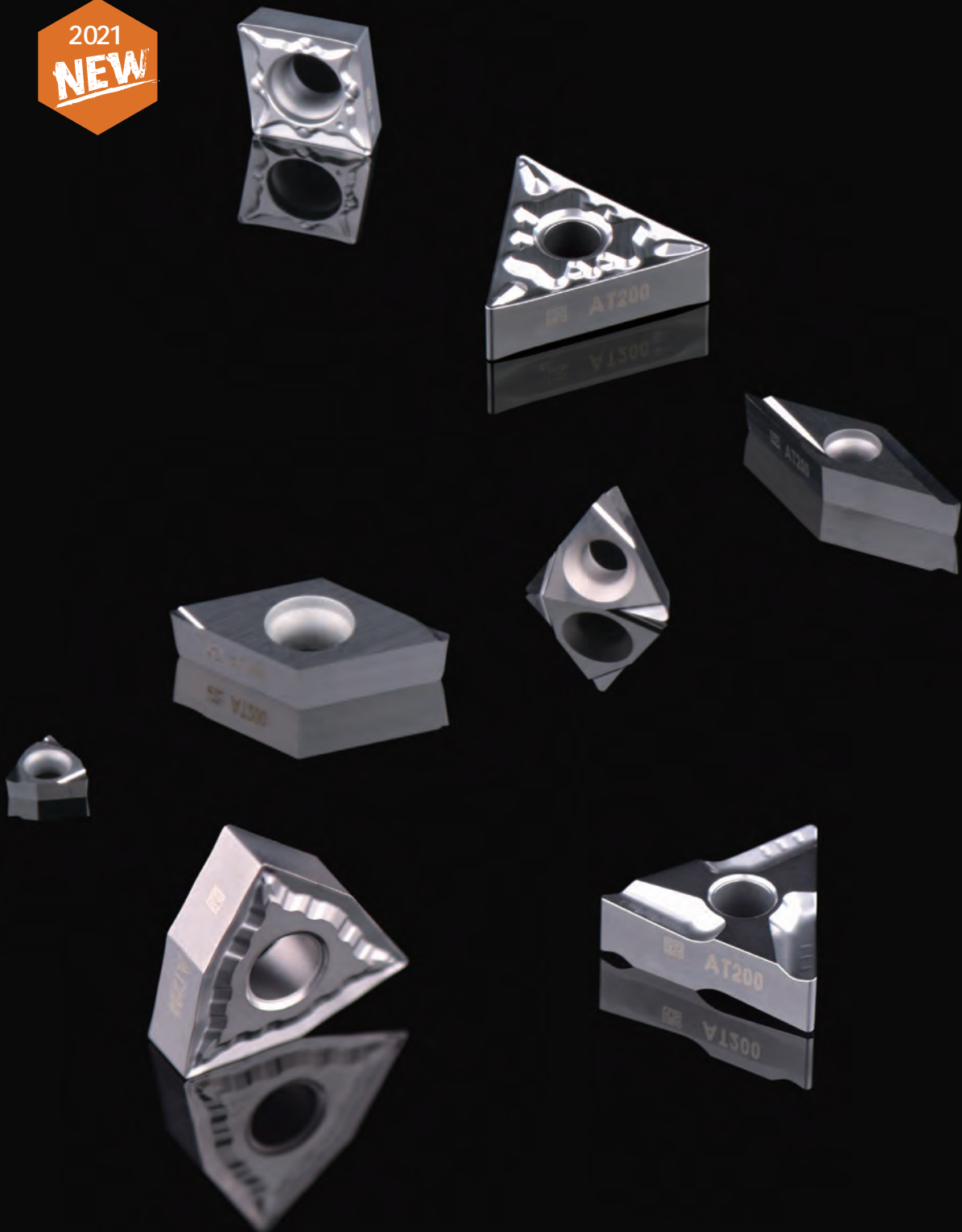


Cermet

AT200



Product Features and Applications

- Suitable for steel and cast iron finish and semi-finish turning, high oxidation resistance, can be used in high-speed dry machining
- High chemical stability, effectively reduced built up edge to obtain better surface finish



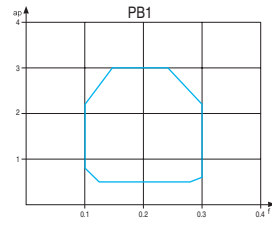
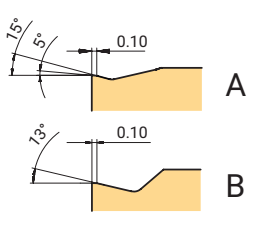

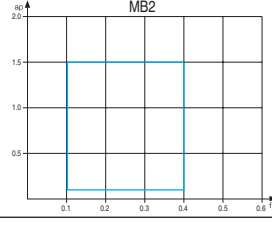
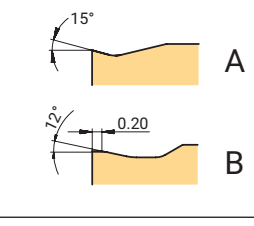
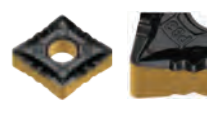
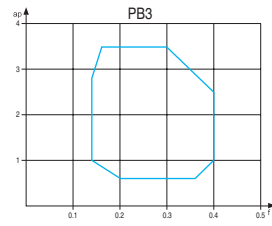
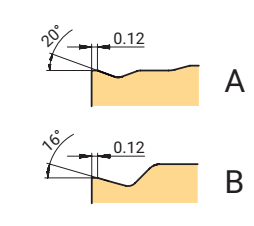
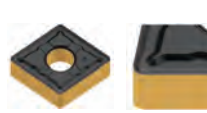
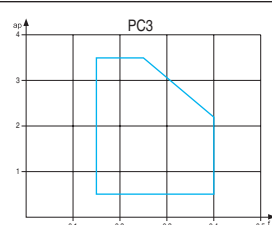
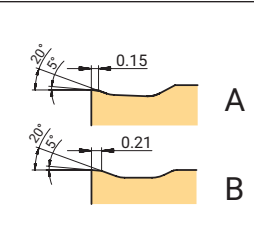
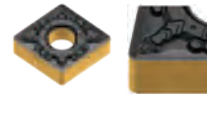
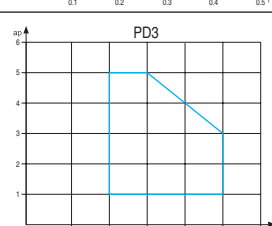
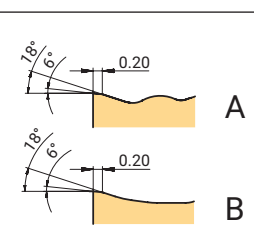
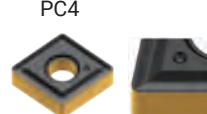
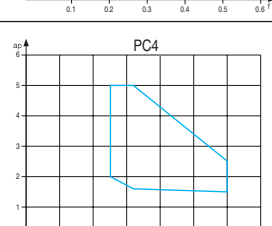
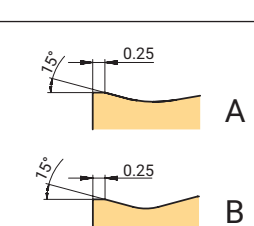

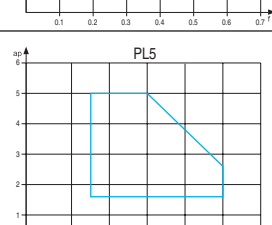
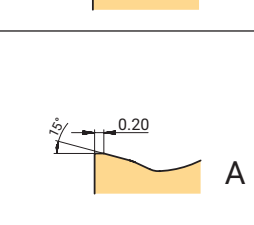
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






















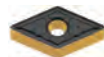











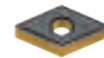





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

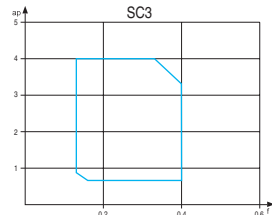
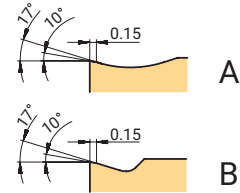

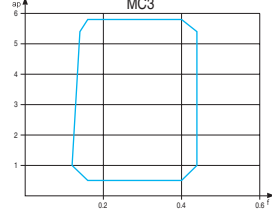
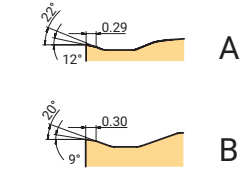
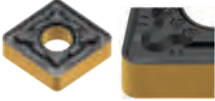
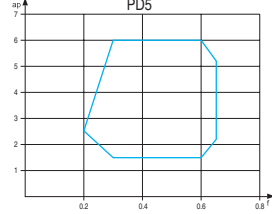
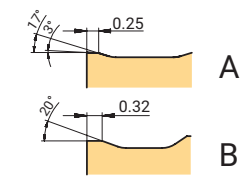

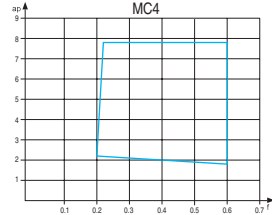
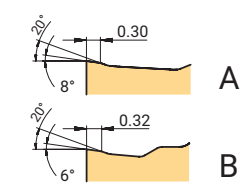
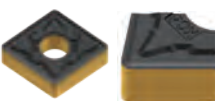
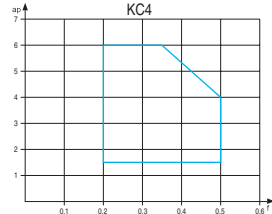
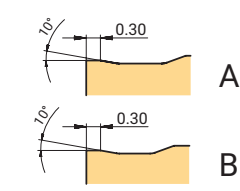
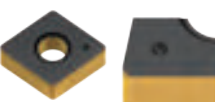
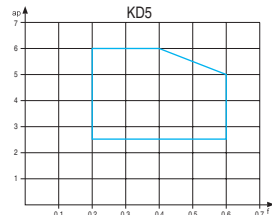
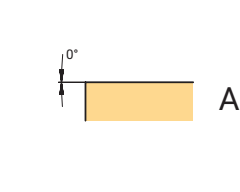

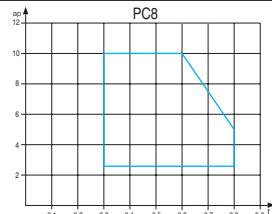
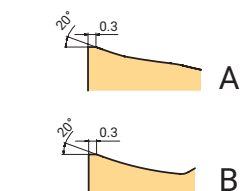
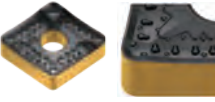
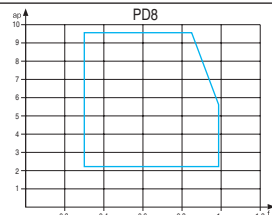
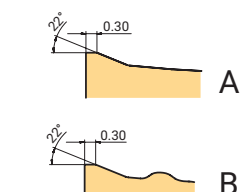
Overview of Turning Insert Geometries































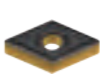


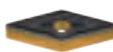










Negative inserts

Application	Chip breaker	Features	Chip breaker range	Cross section geometry 
Finishing	<p>PB1</p> 	<p>First choice for steel finish turning Light cutting chip breaker, low cutting force, suitable for machining slender shaft, thin wall and unstable clamping parts, good cutting performance</p>		
	<p>MB2</p> 	<p>First choice for stainless steel finish turning High positive rake angle reduced cutting force and built-up edge, can obtain much better surface quality. Very good chip breaking at low feed and cutting depth.</p>		
Semifinishing	<p>PB3</p> 	<p>First choice for steel semi finish turning The positive rake angle combined with small land guaranteed edge strength and sharpness, reduced the cutting force. The wavy side edge design has a good chip breaking result in out-copying turning on the shoulder, and in profile turning at different cutting depths</p>		
	<p>PC3</p> 	<p>Alternative chipbreaker for steel semi-finish turning Unique geometry design offers wider chip breaking range. Double rake angle makes the cutting smoothly. Enhanced insert tip reduced crater wear.</p>		
Medium	<p>PD3</p> 	<p>First choice for steel medium turning It has a strong chip control ability at low feed and cutting depth, and reduces crater wear. The chip breaking is also very good at high feed and cutting depth due to the geometry design. Double rake angle design makes sharp cutting edge and reduces cutting force.</p>		
	<p>PC4</p> 	<p>First choice for cast iron medium turning Alternative chipbreaker for carbon steel and alloy steel medium turning Flat T-land guarantee the strength of cutting edge. This multi-purpose geometry can be used in universal applications.</p>		
	<p>PL5</p> 	<p>First choice for steel slender shaft turning Open chip breaker leads to smooth cutting with low cutting force, which is suitable for slender shaft turning.</p>		


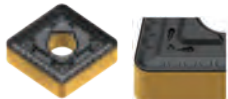
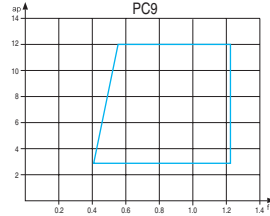
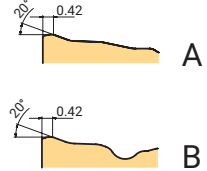
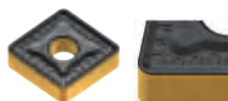
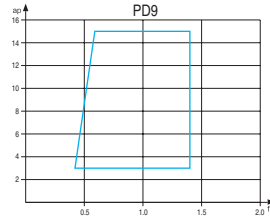
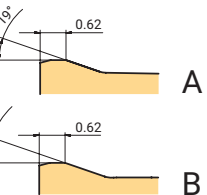
						
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CNMG-MB2  P38	DNMG-MB2  P42	SNMG-MB2  P45	TNMG-MB2  P48	VNMG-MB2  P51	WNMG-MB2  P52	
CNMG-PB3  P38	DNMG-PB3  P42		TNMG-PB3  P48	VNMGP-PB3  P51	WNMG-PB3  P52	
CNMG-PC3  P38	DNMG-PC3  P42	SNMG-PC3  P45	TNMG-PC3  P48	VNMG-PC3  P51	WNMG-PC3  P52	
CNMG-PD3  P38	DNMG-PD3  P42	SNMG-PD3  P45	TNMG-PD3  P48	VNMG-PD3  P51	WNMG-PD3  P52	
CNMG-PC4  P39	DNMG-PC4  P43	SNMG-PC4  P46	TNMG-PC4  P49	VNMG-PC4  P51	WNMG-PC4  P53	
			TNMG-PL5  P48			

Turning inserts



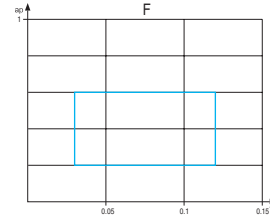


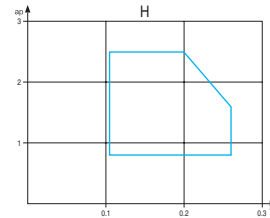
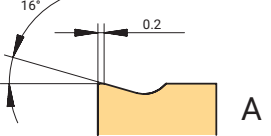
Application	Chip breaker	Features	Chip breaker range	Cross section geometry 
Medium	<p>SC3</p> 	<p>First choice for high temperature alloy medium turning Used in medium turning high temperature alloy and titanium alloy. Large rake angle + small land width design, easy cutting, also suitable in soft steel turning.</p>		
	<p>MC3</p> 	<p>First choice for stainless steel medium turning Sharp cutting edge, low cutting force, wide chip breaking range and chip removal ability</p>		
Roughing	<p>PD5</p> 	<p>Alternative chipbreaker for steel rough turning A strong cutting edge. Double rake angle design effectively reduces the cutting force, can still have good chip breaking at small cutting depth.</p>		
	<p>MC4</p> 	<p>Alternative chipbreaker for stainless steel and superalloy rough turning Large chip breaker design, smooth chip evacuation, good chip breaking, with high metal removal rate.</p>		
	<p>KC4</p> 	<p>First choice for cast iron rough turning It has strong cutting edge, reliable and stable performance.</p>		
	<p>KD5</p> 	<p>First choice for cast iron rough turning High cutting edge strength, suitable for interrupt cutting and unstable cutting</p>		
Heavy roughing	<p>PC8</p> 	<p>Light cutting geometry for heavy turning Positive rake angle and curved cutting edge design, low cutting force</p>		
	<p>PD8</p> 	<p>Heavy turning geometry for soft steel and stainless steel The geometry design ensures low cutting force. Suitable for low power machine tools. Applied in steel, stainless steel and cast iron heavy turning.</p>		








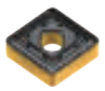
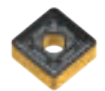


						
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CNMG-MC3  P39	DNMG-MC3  P43	SNMG-MC3  P45	TNMG-MC3  P49	VNMG-MC3  P51	WNMG-MC3  P52	
CNMG-PD5  P40	DNMG-PD5  P44	SNMG-PD5  P46	TNMG-PD5  P50		WNMG-PD5  P53	
CNMG-MC4  P39	DNMG-MC4  P43	SNMG-MC4  P46	TNMG-MC4  P49		WNMG-MC4  P53	
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CNMA-KD5  P40	DNMA-KD5  P44	SNMA-KD5  P47	TNMA-KD5  P50		WNMA-KD5  P53	
CNMM-PC8  P41						
CNMM-PD8  P41		SNMM-PD8  P47	TNMM-PD8  P50			










Turning inserts

Application	Chip breaker	Features	Chip breaker range	Cross section geometry 
Heavy roughing	<p>PC9</p> 	<p>First choice for steel heavy turning Wavy geometry is good for chip breaking. The geometry has a big space for chips, which is suitable for high metal removal rate.</p>		
	<p>PD9</p> 	<p>Alternative chipbreaker for steel heavy turning High edge strength is suitable for big cutting depth and high feed turning. High machining reliability.</p>		

Negative ground insert


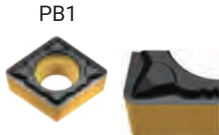
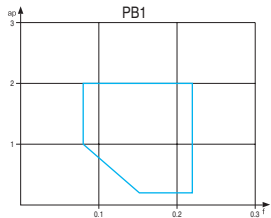




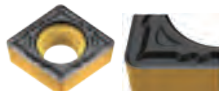
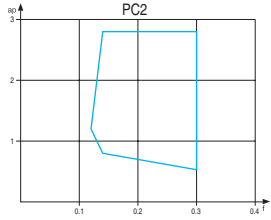
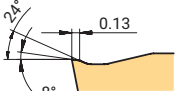

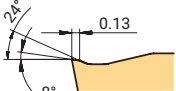


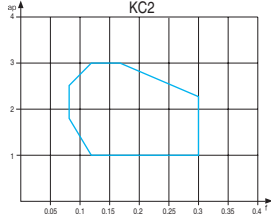
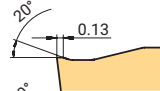

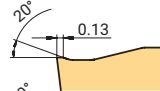


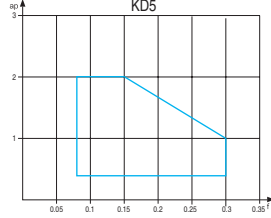



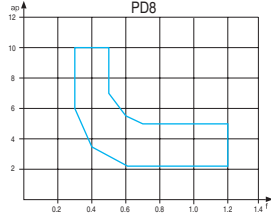
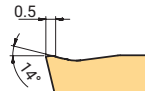

Application	Chip breaker	Features	Chip breaker range	Cross section geometry 
Finishing	<p>F</p> 	<p>Finishing turning Low cutting force, good chip control. The sharp edge produces a good surface finish.</p>		
Semifinishing-roughing	<p>H</p> 	<p>Light turning Excellent chip control at low to medium feed rates. Strong edge strength.</p>		









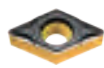




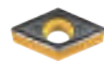




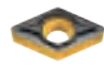




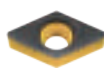





						
CNMM-PC9  P41		SNMM-PC9  P47				
CNMM-PD9  P41		SNMM-PD9  P47				

						
			TNGG-F  P50			
			TNGG-H  P50			



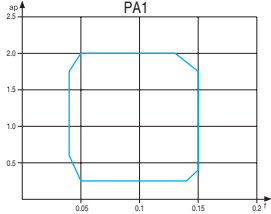


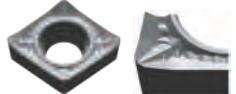
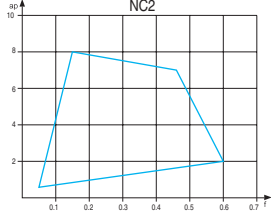
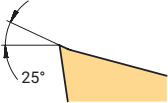


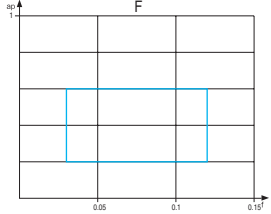
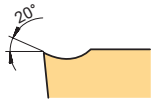

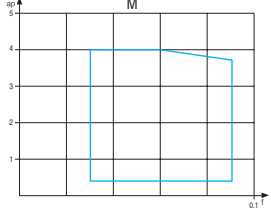
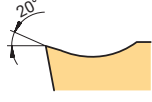

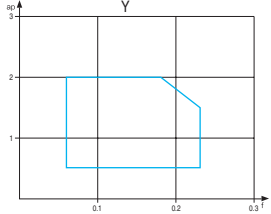
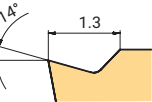
Overview of Turning Insert Geometries

Positive inserts

Application	Chip breaker	Features	Chip breaker range	Cross section geometry 
Finishing	 <p>PB1</p>	<p>First choice for steel finish turning Positive rake angle reduces cutting force and built-up edge, and obtains better surface finish and longer tool life. Also can be used in stainless steel turning.</p>		 A  B
				 A  B
Semifinishing	 <p>PC2</p>	<p>First choice for steel and stainless steel semi-finish turning Sharp geometry design ensures low cutting force, less built-up edge and excellent chip control.</p>		 A  B
				 A  B
Medium	 <p>KC2</p>	<p>General purpose geometry for steel, stainless steel and cast iron turning Suitable for medium and rough turning. Simple and durable chip breaker design, very good versatility and wide application range.</p>		 A  B
				 A  B
Roughing	 <p>KD5</p>	<p>Geometry for cast iron rough turning Suitable for unstable machining due to its strong cutting edge. Reduced chipping.</p>		 A
				 <p>HT</p>
Medium	 <p>PD8</p>	<p>Geometry for carbon steel and alloy steel heavy turning A wide chipbreaker avoid chip jam at big cutting depth. Chip control can be also good at small cutting depth.</p>		 A
				 <p>No code</p>

