



PROFESSIONAL CARBIDE CUTTING TOOLS MANUFACTURE



C.N.C ÁNH KIM

Carbide Inserts



C.N.C ÁNH KIM



CARBIDE INSERTS

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Coatings	Steel					Stainless steel					Aluminum				Non-ferrous metals			Heat Resistant alloys				
	P10	P10	P20	P30	P40	M01	M10	M20	M30	M40	A01	A02	A03	A04	N01	N10	N20	S01	S10	S20		
Coatings	CVD coating					PVD coating					Diamond				Cemented carbide							
	AKC110					AKS400					AKC110				AKS400							
	AKP10PVD					AKP10PVD					AKP10PVD				AKP35PVD			AKP35PVD				
	AKP20PVD					AKP30PVD					AKP20PVD				AKP35PVD			AKP35PVD				
AKP35PVD					AKP35PVD					AKP35PVD				AKP35PVD			AKP35PVD					
AK820M					AK820M					AK820M				AK810M			AK815M					

Turning Tools



A General turning

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Turning inserts overview























































Finishing of steel	 P12 CNMG [®] -FW	 P12 DNMG [®] -FW	 P12 SNMG [®] -FW	 P12 TNMG [®] -FW	 P12 VNMG [®] -FW	 P12 WNMG [®] -FW	
	 P13 CCMT [®] -FW	 P13 DCMT [®] -FW	 P13 SCMT [®] -FW	 P13 TCMT [®] -FW	 P13 VBMT [®] -FW	 P13 VCMT [®] -FW	
Semi Finishing of steel	 P14 CNMG [®] -MD	 P14 DNMG [®] -MD	 P14 SNMG [®] -MD	 P14 TNMG [®] -MD	 P15 VNMG [®] -MD	 P15 WNMG [®] -MD	 P15 TNMG [®] -A3
	 P16 CNMG [®] -TM	 P16 DNMG [®] -TM	 P16 SNMG [®] -TM	 P16 TNMG [®] -TM	 P16 VNMG [®] -TM	 P16 WNMG [®] -TM	
	 P17 CNMG [®] -LUX	 P17 DNMG [®] -LUX			 P17 VNMG [®] -LUX	 P17 WNMG [®] -LUX	
	 P18 CCMT [®] -MD	 P18 DCMT [®] -MD	 P18 SCMT [®] -MD	 P18 TCMT [®] -MD	 P19 VCMT [®] -MD	 P19 RCMT [®] -MOE-R [®]	 P19 RCGT [®] -HP
	 P20 CNMG [®] -RA	 P20 DNMG [®] -RA	 P20 SNMG [®] -RA	 P20 TNMG [®] -RA		 P20 WNMG [®] -RA	
	 P21 CCMT [®] -RA	 P21 DCMT [®] -RA	 P21 SCMT [®] -RA	 P21 TCMT [®] -RA	 P21 VCMT [®] -RA	 P21 VBMT [®] -RA	
	Rough machining of steel, cast iron						

A

General Turning

Turning inserts overview

A
General Turning






























Finishing of stainless steel								
	P22	P22	P22	P22	P22	P22		
	CCMT**FW	DCMT**FW	SCMT**FW	TCMT**FW	VBMT**FW	VCMT**FW		
								
	P26	P26	P26	P26	P26	P26		
	CNMG**SA	DNMG**SA	SNMG**SA	TNMG**SA	VNMG**SA	WNMG**SA		
Finishing of stainless steel								
	P23	P23	P23	P23	P23	P23		
	CNMG**E-LH	DNMG**E-LH	SNMG**E-LH	TNMG**E-LH	VNMG**E-LH	WNMG**E-LH		
								
	P24	P24	P24	P24	P24			
	CCMT**MD	DCMT**MD	SCMT**MD	TCMT**MD	VCMT**MD			
Semi-finishing of stainless steel								
	P25	P25	P25	P25	P25	P25		
	CNMG**MA	DNMG**MA	SNMG**MA	TNMG**MA	VNMG**MA	WNMG**MA		
								
	P27	P27	P27	P27	P27	P27		
	CNMG**E-LHC	DNMG**E-LHC	SNMG**E-LHC	TNMG**E-LHC	VNMG**E-LHC	WNMG**E-LHC		
The semi-finishing of Heat Resistant alloys								
	P28	P28	P28	P28	P28	P28		
	CNMG**SN	DNMG**SN	SNMG**SN	TNMG**SN	VNMG**SN	WNMG**SN		
	Aluminum processing							
		P29	P29	P29	P29	P30	P30	P30
		CCGT**LHC	DCGT**LHC	SCGT**LHC	TCGT**LHC	VBGT**LHC	VCGT**LHC	RCGT**LHC
								
P31	P31	P31	P31	P31	P31			
CNGG**LHC	DNMG**LHC	SNGG**LHC	TNGG**LHC	VNGG**LHC	WNGG**LHC			

Turning inserts overview

Aluminum processing	 P32 COGT**LH	 P32 DCGT**LH	 P32 SCGT**LH	 P32 TCGT**LH	 P32 VCGT**LH	 P32 VBGT**LH	
	 P33 CNMG**LH	 P33 DNMG**LH	 P33 SNMG**LH	 P33 TNMG**LH	 P33 VNMG**LH	 P33 WNMG**LH	
Semi-Finishing of cast iron	 P34 CNMG**K3	 P34 DNMG**K3	 P34 SNMG**K3	 P34 TNMG**K3	 P34 VNMG**K3	 P34 WNMG**K3	
Rough machining of cast iron	 P35 CNMG**K5	 P35 DNMG**K5	 P35 TNMG**K5	 P35 WNMG**K5	 P35 VNMG**K5		
	 P36 CNMA**	 P36 DNMA**	 P36 SNMA**	 P37 TNMA**		 P37 WNMA**	

Turning inserts overview

A
General Turning

Turning inserts for profile	 P38 KNUX	 P38 KNUX**1						
Parting off & Grooving Machining	 P41 MGMN-LH	 P41 MGMN-L	 P41 MGMN-H	 P41 MGMN-6D	 P41 MGMN-15D	 P41 TDJ-6D	 P41 TDJ-15D	
	 P42 GRUP-M	 P42 GRUP-F	 P42 GRUP-H	 P42 TDJ	 P42 TDC	 P42 TDT		
	 P43 BP	 P43 BP-MF	 P43 BP-MY	 P43 BP-MZ	 P43 MGMN-M	 P43 MGMN-G	 P43 MRMN-M	
	 P44 NB	 P44 MDGN-J	 P44 MDGN-C	 P44 MDGN-F	 P44 MGMN-MT			
	 P45 BGP	 P45 TGF32RL						

General turning inserts code key

Insert Shape/Code			Metric			
			Code	With/Without hole	With/Without chipbreaker	Section plane of insert
			B	With	Without	
			H	With	Single-side	
			C	With	Without	
			J	With	Double-side	
			W	With	Without	
			T	With	Single-side	
		Others Z	Q	With	Without	
			U	With	Double-side	
			N	Without	Without	
			R	Without	Single-side	
			F	Without	Double-side	
			A	With	Without	
			M	With	Single-side	
			G	With	Double-side	
			X	---	---	Special

T N M G

Clearance angle of main cutting edge				Allowed tolerance														
Code	Clearance angle	Code	Clearance angle	Inscribed circle			Reference											
A		B			$\phi 1, C$	m		$\phi 1, C$	m		S_c	(Reference) Details of M-class tolerance (Identified by shape and size)						
C		D		Code	(mm) tolerance range	$\phi 1, C$ inscribed circle tolerance (mm)	Radius R tolerance (mm)	Nose height	tolerance (mm)									
E		F		A	± 0.005	± 0.025	± 0.025	6.35	± 0.08	± 0.08	± 0.08	± 0.11	± 0.16	---	---			
G		N		F	± 0.005	± 0.013	± 0.025	9.525	± 0.08	± 0.08	± 0.08	± 0.11	± 0.16	---	---			
P		O	Other clearance angle	C	± 0.013	± 0.025	± 0.025	12.7	± 0.13	± 0.13	± 0.13	± 0.15	---	---	---			
				H	± 0.013	± 0.013	± 0.025	15.875	± 0.15	± 0.15	± 0.15	± 0.18	---	---	---			
				E	± 0.025	± 0.025	± 0.025	19.05	± 0.15	± 0.15	± 0.15	± 0.18	---	---	---			
				G	± 0.025	± 0.025	± 0.13	25.4	---	± 0.18	---	---	---	---	---			
				J	± 0.005	± 0.05 - ± 0.13	± 0.025	$\phi 1, C$ Tolerance of inscribed circle (mm)										
				K	± 0.013	± 0.05 - ± 0.13	± 0.025	Inscribed circle										
				L	± 0.025	± 0.05 - ± 0.13	± 0.025	6.35	± 0.05	± 0.05	± 0.05	± 0.05	± 0.05	± 0.05	---			
				M	± 0.08 - ± 0.18	± 0.05 - ± 0.13	± 0.13	9.525	± 0.05	± 0.05	± 0.05	± 0.05	± 0.05	± 0.05	± 0.05			
				N	± 0.08 - ± 0.18	± 0.05 - ± 0.13	± 0.025	12.7	± 0.08	± 0.08	± 0.08	± 0.08	---	---	± 0.08			
				U	± 0.13 - ± 0.38	± 0.08 - ± 0.25	± 0.13	15.875	± 0.10	± 0.10	± 0.10	± 0.10	---	---	± 0.10			
								19.05	± 0.10	± 0.10	± 0.10	± 0.10	---	---	± 0.10			
								25.4	---	± 0.13	---	---	---	---	± 0.13			

(mm) Diameter of IC	Insert shape							
	C	D	R	S	T	V	W	K
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	08	16
10.0			10					
12.0			12					
12.7	12	15	12	12	22	22	08	
15.875	16	19	15	15	27		10	
16.0			16					
19.05	19		19	19	33			
20.0			20					
25.0			25					
25.4	25		25	25				
31.75			31					
32			32					

Length of cutting edge

Thickness is defined as height from bottom of insert to the highest part of cutting edge.

Code	Insert thickness (mm)
00	0.79
T0	0.99
01	1.59
T1	1.98
02	2.38
T2	2.78
03	3.18
T3	3.97
04	4.76
T4	4.96
05	5.56
T5	5.95
06	6.35
T6	6.75
07	7.94
09	9.52
T9	9.72
11	11.11
12	12.70

Insert thickness

22 04 08 - FW (ISO)
4 3 2 (inch)

Inscribed circle	
Code	Diameter (of IC) (mm)
2	6.35
3	9.525
4	12.7
5	15.875
6	19.05
8	25.4

Thickness	
Code	Thickness (mm)
2	3.18
3	4.76
4	6.35
5	7.94
6	9.52

Nose radius	
Code	Nose radius (mm)
0	0.2
1	0.4
2	0.8
3	1.2
4	1.6
5	2.0
6	2.4

Nose radius Code	
Code	(mm) Nose radius
00	No radius
02	0.2
04	0.4
08	0.8
12	1.2
16	1.6
20	2.0
24	2.4
32	3.2
X	其他
(Metric)	Round insert

Chipbreaker code			
FW	FW	LHC	K3
MD	MD	SN	K6
TM	MA	LH	无槽
RA			

★ Thickness is defined as height from bottom of insert to the highest part of cutting edge.



Inserts for processing steel

Finishing

Negative inserts.






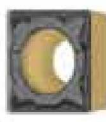






The basic shape of block	Type	Dimension (mm)				Grade recommended											
		Dimension (mm)				CVD coating grade			PVD coating grade								
		φ1C	φ2	φ3	R	AKS100	AKS200	AKS300	AKS350	AKP10PVD	AKP20PVD	AK30M					
	CNMG	09004-FW	9.525	3.18	3.81	0.4	★	☆									
		09008-FW	9.525	3.18	3.81	0.8	★	☆									
		120404-FW	12.7	4.76	5.16	0.4	★	☆									
		120408-FW	12.7	4.76	5.16	0.8	★	☆									
		120412-FW	12.7	4.76	5.16	1.2	★	☆									
	DNMG	110404-FW	9.525	4.76	3.81	0.4	★	☆									
		110408-FW	9.525	4.76	3.81	0.8	★	☆									
		150404-FW	12.7	4.76	5.16	0.4	★	☆									
		150408-FW	12.7	4.76	5.16	0.8	★	☆									
		150004-FW	12.7	6.35	5.16	0.4	★	☆									
		150008-FW	12.7	6.35	5.16	0.8	★	☆									
	SNMG	150612-FW	12.7	6.35	5.16	1.2	★	☆									
		120404-FW	12.7	4.76	5.16	0.4	★	☆									
		120408-FW	12.7	4.76	5.16	0.8	★	☆									
	TNMG	160404-FW	9.525	4.76	3.81	0.4	★	☆									
		160408-FW	9.525	4.76	3.81	0.8	★	☆									
		160412-FW	9.525	4.76	3.81	1.2	★	☆									
		220404-FW	12.7	4.76	5.16	0.4	★	☆									
	VNMG	220408-FW	12.7	4.76	5.16	0.8	★	☆									
		160404-FW	9.525	4.76	3.81	0.4	★	☆									
	WNMG	160408-FW	9.525	4.76	3.81	0.8	★	☆									
		060404-FW	9.525	4.76	3.81	0.4	★	☆									
		060408-FW	9.525	4.76	3.81	0.8	★	☆									
		060412-FW	9.525	4.76	3.81	1.2	★	☆									
		080404-FW	12.7	4.76	5.16	0.4	★	☆									
080408-FW	12.7	4.76	5.16	0.8	★	☆											
080412-FW	12.7	4.76	5.16	1.2	★	☆											

★ Recommended grade ☆ Optional grade

Inserts for processing steel

Finishing

Positive inserts

The exact shape of inserts	Type	Dimensions (mm)				Grade recommendation							
		ψ10	φ	H	h	AKS100	AKS200	AKS300	AKS350	AKP10PVD	AKP20PVD	AK30M	
 	060202-FW	6.35	2.38	2.8	0.2	7"	☆	★					
	060204-FW	6.35	2.38	2.8	0.4	7"	☆	★					
	060208-FW	6.35	2.38	2.8	0.8	7"	☆	★					
	09T302-FW	9.525	3.97	4.4	0.2	7"	☆	★					
	09T304-FW	9.525	3.97	4.4	0.4	7"	☆	★					
	09T308-FW	9.525	3.97	4.4	0.8	7"	☆	★					
 	12A044-FW	12.7	4.76	5.5	0.4	7"	☆	★					
	12A08-FW	12.7	4.76	5.5	0.8	7"	☆	★					
	070202-FW	6.35	2.38	2.8	0.2	7"	☆	★					
	070204-FW	6.35	2.38	2.8	0.4	7"	☆	★					
	11T302-FW	9.525	3.97	4.4	0.2	7"	☆	★					
	11T304-FW	9.525	3.97	4.4	0.4	7"	☆	★					
 	11T308-FW	9.525	3.97	4.4	0.8	7"	☆	★					
	09T304-FW	9.525	3.97	4.4	0.4	7"	☆	★					
	09T308-FW	9.525	3.97	4.4	0.8	7"	☆	★					
 	090204-FW	5.50	2.38	2.5	0.4	7"	☆	☆					
	090208-FW	5.50	2.38	2.5	0.8	7"	☆	☆					
	110304-FW	6.35	3.18	2.8	0.4	7"	☆	☆					
	110308-FW	6.35	3.18	2.8	0.8	7"	☆	☆					
	110312-FW	6.35	3.18	2.8	1.2	7"	☆	★					
	16T304-FW	9.525	3.97	4.4	0.4	7"	☆	☆					
 	16T308-FW	9.525	3.97	4.4	0.8	7"	☆	☆					
	16T312-FW	9.525	3.97	4.4	1.2	7"	☆	☆					
	110304-FW	6.35	3.18	2.8	0.4	5"	☆	☆					
	110308-FW	6.35	3.18	2.8	0.8	5"	☆	☆					
	160404-FW	9.525	4.76	4.4	0.4	5"	☆	★					
	160408-FW	9.525	4.76	4.4	0.8	5"	☆	★					
 	110304-FW	6.35	3.18	2.8	0.4	7"	☆	☆					
	110308-FW	6.35	3.18	2.8	0.8	7"	☆	☆					
	160404-FW	9.525	4.76	4.4	0.4	7"	☆	☆					
	160408-FW	9.525	4.76	4.4	0.8	7"	☆	☆					

