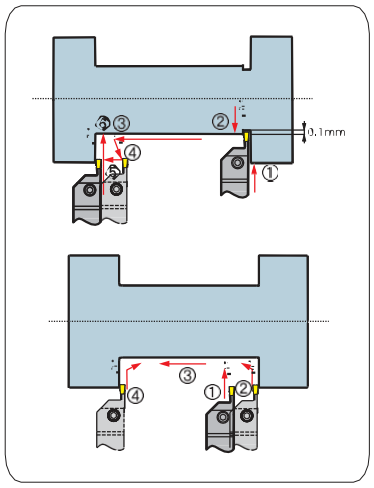
- No matter which parting or grooving tools you select, the ideal surface quality is only achieved by ensuring that insert is vertical from the center line of workpiece, which can also effectively reduce vibration during machining.
- The height tolerance between insert edge bottom and the center height of workpiece should be remained in ±0.1mm, especially for lever parting and grooving workpieces with small diameter. This can improve tool life, reduce cutting resistant force, and diminish burrs.



Conventional diagram of height difference of tool center line

Parting

- When the insert is approaching the center of workpiece, the cutting speed should be reduced by 30%, which is good for improving life and surface quality.
- As long as conditions allow, try to shorten the overhang of tools as much as possible to ensure good stability.

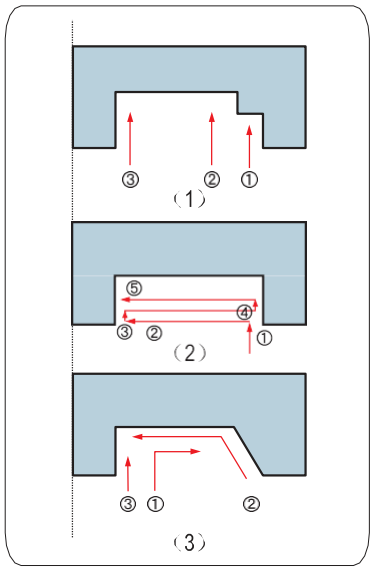


External grooving, turning and profiling

- In-feed sequence: When cutting depth>0.5mm, radial in-feed (Max. cutting depth can be 0.75×insert edge width S) → radial out-feed about 0.1mm → axial in-feed →flank out-feed → axial in-feed → radial machining to required depth.
- When finishing, adopt the sequence shown in the diagram. It can reduce vibration caused by the friction between tools and chips.

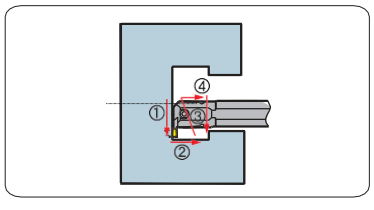
Surface grooving and turning

- Finishing (Multi-slot cutting)
  Cut inwards from Max. diameter. Inserts offset to inward flange when retracting, as is shown in diagram (1).
- Recess turning
  Axial turning depth should not exceed 0.75×S (cutting edge width).
  If slot width is larger than slot depth, it is recommended to adopt recess turning, as is shown in diagram (2).
  If slot depth is larger than slot depth, it is recommended to adopt multi-slot cutting.
- Finish machining
  First finish bottom and external diameter fringe, then finish the internal diameter to required size, as is shown in diagram (3).



Internal grooving and turning

- To facilitate chip flow, always feed along the direction of moving from the deepest in the hole to outside.



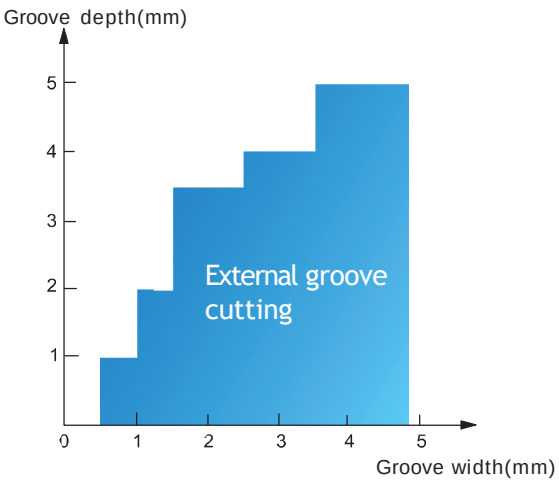


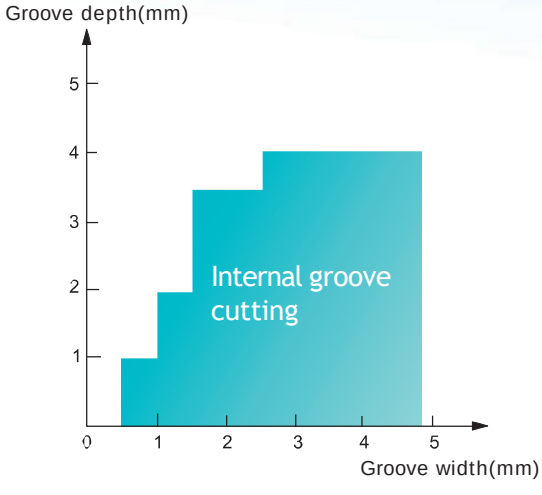
GBA series shallow grooving tools

Machine industry shallow groove processing tool

Widely used for shallow groove machining of shaft and ring parts in machinery industry

Shallow groove series tool grooving range

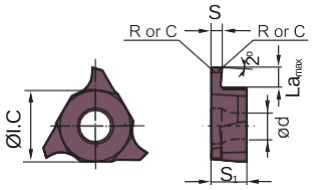




Square head shallow groove inserts



R-type shown



Type		Basic dimensions(mm)						Grade	
								PVD Coating	
		$S^{\pm 0.025}$	La_{max}	R/C	ØI.C	S_1	Ød	MGC500	MGM720
GBA11R/L	120-R02	1.20	1.50	R0.2	6.35	3.18	2.8	○	○
	125-R02	1.25	1.50	R0.2	6.35	3.18	2.8	○	○
	145-R02	1.45	1.50	R0.2	6.35	3.18	2.8	○	○
	150-R02	1.50	1.50	R0.2	6.35	3.18	2.8	○	○
	200-R02	2.00	2.00	R0.2	6.35	3.18	2.8	○	○
	225-R02	2.25	2.00	R0.2	6.35	3.18	2.8	○	○
GBA16R/L	110-R01	1.10	2.00	R0.1	9.525	3.18	4.4	○	○
	125-R02	1.25	2.00	R0.2	9.525	3.18	4.4	○	○
	145-R02	1.45	2.00	R0.2	9.525	3.18	4.4	○	○
	150-R02	1.50	2.00	R0.2	9.525	3.18	4.4	○	★
	175-R02	1.75	2.00	R0.2	9.525	3.18	4.4	○	○
	185-R02	1.85	2.50	R0.2	9.525	3.18	4.4	○	○
	200-R02	2.00	2.50	R0.2	9.525	3.18	4.4	○	★
	250-R02	2.50	2.50	R0.2	9.525	3.18	4.4	○	★
	300-R02	3.00	3.00	R0.2	9.525	3.18	4.4	○	★
GBA43R/L	125-R02	1.25	2.00	R0.2	12.70	4.76	5.5	○	○
	145-R02	1.45	2.00	R0.2	12.70	4.76	5.5	○	○
	150-R02	1.50	3.50	R0.2	12.70	4.76	5.5	○	★
	175-R02	1.75	3.50	R0.2	12.70	4.76	5.5	○	○
	185-R02	1.85	3.50	R0.2	12.70	4.76	5.5	○	○
	200-R02	2.00	3.50	R0.2	12.70	4.76	5.5	○	★
	230-R02	2.30	3.50	R0.2	12.70	4.76	5.5	○	○
	250-R03	2.50	4.00	R0.3	12.70	4.76	5.5	○	★
	265-R03	2.65	4.00	R0.3	12.70	4.76	5.5	○	○
	280-R03	2.80	4.00	R0.3	12.70	4.76	5.5	○	○

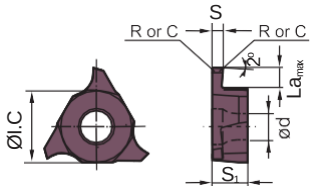
★Recommended grade (always stock available) ●Available grade (always stock available) ○ Make-to-order

GBA series shallow grooving inserts

Square head shallow groove inserts



R-type shown



Type		Basic dimensions(mm)						Grade	
								PVD Coating	
		$S^{\pm 0.025}$	La_{max}	R/C	ØI.C	S_1	Ød	MGC500	MGM720
GBA43R/L	300-R03	3.00	4.00	R0.3	12.70	4.76	5.5	○	★
	320-R03	3.20	4.00	R0.3	12.70	4.76	5.5	○	○
	330-R03	3.30	4.00	R0.3	12.70	4.76	5.5	○	○
	350-R03	3.50	5.00	R0.3	12.70	4.76	5.5	○	★
	400-R04	4.00	5.00	R0.4	12.70	4.76	5.5	○	★
	430-R04	4.30	5.00	R0.4	12.70	4.76	5.5	○	○
	450-R04	4.50	5.00	R0.4	12.70	4.76	5.5	○	○
	480-R04	4.80	5.00	R0.4	12.70	5.06	5.5	○	○

★Recommended grade (always stock available) ●Available grade (always stock available) ○ Make-to-order

Example of special specification customization:

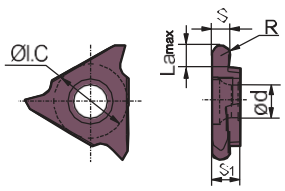
1. Custom-made insert width of 1.6mm, the tip form of the arc form, arc radius of 0.3mm right blade, I.C value of 12.7mm, then the custom-made insert model is GBA43R160-R03.

2. Customized edge width range: GBA11：0.50~3.0mm；GBA16：0.50~3.0mm；GBA43：1.0~4.8mm。

Round head shallow groove inserts



R-type shown



Type		Basic dimensions(mm)						Grade	
								PVD Coating	
		$S^{\pm 0.025}$	La_{max}	R/C	ØI.C	S_1	Ød	MGC500	MGM720
GBA16R/L	200R	2.00	2.50	1.00	12.70	3.18	4.4	○	○
	300R	3.00	2.50	1.50	12.70	3.18	4.4	○	○
GBA43R/L	100R	1.00	2.00	0.50	12.70	4.76	5.5	○	○
	150R	1.50	3.50	0.75	12.70	4.76	5.5	○	○
	200R	2.00	3.50	1.00	12.70	4.76	5.5	○	○
	250R	2.50	4.00	1.25	12.70	4.76	5.5	○	○
	300R	3.00	4.00	1.50	12.70	4.76	5.5	○	○
	400R	4.00	5.00	2.00	12.70	4.76	5.5	○	○

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

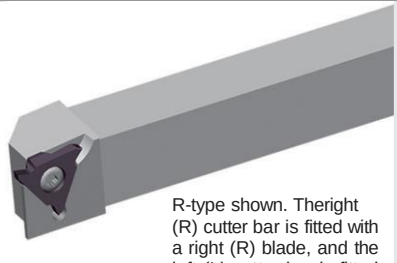
Example of special specification customization:

Custom-made inserts width of 1.6mm, the tip form of the arc form, the arc radius of 0.8mm right insert, then the custom-made insert model is GBA43R160R.

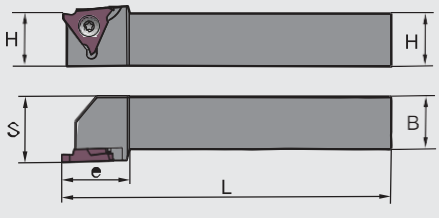
Grooving tools overview

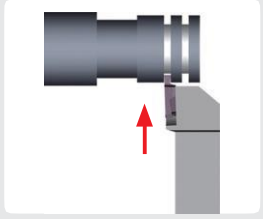
GBA series shallow grooving inserts

External shallow groove tools



R-type shown. Theright (R) cutter bar is fitted with a right (R) blade, and the left (L) cutter bar is fitted with a left (L) blade.

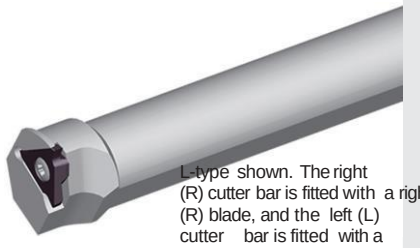




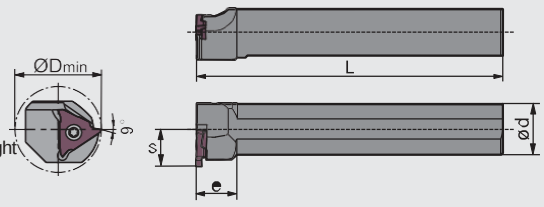
Type		Stock	Basic dimensions(mm)					Width (mm)	Applicable inserts	Screw	Wrench
			H	B	S	e	L				
MGBR/L	1616K16-15	▲	16	16	21	25.5	125	1.1-1.8	GBA16R/L 110~180	4015-M3.5x10	80-T15
	2020K16-15	▲	20	20	25		125				
	2525M16-15	▲	25	25	30		150				
	1616K16-25	▲	16	16	21		125	1.8-3.0	GBA16R/L 180~300		
	2020K16-25	▲	20	20	25		125				
	2525M16-25	▲	25	25	30		150				
	2020K43-15	▲	20	20	25		125	1.0-2.3	GBA43R/L 100~230	1020 M5x11	80-T20
	2525M43-15	▲	25	25	30		150				
	2020K43-25	▲	20	20	25		125	2.3-3.3	GBA43R/L 230~330		
	2525M43-25	▲	25	25	30		150				
	2020K43-35	▲	20	20	25		125	3.3-4.8	GBA43R/L 330~480		
	2525M43-35	▲	25	25	30		150				

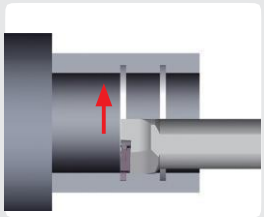
▲Stock available △Make-to-order

Internal shallow groove tools



L-type shown. The right (R) cutter bar is fitted with a right (R) blade, and the left (L) cutter bar is fitted with a left (L) blade.





