

Ceramic tools

Inserts

General turning

Aluminum
wheel turning

Automatic lathe

Ceramic tools



Ceramic tools

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CX1

CX1 is ultimate silicon-nitride material that has been developed to improve the notch wear of the conventional ceramics which contain silicon nitride.

To reduce notch wear amount in machining gray cast iron, the binding intergranular phase of silicon-nitride particles is changed to the higher-melting-point compound. This contributes to high temperature and high pressure sintering, so that the high density can be created.

This material doesn't cover only the conventional silicon-nitride ceramics application range, but also appears excellent performance under even-higher-speed machining conditions.

	Main components	Major applications	Density g/cm ³	Hardness HRA	Bending strength MPa	Young's modulus GPa	Thermal expansion coefficient X10 ⁻⁶ / K	Heat conductivity X10 ⁻⁶ / K
CX1	Si ₃ N ₄	- Highly efficient cutting of gray cast iron	3,2	93,5	1200	320	3,0	29

CC1

CC1 is a highly wear-resistant tool that has been formed into microstructure by adding a trace amount of zirconia (ZrO₂) to highly pure alumina (Al₂O₃), the main component of this tool material.

	Main components	Major applications	Density g/cm ³	Hardness HRA	Bending strength MPa	Young's modulus GPa	Thermal expansion coefficient X10 ⁻⁶ / K	Heat conductivity X10 ⁻⁶ / K
CC1	Al ₂ O ₃	- Semi-finishing and finishing of cast iron - Tube scarfing	4,0	94,0	700	400	7,8	17

CC2

This material is well-balanced between wear resistance and fracture resistance, and it works well in wide range of cutting cast iron and the turning of hard materials.

	Main components	Major applications	Density g/cm ³	Hardness HRA	Bending strength MPa	Young's modulus GPa	Thermal expansion coefficient X10 ⁻⁶ / K	Heat conductivity X10 ⁻⁶ / K
CC2	Al ₂ O ₃ + TiC	- Semi-finishing and finishing of cast iron - Machining of hardened materials	4,3	94,5	800	420	7,9	21

CC4

Since the finest grain size particle, with high melting point, is composited CC4 improves in both hardness and strength, and it shows superior performance as a special material for machining high-hardened materials.

	Main components	Major applications	Density g/cm ³	Hardness HRA	Bending strength MPa	Young's modulus GPa	Thermal expansion coefficient X10 ⁻⁶ / K	Heat conductivity X10 ⁻⁶ / K
CC4	Al ₂ O ₃ + TiC	- Machining of hardened materials	4,6	95,5	1000	420	7,8	25

PCBN

This PCBN are formed with special ceramic binder based on CBN (Cubic Boron Nitride) particles, and PCBN sintered layer is increasing thickness by carbide base. PCBN are high-performance tool materials that have high hardness at room temperature and high temperature and are almost free from chemical reactions against the material to be cut.

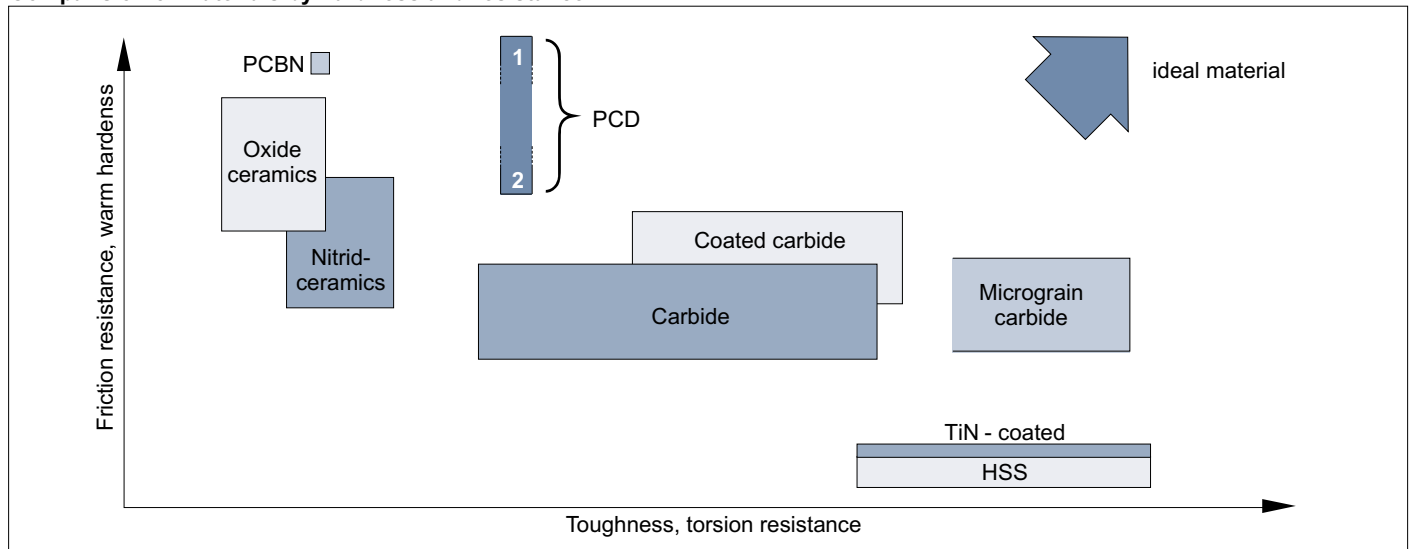
PCD

PCD consists of a 0,5 mm thick diamond layer, which is inseparably connected to a carbide base. This polycrystalline diamond layer originates at a pressing operation by bonding of smallest diamond grains, supported by a metallic bonding agent. This cutting material also has a very long tool life.

Polycrystalline boron nitride cutting material			
Material	Vc = m/min.	Infeed f = mm/U	Depth of cut ap = mm
PCBN	- Hardened materials and nitriding steels	60-120	1
	- High temperature and corrosion resistant alloys with high nickel or cobalt content	70-150	1
	- Gray cast iron, especially hard and abrasion resistant types	300-600	3
	- High speed steel (HSS)	60-120	1
	- Metal powder spraying	60-120	1

Polycrystalline diamond cutting material			
Material	Vc = m/min.	Infeed f = mm/U	Depth of cut ap = mm
PCD	- Aluminium alloys under 3% SiC	200-2000	up to the whole diamond cutting edge up to
	- Aluminium alloys up to 12% SiC	150-1000	
	- Aluminium alloys up to approx 21% SiC	100-800	
	- Brass, magnesium, zinc alloys	200-2000	
	- Copper, bronze, lead alloys	200-1000	
	- Duro and thermoplastics with and without fillers e.g. epoxy resin	100-1000	
	- Hard papers	200-600	
	- Hard and soft rubber with and without fillers	100-500	
	- Graphite and pre-sintered carbide	100-500	
	- Aluminium oxide, silicon, tungsten	50-180	






















Comparison of materials by hardness and resistance











Ceramic tools
Parting and grooving
Threading
Drills
Cartridges
Brazed tools
Tooling

Inserts
 General turning
 Aluminium wheel turning
 Automatic lathe
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Ceramic inserts

