



















# Recommendations for Chip Breakers

## ISO Negative inserts





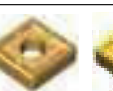


### For steel

	← Stable  Unstable →
Finishing	    WS    FG    FLP    FC
Medium	    MLP    PC    MGP    MT
Roughing	  RGP    RT




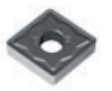
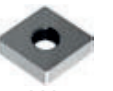
### For stainless steel

	← Stable  Unstable →
Finishing	 EA
Medium	    GG-ML    ML    EM    MP
Roughing	 ET




### For super alloys

	← Stable  Unstable →
Finishing	 EA
Medium	    GG-ML    ML    MGS    MP
Roughing	 ET

### For cast iron

	← Stable  Unstable →
Finishing	
Medium	  MT    MG-
Roughing	  KT    MA-











### For aluminum

	← Stable  Unstable →
Finishing	
Medium	  GG-ML    ML
Roughing	







# Recommendations for Chip Breakers

## RHINO-TURN Negative inserts






### For steel

	← Stable  Unstable →
Finishing	      WA FS FG FM FT
Medium	   PC MM MT
Roughing	




### For stainless steel

	← Stable  Unstable →
Finishing	 EA
Medium	    GG-ML MK EM MM
Roughing	



### For super alloys

	← Stable  Unstable →
Finishing	 EA
Medium	   GG-ML MK EM
Roughing	

### For cast iron

	← Stable  Unstable →
Finishing	
Medium	 MG-
Roughing	 MA-







### For aluminum

	← Stable  Unstable →
Finishing	
Medium	 GG-ML
Roughing	





# Recommendations for Chip Breakers

## ISO Positive inserts




### For steel

	← Stable  Unstable →
Finishing	  FA      FG
Medium	   FM      PC      MT
Roughing	



### For stainless steel

	← Stable  Unstable →
Finishing	  FA      FG
Medium	 PC
Roughing	



### For super alloys

	← Stable  Unstable →
Finishing	 FG
Medium	 PC
Roughing	

### For cast iron

	← Stable  Unstable →
Finishing	
Medium	 MT
Roughing	

### For aluminum

	← Stable  Unstable →
Finishing	
Medium	 GT-FL
Roughing	

# Recommendations for Chip Breakers

Chip breakers for Swiss turn (Ground type)

RHINO-TURN Negative inserts

	Stable             Unstable
Finishing	 VNGX-FS
Finishing-Medium	 DNGG-FU
Roughing	 GG-ML

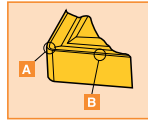
ISO Positive inserts






















	Stable             Unstable
Finishing	 SL
Finishing-Medium	SA            SM
Roughing	 SH



# Chip Breakers

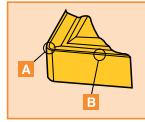
## Negative inserts


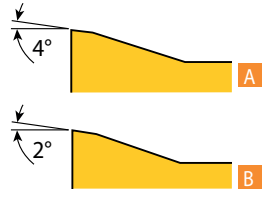

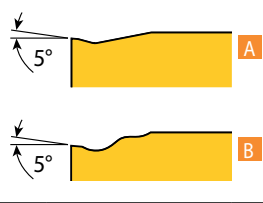
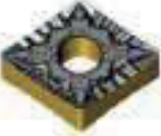
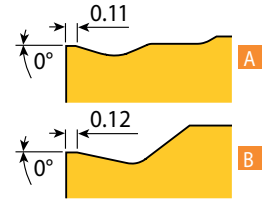