Type	Stock	Basic dimensions(mm)					Width (mm)	Applicable inserts	Screw	Wrench
		ØDmin	ød	S	e	L				
S16M-GBA1118R/L 20	▲	16	20	12.0	40	150	0.5-1.8	GBA11R/L 050~180	3008 M2.5x6	08-T8
S20M-GBA1618R/L 20	▲	25	20	13.5	35	150	0.5-1.8	GBA16R/L 050~180	4015-M3.5x10	08-T15
S20M-GBA1625R/L 20	▲	25	20	13.5	35	150	0.5-2.5	GBA16R/L 050~250		
S25M-GBA4323R/L 25	▲	35	25	18.2	35	150	1.0-2.3	GBA43R/L 100~230	1020 M5x11	08-T20
S25M-GBA4333R/L 25	▲	35	25	18.2	35	150	2.5-3.3	GBA43R/L 100~230		
S25M-GBA4348R/L 25	▲	35	25	18.2	35	150	3.3-4.8	GBA43R/L 250~330		
S32M-GBA4323R/L 32	▲	45	32	23.2	35	150	1.0-2.3	GBA43R/L 100~230		

▲Stock available △Make-to-order

● Recommended cutting parameters for GBA series shallow groove tools

Processed material	Recommended insert material (cutting speed m/min)		A: Tool feed for grooving(mm/r)				
	PVD Coating		B: Tool feed for transverse machining(mm/r)				
	MGC500	MGM720	C: Depth of cut for transverse machining(mm)				
			GBA..R/L050-120	GBA..R/L125-225	GBA..R/L230-325	GBA..R/L30-400	GBA..R/L400-480
Carbon Steel	80-180	80-180	A: 0.03-0.08	A: 0.04-0.09	A: 0.05-0.1	A: 0.05-0.12	A: 0.05-0.12
			Non-horizontal processing	B: 0.04-0.09	B: 0.05-0.1	B: 0.05-0.1	B: 0.05-1
			Non-horizontal processing	C: 0.3(MAX)	C: 0.5(MAX)	C: 0.5(MAX)	C: 0.8(MAX)
Alloy Steel	80-160	80-160	A: 0.03-0.07	A: 0.04-0.08	A: 0.05-0.09	A: 0.05-0.1	A: 0.05-0.1
			Non-horizontal processing	B: 0.04-0.08	B: 0.05-0.09	B: 0.05-0.1	B: 0.05-1
			Non-horizontal processing	C: 0.3(MAX)	C: 0.5(MAX)	C: 0.5(MAX)	C: 0.5(MAX)
Stainless Steel	60-130	60-130	A: 0.03-0.07	A: 0.04-0.08	A: 0.05-0.09	A: 0.05-0.1	A: 0.05-0.1
			Non-horizontal processing	B: 0.04-0.08	B: 0.05-0.09	B: 0.05-0.1	B: 0.05-1
			Non-horizontal processing	C: 0.3(MAX)	C: 0.5(MAX)	C: 0.5(MAX)	C: 0.5(MAX)

The cutting parameters above are applicable to external grooving. When machining internal hole grooves, please reduce the cutting speed and feed by 10%.



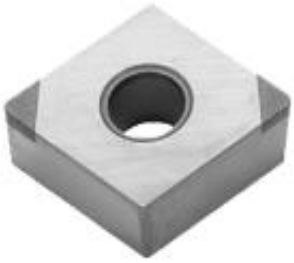


PCD Inserts



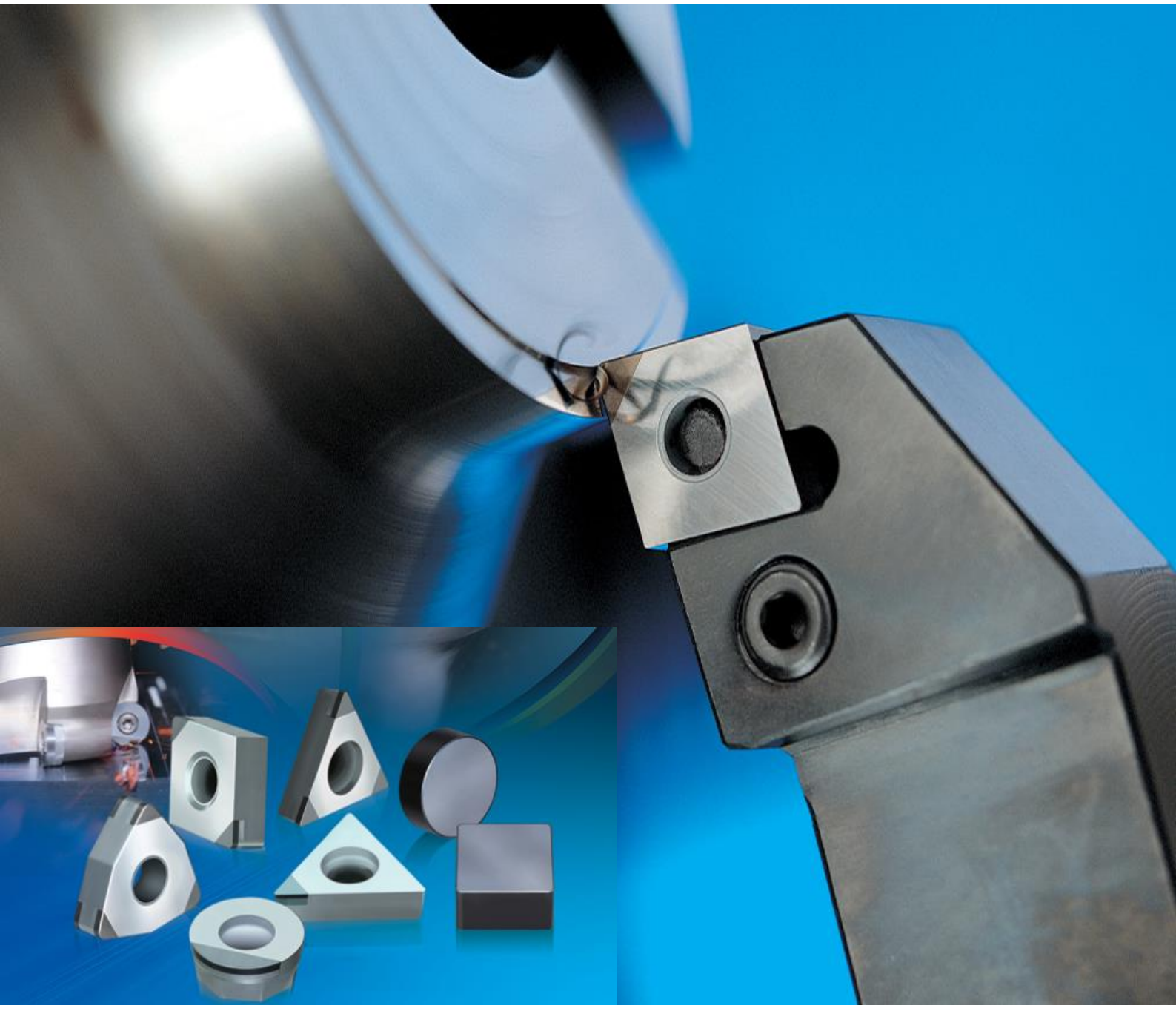
Non-Ferrous

CBN Inserts

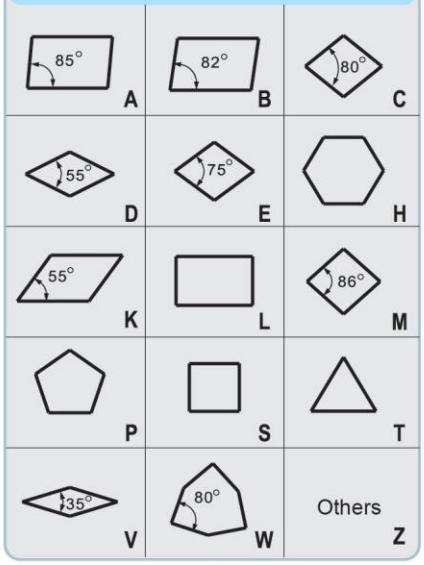


Hardened Steel

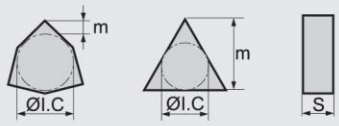
MEGACUT



Insert shape



Tolerance class



Code	Nose height M Tolerance(mm)	Inscribed circle Tolerance(mm)	Thickness S Tolerance(mm)	Code	Nose height M Tolerance(mm)	Inscribed circle Tolerance(mm)	Thickness S Tolerance(mm)
A	±0.005	±0.025	±0.025	J	±0.005	±0.05-±0.13	±0.025
F	±0.005	±0.013	±0.025	K	±0.013	±0.05-±0.13	±0.025
C	±0.013	±0.025	±0.025	L	±0.025	±0.05-±0.13	±0.025
H	±0.013	±0.013	±0.025	M	±0.08-±0.18	±0.05-±0.13	±0.13
E	±0.025	±0.025	±0.025	N	±0.08-±0.18	±0.05-±0.13	±0.025
G	±0.025	±0.025	±0.13	U	±0.13-±0.38	±0.08-±0.25	±0.13

C N G A 12

Clearance angle of main cutting edge

Code	Clearance angle	Code	Clearance angle
A	3°	B	5°
C	7°	D	15°
E	20°	F	25°
G	30°	N	0°
P	11°	O	Other clearance angle

Chipbreaker and clamping system

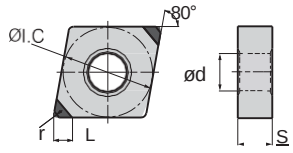
Code	With/ Without hole	Section plane of insert
N	Without	
B	With	>65°
C	With	>65°
A	With	
W	With	≤65°
Q	With	≤65°
X	---	Special

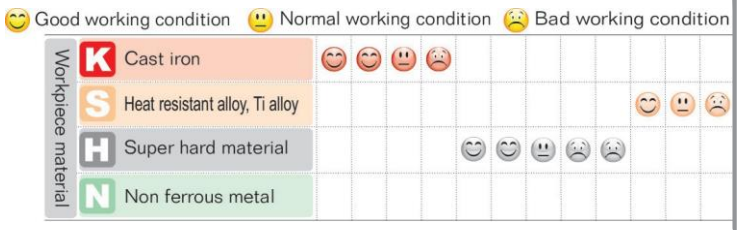
Length of cutting edge

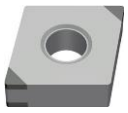
Diameter of IC (mm)	Insert shape C	D	R	S	T	V	W
3.97					06		
5.0			05				
5.56					09		
6.0			06				
6.35	06	07			11	11	
8.0			08				
9.525	09	11	09	09	16	16	06
10.0			10				
12.0			12				
12.7	12	15	12	12	22	22	08
15.875	16		15	15	27		
16.0		19	16				
19.05	19		19	19	33		
20.0			20				
25.0	25	25	25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

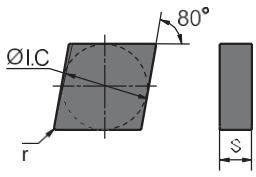
CBN tools overview

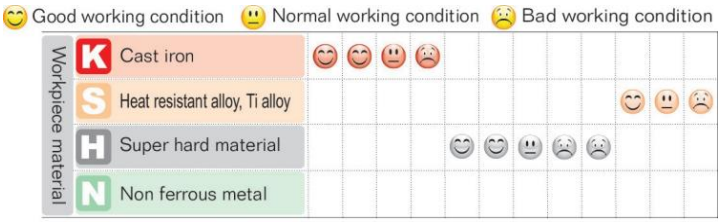
CN□□ (Negative angle)





Type	Shape of insert	Model	Dimension(mm)					Cast iron			Hardened steel			Powder alloy& Superalloy		
			ØI.C	S	ød	r	L	MGK111	MGK112		MGH211	MGH221	MGH222	MGS111	MGS211	MGS311
insert		**CNGA120404-2**	12.7	4.76	5.156	0.4	2.5	○	○							
		CNGA120408-2	12.7	4.76	5.156	0.8	2.4	○	○							
		CNGA120412-2	12.7	4.76	5.156	1.2	2.3	○	○							
		CNGA120404-4	12.7	4.76	5.156	0.4	2.5				★	★	○			
		CNGA120408-4	12.7	4.76	5.156	0.8	2.4				★	★	○			
		CNGA120412-4	12.7	4.76	5.156	1.2	2.3				★	★	○			





Type	Shape of insert	Model	Specifi -cation	Dimension(mm)			Cast iron			Hardened steel			Powder alloy& Superalloy		
				ØI.C	S	r	MGK111	MGK112		MGH211	MGH221	MGH222	MGS111	MGS211	MGS311
Intact insert		**CNGN120404SE**	**SE**	12.7	4.76	0.4		○							
		CNGN120408SE		12.7	4.76	0.8		○							
		CNGN120412SE		12.7	4.76	1.2		○							

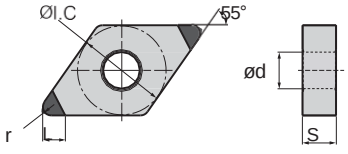
According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below. 0.5mm.

★ Recommended grade (always stock available) ○ Make-to-order

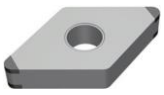
CBN inserts

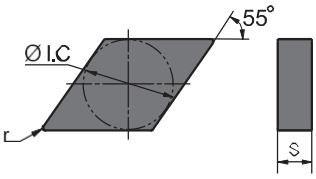
DN□□ (Negative angle)



Good working condition Normal working condition Bad working condition

Workpiece material
- K Cast iron
- S Heat resistant alloy, Ti alloy
- H Super hard material
- N Non ferrous metal

Type	Shape of insert	Model	Dimension(mm)					Cast iron			Hardened steel			Powder alloy& Superalloy		
			ØI.C	S	ød	r	L	MGK111	MGK112		MGH211	MGH221	MGH222	MGS111	MGS211	MGS311
insert		DNGA150404-2	12.7	4.76	5.156	0.4	2.5	○	○		○	○		○	○	○
		DNGA150408-2	12.7	4.76	5.156	0.8	2.1	○	○		○	○		○	○	○
		DNGA150412-2	12.7	4.76	5.156	1.2	2.0	○	○		○	○		○	○	○
		DNGA150604-4	12.7	6.35	5.156	0.4	2.5	○	○		○	○		○	○	○
		DNGA150608-4	12.7	6.35	5.156	0.8	2.1	○	○		○	○		○	○	○
		DNGA150612-4	12.7	6.35	5.156	1.2	2.0	○	○		○	○		○	○	○



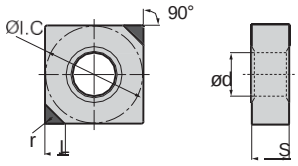
Good working condition Normal working condition Bad working condition

Workpiece material
- K Cast iron
- S Heat resistant alloy, Ti alloy
- H Super hard material
- N Non ferrous metal

Type	Shape of insert	Model	Specifi -cation	Dimension(mm)			Cast iron			Hardened steel			Powder alloy& Superalloy		
				ØI.C	S	r	MGK111	MGK112		MGH211	MGH221	MGH222	MGS111	MGS211	MGS311
Intact insert		DNGN150404SE	SE	12.7	4.76	0.4		○							
		DNGN150408SE		12.7	4.76	0.8		○							
		DNGN150412SE		12.7	4.76	1.2		○							
		DNGN150604SE		12.7	6.35	0.4		○							
		DNGN150608SE		12.7	6.35	0.8		○							
		DNGN150612SE		12.7	6.35	1.2		○							

CBN tools overview

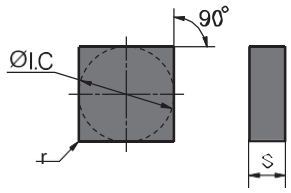
SN□□ (Negative angle)



Good working condition | Normal working condition | Bad working condition

Workpiece material:
- K Cast iron
- S Heat resistant alloy, Ti alloy
- H Super hard material
- N Non ferrous metal

Type	Shape of insert	Model	Dimension(mm)					Cast iron				Hardened steel					Powder alloy& Superalloy		
			ØI.C	S	ød	r	L	MGK111	MGK112			MGH211	MGH221	MGH222			MGS111	MGS211	MGS311
insert		SNGA120404-2	12.7	4.76	5.156	0.4	2.5	○	○			○	○				○	○	
		SNGA120408-2	12.7	4.76	5.156	0.8	2.2	○	○			○	○				○	○	
		SNGA120412-2	12.7	4.76	5.156	1.2	2.0	○	○			○	○				○	○	
		SNGA120404-4	12.7	4.76	5.156	0.4	2.5	★	★			★	★				★	★	
		SNGA120408-4	12.7	4.76	5.156	0.8	2.2	★	★			★	★				★	★	
		SNGA120412-4	12.7	4.76	5.156	1.2	2.0	★	★			★	★				★	★	
		SNGA120404-8	12.7	4.76	5.156	0.4	2.5	○	○			○	○	○	○	○	○	○	
		SNGA120408-8	12.7	4.76	5.156	0.8	2.2	○	○			○	○	○	○	○	○	○	
		SNGA120412-8	12.7	4.76	5.156	1.2	2.0	○	○			○	○	○	○	○	○	○	



Good working condition | Normal working condition | Bad working condition

Workpiece material:
- K Cast iron
- S Heat resistant alloy, Ti alloy
- H Super hard material
- N Non ferrous metal

Type	Shape of insert	Model	Specifi -cation	Dimension(mm)			Cast iron				Hardened steel					Powder alloy& Superalloy		
				ØI.C	S	r	MGK111	MGK112			MGH211	MGH221	MGH222			MGS111	MGS211	MGS311
Intact insert		SNGN120404SE	SE	12.7	4.76	0.4			○									
		SNGN120408SE		12.7	4.76	0.8			○									
		SNGN120412SE		12.7	4.76	1.2			○									

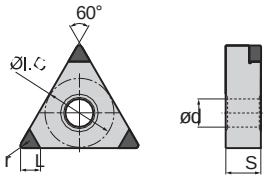
According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below. 0.5mm.