<p>CNGA</p>  <p>80° Rhombic Negative Page F.05 0°</p>	<p>CNGN</p>  <p>80° Rhombic Negative Page F.05 0°</p>	<p>CNGX</p>  <p>80° Rhombic Negative Page F.05 0°</p>	<p>DNGA</p>  <p>55° Rhombic Negative Page F.05 0°</p>	<p>DNGN</p>  <p>55° Rhombic Negative Page F.06 0°</p>	<p>DNGX</p>  <p>55° Rhombic Negative Page F.06 0°</p>	<p>ENGN</p>  <p>75° Rhombic Negative Page F.06 0°</p>
<p>GWC R/L</p>  <p>Positive Page F.07 3°</p>	<p>GWG</p>  <p>Positive Page F.06 3°</p>	<p>GWF</p>  <p>Positive Page F.07 3°</p>	<p>RCGX</p>  <p>Round Positive Page F.07 7°</p>	<p>RNGN</p>  <p>Round Negative Page F.07 0°</p>	<p>SNGA</p>  <p>Square Negative Page F.08 0°</p>	<p>SNGN</p>  <p>Square Negative Page F.08 0°</p>
<p>SNGX</p>  <p>Square Negative Page F.08 0°</p>	<p>SNKN</p>  <p>Square Negative Page F.08 0°</p>	<p>TNGA</p>  <p>Triangular Negative Page F.09 0°</p>	<p>TNGN</p>  <p>Triangular Negative Page F.09 0°</p>	<p>VNGA</p>  <p>35° Rhombic Negative Page F.09 0°</p>	<p>VNGN</p>  <p>35° Rhombic Negative Page F.09 0°</p>	<p>WNGA</p>  <p>80° Trigon Negative Page F.09 0°</p>

PCBN/PCD Inserts

<p>CCMW</p>  <p>80° Rhombic Positive Page F.10 7°</p>	<p>CNGA</p>  <p>80° Rhombic Negative Page F.10 0°</p>	<p>DCMW</p>  <p>55° Rhombic Negative Page F.10 7°</p>	<p>DNGA</p>  <p>55° Rhombic Negative Page F.10 0°</p>	<p>SNGA</p>  <p>55° Square Negative Page F.10 0°</p>	<p>TCMW</p>  <p>Triangular Positive Page F.11 7°</p>	<p>TNGA</p>  <p>Triangular Negative Page F.11 0°</p>
<p>TPMN</p>  <p>Triangular Positive Page F.11 11°</p>						

Negative 80° rhombic insert

Normally available for immediate delivery ●
Only available in a limited quantity ○

CNGA

	l	s	d	r	CX1	CC1	CC2	CC4
CNGA 120404	12,90	4,76	12,70	0,4			●	●
CNGA 120408	12,90	4,76	12,70	0,8	●		●	●
CNGA 120412	12,90	4,76	12,70	1,2	●		●	●
CNGA 120416	12,90	4,76	12,70	1,6				
CNGA 160616	16,10	6,35	15,87	1,6				

Negative 80° rhombic insert

Normally available for immediate delivery ●
Only available in a limited quantity ○

CNGN

	l	s	d	r	CX1	CC1	CC2	CC4
CNGN 120404	12,90	4,76	12,70	0,4				
CNGN 120408	12,90	4,76	12,70	0,8	●		●	
CNGN 120412	12,90	4,76	12,70	1,2	●		●	
CNGN 120416	12,90	4,76	12,70	1,6	●			
CNGN 120420	12,90	4,76	12,70	2,0				
CNGN 120704	12,90	7,94	12,70	0,4				
CNGN 120708	12,90	7,94	12,70	0,8	●		●	
CNGN 120712	12,90	7,94	12,70	1,2	●		●	
CNGN 120716	12,90	7,94	12,70	1,6	●			
CNGN 120720	12,90	7,94	12,70	2,0				
CNGN 160708	16,10	7,94	15,87	0,8				
CNGN 160712	16,10	7,94	15,87	1,2				
CNGN 160716	16,10	7,94	15,87	1,6				
CNGN 160720	16,10	7,94	15,87	2,0				

Negative 80° rhombic insert

Normally available for immediate delivery ●
Only available in a limited quantity ○

CNGX

	l	s	d	r	CX1	CC1	CC2	CC4
CNGX 120708	12,90	7,94	12,70	0,8	●			
CNGX 120712	12,90	7,94	12,70	1,2	●			
CNGX 120716	12,90	7,94	12,70	1,6	○			
CNGX 160708	16,10	7,94	15,87	0,8	○			
CNGX 160712	16,10	7,94	15,87	1,2	○			
CNGX 160716	16,10	7,94	15,87	1,6	○			

Negative 55° rhombic insert

Normally available for immediate delivery ●
Only available in a limited quantity ○

DNGA

	l	s	d	r	CX1	CC1	CC2	CC4
DNGA 150404	12,90	4,76	12,70	0,4		●		
DNGA 150408	12,90	4,76	12,70	0,8		●	●	●
DNGA 150412	12,90	4,76	12,70	1,2		●	●	●
DNGA 150416	12,90	4,76	12,70	1,6				

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Negative 55° rhombic insert Normally available for immediate delivery ●
Only available in a limited quantity ○

DNGN	l	s	d	r	CX1	CC1	CC2	CC4
DNGN 150404	12,90	4,76	12,70	0,4				
DNGN 150408	12,90	4,76	12,70	0,8				
DNGN 150412	12,90	4,76	12,70	1,2				
DNGN 150416	12,90	4,76	12,70	1,6				
DNGN 150704	15,50	7,94	12,70	0,4				
DNGN 150708	15,50	7,94	12,70	0,8			●	
DNGN 150712	15,50	7,94	12,70	1,2			●	
DNGN 150716	15,50	7,94	12,70	1,6			●	
DNGN 150720	15,50	7,94	12,70	2,0				

Negative 55° rhombic insert Normally available for immediate delivery ●
Only available in a limited quantity ○


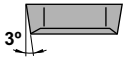

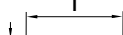



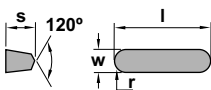
DNGX	l	s	d	r	CX1	CC1	CC2	CC4
DNGX 120708	12,90	7,94	10,70	0,8	○			
DNGX 120712	12,90	7,94	10,70	1,2	○			
DNGX 120716	12,90	7,94	10,70	1,6	○			
DNGX 150708	15,50	7,94	12,70	0,8	●			
DNGX 150712	15,50	7,94	12,70	1,2	●			
DNGX 150716	15,50	7,94	12,70	1,6	○			




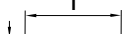

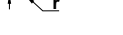

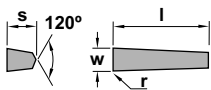
Negative 75° rhombic insert Normally available for immediate delivery ●
Only available in a limited quantity ○


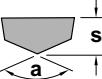

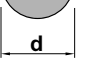



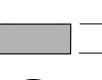
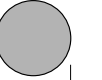
ENGX	l	s	d	r	CX1	CC1	CC2	CC4
ENGX 130404	13,15	4,76	12,70	0,4				
ENGX 130408	13,15	4,76	12,70	0,8				
ENGX 130412	13,15	4,76	12,70	1,2				
ENGX 130416	13,15	4,76	12,70	1,6				
ENGX 130420	13,15	4,76	12,70	2,0				
ENGX 130704	13,15	7,94	12,70	0,4				
ENGX 130708	13,15	7,94	12,70	0,8			●	
ENGX 130712	13,15	7,94	12,70	1,2			●	
ENGX 130716	13,15	7,94	12,70	1,6			●	
ENGX 130720	13,15	7,94	12,70	2,0			●	


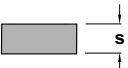
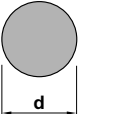
Positive insert Normally available for immediate delivery ●
Only available in a limited quantity ○

GWC R/L	l	s	w	r	CX1	CC1	CC2	CC4
GWC 06R	15,00	7,50	6,00	0,6		○		
GWC 08R	15,00	7,50	8,00	0,6		○		
GWC 06L	15,00	7,50	6,00	0,6		○		
GWC 08L	15,00	7,50	8,00	0,6		○		