★ Recommended grade ☆ Optional grade

Inserts for processing steel Semi finishing

Negative inserts

The basic shape of inserts	Type	Dimension (mm)				Grade recommended														
		Φ1C	S	Φ2	R	CVD coating grade				TiN coating grade		Ceramic								
						AKS100	AKS200	AKS300	AKS350	AKP1P1D	AKP2P1D		AK30M							
	CNMG	090304-MD	9.525	3.18	3.81	0.4	★	★	☆											
		090308-MD	9.525	3.18	3.81	0.8		★	★	☆										
		120404-MD	12.7	4.76	5.16	0.4		★	★	☆										
		120408-MD	12.7	4.76	5.16	0.8		★	★	☆										
		120412-MD	12.7	4.76	5.16	1.2		★	★	☆										
		160608-MD	15.875	6.35	6.35	0.8		★	★	☆										
		160612-MD	15.875	6.35	6.35	1.2		★	★	☆										
		190608-MD	19.05	6.35	7.93	0.8		★	★	☆										
		190612-MD	19.05	6.35	7.93	1.2		★	★	☆										
		190616-MD	19.05	6.35	7.93	1.6		★	★	☆										
	DNMG	110404-MD	9.525	4.76	3.81	0.4	★	★	☆											
		110408-MD	9.525	4.76	3.81	0.8		★	★	☆										
		150404-MD	12.7	4.76	5.16	0.4		★	★	☆										
		150408-MD	12.7	4.76	5.16	0.8		★	★	☆										
		150412-MD	12.7	4.76	5.16	1.2		★	★	☆										
		150604-MD	12.7	6.35	5.16	0.4		★	★	☆										
		150608-MD	12.7	6.35	5.16	0.8		★	★	☆										
		150612-MD	12.7	6.35	5.16	1.2		★	★	☆										
	SNMG	090304-MD	9.525	3.18	3.81	0.4	★	★	☆											
		120404-MD	12.7	4.76	5.16	0.4		★	★	☆										
		120408-MD	12.7	4.76	5.16	0.8		★	★	☆										
		120412-MD	12.7	4.76	5.16	1.2		★	★	☆										
		150608-MD	15.875	6.35	6.35	0.8		★	★	☆										
		150612-MD	15.875	6.35	6.35	1.2		★	★	☆										
		190608-MD	19.05	6.35	7.93	0.8		★	★	☆										
		190612-MD	19.05	6.35	7.93	1.2		★	★	☆										
		190616-MD	19.05	6.35	7.93	1.6		★	★	☆										
	TNMG	160404-MD	9.525	4.76	3.81	0.4	★	★	☆											
		160408-MD	9.525	4.76	3.81	0.8		★	★	☆										
		160412-MD	9.525	4.76	3.81	1.2		★	★	☆										
		220404-MD	12.7	4.76	5.16	0.4		★	★	☆										
		220408-MD	12.7	4.76	5.16	0.8		★	★	☆										
		220412-MD	12.7	4.76	5.16	1.2		★	★	☆										

★ Recommended grade ☆ Optional grade

Inserts for processing steel Semi finishing

Negative inserts

A
General Turning

The basic shape of inserts	Type	Dimension (mm)				Grade recommended							
		φ1C	S	φd	R	CVD coating grade				PVD coating grade		Ceramic	
						AKS100	AKS200	AKS300	AKS350	AKP1PVD	AKP2PVD		AK30M
	160404-MD	9.525	4.76	3.81	0.4		★	★	☆				
	160408-MD	9.525	4.76	3.81	0.8		★	★	☆				
	160412-MD	9.525	4.76	3.81	1.2		★	★	☆				
	060404-MD	9.525	4.76	3.81	0.4		★	★	☆				
	060408-MD	9.525	4.76	3.81	0.8		★	★	☆				
	060412-MD	9.525	4.76	3.81	1.2		★	★	☆				
	060404-MD	12.7	4.76	5.16	0.4		★	★	☆				
	060408-MD	12.7	4.76	5.16	0.8		★	★	☆				
	060412-MD	12.7	4.76	5.16	1.2		★	★	☆				

The basic shape of inserts	Type	Dimension (mm)				Grade recommendation							
		φ1C	S	φd	R	CVD coating grade				PVD coating grade		Ceramic	
						AKS100	AKS200	AKS300	AKS350	AKP1PVD	AKP2PVD		AK30M
	160404R/L-A2	9.525	4.76	3.81	0.4		★	★	☆				
	160408R/L-A2	9.525	4.76	3.81	0.8		★	★	☆				
	160408R/L-A3	9.525	4.76	3.81	0.8		★	★	☆				
	160408R/L-A3	9.525	4.76	3.81	0.8		★	★	☆				

★ Recommended grade ☆ Optional grade

Inserts for processing steel Semi finishing

Negative inserts

The basic shape of inserts	Type	Dimension (mm)				Grade recommended									
		Φ1C	S	Φ±	R	CVD coating grade				PVD coating grade		Ceramic			
						AKS100	AKS200	AKS300	AKS350	AKP1PVD	AKP2PVD		AK30M		
		CNMG	120404-TM	12.7	4.76	5.16	0.4		★	★	☆				
			120408-TM	12.7	4.76	5.16	0.8		★	★	☆				
			120412-TM	12.7	4.76	5.16	1.2		★	★	☆				
		DNMG	150404-TM	12.7	4.76	5.16	0.4		★	★	☆				
			150408-TM	12.7	4.76	5.16	0.8		★	★	☆				
			150412-TM	12.7	4.76	5.16	1.2		★	★	☆				
			150804-TM	12.7	6.35	5.16	0.4		★	★	☆				
			150808-TM	12.7	6.35	5.16	0.8		★	★	☆				
			150812-TM	12.7	6.35	5.16	1.2		★	★	☆				
		SNMG	120412-TM	12.7	4.76	5.16	1.2		★	★	☆				
		TNMG	160404-TM	9.525	4.76	3.81	0.4		★	★	☆				
			160408-TM	9.525	4.76	3.81	0.8		★	★	☆				
			160412-TM	9.525	4.76	3.81	1.2		★	★	☆				
			220404-TM	12.7	4.76	5.16	0.4		★	★	☆				
			220408-TM	12.7	4.76	5.16	0.8		★	★	☆				
			220412-TM	12.7	4.76	5.16	1.2		★	★	☆				
		VNMG	160404-TM	9.525	4.76	3.81	0.4		★	★	☆				
			160408-TM	9.525	4.76	3.81	0.8		★	★	☆				
			160412-TM	9.525	4.76	3.81	1.2		★	★	☆				
		WNMG	080404-TM	12.7	4.76	5.16	0.4		★	★	☆				
			080408-TM	12.7	4.76	5.16	0.8		★	★	☆				
			080412-TM	12.7	4.76	5.16	1.2		★	★	☆				

★ Recommended grade ☆ Optional grade

Inserts for processing steel

Negative inserts

A
General Turning

The basic shape of inserts	Type	Dimension (mm)				Grade recommended									
		Φ1C	S	Φ±	R	CVD coating grade				PVD coating grade		ceramic			
						AKS100	AKS200	AKS300	AKS350	AKP1PVD	AKP2PVD		AK30M		
		CNMG	120408-UJX	12.7	4.76	5.16	0.8		★	★	☆				
			120412-UJX	12.7	4.76	5.16	1.2		★	★	☆				
		DNMG	150408-UJX	12.7	4.76	5.16	0.8								
			150808-UJX	12.7	6.35	5.16	0.8		★	★	☆				
		VNMG	160408-UJX	9.525	4.76	3.81	0.8		★	★	☆				
			160412-UJX	9.525	4.76	3.81	1.2		★	★	☆				
		WNMG	080408-UJX	12.7	4.76	5.16	0.8		★	★	☆				
			080412-UJX	12.7	4.76	5.16	1.2		★	★	☆				
										★	★	☆			

★ Recommended grade ☆ Optional grade

Inserts for processing steel Semi finishing

Positive inserts

The basic shape of inserts	Type	Dimension (mm)					Grade recommended								
		Φ1/C	S	Φφ	H	R	CVD coating grade				PVD coating grade		Ceramic		
							AKS100	AKS200	AKS300	AKS350	AKP1PVD	AKP2PVD		AK30M	
	CCMT	060204-MD	6.35	2.38	2.8	0.4	7°	★	★				☆		
		060208-MD	6.35	2.38	2.8	0.8	7°	★	★				☆		
		09T302-MD	9.525	3.97	4.4	0.2	7°	★	★				☆		
		09T304-MD	9.525	3.97	4.4	0.4	7°	★	★				☆		
		09T308-MD	9.525	3.97	4.4	0.8	7°	★	★				☆		
		120404-MD	12.7	4.76	5.5	0.4	7°	★	★				☆		
		120408-MD	12.7	4.76	5.5	0.8	7°	★	★				☆		
120412-MD	12.7	4.76	5.5	1.2	7°	★	★				☆				
	DCMT	070204-MD	6.35	2.38	2.8	0.4	7°	★	★				☆		
		070208-MD	6.35	2.38	2.8	0.8	7°	★	★				☆		
		11T302-MD	9.525	3.97	4.4	0.2	7°	★	★				☆		
		11T304-MD	9.525	3.97	4.4	0.4	7°	★	★				☆		
		11T308-MD	9.525	3.97	4.4	0.8	7°	★	★				☆		
		11T312-MD	9.525	3.97	4.4	1.2	7°	★	★				☆		
	SCMT	09T302-MD	9.525	3.97	4.4	0.2	7°	★	★				☆		
		09T304-MD	9.525	3.97	4.4	0.4	7°	★	★				☆		
		09T308-MD	9.525	3.97	4.4	0.8	7°	★	★				☆		
		09T312-MD	9.525	3.97	4.4	1.2	7°	★	★				☆		
		120404-MD	12.7	4.76	5.5	0.4	7°	★	★				☆		
		120408-MD	12.7	4.76	5.5	0.8	7°	★	★				☆		
120412-MD	12.7	4.76	5.5	1.2	7°	★	★				☆				
	TCMT	090204-MD	5.56	2.38	2.5	0.4	7°	★	★				☆		
		090208-MD	5.56	2.38	2.5	0.8	7°	★	★				☆		
		110304-MD	6.35	3.18	2.8	0.4	7°	★	★				☆		
		110308-MD	6.35	3.18	2.8	0.8	7°	★	★				☆		
		110312-MD	6.35	3.18	2.8	1.2	7°	★	★				☆		
		16T304-MD	9.525	3.97	4.4	0.4	7°	★	★				☆		
		16T308-MD	9.525	3.97	4.4	0.8	7°	★	★				☆		
16T312-MD	9.525	3.97	4.4	1.2	7°	★	★				☆				

★ Recommended grade ☆ Optional grade

A

General Turning

Inserts for processing steel Semi finishing

Positive inserts

A
General Turning

The basic shape of inserts	Type	Dimension (mm)					Grade recommended								
		Φ1/C	S	Φφ	H	R	CVD coating grade				PVD coating grade		Ceramic		
							AKS100	AKS200	AKS300	AKS350	AKP1PVD	AKP2PVD			
	VCMT	110304-MD	6.35	3.18	2.8	0.4	7°	★	★				☆		
		110308-MD	6.35	3.18	2.8	0.8	7°		★	★				☆	
		160404-MD	9.525	4.76	4.4	0.4	7°		★	★				☆	
		160408-MD	9.525	4.76	4.4	0.8	7°		★	★				☆	
	VBMT	110304-MD	6.35	3.18	2.8	0.4	5°		☆	☆				☆	
		110308-MD	6.35	3.18	2.8	0.8	5°		☆	☆				☆	
		160404-MD	9.525	4.76	4.4	0.4	5°		★	★				☆	
		160408-MD	9.525	4.76	4.4	0.8	5°		★	★				☆	
	RCMT	0803MOE-R1	8	2.38	3.3	•	7°		★	★					
		10T3MOE-R1	10	3.97	4.5	•	7°		★	★					
		1204MOE-R2	12	4.76	4.4	•	7°		★	★					
		1606MOE-R3	16	6.35	5.5	•	7°		★	★					
		2006MOE-R4	20	6.35	6.5	•	7°		★	★					
	RCGT	2006MDS-HP	20	6.35	6.5		7°	★	★	☆					
		2507MDS-HP	25	7.94	7.2		7°	★	★	☆					
		3209MDS-HP	32	9.52	9.5		7°	★	★	☆					

★ Recommended grade ☆ Optional grade

Inserts for processing steel Rough machining

Negative inserts

The basic shape of blade	Type	Dimension (mm)				Grade recommended							
		Φ1C	S	Φ±	R	CVD coating grade				PC coating grade		Uncoated grade	
						AKS100	AKS200	AKS300	AKS350	AKP1PVD	AKP2PVD		AK30M
	CNMG	120408-RA	12.7	4.76	5.16	0.8	☆	★	☆				
		120412-RA	12.7	4.76	5.16	1.2	☆	★	☆				
		120416-RA	12.7	4.76	5.16	1.6	☆	★	☆				
		160808-RA	15.875	6.35	6.35	0.8	☆	★	☆				
		160812-RA	15.875	6.35	6.35	1.2	☆	★	☆				
		160816-RA	15.875	6.35	6.35	1.6	☆	★	☆				
		190812-RA	19.05	6.35	7.93	1.2	☆	★	☆				
	DNMG	150408-RA	12.7	4.76	5.16	0.8	☆	★	☆				
		150412-RA	12.7	4.76	5.16	1.2	☆	★	☆				
		150416-RA	12.7	4.76	5.16	1.6	☆	★	☆				
		150808-RA	12.7	6.35	5.16	0.8	☆	★	☆				
		150812-RA	12.7	6.35	5.16	1.2	☆	★	☆				
		150816-RA	12.7	6.35	5.16	1.6	☆	★	☆				
	SNMG	120408-RA	12.7	4.76	5.16	0.8	☆	★	☆				
		120412-RA	12.7	4.76	5.16	1.2	☆	★	☆				
		120416-RA	12.7	4.76	5.16	1.6	☆	★	☆				
		150808-RA	15.875	6.35	6.35	0.8	☆	★	☆				
		150812-RA	15.875	6.35	6.35	1.2	☆	★	☆				
		150816-RA	15.875	6.35	6.35	1.6	☆	★	☆				
		190808-RA	19.05	6.35	7.93	0.8	☆	★	☆				
		190812-RA	19.05	6.35	7.93	1.2	☆	★	☆				
		190816-RA	19.05	6.35	7.93	1.6	☆	★	☆				
		190824-RA	19.05	6.35	7.93	2.4	☆	★	☆				
	TNMG	160408-RA	9.525	4.76	3.81	0.8	☆	★	☆				
		160412-RA	9.525	4.76	3.81	1.2	☆	★	☆				
		220408-RA	12.7	4.76	5.16	0.8	☆	★	☆				
		220412-RA	12.7	4.76	5.16	1.2	☆	★	☆				
		220416-RA	12.7	4.76	5.16	1.6	☆	★	☆				
	WNMG	060408-RA	9.525	4.76	3.81	0.8	☆	★	☆				
		060412-RA	9.525	4.76	3.81	1.2	☆	★	☆				
		080408-RA	12.7	4.76	5.16	0.8	☆	★	☆				
		080412-RA	12.7	4.76	5.16	1.2	☆	★	☆				
		080416-RA	12.7	4.76	5.16	1.6	☆	★	☆				

★ Recommended grade ☆ Optional grade

Inserts for processing steel Rough machining

Positive inserts

A
General Turning

The basic shape of inserts		Type	Dimension (mm)					Grade recommended						
			φ12	E	φd	R	#	CVD coating grade				MG coating grade		
								ANS100	ANS200	ANS300	ANS350	AKP1PVD	AKP2PVD	ACOM
		09T308-RA	9.525	3.97	4.4	0.8	7°	☆	★	☆				
		120408-RA	12.7	4.76	5.5	0.8	7°	☆	★	☆				
		120412-RA	12.7	4.76	5.5	1.2	7°	☆	★	☆				
		11T308-RA	9.525	3.97	4.4	0.8	7°	☆	★	☆				
		120412-RA	12.7	4.76	5.5	1.2	7°	☆	★	☆				
		16T308-RA	9.525	3.97	4.4	0.8	7°	☆	★	☆				
		110308-RA	9.525	3.18	2.8	0.8	7°	☆	★	☆				
		160408-RA	9.525	4.76	4.4	0.8	7°	☆	★	☆				
		160412-RA	9.525	4.76	4.4	1.2	7°	☆	★	☆				
		160408-RA	9.525	4.76	4.4	0.8	5°	☆	★	☆				
		160412-RA	9.525	4.76	4.4	1.2	5°	☆	★	☆				

★ Recommended grade ☆ Optional grade

Inserts for processing stainless steel Finishing

Positive inserts

The basic shape of inserts		Type	Dimension (mm)					Grade recommended										
								CVD coating grade				PVD coating grade			Corner			
			φ1.0	5	φ6	8	7	AKS100	AKS200	AKS300	AKS350	AKP1PVD	AKP2PVD	AKP3PVD		AKGM		
		CCMT	060202-FW	6.35	2.38	2.8	0.2	7°					☆	★	☆			
			060204-FW	6.35	2.38	2.8	0.4	7°						☆	★	☆		
			09T302-FW	9.525	3.97	4.4	0.2	7°						☆	★	☆		
			09T304-FW	9.525	3.97	4.4	0.4	7°						☆	★	☆		
			09T308-FW	9.525	3.97	4.4	0.8	7°						☆	★	☆		
			120404-FW	12.7	4.76	5.5	0.4	7°						☆	★	☆		
		DCMT	070202-FW	6.35	2.38	2.8	0.2	7°					☆	★	☆			
			070204-FW	6.35	2.38	2.8	0.4	7°						☆	★	☆		
			11T302-FW	9.525	3.97	4.4	0.2	7°						☆	★	☆		
			11T304-FW	9.525	3.97	4.4	0.4	7°						☆	★	☆		
		SCMT	09T304-FW	9.525	3.18	4.4	0.4	7°					☆	★	☆			
			09T308-FW	9.525	3.18	4.4	0.8	7°						☆	★	☆		
			120404-FW	12.7	4.76	5.5	0.4	7°						☆	★	☆		
			120408-FW	12.7	4.76	5.5	0.8	7°						☆	★	☆		
		TCMT	090202-FW	5.56	2.38	2.5	0.2	7°					☆	★	☆			
			090204-FW	5.56	2.38	2.5	0.4	7°						☆	★	☆		
			110302-FW	6.35	3.18	2.8	0.2	7°						☆	★	☆		
			110304-FW	6.35	3.18	2.8	0.4	7°						☆	★	☆		
			110308-FW	6.35	3.18	2.8	0.8	7°						☆	★	☆		
			16T304-FW	9.525	3.97	4.4	0.4	7°						☆	★	☆		
		VBMT	110302-FW	6.35	3.18	2.8	0.2	5°					☆	☆	☆			
			110304-FW	6.35	3.18	2.8	0.4	5°						☆	☆	☆		
			110308-FW	6.35	3.18	2.8	0.8	5°						☆	☆	☆		
			160402-FW	9.525	4.76	4.4	0.2	5°						☆	★	☆		
			160404-FW	9.525	4.76	4.4	0.4	5°						☆	★	☆		
			160408-FW	9.525	4.76	4.4	0.8	5°						☆	★	☆		
		VCMT	110302-FW	6.35	3.18	2.8	0.2	7°					☆	☆	☆			
			110304-FW	6.35	3.18	2.8	0.4	7°						☆	☆	☆		
			110308-FW	6.35	3.18	2.8	0.8	7°						☆	☆	☆		
			160402-FW	9.525	4.76	4.4	0.2	7°						☆	☆	☆		
			160404-FW	9.525	4.76	4.4	0.4	7°						☆	☆	☆		
			160408-FW	9.525	4.76	4.4	0.8	7°						☆	☆	☆		