★ Recommended grade (always stock available) ○ Make-to-order

CBN inserts

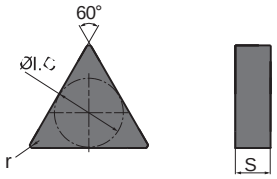
TN□□ (Negative angle)



Good working condition Normal working condition Bad working condition

Workpiece material:
- K Cast iron
- S Heat resistant alloy, Ti alloy
- H Super hard material
- N Non ferrous metal

Type	Shape of insert	Model	Dimension(mm)					Cast iron			Hardened steel			Powder alloy& Superalloy		
			ØI.C	S	ød	r	L	MGK111	MGK112		MGH211	MGH221	MGH222	MGS111	MGS211	MGS311
insert		**TNGA160404-3**	9.525	4.76	3.81	0.4	2.5	○	○		○	○	○	○	○	○
		TNGA160408-3	9.525	4.76	3.81	0.8	2.2	○	○		○	○	○	○	○	○
		TNGA160412-3	9.525	4.76	3.81	1.2	2.0	○	○		○	○	○	○	○	○
		TNGA160404-6	9.525	4.76	3.81	0.4	2.5	○	○		○	○	○	○	○	○
		TNGA160408-6	9.525	4.76	3.81	0.8	2.2	○	○		○	○	○	○	○	○
		TNGA160412-6	9.525	4.76	3.81	1.2	2.0	○	○		○	○	○	○	○	○



Good working condition Normal working condition Bad working condition

Workpiece material:
- K Cast iron
- S Heat resistant alloy, Ti alloy
- H Super hard material
- N Non ferrous metal

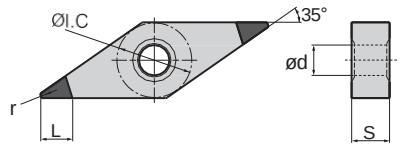
Type	Shape of insert	Model	Specifi -cation	Dimension(mm)			Cast iron			Hardened steel			Powder alloy& Superalloy		
				ØI.C	S	r	MGK111	MGK112		MGH211	MGH221	MGH222	MGS111	MGS211	MGS311
Intact insert		**TNGN160404SE**	**SE**	9.525	4.76	0.4		○							
		TNGN160408SE		9.525	4.76	0.8		○							
		TNGN160412SE		9.525	4.76	1.2		○							

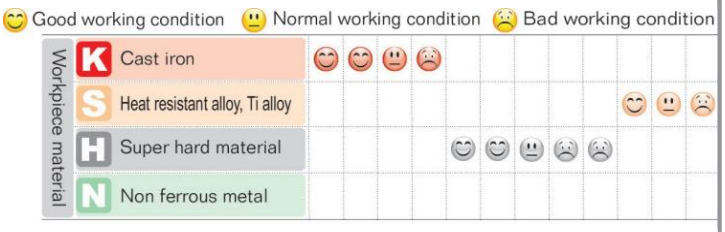
According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

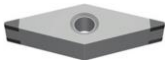
When using PCBN blades, please try to keep the cutting depth below. 0.5mm.
★ Recommended grade (always stock available) ○ Make-to-order

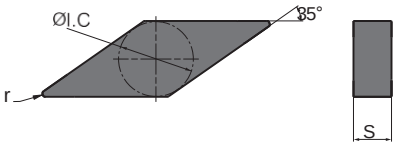
CBN tools overview

VN□□ (Negative angle)





Type	Shape of insert	Model	Dimension(mm)					Cast iron			Hardened steel			Powder alloy& Superalloy		
			ØI.C	S	ød	r	L	MGK111	MGK112		MGH211	MGH221	MGH222	MGS111	MGS211	MGS311
insert		VNGA160404-2	9.525	4.76	3.81	0.4	2.8	○	○		○	○	○	○	○	○
		VNGA160408-2	9.525	4.76	3.81	0.8	2.5	○	○		○	○	○	○	○	○
		VNGA160412-2	9.525	4.76	3.81	1.2	2.0	○	○		○	○	○	○	○	○
		VNGA160404-4	9.525	4.76	3.81	0.4	2.8	★	★		★	★	★	★	★	★
		VNGA160408-4	9.525	4.76	3.81	0.8	2.5	★	★		★	★	★	★	★	★
		VNGA160412-4	9.525	4.76	3.81	1.2	2.0	★	★		★	★	★	★	★	★





Type	Shape of insert	Model	Specifi -cation	Dimension(mm)			Cast iron			Hardened steel			Powder alloy& Superalloy		
				ØI.C	S	r	MGK111	MGK112		MGH211	MGH221	MGH222	MGS111	MGS211	MGS311
Intact insert		VNGN160402SE	SE	9.525	4.76	0.4	○	○							
		VNGN160404SE		9.525	4.76	0.4	○	○							
		VNGN160408SE		9.525	4.76	0.8	○	○							
		VNGN160412SE		9.525	4.76	1.2	○	○							

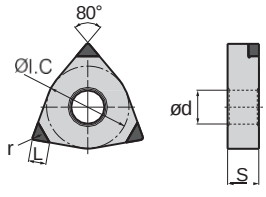
According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below. 0.5mm.

★ Recommended grade (always stock available) ○ Make-to-order

CBN inserts

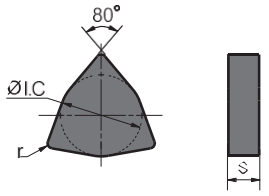
WN□□ (Negative angle)



Good working condition 😊 Normal working condition 😐 Bad working condition 😞

Workpiece material		
K	Cast iron	😊 😊 😐 😞
S	Heat resistant alloy, Ti alloy	😊 😐 😞
H	Super hard material	😊 😊 😐 😞 😞
N	Non ferrous metal	

Type	Shape of insert	Model	Dimension(mm)					Cast iron			Hardened steel			Powder alloy& Superalloy		
			ØI.C	S	ød	r	L	MGK111	MGK112		MGH211	MGH221	MGH222	MGS111	MGS211	MGS311
insert		WNGA080404-3	12.7	4.76	5.16	0.4	2.5	○	○		○	○		○	○	
		WNGA080408-3	12.7	4.76	5.16	0.8	2.4	○	○		○	○		○	○	
		WNGA080412-3	12.7	4.76	5.16	1.2	2.3	○	○		○	○		○	○	
		WNGA080404-6	12.7	4.76	5.16	0.4	2.5	★	★		★	★		★	★	
		WNGA080408-6	12.7	4.76	5.16	0.8	2.4	★	★		★	★		★	★	
		WNGA080412-6	12.7	4.76	5.16	1.2	2.3	★	★		★	★		★	★	



Good working condition 😊 Normal working condition 😐 Bad working condition 😞

Workpiece material		
K	Cast iron	😊 😊 😐 😞
S	Heat resistant alloy, Ti alloy	😊 😐 😞
H	Super hard material	😊 😊 😐 😞 😞
N	Non ferrous metal	

Type	Shape of insert	Model	Specifi-cation	Dimension(mm)			Cast iron			Hardened steel			Powder alloy& Superalloy		
				ØI.C	S	r	MGK111	MGK112		MGH211	MGH221	MGH222	MGS111	MGS211	MGS311
Intact insert		WNGN080404SE	SE	12.7	4.76	0.4		○							
		WNGN080408SE		12.7	4.76	0.8		○							
		WNGN080412SE		12.7	4.76	1.2		○							

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

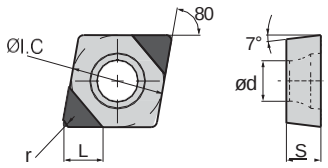
When using PCBN blades, please try to keep the cutting depth below. 0.5mm.

★ Recommended grade (always stock available) ○ Make-to-order

CBN-PCD

CBN tools overview

CC□□ (Positive angle)



Good working condition Normal working condition Bad working condition

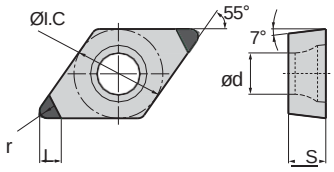
Workpiece material
- K Cast iron
- S Heat resistant alloy, Ti alloy
- H Super hard material
- N Non ferrous metal

Insert shape	Sepcification	Dimsension(mm)					Cast iron			Hardened steel			Powder alloy& Superalby		
		ØI.C	S	ød	r	L	MGK111	MGK112		MGH211	MGH221	MGH222	MGS111	MGS211	MGS311
	CCGW060202-2	6.35	2.38	2.8	0.2	2.5	○	○		○	○		○	○	○
	CCGW060204-2	6.35	2.38	2.8	0.4	2.5	○	○		○	○		○	○	○
	CCGW060208-2	6.35	2.38	2.8	0.8	2.4	○	○		○	○		○	○	○
	CCGW09T302-2	9.525	3.97	4.4	0.2	2.5	○	○		○	○		○	○	○
	CCGW09T304-2	9.525	3.97	4.4	0.4	2.5	○	○		○	○		○	○	○
	CCGW09T308-2	9.525	3.97	4.4	0.8	2.4	○	○		○	○		○	○	○
	CCGW120402-2	12.7	4.76	5.5	0.2	2.5	○	○		○	○		○	○	○
	CCGW120404-2	12.7	4.76	5.5	0.4	2.5	○	○		○	○		○	○	○
	CCGW120408-2	12.7	4.76	5.5	0.8	2.4	○	○		○	○		○	○	○

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

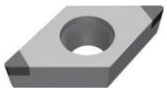
When using PCBN blades, please try to keep the cutting depth below. 0.5mm.
★Recommended grade (always stock available) ○Make-to-order

DC□□ (Positive angle)



Good working condition Normal working condition Bad working condition

Workpiece material
- K Cast iron
- S Heat resistant alloy, Ti alloy
- H Super hard material
- N Non ferrous metal

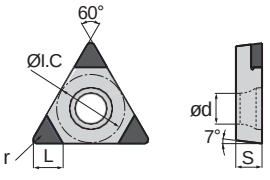
Insert shape	Sepcification	Dimsension(mm)					Cast iron			Hardened steel			Powder alloy& Superalby		
		ØI.C	S	ød	r	L	MGK111	MGK112		MGH211	MGH221	MGH222	MGS111	MGS211	
	DCGW070202AE-2	6.35	2.38	2.8	0.2	2.7	○	○		○	○	○	○	○	○
	DCGW070204AE-2	6.35	2.38	2.8	0.4	2.5	○	○		○	○	○	○	○	○
	DCGW070208AE-2	6.35	2.38	2.8	0.8	2.1	○	○		○	○	○	○	○	○
	DCGW11T302AE-2	9.525	3.97	4.4	0.2	2.7	○	○		○	○	○	○	○	○
	DCGW11T304AE-2	9.525	3.97	4.4	0.4	2.5	○	○		○	○	○	○	○	○
	DCGW11T308AE-2	9.525	3.97	4.4	0.8	2.1	○	○		○	○	○	○	○	○

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below. 0.5mm.
★Recommended grade (always stock available) ○Make-to-order

CBN inserts

TC□□ (Positive angle)

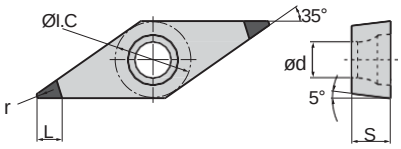


Good working condition Normal working condition Bad working condition

Workpiece material	Cast iron	Heat resistant alloy, Ti alloy	Super hard material	Non ferrous metal
	😊 😊 😐 ☹	😊 😐 ☹	😊 😊 😐 ☹ ☹	

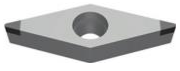
Insert shape	Sepcification	Dimsension(mm)					Cast iron			Hardened steel				Powder alloy& Superalloy		
		ØI.C	S	ød	r	L	MGK111	MGK112		MGH211	MGH221	MGH222		MGS111	MGS211	MGS311
	**TCGW090202-3**	5.56	2.38	2.5	0.2	2.	○	○		○	○			○	○	○
	TCGW090204-3	5.56	2.38	2.5	0.4	2.5	○	○		○	○			○	○	○
	TCGW090208-3	5.56	2.38	2.5	0.8	2.2	○	○		○	○			○	○	○
	TCGW110202-3	6.35	2.38	2.8	0.2	2.5	○	○		○	○			○	○	○
	TCGW110204-3	6.35	2.38	2.8	0.4	2.5	○	○		○	○			○	○	○
	TCGW110208-3	6.35	2.38	2.8	0.8	2.2	○	○		○	○			○	○	○
	TCGW16T304-3	9.525	3.97	4.3	0.4	2.5	○	○		○	○	○	○	○	○	○
	TCGW16T308-3	9.525	3.97	4.3	0.8	2.5	○	○		○	○	○	○	○	○	○
	TCGW16T312-3	9.525	3.97	4.3	1.2	2.2	○	○		○	○	○	○	○	○	○

VB□□ (Positive angle)



Good working condition Normal working condition Bad working condition

Workpiece material	Cast iron	Heat resistant alloy, Ti alloy	Super hard material	Non ferrous metal
	😊 😊 😐 ☹	😊 😐 ☹	😊 😊 😐 ☹ ☹	

Insert shape	Sepcification	Dimsension(mm)					Cast iron			Hardened steel				Powder alloy& Superalloy		
		ØI.C	S	ød	r	L	MGK111	MGK112		MGH211	MGH221	MGH222			MGS111	MGS211
	**VBGW110302-2**	6.35	3.18	2.8	0.4	3.3	○	○		○	○	○		○	○	○
	VBGW110304-2	6.35	3.18	2.8	0.4	2.8	○	○		○	○	○		○	○	○
	VBGW110308-2	6.35	3.18	2.8	0.8	2.5	○	○		○	○	○		○	○	○
	VBGW160402-2	9.525	4.76	4.4	0.2	3.3	○	○		○	○	○		○	○	○
	VBGW160404-2	9.525	4.76	4.4	0.4	2.8	○	○		○	○	○		○	○	○
	VBGW160408-2	9.525	4.76	4.4	0.8	2.5	○	○		○	○	○		○	○	○
	VBGW160412-2	9.525	4.76	4.4	0.2	2.2	○	○		○	○	○		○	○	○

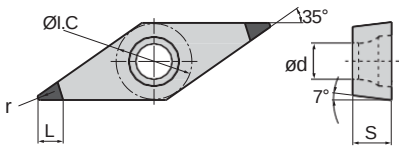
According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

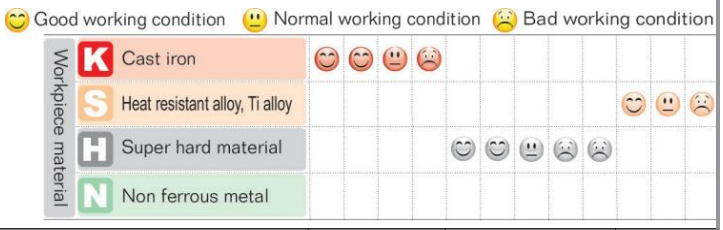
When using PCBN blades, please try to keep the cutting depth below. 0.5mm.