						
<p>CCMT-PB1</p>  <p>P55</p>	<p>DCMT-PB1</p>  <p>P58</p>	<p>SCMT-PB1</p>  <p>P61</p>	<p>TNMG-PB1</p>  <p>P62</p>	<p>VNMG-PB1</p>  <p>P65</p>		
<p>CCMT-PC2</p>  <p>P55</p>	<p>DCMT-PC2</p>  <p>P58</p>	<p>SCMT-PC2</p>  <p>P61</p>	<p>TCMT-PC2</p>  <p>P62</p>	<p>VBMT-PC2 VCMT-PC2</p>  <p>P65</p>		
<p>CCMT-KC2</p>  <p>P56</p>	<p>DCMT-KC2</p>  <p>P59</p>	<p>SCMT-KC2</p>  <p>P61</p>	<p>TCMT-KC2</p>  <p>P63</p>	<p>VBMT-KC2</p>  <p>P66</p>		
<p>CCMW-KD5</p>  <p>P56</p>	<p>DCMW-KD5</p>  <p>P59</p>	<p>SCMW-KD5</p>  <p>P61</p>	<p>TCMW-KD5</p>  <p>P63</p>			
		<p>SCMT-HT</p>  <p>P61</p>				
						<p>RCMX-PD8</p>  <p>P69</p>
						<p>RCMX</p>  <p>P69</p>

Positive ground inserts

Application	Chip breaker	Features	Chip breaker range	Cross section geometry 
Finishing	<p>UF</p> 	<p>First choice for high temperature alloy turning Peripheral ground finish turning inserts. High repeatability on insert positioning. Sharp cutting edge can achieve good machining tolerance.</p>		 A
				 B
Semifinishing	<p>NC2</p> 	<p>Choice for aluminium alloy turning Very positive rake angle is designed for non-ferrous metal finish and semi-finish turning. It reduces the cutting force and make smooth chip evacuation. The polished rake surface, with reduced friction and built-up edge.</p>		 A  B
Finishing	<p>F</p> 	<p>Choice for finish turning Excellent chip control at low feed rates. Very low cutting force.</p>		 A
Low feed	<p>M</p> 	<p>Geometry for low feed turning in automatic lathe Excellent chip control at low to medium feed rates. Reliable machining. Big rake angle avoid work hardening.</p>		 A
	<p>Y</p> 	<p>Choice for Semi finish-rough turning in automatic lathe The strong edge can be used in rough turning. Good chip control for low to medium feed rate</p>		 A

						
<p>CCGT-UF</p>  <p>P55</p>	<p>DCGT-UF</p>  <p>P58</p>		<p>TCGT-UF</p>  <p>P62</p>	<p>VBGT-UF VCGT-UF</p>  <p>P65</p>		
<p>CCGT-NC2</p>  <p>P55</p>	<p>DCGT-NC2</p>  <p>P58</p>	<p>SCGT-NC2</p>  <p>P61</p>	<p>TCGT-NC2</p>  <p>P62</p>	<p>VCGT-NC2</p>  <p>P66</p>		<p>RCGT-NC2</p>  <p>P69</p>
<p>CCET-F</p>  <p>P56</p>	<p>DCET-F</p>  <p>P59</p>		<p>TBET-F TPEH-F</p>  <p>P64</p>	<p>VBET-F VCET-F VPET-F</p>  <p>P66, 67</p>	<p>WBRT-F</p>  <p>P68</p>	
<p>CCET-M</p>  <p>P57</p>	<p>DCET-M</p>  <p>P60</p>		<p>TCET-M</p>  <p>P64</p>	<p>VBET-M VPET-M</p>  <p>P66, 67</p>		
				<p>VBET-Y</p>  <p>P67</p>		

Grade Application Guide

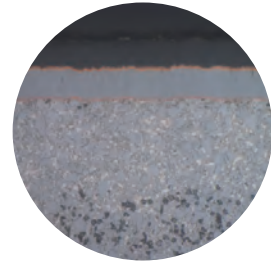
Turning grade application for ISO material group												
Material Group	Materials	ISO	CVD coated						PVD coated		Uncoated	ISO
			AC150P	AC200P	AC250P	AC350P	ACK15A	AC150K	AP301M	AP100S		
P	Unalloyed steels / Alloyed steels	P01										P01
		P05										P05
		P10	AC150P									P10
		P15		AC200P								P15
		P20			AC250P							P20
		P25				AC350P						P25
		P30										P30
		P35										P35
		P40										P40
		P45										P45
		P50										P50
M	Stainless steels	M01										M01
		M05										M05
		M10										M10
		M15								AP100S		M15
		M20										M20
		M25							AP301M			M25
		M30										M30
		M35										M35
		M40										M40
		M45										M45
K	Cast iron	K01										K01
		K05										K05
		K10										K10
		K15										K15
		K20						ACK15A	AC150K			K20
		K25										K25
		K30										K30
		K35										K35
		K40										K40
		K45										K45
		K50										K50
S	Heat resistant alloy	S01										S01
		S05										S05
		S10										S10
		S15									AP100S	S15
		S20										S20
		S25							AP301M			S25
		S30										S30
		S35										S35
		S40										S40
N	Aluminum/ Aluminum alloys	N01										N01
		N05										N05
		N10										N10
		N15									AW100K	N15
		N20										N20
		N25										N25
		N30										N30
H	Hardened steels/ Chilled cast iron	H01										H01
		H05										H05
		H10										H10
		H15										H15
		H20										H20
		H25										H25
H30										H30		

Turning Grade Description

AC150P

Coating: CVD coating

The ultra-fine crystal substrate combined with MTCVD TiCN coating, and plus a thick layer of α -Al₂O₃ coating offers excellent wear resistance to extend tool life under high speed continuous or slight interrupted cutting.



Turning inserts

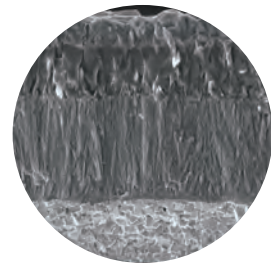
Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P		AC150P									
M											
K											
S											
N											
H											

Remark: Best choice

AC200P

Coating: CVD coating

The thickened ultra-fine crystal MTCVD TiCN coating and columnar α -Al₂O₃ coating has higher wear resistance and toughness, and can obtain longer tool life and better stability.



Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P			AC200P								
M											
K											
S											
N											
H											

Remark: Best choice

AC250P

Coating: CVD coating

Cobalt enriched tough substrate with MTCVD TiCN and Al₂O₃ coating provides excellent wear resistance and chipping resistance. Very good versatility.



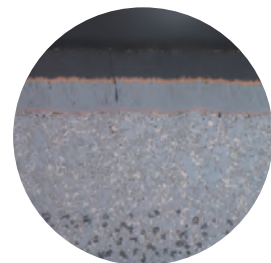
Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P					AC250P						
M											
K											
S											
N											
H											

Remark: Best choice

AC350P

Coating: CVD coating

For rough turning steel. Very tough cobalt enriched substrate with specific coating. Excellent performance in interrupted cutting.



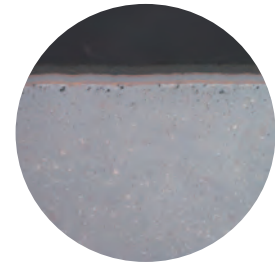
Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P							AC350P				
M											
K											
S											
N											
H											

Remark: Best choice

ACK15A

Coating: CVD coating

Very good performance in cast iron medium and rough turning. Good for continuous and interrupted cutting.



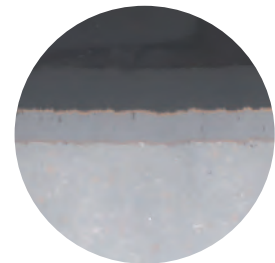
Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P											
M											
K			ACK15A								
S											
N											
H											

Remark: Best choice

AC150K

Coating: CVD coating

Suitable for cast iron semi finish and medium turning. New thicker CVD coating on ultra-fine crystal substrate, with optimized coating structure and adhesive strength, and polished smooth coating surface, result in good wear resistance and chipping resistance.



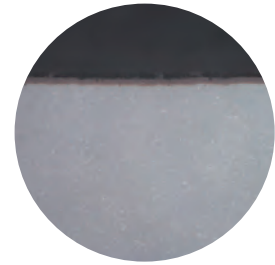
Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P											
M											
K			AC150K								
S											
N											
H											

Remark: Best choice

AP301M

Coating: PVD coating

For stainless steel semi finish and medium turning. Tough and good wear resistance substrate with nanostructured PVD coating, provides better machining stability and longer tool life.



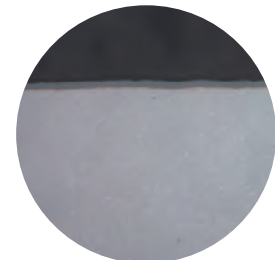
Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P											
M				AP301M							
K											
S				AP301M							
N											
H											

Remark: Best choice
 2nd choice

AP100S

Coating: PVD coating

For heat resistant alloy turning. Ultra-fine grain substrate and nanostructured PVD coating provide strong adhesive strength and anti oxidation, and result in longer tool life.



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

Remark: Best choice
 2nd choice

AW100K

Coating: Uncoated

For nonferrous alloy turning. Fine grain size substrate, uncoated, with special edge preparation.

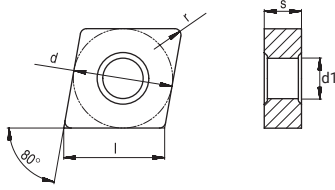


Turning inserts

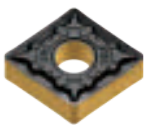

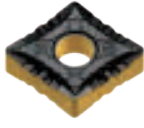
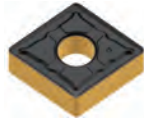

Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P											
M											
K											
S											
N		AW100K									
H											

Remark: Best choice

Negative 80° (C) Rhombic Inserts

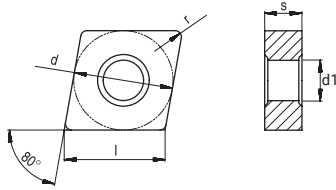


Dimensions (mm)				
Type	d	l	s	d1
CN_1204_	12.7	12.9	4.76	5.16
CN_1606_	15.87	16.1	6.35	6.35
CN_1906_	19.05	19.3	6.35	7.94

Inserts	Type	r (mm)	Recommended parameters		Grades														
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	AP100S						
Finishing	 CNMG 120404E-PB1 120408E-PB1 120412E-PB1	0.4	0.05-0.15	0.26-3.2	●	○	●												
		0.8	0.10-0.30	0.52-3.2	●	○	●												
		1.2	0.15-0.45	0.78-3.2	●	○	○												
	 CNMG 120404E-MB2 120408E-MB2	0.4	0.05-0.15	0.26-3.2					●								●		
		0.8	0.10-0.30	0.52-3.2					●									●	
	Semifinishing	 CNMG 120404E-PB3 120408E-PB3 120412E-PB3	0.4	0.06-0.18	0.30-3.5	●	○	●											
0.8			0.12-0.36	0.60-3.5	●	○	●												
1.2			0.18-0.54	0.90-3.5	●	○	○												
 CNMG 120404E-PC3 120408E-PC3 120412E-PC3 190608E-PC3 190612E-PC3		0.4	0.07-0.20	0.34-3.9	○	○	●												
		0.8	0.14-0.40	0.68-3.9	●	●	●												
		1.2	0.20-0.60	1.02-3.9	○	○	●												
		0.8	0.14-0.40	0.68-5.8	○	○	○												
		1.2	0.20-0.60	1.02-5.8	○	○	○												
Medium	 CNMG 120404E-PD3 120408E-PD3 120412E-PD3 160608E-PD3 160612E-PD3 190608E-PD3	0.4	0.08-0.22	0.40-4.3	●	●	●	○											
		0.8	0.15-0.44	0.80-4.3	●	●	●	●											
		1.2	0.23-0.66	1.20-4.3	●	●	●	●											
		0.8	0.15-0.44	0.80-5.3	●	○	●	○											
		1.2	0.23-0.66	1.20-5.3	●	●	●	○											
		0.8	0.15-0.44	0.80-6.4	○	○	●	○											

Marked : ● Stock available ○ Non-stocked standard

Negative 80° (C) Rhombic Inserts



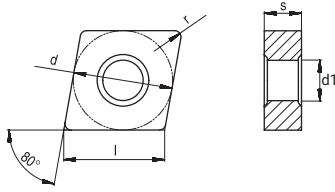
Dimensions (mm)				
Type	d	l	s	d1
CN_1204_	12.7	12.9	4.76	5.16
CN_1606_	15.87	16.1	6.35	6.35
CN_1906_	19.05	19.3	6.35	7.94

Inserts	Type	r (mm)	Recommended parameters		Grades									
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	APT100S	
Medium		CNMG 120404E-SC3	0.4	0.08-0.22	0.40-4.3									●
		120408E-SC3	0.8	0.15-0.44	0.80-4.3					○				●
		120412E-SC3	1.2	0.23-0.66	1.20-4.3					○				●
		160612E-SC3	1.2	0.23-0.66	1.20-5.3					○				●
		160616E-SC3	1.6	0.30-0.88	1.60-5.3									○
		190612E-SC3	1.2	0.23-0.66	1.20-6.4									●
		190616E-SC3	1.6	0.30-0.88	1.60-6.4									○
		CNMG 120404E-MC3	0.4	0.08-0.22	0.32-4.3					●				○
		120408E-MC3	0.8	0.15-0.44	0.64-4.3					●				●
		120412E-MC3	1.2	0.23-0.66	0.96-4.3					●				○
		120416E-MC3	1.6	0.30-0.88	1.28-4.3					○				
		160608E-MC3	0.8	0.15-0.44	0.64-5.3					○				
		160612E-MC3	1.2	0.23-0.66	0.96-5.3					○				
		190608E-MC3	0.8	0.15-0.44	0.64-6.4					○				
	190612E-MC3	1.2	0.23-0.66	0.96-6.4					○					
		CNMG 120404E-PC4	0.4	0.08-0.22	0.40-4.3	○		●	○		○	●		
		120408E-PC4	0.8	0.15-0.44	0.80-4.3	●		●	○		●	●		
		120412E-PC4	1.2	0.23-0.66	1.20-4.3	●		●	○		○	●		
		160612E-PC4	1.2	0.23-0.66	1.20-5.3	○		●	○		○	○		
		160616E-PC4	1.6	0.30-0.88	1.60-5.3	○		○	○		○	●		
		190612E-PC4	1.2	0.23-0.66	1.20-6.4	○		●			○	○		
Roughing		CNMG 120408E-MC4	0.8	0.20-0.60	1.20-6.4					●				●
		120412E-MC4	1.2	0.30-0.90	1.80-6.4					●				●
		160612E-MC4	1.2	0.30-0.90	1.80-8.1					●				○
		160616E-MC4	1.6	0.40-1.20	2.40-8.1					○				○
		190612E-MC4	1.2	0.30-0.90	1.80-9.7					●				
		190616E-MC4	1.6	0.40-1.20	2.40-9.7					●				

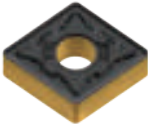
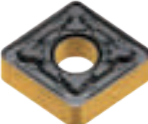
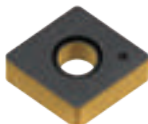
Marked : ● Stock available ○ Non-stocked standard

Turning inserts

Negative 80° (C) Rhombic Inserts

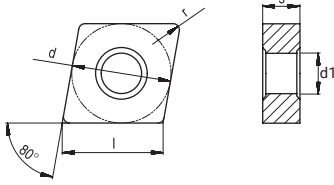


Dimensions (mm)				
Type	d	l	s	d1
CN_0903_	9.52	9.67	3.18	3.81
CN_1204_	12.7	12.9	4.76	5.16
CN_1606_	15.87	16.1	6.35	6.35
CN_1906_	19.05	19.3	6.35	7.94

Inserts	Type	r (mm)	Recommended parameters		Grades												
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	APT100S				
Roughing		CNMG 090308E-KC4	0.8	0.18-0.48	0.96-3.9						○	○					
		120404E-KC4	0.4	0.09-0.24	0.48-5.2						○	●					
		120408E-KC4	0.8	0.18-0.48	0.96-5.2						●	●					
		120412E-KC4	1.2	0.26-0.72	1.44-5.2						●	●					
		120416E-KC4	1.6	0.35-0.96	1.92-5.2						●	○					
		160608E-KC4	0.8	0.18-0.48	0.96-6.4						○	○					
		160612E-KC4	1.2	0.26-0.72	1.44-6.4						●	●					
		160616E-KC4	1.6	0.35-0.96	1.92-6.4						○	●					
		190608E-KC4	0.8	0.18-0.48	0.96-7.7						○	○					
		190612E-KC4	1.2	0.26-0.72	1.44-7.7						○	●					
		190616E-KC4	1.6	0.35-0.96	1.92-7.7						○	●					
	190624E-KC4	2.4	0.53-1.44	2.88-7.7						○	○						
		CNMG 120408E-PD5	0.8	0.20-0.60	1.20-6.4	●		●	●								
		120412E-PD5	1.2	0.30-0.90	1.80-6.4	●		●	○								
		160612E-PD5	1.2	0.30-0.90	1.80-8.1	●	●	●	●								
		160616E-PD5	1.6	0.40-1.20	2.40-8.1	●		●	○								
		160624E-PD5	2.4	0.60-1.80	3.60-8.1			○	○								
		190612E-PD5	1.2	0.30-0.90	1.80-9.7	●		●	○								
		190616E-PD5	1.6	0.40-1.20	2.40-9.7	○	●	●	●								
		CNMA 120404E-KD5	0.4	0.10-0.30	0.60-6.4						○	○					
		120408E-KD5	0.8	0.20-0.60	1.20-6.4						●	●					
		120412E-KD5	1.2	0.30-0.90	1.80-6.4						●	●					
		120416E-KD5	1.6	0.40-1.20	2.40-6.4						○	○					
		160608E-KD5	0.8	0.20-0.60	1.20-8.1						○	○					
		160612E-KD5	1.2	0.30-0.90	1.80-8.1						○	○					
		160616E-KD5	1.6	0.40-1.20	2.40-8.1						●	○					
		160620E-KD5	2.0	0.50-1.50	3.00-8.1						●	○					
		190608E-KD5	0.8	0.20-0.60	1.20-9.7						○	○					
		190612E-KD5	1.2	0.30-0.90	1.80-9.7						○	○					
		190616E-KD5	1.6	0.40-1.20	2.40-9.7						○	●					

Marked : ● Stock available ○ Non-stocked standard

Negative 80° (C) Rhombic Inserts



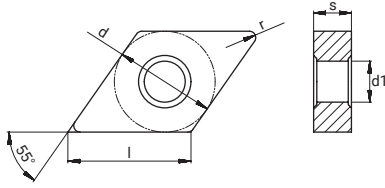
Dimensions (mm)				
Type	d	l	s	d1
CN_1204_	12.7	12.9	4.76	5.16
CN_1606_	15.87	16.1	6.35	6.35
CN_1906_	19.05	19.3	6.35	7.94
CN_2507_	25.4	25.8	7.94	9.12
CN_2509_	25.4	25.8	9.53	9.12

Inserts	Type	r (mm)	Recommended parameters		Grades								
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	AP100S
	CNMM 190616E-PC8	1.6	0.32-0.64	2.88-7.7	○	○	○						
	190624E-PC8	2.4	0.48-0.96	4.32-7.7	○	○	○						
	CNMM 120408E-PD8	0.8	0.16-0.32	1.44-5.2	●		○	○					
	120412E-PD8	1.2	0.24-0.48	2.16-5.2	○		○	○					
	160612E-PD8	1.2	0.24-0.48	2.16-6.4	○		●	○					
	160616E-PD8	1.6	0.32-0.64	2.88-6.4	○		●	○					
	160624E-PD8	2.4	0.48-0.96	4.32-6.4	○		○	○					
	190612E-PD8	1.2	0.24-0.48	2.16-7.7	○		○	○					
	190616E-PD8	1.6	0.32-0.64	2.88-7.7	○		○	●					
	190624E-PD8	2.4	0.48-0.96	4.32-7.7	○		○	○					
	250724E-PD8	2.4	0.48-0.96	4.32-10.3	○		○	○					
250924E-PD8	2.4	0.48-0.96	4.32-10.3	○		○	○						
	CNMM 190612S-PC9	1.2	0.26-0.60	2.40-9.7	○		○	○					
	190616S-PC9	1.6	0.35-0.80	3.20-9.7	○		○	○					
	190624S-PC9	2.4	0.53-1.20	4.80-9.7	○		○	○					
	250724S-PC9	2.4	0.53-1.20	4.80-12.9	○		○	○					
	250924S-PC9	2.4	0.53-1.20	4.80-12.9	○		●	○					
	CNMM 190612S-PD9	1.2	0.30-0.72	2.64-11.6	○		○	○					
	190616S-PD9	1.6	0.40-0.96	3.52-11.6	●	○	●	○					
	190624S-PD9	2.4	0.60-1.44	5.28-11.6	○		●	○					
	250724S-PD9	2.4	0.60-1.44	5.28-15.5	○		○	○					
	250924S-PD9	2.4	0.60-1.44	5.28-15.5	○	○	●	●					

Marked : ● Stock available ○ Non-stocked standard

Turning inserts

Negative 55° (D) Rhombic Inserts

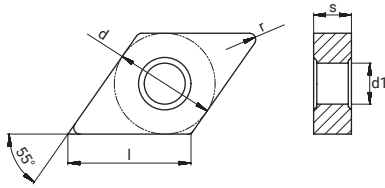


Dimensions (mm)				
Type	d	l	s	d1
DN_1104_	9.52	11.62	4.76	3.81
DN_1504_	12.7	15.5	4.76	5.16
DN_1506_	12.7	15.5	6.35	5.16