★ Recommended grade ☆ Optional grade

Inserts for processing stainless steel Finishing

Negative inserts

A
General Turning

The basic shape of inserts		Type	Dimension (mm)				Grade recommended											
							CVD coating grade				PVD coating grade			General grade				
			φ1.0	φ.5	φ.8	φ.1	AKS100	AKS200	AKS300	AKS550	AKP1PVD	AKP2PVD	AKP3PVD		AK30M			
		CNMG	120402E-LH	12.7	4.76	5.16	0.2						☆	★	☆			
		120404E-LH	12.7	4.76	5.16	0.4								☆	★	☆		
		120408E-LH	12.7	4.76	5.16	0.8								☆	★	☆		
		DNMG	150404E-LH	12.7	4.76	5.16	0.4							☆	★	☆		
		150408E-LH	12.7	4.76	5.16	0.8								☆	★	☆		
		150604E-LH	12.7	6.35	5.16	0.4								☆	★	☆		
		150608E-LH	12.7	6.35	5.16	0.8								☆	★	☆		
		SNMG	120404E-LH	12.7	4.76	5.16	0.4							☆	★	☆		
		120408E-LH	12.7	4.76	5.16	0.8								☆	★	☆		
		120412E-LH	12.7	4.76	5.16	1.2								☆	★	☆		
		TNMG	160404E-LH	9.525	4.76	3.81	0.4							☆	★	☆		
		160408E-LH	9.525	4.76	3.81	0.8								☆	★	☆		
		160412E-LH	9.525	4.76	3.81	1.2								☆	★	☆		
		220408E-LH	12.7	4.76	5.16	0.8								☆	★	☆		
		VNMG	160402E-LH	9.525	4.76	3.81	0.2							☆	★	☆		
		160404E-LH	9.525	4.76	3.81	0.4								☆	★	☆		
		160408E-LH	9.525	4.76	3.81	0.8								☆	★	☆		
		WNMG	060404E-LH	9.525	4.76	3.81	0.4							☆	★	☆		
		060408E-LH	9.525	4.76	3.81	0.8								☆	★	☆		
		080404E-LH	12.7	4.76	5.16	0.4								☆	★	☆		
		080408E-LH	12.7	4.76	5.16	0.8								☆	★	☆		
		080412E-LH	12.7	4.76	5.16	1.2								☆	★	☆		

★ Recommended grade ☆ Optional grade

Inserts for processing stainless steel

Semi finishing

Positive inserts

The basic shape of Insert	Type	Dimension (mm)					Grade recommended									
		φ(C)	φ	φ1	φ2	φ	AKS100	AKS200	AKS300	AKS500	AKP10PVD	AKP20PVD	AKP30PVD	AKP40PVD	AKM	
	CDMT	060204-MD	6.35	2.38	2.8	0.4	7°					☆	☆	☆	☆	
		060208-MD	6.35	2.38	2.8	0.8	7°					☆	☆	☆	☆	
		09T302-MD	9.525	3.97	4.4	0.2	7°					☆	☆	☆	☆	
		09T304-MD	9.525	3.97	4.4	0.4	7°					☆	☆	☆	☆	
		09T306-MD	9.525	3.97	4.4	0.8	7°					☆	☆	☆	☆	
		12K404-MD	12.7	4.76	5.5	0.4	7°					☆	☆	☆	☆	
	DCMT	12K408-MD	12.7	4.76	5.5	0.8	7°				☆	☆	☆	☆		
		12K412-MD	12.7	4.76	5.5	1.2	7°				☆	☆	☆	☆		
		07K204-MD	6.35	2.38	2.8	0.4	7°					☆	☆	☆		
		07K208-MD	6.35	2.38	2.8	0.8	7°					☆	☆	☆		
		11T302-MD	9.525	3.97	4.4	0.2	7°					☆	☆	☆		
		11T304-MD	9.525	3.97	4.4	0.4	7°					☆	☆	☆		
	SCMT	11T306-MD	9.525	3.97	4.4	0.8	7°				☆	☆	☆	☆		
		09T302-MD	9.525	3.97	4.4	0.2	7°				☆	☆	☆	☆		
		09T304-MD	9.525	3.97	4.4	0.4	7°				☆	☆	☆	☆		
		09T306-MD	9.525	3.97	4.4	0.8	7°				☆	☆	☆	☆		
		09T312-MD	9.525	3.97	4.4	1.2	7°				☆	☆	☆	☆		
		12K404-MD	12.7	4.76	5.5	0.4	7°				☆	☆	☆	☆		
	TCMT	12K408-MD	12.7	4.76	5.5	0.8	7°				☆	☆	☆	☆		
		12K412-MD	12.7	4.76	5.5	1.2	7°				☆	☆	☆	☆		
		06K204-MD	6.35	2.38	2.5	0.4	7°					☆	☆	☆		
		06K208-MD	6.35	2.38	2.5	0.8	7°					☆	☆	☆		
		11K304-MD	6.35	3.18	2.8	0.4	7°					☆	☆	☆		
		11K308-MD	6.35	3.18	2.8	0.8	7°					☆	☆	☆		
	VBMT	11K312-MD	6.35	3.18	2.8	1.2	7°				☆	☆	☆	☆		
		16T304-MD	8.525	3.97	4.4	0.4	7°				☆	☆	☆	☆		
		16T306-MD	8.525	3.97	4.4	0.8	7°				☆	☆	☆	☆		
		16T312-MD	8.525	3.97	4.4	1.2	7°				☆	☆	☆	☆		
		11K304-MD	6.35	3.18	2.8	0.4	7°					☆	☆	☆		
		11K308-MD	6.35	3.18	2.8	0.8	7°					☆	☆	☆		
	VBMT	16K404-MD	6.35	3.18	2.8	0.4	5°				☆	☆	☆	☆		
		16K408-MD	6.35	3.18	2.8	0.8	5°				☆	☆	☆	☆		
		16K412-MD	6.35	3.18	2.8	1.2	5°				☆	☆	☆	☆		
		16K404-MD	9.525	4.76	4.4	0.4	5°				☆	☆	☆	☆		
		16K408-MD	9.525	4.76	4.4	0.8	5°				☆	☆	☆	☆		
		16K412-MD	9.525	4.76	4.4	1.2	5°				☆	☆	☆	☆		

★ Recommended grade ☆ Optional grade

Inserts for processing stainless steel Semi finishing

Negative inserts

The basic shape of inserts	Type	Dimension (mm)				Grade recommended								
		φ(L)	φ	φ ₁	H	AKS100	AKS200	AKS300	AKS350	AKP10PVD	AKP20PVD	AKP30PVD	AK30M	
	12A034-MA	12.7	4.76	5.16	0.4					★	★	★	★	
	12A038-MA	12.7	4.76	5.16	0.8					★	★	★	★	
	12M12-MA	12.7	4.76	5.16	1.2					★	★	★	★	
	16M034-MA	15.875	6.35	6.35	0.4					★	★	★	★	
	16M038-MA	15.875	6.35	6.35	0.8					★	★	★	★	
	15A034-MA	12.7	4.76	5.16	0.4					★	★	★	★	
	15A038-MA	12.7	4.76	5.16	0.8					★	★	★	★	
	15M034-MA	12.7	6.35	5.16	0.4					★	★	★	★	
	15M038-MA	12.7	6.35	5.16	0.8					★	★	★	★	
	12A034-MA	12.7	4.76	5.16	0.4					★	★	★	★	
	12A038-MA	12.7	4.76	5.16	0.8					★	★	★	★	
	16A034-MA	9.525	4.76	5.16	0.4					★	★	★	★	
	16A038-MA	9.525	4.76	5.16	0.8					★	★	★	★	
	16M12-MA	9.525	4.76	5.16	1.2					★	★	★	★	
	16A034-MA	9.525	4.76	5.16	0.4					★	★	★	★	
	16A038-MA	9.525	4.76	5.16	0.8					★	★	★	★	
	08A034-MA	12.7	4.76	5.16	0.4					★	★	★	★	
	08A038-MA	12.7	4.76	5.16	0.8					★	★	★	★	
	08M12-MA	12.7	4.76	5.16	1.2					★	★	★	★	

★ Recommended grade ☆ Optional grade

Inserts for processing stainless steel Finishing

Negative inserts:

The basic shape of inserts		Type	Dimension (mm)				Grade recommended												
							CVD coating grade				PVD coating grade			Uncoated grade					
			φ1.0	φ.5	φ.8	φ	AKS100	AKS200	AKS300	AKS350	AKP1PVD	AKP2PVD	AKP3PVD		AKOM				
		CNMG	120404-SA	12.7	4.76	5.16	0.4						★	★	☆				
			120408-SA	12.7	4.76	5.16	0.8							★	★	☆			
			120412-SA	12.7	4.76	5.16	1.2								★	★	☆		
		DNMG	150808-SA	12.7	6.35	5.16	0.8							★	★	☆			
		SNMG	120408-SA	12.7	4.76	5.16	0.8							★	★	☆			
			120412-SA	12.7	4.76	5.16	1.2								★	★	☆		
		TNMG	160404-SA	12.7	4.76	5.16	0.4							★	★	☆			
			160408-SA	12.7	4.76	5.16	0.8								★	★	☆		
		VNMG	160404-SA	9.525	4.76	3.81	0.4							★	★	☆			
			160408-SA	9.525	4.76	3.81	0.8								★	★	☆		
		WNMG	080404-SA	12.7	4.76	5.16	0.4							★	★	☆			
			080408-SA	12.7	4.76	5.16	0.8								★	★	☆		

★ Recommended grade ☆ Optional grade

Inserts for processing Heat-resisting alloy Semi finishing

Negative Inserts

A
General Turning

The basic shape of inserts		Type	Dimension (mm)				Grade recommended										
			Φ1C	S	Φ4	R	CVD coating grade				PVD coating grade		Incoatings				
							AKS100	AKS200	AKS300	AKS350	AKP1PVD	AKP3PVD			AK810M	AK815M	
		CNGG	120402E-LHC	12.7	4.76	5.16	0.2						★	☆			
			120404E-LHC	12.7	4.76	5.16	0.4							★	☆		
			120408E-LHC	12.7	4.76	5.16	0.8							★	☆		
		DNGG	150404E-LHC	12.7	4.76	5.16	0.4						★	☆			
			150408E-LHC	12.7	4.76	5.16	0.8							★	☆		
			150604E-LHC	12.7	6.35	5.16	0.4							★	☆		
			150608E-LHC	12.7	6.35	5.16	0.8							★	☆		
		SNGG	120404E-LHC	12.7	4.76	5.16	0.4						★	☆			
			120408E-LHC	12.7	4.76	5.16	0.8							★	☆		
			120412E-LHC	12.7	4.76	5.16	1.2							★	☆		
		TNGG	160404E-LHC	9.525	4.76	3.81	0.4						★	☆			
			160408E-LHC	9.525	4.76	3.81	0.8							★	☆		
			160412E-LHC	9.525	4.76	3.81	1.2							★	☆		
			220408E-LHC	12.7	4.76	5.16	0.8							★	☆		
		VNGG	160401E-LHC	9.525	4.76	3.81	0.1						★	☆			
			160402E-LHC	9.525	4.76	3.81	0.2							★	☆		
			160404E-LHC	9.525	4.76	3.81	0.4							★	☆		
			160408E-LHC	9.525	4.76	3.81	0.8							★	☆		
		WNGG	080404E-LHC	9.525	4.76	3.81	0.4						★	☆			
			080408E-LHC	9.525	4.76	3.81	0.8							★	☆		
			080404E-LHC	12.7	4.76	5.16	0.4							★	☆		
			080408E-LHC	12.7	4.76	5.16	0.8							★	☆		
			080412E-LHC	12.7	4.76	5.16	1.2							★	☆		

★ Recommended grade ☆ Optional grade

Inserts for processing Heat-resisting alloy Rough machining

Negative Inserts

The basic shape of inserts	Type	Dimension (mm)				Grade recommended													
		ΦLC	S	ΦR	R	CVD coating grade				PVD coating grade		Incoatings							
						AKS100	AKS200	AKS300	AKS350	AKP1PVD	AKP3PVD			AK810M	AK815M				
		CNMG	120408-SN	12.7	4.76	5.16	0.8						☆	★					
			120412-SN	12.7	4.76	5.16	1.2							☆	★				
			160608-SN	15.875	6.35	6.35	0.8							☆	★				
			160612-SN	15.875	6.35	6.35	1.2							☆	★				
			190608-SN	19.05	6.35	7.93	0.8							☆	★				
			190612-SN	19.05	6.35	7.93	1.2							☆	★				
		DNMG	110408-SN	9.525	4.76	3.81	0.8						☆	★					
			110412-SN	9.525	4.76	3.81	1.2							☆	★				
			150408-SN	12.7	4.76	5.16	0.8							☆	★				
			150412-SN	12.7	4.76	5.16	1.2							☆	★				
			150608-SN	12.7	6.35	5.16	0.8							☆	★				
			150612-SN	12.7	6.35	5.16	1.2							☆	★				
		SNMG	120408-SN	12.7	4.76	5.16	0.8						☆	★					
			120412-SN	12.7	4.76	5.16	1.2							☆	★				
			150612-SN	15.875	6.35	6.35	1.2							☆	★				
		TNMG	160408-SN	9.525	4.76	3.81	0.8						☆	★					
			160412-SN	9.525	4.76	3.81	1.2							☆	★				
			220404-SN	12.7	4.76	5.16	0.4							☆	★				
			220408-SN	12.7	4.76	5.16	0.8							☆	★				
			220412-SN	12.7	4.76	5.16	1.2							☆	★				
		VNMG	160408-SN	9.525	4.76	3.81	0.8						☆	★					
			160412-SN	9.525	4.76	3.81	1.2							☆	★				
		WNMG	060408-SN	9.525	4.76	3.81	0.8						☆	★					
			060412-SN	9.525	4.76	3.81	1.2							☆	★				
			080408-SN	12.7	4.76	5.16	0.8							☆	★				
			080412-SN	12.7	4.76	5.16	1.2							☆	★				

★ Recommended grade ☆ Optional grade

Inserts for processing Aluminum High precision

Positive inserts

A
General Turning

The basic shape of inserts		Type		Dimension (mm)					Grade recommended			
				ΦC	S	Φd	R	d	PVD coating grade		Lincostar grade	
									AKP1PVD	AP3PVD	AK310M	AK315M
	CGT	060202-LHC	6.35	2.38	2.8	0.2	7°			★	☆	
		060204-LHC	6.35	2.38	2.8	0.4	7°			★	☆	
		060208-LHC	6.35	2.38	2.8	0.8	7°			★	☆	
		09T302-LHC	9.525	3.97	4.4	0.2	7°			★	☆	
		09T304-LHC	9.525	3.97	4.4	0.4	7°			★	☆	
		09T308-LHC	9.525	3.97	4.4	0.8	7°			★	☆	
		120402-LHC	12.7	4.76	5.5	0.2	7°			★	☆	
		120404-LHC	12.7	4.76	5.5	0.4	7°			★	☆	
		120408-LHC	12.7	4.76	5.5	0.8	7°			★	☆	
	DCGT	070202-LHC	6.35	2.38	2.8	0.2	7°			★	☆	
		070204-LHC	6.35	2.38	2.8	0.4	7°			★	☆	
		070208-LHC	6.35	2.38	2.8	0.8	7°			★	☆	
		11T302-LHC	9.525	3.97	4.4	0.2	7°			★	☆	
		11T304-LHC	9.525	3.97	4.4	0.4	7°			★	☆	
		11T308-LHC	9.525	3.97	4.4	0.8	7°			★	☆	
		11T312-LHC	9.525	3.97	4.4	1.2	7°			★	☆	
	SCGT	09T302-LHC	9.525	3.97	4.4	0.2	7°			★	☆	
		09T304-LHC	9.525	3.97	4.4	0.4	7°			★	☆	
		09T308-LHC	9.525	3.97	4.4	0.8	7°			★	☆	
		120402-LHC	12.7	4.76	5.5	0.2	7°			★	☆	
		120404-LHC	12.7	4.76	5.5	0.4	7°			★	☆	
		120408-LHC	12.7	4.76	5.5	0.8	7°			★	☆	
	TCGT	090202-LHC	5.58	2.38	2.5	0.2	7°			★	☆	
		090204-LHC	5.58	2.38	2.5	0.4	7°			★	☆	
		090208-LHC	5.58	2.38	2.5	0.8	7°			★	☆	
		110202-LHC	6.35	2.38	2.8	0.2	7°			★	☆	
		110204-LHC	6.35	2.38	2.8	0.4	7°			★	☆	
		110208-LHC	6.35	2.38	2.8	0.8	7°			★	☆	
		16T302-LHC	9.525	3.97	4.4	0.2	7°			★	☆	
		16T304-LHC	9.525	3.97	4.4	0.4	7°			★	☆	
		16T308-LHC	9.525	3.97	4.4	0.8	7°			★	☆	
		16T312-LHC	9.525	3.97	4.4	1.2	7°			★	☆	