★Recommended grade (always stock available) ○Make-to-order

CBN tools overview

VC□□（Positive angle）





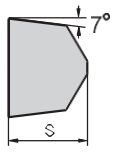
Insert shape	Sepcification	Dimsension(mm)					Cast iron			Hardened steel			Powder alloy& Superalby		
		ØI.C	S	ød	r	L	MGK111	MGK112		MGH211	MGH221	MGH222	MGS111	MGS211	MGK111
	**VCGW110302-2**	6.35	3.18	2.8	0.2	3.3	○	○		○	○	○	○	○	○
	VCGW110304-2	6.35	3.18	2.8	0.4	2.8	○	○		○	○	○	○	○	○
	VCGW110308-2	6.35	3.18	2.8	0.8	2.5	○	○		○	○	○	○	○	○
	VCGW160402-2	9.525	4.76	4.4	0.2	3.3	○	○		○	○	○	○	○	○
	VCGW160404-2	9.525	4.76	4.4	0.4	2.8	○	○		○	○	○	○	○	○
	VCGW160408-2	9.525	4.76	4.4	0.8	2.5	○	○		○	○	○	○	○	○
	VCGW160412-2	9.525	4.76	4.4	1.2	2.2	○	○		○	○	○	○	○	○

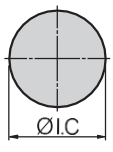
According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below. 0.5mm.

★Recommended grade (always stock available) ○Make-to-order

CBN inserts





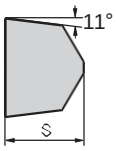
Good working condition Normal working condition Bad working condition

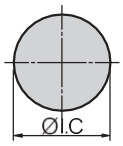
Workpiece material	
K Cast iron	☹
S Heat resistant alloy	😐
H Super hard material	😐

Inserts shape	Type	Dimensions(mm)		Grade
		ØI.C	S	MGH221
	**RCGN090700T**	9.525	7.94	○
	RCGN120700T	12.7	7.94	○

★Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

2.Tailor-made nonstandard CRXCR





Good working condition Normal working condition Bad working condition

Workpiece material	
K Cast iron	☹
S Heat resistant alloy	😐
H Super hard material	😐

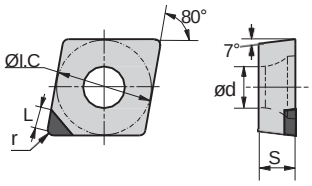
Inserts shape	Type	Dimensions(mm)		Grade
		ØI.C	S	MGH221
	**RPGN090700T**	9.525	7.94	○
	RPGN120700T	12.7	7.94	○

★Recommended grade (always stock available) ● Available grade (always stock available) ○ Make-to-order

PCD inserts

PCD tools overview

CC□□ (Positive angle)



Good working condition | Normal working condition | Bad working condition

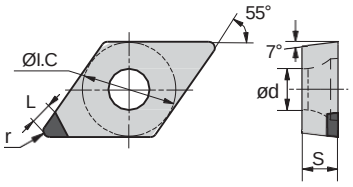
Workpiece material					
K	Cast iron				
S	Heat resistant alloy, Ti alloy				
H	Super hard material				
N	Non ferrous metal	😊	😊	😐	☹

Type	Shape	Specification	Dimension(mm)					Grade			
			ØI.C	S	ød	r	L	MGS121	MGS200	MGS201	MGS202
7° rake angle		CCGW060202AF	6.35	2.38	2.8	0.2	2.6	○	○	○	○
		CCGW060204AF	6.35	2.38	2.8	0.4	2.5	★	★	★	★
		CCGW060208AF	6.35	2.38	2.8	0.8	2.4	○	○	○	○
		CCGW09T302AF	9.525	3.97	4.4	0.2	2.6	○	○	○	○
		CCGW09T304AF	9.525	3.97	4.4	0.4	2.5	○	○	○	○
		CCGW09T308AF	9.525	3.97	4.4	0.8	2.4	★	★	★	★
		CCGW120402AF	12.7	4.76	5.5	0.2	2.6	○	○	○	○
		CCGW120404AF	12.7	4.76	5.5	0.4	2.5	○	○	○	○
		CCGW120408AF	12.7	4.76	5.5	0.8	2.4	★	★	★	★
		CCGT060202	6.35	2.38	2.8	0.2	2.6	○	○	○	○
		CCGT060204	6.35	2.38	2.8	0.4	2.5	○	○	○	○
		CCGT060208	6.35	2.38	2.8	0.8	2.4	○	○	○	○
		CCGT09T302	9.525	3.97	4.4	0.2	2.6	○	○	○	○
		CCGT09T304	9.525	3.97	4.4	0.4	2.5	○	○	○	○
		CCGT09T308	9.525	3.97	4.4	0.8	2.4	○	○	○	○
		CCGT120402	12.7	4.76	5.5	0.2	2.6	○	○	○	○
		CCGT120404	12.7	4.76	5.5	0.4	2.5	○	○	○	○
		CCGT120408	12.7	4.76	5.5	0.8	2.4	○	○	○	○

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

★ Recommended grade (always stock available) ○ Make-to-order

DC□□ (Positive angle)



Workpiece material	Good working condition	Normal working condition	Bad working condition
K Cast iron			
S Heat resistant alloy, Ti alloy			
H Super hard material			
N Non ferrous metal	😊	😊	😐	☹

Type	Shape	Specification	Dimension(mm)					Grade			
			ØI.C	S	ød	r	L	MGS121	MGS200	MGS201	MGS202
7° rake angle		**DCGW070202AF**	6.35	2.38	2.8	0.2	2.7	○	○	○	○
		DCGW070204AF	6.35	2.38	2.8	0.4	2.5	○	○	○	○
		DCGW070208AF	6.35	2.38	2.8	0.8	2.1	★	★	★	★
		DCGW11T302AF	9.525	3.97	4.4	0.2	2.7	○	○	○	○
		DCGW11T304AF	9.525	3.97	4.4	0.4	2.5	○	○	○	○
		DCGW11T308AF	9.525	3.97	4.4	0.8	2.1	★	★	★	★
		DCGT070202	6.35	2.38	2.8	0.2	2.7	○	○	○	○
		DCGT070204	6.35	2.38	2.8	0.4	2.5	○	○	○	○
		DCGT070208	6.35	2.38	2.8	0.8	2.1	○	○	○	○
		DCGT11T302	9.525	3.97	4.4	0.2	2.7	○	○	○	○
		DCGT11T304	9.525	3.97	4.4	0.4	2.5	○	○	○	○
		DCGT11T308	9.525	3.97	4.4	0.8	2.1	○	○	○	○

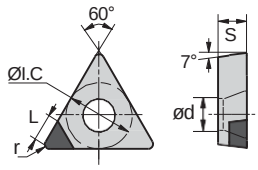
According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

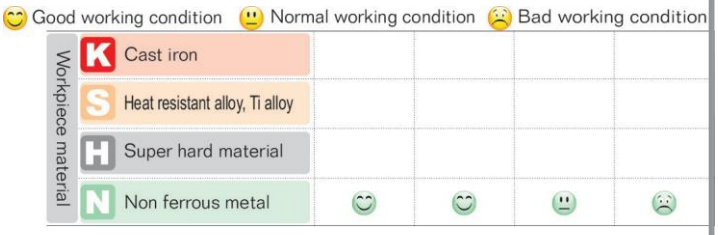
★ Recommended grade (always stock available) ○ Make-to-order

PCD inserts

PCD tools overview

TC□□ (Positive inserts)



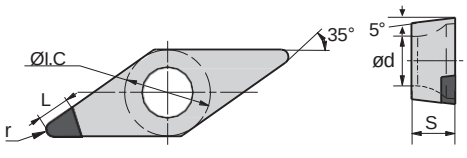


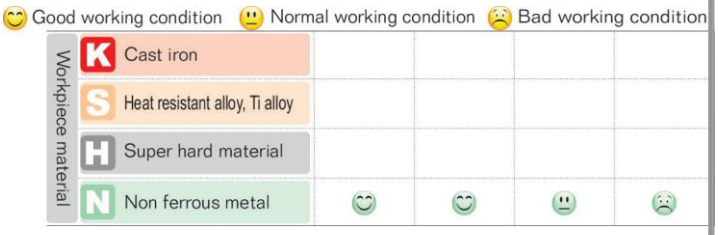
Type	Shape	Specification	Dimension(mm)					Grade			
			ØI.C	S	ød	r	L	MGS121	MGS200	MGS201	MGS202
7° rake angle		**TCGW090202AF**	5.56	2.38	2.5	0.2	2.5	○	○	○	○
		TCGW090204AF	5.56	2.38	2.5	0.4	2.5	○	○	○	○
		TCGW090208AF	5.56	2.38	2.5	0.8	2.2	★	★	★	★
		TCGW110202AF	6.35	2.38	2.8	0.2	2.5	○	○	○	○
		TCGW110204AF	6.35	2.38	2.8	0.4	2.5	○	○	○	○
		TCGW110208AF	6.35	2.38	2.8	0.8	2.2	★	★	★	★
		TCGW16T302AF	9.525	3.97	4.4	0.2	2.5	○	○	○	○
		TCGW16T304AF	9.525	3.97	4.4	0.4	2.5	○	○	○	○
		TCGW16T308AF	9.525	3.97	4.4	0.8	2.2	○	○	○	○
		TCGT090202	5.56	2.38	2.5	0.2	2.5	○	○	○	○
		TCGT090204	5.56	2.38	2.5	0.4	2.5	○	○	○	○
		TCGT090208	5.56	2.38	2.5	0.8	2.2	○	○	○	○
		TCGT110202	6.35	2.38	2.8	0.2	2.5	○	○	○	○
		TCGT110204	6.35	2.38	2.8	0.4	2.5	○	○	○	○
		TCGT110208	6.35	2.38	2.8	0.8	2.2	○	○	○	○
		TCGT16T302	9.525	3.97	4.4	0.2	2.5	○	○	○	○
		TCGT16T304	9.525	3.97	4.4	0.4	2.5	○	○	○	○
		TCGT16T308	9.525	3.97	4.4	0.8	2.2	○	○	○	○

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

★ Recommended grade (always stock available) ○ Make-to-order

VB□□ (Positive inserts)





Type	Shape	Specification	Dimension(mm)					Grade			
			ØI.C	S	ød	r	L	MGS121	MGS200	MGS201	MGS202
5° rake angl		**VBGW110302AF**	6.35	3.18	2.8	0.2	3.3	○	○	○	○
		VBGW110304AF	6.35	3.18	2.8	0.4	2.8	○	○	○	○
		VBGW110308AF	6.35	3.18	2.8	0.8	2.5	★	★	★	★
		VBGT110302	6.35	3.18	2.8	0.2	3.3	○	○	○	○
		VBGT110304	6.35	3.18	2.8	0.4	2.8	○	○	○	○
		VBGT110308	6.35	3.18	2.8	0.8	2.5	○	○	○	○
		VBGW160402AF	9.525	4.76	4.4	0.2	3.3	○	○	○	○
		VBGW160404AF	9.525	4.76	4.4	0.4	2.8	○	○	○	○
		VBGW160408AF	9.525	4.76	4.4	0.8	2.5	★	★	★	★
		VBGT160402	9.525	4.76	4.4	0.2	3.3	○	○	○	○
		VBGT160404	9.525	4.76	4.4	0.4	2.8	○	○	○	○
		VBGT160408	9.525	4.76	4.4	0.8	2.5	○	○	○	○

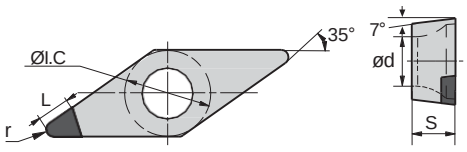
According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

★ Recommended grade (always stock available) ○ Make-to-order

PCD inserts

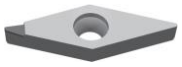
PCD tools overview

VC□□ （Positive inserts）



Good working condition Normal working condition Bad working condition

Workpiece material					
K	Cast iron				
S	Heat resistant alloy, Ti alloy				
H	Super hard material				
N	Non ferrous metal	😊	😊	😐	☹

Type	Shape	Specification	Dimension(mm)					Grade			
			ØI.C	S	ød	r	L	MGS121	MGS200	MGS201	MGS202
7° rake angl		**VCGW110302AF**	9.525	4.76	4.4	0.2	3.3	○	○	○	○
		VCGW110304AF	9.525	4.76	4.4	0.4	2.8	○	○	○	○
		VCGW110308AF	9.525	4.76	4.4	0.8	2.5	○	○	○	○
		VCGT110302	9.525	4.76	4.4	0.2	3.3	○	○	○	○
		VCGT110304	9.525	4.76	4.4	0.4	2.8	○	○	○	○
		VCGT110308	9.525	4.76	4.4	0.8	2.5	○	○	○	○
		VCGW160402AF	9.525	4.76	4.4	0.2	3.3	○	○	○	○
		VCGW160404AF	9.525	4.76	4.4	0.4	2.8	○	○	○	○
		VCGW160408AF	9.525	4.76	4.4	0.8	2.5	○	○	○	○
		VCGT160402	9.525	4.76	4.4	0.2	3.3	○	○	○	○
		VCGT160404	9.525	4.76	4.4	0.4	2.8	○	○	○	○
		VCGT160408	9.525	4.76	4.4	0.8	2.5	○	○	○	○