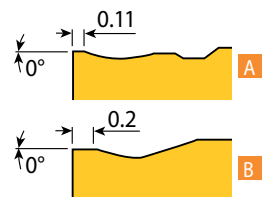

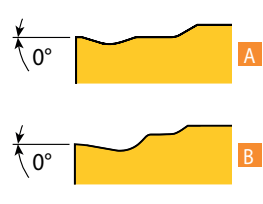

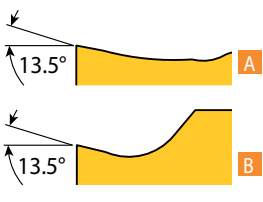

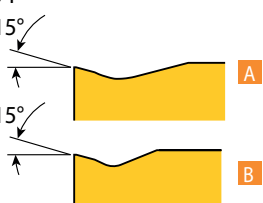


Chip breaker name and geometry		Applications and features
FA	 <p>CNMG 1204</p>  	<ul style="list-style-type: none"> <li>• For super finish applications</li> <li>• Steel, stainless steel and heat resistant alloy machining</li> <li>• Excellent chip control</li> </ul>
EA	 <p>CNMG 1204</p>  	<ul style="list-style-type: none"> <li>• For finishing applications</li> <li>• Exotic materials</li> <li>• Excellent chip control at low feeds and depths of cut</li> </ul>
FS	 <p>CNMG 0904</p>  	<ul style="list-style-type: none"> <li>• Super finishing chip breaker for steel machining</li> <li>• Excellent chip control and chip evacuation</li> <li>• Minimal vibration due to less machining load</li> </ul>
FLP	 <p>CNMG 1204</p>  	<ul style="list-style-type: none"> <li>• For finishing applications for steel machining</li> <li>• Wide supporting area</li> </ul>
FG	 <p>CNMG 1204</p>  	<ul style="list-style-type: none"> <li>• For finish and semi finish applications</li> <li>• Steel, stainless steel and cast iron machining</li> <li>• Low cutting forces</li> </ul>
SF	 <p>CNMG 1204</p>  	<ul style="list-style-type: none"> <li>• For finishing applications</li> <li>• Stainless steel and heat resistant alloy machining</li> <li>• Low cutting forces</li> </ul>
FX	 <p>VNMG 1604</p>  	<ul style="list-style-type: none"> <li>• For finishing applications on mild steels</li> <li>• Narrow chip breaker design for optimal chip control</li> </ul>

# Chip Breakers

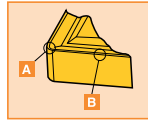
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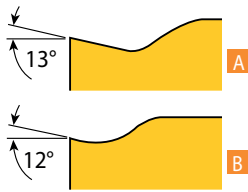

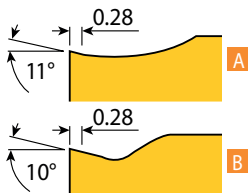

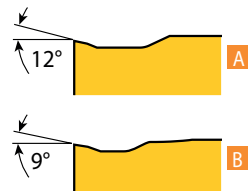

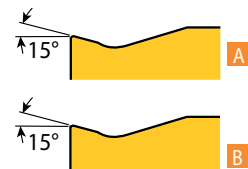

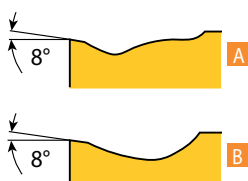
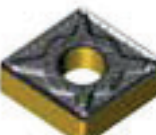
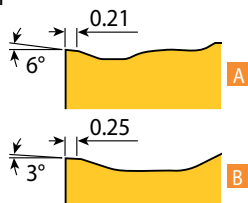

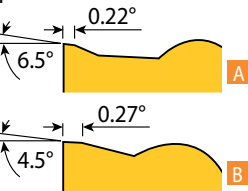


Chip breaker name and geometry		Applications and features
FC	 <p>CNMG 1204</p> 	<ul style="list-style-type: none"> <li>• Ideal for finishing applications</li> <li>• Low carbon steel &amp; low carbon alloy steel</li> <li>• Effective chip breaking in both turning and facing operations</li> </ul>
FM	 <p>CNMG 0904</p> 	<ul style="list-style-type: none"> <li>• For steel machining</li> <li>• Improved chip breaking due to 3dimension chipbreaker</li> <li>• Solution for a wide range from semi-finishing to semi-medium machining</li> </ul>
MLP	 <p>CNMG 1204</p> 	<ul style="list-style-type: none"> <li>• For semi-finishing and medium applications on steels</li> <li>• Wave cutting edge</li> </ul>
MC	 <p>CNMG 1204</p> 	<ul style="list-style-type: none"> <li>• For medium applications</li> <li>• Steel and cast iron machining</li> <li>• Strong rake geometry</li> <li>• Excellent chip control on medium turning applications</li> </ul>
FT	 <p>CNMG 0904</p> 	<ul style="list-style-type: none"> <li>• For steel machining</li> <li>• Strong, serrated cutting edge for excellent chip evacuation</li> <li>• Semi-finishing and medium machining</li> <li>• Excellent chip breaking for automotive components</li> </ul>
VF	 <p>DNMG 1504</p> 	<ul style="list-style-type: none"> <li>• For slender workpiece applications</li> <li>• Vibration free</li> <li>• Steel and stainless steel machining</li> <li>• High positive rake geometry to minimize cutting forces</li> </ul>
MGS	 <p>CNMG 1204</p> 	<ul style="list-style-type: none"> <li>• Low cutting resistance and heat generation in high-temperature alloy machining</li> <li>• High rake angle for smooth chip formation</li> </ul>