★ Recommended grade ☆ Optional grade

Inserts for processing Aluminum High precision

Positive inserts

The basic shape of inserts	Type	Dimension (mm)					Grade recommended				
		φ1C	S	φd	R	φ	PVD coating grade		Linedoater grade		
							AKP1PVD	AKP3PVD	AK810M	AK815M	
	VBGT	110302-LHC	6.35	3.18	2.8	0.2	5°			★	☆
		110304-LHC	6.35	3.18	2.8	0.4	5°			★	☆
		110308-LHC	6.35	3.18	2.8	0.8	5°			★	☆
		160402-LHC	9.525	4.76	4.4	0.2	5°			★	☆
		160404-LHC	9.525	4.76	4.4	0.4	5°			★	☆
		160408-LHC	9.525	4.76	4.4	0.8	5°			★	☆
		160412-LHC	9.525	4.76	4.4	1.2	5°			★	☆
		220516-LHC	12.7	5.96	5.5	1.6	5°			★	☆
		220525-LHC	12.7	5.96	5.5	2.5	5°			★	☆
		220530-LHC	12.7	5.96	5.5	3	5°			★	☆
	VCGT	110302-LHC	6.35	3.18	2.8	0.2	7°			★	☆
		110304-LHC	6.35	3.18	2.8	0.4	7°			★	☆
		110308-LHC	6.35	3.18	2.8	0.8	7°			★	☆
		130302-LHC	7.86	3.18	3.4	0.2	7°			★	☆
		130304-LHC	7.86	3.18	3.4	0.4	7°			★	☆
		160402-LHC	9.525	4.76	4.4	0.2	7°			★	☆
		160404-LHC	9.525	4.76	4.4	0.4	7°			★	☆
		160408-LHC	9.525	4.76	4.4	0.8	7°			★	☆
		160412-LHC	9.525	4.76	4.4	1.2	7°			★	☆
		220520-LHC	12.7	5.96	5.5	2	7°			★	☆
220530-LHC	12.7	5.96	5.5	3	7°			★	☆		
	RCGT	0602MO-LHC	6	2.38	2.5	-	7°			★	☆
		0803MO-LHC	8	3.18	3.4	-	7°			★	☆
		1003MO-LHC	10	3.18	4.4	-	7°			★	☆
		10T3MO-LHC	10	3.97	4.4	-	7°			★	☆
		1204MO-LHC	12	4.76	5.5	-	7°			★	☆

★ Recommended grade ☆ Optional grade

A

General Turning

Inserts for processing Aluminum High precision

Negative inserts

A
General Turning

The basic shape of inserts		Type		Dimension (mm)				Grade recommended			
								PVD coating grade		Uncoated grade	
				AP10PVD	AP30PVD	AK310M	AK315M	φ D.C.	S	W.D.	R
	CNGG	120402-LHC	12.7	4.76	5.16	0.2			★	☆	
		120404-LHC	12.7	4.76	5.16	0.4			★	☆	
		120408-LHC	12.7	4.76	5.16	0.8			★	☆	
		120412-LHC	12.7	4.76	5.16	1.2			★	☆	
	DNNG	150404-LHC	12.7	4.76	5.16	0.4			★	☆	
		150408-LHC	12.7	4.76	5.16	0.8			★	☆	
		150604-LHC	12.7	6.35	5.16	0.4			★	☆	
		150608-LHC	12.7	6.35	5.16	0.8			★	☆	
	SNGG	120404-LHC	12.7	4.76	5.16	0.4			★	☆	
		120408-LHC	12.7	4.76	5.16	0.8			★	☆	
		120412-LHC	12.7	4.76	5.16	1.2			★	☆	
	TNGG	180404-LHC	9.525	4.76	3.81	0.4			★	☆	
		180408-LHC	9.525	4.76	3.81	0.8			★	☆	
		180412-LHC	9.525	4.76	3.81	1.2			★	☆	
		220408-LHC	12.7	4.76	5.16	0.8			★	☆	
		220412-LHC	12.7	4.76	5.16	1.2			★	☆	
	VWGG	160401-LHC	9.525	4.76	3.81	0.1			★	☆	
		160402-LHC	9.525	4.76	3.81	0.2			★	☆	
		160404-LHC	9.525	4.76	3.81	0.4			★	☆	
		160408-LHC	9.525	4.76	3.81	0.8			★	☆	
	WVGG	060404-LHC	9.525	4.76	3.81	0.4			★	☆	
		060408-LHC	9.525	4.76	3.81	0.8			★	☆	
		080404-LHC	12.7	4.76	5.16	0.4			★	☆	
		080408-LHC	12.7	4.76	5.16	0.8			★	☆	
		080412-LHC	12.7	4.76	5.16	1.2			★	☆	

★ Recommended grade ☆ Optional grade

Inserts for processing Aluminum Common precision

Positive inserts

The basic shape of inserts		Type		Dimension (mm)					Grade recommended			
									PVD coating grade		Lubricated grade	
				AP10PVD	AP30PVD	AK810M	AK815M	AP1C	S	Φd	R	φ
	CGGT	060202-LH	6.35	2.38	2.8	0.2	7°				★	☆
		060204-LH	6.35	2.38	2.8	0.4	7°				★	☆
		060208-LH	6.35	2.38	2.8	0.8	7°				★	☆
		09T302-LH	9.525	3.97	4.4	0.2	7°				★	☆
		09T304-LH	9.525	3.97	4.4	0.4	7°				★	☆
		09T308-LH	9.525	3.97	4.4	0.8	7°				★	☆
		120402-LH	12.7	4.76	5.5	0.2	7°				★	☆
		120404-LH	12.7	4.76	5.5	0.4	7°				★	☆
120408-LH	12.7	4.76	5.5	0.8	7°				★	☆		
	DCGT	070202-LH	6.35	2.38	2.8	0.2	7°				★	☆
		070204-LH	6.35	2.38	2.8	0.4	7°				★	☆
		070208-LH	6.35	2.38	2.8	0.8	7°				★	☆
		11T302-LH	9.525	3.97	4.4	0.2	7°				★	☆
		11T304-LH	9.525	3.97	4.4	0.4	7°				★	☆
		11T308-LH	9.525	3.97	4.4	0.8	7°				★	☆
		11T312-LH	9.525	3.97	4.4	1.2	7°				★	☆
	SCGT	09T302-LH	9.525	3.97	4.4	0.2	7°				★	☆
		09T304-LH	9.525	3.97	4.4	0.4	7°				★	☆
		09T308-LH	9.525	3.97	4.4	0.8	7°				★	☆
		120402-LH	12.7	4.76	5.5	0.2	7°				★	☆
		120404-LH	12.7	4.76	5.5	0.4	7°				★	☆
120408-LH	12.7	4.76	5.5	0.8	7°				★	☆		
	TCGT	090202-LH	5.56	2.38	2.5	0.2	7°				★	☆
		090204-LH	5.56	2.38	2.5	0.4	7°				★	☆
		090208-LH	5.56	2.38	2.5	0.8	7°				★	☆
	VCGT	110302-LH	6.35	3.18	2.8	0.2	7°				★	☆
		110304-LH	6.35	3.18	2.8	0.4	7°				★	☆
		110308-LH	6.35	3.18	2.8	0.8	7°				★	☆
		130302-LH	7.66	3.18	3.4	0.2	7°				★	☆
		130304-LH	7.66	3.18	3.4	0.4	7°				★	☆
		160402-LH	9.525	4.76	4.4	0.2	7°				★	☆
		160404-LH	9.525	4.76	4.4	0.4	7°				★	☆
		160408-LH	9.525	4.76	4.4	0.8	7°				★	☆
	VBGT	110302-LH	6.35	3.18	2.8	0.2	5°				★	☆
		110304-LH	6.35	3.18	2.8	0.4	5°				★	☆
		110308-LH	6.35	3.18	2.8	0.8	5°				★	☆
		160402-LH	9.525	4.76	4.4	0.2	5°				★	☆
		160404-LH	9.525	4.76	4.4	0.4	5°				★	☆
		160408-LH	9.525	4.76	4.4	0.8	5°				★	☆

★ Recommended grade ☆ Optional grade

Inserts for processing Aluminum Common precision

Negative inserts

A
General Turning

The basic shape of inserts		Type	Dimension (mm)				Grade recommended				
			Φ D.C.	S	W.D.	R	PVD coating grade		Uncoated grade		
							AKP10PVD	AKP30PVD	AK810M	AK815M	
		CNMG	120402-LH	12.7	4.76	5.16	0.2			★	☆
			120404-LH	12.7	4.76	5.16	0.4			★	☆
			120408-LH	12.7	4.76	5.16	0.8			★	☆
			120412-LH	12.7	4.76	5.16	1.2			★	☆
		DNMG	150404-LH	12.7	4.76	5.16	0.4			★	☆
			150408-LH	12.7	4.76	5.16	0.8			★	☆
			150604-LH	12.7	6.35	5.16	0.4			★	☆
			150608-LH	12.7	6.35	5.16	0.8			★	☆
		SNMG	120404-LH	12.7	4.76	5.16	0.4			★	☆
			120408-LH	12.7	4.76	5.16	0.8			★	☆
			120412-LH	12.7	4.76	5.16	1.2			★	☆
		TNMG	160404-LH	9.525	4.76	3.81	0.4			★	☆
			160408-LH	9.525	4.76	3.81	0.8			★	☆
			160412-LH	9.525	4.76	3.81	1.2			★	☆
			220408-LH	12.7	4.76	5.16	0.8			★	☆
			220412-LH	12.7	4.76	5.16	1.2			★	☆
		VNMG	160404-LH	9.525	4.76	3.81	0.4			★	☆
			160408-LH	9.525	4.76	3.81	0.8			★	☆
		WNMG	060404-LH	9.525	4.76	3.81	0.4			★	☆
			060408-LH	9.525	4.76	3.81	0.8			★	☆
			080404-LH	12.7	4.76	5.16	0.4			★	☆
			080408-LH	12.7	4.76	5.16	0.8			★	☆
			080412-LH	12.7	4.76	5.16	1.2			★	☆

★ Recommended grade ☆ Optional grade

Inserts for processing cast iron Semi finishing

Negative inserts

The basic shape of inserts		Type		Dimension (mm)				Grade recommend					
								CVD coating grade			Uncoated grade		
				Φ L	Φ	Φ R	R	AKC20	AKC25			AK810M	AK815M
		CNMG	120404-K3	12.7	4.76	5.16	0.4	★	☆				
			120408-K3	12.7	4.76	5.16	0.8	★	☆				
			120412-K3	12.7	4.76	5.16	1.2	★	☆				
			160604-K3	15.875	6.35	6.35	0.4	★	☆				
			160608-K3	15.875	6.35	6.35	0.8	★	☆				
			160612-K3	15.875	6.35	6.35	1.2	★	☆				
		DNMG	150404-K3	12.7	4.76	5.16	0.4	★	☆				
			150408-K3	12.7	4.76	5.16	0.8	★	☆				
			150804-K3	12.7	6.35	5.16	0.4	★	☆				
			150808-K3	12.7	6.35	5.16	0.8	★	☆				
		SNMG	120404-K3	12.7	4.76	5.16	0.4	★	☆				
			120408-K3	12.7	4.76	5.16	0.8	★	☆				
			150808-K3	15.875	6.35	5.16	0.8	★	☆				
			150612-K3	15.875	6.35	5.16	1.2	★	☆				
		TNMG	160404-K3	9.525	4.76	5.16	0.4	★	☆				
			160408-K3	9.525	4.76	5.16	0.8	★	☆				
			160412-K3	9.525	4.76	5.16	1.2	★	☆				
		VNMG	160404-K3	9.525	4.76	5.16	0.4	★	☆				
			160408-K3	9.525	4.76	5.16	0.8	★	☆				
			160412-K3	9.525	4.76	5.16	1.2	★	☆				
		WNMG	080404-K3	12.7	4.76	5.16	0.4	★	☆				
			080408-K3	12.7	4.76	5.16	0.8	★	☆				
			080412-K3	12.7	4.76	5.16	1.2	★	☆				

★ Recommended grade ☆ Optional grade

Inserts for processing cast iron Rough machining

Negative inserts

A
General Turning

The basic shape of inserts		Type		Dimension (mm)				Grade recommended							
				Φ L	S	Φ R	R	CVD coating grade			Uncoated grade				
								AKC200	AKC250		AK810M	AK815M			
		CNMG	120408-K6	12.7	4.76	5.16	0.8	★	☆						
			120412-K6	12.7	4.76	5.16	1.2	★	☆						
			120416-K6	12.7	4.76	5.16	1.6	★	☆						
			160608-K6	15.875	6.35	6.35	0.8	★	☆						
			160612-K6	15.875	6.35	6.35	1.2	★	☆						
			190608-K6	19.05	6.35	7.93	0.8	★	☆						
			190612-K6	19.05	6.35	7.93	1.2	★	☆						
		DNMG	110408-K6	9.525	4.76	3.81	0.8	★	☆						
			150408-K6	12.7	4.76	5.16	0.8	★	☆						
			150608-K6	12.7	6.35	5.16	0.8	★	☆						
		TNMG	160408-K6	9.525	4.76	3.81	0.8	★	☆						
			160412-K6	9.525	4.76	3.81	1.2	★	☆						
			220408-K6	12.7	4.76	5.16	0.8	★	☆						
			220412-K6	12.7	4.76	5.16	1.2	★	☆						
		WNMG	060408-K6	9.525	4.76	3.81	0.8	★	☆						
			060412-K6	9.525	4.76	3.81	1.2	★	☆						
			080408-K6	12.7	4.76	5.16	0.8	★	☆						
			080412-K6	12.7	4.76	5.16	1.2	★	☆						
			080416-K6	12.7	4.76	5.16	1.6	★	☆						
		VNMG	160408-K6	9.525	4.76	3.81	0.8	★	☆						

★ Recommended grade ☆ Optional grade

Inserts for processing cast iron Rough machining

Negative inserts

The basic shape of inserts	Type	Dimension (mm)				Grade recommended								
		Φ L	S	Φ s	R	CVD coating grade			Uncoated grade					
						AKC20	AKC25		AK810M	AK815M				
	CNMA	120404	12.7	4.76	5.16	0.4	★	☆						
		120408	12.7	4.76	5.16	0.8	★	☆						
		120412	12.7	4.76	5.16	1.2	★	☆						
		120416	12.7	4.76	5.16	1.6	★	☆						
		160604	15.875	6.35	6.35	0.4	★	☆						
		160608	15.875	6.35	6.35	0.8	★	☆						
		160612	15.875	6.35	6.35	1.2	★	☆						
		160616	15.875	6.35	6.35	1.6	★	☆						
		190612	19.05	6.35	7.94	1.2	★	☆						
		190616	19.05	6.35	7.94	1.6	★	☆						
		190624	19.05	6.35	7.94	2.4	★	☆						
	DNMA	110404	9.525	4.76	3.81	0.4	★	☆						
		110408	9.525	4.76	3.81	0.8	★	☆						
		110412	9.525	4.76	3.81	1.2	★	☆						
		150404	12.7	4.76	5.16	0.4	★	☆						
		150408	12.7	4.76	5.16	0.8	★	☆						
		150412	12.7	4.76	5.16	1.2	★	☆						
		150604	12.7	6.35	5.16	0.4	★	☆						
		150608	12.7	6.35	5.16	0.8	★	☆						
150612	12.7	6.35	5.16	1.2	★	☆								
	SNMA	090304	9.525	3.18	3.81	0.4	★	☆						
		090308	9.525	3.18	3.81	0.8	★	☆						
		120404	12.7	4.76	5.16	0.4	★	☆						
		120408	12.7	4.76	5.16	0.8	★	☆						
		120412	12.7	4.76	5.16	1.2	★	☆						
		120416	12.7	4.76	5.16	1.6	★	☆						
		150608	15.875	6.35	6.35	0.8	★	☆						
		150612	15.875	6.35	6.35	1.2	★	☆						
		150616	15.875	6.35	6.35	1.6	★	☆						
		190608	19.05	6.35	7.93	0.8	★	☆						
		190612	19.05	6.35	7.93	1.2	★	☆						
		190616	19.05	6.35	7.94	1.6	★	☆						
		190624	19.05	6.35	7.94	2.4	★	☆						
		250724	25.4	7.94	9.12	2.4	★	☆						
250824	25.4	9.52	9.12	2.4	★	☆								