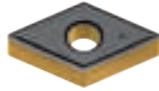

Inserts	Type	r (mm)	Recommended parameters		Grades												
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	APT100S				
Finishing		DNMG 110404E-PB1	0.4	0.05-0.15	0.26-2.3	○		●									
		150404E-PB1	0.4	0.05-0.15	0.26-3.1	●	○	●									
		150408E-PB1	0.8	0.10-0.30	0.52-3.1	●	○	●									
		150604E-PB1	0.4	0.05-0.15	0.26-3.1	●	○	○									
	150608E-PB1	0.8	0.10-0.30	0.52-3.1	●	○	●										
		DNMG 150404E-MB2	0.4	0.05-0.15	0.26-2.9					○							●
		150408E-MB2	0.8	0.10-0.30	0.52-2.9					○							○
		150604E-MB2	0.4	0.05-0.15	0.26-2.9					●							●
150608E-MB2		0.8	0.10-0.30	0.52-2.9					○							●	
Semifinishing		DNMG 150404E-PB3	0.4	0.06-0.18	0.30-3.1	○	○	○									
		150408E-PB3	0.8	0.12-0.36	0.60-3.1	●	○	○									
		150412E-PB3	1.2	0.18-0.54	0.90-3.1	○	○	○									
		150604E-PB3	0.4	0.06-0.18	0.30-3.1	●	○	●									
		150608E-PB3	0.8	0.12-0.36	0.60-3.1	●	○	●									
		150612E-PB3	1.2	0.18-0.54	0.90-3.1	○	○	○									
		DNMG 110408E-PC3	0.8	0.14-0.40	0.68-2.6	●	○	○									
		110412E-PC3	1.2	0.20-0.60	1.02-2.6	○	○	○									
		150404E-PC3	0.4	0.07-0.20	0.34-3.5	○	○	○									
		150408E-PC3	0.8	0.14-0.40	0.68-3.5	●	○	●									
		150412E-PC3	1.2	0.20-0.60	1.02-3.5	○	○	○									
		150604E-PC3	0.4	0.07-0.20	0.34-3.5	○	○	●									
		150608E-PC3	0.8	0.14-0.40	0.68-3.5	●	●	●									
		150612E-PC3	1.2	0.20-0.60	1.02-3.5	○	○	○									
Medium		DNMG 110404E-PD3	0.4	0.08-0.22	0.40-2.9	○	○	○									
		110408E-PD3	0.8	0.15-0.44	0.80-2.9	●	○	●									
		150404E-PD3	0.4	0.08-0.22	0.40-3.9	○	●	●									
		150408E-PD3	0.8	0.15-0.44	0.80-3.9	●	●	●	○								
		150412E-PD3	1.2	0.23-0.66	1.20-3.9	●	○	●	○								
		150604E-PD3	0.4	0.08-0.22	0.40-3.9	●	○	●									
		150608E-PD3	0.8	0.15-0.44	0.80-3.9	●	●	●	●								
		150612E-PD3	1.2	0.23-0.66	1.20-3.9	○	●	●	○								

Marked : ● Stock available ○ Non-stocked standard

Negative 55° (D) Rhombic Inserts



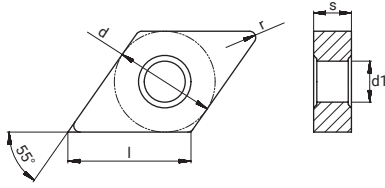
Dimensions (mm)				
Type	d	l	s	d1
DN_1104_	9.52	11.62	4.76	3.81
DN_1504_	12.7	15.5	4.76	5.16
DN_1506_	12.7	15.5	6.35	5.16

Inserts	Type	r (mm)	Recommended parameters		Grades										
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	AP100S		
Medium		DNMG 150404E-SC3	0.4	0.08-0.22	0.40-3.9										●
		150408E-SC3	0.8	0.15-0.44	0.80-3.9										●
		150412E-SC3	1.2	0.23-0.66	1.20-3.9										○
		150604E-SC3	0.4	0.08-0.22	0.40-3.9										●
		150608E-SC3	0.8	0.15-0.44	0.80-3.9										●
		150612E-SC3	1.2	0.23-0.66	1.20-3.9										○
		DNMG 110404E-MC3	0.4	0.08-0.22	0.32-2.9					●					
		110408E-MC3	0.8	0.15-0.44	0.64-2.9					○					
		150404E-MC3	0.4	0.08-0.22	0.32-3.9					●					
		150408E-MC3	0.8	0.15-0.44	0.64-3.9					●					
		150412E-MC3	1.2	0.23-0.66	0.96-3.9					○					
		150604E-MC3	0.4	0.08-0.22	0.32-3.9					●					
		150608E-MC3	0.8	0.15-0.44	0.64-3.9					●					
		150612E-MC3	1.2	0.23-0.66	0.96-3.9					○					
		DNMG 150404E-PC4	0.4	0.08-0.22	0.40-3.9	○		○			○	○			
		150408E-PC4	0.8	0.15-0.44	0.80-3.9	○		●			○	●			
		150412E-PC4	1.2	0.23-0.66	1.20-3.9	○		○			○	●			
		150604E-PC4	0.4	0.08-0.22	0.40-3.9	○		○			○	○			
Roughing		150608E-PC4	0.8	0.15-0.44	0.80-3.9	●		○		●	●				
		150612E-PC4	1.2	0.23-0.66	1.20-3.9	●		○			○	○			
		DNMG 150408E-MC4	0.8	0.20-0.60	1.20-5.4					○					○
		150412E-MC4	1.2	0.30-0.90	1.80-5.4					○					○
		150608E-MC4	0.8	0.20-0.60	1.20-5.4					○					○
									○					○	

Marked : ● Stock available ○ Non-stocked standard

Turning inserts

Negative 55° (D) Rhombic Inserts

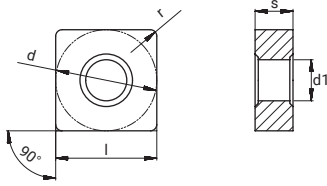


Dimensions (mm)				
Type	d	l	s	d1
DN_1104_	9.52	11.62	4.76	3.81
DN_1504_	12.7	15.5	4.76	5.16
DN_1506_	12.7	15.5	6.35	5.16

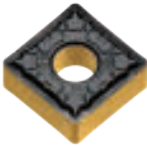





Inserts	Type	r (mm)	Recommended parameters		Grades																		
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	AP100S										
Roughing		DNMG 110404E-KC4	0.4	0.09-0.24	0.48-3.5																		
		110408E-KC4	0.8	0.18-0.48	0.96-3.5																		
		150404E-KC4	0.4	0.09-0.24	0.48-4.6																		
		150408E-KC4	0.8	0.18-0.48	0.96-4.6																		
		150412E-KC4	1.2	0.26-0.72	1.44-4.6																		
		150604E-KC4	0.4	0.09-0.24	0.48-4.6																		
		150608E-KC4	0.8	0.18-0.48	0.96-4.6																		
		150612E-KC4	1.2	0.26-0.72	1.44-4.6																		
		DNMG 150408E-PD5	0.8	0.20-0.60	1.20-5.4																		
		150412E-PD5	1.2	0.30-0.90	1.80-5.4																		
		150416E-PD5	1.6	0.40-1.20	2.40-5.4																		
		150608E-PD5	0.8	0.20-0.60	1.20-5.4																		
		150612E-PD5	1.2	0.30-0.90	1.80-5.4																		
		150616E-PD5	1.6	0.40-1.20	2.40-5.4																		
		DNMA 150404E-KD5	0.4	0.10-0.30	0.60-5.4																		
		150408E-KD5	0.8	0.20-0.60	1.20-5.4																		
		150412E-KD5	1.2	0.30-0.90	1.80-5.4																		
		150604E-KD5	0.4	0.10-0.30	0.60-5.4																		
		150608E-KD5	0.8	0.20-0.60	1.20-5.4																		
		150612E-KD5	1.2	0.30-0.90	1.80-5.4																		

Marked : ● Stock available ○ Non-stocked standard

Negative 55° (D) Rhombic Inserts



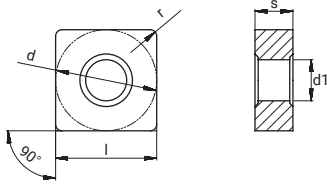
Dimensions (mm)				
Type	d	l	s	d1
SN_1204_	12.7	12.7	4.76	5.16
SN_1506_	15.87	15.87	6.35	6.35
SN_1906_	19.05	19.05	6.35	7.94

Inserts	Type	r (mm)	Recommended parameters		Grades									
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	AP100S	
Finishing	 SNMG 120404E-PB1 120408E-PB1 120412E-PB1	0.4	0.05-0.15	0.26-3.2	○	○	○							
		0.8	0.10-0.30	0.52-3.2	○	○	●							
		1.2	0.15-0.45	0.78-3.2	●	○	○							
	 SNMG 120404E-MB2 120408E-MB2	0.4	0.05-0.15	0.26-3.2					○					●
		0.8	0.10-0.30	0.52-3.2					○					○
Semifinishing	 SNMG 120404E-PC3 120408E-PC3 120412E-PC3	0.4	0.07-0.20	0.34-3.8	○		○							
		0.8	0.14-0.40	0.68-3.8	○		●							
		1.2	0.20-0.60	1.02-3.8	○		○							
Medium	 SNMG 120404E-PD3 120408E-PD3 120412E-PD3 190608E-PD3	0.4	0.08-0.22	0.40-4.2	○	○	○	○						
		0.8	0.15-0.44	0.80-4.2	●	○	●	●						
		1.2	0.23-0.66	1.20-4.2	○	○	○	○						
		0.8	0.15-0.44	0.80-6.3	○	○	○	○						
	 SNMG 120408E-SC3 120412E-SC3 150612E-SC3 150616E-SC3 190612E-SC3	0.8	0.15-0.44	0.80-4.2										●
		1.2	0.23-0.66	1.20-4.2										●
		1.2	0.23-0.66	1.20-5.2										○
		1.6	0.30-0.88	1.60-5.2										○
		1.2	0.23-0.66	1.20-6.3										●
	 SNMG 120404E-MC3 120408E-MC3 120412E-MC3 150612E-MC3 150616E-MC3 190612E-MC3 190616E-MC3	0.4	0.08-0.22	0.32-4.2					○					
		0.8	0.15-0.44	0.64-4.2					●					
		1.2	0.23-0.66	0.96-4.2					○					
		1.2	0.23-0.66	0.96-5.2					○					
		1.6	0.30-0.88	1.28-5.2					○					
		1.2	0.23-0.66	0.96-6.3					○					

Marked : ● Stock available ○ Non-stocked standard

Turning inserts

Negative 90° (S) Square Inserts

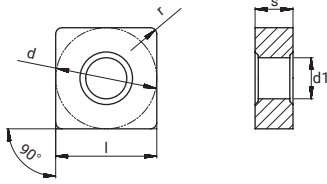


Dimensions (mm)				
Type	d	l	s	d1
SN_0903_	9.52	9.52	3.18	3.81
SN_1204_	12.7	12.7	4.76	5.16
SN_1506_	15.87	15.87	6.35	6.35
SN_1906_	19.05	19.05	6.35	7.94

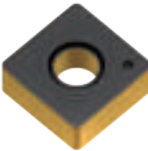
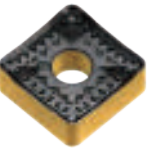
Inserts	Type	r (mm)	Recommended parameters		Grades									
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	APT100S	
Medium	SNMG 120404E-PC4	0.4	0.08-0.22	0.40-4.2	○	○	○			○	○			
	120408E-PC4	0.8	0.15-0.44	0.80-4.2	●	○	●			○	●			
	120412E-PC4	1.2	0.23-0.66	1.20-4.2	●	○	●			○	●			
Roughing	SNMG 120408E-MC4	0.8	0.20-0.60	1.20-6.4					○					●
	120412E-MC4	1.2	0.30-0.90	1.80-6.4					○					○
	150612E-MC4	1.2	0.30-0.90	1.80-7.9					○					○
	150616E-MC4	1.6	0.40-1.20	2.40-7.9					○					○
	190612E-MC4	1.2	0.30-0.90	1.80-9.5					○					○
	190616E-MC4	1.6	0.40-1.20	2.40-9.5					○					○
	SNMG 090304E-KC4	0.4	0.09-0.24	0.48-3.8						○	○			
	090308E-KC4	0.8	0.18-0.48	0.96-3.8						○	○			
	120404E-KC4	0.4	0.09-0.24	0.48-5.1						○	●			
	120408E-KC4	0.8	0.18-0.48	0.96-5.1						●	●			
	120412E-KC4	1.2	0.26-0.72	1.44-5.1						●	●			
	150608E-KC4	0.8	0.18-0.48	0.96-6.4						○	○			
	150612E-KC4	1.2	0.26-0.72	1.44-6.4						○	●			
	150616E-KC4	1.6	0.35-0.96	1.92-6.4						○	○			
	190608E-KC4	0.8	0.18-0.48	0.96-7.6						○	○			
	190612E-KC4	1.2	0.26-0.72	1.44-7.6						○	●			
	190616E-KC4	1.6	0.35-0.96	1.92-7.6						○	●			
	190624E-KC4	2.4	0.53-1.44	2.88-7.6						○	○			
	SNMG 150608E-PD5	0.8	0.20-0.60	1.20-7.9	○	○	○	○						
	150612E-PD5	1.2	0.30-0.90	1.80-7.9	○	○	●	○						
150616E-PD5	1.6	0.40-1.20	2.40-7.9	○	○	○	○							
190612E-PD5	1.2	0.30-0.90	1.80-9.5	●	○	●	○							
190616E-PD5	1.6	0.40-1.20	2.40-9.5	○	○	●	○							

Marked : ● Stock available ○ Non-stocked standard

Negative 90° (S) Square Inserts



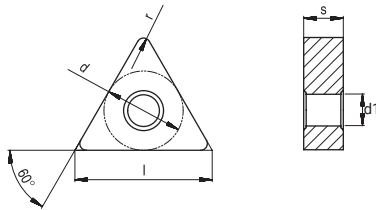
Dimensions (mm)				
Type	d	l	s	d1
SN_1204_	12.7	12.7	4.76	5.16
SN_1506_	15.87	15.88	6.35	6.35
SN_1906_	19.05	19.05	6.35	7.94
SN_2507_	25.4	25.4	7.94	9.12
SN_2509_	25.4	25.4	9.52	9.12
SN_3109_	31.75	31.75	9.52	9.45

Inserts	Type	r (mm)	Recommended parameters		Grades								
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	AP100S
	SNMA 120408E-KD5	0.8	0.20-0.60	1.20-6.4						○	○		
	120412E-KD5	1.2	0.30-0.90	1.80-6.4						●	●		
	120416E-KD5	1.6	0.40-1.20	2.40-6.4						●	○		
	150612E-KD5	1.2	0.30-0.90	1.80-7.9						○	●		
	150616E-KD5	1.6	0.40-1.20	2.40-7.9						○	○		
	190612E-KD5	1.2	0.30-0.90	1.80-9.5						○	●		
	190616E-KD5	1.6	0.40-1.20	2.40-9.5						●	●		
	SNMM 120408E-PD8	0.8	0.16-0.32	1.44-5.1	○		○	○					
	120412E-PD8	1.2	0.24-0.48	2.16-5.1	○		○	○					
	150612E-PD8	1.2	0.24-0.48	2.16-6.4	○		○	○					
	150616E-PD8	1.6	0.32-0.64	2.88-6.4	○		○	○					
	190612E-PD8	1.2	0.24-0.48	2.16-7.6	○		○	○					
	190616E-PD8	1.6	0.32-0.64	2.88-7.6	○		○	●					
	190624E-PD8	2.4	0.48-0.96	4.32-7.6	○		○	○					
	250724E-PD8	2.4	0.48-0.96	4.32-10.2	○		○	○					
	250924E-PD8	2.4	0.48-0.96	4.32-10.2	○		○	○					
	SNMM 190612S-PC9	1.2	0.26-0.60	2.40-9.5	●	○	○	○					
	190616S-PC9	1.6	0.35-0.80	3.20-9.5	○	○	○	○					
	190624S-PC9	2.4	0.53-1.20	4.80-9.5	○	○	○	○					
	250724S-PC9	2.4	0.53-1.20	4.80-12.7	○	○	○	○					
	250924S-PC9	2.4	0.53-1.20	4.80-12.7	●	○	●	○					
	SNMH 310924S-PC9	2.4	0.53-1.20	4.80-15.9			○	●					
	SNMM 190612S-PD9	1.2	0.30-0.72	2.64-11.4	○	○	○	○					
190616S-PD9	1.6	0.40-0.96	3.52-11.4	○	○	○	○						
190624S-PD9	2.4	0.60-1.44	5.28-11.4	○	○	●	○						
250724S-PD9	2.4	0.60-1.44	5.28-15.2	○	○	○	○						
250924S-PD9	2.4	0.60-1.44	5.28-15.2	●	○	●	●						
SNMX 310924S-PD9	2.4	0.60-1.44	5.28-19.1			○	●						








Marked : ● Stock available ○ Non-stocked standard

Turning inserts

Negative 60° (T) Triangle Inserts

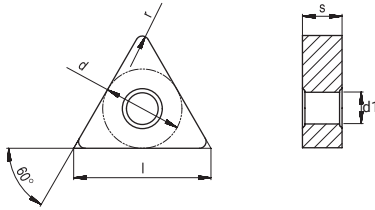


Dimensions (mm)				
Type	d	l	s	d1
TN_1604_	9.52	16.5	4.76	3.81





Inserts Right-hand shown where it's applicable	Type	r (mm)	Recommended parameters		Grades												
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	AP100S				
Finishing	 TNMG 160404E-PB1 160408E-PB1 160412E-PB1	0.4	0.05-0.15	0.26-3.1	●	○	●										
		0.8	0.10-0.30	0.52-3.1	●	●	●										
		1.2	0.15-0.45	0.78-3.1	●	○	○										
	 TNMG 160404E-MB2 160408E-MB2	0.4	0.05-0.15	0.26-3.1					●							●	
		0.8	0.10-0.30	0.52-3.1					○							●	
	Semifinishing	 TNMG 160404E-PB3 160408E-PB3 160412E-PB3	0.4	0.06-0.18	0.30-3.3	●	○	●									
0.8			0.12-0.36	0.60-3.3	●	●	●										
1.2			0.18-0.54	0.90-3.3	●	○	●										
 TNMG 160404E-PC3 160408E-PC3 160412E-PC3		0.4	0.07-0.20	0.34-3.7	●	○	●										
		0.8	0.14-0.40	0.68-3.7	●	○	●										
		1.2	0.20-0.60	1.02-3.7	○	○	○										
Medium	 TNMG 160404E-PD3 160408E-PD3 160412E-PD3	0.4	0.08-0.22	0.40-4.1	●	○	●	○									
		0.8	0.15-0.44	0.80-4.1	●	●	●	○									
		1.2	0.23-0.66	1.20-4.1	●	●	●	○									
	 TNMG 160404R-PL5 160408R-PL5 160404L-PL5 160408L-PL5	0.4	0.08-0.22	0.40-4.1	●	○	●										
		0.8	0.15-0.44	0.80-4.1	●	○	●										
		0.4	0.08-0.22	0.40-4.1	●	○	●										
		0.8	0.15-0.44	0.80-4.1	●	○	●										
	 TNMG 160404E-SC3 160408E-SC3 160412E-SC3	0.4	0.08-0.22	0.40-4.1												●	
		0.8	0.15-0.44	0.80-4.1												●	
		1.2	0.23-0.66	1.20-4.1												○	

Marked : ● Stock available ○ Non-stocked standard

Negative 60° (T) Triangle Inserts



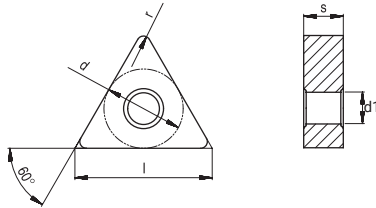
Dimensions (mm)				
Type	d	l	s	d1
TN_1103_	6.35	11.0	3.18	2.26
TN_1604_	9.52	16.5	4.76	3.81
TN_2204_	12.7	22.0	4.76	5.16

Inserts	Type	r (mm)	Recommended parameters		Grades									
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	AP100S	
Medium		TNMG 160404E-MC3	0.4	0.08-0.22	0.32-4.1					●				○
		160408E-MC3	0.8	0.15-0.44	0.64-4.1					●				○
		160412E-MC3	1.2	0.23-0.66	0.96-4.1					●				○
		220408E-MC3	0.8	0.15-0.44	0.64-4.9					●				●
		220412E-MC3	1.2	0.23-0.66	0.96-4.9					○				○
		TNMG 160404E-PC4	0.4	0.08-0.22	0.40-4.1	●	○	○			○	○		
		160408E-PC4	0.8	0.15-0.44	0.80-4.1	●	○	●			●	●		
		160412E-PC4	1.2	0.23-0.66	1.20-4.1	○	○	○			●	○		
220412E-PC4		1.2	0.23-0.66	1.20-4.9	○	○	○			○	○			
Roughing		TNMG 160408E-MC4	0.8	0.20-0.60	1.20-5.8					●				●
		160412E-MC4	1.2	0.30-0.90	1.80-5.8					○				○
		220408E-MC4	0.8	0.20-0.60	1.20-6.6					○				○
		220412E-MC4	1.2	0.30-0.90	1.80-6.6					○				○
		TNMG 110304E-KC4	0.4	0.09-0.24	0.48-3.3						○	○		
		160404E-KC4	0.4	0.09-0.24	0.48-4.9						○	●		
		160408E-KC4	0.8	0.18-0.48	0.96-4.9						●	●		
		160412E-KC4	1.2	0.26-0.72	1.44-4.9						○	○		
		160416E-KC4	1.6	0.35-0.96	1.92-4.9						○	○		
		220412E-KC4	1.2	0.26-0.72	1.44-6.0						○	●		
		220416E-KC4	1.6	0.35-0.96	1.92-6.0						○	○		

Marked : ● Stock available ○ Non-stocked standard

Turning inserts

Negative 60° (T) Triangle Inserts

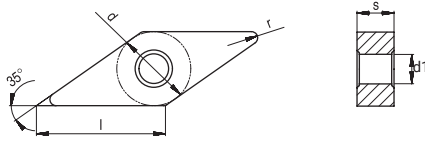


Dimensions (mm)				
Type	d	l	s	d1
TN_1604_	9.52	16.5	4.76	3.81
TN_2204_	12.7	22.0	4.76	5.16