# Chip Breakers

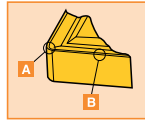
## Negative inserts












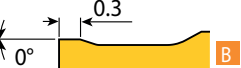

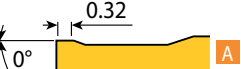









Chip breaker name and geometry		Applications and features
ML	 <p>CNMG 1204</p> 	<ul style="list-style-type: none"> <li>• For medium light applications</li> <li>• Stainless steel, steel and aluminum</li> <li>• Very high positive rake geometry to minimize built-up-edge and cutting forces</li> </ul>
MP	 <p>CNMG 1204</p> 	<ul style="list-style-type: none"> <li>• For medium machining applications</li> <li>• Steel and stainless steel</li> <li>• High positive rake geometry to optimize machining and provide stable machining conditions</li> </ul>
EM	 <p>CNMG 1204</p> 	<ul style="list-style-type: none"> <li>• For medium applications</li> <li>• Stainless steel machining</li> <li>• Sharp land design for low cutting force</li> </ul>
MK	 <p>CNMG 0904</p> 	<ul style="list-style-type: none"> <li>• For medium applications</li> <li>• Stainless steel and heat resistant material machining</li> <li>• Sharp cutting edge to reduce built-up-edge</li> </ul>
MM	 <p>CNMG 0904</p> 	<ul style="list-style-type: none"> <li>• For general machining on stainless steel and steel</li> <li>• Positive rake angle provides excellent chip evacuation</li> </ul>
MGP	 <p>CNMG 1204</p> 	<ul style="list-style-type: none"> <li>• Wide range for medium application on steels</li> <li>• Wide groove and several dimples</li> </ul>
PC	 <p>CNMG 1204</p> 	<ul style="list-style-type: none"> <li>• For medium to semi-finishing applications</li> <li>• Steel &amp; Automotive component</li> <li>• Positive geometry</li> <li>• Excellent chip control on medium applications</li> </ul>

# Chip Breakers

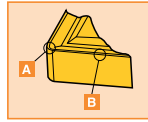
## Negative inserts



Chip breaker name and geometry		Applications and features
MT	 <p>CNMG 1204</p>  	<ul style="list-style-type: none"> <li>• For medium rough applications</li> <li>• Steel, cast iron and stainless steel</li> <li>• Tough rake angle for general use</li> </ul>
MG-	 <p>CNMG 1204</p>  	<ul style="list-style-type: none"> <li>• For medium rough applications</li> <li>• Steel and cast iron machining</li> <li>• Strong rake geometry</li> <li>• Suitable for manual lathes</li> </ul>
ET	 <p>CNMG 1204</p>  	<ul style="list-style-type: none"> <li>• For roughing applications on exotic materials</li> <li>• Low cutting force</li> <li>• Wide chip control range when roughing</li> </ul>
RGP	 <p>CNMG 1204</p>  	<ul style="list-style-type: none"> <li>• For roughing applications on steels</li> <li>• Reliable cutting edge with low cutting force</li> </ul>
RT	 <p>CNMG 1906</p>  	<ul style="list-style-type: none"> <li>• For roughing applications</li> <li>• Steel and cast iron machining</li> <li>• Very strong rake geometry</li> </ul>
KT	 <p>CNMG 1204</p>  	<ul style="list-style-type: none"> <li>• For roughing applications on cast iron</li> <li>• Stable broad supporting area</li> <li>• Reliable, uniform performance</li> </ul>
RX	 <p>CNMM 1906</p>  	<ul style="list-style-type: none"> <li>• For semi heavy roughing applications</li> <li>• Steel, stainless steel and cast iron machining</li> <li>• Strong cutting edge with flat land</li> <li>• Low cutting force</li> </ul>