	Positive insert						Normally available for immediate delivery ●				Only available in a limited quantity ○					
	GWF	l	s	w	r	CX1	CC1	CC2	CC4							
      	GWF 04 M	12,00	5,00	4,00	2,0		○									
	GWF 05 M	12,00	5,00	5,00	2,5		○									
	GWF 06 M	15,00	7,50	6,00	3,0		○									
	GWF 07	15,00	7,50	7,00	3,5		○									
	GWF 08	15,00	7,50	8,00	4,0		○									
	GWF 10	15,00	7,50	10,00	5,0		○									


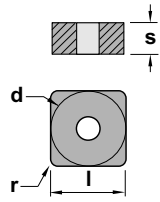
	Positive insert						Normally available for immediate delivery ●				Only available in a limited quantity ○					
	GWG	l	s	w	r	CX1	CC1	CC2	CC4							
      	GWG 04 M	12,00	5,00	4,00	0,5		○									
	GWG 05 M	12,00	5,00	5,00	0,8		○									
	GWG 06 M	15,00	7,50	6,00	0,8		○									
	GWG 07	15,00	7,50	7,00	0,8		○									
	GWG 08	15,00	7,50	8,00	0,8		○									
	GWG 10	15,00	7,50	10,00	0,8		○									


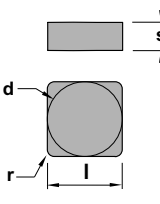
	Positive round insert						Normally available for immediate delivery ●				Only available in a limited quantity ○					
	RCGX	s	d	a	CX1	CC1	CC2	CC4								
       	RCGX 060400	4,76	6,35	120°												
	RCGX 060600	6,35	6,35	120°												
	RCGX 060700	7,94	6,35	120°												
	RCGX 090700	7,94	9,52	120°												
	RCGX 120700	7,94	12,70	120°												
	RCGX 151000	10,00	15,87	120°												
	RCGX 191000	10,00	19,05	120°												
	RCGX 251200	12,00	25,40	140°												


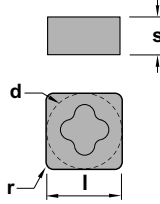
	Negative round insert						Normally available for immediate delivery ●				Only available in a limited quantity ○				
	RNGN	s	d	CX1	CC1	CC2	CC4								
 	RNGN 120400	4,76	12,70	●		●									
	RNGN 120700	7,94	12,70			●									


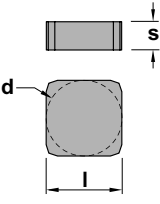
Ceramic tools
Parting and grooving
Threading
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Braze tools
Tooling


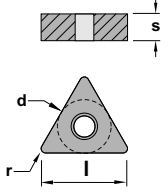
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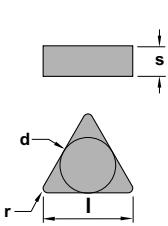
	Negative square insert						Normally available for immediate delivery ● Only available in a limited quantity ○							
	SNGA						l	s	d	r	CX1	CC1	CC2	CC4
	SNGA 120408						12,70	4,76	12,70	0,8	●			
	SNGA 120412						12,70	4,76	12,70	1,2	●			
	SNGA 120416						12,70	4,76	12,70	1,6	●			


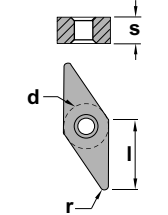
	Negative square insert						Normally available for immediate delivery ● Only available in a limited quantity ○							
	SNGN						l	s	d	r	CX1	CC1	CC2	CC4
	SNGN 120404						12,70	4,76	12,70	0,4			●	
	SNGN 120408						12,70	4,76	12,70	0,8	●		●	
	SNGN 120412						12,70	4,76	12,70	1,2	●		●	
	SNGN 120416						12,70	4,76	12,70	1,6	●		●	
	SNGN 120420						12,70	4,76	12,70	2,0	●		●	
	SNGN 120424						12,70	4,76	12,70	2,4	●		●	
	SNGN 120432						12,70	4,76	12,70	3,2				
	SNGN 120708						12,70	7,94	12,70	0,8			●	
	SNGN 120712						12,70	7,94	12,70	1,2			○	
	SNGN 120716						12,70	7,94	12,70	1,6			●	
	SNGN 120720						12,70	7,94	12,70	2,0			●	
	SNGN 120724						12,70	7,94	12,70	2,4				
	SNGN 120732						12,70	7,94	12,70	3,2				
	SNGN 150708						15,87	7,94	15,87	0,8				
	SNGN 150712						15,87	7,94	15,87	1,2				
	SNGN 150716						15,87	7,94	15,87	1,6				
	SNGN 150720						15,87	7,94	15,87	2,0				


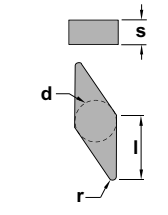
	Negative square insert						Normally available for immediate delivery ● Only available in a limited quantity ○						
	SNGX						l	s	d	r	CX1	CC1	CC2
	SNGX 120708						12,70	7,94	12,70	0,8	●		
	SNGX 120712						12,70	7,94	12,70	1,2	●		
	SNGX 120716						12,70	7,94	12,70	1,6	○		
	SNGX 150708						15,87	7,94	15,87	0,8	○		
	SNGX 150712						15,87	7,94	15,87	1,2	○		
	SNGX 150716						15,87	7,94	15,87	1,6	○		


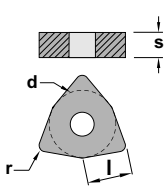
	Negative square insert						Normally available for immediate delivery ● Only available in a limited quantity ○						
	SNKN						l	s	d	r	CX1	CC1	CC2
	SNKN 1204EN						12,70	4,76	12,70	-			
	SNKN 1504EN						15,87	4,76	15,87	-			

	Negative trinagular insert					Normally available for immediate delivery ● Only available in a limited quantity ○						
	TNGA					l	s	d	r	CX1	CC1	CC2
	TNGA 160404	9,52	4,76	9,52	0,4							●
	TNGA 160408	9,52	4,76	9,52	0,8	●			●	●		
	TNGA 160412	9,52	4,76	9,52	1,2	●			●			
	TNGA 160416	9,52	4,76	9,52	1,6							

	Negative trinagular insert					Normally available for immediate delivery ● Only available in a limited quantity ○						
	TNGN					l	s	d	r	CX1	CC1	CC2
	TNGN 160404	9,52	4,76	9,52	0,4							
	TNGN 160408	9,52	4,76	9,52	0,8	●			●			
	TNGN 160412	9,52	4,76	9,52	1,2	●			○			
	TNGN 160416	9,52	4,76	9,52	1,6	●			●			
	TNGN 160704	9,52	7,94	9,52	0,4							
	TNGN 160708	9,52	7,94	9,52	0,8					●		
	TNGN 160712	9,52	7,94	9,52	1,2					●		
	TNGN 160716	9,52	7,94	9,52	1,6							
	TNGN 160720	9,52	7,94	9,52	2,0							
	TNGN 160724	9,52	7,94	9,52	2,4						●	

	Negative 35° rhombic insert					Normally available for immediate delivery ● Only available in a limited quantity ○						
	VNGA					l	s	d	r	CX1	CC1	CC2
	VNGA 160404	16,50	4,76	9,52	0,4						●	
	VNGA 160408	16,50	4,76	9,52	0,8						●	
	VNGA 160412	16,50	4,76	9,52	1,2						●	

	Negative 35° rhombic insert					Normally available for immediate delivery ● Only available in a limited quantity ○						
	VNGN					l	s	d	r	CX1	CC1	CC2
	VNGN 160404	16,50	4,76	9,52	0,4							
	VNGN 160408	16,50	4,76	9,52	0,8							
	VNGN 160412	16,50	4,76	9,52	1,2							