Inserts Right-hand shown where it's applicable	Type	r (mm)	Recommended parameters		Grades											
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	AP100S			
Roughing		TNMG 160408E-PD5	0.8	0.20-0.60	1.20-5.8	○	○	○	●							
		160412E-PD5	1.2	0.30-0.90	1.80-5.8	○	○	○	●							
		220408E-PD5	0.8	0.20-0.60	1.20-7.7	○	○	●	○							
		220412E-PD5	1.2	0.30-0.90	1.80-7.7	○	○	○	○							
		220416E-PD5	1.6	0.40-1.20	2.40-7.7	○	○	○	○							
		TNMA 160404E-KD5	0.4	0.10-0.30	0.60-5.8						●	○				
		160408E-KD5	0.8	0.20-0.60	1.20-5.8						●	●				
		160412E-KD5	1.2	0.30-0.90	1.80-5.8						●	●				
		160416E-KD5	1.6	0.40-1.20	2.40-5.8						○	○				
		220408E-KD5	0.8	0.20-0.60	1.20-7.7						○	○				
220412E-KD5		1.2	0.30-0.90	1.80-7.7						○	○					
Heavy roughing		TNMM 160408E-PD8	0.8	0.16-0.32	1.44-4.9	○		○	○							
		160412E-PD8	1.2	0.24-0.48	2.16-4.9	○		○	○							
		220408E-PD8	0.8	0.16-0.32	1.44-6.0	○		○	○							
		220412E-PD8	1.2	0.24-0.48	2.16-6.0	○		○	○							
		220416E-PD8	1.6	0.32-0.64	2.88-6.0	○		○	○							
Finishing		TNGG 160402FR-F	0.2	0.08-0.20	0.5-2.3					●						
		160402FL-F	0.2	0.08-0.20	0.5-2.3					●						
		160404FR-F	0.4	0.08-0.20	0.5-2.3					●						
		160404FL-F	0.4	0.08-0.20	0.5-2.3					●						
Semifinishing-roughing		TNGG 160404R-H	0.4	0.22-0.38	1.2-3.8					●						
		160404L-H	0.4	0.22-0.38	1.2-3.8					●						
		160408R-H	0.8	0.22-0.38	1.2-3.8					●						
		160408L-H	0.8	0.22-0.38	1.2-3.8					●						

Marked : ● Stock available ○ Non-stocked standard

Negative 35° (V) Rhombic Inserts



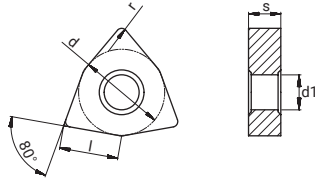
Dimensions (mm)				
Type	d	l	s	d1
VN_1604_	9.52	16.5	4.76	3.81

Inserts	Type	r (mm)	Recommended parameters		Grades										
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	APT100S		
Finishing	VNMG 160404E-PB1	0.4	0.05-0.15	0.26-2.1	●	○	●								
	160408E-PB1	0.8	0.10-0.30	0.52-2.1	●	●	●								
	VNMG 160404E-MB2	0.4	0.05-0.15	0.26-2.1					●						●
	160408E-MB2	0.8	0.10-0.30	0.52-2.1					●						●
Semifinishing	VNMG 160404E-PB3	0.4	0.06-0.18	0.30-3.1	●	○	●								
	160408E-PB3	0.8	0.12-0.36	0.60-3.1	●	●	●								
	160412E-PB3	1.2	0.18-0.54	0.90-3.1	●	○	●								
	VNMG 160404E-PC3	0.4	0.07-0.20	0.34-3.3	●	○	●								
	160408E-PC3	0.8	0.14-0.40	0.68-3.3	○	○	●								
	160412E-PC3	1.2	0.20-0.60	1.02-3.3	○	○	○								
Medium	VNMG 160404E-PD3	0.4	0.08-0.22	0.40-3.3	●	○	●	○							
	160408E-PD3	0.8	0.15-0.44	0.80-3.3	●	●	●	○							
	160412E-PD3	1.2	0.23-0.66	1.20-3.3	●	○	●	○							
	VNMG 160404E-SC3	0.4	0.08-0.22	0.40-3.3											●
	160408E-SC3	0.8	0.15-0.44	0.80-3.3											●
	160412E-SC3	1.2	0.23-0.66	1.20-3.3											●
	VNMG 160404E-MC3	0.4	0.08-0.22	0.32-3.3					●						
	160408E-MC3	0.8	0.15-0.44	0.64-3.3					●						
	VNMG 160404E-PC4	0.4	0.08-0.22	0.40-3.3	○		●			○	●				
	160408E-PC4	0.8	0.15-0.44	0.80-3.3	●		○			●	●				
	160412E-PC4	1.2	0.23-0.66	1.20-3.3	○		○			●	○				
	Roughing	VNMG 160404E-KC4	0.4	0.09-0.24	0.48-3.3						○	●			
160408E-KC4		0.8	0.18-0.48	0.96-3.3						●	●				
160412E-KC4		1.2	0.26-0.72	1.44-3.3						○	○				

Marked : ● Stock available ○ Non-stocked standard

Turning inserts

Negative 80° (W) Trigon Inserts

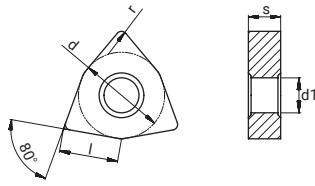


Dimensions (mm)				
Type	d	l	s	d1
WN_0604_	9.52	6.52	4.76	3.81
WN_0804_	12.7	8.7	4.76	5.16

Inserts	Type	r (mm)	Recommended parameters		Grades											
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	AP100S			
Finishing		WNMG 080404E-PB1	0.4	0.05-0.15	0.26-2.2	●	○	●								
		080408E-PB1	0.8	0.10-0.30	0.52-2.2	●	○	●								
		080412E-PB1	1.2	0.15-0.45	0.78-2.2	○	○	○								
		WNMG 080404E-MB2	0.4	0.05-0.15	0.26-2.2					●						●
		080408E-MB2	0.8	0.10-0.30	0.52-2.2					●						●
Semifinishing		WNMG 080404E-PB3	0.4	0.06-0.18	0.30-2.3	●	○	●								
		080408E-PB3	0.8	0.12-0.36	0.60-2.3	●	○	●								
		080412E-PB3	1.2	0.18-0.54	0.90-2.3	●	○	●								
		WNMG 080404E-PC3	0.4	0.07-0.20	0.34-2.6	●	○	●								
		080408E-PC3	0.8	0.14-0.40	0.68-2.6	●	○	●								
		080412E-PC3	1.2	0.20-0.60	1.02-2.6	●	○	●								
Medium		WNMG 060408E-PD3	0.8	0.15-0.44	0.80-2.1	●	○	●	○							
		080404E-PD3	0.4	0.08-0.22	0.40-2.9	●	○	●	○							
		080408E-PD3	0.8	0.15-0.44	0.80-2.9	●	●	●	●							
		080412E-PD3	1.2	0.23-0.66	1.20-2.9	●	●	●	●							
		WNMG 080404E-SC3	0.4	0.08-0.22	0.40-2.9											●
		080408E-SC3	0.8	0.15-0.44	0.80-2.9					○						●
		080412E-SC3	1.2	0.23-0.66	1.20-2.9											●
		WNMG 060408E-MC3	0.8	0.15-0.44	0.64-2.1					●						○
		060412E-MC3	1.2	0.23-0.66	0.96-2.1					●						○
		080404E-MC3	0.4	0.08-0.22	0.32-2.9					●						○
		080408E-MC3	0.8	0.15-0.44	0.64-2.9					●						●
		080412E-MC3	1.2	0.23-0.66	0.96-2.9					○						○

Marked : ● Stock available ○ Non-stocked standard

Negative 80° (W) Trigon Inserts



Dimensions (mm)				
Type	d	l	s	d1
WN_0604_	9.52	6.52	4.76	3.81
WN_0804_	12.7	8.7	4.76	5.16

Inserts	Type	r (mm)	Recommended parameters		Grades								
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	AP100S
Medium	WNMG 080404E-PC4	0.4	0.08-0.22	0.40-2.9	○		●			●	●		
	080408E-PC4	0.8	0.15-0.44	0.80-2.9	●		●			●	●		
	080412E-PC4	1.2	0.23-0.66	1.20-2.9	●		●			●	●		
Roughing	WNMG 060408E-MC4	0.8	0.20-0.60	1.20-3.3					○				○
	060412E-MC4	1.2	0.30-0.90	1.80-3.3					○				○
	080408E-MC4	0.8	0.20-0.60	1.20-4.3					○				●
	080412E-MC4	1.2	0.30-0.90	1.80-4.3					○				●
	WNMG 060404E-KC4	0.4	0.09-0.24	0.48-2.6						○	●		
	060408E-KC4	0.8	0.18-0.48	0.96-2.6						○	●		
	080404E-KC4	0.4	0.09-0.24	0.48-3.5						○	●		
	080408E-KC4	0.8	0.18-0.48	0.96-3.5						●	●		
	080412E-KC4	1.2	0.26-0.72	1.44-3.5						●	●		
	080416E-KC4	1.2	0.35-0.96	1.92-3.5						○	○		
	WNMG 080408E-PD5	0.8	0.20-0.60	1.20-4.3	○	●	●	●					
	080412E-PD5	1.2	0.30-0.90	1.80-4.3	○	○	●	●					
	WNMA 080404E-KD5	0.4	0.10-0.30	0.60-4.3						○	○		
	080408E-KD5	0.8	0.20-0.60	1.20-4.3						○	●		
	080412E-KD5	1.2	0.30-0.90	1.80-4.3						●	●		
	080416E-KD5	1.6	0.40-1.20	2.40-4.3						○	●		

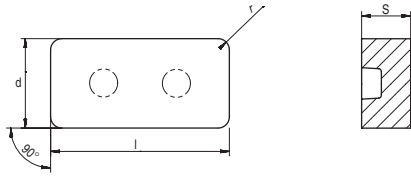
Marked : ● Stock available ○ Non-stocked standard



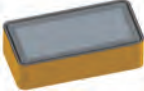
P72

Turning inserts

Negative 90° (L) Rectangle Inserts

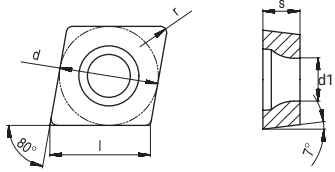


Dimensions (mm)			
Type	l	d	s
LN_5014_	50.8	25.4	14.2

Inserts	Type	r (mm)	Recommended parameters		Grades															
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	AP100S							
Heavy roughing 	LNMX 501432S-HE	3.2	0.70-1.6	6.0-40.0			○	●												

Marked : ● Stock available ○ Non-stocked standard

Positive 80° (C) Rhombic Inserts



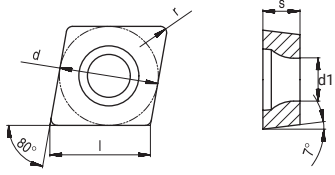
Dimensions (mm)				
Type	d	l	s	d1
CC_0602_	6.35	6.45	2.38	2.8
CC_09T3_	9.52	9.67	3.97	4.4
CC_1204_	12.7	12.9	4.76	5.5

Inserts	Type	r (mm)	Recommended parameters		Grades										
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	APT100S		
Finishing		CCGT 060201E-UF	0.1	0.02-0.15	0.10-1.4					○					○
		060202E-UF	0.2	0.02-0.15	0.10-1.4					●					●
		060204E-UF	0.4	0.03-0.20	0.10-1.4					●					●
		09T301E-UF	0.1	0.02-0.15	0.10-2.4					●					●
		09T302E-UF	0.2	0.02-0.15	0.10-2.4					●					●
		09T304E-UF	0.4	0.03-0.20	0.10-2.4					○					○
	09T308E-UF	0.8	0.03-0.25	0.10-2.4					●					○	
		CCGT 060201F-UF	0.1	0.02-0.15	0.10-1.4					●					
		060202F-UF	0.2	0.02-0.15	0.10-1.4					●					
		060204F-UF	0.4	0.03-0.20	0.10-1.4					●					
		09T301F-UF	0.1	0.02-0.15	0.10-2.4					●					
		09T302F-UF	0.2	0.02-0.15	0.10-2.4					●					
09T304F-UF		0.4	0.03-0.20	0.10-2.4					●						
Semifinishing		CCGT 060204F-NC2	0.4	0.05-0.20	0.32-2.9									●	
		09T302F-NC2	0.2	0.02-0.10	0.16-4.4									○	
		09T304F-NC2	0.4	0.05-0.20	0.32-4.4									●	
		09T308F-NC2	0.8	0.10-0.40	0.64-4.4									●	
		120404F-NC2	0.4	0.05-0.20	0.32-5.8									●	
		120408F-NC2	0.8	0.10-0.40	0.64-5.8									○	
Finishing		CCMT 060202E-PB1	0.2	0.02-0.07	0.15-1.6	○	○	○		●					
		060204E-PB1	0.4	0.04-0.14	0.30-1.6	●	○	●		●					
		060208E-PB1	0.8	0.09-0.28	0.60-1.6	○	○	○		●					
		09T302E-PB1	0.2	0.02-0.07	0.15-2.4	○	○	○		●					
		09T304E-PB1	0.4	0.04-0.14	0.30-2.4	●	○	●		●					○
		09T308E-PB1	0.8	0.09-0.28	0.60-2.4	●	●	●		●					
Semifinishing		CCMT 060204E-PC2	0.4	0.05-0.16	0.35-1.9	●	○	●		●					●
		060208E-PC2	0.8	0.10-0.32	0.70-1.9	●	○	●		●					●
		09T304E-PC2	0.4	0.05-0.16	0.35-2.9	●	●	●		●					●
		09T308E-PC2	0.8	0.10-0.32	0.70-2.9	●	●	●		●					●
		09T312E-PC2	1.2	0.16-0.48	1.05-2.9	○	○	○		●					○
		120404E-PC2	0.4	0.05-0.16	0.35-3.9	●	○	●		●					●
		120408E-PC2	0.8	0.10-0.32	0.70-3.9	●	○	●		●					●
		120412E-PC2	1.2	0.16-0.48	1.05-3.9	○	○	○		○					○

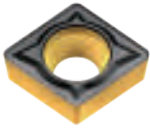
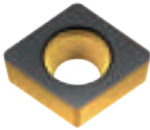

Marked : ● Stock available ○ Non-stocked standard

Turning inserts

Positive 80° (C) Rhombic Inserts

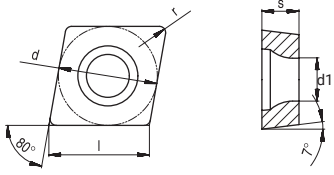


Dimensions (mm)				
Type	d	l	s	d1
CC_0301_	3.5	3.55	1.4	2.0
CC_0401_	4.3	4.37	1.8	2.3
CC_0602_	6.35	6.45	2.38	2.8
CC_09T3_	9.52	9.67	3.97	4.4
CC_1204_	12.7	12.9	4.76	5.5



Inserts Left-hand shown where it's applicable	Type	r (mm)	Recommended parameters		Grades									
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	APT100S	
Semifinishing 	CCMT 060204E-KC2	0.4	0.06-0.18	0.40-2.1	○	○	●	○	●	○	●			●
	060208E-KC2	0.8	0.12-0.36	0.80-2.1	○	○	○	○	○	○	●			
	09T304E-KC2	0.4	0.06-0.18	0.40-3.2	●	○	●	○	●	●	●			
	09T308E-KC2	0.8	0.12-0.36	0.80-3.2	●	●	●	○	●	●	●			
	120404E-KC2	0.4	0.06-0.18	0.40-4.3	○	○	○	○	○	○	●			
	120408E-KC2	0.8	0.12-0.36	0.80-4.3	●	○	●	●	●	●	●			
	120412E-KC2	1.2	0.18-0.54	1.20-4.3	○	○	●	○	○	○	●			
Roughing 	CCMW 060204E-KD5	0.4	0.10-0.22	0.40-3.2						○	○			
	09T304E-KD5	0.4	0.10-0.22	0.40-4.8						○	○			
	09T308E-KD5	0.8	0.20-0.44	0.80-4.8						○	●			
	120404E-KD5	0.4	0.10-0.22	0.40-6.4						○	○			
	120408E-KD5	0.8	0.20-0.44	0.80-6.4						○	●			
Finishing 	CCET 0301003FR-F	<0.03	0.01-0.05	0.1-0.3					○					
	0301003FL-F	<0.03	0.01-0.05	0.1-0.3					○					
	030101FR-F	<0.1	0.01-0.05	0.1-0.3					○					
	030101FL-F	<0.1	0.01-0.05	0.1-0.3					○					
	030102FR-F	<0.2	0.01-0.05	0.1-0.3					○					
	030102FL-F	<0.2	0.01-0.05	0.1-0.3					○					
	030104FR-F	<0.4	0.01-0.05	0.1-0.3					○					
	030104FL-F	<0.4	0.01-0.05	0.1-0.3					○					
	CCET 0401003FR-F	<0.03	0.01-0.06	0.1-0.4					○					
	0401003FL-F	<0.03	0.01-0.06	0.1-0.4					○					
	040101FR-F	<0.1	0.01-0.06	0.1-0.4					○					
	040101FL-F	<0.1	0.01-0.06	0.1-0.4					○					
	040102FR-F	<0.2	0.01-0.06	0.1-0.4					○					
	040102FL-F	<0.2	0.01-0.06	0.1-0.4					○					
	040104FR-F	<0.4	0.01-0.06	0.1-0.4					○					
040104FL-F	<0.4	0.01-0.06	0.1-0.4					○						

Marked : ● Stock available ○ Non-stocked standard

Positive 80° (C) Rhombic Inserts



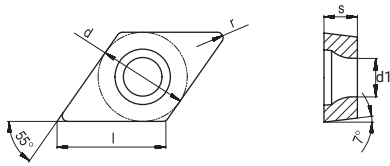
Dimensions (mm)				
Type	d	l	s	d1
CC_0602_	6.35	6.45	2.38	2.8
CC_09T3_	9.52	9.67	3.97	4.4

Inserts Left-hand shown where it's applicable	Type	r (mm)	Recommended parameters		Grades											
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	AP100S			
Low feed		CCET 0602003FR-M	<0.03	0.02-0.10	0.5-2.5					○						
		0602003FL-M	<0.03	0.02-0.10	0.5-2.5					○						
		060201FR-M	<0.1	0.02-0.10	0.5-2.5					○						
		060201FL-M	<0.1	0.02-0.10	0.5-2.5					○						
		060202FR-M	<0.2	0.02-0.10	0.5-2.5					○						
		060202FL-M	<0.2	0.02-0.10	0.5-2.5					○						
		060204FR-M	<0.4	0.01-0.10	0.5-2.5					○						
		060204FL-M	<0.4	0.01-0.10	0.5-2.5					○						
			CCET 09T3003FR-M	<0.03	0.02-0.10	0.5-4.0					●					
		09T3003FL-M	<0.03	0.02-0.10	0.5-4.0					●						
		09T301FR-M	<0.1	0.02-0.10	0.5-4.0					●						
		09T301FL-M	<0.1	0.02-0.10	0.5-4.0					●						
		09T302FR-M	<0.2	0.02-0.10	0.5-4.0					●						
		09T302FL-M	<0.2	0.02-0.10	0.5-4.0					●						
	09T304FR-M	<0.4	0.02-0.10	0.5-4.0					●							
	09T304FL-M	<0.4	0.02-0.10	0.5-4.0					●							

Marked : ● Stock available ○ Non-stocked standard

Turning inserts

Positive 55° (D) Rhombic Inserts

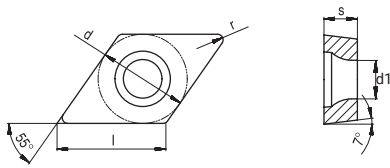


Dimensions (mm)				
Type	d	l	s	d1
DC_0702_	6.35	7.75	2.38	2.8
DC_11T3_	9.52	11.62	3.97	4.4

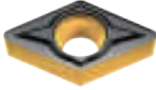
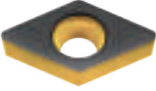

Inserts	Type	r (mm)	Recommended parameters		Grades										
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	AP100S		
Finishing		DCGT 070201E-UF	0.1	0.02-0.15	0.10-1.4					●					○
		070202E-UF	0.2	0.02-0.15	0.10-1.4					●					○
		070204E-UF	0.4	0.03-0.20	0.10-1.4					●					○
		11T301E-UF	0.1	0.02-0.15	0.10-2.4					●					●
		11T302E-UF	0.2	0.02-0.15	0.10-2.4					●					●
		11T304E-UF	0.4	0.03-0.20	0.10-2.4					●					●
		DCGT 070201F-UF	0.1	0.02-0.15	0.10-1.4					●					
		070202F-UF	0.2	0.02-0.15	0.10-1.4					●					
		070204F-UF	0.4	0.03-0.20	0.10-1.4					●					
		11T301F-UF	0.1	0.02-0.15	0.10-2.4					●					
		11T302F-UF	0.2	0.02-0.15	0.10-2.4					●					
		11T304F-UF	0.4	0.03-0.20	0.10-2.4					●					
Semifinishing		DCGT 070202F-NC2	0.2	0.02-0.10	0.16-3.5									○	
		070204F-NC2	0.4	0.05-0.20	0.32-3.5									○	
		11T302F-NC2	0.2	0.02-0.10	0.16-5.2								●		
		11T304F-NC2	0.4	0.05-0.20	0.32-5.2								●		
		11T308F-NC2	0.8	0.10-0.40	0.64-5.2								○		
Finishing		DCMT 070202E-PB1	0.2	0.02-0.07	0.15-1.5	○	○	○		○					
		070204E-PB1	0.4	0.04-0.14	0.30-1.5	●	○	●		●					
		11T302E-PB1	0.2	0.02-0.07	0.15-2.3	●	○	●		●					
		11T304E-PB1	0.4	0.04-0.14	0.30-2.3	●	○	●		●					
		11T308E-PB1	0.8	0.09-0.28	0.60-2.3	●	○	●		○					
Semifinishing		DCMT 070204E-PC2	0.4	0.05-0.16	0.35-2.1	○	○	●		●					●
		070208E-PC2	0.8	0.10-0.32	0.70-2.1	●	○	●		●					○
		11T304E-PC2	0.4	0.05-0.16	0.35-3.1	●	○	●		●					●
		11T308E-PC2	0.8	0.10-0.32	0.70-3.1	●	●	●		●					●
		11T312E-PC2	1.2	0.16-0.48	1.05-3.1	○	○	○		○					●

Marked : ● Stock available ○ Non-stocked standard

Positive 55° (D) Rhombic Inserts



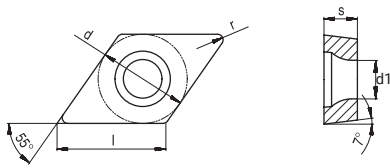
Dimensions (mm)				
Type	d	l	s	d1
DC_0702_	6.35	7.75	2.38	2.8
DC_11T3_	9.52	11.62	3.97	4.4