# Chip Breakers

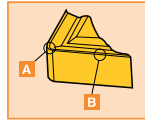
## Negative inserts






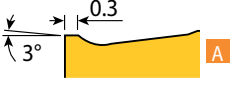
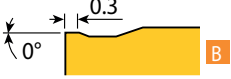


Chip breaker name and geometry		Applications and features
RH	<p>CNMM 1906</p>	<ul style="list-style-type: none"> <li>• For roughing applications</li> <li>• Steel, stainless steel and cast iron machining</li> <li>• Very strong rake geometry</li> </ul>
EH	<p>CNMM 2509</p>	<ul style="list-style-type: none"> <li>• Heavy turning for stainless and mild steel</li> <li>• Low cutting force in stainless steel machining</li> <li>• Reliable &amp; uniform performance</li> <li>• Excellent chip control due to the specially designed chip breaker geometry</li> <li>• Single sided insert</li> </ul>
HT	<p>CNMM 1906</p>	<ul style="list-style-type: none"> <li>• For heavy roughing applications</li> <li>• Low cutting force for low horse power machines</li> <li>• Excellent chip control due to changeable land and a flexible chip breaker</li> </ul>
HD	<p>CNMD 2509</p>	<ul style="list-style-type: none"> <li>• For heavy roughing applications</li> <li>• For all kinds of shafts, connecting-rods and ship building components</li> <li>• Flexible chip breaker offers excellent chip evacuation</li> </ul>
HY	<p>CNMM 2509</p>	<ul style="list-style-type: none"> <li>• For heavy roughing applications</li> <li>• For large depth of cut and high feed</li> <li>• Strong cutting edge credit to a wide land and large land angle</li> </ul>
HZ	<p>CNMM 2509</p>	<ul style="list-style-type: none"> <li>• For heavy roughing applications</li> <li>• For large depth of cut and high feed</li> <li>• Extremely strong cutting edge credit to a wide land and large land angle</li> <li>• Suitable for high cutting conditions</li> </ul>
WS	<p><b>wiper</b></p> <p>CNMG 1204</p>	<ul style="list-style-type: none"> <li>• For super finish applications</li> <li>• Steel, cast iron and stainless steel machining</li> <li>• Excellent chip control and low cutting forces</li> </ul>

# Chip Breakers

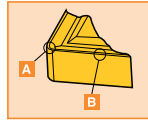
Negative inserts




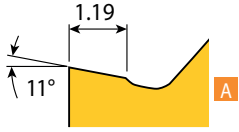
Chip breaker name and geometry		Applications and features
WA  	CNMG 0904  	<ul style="list-style-type: none"> <li>• For super finish applications</li> <li>• Steel, cast iron and stainless steel machining</li> <li>• Excellent surface roughness after machining</li> </ul>
WT 	CNMG 1204  	<ul style="list-style-type: none"> <li>• For medium to rough machining applications</li> <li>• Steel, cast iron and stainless steel machining</li> <li>• Stable cutting and low cutting forces at high feed rates</li> </ul>

# Chip Breakers

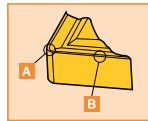
## Negative inserts


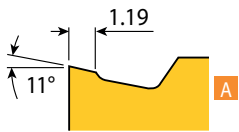

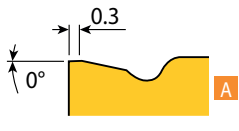


### DNUX type

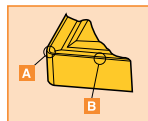
Chip breaker name and geometry		Applications and features
11	 <p>DNUX 1304</p> 	<ul style="list-style-type: none"> <li>• For medium applications less than 5mm depth of cut</li> <li>• Steel and stainless steel machining</li> <li>• Positive rake geometry to decrease cutting forces</li> <li>• Suitable for turning slender bar, thin-wall components</li> </ul>