★ Recommended grade ☆ Optional grade

Inserts for processing cast iron Rough machining

Negative inserts

A
General Turning

The basic shape of inserts	Type	Dimension (mm)				Grade recommended						
		Φ L	S	Φ R	R	CVD coating grade			Uncoated grade			
						AKC200	AKC250		AK810M	AK815M		
	160404	9.525	4.76	3.81	0.4	★	☆					
	160408	9.525	4.76	3.81	0.8	★	☆					
	160412	9.525	4.76	3.81	1.2	★	☆					
	160416	9.525	4.76	3.81	1.6	★	☆					
	220404	12.7	4.76	5.16	0.4	★	☆					
	220408	12.7	4.76	5.16	0.8	★	☆					
	220412	12.7	4.76	5.16	1.2	★	☆					
	220416	12.7	4.76	5.16	1.6	★	☆					
270616	15.875	6.35	6.35	1.6	★	☆						
	080404	9.525	4.76	3.81	0.4	★	☆					
	080408	9.525	4.76	3.81	0.8	★	☆					
	080412	9.525	4.76	3.81	1.2	★	☆					
	080404	12.7	4.76	5.16	0.4	★	☆					
	080408	12.7	4.76	5.16	0.8	★	☆					
	080412	12.7	4.76	5.16	1.2	★	☆					
	080416	12.7	4.76	5.16	1.6	★	☆					

★ Recommended grade ☆ Optional grade

Turning inserts for profile

Semi finishing

The basic shape of inserts	Type	Dimension (mm)						Grade recommended					
		L		W		H		DIN coating grade		PVD coating grade			
		L1	L	W	S	H	AKS200	AKS300	AKS350	AKP10PVD	AKP30PVD	AK820M	
	NMUX	180405L11	16.17	16.15	9.525	4.78	0.5	☆	★		☆	☆	☆
		180410L11	16.17	16.15	9.525	4.78	1	☆	★		☆	☆	☆
		180405R11	16.17	16.15	9.525	4.78	0.5	☆	★		☆	☆	☆
		180410R11	16.17	16.15	9.525	4.78	1	☆	★		☆	☆	☆
		180405L1-1	16.17	16.15	9.525	4.78	0.5	☆	★		☆	☆	☆
		180410L1-1	16.17	16.15	9.525	4.78	1	☆	★		☆	☆	☆
	NMUX	180405R1-1	16.17	16.15	9.525	4.78	0.5	☆	★		☆	☆	☆
		180410R1-1	16.17	16.15	9.525	4.78	1	☆	★		☆	☆	☆

★ Recommended grade ☆ Optional grade

Parting & Grooving Machining

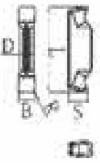
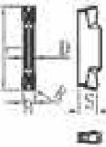
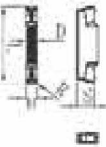
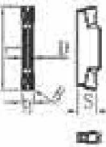


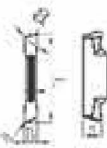


B Parting and grooving

Parting and grooving tools

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Parting and grooving inserts

The most diverse of inserts	Type	Dimension (mm)						Grade (recommended)						
		B	R	L	DW	E	ISO 5010/101		PVD coating grade		Uncoated grade			
							AKS250	AKP10PVD	AKP20PVD	AK810M	AK815M			
	MGN	150-LH	15	0.1	16	126	3.5	*	*	*	*	*		
		200-LH	2	0.2	16	1.5	3.5	*	*	*	*	*		
		300-LH	3	0.2	20	2.35	4.8	*	*	*	*	*		
		400-LH	4	0.3	21	3.3	4.8	*	*	*	*	*		
		500-LH	5	0.3	25.96	4.12	5.8	*	*	*	*	*		
		600-LH	6	0.4	26	5	5.8	*	*	*	*	*		
	MGN	150-L	15	0.2	16	126	3.5	*	*	*	*	*		
		200-L	2	0.2	16	1.6	3.5	*	*	*	*	*		
		250-L	2.5	0.2	18.4	2	3.65	*	*	*	*	*		
		300-L	3	0.2	20	2.35	4.8	*	*	*	*	*		
		400-L	4	0.3	21	3.3	4.8	*	*	*	*	*		
		500-L	5	0.3	26	4.1	5.8	*	*	*	*	*		
	MGN	150-H	15	0.2	16	126	3.5	*	*	*	*	*		
		200-H	2	0.2	16	1.6	3.5	*	*	*	*	*		
		250-H	2.5	0.2	18.4	2	3.65	*	*	*	*	*		
		300-H	3	0.2	20	2.35	4.8	*	*	*	*	*		
		400-H	4	0.3	21	3.3	4.8	*	*	*	*	*		
		500-H	5	0.3	26	4.1	5.8	*	*	*	*	*		
	MGN	150-80	15	0.2	16	6*	3.5	*	*	*	*	*		
		200-80	2	0.2	16	6*	3.5	*	*	*	*	*		
		250-80	2.5	0.2	18.4	6*	3.5	*	*	*	*	*		
		300-80	3.5	0.2	20	6*	4.8	*	*	*	*	*		
		400-80	4	0.3	21	6*	4.8	*	*	*	*	*		
		500-80	5	0.3	26	6*	5.8	*	*	*	*	*		
	MGN	150-150	15	0.2	16	15*	3.5	*	*	*	*	*		
		200-150	2	0.2	16	15*	3.5	*	*	*	*	*		
		250-150	2.5	0.2	18.4	15*	3.5	*	*	*	*	*		
		300-150	3.5	0.2	20	15*	4.8	*	*	*	*	*		
		400-150	4	0.3	21	15*	4.8	*	*	*	*	*		
		500-150	5	0.3	26	15*	5.8	*	*	*	*	*		
	TOJ/RL	2-50	2	0.2	20	6*	3.9	*	*	*	*	*		
		3-150	3	0.2	20	6*	4	*	*	*	*	*		
		4-150	4	0.3	19.75	6*	4.5	*	*	*	*	*		
		5-50	5	0.3	25	6*	4.89	*	*	*	*	*		
		2-150	2	0.2	20	6*	3.9	*	*	*	*	*		
		3-150	3	0.2	20	6*	4	*	*	*	*	*		
	TOJ/RL	4-150	4	0.3	19.75	6*	4.5	*	*	*	*			
		5-150	5	0.3	25	6*	4.89	*	*	*	*	*		
		2-150	2	0.2	20	6*	3.9	*	*	*	*	*		
		3-150	3	0.2	20	6*	4	*	*	*	*	*		
		4-150	4	0.3	19.75	6*	4.5	*	*	*	*	*		
		5-150	5	0.3	25	6*	4.89	*	*	*	*	*		

★ Recommended grade ☆ Optional grade

Parting and grooving inserts

Insert shape	Type	Dimension (mm)					Material recommended								
		R	L	D	B	H	CVD coating grade		PVD coating grade		Uncoated grade				
							AKS250	AKP10PVD	AKP20PVD	AK810M	AK815M				
	GRLLP9003-M	3	0.30	19	2.1	5.4	*	*	*	*					
	GRLLP9004-M	5	0.40	19	3.4	5.75	*	*	*	*					
	GRLLP9004-M	6	0.40	19	4	5.95	*	*	*	*					
	GRLLP9003-F	3	0.3	18	2.14	3.98	*	*	*	*					
	GLLP4002-F	4	0.2	19	2.8	5.54	*	*	*	*					
	GRLLP4004-F	4	0.4	18.93	2.65	5.56	*	*	*	*					
	GRLLP6005-F	6	0.5	19	4.24	5.9	*	*	*	*					
	GRLLP4002-H	4	0.2	19	2.8	5.57	*	*	*	*					





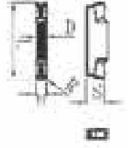

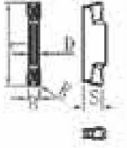

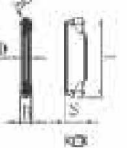





B

Parting Grooving

The basic grade of insert	Type	Dimension (mm)						Grade recommended							
		R	L	D	B	H	CVD coating grade		PVD coating grade		Uncoated grade				
							AKS250	AKP10PVD	AKP20PVD	AK810M	AK815M				
	TD42	2	0.2	20	1.7	3.9	*	*	*	*					
	TD43	3	0.2	20	2.4	4.05	*	*	*	*					
	TD44	4	0.3	20	3	4.05	*	*	*	*					
	TD45	5	0.3	25	4	4.89	*	*	*	*					
	TD42	2	0.2	20	1.7	3.94	*	*	*	*					
	TD43	3	0.2	20	2.4	3.97	*	*	*	*					
	TD44	4	0.3	20	3	4.03	*	*	*	*					
	TD45	5	0.3	25	4	4.89	*	*	*	*					
	TD73	3	0.4	20	2.4	4.01	*	*	*	*					
	TD74	4	0.4	19.76	3	4.02	*	*	*	*					
	TD75	5	0.4	25	4	4.94	*	*	*	*					

★ Recommended grade ☆ Optional grade

Parting and grooving inserts

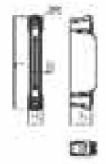

The most diverse of inserts	Type	Dimensions (mm)						Grade (recommended)			
		H	R	L	D	E	CQ cutting tool		Uncoated grade		
							AKS250	AKP10PVD AKP20PVD	AK810M AK815M		
 	BP	200	2.18	0.2	9.3		*	*	*		
		300	3.14	0.2	11.3		*	*	*		
		400	4.1	0.25	11.3		*	*	*		
 	BP	500	5.1	0.3	11.4		*	*	*		
		600-4AF	6	0.8	15.1	5	5.38	*	*		
		800-4Z	8	0.8	15.3	6	5.48	*	*		
 	MCSAN	200-4L	2	0.2	16	1.2	3.5	*	*		
		250-4L	2.5	0.2	18.5	2	3.65	*	*		
		300-4L	3	0.4	21	2.35	4.8	*	*		
 	MCSAN	400-4L	4	0.4	21	3.3	4.8	*	*		
		500-4L	5	0.8	26	4.1	5.8	*	*		
		600-4L	6	0.8	26	5	5.8	*	*		
 	MCSAN	150-G	1.5	0.15	16	1.2	3.5	*	*		
		200-G	2	0.2	16	1.6	3.5	*	*		
		300-G	3	0.4	21	2.35	4.8	*	*		
 	MCSAN	400-G	4	0.4	21	3.3	4.8	*	*		
		200-4L	2	1	16	1.5	3.5	*	*		
		300-4L	3	1.5	21	2.35	4.8	*	*		
 	MCSAN	400-4L	4	2	21	3.3	4.8	*	*		
		500-4L	5	2.5	25.86	4.12	5.8	*	*		
		600-4L	6	3	26	5	5.8	*	*		

★ Recommended grade ☆ Optional grade

B

Parting Grooving

Parting and grooving inserts

The basic shapes of inserts	Type	Dimensions (mm)						Grade (recommended)					
		B	H	L	D	E	CG cutting grade		PVD coating grade		Uncoated grade		
							AKS250	AKP10PVD	AKP20PVD	AK810M	AK815M		
		NSBCL20004-GF	2	0.4	20.6	1.63	4.44	*	*	*	*		
		NSBCL26008-GF	2.6	0.8	20.7	2	4.52	*	*	*	*		
		NSBCL30003-TF	3	0.3	20	2.3	4.5	*	*	*	*		
		NSBCL31808-GF	3.18	0.8	20.7	2.31	4.52	*	*	*	*		
		NSBCL50004-TF	5	0.4	25.2	4.3	4.8	*	*	*	*		
		NSBCL50008-TM	5	0.8	25	4.35	4.8	*	*	*	*		
		NSBCL40008-TM	4	0.8	25	3	4.45	*	*	*	*		
		NSBCL40004-TM	4	0.4	25	5.15	4.65	*	*	*	*		
		MDGNL2002-J	2	0.2	19.8	1.7	5.7	*	*	*	*		
		MDGNL2022-J	2.2	0.2	19.8	1.9	5.7	*	*	*	*		
		MDGRL2202-J	2.2	0.2	20.8	1.84	5.88	*	*	*	*		
		MDGNL3002-J	3	0.2	20.15	2.41	5.7	*	*	*	*		
MDGRL2202-L80	2.2	0.2	20.6	1.84	6	*	*	*	*				
MDGRL2202-L50	2.2	0.2	20.3	1.84	6	*	*	*	*				
MDGRL2200S-60	2.2	0.02	20.3	1.84	6	*	*	*	*				
MDGRL2200S-150	2.2	0.02	20.3	1.84	15	*	*	*	*				
MDGNL202-C	2	0.2	20	1.73	5.6	*	*	*	*				
MDGNL302-C	3	0.2	19.8	2.4	5.85	*	*	*	*				
MDGNL102-C	3.1	0.2	20	2.4	5.85	*	*	*	*				
MDGNL202-F	2	0.2	21	1.7	5.88	*	*	*	*				
MDGNL302-F	3	0.2	21	2.82	5.88	*	*	*	*				
MDGNM1505-MIT	1.5	0.05	20	1.5	4.02	*	*	*	*				
MDGNM205-MIT	2	0.05	20	1.53	4.07	*	*	*	*				
MDGNM305-MIT	3	0.05	20	2.33	4.3	*	*	*	*				


★ Recommended grade ☆ Optional grade

Parting and grooving inserts

The basic shape of inserts	Type	Dimension (mm)						Material recommended				
		Dmin	φ	W	H	L	R	Dry cutting grade		Wet cutting grade		
								AKS250	AKP10PVD	AKP20PVD	AK810M	AK815M
	BCP2M00L/R	5.2	3.84	2	5.56	8.58	0.2		*			
	BCP2M22S/L/R	5.2	3.84	2.25	5.56	8.58	0.2		*			
	BCP2M35L/R	5.2	3.84	2.5	5.56	8.58	0.2		*			
	BCP2M00L/R	5.2	3.84	3	5.56	8.58	0.2		*			

B

Parting Grooving

The basic shape of inserts	Type	Dimension (mm)						Grade recommended					
		φLT	E	φW	S	W	R/C	Dry cutting grade		Wet cutting grade			
								AKS250	AKS350	AKP10PVD	AKP20PVD	AK810M	AK815M
	AKS250	4.4	3.18	4.4	0.8	0.33	0.05	*	*	*	*		
	AKS350	4.4	3.18	4.4	1.2	0.50	0.05	*	*	*	*		
	AKP10PVD	4.4	3.18	4.4	2.0	0.85	0.10	*	*	*	*		
	AKP20PVD	4.4	3.18	4.4	2.0	0.75	0.10	*	*	*	*		
	AK810M	4.4	3.18	4.4	2.0	1.00	0.10	*	*	*	*		
	AK815M	4.4	3.18	4.4	2.0	1.20	0.10	*	*	*	*		
	AKS250	4.4	3.18	4.4	2.0	1.25	0.10	*	*	*	*		
	AKS250	4.4	3.18	4.4	2.0	1.50	0.10	*	*	*	*		
	AKS250	4.4	3.18	4.4	2.0	1.75	0.10	*	*	*	*		
	AKS250	4.4	3.18	4.4	2.0	2.00	0.10	*	*	*	*		

Milling Inserts



C Milling

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Overview of milling inserts

Face Milling Inserts

SPKN**EDSR-SU P54	SDKN**AESN-SU P54					

SEKT**AFSN P55	SEET**AZSN-RD P55	SEMT**AGSN-JM P55	SEMT**AGSN-PM P55	SEMT**AGSN-KM P55	SEKT**AFFN-LH-2 P55	SEKT**AZFN-LH P55

SEKR**AZ-YM P55	SEET**-DR P56	SDET**-RF P56				

SNMX**ANTN P57	SNMX**ANTR-XH P57	SNMX**ANEN-MQ P57				

HNMX**ANSN-M P58	HNMU**ANEN-HD P58					

QFCT**-NN P58	ONMU**-M1 P59	ONMU**ANPN-MJ P59	ONMU**-PM P59	ONGX**-F P59		

TPKN**PDSR-SU P59						

Shouldering Inserts

APMT**PDER-H* P60	APMT**PDER-M2 P60	APMT**PDER-PM P60	APLX**PDTR-LMNA P60	APKT**R-EM P60	APKT**PDSR-30 P60	

APKT**PDRF-G2/G2C P61	APEX**FR-LH/LHC P61	APKT**PDRF-LH/LHC P61	APKT**FR-LH/LHC P61	APKT**PDRF-LH1C P61		

GNMU**ZZR-M1 P62						

Profiling Milling Inserts

RPMW**MOE P63	RPMW**MOT P63	RPMT**MOE-BJS P63	RDMT**MO-V1 P63	RP/DGT**MO-LH/LHC P64		

Vertical milling inserts

LNKG**EN P65	LNKG**TN-1 P65	LNKG**EN-2 P66	LNKG**EN-LH P66	LNKX**PN-NMM P66	LNKX**PN-NMR P66	





ANGX**-PL P67	ANGX**-PM P67					

LNE** P68	LNE**-R1.5 P68	LNE**-R3 P68	LNE** P68	LNE** P68	LNE**R1.2 P69	






LNE**-R10/R26 P70	SNC** P71	CNE** P71				

Overview of milling inserts

High feed milling Inserts

						
LNMU**R-M P72	LNMU**R-L P72	SDMW**SN P72	WPGT**-AL P72			

Shallow hole drilling Inserts

						
APMT**-WT P73	SPMG**-ZV P73	WCGX**-ZV P74	WCGX**-ZS P74	WCGT**-AF P74		

Chamfer Milling Inserts

						
SDMT**-AX P75	TCMT**-IC P75					

Code key for indexable milling inserts

Insert Shape / Code			Metric								
Code	With/Without hole	With/Without chipbreaker	Section plane of Insert	Code	With/Without hole	With/Without chipbreaker	Section plane of				
A	B	C		B	With	Without		N	Without	Without	
D	E	H		H	With	Single-side		R	Without	Single-side	
K	L	M		C	With	Without		F	Without	Double-side	
O	P	R		J	With	Double-side		A	With	Without	
S		V		W	With	Without		M	With	Single-side	
W	Others Z			T	With	Single-side		G	With	Double-side	
				Q	With	Without		X	---	---	Special
				U	With	Double-side					