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

★ Recommended grade (always stock available) ○ Make-to-order

Abnormal failure and solutions for cast iron machining

Abnormal failure		Solution
Breakage	Breakage occurs on chamfer of rake face	Enlarge chamfered negative rake angle
	Edge crashing appears when finishing grey cast iron	
Abrasion	Abrasion occurs when machining nodular cast iron	Change to dry cutting
	Abrasion under dry cutting conditions	Reduce cutting speed
	Abrasion occurs when machining grey cast iron	Change to dry cutting, increase cutting speed
Surface quality	Bad surface finish	Increase cutting speed, increase nose radius, reduce feed rate
	Bad cylindricity and coaxiality	Reduce nose radius, improve stability, change to positive insert
	Burrs	Change to positive insert, reduce chamfer width

Abnormal failure and solutions for hardened steel

Abnormal failure			Solution
Breakage	Cutting edge breakage		Enlarge chamfered negative rake angle; raise cutting speed and reduce feed
	Flaking and crater wear on rake face		Reduce cutting speed
	Thermal cracks		Change to dry cutting; reduce cutting speed
Abrasion	Wear occurs on chamfer of rake face		Reduce cutting speed
	Rapid wear when finishing grey cast iron		
Surface quality	Bad surface finish	Vibration	Reduce chamfered negative rake angle; reduce nose radius; reduce feed rate; improve stability
		Tool mark	Increase nose radius; reduce feed rate; change to dry cutting; increase cutting speed
	Bad cylindricity and coaxiality		Reduce nose radius; improve stability; change to positive insert

CBN grades & application area

Recommeded cutting conditions

Materials		MGH211	MGH221	MGH222	MGS111	MGS211	MGS311	MGK111	MGK112
Gray cast iron (HB 180-230)	V (m/min)							500-1,000	
	f (mm/rev)							0.1-0.3	
Chilled cast iron (> HB 400)	V (m/min)						80-150	80-150	
	f (mm/rev)						0.1-0.2	0.1-0.3	
Hardened Steel (HRc 40-65)	V (m/min)	150-350					100-300	100-300	
	f (mm/rev)	0.05-0.2					0.1-0.3	0.1-0.3	
Sintered metal (Hv 200-600)	V (m/min)						100-300	100-250	
	f (mm/rev)						0.05-0.2	0.1-0.25	
DCI or HSS roll	V (m/min)						200-500		
	f (mm/rev)						0.05-0.2		
Super alloy (Ni-base)	V (m/min)							100-300	
	f (mm/rev)							0.05-0.2	

PCD grades & application area

Recommeded cutting conditions

Materials		MGS121	MGS200	MGS201	MGS202
Aluminium	V (m/min)	1000 (200–1500)	1000 (200–1500)	1000 (200–1500)	1000 (200–1500)
	f (mm/rev)	0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Aluminium Alloy (Si ≤ 16%)	V (m/min)	800 (200–1200)	800 (200–1200)	800 (200–1200)	800 (200–1200)
	f (mm/rev)	0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Aluminium Alloy (Si ≥ 16%)	V (m/min)	600 (200–1000)	600 (200–1000)	600 (200–1000)	600 (200–1000)
Copper Alloy	f (mm/rev)	0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Strengthened Plastic	V (m/min)	700 (200–1200)	700 (200–1200)	700 (200–1200)	700 (200–1200)
	f (mm/rev)	0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Glass Fiber Reinforced Plastic	V (m/min)	600 (100–1000)	600 (100–1000)	600 (100–1000)	600 (100–1000)
Wood Inorganic Board	f (mm/rev)	0.1-0.25	0.1-0.25	0.1-0.25	0.1-0.25
Hard Rubber	V (m/min)	1300 (300–4000)	1300 (300–4000)	1300 (300–4000)	1300 (300–4000)
	f (mm/rev)	0.1-0.4	0.1-0.4	0.1-0.4	0.1-0.4

CERAMICS
CERMET



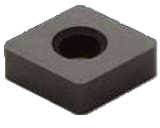


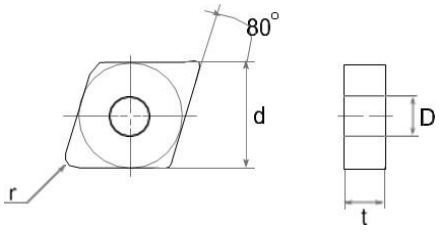
MEGACUT

Choice of Ceramic Grade and Cermet for Workpiece

Application	Grade	Workpiece	Speed (V) (m/min)	Feed (f) (mm/rev)	Depth (DOC) (mm)
CERAMICS	MGC100	Cast iron	150 ~ 800	0.2 ~ 0.5	3 ~ 6
		Chilled Cast Iron	30 ~ 200	0.05 ~ 0.2	0.10 ~ 1.50
		Carbon Steel	150 ~ 800	0.05 ~ 0.50	0.10 ~ 0.50
		High hardened steel (finishing, >HRC 45)	20 ~ 100	0.10 ~ 0.20	0.1 ~ 1.5
	MGC300	Gray Cast Iron (FC)	200 ~ 700	0.2 ~ 0.40	2.0 ~ 5.0
		Steel (HRC 45≤)	300 ~ 1200	0.05 ~ 0.30	0.1 ~ 0.5
	MGC400	Malleable (FCMB)	250 ~ 1200	0.15 ~ 0.40	< 1.0
		Chilled Cast Iron	30 ~ 200	0.05 ~ 0.2	0.10 ~ 1.50
		Bearing Steel	150 ~ 800	0.05 ~ 0.50	0.10 ~ 0.50
	MGC700 MGC800 MGC900	Ni-Based Alloy High temperature alloys Inconel Stellite	180 ~ 1,000	0.05 ~ 0.15	0.5 ~ 2.5
CERMET	MGC500	Carbon Steel	150 ~ 800	0.05 ~ 0.50	0.10 ~ 0.50
		Steel (HRC 45≤)	300 ~ 1200	0.05 ~ 0.30	0.1 ~ 0.5
	MGC600	Ductile Cast Iron	90 ~ 500	0.10 ~ 0.30	< 5.0
		Gray Cast Iron (FC)	200 ~ 700	0.2 ~ 0.40	2.0 ~ 5.0

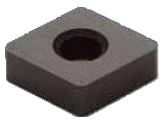
CNGA

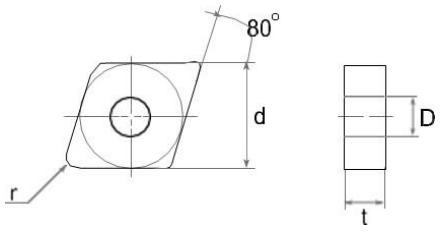




Type		Dimensions (mm)				MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r	D							
CNGA 120404	CNGA 431	12.7	4.76	0.4	5.16							
CNGA 120408	CNGA 432	12.7	4.76	0.8	5.16							
CNGA 120412	CNGA 433	12.7	4.76	1.2	5.16							
CNGA 120416	CNGA 434	12.7	4.76	1.6	5.16							
CNGA 120704	CNGA 451	12.7	7.94	0.4	5.16							
CNGA 120708	CNGA 452	12.7	7.94	0.8	5.16							
CNGA 120712	CNGA 453	12.7	7.94	1.2	5.16							
CNGA 120716	CNGA 454	12.7	7.94	1.6	5.16							
CNGA 160608	CNGA 542	15.87	6.35	0.8	6.35							
CNGA 160612	CNGA 543	15.87	6.35	1.2	6.35							
CNGA 160616	CNGA 544	15.87	6.35	1.6	6.35							
CNGA 160708	CNGA 552	15.87	7.94	0.8	6.35							
CNGA 160712	CNGA 553	15.87	7.94	1.2	6.35							
CNGA 160716	CNGA 554	15.87	7.94	1.6	6.35							
CNGA 190608	CNGA 642	19.05	6.35	0.8	7.93							
CNGA 190612	CNGA 643	19.05	6.35	1.2	7.93							
CNGA 190616	CNGA 644	19.05	6.35	1.6	7.93							
CNGA 190712	CNGA 653	19.05	7.94	1.2	7.93							
CNGA 190716	CNGA 654	19.05	7.94	1.6	7.93							

CNMA

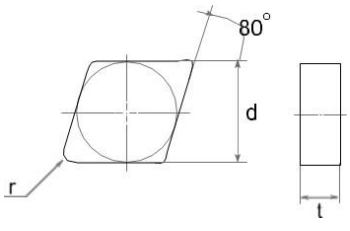




Type		Dimensions (mm)				MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r	D							
CNMA 120408	CNMA 432	12.7	4.76	0.8	5.16							
CNMA 120412	CNMA 433	12.7	4.76	1.2	5.16							
CNMA 120416	CNMA 434	12.7	4.76	1.6	5.16							
CNMA 160612	CNMA 543	15.87	6.35	1.2	6.35							
CNMA 160616	CNMA 544	15.87	6.35	1.6	6.35							

CNGN

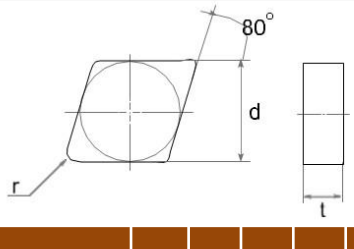




Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r							
CNGN 090304	CNGN 321	9.52	3.18	0.4							
CNGN 090308	CNGN 322	9.52	3.18	0.8							
CNGN 090312	CNGN 323	9.52	3.18	1.2							
CNGN 120304	CNGN 421	12.7	3.18	0.4							
CNGN 120308	CNGN 422	12.7	3.18	0.8							
CNGN 120312	CNGN 423	12.7	3.18	1.2							
CNGN 120404	CNGN 431	12.7	4.76	0.4							
CNGN 120408	CNGN 432	12.7	4.76	0.8							
CNGN 120412	CNGN 433	12.7	4.76	1.2							
CNGN 120416	CNGN 434	12.7	4.76	1.6							
CNGN 120704	CNGN 451	12.7	7.94	0.4							
CNGN 120708	CNGN 452	12.7	7.94	0.8							
CNGN 120712	CNGN 453	12.7	7.94	1.2							
CNGN 120716	CNGN 454	12.7	7.94	1.6							
CNGN 160608	CNGN 542	15.87	6.35	0.8							
CNGN 160612	CNGN 543	15.87	6.35	1.2							
CNGN 160616	CNGN 544	15.87	6.35	1.6							
CNGN 160708	CNGN 552	15.87	7.94	0.8							
CNGN 160712	CNGN 553	15.87	7.94	1.2							
CNGN 160716	CNGN 554	15.87	7.94	1.6							
CNGN 160720	CNGN 555	15.87	7.94	2							
CNGN 190612	CNGN 643	19.05	6.35	1.2							
CNGN 190616	CNGN 644	19.05	6.35	1.6							
CNGN 190712	CNGN 653	19.05	7.94	1.2							
CNGN 190716	CNGN 654	19.05	7.94	1.6							
CNGN 190720	CNGN 655	19.05	7.94	2							
CNGN 250724	CNGN 856	25.4	7.94	2.4							
CNGN 250924	CNGN 866	25.4	9.52	2.4							

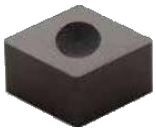
CNMN

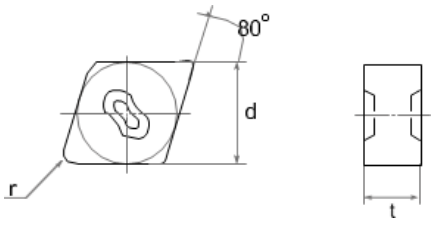




Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r							
CNMN 120412	CNMN 433	12.7	4.76	1.2							
CNMN 120416	CNMN 434	12.7	4.76	1.6							

CNGX

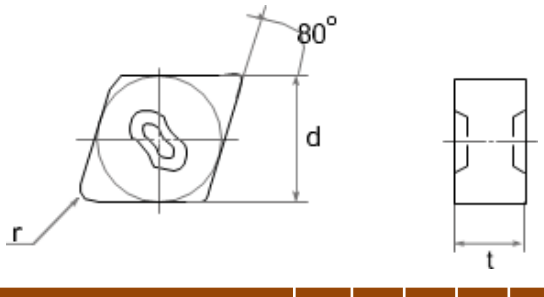




Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r							
CNGX 120412	CNGX 433	12.7	4.76	1.2							
CNGX 120416	CNGX 434	12.7	4.76	1.6							
CNGX 120708	CNGX 452	12.7	7.94	0.8							
CNGX 120712	CNGX 453	12.7	7.94	1.2							
CNGX 120716	CNGX 454	12.7	7.94	1.6							
CNGX 160708	CNGX 552	15.87	7.94	0.8							
CNGX 160712	CNGX 553	15.87	7.94	1.2							
CNGX 160716	CNGX 554	15.87	7.94	1.6							

CNVX

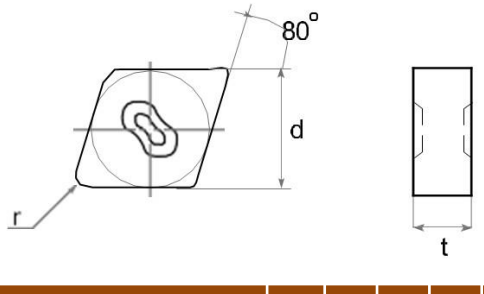




Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r							
CNVX 120412	CNVX 433	12.7	4.76	1.2							
CNVX 120416	CNVX 434	12.7	4.76	1.6							
CNVX 120708	CNVX 452	12.7	7.94	0.8							
CNVX 120712	CNVX 453	12.7	7.94	1.2							
CNVX 120716	CNVX 454	12.7	7.94	1.6							

CNMX



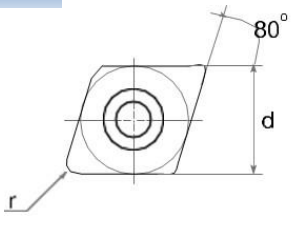


Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r							
CNMX 120712	CNMX 453	12.7	7.94	1.2							
CNMX 120716	CNMX 454	12.7	7.94	1.6							

Ceramic overview

CNMX

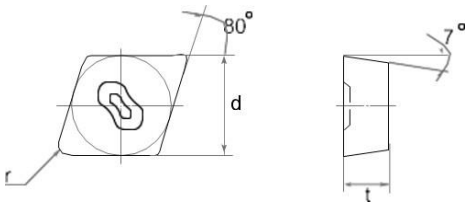




Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r							
CNMX 120716 RD	CNMX 454 RD	12.7	7.94	1.6							