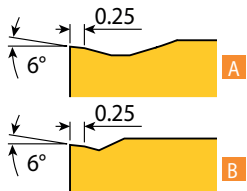


### KNUX type



Chip breaker name and geometry		Applications and features
11	 <p>KNUX 1604</p> 	<ul style="list-style-type: none"> <li>• For medium light to medium applications</li> <li>• Steel and stainless steel machining</li> <li>• Positive rake geometry to minimize cutting forces</li> <li>• Excellent chip control</li> </ul>
12	 <p>KNUX 1604</p> 	<ul style="list-style-type: none"> <li>• For medium to medium rough applications</li> <li>• Steel and stainless steel</li> <li>• Strong rake geometry</li> <li>• Wide chip control range</li> </ul>

### HNMG type

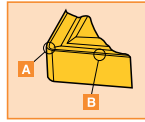



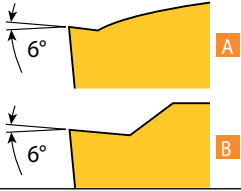

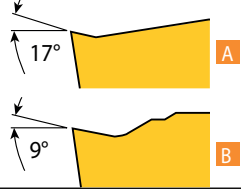

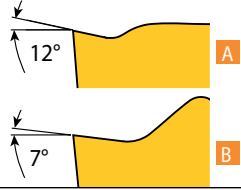

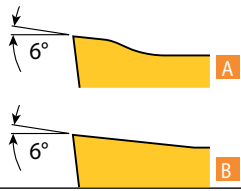

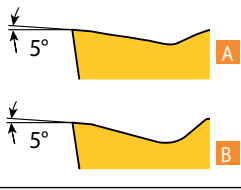

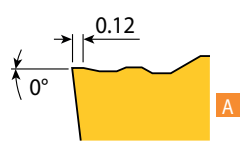

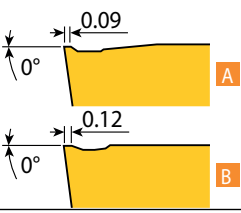


Chip breaker name and geometry		Applications and features
GU	 <p>HNMG 0504</p> 	<ul style="list-style-type: none"> <li>• For medium applications</li> <li>• For general turning of steels and cast irons</li> <li>• Strong rake geometry</li> </ul>
SU	 <p>HNMG 0504</p> 	<ul style="list-style-type: none"> <li>• For exotic materials</li> <li>• Stainless steels, super alloys, low carbon steels, low carbon alloy steel machining</li> <li>• Sharp geometry to minimize built-up edge</li> </ul>



# Chip Breakers

Positive inserts-pressed

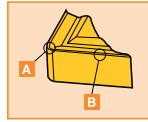



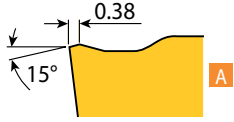

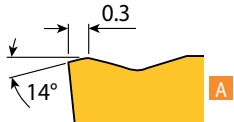
Chip breaker name and geometry		Applications and features
FA	 <p>DCMT 11T3</p> 	<ul style="list-style-type: none"> <li>• For super finish applications</li> <li>• Very tight chipbreaker</li> <li>• Excellent chip control</li> </ul>
FG	 <p>CCMT 09T3</p> 	<ul style="list-style-type: none"> <li>• For finish to medium light applications</li> <li>• Steel and stainless steel machining</li> <li>• Low cutting forces</li> <li>• Excellent chip control</li> </ul>
FX	 <p>VBMT 1604</p> 	<ul style="list-style-type: none"> <li>• For finishing applications on mild steels</li> <li>• Narrow chip breaker design for optimal chip control</li> </ul>
PC	 <p>CCMT 09T3</p> 	<ul style="list-style-type: none"> <li>• For medium applications</li> <li>• Suitable for a wide variety of materials</li> <li>• Low cutting force</li> </ul>
FM	 <p>CCMT 09T3</p> 	<ul style="list-style-type: none"> <li>• Medium and semi-finishing machining for steel and stainless steel</li> <li>• Precision machining</li> <li>• Low cutting force chip breaker geometry</li> </ul>
MT	 <p>CCMT 09T3</p> 	<ul style="list-style-type: none"> <li>• For medium to medium rough applications</li> <li>• Steel, stainless steel and cast iron machining</li> <li>• Negative rake geometry for general use</li> </ul>
WT	 <p>CCMT 09T3</p> 	<ul style="list-style-type: none"> <li>• For medium to rough machining applications</li> <li>• Steel, cast iron and stainless steel machining</li> <li>• Stable cutting and low cutting forces at high feed rates</li> </ul>
PMR-	 <p>TPMR 1103</p> 	<ul style="list-style-type: none"> <li>• For medium to medium rough applications</li> <li>• Steel, stainless steel and cast iron</li> <li>• Positive rake geometry</li> </ul>