S P K N

Clearance angle of main cutting edge				Allowed tolerance											
Code	Clearance angle	Code	Clearance angle	Inscribed circle ØD1			Nose height tolerance (mm)								
A		B		Code	(mm) tolerance range	Inscribed circle ØD1 Tolerance (mm)	Thickness St Tolerance (mm)	(Reference) details of M-class tolerance (identified by shape and size)	●						
C		D		A	±0.005	±0.025	±0.025	Inscribed circle							
E		F		F	±0.005	±0.013	±0.025	6.35	±0.08	±0.08	±0.08	±0.11	±0.16	---	
G		N		C	±0.013	±0.025	±0.025	9.525	±0.08	±0.08	±0.08	±0.11	±0.16	---	
P		O	Other clearance angle	H	±0.013	±0.013	±0.025	12.7	±0.13	±0.13	±0.13	±0.15	---	---	
				E	±0.025	±0.025	±0.025	15.875	±0.15	±0.15	±0.15	±0.18	---	---	
				G	±0.025	±0.025	±0.13	19.05	±0.15	±0.15	±0.15	±0.18	---	---	
				J	±0.005	±0.05±0.13	±0.025	25.4	---	±0.18	---	---	---	---	
				K	±0.013	±0.05±0.13	±0.025	● Tolerance of Inscribed Circle ØD1 (mm)							
				L	±0.025	±0.05±0.13	±0.025	Inscribed circle							
				M	±0.08±0.18	±0.05±0.13	±0.13	6.35	±0.05	±0.05	±0.05	±0.05	±0.05	---	
				N	±0.08±0.18	±0.05±0.13	±0.025	9.525	±0.05	±0.05	±0.05	±0.05	±0.05	±0.05	±0.05
				U	±0.13±0.38	±0.08±0.25	±0.13	12.7	±0.08	±0.08	±0.08	±0.08	---	±0.08	
								15.875	±0.10	±0.10	±0.10	±0.10	---	±0.10	
								19.05	±0.10	±0.10	±0.10	±0.10	---	±0.10	
								25.4	---	±0.13	---	---	---	±0.13	

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	19	15	15	27		10
16.0			16				
19.05	19		19	19	33		
20.0			20				
25.0			25				
25.4	25		25	25			
31.75			31				
32			32				

Length of cutting edge

Thickness is defined as height from bottom of insert to the highest part of cutting edge.

Code	Insert thickness (mm)
00	0.79
T0	0.99
01	1.59
T1	1.98
02	2.38
T2	2.78
03	3.18
T3	3.97
04	4.76
T4	4.96
05	5.56
T5	5.95
06	6.35
T6	6.75
07	7.94
09	9.52
T9	9.72
11	11.11
12	12.70

Insert thickness

12 04 AF T N - []

Wiper			
	Kr		α
A	45°	A	3°
D	60°	B	5°
E	75°	C	7°
F	85°	D	15°
P	90°	E	20°
Z	Others	F	25°
		G	30°
		N	0°
		P	11°
		Z	Others

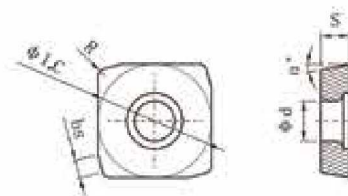
Chamfer (mm)			
	0-5°	0-0.10	
	1-10°	1-0.15	
	2-15°	2-0.20	
	3-20°	3-0.25	
	4-25°	4-0.30	
	5-30°	5-0.35	
		6-0.40	
		7-0.45	No mark


Chipbreaker code

Cutting direction	
R	Right hand
L	Left hand
N	Neutral

Face Milling Inserts

S*KN



Outer NO.	Dimension (mm)	Material recommended											
		CVD coating grade		PVD coating grade			Uncoating grade						
		AKC110	AKS400	AKP10PVD	AKP20PVD	AKP30PVD	AK810M	AK815M					
	SPKN1203EDSR-SU	12.7	3.18	11	1.2	2.6	2						
	SPKN1504EDSR-SU	15.875	4.76	11	1.2	2.6	2.5				★		
	SDKN1203AESN-SU	12.7	3.18	15	-	2.6	2				★		
	SDKN1504AESN-SU	15.875	4.76	15	-	2.6	2.1				★		

★ Recommended grade and always stock available

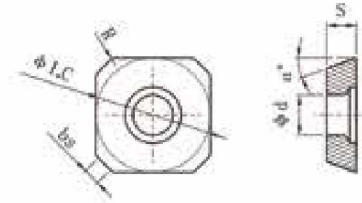
☆ Recommended grade and produce according to order



Milling

Face Milling Inserts

SEK*



C
Milling

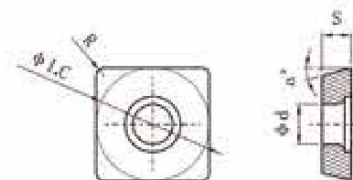
Order NO	Dimension (mm)							Material recommended					
	LC	S	+	R	d	d'	CVD coating grade		PVD coating grade		Uncoating grade		
							AKC110	AKS400	AKP10PVD	AKP20PVD	AKP30PVD	AK810M	AK815M
 SEKT1204AFSN	12.7	4.76	20	0.8	5.5	2.05			★	☆			
 SEET12T3AZSN-RD	13.4	3.97	20	1.6	4.1	1.2		☆	★	☆			
 SEMT13T3AGSN-JM	13.4	3.97	20	1.5	4.4	1.9			★	☆			
 SEMT13T3AGSN-PM	13.4	3.97	20	0.8	4.1	1.2			★	☆			
 SEMT13T3AGSN-KM	13.4	3.97	20	0.8	4.1	2			★	☆			
 SEKT1204AFFN-LH-2	12.7	4.76	20	0.8	5.5	1.3					★	☆	
 SEKT1204AFFN-LH-2C	12.7	4.76	20	0.8	5.5	1.3					★	☆	
 SEKT13T3AZFN-LH	13.4	3.97	20	0.4	4.4	2.1					★	☆	
 SEKT13T3AZFN-LHC	13.4	3.97	20	0.4	4.4	2.1					★	☆	
 SEKR1203AZ-YM	12.7	3.18	20	-	-	1.6			★	☆			
 SEKR1504AZ-YM	15.875	4.76	20	-	-	2			★	☆			



★ Recommended grade and always stock available

☆ Recommended grade and produce according to order

Face Milling Inserts

S*ET



Order NO.	Dimension (mm)							Material recommend					
	L	S	+	R	d	br	CVD coating grade		PVD coating grade		Uncoating grade		
							AKC110	AKS400	AKP10PVD	AKP20PVD	AKP30PVD	AK810M	AK815M
 SEET12T3-DR	13.2	3.97	20	2.4	4.2	-		☆		★	☆		
 SDET120408-RF	12.63	4.76	15	0.8	4.4	-				★	☆		
SDET120420-RF	12.63	4.76	15	2	4.4	-				★	☆		
SDET120430-RF	12.63	4.76	15	3	4.4	-				★	☆		

NOTE: SD-RF radius can be customized, for detail pls contact our sales.

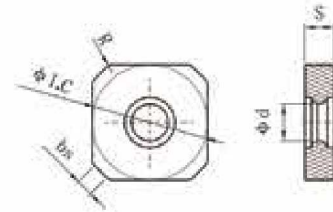
★ Recommended grade and always stock available



☆ Recommended grade and produce according to order



Face Milling Inserts

SNMX



Order NO.	Dimension (mm)							Material recommended					
	L	S	r	R	d	b	CVD coating grade		PVD coating grade		Uncoating grade		
							AKC110	AKS400	AKP10PVD	AKP20PVD	AKP30PVD	AK810M	AK815M
 SNMX1205ANTH	12.7	5.58	-	0.8	6	1.48	☆	★		★			
 SNMX1205ANTR-3H	12.7	5.58	-	0.8	6	1.48	☆	★		★			
 SNMX1206ANEN-MQ	12.7	5.8	-	0.8	4.5	1.7	☆	★		★			

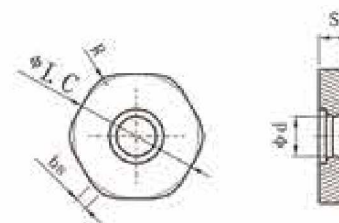
★ Recommended grade and always stock available



☆ Recommended grade and produce according to order

C
Milling

Face Milling Inserts

HNM*



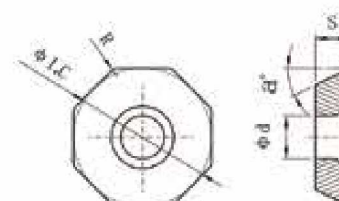
Order NO.	Dimension (mm)							Material recommended					
	LC	S	R	r	d	B	CVD coating grade		PVD coating grade			Uncoating grade	
							AKC110	AKS400	AKP10PVD	AKP20PVD	AKP30PVD	AK820M	
 HNM0906ANSN-M	16.5	6.35	-	0.5	4.9	-	☆	★		★			
 HNMJ0605ANEN-HD	15.875	5.46	-	1.2	4.96	-	☆	★		★			


★ Recommended grade and always stock available

☆ Recommended grade and produce according to order

C
Milling

OFCT



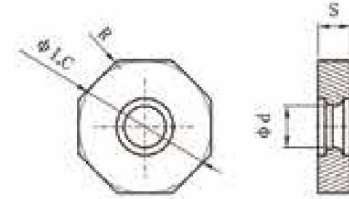
Order NO.	Dimension (mm)							Material recommended					
	LC	S	R	r	d	B	CVD coating grade		PVD coating grade			Uncoating grade	
							BPC112	BPS411	BPG05B	BPG20B	BPG30B	BU810	BU813
 OFCT05T305-NN	12.7	3.68	26	0.5	4.6	-						★	☆





★ Recommended grade and always stock available

☆ Recommended grade and produce according to order

Face Milling Inserts

ON**

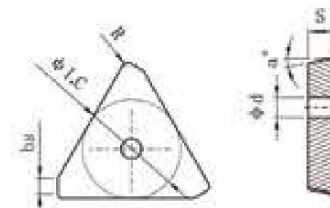



Order NO	Dimension (mm)							Material recommended						
	LC	S	A	R	d	ba	CVD coating grade		PVD coating grade			Uncoating grade		
							AKC110	AKS400	AKP10PVD	AKP20PVD	AKP30PVD	AK810M	AK815M	
 ONMU060508-M1	16	5.5	-	0.8	5.46	-	☆	☆		★				
 ONMU0705ANPN-MJ	17.25	5.84	-	0.8	7.5	-	☆	☆		★				
 ONMU08TX08-PM	20.2	5.83	-	0.8	5.3	-	☆	☆		★				
 ONGX080608-F	20.2	5.83	-	0.8	5.3	-	☆	☆		★		☆	☆	

★ Recommended grade and always stock available

☆ Recommended grade and produce according to order

TPKN



Order NO	Dimension (mm)							Material recommended						
	LC	S	A	R	d	ba	CVD coating grade		PVD coating grade			Uncoating grade		
							AKC110	AKS400	AKP10PVD	AKP20PVD	AKP30PVD	AK810M	AK815M	
 TPKN1603PDSR-SU	9.525	3.18	11	0.6	2.6	1.9				★				
TPKN2204PDSR-SU	12.7	4.76	11	0.6	2.6	2.4				★				

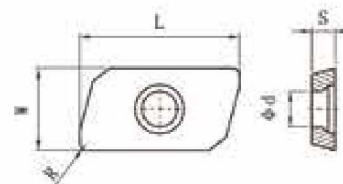
★ Recommended grade and always stock available

☆ Recommended grade and produce according to order

C
Milling

Shouldering Inserts

AP*T



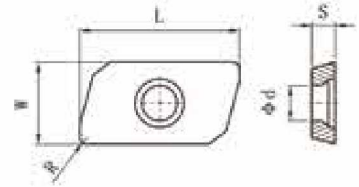
Order No	Dimension (mm)	Material recommended											
		CVD coating grade		PVD coating grade			Uncoating grade						
		L	W	S	r	R	AKC110	AKS400	AKP10PVD	AKP20PVD	AKP30PVD	AK810M	AK815M
	APMT1135PDER-H2	11.2	6.2	3.5	2.8	0.8		☆		★	☆		
	APMT1604PDER-H2	17.15	9.3	4.76	4.4	0.8		☆		★	☆		
	APMT1604PDER-H6	17.15	9.3	4.76	4.4	3.1		☆		★	☆		
	APMT1604PDER-H8	17.15	9.3	4.76	4.4	3.25		☆		★	☆		
	APMT1135PDER-M2	11.2	6.2	3.5	2.8	0.8		☆		★	☆		
	APKT113520PDER-M2	11.2	6.2	3.5	2.8	2		☆		★	☆		
	APMT1604PDER-M2	17.15	9.3	4.76	4.4	0.8		☆		★	☆		
	APMT1135PDER-PM	11.2	6.2	3.5	2.8	0.8		☆		★	☆		
	APMT1604PDER-PM	17.3	9.3	5.3	4.5	0.8		☆		★	☆		
	APLX1003PDTR-LMNA	11.2	6.75	3.5	2.8	0.4		☆		★	☆		
	APKT1604PDTR-LMNA	17	9.52	4.76	4.4	1		☆		★	☆		
	APKT09T308R-EM	10.65	6.2	3.8	2.8	0.8		☆		★	☆		
	APMT1135PDER-EM	11.2	6.2	3.5	2.8	0.8		☆		★	☆		
	APMT1604PDER-EM	17.25	9.3	5.3	4.4	0.8		☆		★	☆		
	APMT170508R-EM	18.5	10.65	5.5	4.4	0.8		☆		★	☆		
	APMT170516R-EM	18.5	10.65	5.5	4.4	1.6		☆		★	☆		
	APKT1003PDSR-30	10.35	6.65	3.5	2.8	0.4		☆		★	☆		
	APKT100308PDSR-30	10.35	6.65	3.5	2.8	0.8		☆		★	☆		
	APKT1604PDSR-30	17.1	9.5	5.2	4.4	0.6		☆		★	☆		
	APKT160412PDSR-30	17.1	9.5	5.2	4.4	1.2		☆		★	☆		

★ Recommended grade and always stock available

☆ Recommended grade and produce according to order

Shouldering Inserts

AP*T



C
Milling

Order No.	Dimension (mm)					Material recommended							
	L	W	S	r	R	CVD coating grade		PVD coating grade			Uncoating grade		
						AKC110	AKS400	AKP10PVD	AKP20PVD	AKP30PVD	AK810M	AK815M	
	APKT113502PDFR-G2	11.3	6.2	3.5	2.8	0.2						★	☆
	APKT113502PDFR-G2C	11.3	6.2	3.5	2.8	0.2						★	☆
	APKT113504PDFR-G2	11.3	6.2	3.5	2.8	0.4						★	☆
	APKT113504PDFR-G2C	11.3	6.2	3.5	2.8	0.4						★	☆
	APKT113508PDFR-G2	11.3	6.2	3.5	2.8	0.8						★	☆
	APKT113508PDFR-G2C	11.3	6.2	3.5	2.8	0.8						★	☆
	APKT1604PDFR-G2	17.15	9.3	4.76	4.4	0.8						★	☆
	APKT1604PDFR-G2C	17.15	9.3	4.76	4.4	0.8						★	☆
	APEX100304FR-LH	10.3	6.6	3.18	2.8	0.4						★	☆
	APEX100304FR-LHC	10.3	6.6	3.18	2.8	0.4						★	☆
	APKT1035PDFR-LH	11	6.7	3.5	2.8	0.4						★	☆
	APKT1035PDFR-LHC	11	6.7	3.5	2.8	0.4						★	☆
	APKT160400FR-LH	16.88	9.525	4.76	4.4	0						★	☆
	APKT160400FR-LHC	16.88	9.525	4.76	4.4	0						★	☆
	APKT160402FR-LH	16.88	9.525	4.76	4.4	0.2						★	☆
	APKT160402FR-LHC	16.88	9.525	4.76	4.4	0.2						★	☆
	APKT160404FR-LH	16.88	9.525	4.76	4.4	0.4						★	☆
	APKT160404FR-LHC	16.88	9.525	4.76	4.4	0.4						★	☆
	APKT160408FR-LH	16.88	9.525	4.76	4.4	0.8						★	☆
	APKT160408FR-LHC	16.88	9.525	4.76	4.4	0.8						★	☆
	APKT160416FR-LH	16.88	9.525	4.76	4.4	1.6						★	☆
	APKT160416FR-LHC	16.88	9.525	4.76	4.4	1.6						★	☆
	APKT160432FR-LH	16.88	9.525	4.76	4.4	3.2						★	☆
	APKT160432FR-LHC	16.88	9.525	4.76	4.4	3.2						★	☆
	APKT16T4PDFR-LH1C	17	9.525	4.96	4.4	0.8						★	☆

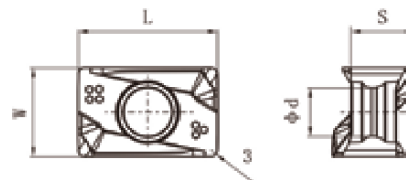
NOTE: R radius can be customized, for detail pls contact our sales.