	Negative 80° trigon insert					Normally available for immediate delivery ● Only available in a limited quantity ○						
	WNGA					l	s	d	r	CX1	CC1	CC2
	WNGA 080404	8,14	4,76	12,70	0,4							
	WNGA 080408	8,14	4,76	12,70	0,8	●						
	WNGA 080412	8,14	4,76	12,70	1,2	●						

Ceramic tools

Parting and grooving


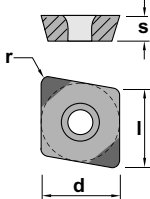

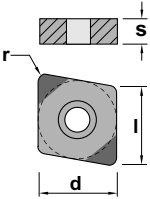

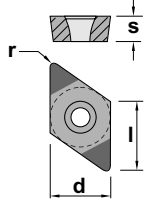

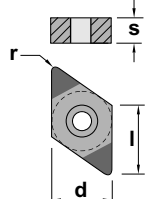
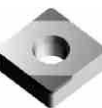
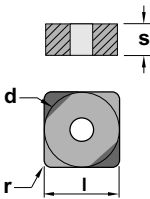
Threading


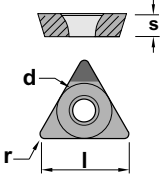
Drills


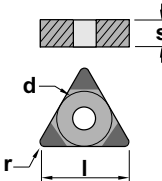
Cartridges


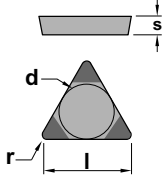
Brazed tools

Tooling

Inserts	 <p>Positive 80° rhombic insert</p> <p style="text-align: right;">Normally available for immediate delivery ● Only available in a limited quantity ○</p> <p>CCMW</p> <table border="1"> <thead> <tr> <th></th> <th>l</th> <th>s</th> <th>d</th> <th>r</th> <th>PCBN</th> <th>PCD</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>CCMW 060202</td> <td>6,50</td> <td>2,38</td> <td>6,35</td> <td>0,2</td> <td>○</td> <td>○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>CCMW 060204</td> <td>6,50</td> <td>2,38</td> <td>6,35</td> <td>0,4</td> <td>●</td> <td>○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>CCMW 09T304</td> <td>9,70</td> <td>3,97</td> <td>9,52</td> <td>0,4</td> <td>●</td> <td>○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>CCMW 09T308</td> <td>9,70</td> <td>3,97</td> <td>9,52</td> <td>0,8</td> <td>●</td> <td>○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		l	s	d	r	PCBN	PCD												CCMW 060202	6,50	2,38	6,35	0,2	○	○												CCMW 060204	6,50	2,38	6,35	0,4	●	○												CCMW 09T304	9,70	3,97	9,52	0,4	●	○												CCMW 09T308	9,70	3,97	9,52	0,8	●	○																													
	l	s	d	r	PCBN	PCD																																																																																																							
CCMW 060202	6,50	2,38	6,35	0,2	○	○																																																																																																							
CCMW 060204	6,50	2,38	6,35	0,4	●	○																																																																																																							
CCMW 09T304	9,70	3,97	9,52	0,4	●	○																																																																																																							
CCMW 09T308	9,70	3,97	9,52	0,8	●	○																																																																																																							
General turning																																																																																																													
Aluminium wheel turning	 <p>Negative 80° rhombic insert</p> <p style="text-align: right;">Normally available for immediate delivery ● Only available in a limited quantity ○</p> <p>CNGA</p> <table border="1"> <thead> <tr> <th></th> <th>l</th> <th>s</th> <th>d</th> <th>r</th> <th>PCBN</th> <th>PCD</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>CNGA 120404</td> <td>12,90</td> <td>4,76</td> <td>12,70</td> <td>0,4</td> <td>●</td> <td>○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>CNGA 120408</td> <td>12,90</td> <td>4,76</td> <td>12,70</td> <td>0,8</td> <td>●</td> <td>○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>CNGA 120412</td> <td>12,90</td> <td>4,76</td> <td>12,70</td> <td>1,2</td> <td>○</td> <td>○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		l	s	d	r	PCBN	PCD												CNGA 120404	12,90	4,76	12,70	0,4	●	○												CNGA 120408	12,90	4,76	12,70	0,8	●	○												CNGA 120412	12,90	4,76	12,70	1,2	○	○																																															
	l	s	d	r	PCBN	PCD																																																																																																							
CNGA 120404	12,90	4,76	12,70	0,4	●	○																																																																																																							
CNGA 120408	12,90	4,76	12,70	0,8	●	○																																																																																																							
CNGA 120412	12,90	4,76	12,70	1,2	○	○																																																																																																							
Automatic lathes																																																																																																													
Ceramic tools	 <p>Positive 55° rhombic insert</p> <p style="text-align: right;">Normally available for immediate delivery ● Only available in a limited quantity ○</p> <p>DCMW</p> <table border="1"> <thead> <tr> <th></th> <th>l</th> <th>s</th> <th>d</th> <th>r</th> <th>PCBN</th> <th>PCD</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>DCMW 070202</td> <td>7,80</td> <td>2,38</td> <td>6,35</td> <td>0,2</td> <td>○</td> <td>○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>DCMW 070204</td> <td>7,80</td> <td>2,38</td> <td>6,35</td> <td>0,4</td> <td>●</td> <td>○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>DCMW 11T302</td> <td>11,60</td> <td>3,97</td> <td>9,52</td> <td>0,2</td> <td>○</td> <td>○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>DCMW 11T304</td> <td>11,60</td> <td>3,97</td> <td>9,52</td> <td>0,4</td> <td>●</td> <td>○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>DCMW 11T308</td> <td>11,60</td> <td>3,97</td> <td>9,52</td> <td>0,8</td> <td>●</td> <td>○</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		l	s	d	r	PCBN	PCD												DCMW 070202	7,80	2,38	6,35	0,2	○	○												DCMW 070204	7,80	2,38	6,35	0,4	●	○												DCMW 11T302	11,60	3,97	9,52	0,2	○	○												DCMW 11T304	11,60	3,97	9,52	0,4	●	○												DCMW 11T308	11,60	3,97	9,52	0,8	●	○											
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DCMW 070204	7,80	2,38	6,35	0,4	●	○																																																																																																							
DCMW 11T302	11,60	3,97	9,52	0,2	○	○																																																																																																							
DCMW 11T304	11,60	3,97	9,52	0,4	●	○																																																																																																							
DCMW 11T308	11,60	3,97	9,52	0,8	●	○																																																																																																							
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	l	s	d	r	PCBN	PCD																																																																																																							
DNGA 150404	15,50	4,76	12,70	0,4	●	○																																																																																																							
DNGA 150408	15,50	4,76	12,70	0,8	●	○																																																																																																							
DNGA 150412	15,50	4,76	12,70	1,2	○	○																																																																																																							
																																																																																																													
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	l	s	d	r	PCBN	PCD																																																																																																							
SNGA 120404	12,70	4,76	12,70	0,4	○	○																																																																																																							
SNGA 120408	12,70	4,76	12,70	0,8	○	○																																																																																																							
SNGA 120412	12,70	4,76	12,70	1,2	○	○																																																																																																							
																																																																																																													

	Positive triangular insert					Normally available for immediate delivery ●		Only available in a limited quantity ○												
	TCMW	l	s	d	r	PCBN	PCD													
	TCMW 090204	9,00	2,38	5,56	0,4	○	○													
	TCMW 110204	11,00	2,38	6,35	0,4	●	○													
	TCMW 16T304	16,50	3,97	9,52	0,4	●	○													
	TCMW 16T308	16,50	3,97	9,52	0,8	●	○													