Inserts Left-hand shown where it's applicable	Type	r (mm)	Recommended parameters		Grades												
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	AP100S				
Semifinishing 	DCMT 070204E-KC2	0.4	0.06-0.18	0.40-2.3	○	○	○	○		○	●						
	070208E-KC2	0.8	0.12-0.36	0.80-2.3	○	○	○	○		○	●						
	11T304E-KC2	0.4	0.06-0.18	0.40-3.5	●	○	●			●	●						
	11T308E-KC2	0.8	0.12-0.36	0.80-3.5	●	○	●	○		●	●						
	11T312E-KC2	1.2	0.18-0.54	1.20-3.5	○	○	○			○	○						
Roughing 	DCMW 070204E-KD5	0.4	0.06-0.18	0.40-3.9						○	○						
	070208E-KD5	0.8	0.12-0.36	0.80-3.9						○	○						
	11T304E-KD5	0.4	0.06-0.18	0.40-5.8						○	○						
	11T308E-KD5	0.8	0.12-0.36	0.80-5.8						○	○						
Finishing 	DCET 0702003FR-F	<0.03	0.02-0.18	0.1-0.4						○							
	0702003FL-F	<0.03	0.02-0.18	0.1-0.4						○							
	070201FR-F	<0.1	0.02-0.18	0.1-0.4						○							
	070201FL-F	<0.1	0.02-0.18	0.1-0.4						○							
	070202FR-F	<0.2	0.02-0.18	0.1-0.4						○							
	070202FL-F	<0.2	0.02-0.18	0.1-0.4						○							
	070204FR-F	<0.4	0.02-0.18	0.1-0.4						○							
	070204FL-F	<0.4	0.02-0.18	0.1-0.4						○							
	DCET 11T3003FR-F	<0.03	0.02-0.20	0.1-0.4						●							
	11T3003FL-F	<0.03	0.02-0.20	0.1-0.4						●							
	11T301FR-F	<0.1	0.02-0.20	0.1-0.4						●							
	11T301FL-F	<0.1	0.02-0.20	0.1-0.4						●							
	11T302FR-F	<0.2	0.02-0.20	0.1-0.4						●							
	11T302FL-F	<0.2	0.02-0.20	0.1-0.4						●							
	11T304FR-F	<0.4	0.02-0.20	0.1-0.4						●							
11T304FL-F	<0.4	0.02-0.20	0.1-0.4						●								

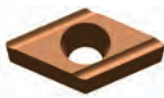
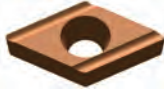
Marked : ● Stock available ○ Non-stocked standard

Turning inserts

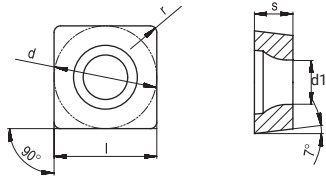
Positive 55° (D) Rhombic Inserts



Dimensions (mm)				
Type	d	l	s	d1
DC_0702_	6.35	7.75	2.38	2.8
DC_11T3_	9.52	11.62	3.97	4.4

Inserts Left-hand shown where it's applicable	Type	r (mm)	Recommended parameters		Grades										
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	AP100S		
	DCET 0702003FR-M	<0.03	0.01-0.08	0.5-2.8					○						
	0702003FL-M	<0.03	0.01-0.08	0.5-2.8					○						
	070201FR-M	<0.1	0.01-0.08	0.5-2.8					○						
	070201FL-M	<0.1	0.01-0.08	0.5-2.8					○						
	070202FR-M	<0.2	0.01-0.08	0.5-2.8					○						
	070202FL-M	<0.2	0.01-0.08	0.5-2.8					○						
	070204FR-M	<0.4	0.01-0.08	0.5-2.8					○						
	070204FL-M	<0.4	0.01-0.08	0.5-2.8					○						
	DCET 11T3003FR-M	<0.03	0.01-0.10	0.5-4.0					●						
	11T3003FL-M	<0.03	0.01-0.10	0.5-4.0					●						
	11T301FR-M	<0.1	0.01-0.10	0.5-4.0					●						
	11T301FL-M	<0.1	0.01-0.10	0.5-4.0					●						
	11T302FR-M	<0.2	0.01-0.10	0.5-4.0					●						
	11T302FL-M	<0.2	0.01-0.10	0.5-4.0					●						
	11T304FR-M	<0.4	0.01-0.10	0.5-4.0					●						
	11T304FL-M	<0.4	0.01-0.10	0.5-4.0					●						

Positive 90° (S) Square Inserts



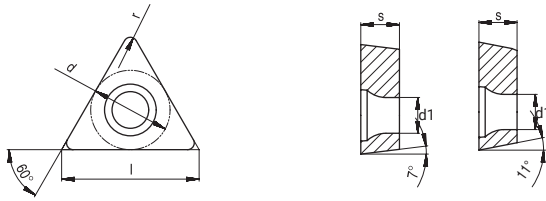
Dimensions (mm)				
Type	d	l	s	d1
SC_09T3_	9.52	9.52	3.97	4.4
SC_1204_	12.7	12.7	4.76	5.5
SC_3809_	38.1	38.1	9.52	9.8

Inserts	Type	r (mm)	Recommended parameters		Grades										
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	AP100S		
Finishing	SCMT 09T304E-PB1	0.4	0.04-0.14	0.30-2.4	●	○	○			○					
	09T308E-PB1	0.8	0.09-0.28	0.60-2.4	○	○	○		●						
	120404E-PB1	0.4	0.04-0.14	0.30-3.2	○	○	○		○						
Semifinishing	SCMT 09T304E-PC2	0.4	0.05-0.16	0.35-2.9	●	○	●		●						●
	09T308E-PC2	0.8	0.10-0.32	0.70-2.9	○	○	●		○						○
	120404E-PC2	0.4	0.05-0.16	0.35-3.8	○	○	●		●						○
	120408E-PC2	0.8	0.10-0.32	0.70-3.8	●	○	○		●						○
	120412E-PC2	1.2	0.16-0.48	1.05-3.8	○	○	○		○						○
	SCGT 09T308F-NC2	0.8	0.10-0.40	0.64-4.3										○	
	SCMT 09T304E-KC2	0.4	0.06-0.18	0.40-3.1	○	○	○	○		○	●				
	09T308E-KC2	0.8	0.12-0.36	0.80-3.1	●	○	●	○		○	●				
	120404E-KC2	0.4	0.06-0.18	0.40-4.2	○	○	○	○		○	○				
	120412E-KC2	1.2	0.18-0.54	1.20-4.2	○	○	○	○		○	●				
Roughing	SCMW 09T304E-KD5	0.4	0.10-0.22	0.40-4.8						○	○				
	09T308E-KD5	0.8	0.20-0.44	0.80-4.8						○	○				
	120404E-KD5	0.4	0.10-0.22	0.40-6.4						○	○				
	120408E-KD5	0.8	0.20-0.44	0.80-6.4						○	○				
	SCMT 380932-HT	3.2	0.70-1.40	4.0-18.0				○							

Marked : ● Stock available ○ Non-stocked standard

Turning inserts

Positive 60° (T) Triangle Inserts

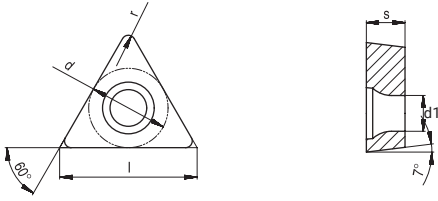


Dimensions (mm)				
Type	d	l	s	d1
TCMT_0902_	5.56	9.63	2.38	2.5
TC_1102_	6.35	11.0	2.38	2.8
TC_16T3_	9.52	16.5	3.97	4.4
TPMT_0902_	5.56	9.63	2.38	2.5
TPMT_1103_	6.35	11.0	3.18	3.4

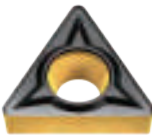
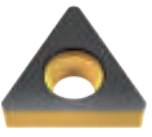
Inserts	Type	r (mm)	Recommended parameters		Grades										
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	APT100S		
Finishing		TCGT 110201E-UF	0.1	0.02-0.15	0.10-2.4					○				○	
		110202E-UF	0.2	0.02-0.15	0.20-2.4					○				○	
		110204E-UF	0.4	0.03-0.20	0.20-2.4					●				○	
		16T304E-UF	0.4	0.03-0.20	0.20-2.4					○				○	
		TCGT 110201F-UF	0.1	0.02-0.15	0.10-2.4					●					
		110202F-UF	0.2	0.02-0.15	0.20-2.4					●					
		110204F-UF	0.4	0.03-0.20	0.20-2.4					●					
		16T304F-UF	0.4	0.03-0.20	0.20-2.4					●					
		TCMT 090204E-PB1	0.4	0.04-0.14	0.30-1.9	○	○	○		○					
		110202E-PB1	0.2	0.02-0.07	0.15-2.2	●	○	○		○					
		110204E-PB1	0.4	0.04-0.14	0.30-2.2	○	○	○		○					
		110208E-PB1	0.8	0.09-0.28	0.60-2.2	○	○	○		○					
16T304E-PB1		0.4	0.04-0.14	0.30-3.3	●	○	○		○						
16T308E-PB1		0.8	0.09-0.28	0.60-3.3	○	○	○		○						
Semifinishing		TCMT 090204E-PC2	0.4	0.05-0.16	0.35-2.6	○	○	●		●				○	
		090208E-PC2	0.8	0.10-0.32	0.70-2.6	○	○	○		○				○	
		110204E-PC2	0.4	0.05-0.16	0.35-3.0	○	○	●		●				●	
		110208E-PC2	0.8	0.10-0.32	0.70-3.0	○	○	●		●				●	
		16T304E-PC2	0.4	0.05-0.16	0.35-4.5	●	○	●		○				○	
		16T308E-PC2	0.8	0.10-0.32	0.70-4.5	●	○	●		●				○	
		TPMT 090204E-PC2	0.4	0.05-0.16	0.35-2.6	○	○	○		●				○	
		090208E-PC2	0.8	0.10-0.32	0.70-2.6	○	○	○		●				○	
		110304E-PC2	0.4	0.05-0.16	0.35-3.0	●	○	●		●				○	
		110308E-PC2	0.8	0.10-0.32	0.70-3.0	○	○	○		●				○	
			TCGT 110204F-NC2	0.4	0.05-0.20	0.32-4.9								○	
			16T304F-NC2	0.4	0.05-0.20	0.32-7.4								○	
16T308F-NC2	0.8		0.10-0.40	0.64-7.4								○			

Marked : ● Stock available ○ Non-stocked standard

Positive 60° (T) Triangle Inserts



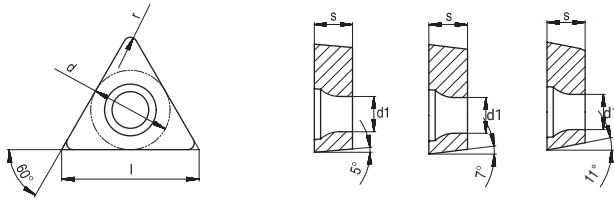
Dimensions (mm)				
Type	d	l	s	d1
TC_0902_	5.56	9.63	2.38	2.5
TC_1102_	6.35	11.0	2.38	2.8
TC_16T3_	9.52	16.5	3.97	4.4

Inserts	Type	r (mm)	Recommended parameters		Grades									
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	AP100S	
Semifinishing 	TCMT 090204E-KC2	0.4	0.06-0.18	0.40-2.9	○	○	○			○	●			
	090208E-KC2	0.8	0.12-0.36	0.80-2.9	○	○	○			○	●			
	110204E-KC2	0.4	0.06-0.18	0.40-3.3	○	○	●			○	●			
	110208E-KC2	0.8	0.12-0.36	0.80-3.3	○	○	○			○	●			
	16T304E-KC2	0.4	0.06-0.18	0.40-4.9	○	○	●			○	●			
	16T308E-KC2	0.8	0.12-0.36	0.80-4.9	○	○	○			●	●			
	16T312E-KC2	1.2	0.18-0.54	1.20-4.9	○	○	○			○	●			
Roughing 	TCMW 110204E-KD5	0.4	0.06-0.18	0.40-5.5						○	○			
	110208E-KD5	0.8	0.12-0.36	0.80-5.5						○	○			
	16T304E-KD5	0.4	0.06-0.18	0.40-8.2						○	○			
	16T308E-KD5	0.8	0.12-0.36	0.80-8.2						○	○			

Marked : ● Stock available ○ Non-stocked standard

Turning inserts

Positive 60° (T) Triangle Inserts

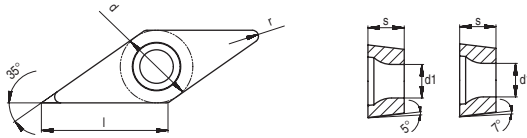


Dimensions (mm)				
Type	d	l	s	d1
TBET_0601_	3.97	6.88	1.59	2.3
TPEH_0802_	4.76	8.24	2.38	2.3
TCET_0802_	4.76	8.24	2.38	2.3
TPEH_0902_	5.56	9.63	2.38	3.0
TPEH_1103_	6.35	11.0	3.18	3.3
TCET_1103_	6.35	11.0	3.18	3.3

Inserts Left-hand shown where it's applicable	Type	r (mm)	Recommended parameters		Grades									
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	APT100S	
Finishing		TBET 0601003FR-F	<0.03	0.03-0.08	0.1-0.5					○				
		0601003FL-F	<0.03	0.03-0.08	0.1-0.5					○				
		060101FR-F	<0.1	0.03-0.08	0.1-0.5					○				
		060101FL-F	<0.1	0.03-0.08	0.1-0.5					○				
		060102FR-F	<0.2	0.03-0.08	0.1-0.5					○				
		060102FL-F	<0.2	0.03-0.08	0.1-0.5					○				
		060104FR-F	<0.4	0.03-0.08	0.1-0.5					○				
	060104FL-F	<0.4	0.03-0.08	0.1-0.5					○					
		TPEH 080201FR-F	<0.1	0.01-0.10	0.1-0.8					○				
		080201FL-F	<0.1	0.01-0.10	0.1-0.8					○				
		080202FR-F	<0.2	0.01-0.10	0.1-0.8					○				
		080202FL-F	<0.2	0.01-0.10	0.1-0.8					○				
		080204FR-F	<0.4	0.01-0.10	0.1-0.8					○				
	080204FL-F	<0.4	0.01-0.10	0.1-0.8					○					
		TPEH 090201FR-F	<0.1	0.01-0.10	0.1-0.8					○				
		090201FL-F	<0.1	0.01-0.10	0.1-0.8					○				
		090202FR-F	<0.2	0.01-0.10	0.1-0.8					○				
		090202FL-F	<0.2	0.01-0.10	0.1-0.8					○				
		090204FR-F	<0.4	0.01-0.10	0.1-0.8					○				
	090204FL-F	<0.4	0.01-0.10	0.1-0.8					○					
		TPEH 110302FR-F	<0.2	0.01-0.12	0.2-0.8					●				
110302FL-F		<0.2	0.01-0.12	0.2-0.8					●					
110304FR-F		<0.4	0.01-0.12	0.2-0.8					●					
110304FL-F		<0.4	0.01-0.12	0.2-0.8					●					
110308FR-F		<0.8	0.01-0.12	0.2-0.8					●					
110308FL-F		<0.8	0.01-0.12	0.2-0.8					●					
Low feed		TCET 0802003FR-M	<0.03	0.01-0.08	0.5-2.5					○				
		0802003FL-M	<0.03	0.01-0.08	0.5-2.5					○				
		080201FR-M	<0.1	0.01-0.08	0.5-2.5					○				
		080201FL-M	<0.1	0.01-0.08	0.5-2.5					○				
		080202FR-M	<0.2	0.01-0.08	0.5-2.5					○				
	080202FL-M	<0.2	0.01-0.08	0.5-2.5					○					
		TCET 1103003FR-M	<0.03	0.02-0.10	0.5-4.0					●				
		1103003FL-M	<0.03	0.02-0.10	0.5-4.0					●				
		110301FR-M	<0.1	0.02-0.10	0.5-4.0					●				
		110301FL-M	<0.1	0.02-0.10	0.5-4.0					●				
		110302FR-M	<0.2	0.02-0.10	0.5-4.0					●				
		110302FL-M	<0.2	0.02-0.10	0.5-4.0					●				
		110304FR-M	<0.4	0.02-0.10	0.5-4.0					●				
		110304FL-M	<0.4	0.02-0.10	0.5-4.0					●				

Marked : ● Stock available ○ Non-stocked standard

Positive 35° (V) Rhombic Inserts

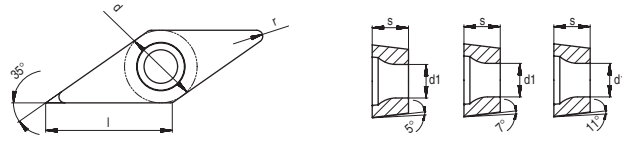


Dimensions (mm)				
Type	d	l	s	d1
VB_1103_	6.35	11.07	3.18	2.8
VB_1604_	9.52	16.61	4.76	4.4
VC_1103_	6.35	11.07	3.18	2.8
VC_1604_	9.52	16.61	4.76	4.4

Inserts	Type	r (mm)	Recommended parameters		Grades											
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	APT100S			
Finishing		VBGT 110301E-UF	0.1	0.02-0.15	0.10-1.4					○						
		110302E-UF	0.2	0.02-0.15	0.20-1.4					●					○	
		110304E-UF	0.4	0.03-0.20	0.20-1.4					○					●	
		160401E-UF	0.1	0.02-0.15	0.10-1.4					○					●	
		160402E-UF	0.2	0.02-0.15	0.20-1.4					●					○	
		VBGT 110301F-UF	0.1	0.02-0.15	0.10-1.4					●						
		110302F-UF	0.2	0.02-0.15	0.20-1.4					●						
		110304F-UF	0.4	0.03-0.20	0.20-1.4					●						
		160401F-UF	0.1	0.02-0.15	0.10-1.4					●						
		160402F-UF	0.2	0.02-0.15	0.20-1.4					●						
		VCGT 110301E-UF	0.1	0.02-0.15	0.10-1.4					●					○	
		110302E-UF	0.2	0.02-0.15	0.20-1.4					●					●	
		110304E-UF	0.4	0.03-0.20	0.20-1.4					○					○	
			VCGT 110301F-UF	0.1	0.02-0.15	0.10-1.4					●					
			110302F-UF	0.2	0.02-0.15	0.20-1.4					●					
	110304F-UF		0.4	0.03-0.20	0.20-1.4					●						
		VBMT 110304E-PB1	0.4	0.04-0.14	0.30-1.4	○	○	○		●						
		110308E-PB1	0.8	0.09-0.28	0.60-1.4	○	○	○		●						
		160402E-PB1	0.2	0.02-0.07	0.15-2.1	○	○	○		●						
		160404E-PB1	0.4	0.04-0.14	0.30-2.1	●	●	○		●						
160408E-PB1		0.8	0.09-0.28	0.60-2.1	●	●	○		○							
		VCMT 160404E-PB1	0.4	0.04-0.14	0.30-2.1	○		○		○						
		160408E-PB1	0.8	0.09-0.28	0.60-2.1	○		○		○						
Semifinishing		VBMT 110304E-PC2	0.4	0.05-0.16	0.35-2.1	●	○	○		●					●	
		110308E-PC2	0.8	0.10-0.32	0.70-2.1	○	○	○		○					○	
		160404E-PC2	0.4	0.05-0.16	0.35-3.1	●	○	●		●					●	
		160408E-PC2	0.8	0.10-0.32	0.70-3.1	●	●	●		●					●	
		160412E-PC2	1.2	0.16-0.48	1.05-3.1	●	○	○		○					●	
		VCMT 110304E-PC2	0.4	0.05-0.16	0.35-2.1	●	○	●		○						
		110308E-PC2	0.8	0.10-0.32	0.70-2.1	○		○		○						
		160404E-PC2	0.4	0.05-0.16	0.35-3.1	○		○		●						
		160408E-PC2	0.8	0.10-0.32	0.70-3.1	●		○		○						

Marked : ● Stock available ○ Non-stocked standard

Positive 35° (V) Rhombic Inserts

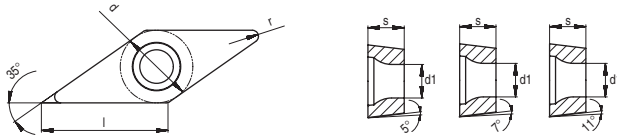


Dimensions (mm)				
Type	d	l	s	d1
VB_1103_	6.35	11.07	3.18	2.8
VB_1604_	9.52	16.61	4.76	4.4
VC_1103_	6.35	11.07	3.18	2.8
VC_1604_	9.52	16.61	4.76	4.4
VC_2205_	12.7	22.14	5.56	5.5
VP_2205_	12.7	22.14	5.56	5.5

Inserts Left-hand shown where it's applicable	Type	r (mm)	Recommended parameters		Grades																	
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	APT100S									
Semifinishing		VCGT 110302F-NC2	0.2	0.02-0.10	0.16-2.8																	
		110304F-NC2	0.4	0.05-0.20	0.32-2.8																	
		160404F-NC2	0.4	0.05-0.20	0.32-4.2																	
		160408F-NC2	0.8	0.10-0.40	0.64-4.2																	
		160412F-NC2	1.2	0.14-0.60	0.96-4.2																	
	220530F-NC2	3.0	0.36-1.50	2.40-5.5																		
		VPGT 220520E-NC2	2.0	0.24-1.0	1.60-5.5																	
		VPGT 220520F-NC2	2.0	0.24-1.0	1.60-5.5																	
		VBMT 160404E-KC2	0.4	0.06-0.18	0.40-3.3	●	○	●					●	○								
160408E-KC2		0.8	0.12-0.36	0.80-3.3	●	○	○					○	●									
160412E-KC2		1.2	0.18-0.54	1.20-3.3	●	○	●					○	○									
Finishing		VBET 1103003FR-F	<0.03	0.01-0.18	0.1-0.3							●										
		1103003FL-F	<0.03	0.01-0.18	0.1-0.3							●										
		110301FR-F	<0.1	0.01-0.18	0.1-0.3							●										
		110301FL-F	<0.1	0.01-0.18	0.1-0.3							●										
		110302FR-F	<0.2	0.01-0.18	0.1-0.3							●										
		110302FL-F	<0.2	0.01-0.18	0.1-0.3							●										
Low feed		VBET 110301FR-M	<0.1	0.01-0.06	0.2-2.0							●										
		110301FL-M	<0.1	0.01-0.06	0.2-2.0							●										
		110302FR-M	<0.2	0.01-0.06	0.2-2.0							●										
		110302FL-M	<0.2	0.01-0.06	0.2-2.0							●										
		110304FR-M	<0.4	0.01-0.06	0.2-2.0							●										