CCGX

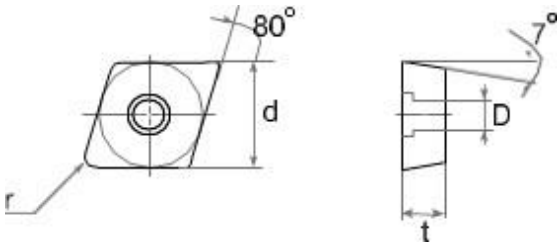




Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r							
CCGX 120608	CCGX 442	12.7	6.35	0.8							
CCGX 120612	CCGX 443	12.7	6.35	1.2							
CCGX 120616	CCGX 444	12.7	6.35	1.6							

CCGW

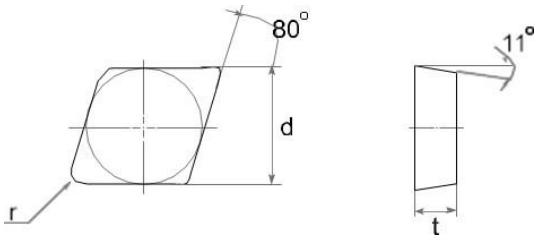




Type	Dimensions (mm)				MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	d	t	r	D							
CCGW 09T304	9.52	3.97	0.4	4.4							
CCGW 09T308	9.52	3.97	0.8	4.4							
CCGW 09T312	9.52	3.97	1.2	4.4							
CCGW 120408	12.7	4.76	0.8	5.5							
CCGW 120412	12.7	4.76	1.2	5.5							

CPGN

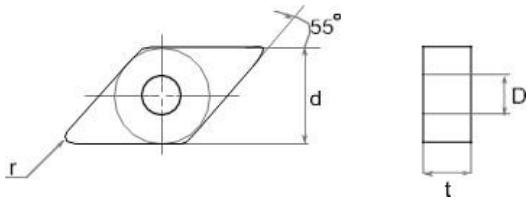




Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r							
CPGN 090304	CPGN 321	9.52	3.18	0.4							
CPGN 090308	CPGN 322	9.52	3.18	0.8							
CPGN 120408	CPGN 432	12.7	4.76	0.8							
CPGN 120412	CPGN 433	12.7	4.76	1.2							
CPGN 120416	CPGN 434	12.7	4.76	1.6							

DNGA

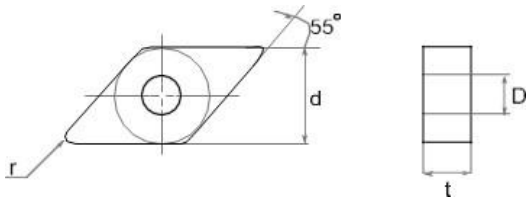




Type		Dimensions (mm)				MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r	D							
DNGA 150404	DNGA 431	12.7	4.76	0.4	5.2							
DNGA 150408	DNGA 432	12.7	4.76	0.8	5.2							
DNGA 150412	DNGA 433	12.7	4.76	1.2	5.2							
DNGA 150416	DNGA 434	12.7	4.76	1.6	5.2							
DNGA 150604	DNGA 441	12.7	6.35	0.4	5.2							
DNGA 150608	DNGA 442	12.7	6.35	0.8	5.2							
DNGA 150612	DNGA 443	12.7	6.35	1.2	5.2							
DNGA 150616	DNGA 444	12.7	6.35	1.6	5.2							
DNGA 150704	DNGA 451	12.7	7.94	0.4	5.2							
DNGA 150708	DNGA 452	12.7	7.94	0.8	5.2							
DNGA 150712	DNGA 453	12.7	7.94	1.2	5.2							
DNGA 150716	DNGA 454	12.7	7.94	1.6	5.2							
DNGA 190608	DNGA 542	15.87	6.35	0.8	6.4							
DNGA 190612	DNGA 543	15.87	6.35	1.2	6.4							
DNGA 190616	DNGA 544	15.87	6.35	1.6	6.4							

DNMA

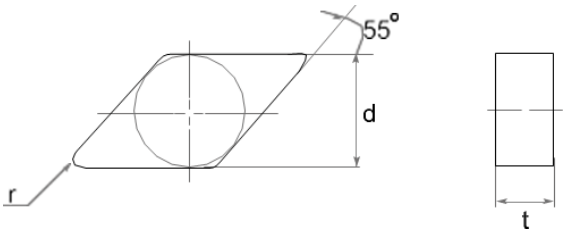




Type		Dimensions (mm)				MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r	D							
DNMA 150612	DNMA 443	12.7	6.35	1.2	5.2							
DNMA 150616	DNMA 444	12.7	6.35	1.6	5.2							

DNGN

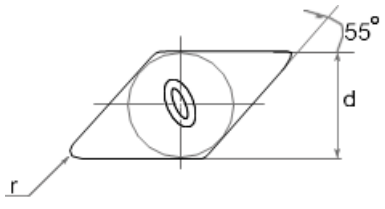


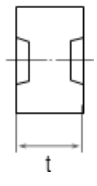


Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r							
DNGN 150404	DNGN 431	12.7	4.76	0.4							
DNGN 150408	DNGN 432	12.7	4.76	0.8							
DNGN 150412	DNGN 433	12.7	4.76	1.2							
DNGN 150416	DNGN 434	12.7	4.76	1.6							
DNGN 150604	DNGN 441	12.7	6.35	0.4							
DNGN 150608	DNGN 442	12.7	6.35	0.8							
DNGN 150612	DNGN 443	12.7	6.35	1.2							
DNGN 150616	DNGN 444	12.7	6.35	1.6							
DNGN 150704	DNGN 451	12.7	7.94	0.4							
DNGN 150708	DNGN 452	12.7	7.94	0.8							
DNGN 150712	DNGN 453	12.7	7.94	1.2							
DNGN 150716	DNGN 454	12.7	7.94	1.6							

DNGX



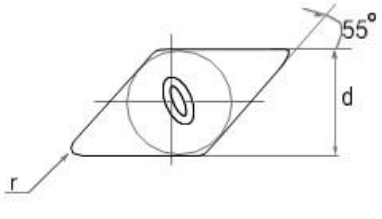




Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r							
DNGX 120708	DNGX 352	10	7.94	0.8							
DNGX 120712	DNGX 353	10	7.94	1.2							
DNGX 120716	DNGX 354	10	7.94	1.6							
DNGX 150708	DNGX 452	12.7	7.94	0.8							
DNGX 150712	DNGX 453	12.7	7.94	1.2							
DNGX 150716	DNGX 454	12.7	7.94	1.6							

DCGX



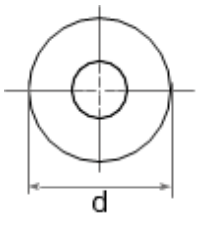




Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r							
DCGX 150612	DCGX 443	12.7	6.35	1.2							
DCGX 150616	DCGX 444	12.7	6.35	1.6							

RNGA

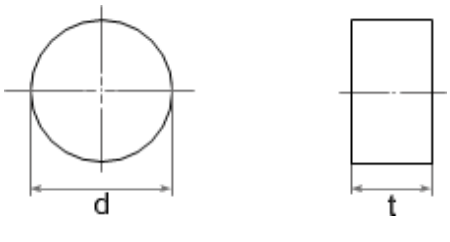




Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	D							
RNGA 120400	RNGA 430	12.7	4.76	5.16							
RNGA 120700	RNGA 450	12.7	7.94	5.16							

RNGN

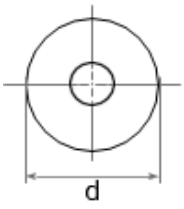


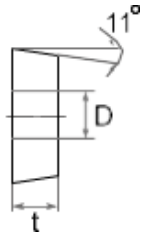


Type		Dimensions (mm)		MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t							
RNGN 060300	RNGN 220	6.35	3.18							
RNGN 060400	RNGN 230	6.35	4.76							
RNGN 090300	RNGN 320	9.52	3.18							
RNGN 090400	RNGN 330	9.52	4.76							
RNGN 120300	RNGN 420	12.7	3.18							
RNGN 120400	RNGN 430	12.7	4.76							
RNGN 120600	RNGN 440	12.7	6.35							
RNGN 120700	RNGN 450	12.7	7.94							
RNGN 150700	RNGN 550	15.87	7.94							
RNGN 190600	RNGN 640	19.05	6.35							
RNGN 190700	RNGN 650	19.05	7.94							
RNGN 250700	RNGN 850	25.4	7.94							
RNGN 250900	RNGN 860	25.4	9.52							
RNGN 320900	RNGN 106	31.75	9.52							

RPGA



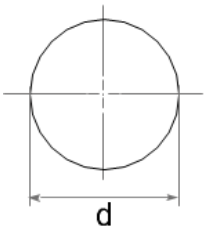


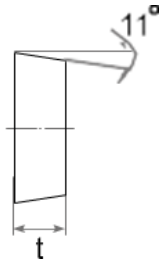


Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	D							
RPGA 120400	RPGA 430	12.7	4.76	5.2							
RPGA 120700	RPGA 450	12.7	7.94	5.2							

RPGN



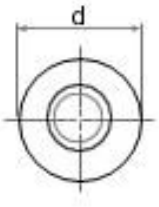




Type		Dimensions (mm)		MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t							
RPGN 090300	RPGN 320	9.52	3.18							
RPGN 090400	RPGN 330	9.52	4.76							
RPGN 120300	RPGN 420	12.7	3.18							
RPGN 120400	RPGN 430	12.7	4.76							
RPGN 120700	RPGN 450	12.7	7.94							
RPGN 150700	RPGN 550	15.87	7.94							
RPGN 190700	RPGN 650	19.05	7.94							

RPGX



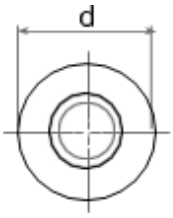


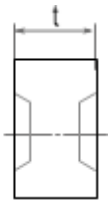


Type		Dimensions (mm)		MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t							
RPGX 1204 DP	RPGX 43 DP	12.7	4.76							
RPGX 1207 DP	RPGX 45 DP	12.7	7.94							

RNGX



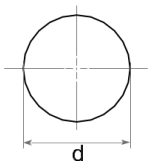


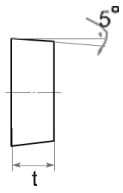


Type		Dimensions (mm)		MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t							
RNGX 1207 DP	RNGX 45 DP	12.7	7.94							

RBGN



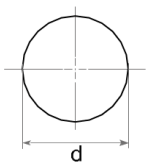




Type		Dimensions (mm)		MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t							
RBGN 060300	RBGN 220	6.35	3.18							
RBGN 060400	RBGN 230	6.35	4.76							
RBGN 090300	RBGN 320	9.52	3.18							
RBGN 090400	RBGN 330	9.52	4.76							
RBGN 120400	RBGN 430	12.7	4.76							
RBGN 120600	RBGN 440	12.7	6.35							
RBGN 120700	RBGN 450	12.7	7.94							

RCGN

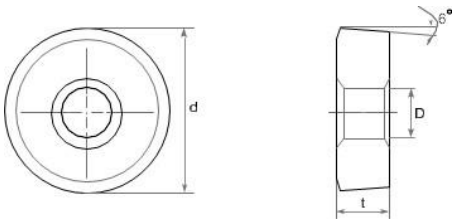




Type	Dimensions (mm)		MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	d	t							
RCGN 060400	6.35	4.76							
RCGN 060600	6.35	6.35							
RCGN 060700	6.35	7.94							
RCGN 070400	7.94	4.76							
RCGN 090700	9.52	7.94							
RCGN 120700	12.7	7.94							
RCGN 151000	15.87	10							
RCGN 191000	19.05	10							
RCGN 251200	25.4	12.7							

CDH

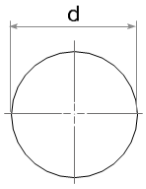


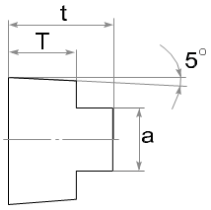


Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	D							
CDH 120600	CDH 22	12.7	6.4	3.2							
CDH 120900	CDH 23	12.7	9.5	3.2							
CDH 190900	CDH 33	19.05	9.5	6.4							
CDH 191200	CDH 34	19.05	13	6.4							
CDH 251200	CDH 42	25.4	13	6.8							
CDH 251900	CDH 43	25.4	19	6.8							
CDH 320900	CDH 515	31.75	9.5	10							
CDH 321900	CDH 53	31.75	19	10							
CDH 381100		38.1	11	9.9							

RBGX



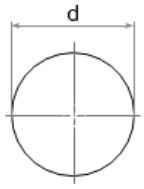


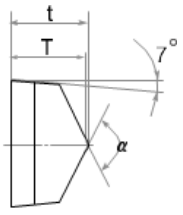


Type	Dimensions (mm)				MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	d	t	T	a							
RBGX 06T	6	5	3	3							
RBGX 08T	8	6.5	4	4							
RBGX 10T	10	9	6	6							
RBGX 12T	12	9	6	6							
RBGX 16T	16	13	8	8							
RBGX 20T	20	15	10	10							
RBGX 26T	26	15	10	14							

RCGX



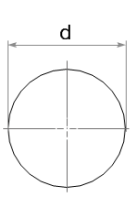


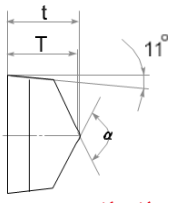


Type		Dimensions (mm)				MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	T	α							
RCGX 060400	RCGX 102	6.35	4.76	4.57	120°							
RCGX 060600	RCGX 102	6.35	6.35	6.2	120°							
RCGX 060700	RCGX 102	6.35	7.94	7.7	120°							
RCGX 090700	RCGX 103	9.52	7.94	7.7	120°							
RCGX 120700	RCGX 104	12.7	7.94	7.7	120°							
RCGX 151000	RCGX 105	15.87	10	9.77	120°							
RCGX 191000	RCGX 106	19.05	10	9.77	120°							
RCGX 251200	RCGX 108	25.4	12	11.9	140°							

RPGX



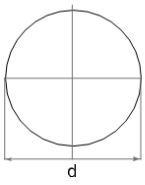


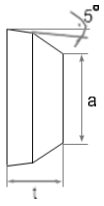


Type		Dimensions (mm)				MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	T	α							
RPGX 060400	RPGX 102	6.35	4.76	4.57	120°							
RPGX 090700	RPGX 103	9.52	7.94	7.7	120°							
RPGX 120700	RPGX 104	12.7	7.94	7.7	120°							

RXGX



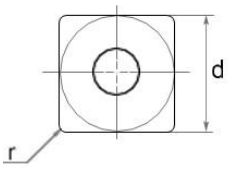


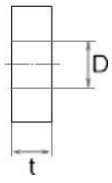


Type	Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	d	t	a							
RXGX 1207MO	12	7.94	6.9							
RXGX 1608MO	16	8	9.5							
RXGX 2508MO	25	8	18.2							