	Negative triangular insert					Normally available for immediate delivery ●		Only available in a limited quantity ○													
	TNGA	l	s	d	r	PCBN	PCD														
	TNGA 160404	16,50	4,76	9,52	0,4	●	○														
	TNGA 160408	16,50	4,76	9,52	0,8	●	○														
	TNGA 160412	16,50	4,76	9,52	1,2	○	○														

	Positive triangular insert					Normally available for immediate delivery ●		Only available in a limited quantity ○													
	TPMN	l	s	d	r	PCBN	PCD														
	TPMN 110304	11,00	3,18	6,35	0,4	●	○														
	TPMN 110308	11,00	3,18	6,35	0,8	●	○														
	TPMN 160304	16,50	3,18	9,52	0,4	●	○														
	TPMN 160308	16,50	3,18	9,52	0,8	●	○														
	TPMN 160312	16,50	3,18	9,52	1,2	●	○														

Ceramic tools

Parting and
grooving

Threading

Drills

Cartridges

Brazed tools

Tooling

- Inserts
- General turning
- Aluminium wheel turning
- Automatic lathes
- Ceramic tools

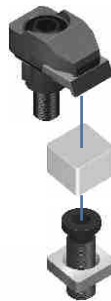
CX

Notch clamping

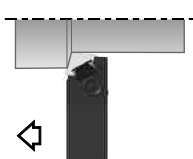
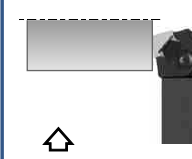
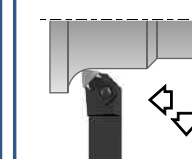
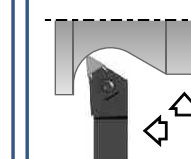
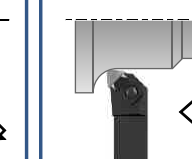
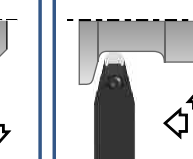
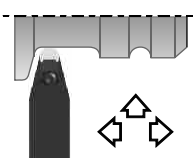
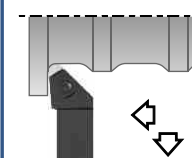
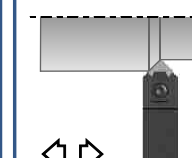
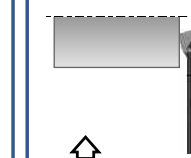
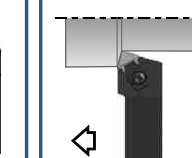
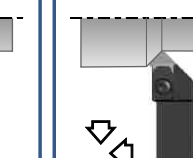
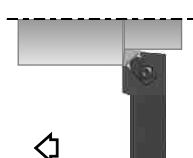
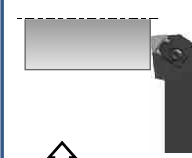
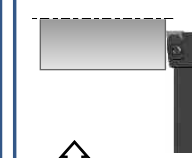
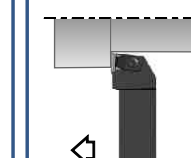
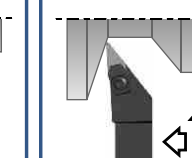
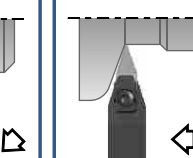


CD

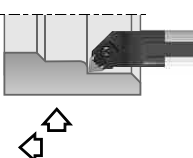
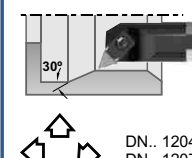
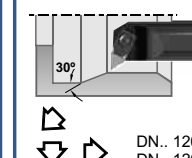
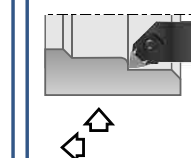
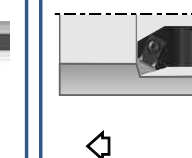
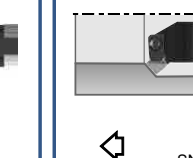
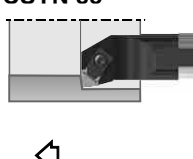
Clamping element with thrust plate
 (for short-chip material)



Top clamp toolholders

<p>CCBN 75°</p>  <p>Page F.14 CN.. 1204.. CN.. 1207.. CN.. 1607..</p>	<p>CCKN 75°</p>  <p>Page F.15 CN.. 1204.. CN.. 1207.. CN.. 1607..</p>	<p>CCLN 95°</p>  <p>Page F.16 CN.. 1204.. CN.. 1207.. CN.. 1607..</p>	<p>CDJN 93°</p>  <p>Page F.17 DN.. 1204.. DN.. 1207.. DN.. 1507..</p>	<p>CELN 97°30'</p>  <p>Page F.18 EN.. 1307..</p>	<p>CRDC</p>  <p>Page F.19 RC.. 0907.. ... RC.. 1907..</p>
<p>CRDN</p>  <p>Page F.20 RN.. 1204.. RN.. 1207..</p>	<p>CRSN</p>  <p>Page F.21 RN.. 1204.. RN.. 1207..</p>	<p>CSDN 45°</p>  <p>Page F.22 SN.. 120.. SN.. 1507..</p>	<p>CSKN 75°</p>  <p>Page F.23 SN.. 1204.. SN.. 1507..</p>	<p>CSRN 75°</p>  <p>Page F.24 SN.. 120.. SN.. 1507..</p>	<p>CSSN 45°</p>  <p>Page F.25 SN.. 1204.. SN.. 1507..</p>
<p>CSXN 85°</p>  <p>Page F.26 SN.. 120.. SN.. 1507..</p>	<p>CSYN 85°</p>  <p>Page F.27 SN.. 120.. SN.. 1507..</p>	<p>CTFN 90°</p>  <p>Page F.28 TN.. 1604.. TN.. 1607..</p>	<p>CTGN 90°</p>  <p>Page F.29 TN.. 1604.. TN.. 1607..</p>	<p>CVJN 93°</p>  <p>Page F.30 VN.. 1604.. VN.. 1607..</p>	<p>CVVN 62°30'</p>  <p>Page F.31 VN.. 1604.. VN.. 1607..</p>

Top clamp boring bars

<p>CCLN 95°</p>  <p>Page F.32 CN.. 1204.. CN.. 1207..</p>	<p>CDQN 107°30'</p>  <p>Page F.33 DN.. 1204.. DN.. 1207.. DN.. 1504.. DN.. 1507..</p>	<p>CDUN 93°</p>  <p>Page F.34 DN.. 1204.. DN.. 1207.. DN.. 1504.. DN.. 1507..</p>	<p>CELN 97°30'</p>  <p>Page F.35 EN.. 1307..</p>	<p>CSKN 75°</p>  <p>Page F.36 SN.. 1204.. SN.. 1207..</p>	<p>CSSN 45°</p>  <p>Page F.37 SN.. 1204.. SN.. 1207.. SN.. 1507..</p>
<p>CSYN 85°</p>  <p>Page F.38 SN.. 1204.. SN.. 1207..</p>					

Ceramic tools

Parting and grooving

Threading

Drills

Cartridges

Brazed tools

Tooling

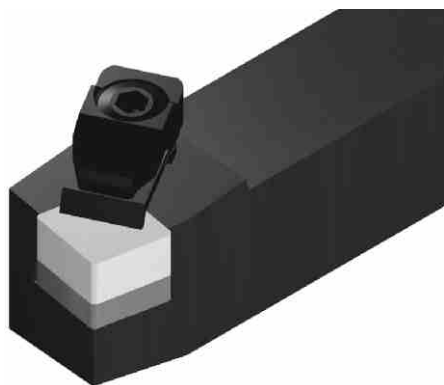
Inserts

General turning

Aluminium wheel turning

Automatic lathes

Ceramic tools

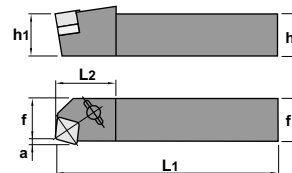


Characteristics:

Toolholder for external turning applications equipped with rhombic negative inserts (angle 80°). The top clamp ensures good rigidity in roughing applications.