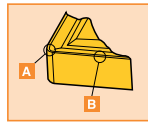


# Chip Breakers








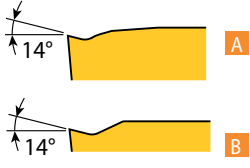

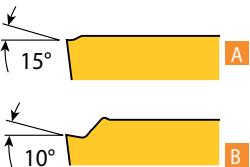
## Positive inserts-pressed



Chip breaker name and geometry		Applications and features
RA	 <p>RCMX 3209</p> 	<ul style="list-style-type: none"> <li>• For heavy and interrupted machining applications</li> <li>• Steel, stainless steel and cast iron machining</li> <li>• Optimized chip groove geometry</li> </ul>
CMX-	 <p>RCMX 1204</p> 	<ul style="list-style-type: none"> <li>• For high feed roughing applications</li> <li>• Steel, stainless steel and cast iron machining</li> <li>• Strong rake geometry</li> </ul>

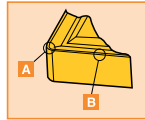



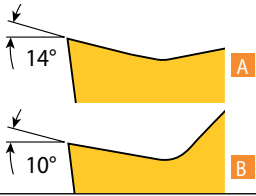

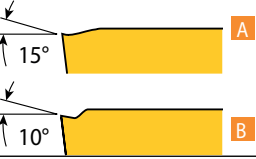

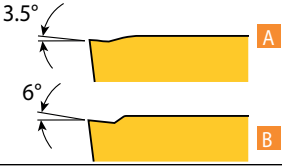


## Positive inserts-ground

Chip breaker name and geometry		Applications and features
FF	 <p>CCGT 0301</p> 	<ul style="list-style-type: none"> <li>• For finish to medium applications</li> <li>• For small component machining</li> <li>• Excellent surface finish</li> </ul>
GF	 <p>CCET 0602</p> 	<ul style="list-style-type: none"> <li>• For super finish applications</li> <li>• Steel, stainless steel and alloy steel machining</li> </ul>
GW	 <p>CCET 0602</p> 	<ul style="list-style-type: none"> <li>• For super finish applications</li> <li>• Wiper geometry for good surface finish</li> <li>• Steel, stainless steel and alloy steel machining</li> </ul>
FGS	 <p>VBGT 1604</p> 	<ul style="list-style-type: none"> <li>• Lower cutting resistance and heat generation in heat resistant super alloys machining</li> <li>• High rake angle for smooth chip formation</li> </ul>
SL	 <p>CCGT 09T3</p> 	<ul style="list-style-type: none"> <li>• High performance in low depth of cut and low feed machining</li> <li>• Excellent chip segmentation due to wave geometry edge and special inclined design</li> </ul>

# Chip Breakers

Positive inserts-ground



Chip breaker name and geometry		Applications and features
SA	 <p>CCGT 09T3</p> 	<ul style="list-style-type: none"> <li>• For finish to medium applications</li> <li>• Steel &amp; aluminum machining</li> <li>• Low cutting force</li> </ul>
SM	 <p>CCGT 09T3</p> 	<ul style="list-style-type: none"> <li>• 1st recommended chip breaker for Swiss type automatic lathe</li> <li>• Stable cutting edge and low cutting resistance</li> </ul>
SH	 <p>CCGT 09T3</p> 	<ul style="list-style-type: none"> <li>• Suitable for deep depth of cut machining</li> <li>• Excellent chip control in a wide machining range</li> </ul>
FL	 <p>CCGT 1204</p> 	<ul style="list-style-type: none"> <li>• For finish to medium applications</li> <li>• Aluminum machining</li> <li>• Very high positive rake geometry to minimize built-up-edge</li> </ul>