Marked : ● Stock available ○ Non-stocked standard

Positive 35° (V) Rhombic Inserts



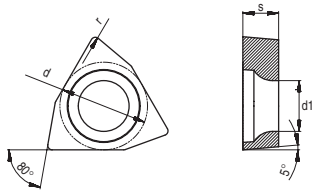
Dimensions (mm)				
Type	d	l	s	d1
VB_1103_	6.35	11.07	3.18	2.8
VB_1604_	9.52	16.61	4.76	4.4
VC_1103_	6.35	11.07	3.18	2.8
VP_0802_	4.76	8.3	2.38	2.3
VP_1103_	6.35	11.07	3.18	2.8

Inserts Left-hand shown where it's applicable	Type	r (mm)	Recommended parameters		Grades										
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	APT100S		
Finishing		VCET 110301FR-F	<0.1	0.01-0.18	0.1-0.3					●					
		110301FL-F	<0.1	0.01-0.18	0.1-0.3					●					
		110302FR-F	<0.2	0.01-0.18	0.1-0.3					●					
		110302FL-F	<0.2	0.01-0.18	0.1-0.3					●					
		110304FR-F	<0.4	0.01-0.18	0.1-0.3					●					
		110304FL-F	<0.4	0.01-0.18	0.1-0.3					●					
	Low feed		VPET 080201FR-F	<0.1	0.02-0.15	0.05-0.2					○				
			080201FL-F	<0.1	0.02-0.15	0.05-0.2					○				
			080202FR-F	<0.2	0.02-0.15	0.05-0.2					○				
			080202FL-F	<0.2	0.02-0.15	0.05-0.2					○				
		VPET 080201FR-M	<0.1	0.01-0.06	0.2-1.5					○					
		080201FL-M	<0.1	0.01-0.06	0.2-1.5					○					
		080202FR-M	<0.2	0.01-0.06	0.2-1.5					○					
		080202FL-M	<0.2	0.01-0.06	0.2-1.5					○					
		VPET 110301FR-M	<0.1	0.01-0.06	0.2-2.0					○					
		110301FL-M	<0.1	0.01-0.06	0.2-2.0					○					
	110302FR-M	<0.2	0.01-0.06	0.2-2.0					○						
		110302FL-M	<0.2	0.01-0.06	0.2-2.0					○					
		110304FR-M	<0.4	0.01-0.06	0.2-2.0					○					
		110304FL-M	<0.4	0.01-0.06	0.2-2.0					○					
		VBET 1103003FR-Y	<0.03	0.08-0.22	0.5-1.8					○					
			1103003FL-Y	<0.03	0.08-0.22	0.5-1.8					○				
	110301FR-Y		<0.1	0.08-0.22	0.5-1.8					○					
	110301FL-Y		<0.1	0.08-0.22	0.5-1.8					○					
	110302FR-Y	<0.2	0.08-0.22	0.5-1.8					○						
		110302FL-Y	<0.2	0.08-0.22	0.5-1.8					○					
110304FR-Y		<0.4	0.08-0.22	0.5-1.8					○						
110304FL-Y		<0.4	0.08-0.22	0.5-1.8					○						
VBET 160402FR-Y		<0.2	0.1-0.25	0.8-2.0					○						
		160402FL-Y	<0.2	0.1-0.25	0.8-2.0					○					
	160404FR-Y	<0.4	0.1-0.25	0.8-2.0					○						
	160404FL-Y	<0.4	0.1-0.25	0.8-2.0					○						
160408FR-Y	0.8	0.1-0.25	0.8-2.0					○							
	160408FL-Y	0.8	0.1-0.25	0.8-2.0					○						



Marked : ● Stock available ○ Non-stocked standard

Turning inserts

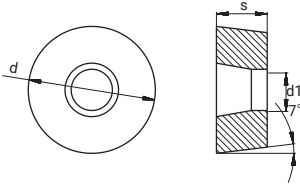
Positive 80° (W) Trigon Inserts



Dimensions (mm)				
Type	d	l	s	d1
WB_0601_	3.97	3.52	1.59	2.3
WB_0802_	4.76	4.78	2.38	2.3




Inserts Left-hand shown where it's applicable	Type	r (mm)	Recommended parameters		Grades									
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	AP100S	
Finishing		WBET 0601003FR-F	<0.03	0.05-0.08	0.1-0.8					○				
		0601003FL-F	<0.03	0.05-0.08	0.1-0.8					○				
		060101FR-F	<0.1	0.05-0.08	0.1-0.8					○				
		060101FL-F	<0.1	0.05-0.08	0.1-0.8					○				
		060102FR-F	<0.2	0.05-0.08	0.1-0.8					○				
		060102FL-F	<0.2	0.05-0.08	0.1-0.8					○				
		060104FR-F	<0.4	0.05-0.08	0.1-0.8					○				
		060104FL-F	<0.4	0.05-0.08	0.1-0.8					○				
		WBET 0802003FR-F	<0.03	0.05-0.08	0.1-0.8					○				
		0802003FL-F	<0.03	0.05-0.08	0.1-0.8					○				
		080201FR-F	<0.1	0.05-0.08	0.1-0.8					○				
		080201FL-F	<0.1	0.05-0.08	0.1-0.8					○				
		080202FR-F	<0.2	0.05-0.08	0.1-0.8					○				
		080202FL-F	<0.2	0.05-0.08	0.1-0.8					○				
080204FR-F		<0.4	0.05-0.08	0.1-0.8					○					
080204FL-F		<0.4	0.05-0.08	0.1-0.8					○					

Positive Round Turning Inserts



Dimensions (mm)			
Type	s	d	d1
RCGT_0803_	3.18	8.0	3.4
RCGT_1003_	3.18	10.0	4.4
RCGT_10T3_	3.97	10.0	4.4
RCMX_1003_	3.18	10.0	3.6
RCMX_1204_	4.76	12.0	4.2

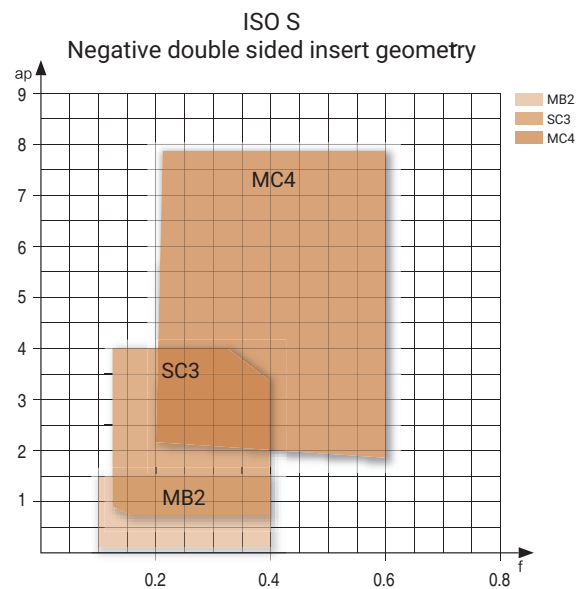
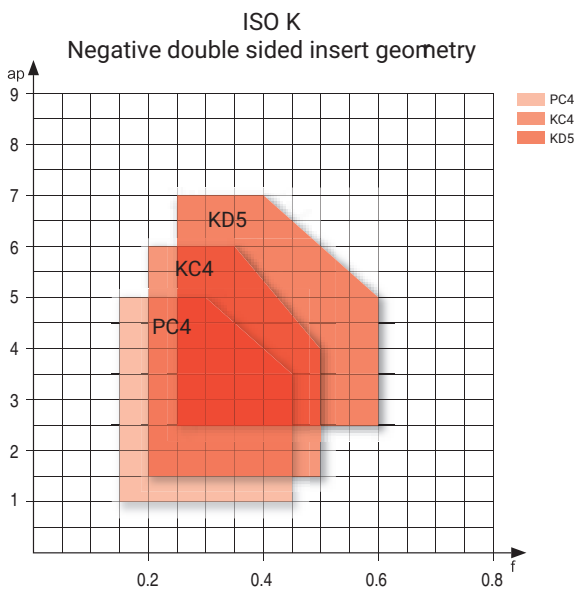
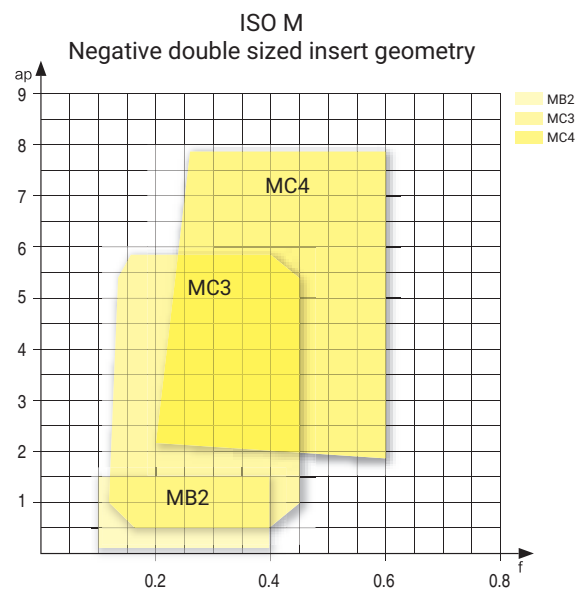
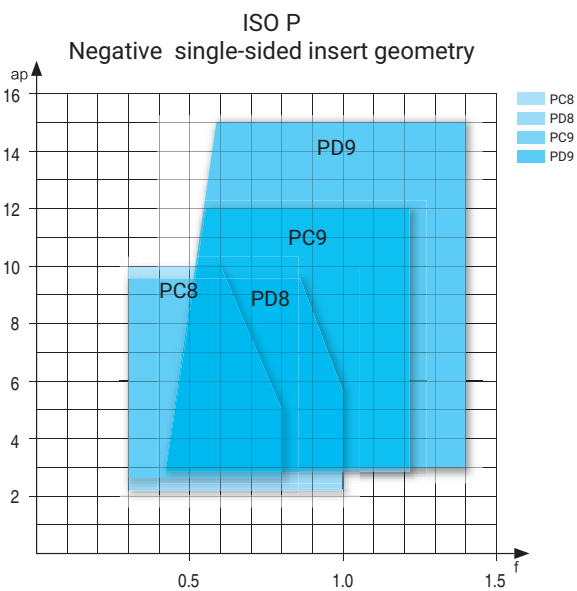
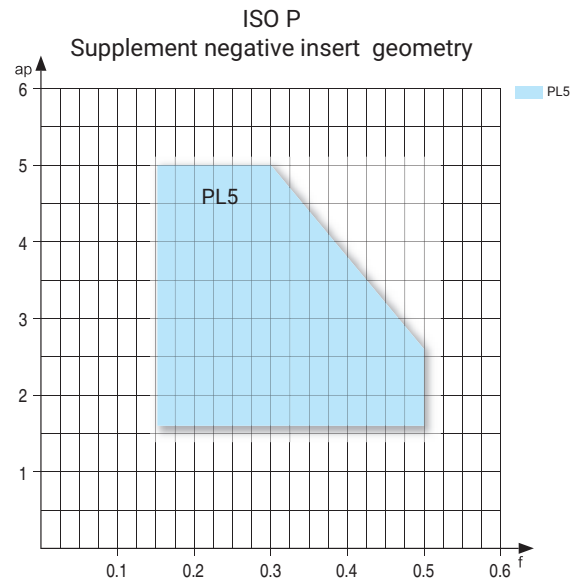
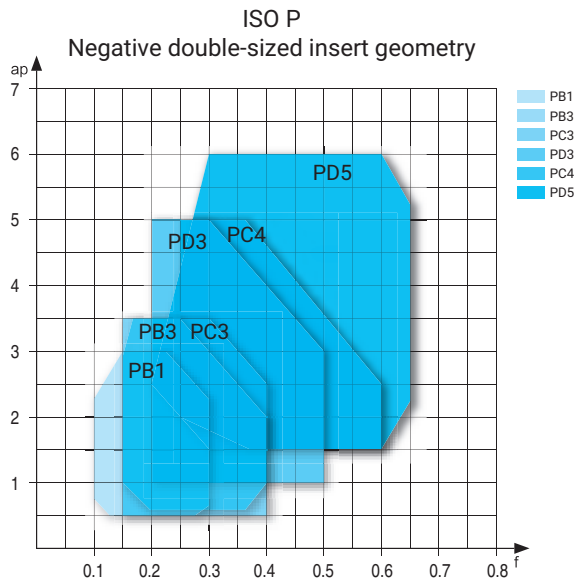
Dimensions (mm)			
Type	s	d	d1
RCMX_1606_	6.35	16.0	5.2
RCMX_2006_	6.35	20.0	6.5
RCMX_2507_	7.94	25.0	7.2
RCMX_3209_	9.52	32.0	9.6

Inserts	Type	r (mm)	Recommended parameters		Grades															
			f (mm/rev)	ap (mm)	AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	APT100S							
Semifinishing	 RCGT 0803MOF-NC2	4	0.10-1.00	0.70-3.3																
	1003MOF-NC2	5	0.20-1.30	0.90-4.0																
	10T3MOF-NC2	5	0.20-1.30	0.90-4.0																
Finishing	 RCMX 2006MOS-PD8	10	0.48-0.90	3.5-9.0	○	○	○													
	2507MOS-PD8	12.5	0.55-1.20	4.0-12.0	○	●	○													
	3209MOS-PD8	16	0.65-1.50	5.0-15.0	○	○	○													
Medium	 RCMX 100300S	5	0.25-0.50	1.5-4.0	○		●	○												
	120400S	6	0.30-0.60	2.5-5.0	●		●	○												
	160600S	8	0.40-0.75	3.0-7.0	●		○	○												
	200600S	10	0.48-0.90	3.5-9.0	●		○	●												
	250700S	12.5	0.55-1.20	4.0-12.0	○		○	○												
	320900S	16	0.65-1.50	5.0-15.0	●		○	○												

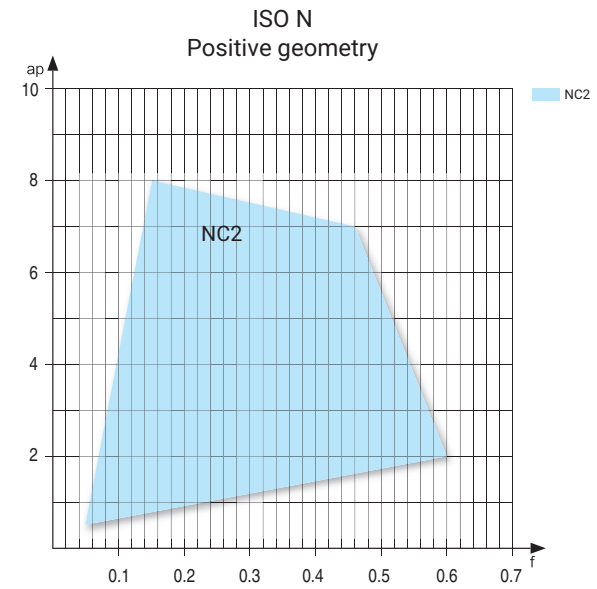
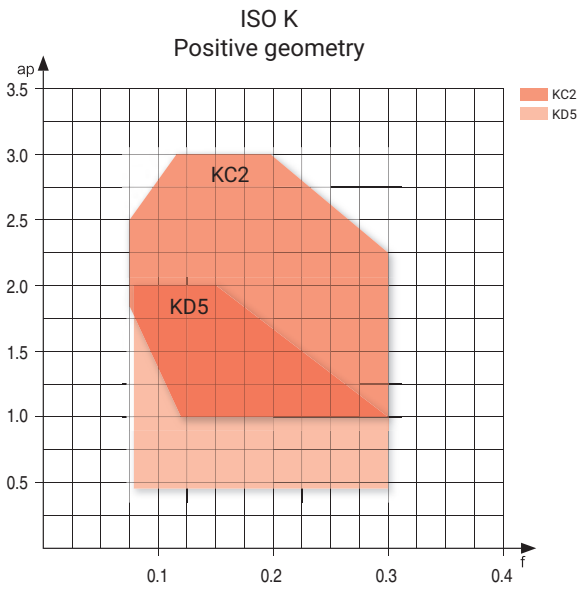
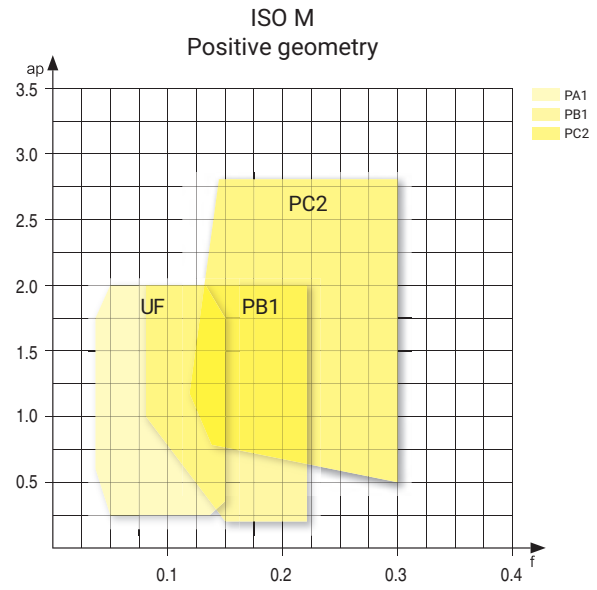
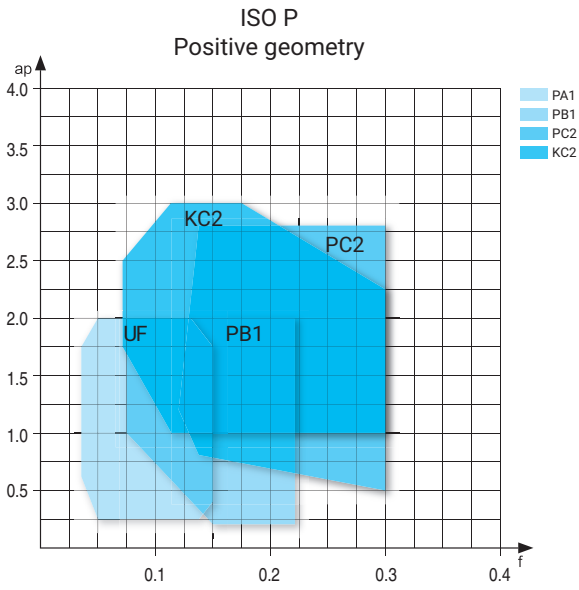
Marked : ● Stock available ○ Non-stocked standard

Turning inserts

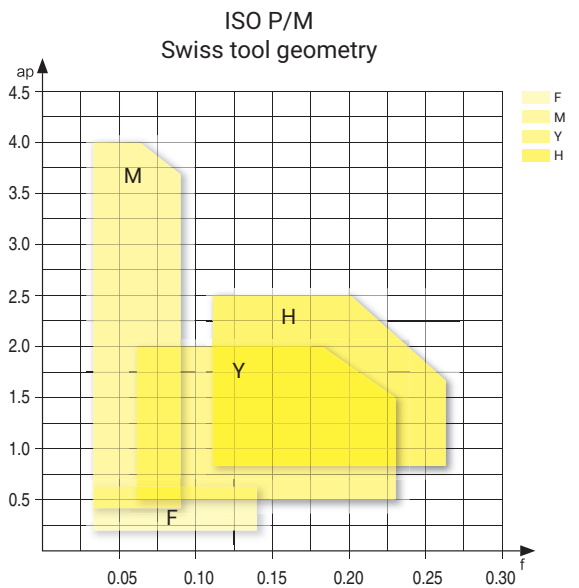
Negative Insert Geometry
Ap, F Application Range



**Positive Insert Geometry
Ap, F Application Range**



Swiss Tool Geometry Ap, F Application Range



Turning inserts

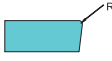
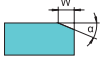
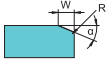





Cutting Parameter Recommendation Table -Negative inserts

Materials				Turning grade application range																													
ISO	Workpiece material		Brinell hardness (HB)	Tensile strength Rm(N/mm ²)	Initial value of cutting speed Vc(m/min)																												
					AC150P	AC200P	AC250P	AC350P	AP301M	AC150K	ACK15A	AW100K	AP100S	f(mm/rev)																			
					0.1	0.4	0.6	0.1	0.4	0.6	0.1	0.4	0.6	0.1	0.3	0.5	0.1	0.4	0.6	0.1	0.4	0.6	0.1	0.2	0.4	0.1	0.3	0.5					
P	Unalloyed steel	C ≤ 0.25%	Annealed	125	428	485	360	270	400	310	230	380	260	210	250	170	140																
		0.25 < C ≤ 0.55%	Annealed	190	639	370	270	210	320	240	190	280	200	150	200	135	110																
		0.25 < C ≤ 0.55%	Heat-treated	210	708	260	220	170	250	200	160	200	160	135	150	125	90																
		C > 0.55%	Annealed	190	639	270	220	160	270	200	150	240	160	125	170	110	90																
		C > 0.55%	Heat-treated	300	1013	210	180	150	210	160	150	160	120	110	125	75	65																
	Free cutting steel (short-chip)	Annealed	220	745	440	310	250	360	270	210	340	220	175	220	145	115																	
	Low-alloyed steel	Annealed		175	591	350	260	220	290	210	180	240	175	135	200	165	150																
		Heat-treated		300	1013	220	170	150	190	160	140	100	85	135	90	70																	
		Heat-treated		380	1282	160	120	100	180	150	120	100	70	55	90	65	45																
		Heat-treated		430	1477	90	70		120	100																							
	High-alloyed steel and high-alloyed tool steel	Annealed		200	675	330	230	150	260	200	180	210	145	85	180	150	85																
Hardened and tempered		300	1013	230	140	110	200	180	160	130	85	65	110	85	65																		
Hardened and tempered		400	1361	80	70		130	120																									
Stainless steel	Ferritic/martensitic, annealed		200	675				220	170	160	180	150	120	150	120	95																	
	Martensitic, heat-treated		330	1114				160	130	100	140	100	70	110	80	60																	
M	Stainless steel	Austenitic, quench hardened		200	675									200	160	130													240	190	150		
		Austenitic, precipitation hardened (PH)		300	1013										160	130	70												150	85			
		Austenitic/ferritic, duplex		230	778										180	140	110												170	145	100		
K	Malleable cast iron	Ferritic		200	400																												
		Pearlitic		260	700																												
	Grey cast iron	Low tensile strength		180	200										450	270	190	400	210	150													
		High tensile strength/austenitic		245	350											245	170	125	200	150	100												
	Nodular cast iron	Ferritic		155	400											260	190	145	230	170	120												
Pearlitic		265	700											190	145	125	170	120	100														
		GGV(CGI)		230	400																												
N	Wrought aluminium alloys	Non-aging alloy		30	-																												
		Aged alloy		100	340																												
	Cast aluminium alloys	≤ 12% Si, non-aging alloy		75	260																												
		≤ 12% Si, aged alloy		90	310																												
		> 12% Si, non-aging		130	450																												
	Magnesium alloys				70	250																											
	Copper and copper alloys (bronze/brass)	Unalloyed, electrolytic copper				100	340																										
Brass, bronze, red brass				90	310																												
Cu alloys, short-chip				110	380																												
High tensile, Ampco alloy				300	1010																												
S	Heat-resistant alloys	Fe-based	Annealed	200	680									90	60												100	65					
			Aged	280	940										70	50											80	55					
		Ni or Co based	Annealed	250	840										70	50												80	55				
			Aged	350	1180										60	40												70	45				
	Cast				320	1080								50	30												60	30					
	Titanium alloys	Pure titanium				200	680																				200	180	140				
α and β alloys, aged				375	1260								70	45	40										90	55	45						
β alloys				410	1400								40	35	30										55	35	30						
Tungsten alloys						300	1010																										
Molybdenum alloys						300	1010							160																			
H	Hardened steel	Hardened and tempered		50HRC																													
		Hardened and tempered		55HRC																													
		Hardened and tempered		60HRC																													
	Hardened cast steel		Hardened and tempered		50HRC																												

*The recommended cutting data always refer to general cutting conditions. The actual selection should be adjusted according to the factors such as machine rigidity, tool body, workpiece conditions and coolant.