Applications:

External turning toolholder for general applications, roughing, semi-finishing and finishing.

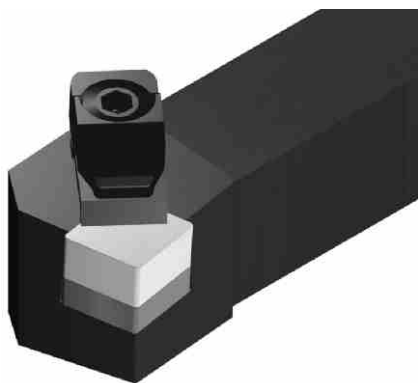


CCBN 75°

Ref.		h=h1	b	L1	L2	f	a	Insert size	
CD	CCBN R/L 2525 M12-4CD	25	25	150	32	22	3,10	CNGN 1204..	0,750
	CCBN R/L 2525 M12-7CD	25	25	150	32	22	3,10	CNGN 1207..	0,750
	CCBN R/L 3225 P12-4CD	32	25	170	32	22	3,10	CNGN 1204..	1,050
	CCBN R/L 3225 P12-7CD	32	25	170	32	22	3,10	CNGN 1207..	1,050
	CCBN R/L 2525 M16-CD	25	25	150	35	27	3,82	CNGN 1607..	0,750
	CCBN R/L 3225 P16-CD	32	25	170	35	27	3,82	CNGN 1607..	1,050
CX	CCBN R/L 2525 M12-4CX	25	25	150	32	22	3,10	CNGX 1204..	0,750
	CCBN R/L 2525 M12-7CX	25	25	150	32	22	3,10	CNGX 1207..	0,750
	CCBN R/L 3225 P12-4CX	32	25	170	32	22	3,10	CNGX 1204..	1,050
	CCBN R/L 3225 P12-7CX	32	25	170	32	22	3,10	CNGX 1207..	1,050
	CCBN R/L 2525 M16-CX	25	25	150	35	27	3,82	CNGX 1607..	0,750
	CCBN R/L 3225 P16-CX	32	25	170	35	27	3,82	CNGX 1607..	1,050

CD	CCBN R/L 2525 M12-4CD	ICSN 452	1160	9414	2417	-	5004
	CCBN R/L 2525 M12-7CD	ICSN 432	1160	9414	2417	-	5004
	CCBN R/L 3225 P12-4CD	ICSN 452	1160	9414	2417	-	5004
	CCBN R/L 3225 P12-7CD	ICSN 432	1160	9414	2417	-	5004
	CCBN R/L 2525 M16-CD	ICSN 533	1180	9414	2417	-	5004
	CCBN R/L 3225 P16-CD	ICSN 533	1180	9414	2417	-	5004
CX	CCBN R/L 2525 M12-4CX	ICSN 452	1160	-	-	2471	5004
	CCBN R/L 2525 M12-7CX	ICSN 432	1160	-	-	2471	5004
	CCBN R/L 3225 P12-4CX	ICSN 452	1160	-	-	2471	5004
	CCBN R/L 3225 P12-7CX	ICSN 432	1160	-	-	2471	5004
	CCBN R/L 2525 M16-CX	ICSN 533	1180	-	-	2415	5004
	CCBN R/L 3225 P16-CX	ICSN 533	1180	-	-	2415	5004

		CNG..		l	s	d			
 	Ref.	CNG.. 1204..	CNG.. 1207..	12,90	4,76	12,70	 		
		CNG.. 1207..	CNG.. 1607..	12,90	7,94	12,70			
		CNG.. 1607..		16,10	7,94	15,88			
		Negative 80° - Rhombic inserts							
		For more information see page: F.05							
		CNGN	CNGX						

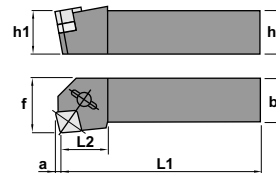


Characteristics:

Toolholder for face turning applications equipped with rhombic negative inserts (angle 80°). The top clamp ensures good rigidity in roughing applications.

Applications:

Face turning toolholder for general applications, roughing, semi-finishing and finishing.



CCKN 75°

Ref.		h=h1	b	L1	L2	f	a	Insert size	
CCKN R/L	CCKN R/L 2525 M12-4CD	25	25	150	29	32	3,10	CNGN 1204..	0,750
	CCKN R/L 2525 M12-7CD	25	25	150	29	32	3,10	CNGN 1207..	0,750
	CCKN R/L 3225 P12-4CD	32	25	170	29	32	3,10	CNGN 1204..	1,050
	CCKN R/L 3225 P12-7CD	32	25	170	29	32	3,10	CNGN 1207..	1,050
CCKN R/L	CCKN R/L 2525 M12-4CX	25	25	150	29	32	3,10	CNGX 1204..	0,750
	CCKN R/L 2525 M12-7CX	25	25	150	29	32	3,10	CNGX 1207..	0,750
	CCKN R/L 3225 P12-4CX	32	25	170	29	32	3,10	CNGX 1204..	1,050
	CCKN R/L 3225 P12-7CX	32	25	170	29	32	3,10	CNGX 1207..	1,050

CD	CCKN R/L 2525 M12-4CD	ICSN 452	1160	9414	2417	-	5004
	CCKN R/L 2525 M12-7CD	ICSN 432	1160	9414	2417	-	5004
	CCKN R/L 3225 P12-4CD	ICSN 452	1160	9414	2417	-	5004
	CCKN R/L 3225 P12-7CD	ICSN 432	1160	9414	2417	-	5004
CX	CCKN R/L 2525 M12-4CX	ICSN 452	1160	-	-	2471	5004
	CCKN R/L 2525 M12-7CX	ICSN 432	1160	-	-	2471	5004
	CCKN R/L 3225 P12-4CX	ICSN 452	1160	-	-	2471	5004
	CCKN R/L 3225 P12-7CX	ICSN 432	1160	-	-	2471	5004

		CNG.				
		l	s	d		
 	Ref.	CNG.. 1204..	12,90	4,76	12,70	
		CNG.. 1207..	12,90	7,94	12,70	
Negative 80° - Rhombic inserts						
For more information see page: F.05						
	CNGN	CNGX				

Ceramic tools
Parting and grooving
Threading
Drills
Cartridges
Brazed tools
Tooling

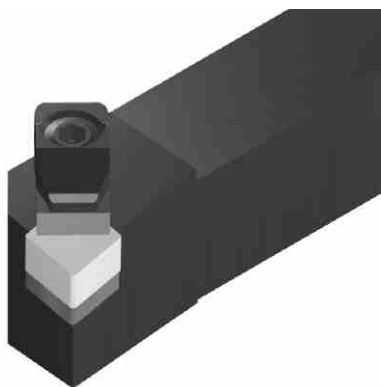
Inserts

General turning

Aluminium wheel turning

Automatic lathes

Ceramic tools

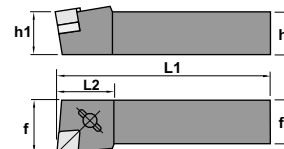


Characteristics:


Multipurpose toolholder equipped with rhombic negative double side insert (angle 80°). The top clamp ensures good rigidity in roughing applications.