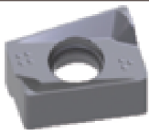
★ Recommended grade and always stock available

☆ Recommended grade and produce according to order

Shouldering Inserts

GNMU



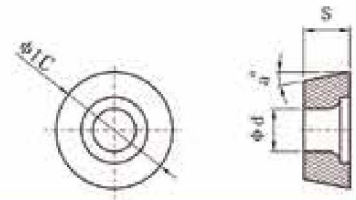
Order NO.	Dimension (mm)					Material recommended							
						CVD coating grade		PVD coating grade			Uncoating grade		
	L	W	S	d	R	AKC110	AKS400	AKP10PVD	AKP20PVD	AKP30PVD	AK810M	AK815M	
	GNMU11060522R-M1	11	7.1	5.18	3.8	0.5		☆		★	☆		

★ Recommended grade and always stock available

☆ Recommended grade and produce according to order

Profiling Milling Inserts

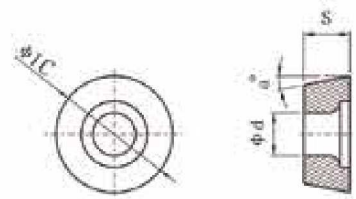
R*MW



Order NO.	Dimension (mm)				Material recommended						
	LC	S	d	a	CVD coating grade		PVD coating grade			Uncoating grade	
					AKC110	AKS400	AKP10PVD	AKP20PVD	AKP30PVD	AK810M	AK815M
	RPMW0803MOE	8	3.18	3.4	11			★	☆		
	RPMW1003MOE	10	3.18	4.4	11			★	☆		
	RPMW10T3MOE	10	3.97	4.4	11			★	☆		
	RPMW1204MOE	12	4.78	4.4	11			★	☆		
	RDMW1003MOE	10	3.18	4.4	15			★	☆		
	RDMW1204MOS-PM	12	4.78	4.4	15			★	☆		
	RDMW1604MOE	16	4.78	5.5	15			★	☆		
	RPMW0803MOT	8	3.18	3.4	11			★	☆		
	RPMW1003MOT	10	3.18	4.4	11			★	☆		
	RPMW10T3MOT	10	3.97	4.4	11			★	☆		
	RPMW1204MOT	12	4.78	4.4	11			★	☆		
	RDMW1003MOT	10	3.18	4.4	15			★	☆		
	RDMW1204MOT	12	4.78	4.4	15			★	☆		
	RDMW1604MOT	16	4.78	5.5	15			★	☆		

C
Milling

R*MT



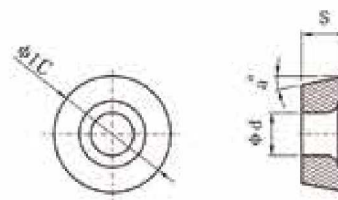
Order NO.	Dimension (mm)				Material recommended						
	LC	S	d	a	CVD coating grade		PVD coating grade			Uncoating grade	
					AKC110	AKS400	AKP10PVD	AKP20PVD	AKP30PVD	AK820M	
	RPMT0827MOE-BJS	8	2.7	3.4	11			★	☆		
	RPMT10T3MOE-BJS	10	3.97	4.4	11			★	☆		
	RPMT1204MOE-BJS	12	4.78	4.4	11			★	☆		
	RDMT0802MO-V1	8	2.38	3.4	15			★	☆		
	RDMT0803MO-V1	8	3.18	3.4	15			★	☆		
	RDMT1003MO-V1	10	3.18	4.4	15			★	☆		
	RDMT10T3MO-V1	10	3.97	4.4	15			★	☆		
	RDMT1204MO-V1	12	4.78	4.4	15			★	☆		
	RDMT1604MO-V1	16	4.78	5.5	15			★	☆		

★ Recommended grade and always stock available

☆ Recommended grade and produce according to order

Profiling Milling Inserts

R*GT



Order NO	Dimension (mm)				Material recommended						
					CVD coating grade		PVD coating grade			Uncoating grade	
	LC	S	d	φ	AKC110	AKS400	AKP10PVD	AKP20PVD	AKP30PVD	AK810M	AK815M
RPGT0602MO-LH	6	2.38	2.5	11						★	☆
RPGT0602MO-LHC	6	2.38	2.5	11						★	☆
RPGT0803MO-LH	8	3.18	3.4	11						★	☆
RPGT0803MO-LHC	8	3.18	3.4	11						★	☆
RPGT1003MO-LH	10	3.18	4	11						★	☆
RPGT1003MO-LHC	10	3.18	4	11						★	☆
RPGT10T3MO-LH	10	3.97	4.4	11						★	☆
RPGT10T3MO-LHC	10	3.97	4.4	11						★	☆
RPGT12T3MO-LH	12	3.97	4.4	11						★	☆
RPGT12T3MO-LHC	12	3.97	4.4	11						★	☆
RDGT0602MO-LH	6	2.38	2.5	15						★	☆
RDGT0602MO-LHC	6	2.38	2.5	15						★	☆
RDGT0803MO-LH	8	3.18	3.4	15						★	☆
RDGT0803MO-LHC	8	3.18	3.4	15						★	☆
RDGT1003MO-LH	10	3.18	4	15						★	☆
RDGT1003MO-LHC	10	3.18	4	15						★	☆
RDGT10T3MO-LH	10	3.97	4.4	15						★	☆
RDGT10T3MO-LHC	10	3.97	4.4	15						★	☆
RDGT12T3MO-LH	12	3.97	4.4	15						★	☆
RDGT12T3MO-LHC	12	3.97	4.4	15						★	☆



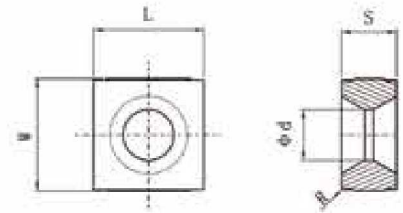
★ Recommended grade and always stock available


☆ Recommended grade and produce according to order

C
Milling

Vertical milling inserts

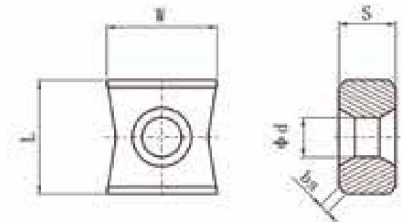
LNKG



Order NO.	Dimension (mm)					Material recommended							
	L	W	S	R	r	CVD coating grade		PVD coating grade			Uncoating grade		
						AKC110	AKS400	AKP10PVD	AKP20PVD	AKP30PVD	AK810M	AK815M	
	LNKG090408EN	9.525	9.525	4.76	0.8	4.4				★	☆		
	LNKG150412EN	15.875	9.525	4.76	1.2	4.5				★	☆		

C
Milling

LNKG



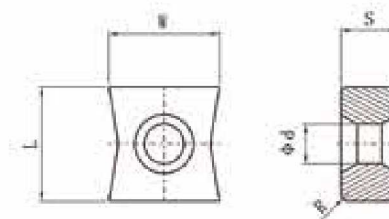
Order NO.	Dimension (mm)					Material recommended							
	L	W	S	R	r	CVD coating grade		PVD coating grade			Uncoating grade		
						AKC110	AKS400	AKP10PVD	AKP20PVD	AKP30PVD	AK810M	AK815M	
	LNKG1205TN-1	12.7	12.3	6.35	0.9	4.4				★	☆		





★ Recommended grade and always stock available

☆ Recommended grade and produce according to order

Vertical milling inserts

LNK*



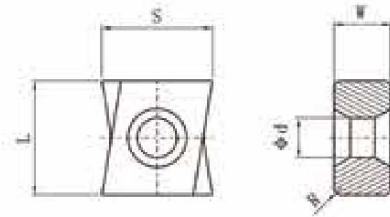
Order No.	Dimension (mm)						Material recommended					
	L	W	S	R	d	CVD coating grade		PVD coating grade			Uncoating grade	
						AKC110	AKS400	AKP10PVD	AKP20PVD	AKP30PVD	AK810M	AK815M
 LNKG1206EN-2	12.7	12.3	6.35	0.8	4.4				★	☆		
 LNKG1206EN-LH	12.7	12.3	6.35	0.8	4.4						★	☆
 LNKX1506PN-NMM	15	13.9	6	0.8	4.4				★	☆		
 LNKX1506PN-NMR	15	13.9	6	0.8	4.4				★	☆		

★ Recommended grade and always stock available

☆ Recommended grade and produce according to order

Vertical milling inserts

ANGX



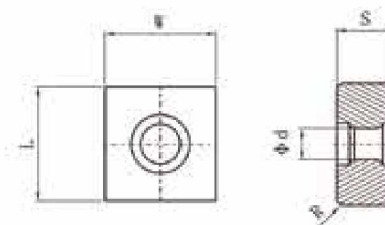
Order NO.	Dimension (mm)						Material recommended						
	L	W	S	R	s	CVD coating grade		PVD coating grade			Uncoating grade		
						AKC110	AKS400	AKP10PVD	AKP20PVD	AKP30PVD	AK810M	AK815M	
	ANGX080404-PL	8.59	4.24	7.43	0.4	2.8			★	★	☆		
	ANGX110708-PM	11.5	7.11	11.76	0.8	4.5				★	☆		
	ANGX110712-PM	11.5	7.11	11.76	1.2	4.5				★	☆		
	ANGX110716-PM	11.5	7.11	11.76	1.6	4.5				★	☆		

★ Recommended grade and always stock available

☆ Recommended grade and produce according to order

Vertical milling inserts

LNE



Order No.	Dimension (mm)						Material recommended						
	L	W	S	R	d	CVD coating grade		PVD coating grade			Uncoating grade		
						AKC110	AKS400	AKP10PVD	AKP20PVD	AKP30PVD	AK810M	AK815M	
	LNE14.3x12.7x6.35	14.3	12.7	6.35	0.4-2	5.8				★	☆		
	LNE15.875x9.525x4.76-R1.5	15.875	9.525	4.76	1.5	4.2				★	☆		
	LNE15.875x12.7x6.35-R3	15.875	12.7	6.35	3	5.35				★	☆		
	LNE19.05x12.7x6.35	19.05	12.7	6.35	0.4-4	5.2				★	☆		
	LNE19.05x14.3x4.76	19.05	14.3	4.76	3.1	5.8				★	☆		
	LNE19.05x14.3x4.97	19.05	14.3	4.97	3.1	5.8				★	☆		
	LNE19.05x14.3x7.94	19.05	14.3	7.94	3.1	5.8				★	☆		
	LNE19.05x14.3x7.94-R4	19.05	14.3	7.94	4	5.8				★	☆		
	LNE25.4x14.3x6.64-M14	25.4	14.3	6.64	5.32	5.5				★	☆		

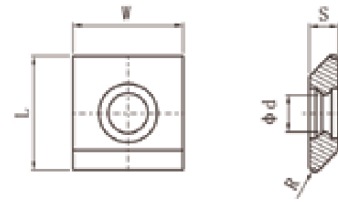
★ Recommended grade and always stock available

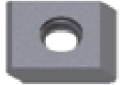
☆ Recommended grade and produce according to order



Vertical milling inserts

LNE



Order NO.	Dimension (mm)						Material recommended						
							CVD coating grade		PVD coating grade			Uncoating grade	
	L	W	S	R	d	AKC110	AKS400	AKP10PVD	AKP20PVD	AKP30PVD	AK810M	AK815M	
	LNE19.05x14.3x4.76R1.2	19.05	14.3	4.76	1.2	5.8				★	☆		

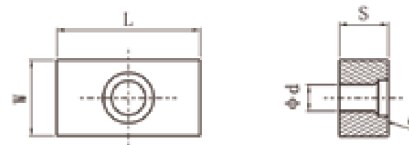
★ Recommended grade and always stock available


☆ Recommended grade and produce according to order

C
Milling

Vertical milling inserts

LNE



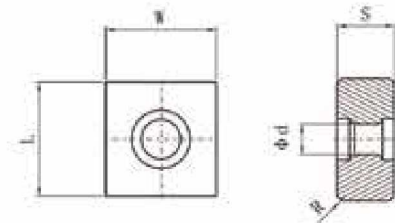
Order NO.	Dimension (mm)					Material recommended						
	L	W	S	R	d	CVD coating grade		PVD coating grade			Uncoating grade	
						AKC110	AKS400	AKP10PVD	AKP20PVD	AKP30PVD	AK810M	AK815M
 LNE15.875x12.7x7.8-R10 LNE15.875x12.7x7.8-R26	15.875	12.7	7.8	10	5.8				★	☆		
	15.875	12.7	7.8	26	5.8				★	☆		


★ Recommended grade and always stock available

☆ Recommended grade and produce according to order

Vertical milling inserts

SNC



Order NO.	Dimension (mm)					Material recommended						
	L	W	S	H	d	CVD coating grade		PVD coating grade			Uncoating grade	
						AKC110	AKS400	AKP10PVD	AKP20PVD	AKP30PVD	AK810M	AK815M
	SNC44	12.7	12.7	6.35	-	4.4			★	☆		
	SNC55	15.875	15.875	7.94	-	5.5			★	☆		

C
Milling

CNE



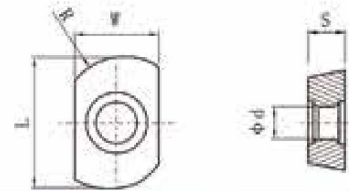
Order NO.	Dimension (mm)					Material recommended						
	L	W	S	H	d	CVD coating grade		PVD coating grade			Uncoating grade	
						AKC110	AKS400	AKP10PVD	AKP20PVD	AKP30PVD	AK810M	AK815M
	CNE150740	15.875	15.875	7.94	4	5.4			★	☆		


★ Recommended grade and always stock available

☆ Recommended grade and produce according to order

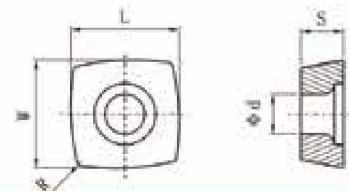
High feed milling Inserts


LNMU



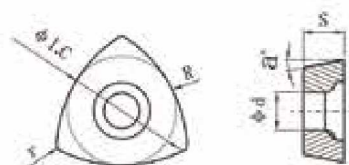
Order NO.	Dimension (mm)						Material recommended					
	L	W	S	R	d	CVD coating grade		PVD coating grade		Uncoating grade		
						AKC110	AKS400	AKP10PVD	AKP25PVD	AKP30PVD	AK810M	AK815M
 LNMU0603R-M	9	6.22	3.37	6	3.2			★				
LNMU0603R-L	9	6.22	3.37	6	3.2			★				

SDMW



Order NO.	Dimension (mm)						Material recommended					
	L	W	S	R	d	CVD coating grade		PVD coating grade		Uncoating grade		
						AKC110	AKS400	AKP10PVD	AKP25PVD	AKP30PVD	AK810M	AK815M
 SDMW09T307SN	9	9	3.5	0.7	3.5			★				

WPGT



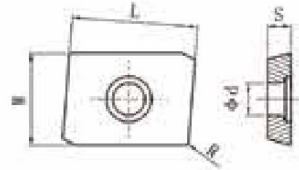
Order NO.	Dimension (mm)							Material recommended					
	LC	S	R	L	R	d	CVD coating grade		PVD coating grade		Uncoating grade		
							AKC110	AKS400	AKP10PVD	AKP25PVD	AKP30PVD	AK810M	AK815M
 WPGT220425-AL	12.7	4.76	11	1.2	25	5.5						★	
WPGT220450-AL	12.7	4.76	11	1.2	50	5.5						★	


★ Recommended grade and always stock available.

☆ Recommended grade and produce according to order.