PCBN Insert Denomination System

CNGA 120408	-	S	010	20	-	SL	-	1	-	CB	PB30
1		2	3	4		5		6		7	8

1-Standard ISO denomination system	2-Cutting edge shape E---Honed  T---Land without honing  S---Land with honed  F---Sharp 	3-T-land width 005---0.05mm 010---0.10mm 015---0.15mm 020---0.20mm	4-T-land angle 10---10° 15---15° 20---20° 25---25°
5-CBN insert structure FT- Full face CBN  SD- Solid CBN  SL- Small size tipped CBN  NL- Standard-tipped CBN (Regrindable) 	6-Number of cutting edge 1---One cutting edge 2---Two cutting edges 3---Three cutting edges	7-Cutting edge preparation CB---With chip breaker WG---With wiper edge "-" ---Without chip breaker	8-Grade PB30--- Low content CBN PB60---Medium content CBN PB90---High content CBN

PCBN Insert Grade Introduction

Grade	Feature	Application
PB30	Well balanced wear resistance and shock-resistance	Good versatilely. Suitable for continuous and light interrupted cutting of hardened steel
PB60	Excellent toughness	Mainly applied in medium interrupted cutting of hardened steel,interrupted and continuous cutting of powder metal and cast iron cutting.
PB90	Good wear resistance, toughness, and shock-resistance	K-mainly applied in cast iron cutting H-heavy interrupted cutting of hardened steel and powder metal machining

PCBN Recommended Cutting Parameter

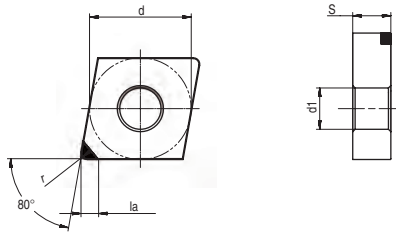
Grade	Material	Hardness	Cutting speed Vc(m/min)	Feed fn(mm/rev)	Cutting depth ap(mm)	Recommended application
PB30	Hardened steel	HRC58-62	150-250	0.03-0.2	0.05-0.3	Continuous
PB60	Hardened steel	HRC55-60	50-150	0.03-0.2	0.05-0.5	Interrupted
	Cast iron	HB180-220	150-450	0.03-0.3	0.30-0.5	Continuous / Interrupted
	Powder metal	-	200-500	0.03-0.3	0.10-0.3	Continuous / Interrupted
PB90	Hardened steel	HRC55-60	30-120	0.03-0.2	0.05-0.5	Heavy interrupted
	Cast iron	HB180-220	150-450	0.03-0.3	0.30-0.5	Continuous / Interrupted
	Powder metal	-	300-800	0.03-0.3	0.10-0.3	Continuous / Interrupted

Grade Application Guide

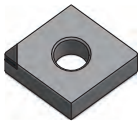
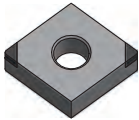
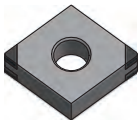
PCBN grade applications						
Material Group	Materials	ISO	Uncoated			ISO
			PB30	PB60	PB90	
P	unalloy steels / Alloyed steels	P01				P01
		P05				P05
		P10				P10
		P15				P15
		P20				P20
		P25				P25
		P30				P30
		P35				P35
		P40				P40
		P45				P45
		P50				P50
		M	Stainless steels	M01		
M05						M05
M10						M10
M15						M15
M20						M20
M25						M25
M30						M30
M35						M35
M40						M40
M45						M45
K	Cast iron	K01				K01
		K05				K05
		K10				K10
		K15				K15
		K20		PB60		K20
		K25			PB90	K25
		K30				K30
		K35				K35
		K40				K40
		K45				K45
		K50				K50
N	Aluminum/ Aluminum alloys	N01				N01
		N05				N05
		N10				N10
		N15				N15
		N20				N20
		N25				N25
		N30				N30
S	Heat resistant alloys	S01				S01
		S05				S05
		S10				S10
		S15				S15
		S20				S20
		S25				S25
		S30				S30
		S35				S35
		S40				S40
		H	Hardened steels/ Chilled cast iron	H01		
H05						H05
H10	PB30					H10
H15				PB60		H15
H20					PB90	H20
H25						H25
H30						H30

Turning inserts

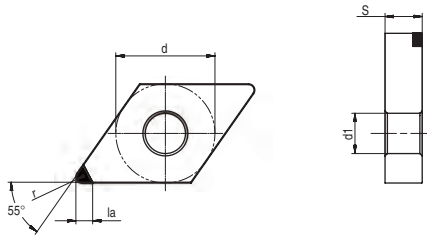
Negative 80° (CN)



Dimensions (mm)				
Type	d	s	la	d1
CN_1204_	12.7	4.76	2.2	5.16

Inserts	Type	r (mm)	Recommended parameters		Grade		
			f (mm/rev)	ap (mm)	PB30	PB60	PB90
	CNGA 120402-S01020-SL-1	0.2	0.03-0.3	0.05-0.5	●	●	●
	CNGA 120404-S01020-SL-1	0.4	0.03-0.3	0.05-0.5	●	●	●
	CNGA 120408-S01020-SL-1	0.8	0.03-0.3	0.05-0.5	●	●	●
	CNGA 120412-S01020-SL-1	1.2	0.03-0.3	0.05-0.5	●	●	●
	CNGA 120402-S01020-SL-2	0.2	0.03-0.3	0.05-0.5	●	●	●
	CNGA 120404-S01020-SL-2	0.4	0.03-0.3	0.05-0.5	●	●	●
	CNGA 120408-S01020-SL-2	0.8	0.03-0.3	0.05-0.5	●	●	●
	CNGA 120412-S01020-SL-2	1.2	0.03-0.3	0.05-0.5	●	●	●
	CNGA 120402-S01020-SL-4	0.2	0.03-0.3	0.05-0.5	●	●	●
	CNGA 120404-S01020-SL-4	0.4	0.03-0.3	0.05-0.5	●	●	●
	CNGA 120408-S01020-SL-4	0.8	0.03-0.3	0.05-0.5	●	●	●
	CNGA 120412-S01020-SL-4	1.2	0.03-0.3	0.05-0.5	●	●	●

Negative 55° (DN)

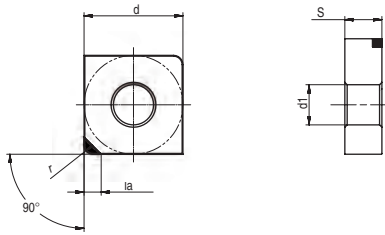


Dimensions (mm)				
Type	d	s	la	d1
DN_1504_	12.7	4.76	2.2	5.16
DN_1506_	12.7	6.35	2.2	5.16

Inserts	Type	r (mm)	Recommended parameters		Grade		
			f (mm/rev)	ap (mm)	PB30	PB60	PB90
	DNGA 150402-S01020-SL-1	0.2	0.03-0.3	0.05-0.5	●	●	●
	DNGA 150404-S01020-SL-1	0.4	0.03-0.3	0.05-0.5	●	●	●
	DNGA 150408-S01020-SL-1	0.8	0.03-0.3	0.05-0.5	●	●	●
	DNGA 150412-S01020-SL-1	1.2	0.03-0.3	0.05-0.5	●	●	●
	DNGA 150602-S01020-SL-1	0.2	0.03-0.3	0.05-0.5	●	●	●
	DNGA 150604-S01020-SL-1	0.4	0.03-0.3	0.05-0.5	●	●	●
	DNGA 150608-S01020-SL-1	0.8	0.03-0.3	0.05-0.5	●	●	●
	DNGA 150612-S01020-SL-1	1.2	0.03-0.3	0.05-0.5	●	●	●
	DNGA 150402-S01020-SL-2	0.2	0.03-0.3	0.05-0.5	●	●	●
	DNGA 150404-S01020-SL-2	0.4	0.03-0.3	0.05-0.5	●	●	●
	DNGA 150408-S01020-SL-2	0.8	0.03-0.3	0.05-0.5	●	●	●
	DNGA 150412-S01020-SL-2	1.2	0.03-0.3	0.05-0.5	●	●	●
	DNGA 150602-S01020-SL-2	0.2	0.03-0.3	0.05-0.5	●	●	●
	DNGA 150604-S01020-SL-2	0.4	0.03-0.3	0.05-0.5	●	●	●
	DNGA 150608-S01020-SL-2	0.8	0.03-0.3	0.05-0.5	●	●	●
	DNGA 150612-S01020-SL-2	1.2	0.03-0.3	0.05-0.5	●	●	●
	DNGA 150402-S01020-SL-4	0.2	0.03-0.3	0.05-0.5	●	●	●
	DNGA 150404-S01020-SL-4	0.4	0.03-0.3	0.05-0.5	●	●	●
	DNGA 150408-S01020-SL-4	0.8	0.03-0.3	0.05-0.5	●	●	●
	DNGA 150412-S01020-SL-4	1.2	0.03-0.3	0.05-0.5	●	●	●
	DNGA 150602-S01020-SL-4	0.2	0.03-0.3	0.05-0.5	●	●	●
	DNGA 150604-S01020-SL-4	0.4	0.03-0.3	0.05-0.5	●	●	●
	DNGA 150608-S01020-SL-4	0.8	0.03-0.3	0.05-0.5	●	●	●
	DNGA 150612-S01020-SL-4	1.2	0.03-0.3	0.05-0.5	●	●	●

Marked : ● Stock available ○ Non-stocked standard

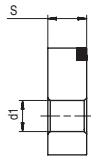
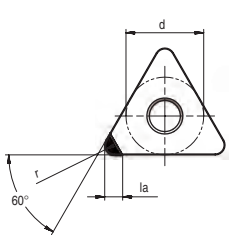
Negative 90° (SN)



Dimensions (mm)				
Type	d	s	la	d1
SN_1204_	12.7	4.76	2.2	5.16

Inserts	Type	r (mm)	Recommended parameters		Grade		
			f (mm/rev)	ap (mm)	PB30	PB60	PB90
	SNGA 120402-S01020-SL-1	0.2	0.03-0.3	0.05-0.5	●	●	●
	SNGA 120404-S01020-SL-1	0.4	0.03-0.3	0.05-0.5	●	●	●
	SNGA 120408-S01020-SL-1	0.8	0.03-0.3	0.05-0.5	●	●	●
	SNGA 120412-S01020-SL-1	1.2	0.03-0.3	0.05-0.5	●	●	●
	SNGA 120402-S01020-SL-4	0.2	0.03-0.3	0.05-0.5	●	●	●
	SNGA 120404-S01020-SL-4	0.4	0.03-0.3	0.05-0.5	●	●	●
	SNGA 120408-S01020-SL-4	0.8	0.03-0.3	0.05-0.5	●	●	●
	SNGA 120412-S01020-SL-4	1.2	0.03-0.3	0.05-0.5	●	●	●
	SNGA 120402-S01020-SL-8	0.2	0.03-0.3	0.05-0.5	●	●	●
	SNGA 120404-S01020-SL-8	0.4	0.03-0.3	0.05-0.5	●	●	●
	SNGA 120408-S01020-SL-8	0.8	0.03-0.3	0.05-0.5	●	●	●
	SNGA 120412-S01020-SL-8	1.2	0.03-0.3	0.05-0.5	●	●	●

Negative 60° (TN)

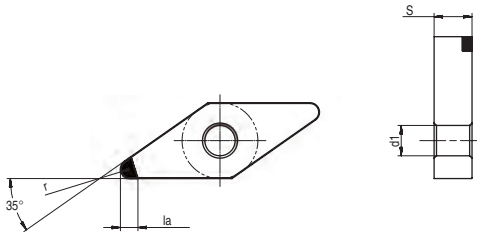


Dimensions (mm)				
Type	d	s	la	d1
TN_1604_	9.52	4.76	2.2	3.81

Inserts	Type	r (mm)	Recommended parameters		Grade		
			f (mm/rev)	ap (mm)	PB30	PB60	PB90
	TNGA 160402-S01020-SL-1	0.2	0.03-0.3	0.05-0.5	●	●	●
	TNGA 160404-S01020-SL-1	0.4	0.03-0.3	0.05-0.5	●	●	●
	TNGA 160408-S01020-SL-1	0.8	0.03-0.3	0.05-0.5	●	●	●
	TNGA 160412-S01020-SL-1	1.2	0.03-0.3	0.05-0.5	●	●	●
	TNGA 160402-S01020-SL-3	0.2	0.03-0.3	0.05-0.5	●	●	●
	TNGA 160404-S01020-SL-3	0.4	0.03-0.3	0.05-0.5	●	●	●
	TNGA 160408-S01020-SL-3	0.8	0.03-0.3	0.05-0.5	●	●	●
	TNGA 160412-S01020-SL-3	1.2	0.03-0.3	0.05-0.5	●	●	●
	TNGA 160402-S01020-SL-6	0.2	0.03-0.3	0.05-0.5	●	●	●
	TNGA 160404-S01020-SL-6	0.4	0.03-0.3	0.05-0.5	●	●	●
	TNGA 160408-S01020-SL-6	0.8	0.03-0.3	0.05-0.5	●	●	●
	TNGA 160412-S01020-SL-6	1.2	0.03-0.3	0.05-0.5	●	●	●

Marked : ● Stock available ○ Non-stocked standard

Negative 35° (VN)

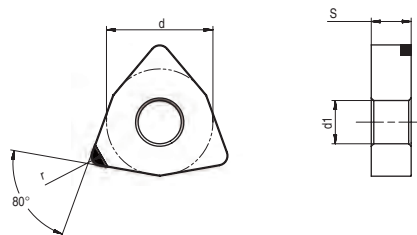


Dimensions (mm)				
Type	d	s	la	d1
VN_1604_	9.52	4.76	2.2	3.81

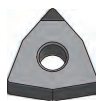
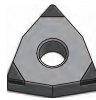
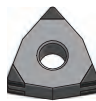
Inserts	Type	r (mm)	Recommended parameters		Grade		
			f (mm/rev)	ap (mm)	PB30	PB60	PB90
	VNGA 160402-S01020-SL-1	0.2	0.03-0.3	0.05-0.5	●	●	●
	VNGA 160404-S01020-SL-1	0.4	0.03-0.3	0.05-0.5	●	●	●
	VNGA 160408-S01020-SL-1	0.8	0.03-0.3	0.05-0.5	●	●	●
	VNGA 160412-S01020-SL-1	1.2	0.03-0.3	0.05-0.5	●	●	●
	VNGA 160402-S01020-SL-2	0.2	0.03-0.3	0.05-0.5	●	●	●
	VNGA 160404-S01020-SL-2	0.4	0.03-0.3	0.05-0.5	●	●	●
	VNGA 160408-S01020-SL-2	0.8	0.03-0.3	0.05-0.5	●	●	●
	VNGA 160412-S01020-SL-2	1.2	0.03-0.3	0.05-0.5	●	●	●
	VNGA 160402-S01020-SL-4	0.2	0.03-0.3	0.05-0.5	●	●	●
	VNGA 160404-S01020-SL-4	0.4	0.03-0.3	0.05-0.5	●	●	●
	VNGA 160408-S01020-SL-4	0.8	0.03-0.3	0.05-0.5	●	●	●
	VNGA 160412-S01020-SL-4	1.2	0.03-0.3	0.05-0.5	●	●	●

Marked : ● Stock available ○ Non-stocked standard

Negative 80° (WN)

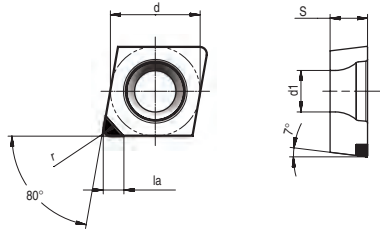


Dimensions (mm)				
Type	d	s	la	d1
WN_0804_	12.7	4.76	2.2	5.16

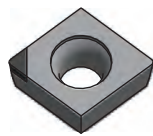
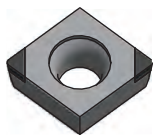
Inserts	Type	r (mm)	Recommended parameters		Grade		
			f (mm/rev)	ap (mm)	PB30	PB60	PB90
	WNGA 080402-S01020-SL-1	0.2	0.03-0.3	0.05-0.5	●	●	●
	WNGA 080404-S01020-SL-1	0.4	0.03-0.3	0.05-0.5	●	●	●
	WNGA 080408-S01020-SL-1	0.8	0.03-0.3	0.05-0.5	●	●	●
	WNGA 080412-S01020-SL-1	1.2	0.03-0.3	0.05-0.5	●	●	●
	WNGA 080402-S01020-SL-3	0.2	0.03-0.3	0.05-0.5	●	●	●
	WNGA 080404-S01020-SL-3	0.4	0.03-0.3	0.05-0.5	●	●	●
	WNGA 080408-S01020-SL-3	0.8	0.03-0.3	0.05-0.5	●	●	●
	WNGA 080412-S01020-SL-3	1.2	0.03-0.3	0.05-0.5	●	●	●
	WNGA 080402-S01020-SL-6	0.2	0.03-0.3	0.05-0.5	●	●	●
	WNGA 080404-S01020-SL-6	0.4	0.03-0.3	0.05-0.5	●	●	●
	WNGA 080408-S01020-SL-6	0.8	0.03-0.3	0.05-0.5	●	●	●
	WNGA 080412-S01020-SL-6	1.2	0.03-0.3	0.05-0.5	●	●	●

Marked : ● Stock available ○ Non-stocked standard

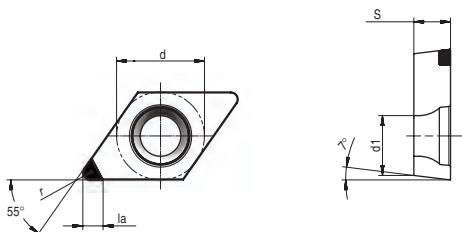
Positive 80° (CC)



Dimensions (mm)				
Type	d	s	la	d1
CC_0602_	6.35	2.38	2.2	2.8
CC_09T3_	9.52	3.97	2.2	4.4
CC_1204_	12.7	4.76	2.2	5.5

Inserts	Type	r (mm)	Recommended parameters		Grade		
			f (mm/rev)	ap (mm)	PB30	PB60	PB90
	CCGW 060202-S01020-SL-1	0.2	0.03-0.3	0.05-0.5	●	●	●
	CCGW 060204-S01020-SL-1	0.4	0.03-0.3	0.05-0.5	●	●	●
	CCGW 060208-S01020-SL-1	0.8	0.03-0.3	0.05-0.5	●	●	●
	CCGW 09T302-S01020-SL-1	0.2	0.03-0.3	0.05-0.5	●	●	●
	CCGW 09T304-S01020-SL-1	0.4	0.03-0.3	0.05-0.5	●	●	●
	CCGW 09T308-S01020-SL-1	0.8	0.03-0.3	0.05-0.5	●	●	●
	CCGW 120402-S01020-SL-1	0.2	0.03-0.3	0.05-0.5	●	●	●
	CCGW 120404-S01020-SL-1	0.4	0.03-0.3	0.05-0.5	●	●	●
	CCGW 120408-S01020-SL-1	0.8	0.03-0.3	0.05-0.5	●	●	●
	CCGW 120412-S01020-SL-1	1.2	0.03-0.3	0.05-0.5	●	●	●
	CCGW 060202-S01020-SL-2	0.2	0.03-0.3	0.05-0.5	●	●	●
	CCGW 060204-S01020-SL-2	0.4	0.03-0.3	0.05-0.5	●	●	●
	CCGW 060208-S01020-SL-2	0.8	0.03-0.3	0.05-0.5	●	●	●
	CCGW 09T302-S01020-SL-2	0.2	0.03-0.3	0.05-0.5	●	●	●
	CCGW 09T304-S01020-SL-2	0.4	0.03-0.3	0.05-0.5	●	●	●
	CCGW 09T308-S01020-SL-2	0.8	0.03-0.3	0.05-0.5	●	●	●
	CCGW 120402-S01020-SL-2	0.2	0.03-0.3	0.05-0.5	●	●	●
	CCGW 120404-S01020-SL-2	0.4	0.03-0.3	0.05-0.5	●	●	●
	CCGW 120408-S01020-SL-2	0.8	0.03-0.3	0.05-0.5	●	●	●
	CCGW 120412-S01020-SL-2	1.2	0.03-0.3	0.05-0.5	●	●	●

Positive 55° (DC)



Dimensions (mm)				
Type	d	s	la	d1
DC_0702_	6.35	2.38	2.2	2.8
DC_11T3_	9.52	3.97	2.2	4.4