Applications:

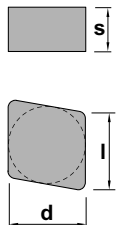




External turning toolholder for general applications, roughing, semi-finishing and finishing.



CCLN 95°

Ref.		h=h1	b	L1	L2	f	Insert size	
CCLN R/L 2525 M12-4CD	CCLN R/L 2525 M12-4CD	25	25	150	35	32	CNGN 1204..	0,750
	CCLN R/L 2525 M12-7CD	25	25	150	35	32	CNGN 1207..	0,750
	CCLN R/L 3225 P12-4CD	32	25	170	35	32	CNGN 1204..	1,050
	CCLN R/L 3225 P12-7CD	32	25	170	35	32	CNGN 1207..	1,050
	CCLN R/L 2525 M16-CD	25	25	150	35	32	CNGN 1607..	0,750
	CCLN R/L 3225 P16-CD	32	25	170	35	32	CNGN 1607..	1,050
CCLN R/L 2525 M12-4CX	CCLN R/L 2525 M12-4CX	25	25	150	35	32	CNGX 1204..	0,750
	CCLN R/L 2525 M12-7CX	25	25	150	35	32	CNGX 1207..	0,750
	CCLN R/L 3225 P12-4CX	32	25	170	35	32	CNGX 1204..	1,050
	CCLN R/L 3225 P12-7CX	32	25	170	35	32	CNGX 1207..	1,050
	CCLN R/L 2525 M16-CX	25	25	150	35	32	CNGX 1607..	0,750
	CCLN R/L 3225 P16-CX	32	25	170	35	32	CNGX 1607..	1,050

							
CD	CCLN R/L 2525 M12-4CD	ICSN 452	1160	9414	2417	-	5004
	CCLN R/L 2525 M12-7CD	ICSN 432	1160	9414	2417	-	5004
	CCLN R/L 3225 P12-4CD	ICSN 452	1160	9414	2417	-	5004
	CCLN R/L 3225 P12-7CD	ICSN 432	1160	9414	2417	-	5004
	CCLN R/L 2525 M16-CD	ICSN 533	1180	9414	2417	-	5004
	CCLN R/L 3225 P16-CD	ICSN 533	1180	9414	2417	-	5004
CX	CCLN R/L 2525 M12-4CX	ICSN 452	1160	-	-	2415	5004
	CCLN R/L 2525 M12-7CX	ICSN 432	1160	-	-	2415	5004
	CCLN R/L 3225 P12-4CX	ICSN 452	1160	-	-	2415	5004
	CCLN R/L 3225 P12-7CX	ICSN 432	1160	-	-	2415	5004
	CCLN R/L 2525 M16-CX	ICSN 533	1180	-	-	2432	5004
	CCLN R/L 3225 P16-CX	ICSN 533	1180	-	-	2432	5004

	CNG..				
	l	s	d		
	Ref.	CNG.. 1204..	12,90	4,76	12,70
		CNG.. 1207..	12,90	7,94	12,70
		CNG.. 1607..	16,10	7,94	15,88
Negative 80° - Rhombic inserts					
For more information see page: F.05					
	CNGN	CNGX			
					
					

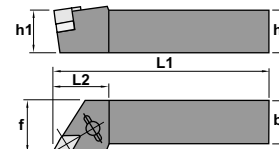


Characteristics:

Turning and profiling toolholder equipped with rhombic negative double side insert (angle 55°). The top clamp ensures good rigidity in roughing applications.

Applications:

External turning toolholder for general applications, roughing, semi-finishing and finishing.



CDJN 93°

Ref.		h=h1	b	L1	L2	f	Insert size	
CDJN R/L	2525 M12-4CD	25	25	150	38	32	DNGN 1204..	0,750
	2525 M12-7CD	25	25	150	38	32	DNGN 1207..	0,750
	3225 P12-4CD	32	25	170	38	32	DNGN 1204..	1,050
	3225 P12-7CD	32	25	170	38	32	DNGN 1207..	1,050
	2525 M15-CD	25	25	150	38	32	DNGN 1507..	0,750
	3225 P15-CD	32	25	170	38	32	DNGN 1507..	1,050
CDJN R/L	2525 M12-4CX	25	25	150	38	32	DNGX 1204..	0,750
	2525 M12-7CX	25	25	150	38	32	DNGX 1207..	0,750
	3225 P12-4CX	32	25	170	38	32	DNGX 1204..	1,050
	3225 P12-7CX	32	25	170	38	32	DNGX 1207..	1,050
	2525 M15-CX	25	25	150	38	32	DNGX 1507..	0,750
	3225 P15-CX	32	25	170	38	32	DNGX 1507..	1,050

CD	CDJN R/L 2525 M12-4CD	3719	1230	9416	2413	-	5004
	CDJN R/L 2525 M12-7CD	3710	1230	9416	2413	-	5004
	CDJN R/L 3225 P12-4CD	3719	1230	9416	2413	-	5004
	CDJN R/L 3225 P12-7CD	3710	1230	9416	2413	-	5004
	CDJN R/L 2525 M15-CD	IDSN 434	1160	9416	2417	-	5004
	CDJN R/L 3225 P15-CD	IDSN 434	1160	9416	2417	-	5004
CX	CDJN R/L 2525 M12-4CX	3719	1230	-	-	2415	5004
	CDJN R/L 2525 M12-7CX	3710	1230	-	-	2415	5004
	CDJN R/L 3225 P12-4CX	3719	1230	-	-	2415	5004
	CDJN R/L 3225 P12-7CX	3710	1230	-	-	2415	5004
	CDJN R/L 2525 M15-CX	IDSN 434	1160	-	-	2432	5004
	CDJN R/L 3225 P15-CX	IDSN 434	1160	-	-	2432	5004

Ref.	DNG.		l	s	d
	DNG.. 1204..		13,05	4,76	10,70
DNG.. 1207..		13,05	7,94	10,70	
DNG.. 1507..		15,50	7,94	12,70	

Negative 55° - Rhombic inserts

For more information see page: F.06

DNGN	DNGX		

CD

CX

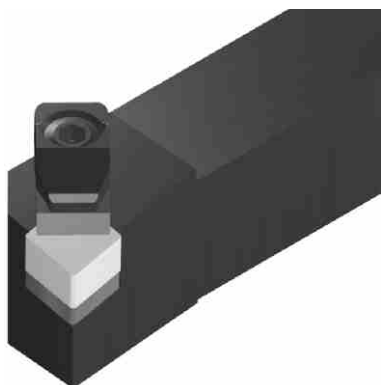
Inserts

General turning

Aluminium wheel turning

Automatic lathes

Ceramic tools

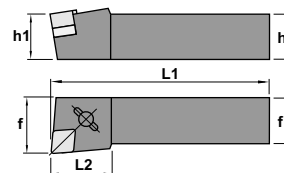


Characteristics:

Multipurpose toolholder equipped with rhombic negative double side insert (angle 75°). The top clamp ensures good rigidity in roughing applications.

Applications:

External turning toolholder for general applications, roughing, semi-finishing and finishing.