SNGA



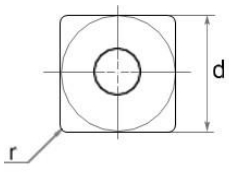


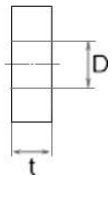


Type		Dimensions (mm)				MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r	D							
SNGA 090304	SNGA 321	9.52	3.18	0.4	3.81							
SNGA 090308	SNGA 322	9.52	3.18	0.8	3.81							
SNGA 090312	SNGA 323	9.52	3.18	1.2	3.81							
SNGA 090404	SNGA 331	9.52	4.76	0.4	3.81							
SNGA 090408	SNGA 332	9.52	4.76	0.8	3.81							
SNGA 090412	SNGA 333	9.52	4.76	1.2	3.81							
SNGA 090416	SNGA 334	9.52	4.76	1.6	3.81							
SNGA 120404	SNGA 431	12.7	4.76	0.4	5.16							
SNGA 120408	SNGA 432	12.7	4.76	0.8	5.16							
SNGA 120412	SNGA 433	12.7	4.76	1.2	5.16							
SNGA 120416	SNGA 434	12.7	4.76	1.6	5.16							
SNGA 120708	SNGA 452	12.7	7.94	0.8	5.16							
SNGA 120712	SNGA 453	12.7	7.94	1.2	5.16							
SNGA 120716	SNGA 454	12.7	7.94	1.6	5.16							
SNGA 150608	SNGA 542	15.87	6.35	0.8	6.35							
SNGA 150612	SNGA 543	15.87	6.35	1.2	6.35							
SNGA 150616	SNGA 544	15.87	6.35	1.6	6.35							
SNGA 190612	SNGA 643	19.05	6.35	1.2	7.94							
SNGA 190616	SNGA 644	19.05	6.35	1.6	7.94							

SNMA



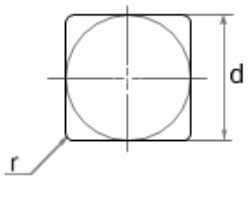




Type		Dimensions (mm)				MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r	D							
SNMA 120408	SNMA 432	12.7	4.76	0.8	5.16							
SNMA 120412	SNMA 433	12.7	4.76	1.2	5.16							
SNMA 120416	SNMA 434	12.7	4.76	1.6	5.16							
SNMA 150616	SNMA 544	15.87	6.35	1.6	6.35							

SNGN



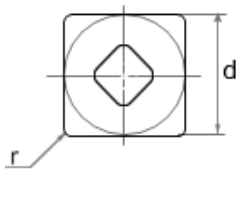


Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r							
SNGN 090304	SNGN 321	9.52	3.18	0.4							
SNGN 090308	SNGN 322	9.52	3.18	0.8							
SNGN 090312	SNGN 323	9.52	3.18	1.2							
SNGN 090404	SNGN 331	9.52	4.76	0.4							
SNGN 090408	SNGN 332	9.52	4.76	0.8							
SNGN 090412	SNGN 333	9.52	4.76	1.2							
SNGN 120404	SNGN 431	12.7	4.76	0.4							
SNGN 120408	SNGN 432	12.7	4.76	0.8							
SNGN 120412	SNGN 433	12.7	4.76	1.2							
SNGN 120416	SNGN 434	12.7	4.76	1.6							
SNGN 120420	SNGN 435	12.7	4.76	2							
SNGN 120604	SNGN 441	12.7	6.35	0.4							
SNGN 120608	SNGN 442	12.7	6.35	0.8							
SNGN 120612	SNGN 443	12.7	6.35	1.2							
SNGN 120616	SNGN 444	12.7	6.35	1.6							
SNGN 120704	SNGN 451	12.7	7.94	0.4							
SNGN 120708	SNGN 452	12.7	7.94	0.8							
SNGN 120712	SNGN 453	12.7	7.94	1.2							
SNGN 120716	SNGN 454	12.7	7.94	1.6							
SNGN 120720	SNGN 455	12.7	7.94	2							
SNGN 150404	SNGN 531	15.87	4.76	0.4							
SNGN 150408	SNGN 532	15.87	4.76	0.8							
SNGN 150412	SNGN 533	15.87	4.76	1.2							
SNGN 150416	SNGN 534	15.87	4.76	1.6							
SNGN 150708	SNGN 552	15.87	7.94	0.8							
SNGN 150712	SNGN 553	15.87	7.94	1.2							
SNGN 150716	SNGN 554	15.87	7.94	1.6							
SNGN 190608	SNGN 642	19.05	6.35	0.8							
SNGN 190612	SNGN 643	19.05	6.35	1.2							
SNGN 190616	SNGN 644	19.05	6.35	1.6							
SNGN 190712	SNGN 653	19.05	7.94	1.2							
SNGN 190716	SNGN 654	19.05	7.94	1.6							
SNGN 190720	SNGN 655	19.05	7.94	2							
SNGN 250720	SNGN 854	25.4	7.94	2							
SNGN 250724	SNGN 856	25.4	7.94	2.4							
SNGN 250924	SNGN 866	25.4	9.52	2.4							

Ceramic overview

SNGX

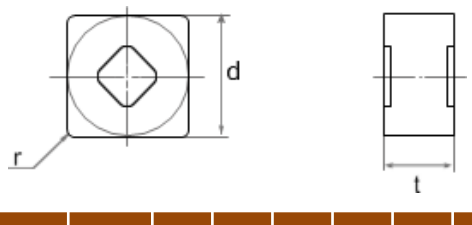




Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r							
SNGX 120408	SNGX 432	12.7	4.76	0.8							
SNGX 120412	SNGX 433	12.7	4.76	1.2							
SNGX 120416	SNGX 434	12.7	4.76	1.6							
SNGX 120708	SNGX 452	12.7	7.94	0.8							
SNGX 120712	SNGX 453	12.7	7.94	1.2							
SNGX 120716	SNGX 454	12.7	7.94	1.6							
SNGX 150708	SNGX 552	15.87	7.94	0.8							
SNGX 150712	SNGX 553	15.87	7.94	1.2							
SNGX 150716	SNGX 554	15.87	7.94	1.6							

SNMX

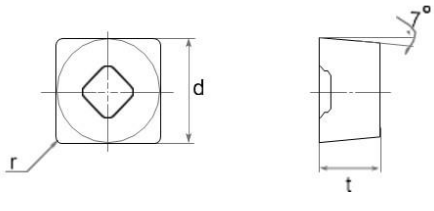




Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r							
SNMX 120712	SNMX 453	12.7	7.94	1.2							
SNMX 120716	SNMX 454	12.7	7.94	1.6							

SCGX

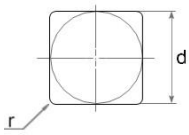


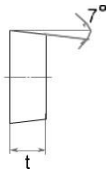


Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r							
SCGX 120408	SCGX 432	12.7	4.76	0.8							
SCGX 120616	SCGX 444	12.7	6.35	1.6							
SCGX 120716	SCGX 454	12.7	7.94	1.6							

SCGN



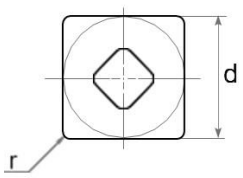


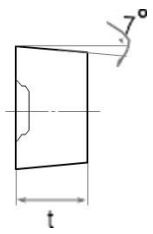


Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r							
SCGN 090412	SCGN 333	9.52	4.76	1.2							
SCGN 090416	SCGN 334	9.52	4.76	1.6							
SCGN 120404	SCGN 431	12.7	4.76	0.4							
SCGN 120408	SCGN 432	12.7	4.76	0.8							
SCGN 120412	SCGN 433	12.7	4.76	1.2							
SCGN 120416	SCGN 434	12.7	4.76	1.6							

SCGW



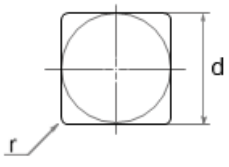


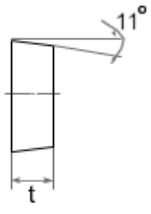


Type	Dimensions (mm)				MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	d	t	r	D							
SCGW 09T304	9.52	3.97	0.4	4.4							
SCGW 09T308	9.52	3.97	0.8	4.4							
SCGW 120408	12.7	4.76	0.8	5.5							

SPGN



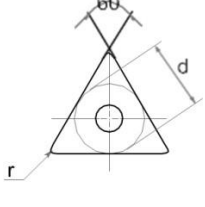


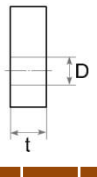


Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r							
SPGN 090304	SPGN 321	9.52	3.18	0.4							
SPGN 090308	SPGN 322	9.52	3.18	0.8							
SPGN 090312	SPGN 323	9.52	3.18	1.2							
SPGN 120304	SPGN 421	12.7	3.18	0.4							
SPGN 120308	SPGN 422	12.7	3.18	0.8							
SPGN 120312	SPGN 423	12.7	3.18	1.2							
SPGN 120404	SPGN 431	12.7	4.76	0.4							
SPGN 120408	SPGN 432	12.7	4.76	0.8							
SPGN 120412	SPGN 433	12.7	4.76	1.2							
SPGN 120416	SPGN 434	12.7	4.76	1.6							
SPGN 150408	SPGN 532	15.87	4.76	0.8							
SPGN 150412	SPGN 533	15.87	4.76	1.2							
SPGN 190412	SPGN 633	19.05	4.76	1.2							
SPGN 190416	SPGN 634	19.05	4.76	1.6							

TNGA



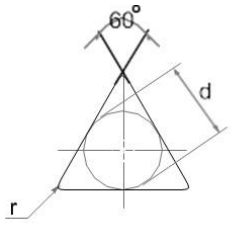


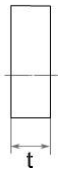


Type		Dimensions (mm)				MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r	D							
TNGA 110304	TNGA 221	6.35	3.18	0.4	2.26							
TNGA 110308	TNGA 222	6.35	3.18	0.8	2.26							
TNGA 160304	TNGA 321	9.52	3.18	0.4	3.81							
TNGA 160308	TNGA 322	9.52	3.18	0.8	3.81							
TNGA 160312	TNGA 323	9.52	3.18	1.2	3.81							
TNGA 160404	TNGA 331	9.52	4.76	0.4	3.81							
TNGA 160408	TNGA 332	9.52	4.76	0.8	3.81							
TNGA 160412	TNGA 333	9.52	4.76	1.2	3.81							
TNGA 160416	TNGA 334	9.52	4.76	1.6	3.81							
TNGA 220404	TNGA 431	12.7	4.76	0.4	5.16							
TNGA 220408	TNGA 432	12.7	4.76	0.8	5.16							
TNGA 220412	TNGA 433	12.7	4.76	1.2	5.16							
TNGA 220416	TNGA 434	12.7	4.76	1.6	5.16							
TNGA 220708	TNGA 452	12.7	7.94	0.8	5.16							
TNGA 220712	TNGA 453	12.7	7.94	1.2	5.16							
TNGA 270608	TNGA 542	15.87	6.35	0.8	6.35							
TNGA 270612	TNGA 543	15.87	6.35	1.2	6.35							
TNGA 330924	TNGA 666	19.05	9.52	2.4	7.94							

TNGN



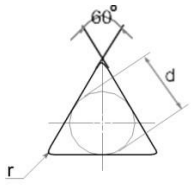


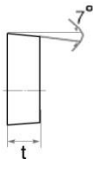


Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC500	MGC600	MGC700	MGC800	MGC900
ISO	ASA	d	t	r									
TNGN 110304	TNGN 221	6.35	3.18	0.4									
TNGN 110308	TNGN 222	6.35	3.18	0.8									
TNGN 160404	TNGN 331	9.52	4.76	0.4									
TNGN 160408	TNGN 332	9.52	4.76	0.8									
TNGN 160412	TNGN 333	9.52	4.76	1.2									
TNGN 160416	TNGN 334	9.52	4.76	1.6									
TNGN 160704	TNGN 351	9.52	7.94	0.4									
TNGN 160708	TNGN 352	9.52	7.94	0.8									
TNGN 160712	TNGN 353	9.52	7.94	1.2									
TNGN 160716	TNGN 354	9.52	7.94	1.6									
TNGN 220404	TNGN 431	12.7	4.76	0.4									
TNGN 220408	TNGN 432	12.7	4.76	0.8									
TNGN 220412	TNGN 433	12.7	4.76	1.2									
TNGN 220416	TNGN 434	12.7	4.76	1.6									
TNGN 220708	TNGN 452	12.7	7.94	0.8									
TNGN 220712	TNGN 453	12.7	7.94	1.2									
TNGN 220716	TNGN 454	12.7	7.94	1.6									
TNGN 270608	TNGN 542	15.87	6.35	0.8									
TNGN 270612	TNGN 543	15.87	6.35	1.2									
TNGN 270616	TNGN 544	15.87	6.35	1.6									
TNGN 330924	TNGN 666	19.05	9.52	2.4									
TNGN 440932	TNGN 868	25.4	9.52	3.2									

TCUN



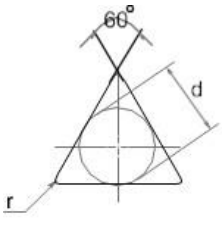




Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r							
TCUN 160408	TCUN 332	9.52	4.76	0.8							
TCUN 160412	TCUN 333	9.52	4.76	1.2							
TCUN 160416	TCUN 334	9.52	4.76	1.6							

TPGN

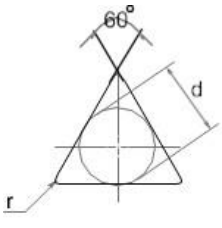




Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r							
TPGN 090204	TPGN 731	5.56	2.38	0.4							
TPGN 090208	TPGN 732	5.56	2.38	0.8							
TPGN 110304	TPGN 221	6.35	3.18	0.4							
TPGN 110308	TPGN 222	6.35	3.18	0.8							
TPGN 160304	TPGN 321	9.52	3.18	0.4							
TPGN 160308	TPGN 322	9.52	3.18	0.8							
TPGN 160312	TPGN 323	9.52	3.18	1.2							
TPGN 160404	TPGN 331	9.52	4.76	0.4							
TPGN 160408	TPGN 332	9.52	4.76	0.8							
TPGN 160412	TPGN 333	9.52	4.76	1.2							
TPGN 160416	TPGN 334	9.52	4.76	1.6							
TPGN 220404	TPGN 431	12.7	4.76	0.4							
TPGN 220408	TPGN 432	12.7	4.76	0.8							
TPGN 220412	TPGN 433	12.7	4.76	1.2							
TPGN 220416	TPGN 434	12.7	4.76	1.6							
TPGN 220712	TPGN 453	12.7	7.94	1.2							
TPGN 220716	TPGN 454	12.7	7.94	1.6							
TPGN 271232	TPGN 588	15.87	12.7	3.2							

TPUN

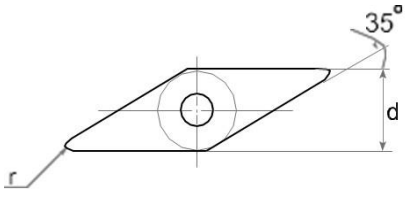




Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r							
TPUN 110308	TPUN 222	6.35	3.18	0.8							
TPUN 110312	TPUN 223	6.35	3.18	1.2							