Shallow hole drilling Inserts

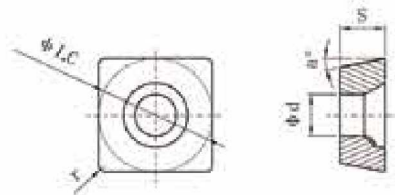
APMT




Order NO	Dimension (mm)						Material recommended			
	L	W	S	R	d	PVD coating grade				
						AKP10PVD	AKP20PVD	AKP31APVD	AKP31BPVD	
	APMT1504T-WT	15.875	12.7	4.76	-	5.5		★		

C
Milling

SPMG



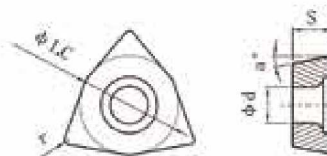
Order NO	Dimension (mm)						Material recommended					
	L.C	S	a	R	d	PVD coating grade				Uncoating grade		
						AKP10PVD	AKP20PVD	AKP31APVD	AKP31BPVD	AK810M	AK815M	
	SPMG060204-ZV	5.56	2.38	11	0.4	2.5		★	☆	☆		
	SPMG060204-ZV	6.35	2.38	11	0.4	2.8		★	☆	☆		
	SPMG07T308-ZV	7.94	3.97	11	0.8	2.8		★	☆	☆		
	SPMG090408-ZV	9.8	4.3	11	0.8	4.1		★	☆	☆		
	SPMG110408-ZV	11.5	4.76	11	0.8	4.4		★	☆	☆		
	SPMG140812-ZV	14.3	5.56	11	1.2	5.5		★	☆	☆		

★ Recommended grade and always stock available

☆ Recommended grade and produce according to order

Shallow hole drilling Inserts

WCG*



Order NO	Dimension (mm)	Material recommended										
		PVD coating grade				Uncoating grade						
		LC	S	α	R	ϕ	AKP10PVD	AKP20PVD	AKP31APVD	AKP31BPVD	AK810M	AK815M
	WCGX030204-ZV	5.56	2.38	7	0.4	2.5		★	☆	☆		
	WCGX030208-ZV	5.56	2.38	7	0.8	2.5		★	☆	☆		
	WCGX040204-ZV	6.35	2.38	7	0.4	2.8		★	☆	☆		
	WCGX040208-ZV	6.35	2.38	7	0.8	2.8		★	☆	☆		
	WCGX050304-ZV	7.94	3.18	7	0.4	3.4		★	☆	☆		
	WCGX050308-ZV	7.94	3.18	7	0.8	3.4		★	☆	☆		
	WCGX06T304-ZV	9.525	3.97	7	0.4	4.4		★	☆	☆		
	WCGX06T308-ZV	9.525	3.97	7	0.8	4.4		★	☆	☆		
	WCGX080404-ZV	12.7	4.76	7	0.4	5.5		★	☆	☆		
	WCGX080408-ZV	12.7	4.76	7	0.8	5.5		★	☆	☆		
	WCGX080412-ZV	12.7	4.76	7	1.2	5.5		★	☆	☆		
	WCGX030208-ZS	5.56	2.38	7	0.8	2.8		☆	★	★		
	WCGX040208-ZS	6.35	2.38	7	0.8	3.0		☆	★	★		
	WCGX050308-ZS	7.94	3.18	7	0.8	3.4		☆	★	★		
	WCGX06T308-ZS	9.525	3.97	7	0.8	3.8		☆	★	★		
	WCGX080412-ZS	12.7	4.76	7	1.2	4.4		☆	★	★		
	WCGT030208-AF	5.56	2.38	7	0.8	2.9					★	☆
	WCGT040208-AF	6.35	2.38	7	0.8	3					★	☆
	WCGT050308-AF	7.94	3.18	7	0.8	3.4					★	☆
	WCGT06T308-AF	9.525	3.97	7	0.8	4					★	☆
	WCGT080408-AF	12.7	4.76	7	0.8	4.4					★	☆

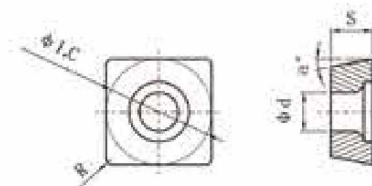
★ Recommended grade and always stock available

☆ Recommended grade and produce according to order

C
Milling

Chamfer Milling Inserts

SDMT



Order NO.	Dimension (mm)					Material recommended						
						CVD coating grade		PVD coating grade			Uncoating grade	
	IC	R	S	φ	φ	AKC110	AKS400	AKP10PVD	AKP20PVD	AKP30PVD	AK810M	AK815M
 SDMT11T3-AX	10.94	0.8	3.97	15	4.4				★			

C
Milling

TCMT

Order NO.	Dimension (mm)					Material recommended						
						CVD coating grade		PVD coating grade			Uncoating grade	
	IC	R	S	φ	φ	AKC110	AKS400	AKP10PVD	AKP20PVD	AKP30PVD	AK810M	AK815M
 TCMT16T3-IC	9.525	0.8	3.97	7	4.4				★			

★ Recommended grade and always stock available

★ Recommended grade and produce according to order

F5 Comparison table of Grade

■ Turning grade comparison table

Coating/ Grade	FINISH	ANODE	ICAN	KITIMAGETAL	TRIPOL	WATER	UTLUBINE	ACRIPK	TRIPOL	VC234	KR20	AL20	ZSC 27	
K	K01		GC3205	IC5005 IC4028	KCK05 KC9315	TT1300	WAK10	UC5105	AC405K AC410K	T5105 T5010	CA4505 CA4010	NC6105 NC305K	TK1000 YBD102	
	K10	AKC100 AKS200	GC3210	IC5010 IC5100	KCK15 KC9325	TT7310	WAK20	UC5115	AC420K	T5115 T5125	CA4515 CA4115 CA4120	NC6110 NC6010	TK2000 YBD252 YBC252	
	K20													
P	P01	AKS100	GC4205	IC8150	KCP05	TT8115	WPP05	UE6105	AC700G	T9005	CA5505	NC3010	TP0500 YBC151	
	P10	AKS200	GC4215	IC9150	KCP10		WPP10	UE6110	AC810P	T9115	CA5515		TP1500 YBC152	
	P20	AKS300	GC4225	IC8250	KCP25	TT8125	WPP20	UE6020	AC820P	T9125	CA5525	NC3015	TP2000 YBC251	
			GC4025	IC9250	KCP125	TT5100	WAP20		PAC2000			CR7025	NC3120 NC3020	TP2500 YBC252
P30	AKS350 AKC300	GC4235	IC8350	KCP30	TT8135	WPP30	UE6035	AC830P	T9135	CA5535	NC3030	TP3000 YBC351		
		GC4035	IC9350	KCP40 KCP140	TT7100	WAP30	UH6400	AC3000		CR9025	NC500H	TP3500 YBM351		
M	M10 M20 M30	AKP10PVD	GC2015	IC907	KCM15	TT9215	WAM10	US7020 VP05RT	AC610M AC510U	T6020	CA6515	PC8110 NC9020	TM2000 TP200 YBG201	
		AKP20 AKP20PVD	C2025	IC9300	KCM25	TT9225	WAM20	US735	AC630M AC520U	T6030	CA6525	NC9025	CP500 YBG202	
		AKP35PVD	GC2035	IC3028	KCM35	TT9235 TT8020	WAM30	UH6400	AC630M AC530U			PR630	NCS330 PC9030	TM4000 TP400 YBG203
S	S05 S15	AKP10PVD	GC805F	IC907	KCS510	TT5080	WSM10	VP05RT	AC510U	AH110	PR1005	PC8110	TH1000	
			GC1105 GC1115					VP10RT			PR930		TH1500 TS2000 TS2500	
	S25	AKP30PVD	GC1125	IC908	KCS525	TT9080	WSM20 WSM30	VP15TF VP20RT	AC520U	AH120	PR1025 PR1125 PR1225	PC5300 PC9530	CP500	



F5 Comparison table of Grade
 ■ Milling materials comparison table

Coating/ Grade	ISO # DIN	ISO#	ISO#	ISO#	ISO#	ISO#	ISO#	ISO#	ISO#	ISO#	ISO#	ISO#	ISO#	
K	K01	GC3220	IC410	KC915M	TT6800		MP8010					T150M		
	K10	AKC110	GC3020	IC810		TT6080	WKK25	VP10TF	ACZ310		PR510	PC6510	MK2000	YBG102
		AKS400	GC1020	IC910					ACK200		PR610	PC215K		YBD152
P	P10	AKP10PVD	GC4220	IC950		TT6800	WAM10	F7030	ACP100		PR830	PC3500	MP2500	YBG252
		AKP20PVD	GC4020			TT7080	WAM20				PR1025	PC3535	T250M	
	P30	AKP30PVD	GC4230	IC808	KC522M	TT9080	WAM30	VP15TF	ACP200	GH330	PR1225	PC9530	F30M	YBG202
			GC4030	IC908	KC635M	TT9030								YBM251
		AKS400	GC4240	IC830	KC725M	TT8020	WKP35	VP30RT	ACP300		PR1225	NCM325	F40M	
			GC4040	IC928	KC735M	TT8080	WSP45	F7030	ACZ350	AH730	PR1230	NCM335	T350M	YBM351
M	M10	AKP10PVD	GC1010	IC808	KC522M	TT9080	WAM30	VP15TF	ACP200	AH120	PR1025		F30M	YBG202
		AKP20PVD	GC1030	IC908	KC525M	TT9030	WQM35				PR1225			YBG205
	M25	AKP30PVD	GC2030							PR905				
	M30	AKP35PVD				TT8020								YBG302
	M40		GC2040	IC830	KC725M	TT8020	WXM35	VP30RF	ACP300	AH130	PR1535		F40M	
			IC928		TT8080	WSM35								
						WSP45								



F5 Comparison table of Grade

■ Cemented carbide grade

	Coating/Grade	ISO 4134 DIN	ISO 6836	ISO 6837	ISO 6838	ISO 6839	ISO 6840	ISO 6841	ISO 6842	ISO 6843	ISO 6844	ISO 6845	ISO 6846	ISO 6847	ISO 6848	ISO 6849		
Turning	P01													ST05				
	P10		S1P	IC70	P10	P10			ST10P	TX10S		SRT	WS10	ST10		YC10		
	P20	AK820M	SMA	IC70 IC50M	K125M TTM	P20		UT120T	ST20E	TX20 TX25		SRT DX30	EX35	ST20				
	P30		SM30	IC50M IC54	GK K600 TTR	P30		UT120T	A30 A30N	TX30 UX30	PW30	SR30 DX30	EX35 EX40	ST30A				
	P40		S6	IC54	G13				ST40E	TX40		SR30 DX35	EX45				YC40	
	M	M10		H10A		K313	M10			EH510 U10E	TU10		UMN	WA10B	U10	890	YC10	
	M20			H13A	IC08	K68 KMF K125M TTM	M20		UT120T	EH520 U2	TU20 UX30		DX25 UMS	EX35	U20	HX 883		
	M30		H10F SM30	IC06 IC28	K600 TTR			UT120T	A30 A30N	UX30			DX25 UMS	EX40 EX45	ST30A		YC40	
	M40			S6	IC128	G13	M40				TU40		UM40	EX45	U40			
	K	K01		H1P		K605			UT05T	H1 H2	TH03 KS05F		KG03	WH05	H02			YD051
	K10	AK810M	H1P H10 HM	IC20	K313 K110M THM THM-U	K10		HT110	EH10 EH510	G1F TH10		KW10	KG10 KT9	WH10	H01	890	YD101	
	K20	AK815M	H13A	IC20 IC10	K715 KMF K600	K20		UT120T	G10E EH20 EH520	G2F KS15F G2 KS20		GW10	CR1 KG20	WH20	G10	890 HX 883	YD201	
	K30			IC10 IC28	THR			UT120T	G10E	G3			KG30		G3	883		
	N	N01		H10 H13A		K605				H1 H2	KS05F		KG03					
	N10	AK810M				K313 K110M THM THM-U	K10	WK10	HT110	EH10 EH510	TH10 H10T		KG10 KT9		H01	890 H16	YD101	
	N20	AK815M				K715 KMF K600	K20			G10E EH20 EH520	KS15F		CR1 KG20			HX KX 883 H15 H25	YD201	
	N30					G13 THR							KG30			H25		
	S	S01							RT9005				KG03					
	S10	AK810M	H10 H10A H10F H13A			K10 K313 THM	K10		RT9005 RT9010	EH10 EH510	KS05F TH10		FZ05 KG10		H01	890	YD101	
	S20					K715 KMF			RT9010 TF15	EH20 EH520	KS15F KS20		FZ15 KG20			890 883 HX H25		
S30					G13 K600 THR			TF15				KG30						



F5 Comparison table of Grade

 Cemented carbide grade

ISO Classification	CNC-AK TAK	SAKOVIK	ISCAR	KENAMETAL	Thermax	WALTER	MTUBERH	BSMTOMO	TUNGALOY KYOCERA	BUJET	HITACHI	MORLOY	SECO	YBC ICT
P10		S1P								SRT				YC10
P20	AK820M		IC50M IC2B	K125	P10		UT20T	A30N	TK25	SRT DX30	EX35	ST20		
P30			IC50M IC2B	GX K600	P20		UT20T	A30N	UX30	SR30 DX30	EX35 EX40	ST30A		
P40			IC2B		P30					SR30	EX45	ST40		YC40
M10				K110M	M10					UMN		U10		YC10
M20				K313	M20		UT20T	A30N		DX25 UM5	EX35	U20		
M30			IC2B	KFM K600			UT20T	A30N	UX30	DX25 UM5	EX40 EX45			YC40
M40			IC2B		M40				TU40		EX45	U40		
K01							UT20T			KG03		H01		YD051
K10	AK810M	H1P	IC20	K110M K313	K10	WK10	HT10	G10E	TH10	KG10	WH10	H05 H10		YD101
K20	AK815M		IC20 IC10	KFM	K20		UT20T	G10E		KT9 CR1 KG30	WH20	G10	HX	YD201
K30	AK815M		IC10 IC2B				UT20T			KG30				

Milling

F5 Comparison table of chipbreaker for turning insert

Comparison table for chipbreaker of positive inserts

Insert	Preceding angle	DIG-DA	JTC	SAGIN	KOOLY	MagNet	WATER	SECO	WISLER	SUMITOMO	ISMAER-L	ILUB	HTACHI	TUNGSHY	KROONEN	VALMITE
P	Finishing	FW	SF HF	UF PF	HFP	FAFG	PF4	FF1 F1	FV SV	FP LU SU SK	11 UF LF		JQ	01 PF FS	GP XP VF	PF4 JQ JZ
	Finishing (light base)			WK WWP			PF	W-F1	SW	LUN	FW					
	Semi finishing	MD	HM	UM PM	HMP C25	UTCXK	PSS PM5	F2	MV	MU	MF	FT	AE	PM 23 24	HQ XG GK	PM2 PMH
U	Semi finishing (light base)			MM			PM		MV		MW					
	Finishing	FW	EF	MF	HFP	FAFG	PF4		SV					SS		1A 2A
C	Semi finishing	MD	EM	MM	HMP C25	UTCXK	PSS PM5		MV							PM2 PMH
	Semi finishing	MD	MF KM KR	MF KM KR	HMP C25	UTCXK	MW PSS PM5		No jet Oil	No jet Oil		FT		No jet Oil	No jet Oil	PM2 PMH
N	General cutting	LHC	LH	AL	TAAK MA	FL	PM2			AG	HP	ALU ACB		PP	A3	1L 1A 2A

F6 Comparison table of chipbreaker for turning insert
Comparison table for chipbreaker of negative inserts

Processing range	LHC AX	ZRZT	SAGOMI	ISBLOY	Regula	WALTER	SECO	UNITUSH	SIEMENS	COMARSA	QUIET	ETAUCH	TUMSEDA	WITTECH	ULMATE
Super finishing	LHC		OF	HU		NF3	FF1	PK FH FY	FAFL	UFF		FE	D1 TF ZF	DP GP VF XP XPT	F1
Finishing 精加工(软钢)	FW	DF	PF MF	HF	FG	NS5	MF2	C SASH	SU LU SX	LF FN	FF UR UR UT	BE CE	NS ZT TS AS 17	HQ CQ	FZ2B/FZ3C
Finishing (light metal) Finishing(轻金属)		SF		HW		NF	W MF2	SY						XQ XS	
Semi finishing	MD/TM	DM PM	PM DM SM	HA HC HM	MC ML MP	NM4 NM5	MF3 MG MS	MV MA MH	GU US UX	MG MN	PG UB	AB AY AE	NM ZM TM DM 3T	CJ GS PS HS PT CS	FINISHABLE FINISHABLE
Semi finishing (light metal) Semi finishing(轻金属)		WG	WM			MU	W M3	MW	GU VY	MW					
Light tool balancing	RA	DR3-3H/HR	QR PR HR	HR HH	RT RH	NM5	MR7	GH	MU MX	RN	UD GG	AR RE	TH	GT HT	
Finishing	LHC	EF	MF	HA	FG SF	NF4		FS	SU	K TP		SE	SS	GU	F1 FZ2B/FZ3C
Semi finishing	SN/MA	EM	MM	HS	ML MP	NMA		MS ES	EX UP	P MP	SF SG	DE	SA SM S	SU RU ST	FZ3B/FZ3C FINISHABLE FINISHABLE
Rough machining	RA	ER	MR	GS HM	MT RH	NRA	MS MRT	GH HZ	MP	RP					
Finishing	K3	PM	KF		FG	MA		At. Break	UZ	FN			CM	At. Break L	FZ(2B)
Semi finishing	K3	PM	MM	White (steel only)	MC MT MG	MA MMS		At. Break	UX	At. Break 2H			33 At. Break	ZS GC	M5(2B) M6 M8
Rough machining	K5 No slot	No slot	KR	GR HR GH	RT RH	MA		No. 100mm hole available from start							
Finishing	LHC	NF			SF	NF4	SR R5	FJ		FS K				No. 100mm hole only	R3 R4 R7(2B) F5(2C) M3(2C)
Semi finishing	SN	MM	NGP Z3			NMM	MF1	MU	SU	NGP			SA		M4 M5(2B) M7 M5
Rough machining			SR			NRA	MH	GU		MS					
	LHC														