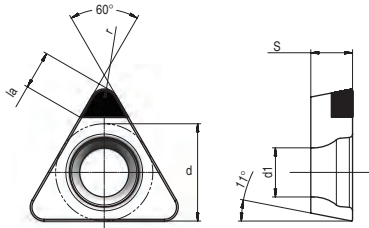
Inserts	Type	r (mm)	Recommended parameters		Grade		
			f (mm/rev)	ap (mm)	PB30	PB60	PB90
	DCGW 070202-S01020-SL-1	0.2	0.03-0.3	0.05-0.5	●	●	●
	DCGW 070204-S01020-SL-1	0.4	0.03-0.3	0.05-0.5	●	●	●
	DCGW 070208-S01020-SL-1	0.8	0.03-0.3	0.05-0.5	●	●	●
	DCGW 11T302-S01020-SL-1	0.2	0.03-0.3	0.05-0.5	●	●	●
	DCGW 11T304-S01020-SL-1	0.4	0.03-0.3	0.05-0.5	●	●	●
	DCGW 11T308-S01020-SL-1	0.8	0.03-0.3	0.05-0.5	●	●	●
	DCGW 11T312-S01020-SL-1	1.2	0.03-0.3	0.05-0.5	●	●	●
	DCGW 070202-S01020-SL-2	0.2	0.03-0.3	0.05-0.5	●	●	●
	DCGW 070204-S01020-SL-2	0.4	0.03-0.3	0.05-0.5	●	●	●
	DCGW 070208-S01020-SL-2	0.8	0.03-0.3	0.05-0.5	●	●	●
	DCGW 11T302-S01020-SL-2	0.2	0.03-0.3	0.05-0.5	●	●	●
	DCGW 11T304-S01020-SL-2	0.4	0.03-0.3	0.05-0.5	●	●	●
	DCGW 11T308-S01020-SL-2	0.8	0.03-0.3	0.05-0.5	●	●	●
	DCGW 11T312-S01020-SL-2	1.2	0.03-0.3	0.05-0.5	●	●	●

Marked : ● Stock available ○ Non-stocked standard



Turning inserts

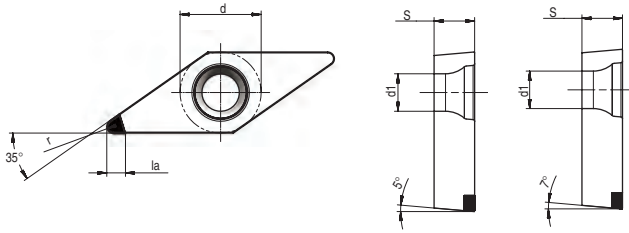
Positive 60° (TP)



Dimensions (mm)				
Type	d	s	la	d1
TP_0802_	4.76	2.38	2.2	2.4
TP_0902_	5.56	2.38	2.2	2.8
TP_1103_	6.35	3.18	2.2	3.3
TP_1604_	9.52	4.76	2.2	4.4

Inserts	Type	r (mm)	Recommended parameters		Grade		
			f (mm/rev)	ap (mm)	PB30	PB60	PB90
	TPGW 080202-S01020-SL-1	0.2	0.03-0.3	0.05-0.5	●	●	●
	TPGW 080204-S01020-SL-1	0.4	0.03-0.3	0.05-0.5	●	●	●
	TPGW 090202-S01020-SL-1	0.2	0.03-0.3	0.05-0.5	●	●	●
	TPGW 090204-S01020-SL-1	0.4	0.03-0.3	0.05-0.5	●	●	●
	TPGW 090208-S01020-SL-1	0.8	0.03-0.3	0.05-0.5	●	●	●
	TPGW 110302-S01020-SL-1	0.2	0.03-0.3	0.05-0.5	●	●	●
	TPGW 110304-S01020-SL-1	0.4	0.03-0.3	0.05-0.5	●	●	●
	TPGW 160402-S01020-SL-1	0.2	0.03-0.3	0.05-0.5	●	●	●
	TPGW 160404-S01020-SL-1	0.4	0.03-0.3	0.05-0.5	●	●	●
	TPGW 160408-S01020-SL-1	0.8	0.03-0.3	0.05-0.5	●	●	●
	TPGW 080202-S01020-SL-3	0.2	0.03-0.3	0.05-0.5	●	●	●
	TPGW 080204-S01020-SL-3	0.4	0.03-0.3	0.05-0.5	●	●	●
	TPGW 090202-S01020-SL-3	0.2	0.03-0.3	0.05-0.5	●	●	●
	TPGW 090204-S01020-SL-3	0.4	0.03-0.3	0.05-0.5	●	●	●
	TPGW 090208-S01020-SL-3	0.8	0.03-0.3	0.05-0.5	●	●	●
	TPGW 110302-S01020-SL-3	0.2	0.03-0.3	0.05-0.5	●	●	●
	TPGW 110304-S01020-SL-3	0.4	0.03-0.3	0.05-0.5	●	●	●
	TPGW 160402-S01020-SL-3	0.2	0.03-0.3	0.05-0.5	●	●	●
	TPGW 160404-S01020-SL-3	0.4	0.03-0.3	0.05-0.5	●	●	●
	TPGW 160408-S01020-SL-3	0.8	0.03-0.3	0.05-0.5	●	●	●

Positive 35° (V)



Dimensions (mm)				
Type	d	s	la	d1
VB_1103_	6.35	3.18	2.2	2.8
VC_1103_	6.35	3.18	2.2	2.8
VB_1604_	9.52	4.76	2.2	4.4
VC_1604_	9.52	4.76	2.2	4.4



Inserts	Type	r (mm)	Recommended parameters		Grade		
			f (mm/rev)	ap (mm)	PB30	PB60	PB90
	VBGW 110302-S01020-SL-1	0.2	0.03-0.3	0.05-0.5	●	●	●
	VBGW 110304-S01020-SL-1	0.4	0.03-0.3	0.05-0.5	●	●	●
	VBGW 110308-S01020-SL-1	0.8	0.03-0.3	0.05-0.5	●	●	●
	VBGW 160402-S01020-SL-1	0.2	0.03-0.3	0.05-0.5	●	●	●
	VBGW 160404-S01020-SL-1	0.4	0.03-0.3	0.05-0.5	●	●	●
	VBGW 160408-S01020-SL-1	0.8	0.03-0.3	0.05-0.5	●	●	●
	VBGW 110302-S01020-SL-2	0.2	0.03-0.3	0.05-0.5	●	●	●
	VBGW 110304-S01020-SL-2	0.4	0.03-0.3	0.05-0.5	●	●	●
	VBGW 110308-S01020-SL-2	0.8	0.03-0.3	0.05-0.5	●	●	●
	VBGW 160402-S01020-SL-2	0.2	0.03-0.3	0.05-0.5	●	●	●
	VBGW 160404-S01020-SL-2	0.4	0.03-0.3	0.05-0.5	●	●	●
	VBGW 160408-S01020-SL-2	0.8	0.03-0.3	0.05-0.5	●	●	●
	VCGW 110302-S01020-SL-1	0.2	0.03-0.3	0.05-0.5	●	●	●
	VCGW 110304-S01020-SL-1	0.4	0.03-0.3	0.05-0.5	●	●	●
	VCGW 110308-S01020-SL-1	0.8	0.03-0.3	0.05-0.5	●	●	●
	VCGW 160402-S01020-SL-1	0.2	0.03-0.3	0.05-0.5	●	●	●
	VCGW 160404-S01020-SL-1	0.4	0.03-0.3	0.05-0.5	●	●	●
	VCGW 160408-S01020-SL-1	0.8	0.03-0.3	0.05-0.5	●	●	●
	VCGW 110302-S01020-SL-2	0.2	0.03-0.3	0.05-0.5	●	●	●
	VCGW 110304-S01020-SL-2	0.4	0.03-0.3	0.05-0.5	●	●	●
	VCGW 110308-S01020-SL-2	0.8	0.03-0.3	0.05-0.5	●	●	●
	VCGW 160402-S01020-SL-2	0.2	0.03-0.3	0.05-0.5	●	●	●
	VCGW 160404-S01020-SL-2	0.4	0.03-0.3	0.05-0.5	●	●	●
	VCGW 160408-S01020-SL-2	0.8	0.03-0.3	0.05-0.5	●	●	●

Marked : ● Stock available ○ Non-stocked standard

Turning inserts

PCD Insert Denomination System

CCGW 09T304	-	2	-	NL	-	5	-	CB	PD20
1		2		3		4		5	6

<p>1-Standard ISO denomination system</p>	<p>2-Number of cutting edge</p> <p>1-One cutting edge 2-Two cutting edges 3-Three cutting edges</p>	<p>3-PCD insert structure</p> <p>NL--Standard structure with tipped PCD </p> <p>LL-- Full edge tipped PCD </p>	<p>4-Rake angle</p> <p>00---0° 05---5° 10---10°</p>
<p>5-Cutting edge preparation</p> <p>CB-- With chip breaker WG--With wiper edge "- Without chip breaker</p>	<p>6-Grade</p> <p>PD01--Fine grain PCD PD10--Medium grain PCD PD20--Coarse grain PCD</p>		

PCD Insert Grade Introduction

Grade	Feature	Application
PD20	Universal grade, balanced wear resistance and toughness	1st choice for general machining of aluminum alloys

PCD Recommended Cutting Parameter

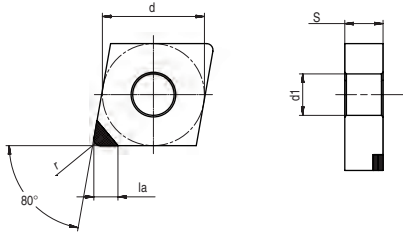
Grade	Material	Cutting speed Vc(m/min)	Feed f(mm/rev)	Cutting depth ap(mm)	Recommended application
PD20	Low-Si Aluminium Alloy (Si < 6%)	300-4000	0.03-0.2	0.05-0.5	Continuous/interrupt

Grade Application Guide

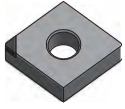
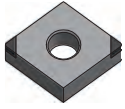
PCD insert applications				
Material Group	Materials	ISO	Uncoated	ISO
			PD20	
P	unalloy steels / Alloyed steels	P01		P01
		P05		P05
		P10		P10
		P15		P15
		P20		P20
		P25		P25
		P30		P30
		P35		P35
		P40		P40
		P45		P45
		P50		P50
		M	Stainless steels	M01
M05				M05
M10				M10
M15				M15
M20				M20
M25				M25
M30				M30
M35				M35
M40				M40
M45				M45
K	Cast iron	K01		K01
		K05		K05
		K10		K10
		K15		K15
		K20		K20
		K25		K25
		K30		K30
		K35		K35
		K40		K40
		K45		K45
		K50		K50
N	Aluminum/ Aluminum alloys	N01		N01
		N05		N05
		N10	PD20	N10
		N15		N15
		N20		N20
		N25		N25
N30	N30			
S	Heat resistant alloys	S01		S01
		S05		S05
		S10		S10
		S15		S15
		S20		S20
		S25		S25
		S30		S30
		S35		S35
		S40		S40
		H	Hardened steels/ Chilled cast iron	H01
H05				H05
H10				H10
H15				H15
H20				H20
H25				H25
H30		H30		

Turning inserts

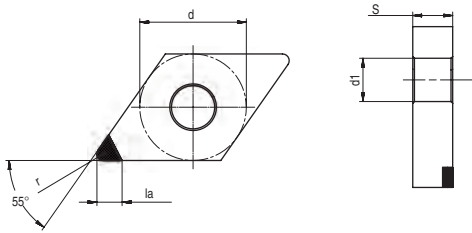
Negative 80° (CN)



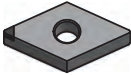
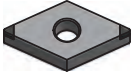
Dimensions (mm)				
Type	d	s	la	d1
CN_1204_	12.7	4.76	3.0	5.16

Inserts	Type	r (mm)	Recommended parameters		Grade
			f (mm/rev)	ap (mm)	
	CNGA 120402-1-NL-00	0.2	0.03-0.2	0.05-0.5	●
	CNGA 120404-1-NL-00	0.4	0.03-0.2	0.05-0.5	●
	CNGA 120408-1-NL-00	0.8	0.03-0.2	0.05-0.5	●
	CNGA 120402-2-NL-00	0.2	0.03-0.2	0.05-0.5	●
	CNGA 120404-2-NL-00	0.4	0.03-0.2	0.05-0.5	●
	CNGA 120408-2-NL-00	0.8	0.03-0.2	0.05-0.5	●

Negative 55° (DN)



Dimensions (mm)				
Type	d	s	la	d1
DN_1504_	12.7	4.76	3.0	5.16

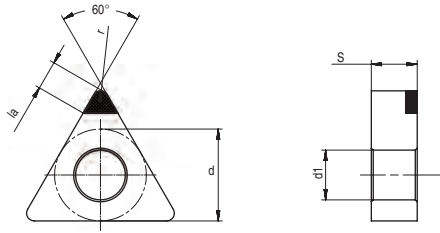
Inserts	Type	r (mm)	Recommended parameters		Grade
			f (mm/rev)	ap (mm)	PD20
	DNGA 150402-1-NL-00	0.2	0.03-0.2	0.05-0.5	●
	DNGA 150404-1-NL-00	0.4	0.03-0.2	0.05-0.5	●
	DNGA 150408-1-NL-00	0.8	0.03-0.2	0.05-0.5	●
	DNGA 150402-2-NL-00	0.2	0.03-0.2	0.05-0.5	●
	DNGA 150404-2-NL-00	0.4	0.03-0.2	0.05-0.5	●
	DNGA 150408-2-NL-00	0.8	0.03-0.2	0.05-0.5	●

Marked : ● Stock available ○ Non-stocked standard



Turning inserts

Negative 60° (TN)

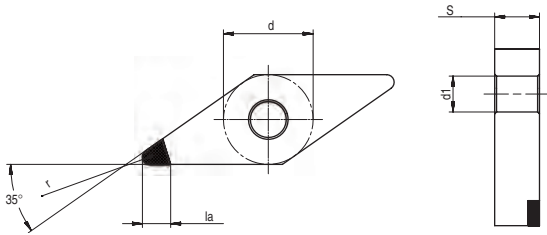


Type	d	s	la	d1
TN_1604_	9.52	4.76	3.0	3.81


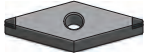
Inserts	Type	r (mm)	Recommended parameters		Grade
			f (mm/rev)	ap (mm)	PD20
	TNGA 160402-1-NL-00	0.2	0.03-0.2	0.05-0.5	●
	TNGA 160404-1-NL-00	0.4	0.03-0.2	0.05-0.5	●
	TNGA 160408-1-NL-00	0.8	0.03-0.2	0.05-0.5	●
	TNGA 160402-3-NL-00	0.2	0.03-0.2	0.05-0.5	●
	TNGA 160404-3-NL-00	0.4	0.03-0.2	0.05-0.5	●
	TNGA 160408-3-NL-00	0.8	0.03-0.2	0.05-0.5	●

Marked : ● Stock available ○ Non-stocked standard

Negative 35° (VN)



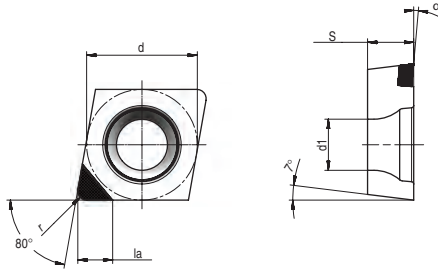
Dimensions (mm)				
Type	d	s	la	d1
VN_1604_	9.525	4.76	3.0	3.81

Inserts	Type	r (mm)	Recommended parameters		Grade
			f (mm/rev)	ap (mm)	
	VN GA 160402-1-NL-00	0.2	0.03-0.2	0.05-0.5	●
	VN GA 160404-1-NL-00	0.4	0.03-0.2	0.05-0.5	●
	VN GA 160408-1-NL-00	0.8	0.03-0.2	0.05-0.5	●
	VN GA 160402-2-NL-00	0.2	0.03-0.2	0.05-0.5	●
	VN GA 160404-2-NL-00	0.4	0.03-0.2	0.05-0.5	●
	VN GA 160408-2-NL-00	0.8	0.03-0.2	0.05-0.5	●

Marked : ● Stock available ○ Non-stocked standard

Turning inserts

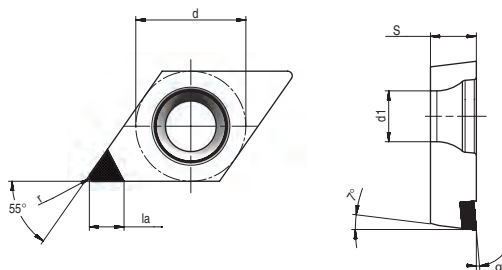
Positive 80° (CC)



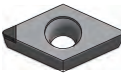
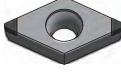
Dimensions (mm)				
Type	d	s	la	d1
CC_0602_	6.35	2.38	3.0	2.8
CC_09T3_	9.52	3.97	3.0	4.4
CC_1204_	12.7	4.76	3.0	5.5

Inserts	Type	r (mm)	α (°)	Recommended parameters		Grade
				f (mm/rev)	ap (mm)	PD20
	CCGW 060202-1-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	CCGW 060204-1-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	CCGW 060208-1-NL-05	0.8	5°	0.03-0.2	0.05-0.5	●
	CCGW 09T302-1-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	CCGW 09T304-1-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	CCGW 09T308-1-NL-05	0.8	5°	0.03-0.2	0.05-0.5	●
	CCGW 120402-1-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	CCGW 120404-1-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	CCGW 120408-1-NL-05	0.8	5°	0.03-0.2	0.05-0.5	●
	CCGW 060202 -2-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	CCGW 060204 -2-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	CCGW 060208 -2-NL-05	0.8	5°	0.03-0.2	0.05-0.5	●
	CCGW 09T302 -2-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	CCGW 09T304 -2-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	CCGW 09T308 -2-NL-05	0.8	5°	0.03-0.2	0.05-0.5	●
	CCGW 120402 -2-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	CCGW 120404 -2-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	CCGW 120408 -2-NL-05	0.8	5°	0.03-0.2	0.05-0.5	●

Positive 55° (DC)

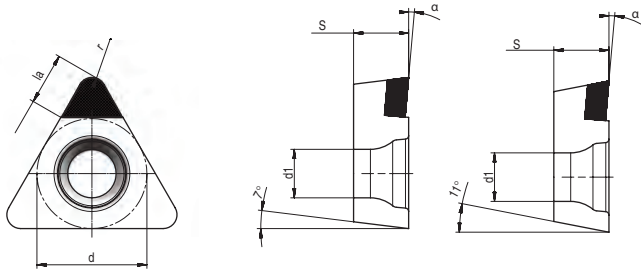


Dimensions (mm)				
Type	d	s	la	d1
DC_0702_	6.35	2.38	3.0	2.8
DC_11T3_	9.52	3.97	3.0	4.4

Inserts	Type	r (mm)	α (°)	Recommended parameters		Grade
				f (mm/rev)	ap (mm)	PD20
	DCGW 070202-1-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	DCGW 070204-1-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	DCGW 070208-1-NL-05	0.8	5°	0.03-0.2	0.05-0.5	●
	DCGW 11T302-1-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	DCGW 11T304-1-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	DCGW 11T308-1-NL-05	0.8	5°	0.03-0.2	0.05-0.5	●
	DCGW 070202-2-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	DCGW 070204-2-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	DCGW 070208-2-NL-05	0.8	5°	0.03-0.2	0.05-0.5	●
	DCGW 11T302-2-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	DCGW 11T304-2-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	DCGW 11T308-2-NL-05	0.8	5°	0.03-0.2	0.05-0.5	●

Marked : ● Stock available ○ Non-stocked standard

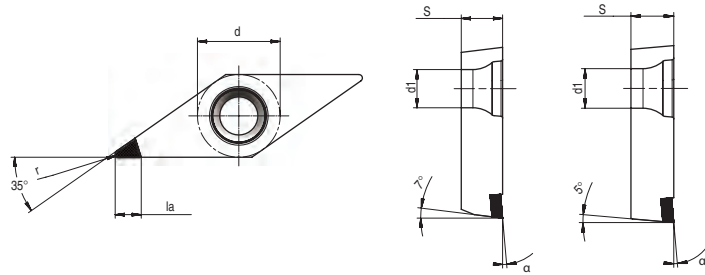
Positive 60° (T)



Dimensions (mm)				
Type	d	s	la	d1
TC_0802_	4.76	2.38	3.0	2.4
TC_1103_	6.35	3.18	3.0	2.8
TC_1604_	9.52	4.76	3.0	4.4
TP_0802_	4.76	2.38	3.0	2.4
TP_1604_	9.52	4.76	3.0	4.4

Inserts	Type	r (mm)	α (°)	Recommended parameters		Grade
				f (mm/rev)	ap (mm)	
	TCGW 080202-1-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	TCGW 080204-1-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	TCGW 080208-1-NL-05	0.8	5°	0.03-0.2	0.05-0.5	●
	TCGW 110202-1-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	TCGW 110204-1-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	TCGW 110302-1-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	TCGW 110304-1-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	TCGW 110308-1-NL-05	0.8	5°	0.03-0.2	0.05-0.5	●
	TCGW 160402-1-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	TCGW 160404-1-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	TCGW 160408-1-NL-05	0.8	5°	0.03-0.2	0.05-0.5	●
	TCGW 080202-3-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	TCGW 080204-3-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	TCGW 080208-3-NL-05	0.8	5°	0.03-0.2	0.05-0.5	●
	TCGW 110302-3-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	TCGW 110304-3-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	TCGW 110308-3-NL-05	0.8	5°	0.03-0.2	0.05-0.5	●
	TCGW 160302-3-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	TCGW 160304-3-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	TCGW 160308-3-NL-05	0.8	5°	0.03-0.2	0.05-0.5	●
	TPGW 080202-1-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	TPGW 080204-1-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	TPGW 080208-1-NL-05	0.8	5°	0.03-0.2	0.05-0.5	●
	TPGW 080202-1-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	TPGW 080204-1-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	TPGW 080204-1-NL-05	0.8	5°	0.03-0.2	0.05-0.5	●
	TPGW 110302-1-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	TPGW 110304-1-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	TPGW 080202-3-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	TPGW 080204-3-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	TPGW 080208-3-NL-05	0.8	5°	0.03-0.2	0.05-0.5	●
	TPGW 160402-3-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	TPGW 160404-3-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	TPGW 160408-3-NL-05	0.8	5°	0.03-0.2	0.05-0.5	●

Positive 35° (V)



Dimensions (mm)				
Type	d	s	la	d1
VB_1103_	6.35	3.18	3.0	2.8
VB_1604_	9.52	4.76	3.0	4.4

Inserts	Type	r (mm)	α (°)	Recommended parameters		Grade
				f (mm/rev)	ap (mm)	PD20
	VBGW 110302-1-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	VBGW 110304-1-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	VBGW 160402-1-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	VBGW 160404-1-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	VBGW 110302-2-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	VBGW 110304-2-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	VBGW 160402-2-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	VBGW 160404-2-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	VCGW 110302-1-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	VCGW 110304-1-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	VCGW 160402-1-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	VCGW 160404-1-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	VCGW 110302-2-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	VCGW 110304-2-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●
	VCGW 110302-2-NL-05	0.2	5°	0.03-0.2	0.05-0.5	●
	VCGW 110304-2-NL-05	0.4	5°	0.03-0.2	0.05-0.5	●

Marked : ● Stock available ○ Non-stocked standard