VNGA

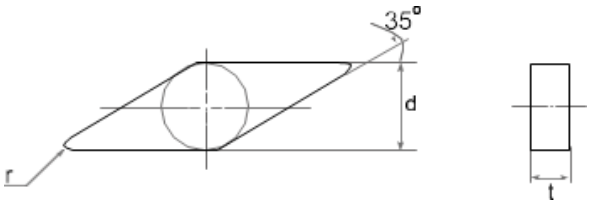




Type		Dimensions (mm)				MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r	D							
VNGA 160404	VNGA 331	9.52	4.76	0.4	3.8							
VNGA 160408	VNGA 332	9.52	4.76	0.8	3.8							
VNGA 160412	VNGA 333	9.52	4.76	1.2	3.8							
VNGA 160604	VNGA 341	9.52	6.35	0.4	3.8							
VNGA 160608	VNGA 342	9.52	6.35	0.8	3.8							
VNGA 160612	VNGA 343	9.52	6.35	1.2	3.8							
VNGA 220404	VNGA 431	12.7	4.76	0.4	5.2							
VNGA 220408	VNGA 432	12.7	4.76	0.8	5.2							
VNGA 220412	VNGA 433	12.7	4.76	1.2	5.2							
VNGA 220424	VNGA 436	12.7	4.76	2.4	5.2							

VNGN

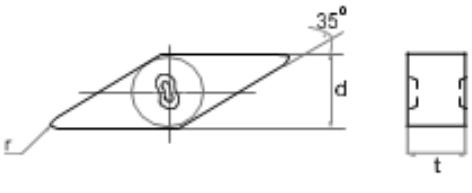




Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r							
VNGN 160404	VNGN 331	9.52	4.76	0.4							
VNGN 160408	VNGN 332	9.52	4.76	0.8							
VNGN 160704	VNGN 351	9.52	7.94	0.4							
VNGN 160708	VNGN 352	9.52	7.94	0.8							
VNGN 160712	VNGN 353	9.52	7.94	1.2							
VNGN 160716	VNGN 354	9.52	7.94	1.6							

VNGX



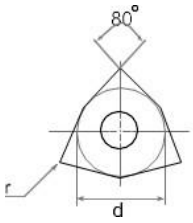


Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r							
VNGX 160708	VNGX 352	9.52	7.94	0.8							
VNGX 160712	VNGX 353	9.52	7.94	1.2							
VNGX 160716	VNGX 354	9.52	7.94	1.6							

Ceramic overview

WNGA

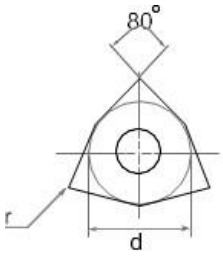




Type		Dimensions (mm)				MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r	D							
WNGA 080404	WNGA 431	12.7	4.76	0.4	5.2							
WNGA 080408	WNGA 432	12.7	4.76	0.8	5.2							
WNGA 080412	WNGA 433	12.7	4.76	1.2	5.2							

WNGX





Type		Dimensions (mm)			MGC100	MGC200	MGC300	MGC400	MGC700	MGC800	MGC900
ISO	ASA	d	t	r							
WNGX 080708	WNGX 452	12.7	7.94	0.8							
WNGX 080712	WNGX 453	12.7	7.94	1.2							
WNGX 080716	WNGX 454	12.7	7.94	1.6							


CCLN


CCBN


CCKN


CDHN


CDJN


CDNN


CEFN


CEGN


CEJN


CRDN


CRGN


CRDB


CRDC


CSBN


CSDN


CSKN


CSRN


CSSN


CSYN


CTFN


CTGN


CWLN


CSRC


CSSC


CSTP

Tools Holder for Insert Ceramic overview





























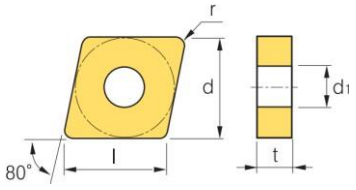






CNMG

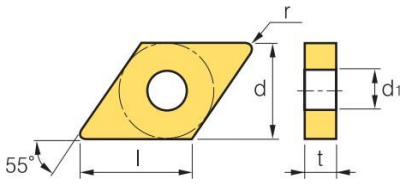




Type		Dimensions (mm)			MGC500	MGC600							
ISO	ASA	d	t	r									
CNMG 090304-VQ		9.52	3.18	0.4									
CNMG 090308-VQ		9.52	3.18	0.8									
CNMG 120404-VQ		12.7	4.76	0.4									
CNMG 120408-VQ		12.7	4.76	0.8									
CNMG 120412-VQ		12.7	4.76	1.2									

DNMG

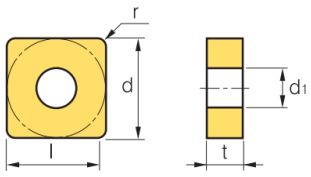




Type		Dimensions (mm)				MGC500	MGC600							
ISO	ASA	d	t	r										
DNMG 150404-VB		12.7	4.76	0.4										
DNMG 150408-VB		12.7	4.76	0.4										
DNMG 150412-VB		12.7	4.76	0.4										
DNMG 150604-VB		12.7	6.35	0.4										
DNMG 150608-VB		12.7	6.35	0.8										
DNMG 150612-VB		12.7	6.35	1.2										

SN..

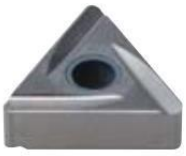


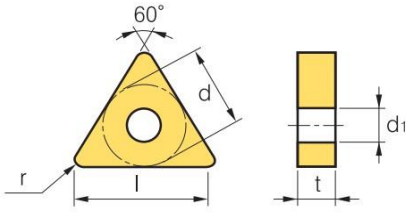


Type		Dimensions (mm)				MGC500	MGC600							
ISO	ASA	d	t	r										
SNGG 120404R		12.7	4.76	0.4										
SNGG 120408R		12.7	4.76	0.8										
SNGG 120404L		12.7	4.76	0.4										
SNGG 120408L		12.7	4.76	0.8										
SNMG 120404-VB		12.7	4.76	0.4										
SNMG 120408-VB		12.7	4.76	1.8										
SNMG 120412-VB		12.7	4.76	1.2										

Insert Cermet overview

TN..

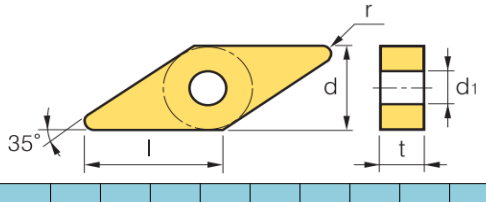




Type		Dimensions (mm)				MGC500	MGC600							
ISO	ASA	d	t	r										
TNMG 160404R		9.52	4.76	0.4										
TNMG 160408R		9.52	4.76	0.8										
TNGG 160402R		9.52	4.76	0.2										
TNGG 160404R		9.52	4.76	0.4										
TNMG 160404L		9.52	4.76	0.4										
TNMG 160408L		9.52	4.76	0.8										
TNGG 160402L		9.52	4.76	0.2										
TNGG 160404L		9.52	4.76	0.4										
TNMG 160402R-FS		9.52	4.76	0.4										
TNMG 160404R-FS		9.52	4.76	0.8										
TNGG 160402L-FS		9.52	4.76	0.2										
TNGG 160404L-FS		9.52	4.76	0.4										

VN..

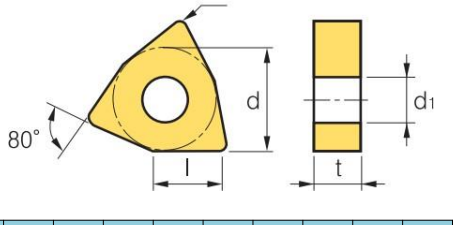




Type		Dimensions (mm)				MGC500	MGC600							
ISO	ASA	d	t	r										
VNMG 160402-VB		9.52	4.76	0.4										
VNMG 160404-VB		9.52	4.76	0.8										
VNMG 160408-VB		9.52	4.76	0.2										
VNMG 160412-VB		9.52	4.76	0.4										

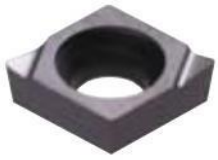
WN..

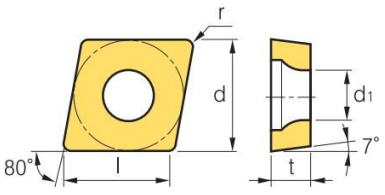




Type		Dimensions (mm)				MGC500	MGC600							
ISO	ASA	d	t	r										
WNMG 060404-VB		9.52	4.76	0.4										
WNMG 060408-VB		9.52	4.76	0.8										
WNMG 080404-VB		12.7	4.76	0.4										
WNMG 080408-VB		12.7	4.76	0.8										
WNMG 080412-VB		12.7	4.76	1.2										

CC..

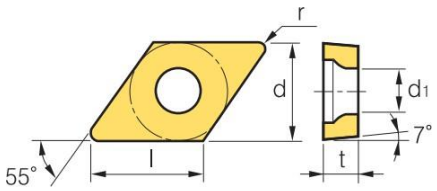




Type		Dimensions (mm)			MGC500	MGC600	MGM720	MGN010				
ISO	ASA	d	t	r								
CCET 030101L		3.5	1.39	0.1								
CCET 030102L		3.5	1.39	0.2								
CCET 030104L		3.5	1.39	0.4								
CCET 040101L		4.3	1.79	0.1								
CCET 040102L		4.3	1.79	0.2								
CCET 040104L		4.3	1.79	0.4								
CCMT 060204-MP		6.36	2.38	0.4								
CCMT 060208-MP		6.36	2.38	0.8								
CCMT 09T302-MP		9.52	3.97	0.2								
CCMT 09T304-MP		9.52	3.97	0.4								
CCMT 09T308-MP		9.52	3.97	0.4								

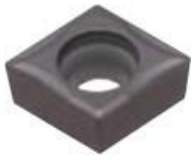
DC..

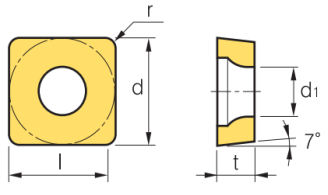




Type		Dimensions (mm)				MGC500	MGC600						
ISO	ASA	d	t	r									
DCMT 070202-HF		6.35	2.38	0.2									
DCMT 070204-HF		6.35	2.38	0.4									
DCMT 070208-HF		6.35	2.38	0.8									
DCGT 11T301-HF		9.52	3.97	0.1									
DCGT 11T302-HF		9.52	3.97	0.2									
DCMT 11T304-HF		9.52	3.97	0.4									
DCMT 11T308-HF		9.52	3.97	0.8									

SC..



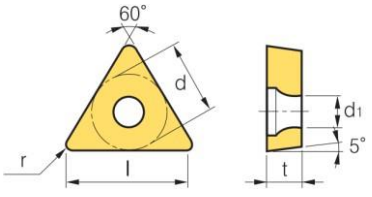


Type		Dimensions (mm)				MGC500	MGC600						
ISO	ASA	d	t	r									
SCMT 09T304-HF		9.52	3.97	0.4									
SCMT 09T308-HF		9.52	3.97	0.8									
SCMT 12T304-HF		12.7	4.76	0.4									
SCMT 12T308-HF		12.7	4.76	0.8									

Insert Cermet overview

TB..

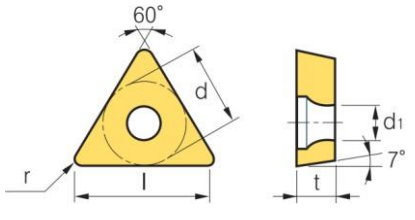




Type		Dimensions (mm)				MGC500	MGC600							
ISO	ASA	d	t	r										
TBGT 060102L		3.97	1.59	0.2										
TBGT 060104L		9.52	4.76	0.4										

TC..

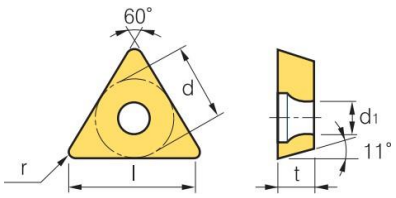




Type		Dimensions (mm)				MGC500	MGC501	MGM720						
ISO	ASA	d	t	r										
TCGT 090204-HF		5.56	2.38	0.4										
TCGT 110204-HF		6.35	2.38	0.4										
TCGT 110208-HF		6.35	2.38	0.8										
TCMT 090204-HF		5.56	2.38	0.4										
TCMT 110204-HF		6.35	2.38	0.4										
TCMT 110208-HF		6.35	2.38	0.8										
TCMT 16T304-HF		9.52	3.97	0.4										
TCMT 16T308-HF		9.52	3.97	0.8										

TP..

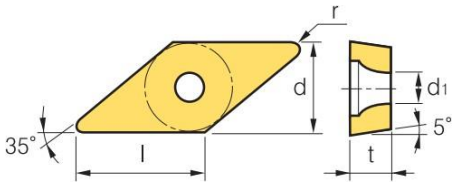




Type		Dimensions (mm)				MGC500	MGC600	MGM720	MGN010					
ISO	ASA	d	t	r										
TPGH 080202L		4.67	2.38	0.2										
TPGH 080204L		4.67	2.38	0.4										
TPGH 110302L		6.35	3.18	0.2										
TPGH 110304L		6.35	3.18	0.4										
TPGT 110302L		6.35	3.18	0.2										
TPGT 110304L		6.35	3.18	0.4										
TPGT 160404L		9.52	4.76	0.4										
TPGX 090202L		5.56	2.38	0.2										
TPGX 090404L		5.56	2.38	0.4										
TPGX 110302L		6.35	3.18	0.2										
TPGX 110304L		6.35	3.18	0.4										

VB..

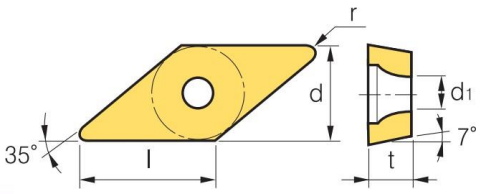




Type		Dimensions (mm)			MGC500	MGC600							
ISO	ASA	d	t	r									
VBMT 110304-HF		6.35	3.18	0.4									
VBMT 110308-HF		6.35	3.18	0.8									
VBMT 160404-HF		9.52	4.79	0.4									
VBMT 160408-HF		9.52	4.79	0.8									

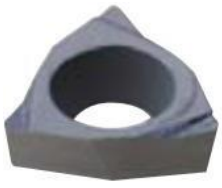
VC..

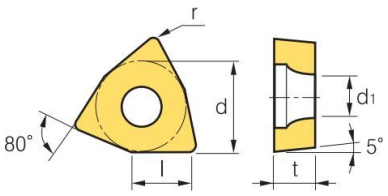




Type		Dimensions (mm)				MGC500	MGC600							
ISO	ASA	d	t	r										
VCMT 110304-HF		6.35	3.18	0.4										
VCMT 110308-HF		6.35	3.18	0.8										
VCMT 160404-HF		9.52	4.79	0.4										
VCMT 160308-HF		9.52	4.79	0.8										

WB..





Type		Dimensions (mm)				MGC500	MGC501	MGM720	MGN010					
ISO	ASA	d	t	r										
WBGT 060102L		3.97	1.59	0.2										
WBGT 060104L		3.97	1.59	0.4										