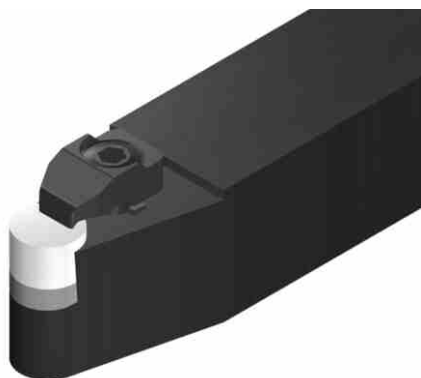


CELN 97°30'

Ref.		h=h1	b	L1	L2	f	Insert size	
CD	CELN R/L 2020 K13-CD	20	20	125	32	25	ENG 1307..	0,400
	CELN R/L 2525 M13-CD	25	25	150	32	32	ENG 1307..	0,750
	CELN R/L 3225 P13-CD	32	25	170	32	32	ENG 1307..	1,050
CX	CELN R/L 2020 K13-CX	20	20	125	32	25	ENGX 1307..	0,400
	CELN R/L 2525 M13-CX	25	25	150	32	32	ENGX 1307..	0,750
	CELN R/L 3225 P13-CX	32	25	170	32	32	ENGX 1307..	1,050

CD	CELN R/L 2020 K13-CD	IESN 432	1160	9414	2413	-	5004
	CELN R/L 2525 M13-CD	IESN 432	1160	9414	2413	-	5004
	CELN R/L 3225 P13-CD	IESN 432	1160	9414	2413	-	5004
CX	CELN R/L 2020 K13-CX	IESN 432	1160	-	-	2415	5004
	CELN R/L 2525 M13-CX	IESN 432	1160	-	-	2415	5004
	CELN R/L 3225 P13-CX	IESN 432	1160	-	-	2415	5004

		ENG.		l	s	d				
	Ref.	ENG. 1307..		13,12	7,94	12,70		<p>For more information see page: F.06</p>		
	Negative 75° - Rhombic inserts									
		ENG	ENGX							

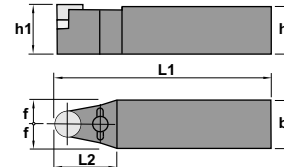


Characteristics:

Profiling toolholder equipped with round positive insert.
The top clamp ensures good rigidity in roughing applications.

Applications:

Profiling turning toolholder for general applications, roughing, semi-finishing and finishing.



CRDC

Ref.		h=h1	b	L1	L2	f	Insert size	
CRDC N	CRDC N 2525 M09-CD	25	25	150	20	12,5	RCGX 0907..	0,750
	CRDC N 3225 P09-CD	32	25	170	20	12,5	RCGX 0907..	0,750
	CRDC N 2525 M12-CD	25	25	150	25	12,5	RCGX 1207..	0,750
	CRDC N 3225 P12-CD	32	25	170	25	12,5	RCGX 1207..	1,050
	CRDC N 2525 M15-CD	25	25	150	30	12,5	RCGX 1507..	0,750
	CRDC N 3225 P15-CD	32	25	170	30	12,5	RCGX 1507..	1,050
	CRDC N 3225 P19-CD	32	25	170	42	12,5	RCGX 1907..	1,050
	CRDC N 3232 P19-CD	32	32	170	42	16,0	RCGX 1907..	1,300
	CRDC N 3232 P25-CD	32	32	170	45	16,0	RCGX 2507..	1,300

CD						
CD	CRDC N 2525 M09-CD	3809		1225	2209	5003
	CRDC N 3225 P09-CD	3809		1225	2209	5003
	CRDC N 2525 M12-CD	3813		1230	2209	5004
	CRDC N 3225 P12-CD	3813		1230	2209	5004
	CRDC N 2525 M15-CD	3817		1225 (2)	2414	5003
	CRDC N 3225 P15-CD	3817		1225 (2)	2414	5003
	CRDC N 3225 P19-CD	3819		1230 (2)	2414	5004
	CRDC N 3232 P19-CD	3819		1230 (2)	2414	5004
	CRDC N 3232 P25-CD	3835		1230 (2)	2417	5004

		RCGX				
Ref.		a	s	d		
RCGX	RCGX 0907..	120°	7,94	9,00		
	RCGX 1207..	120°	7,94	12,00		
	RCGX 1507..	120°	7,94	15,00		
	RCGX 1907..	120°	7,94	19,00		
	RCGX 2507..	120°	7,94	25,00		
Positive 7° clearance - Round inserts For more information see page: F.07						
RCGX						

Ceramic tools

Parting and grooving

Threading

Drills

Cartridges

Brazed tools

Tooling

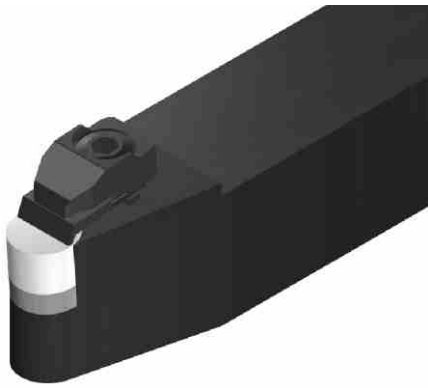
Inserts

General turning

Aluminium wheel turning

Automatic lathes

Ceramic tools

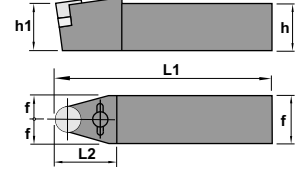


Characteristics:

Profiling multipurpose turning toolholder equipped with round positive insert.
 The top clamp ensures good rigidity in roughing applications.

Applications:

Profiling multipurpose turning toolholder for general applications, roughing, semi-finishing and finishing.

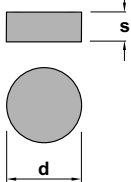


CRDN

Ref.		h=h1	b	L1	L2	f	Insert size	
CRDN N 2525 M12-4CD		25	25	150	32	12,5	RNGN 1204..	0,750
CRDN N 2525 M12-7CD		25	25	150	32	12,5	RNGN 1207..	0,750
CRDN N 3225 P12-4CD		32	25	170	32	12,5	RNGN 1204..	1,050
CRDN N 3225 P12-7CD		32	25	170	32	12,5	RNGN 1207..	1,050
CRDN N 2525 M15-7CD		25	25	150	32	12,5	RNGN 1507..	0,750
CRDN N 3225 P15-7CD		32	25	170	32	12,5	RNGN 1507..	1,050
CRDN N 3225 P19-7CD		32	25	170	32	12,5	RNGN 1907..	1,050
CRDN N 3232 P25-7CD		32	32	170	32	16,0	RNGN 2507..	1,300

CD

CRDN N 2525 M12-4CD	IRSN 45	1160	2413	9414	5004
CRDN N 2525 M12-7CD	IRSN 43	1160	2413	9414	5004
CRDN N 3225 P12-4CD	IRSN 45	1160	2413	9414	5004
CRDN N 3225 P12-7CD	IRSN 43	1160	2413	9414	5004
CRDN N 2525 M15-7CD	IRSN 53	1180	2417	9414	5004
CRDN N 3225 P15-7CD	IRSN 53	1180	2417	9414	5004
CRDN N 3225 P19-7CD	3819	1182	2417	9414	5004
CRDN N 3232 P25-7CD	IRSN 84	1182	2417	9414	5004



RNGN

Ref.		l	s	d
RNGN 1204..		-	4,76	12,00
RNGN 1207..		-	7,94	12,00
RNGN 15		-	7,94	15,00
RNGN 19		-	7,94	19,00
RNGN 25		-	7,94	25,00

Negative round insert

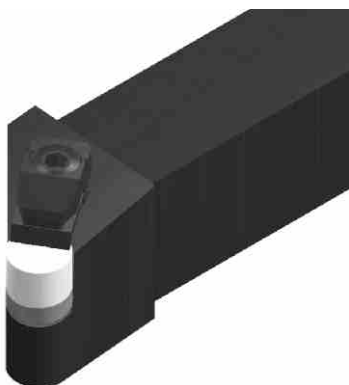
For more information see page: F.07

RNGN



CD



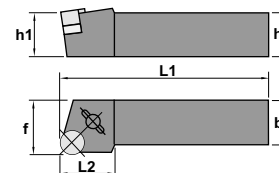


Characteristics:

Profiling multipurpose turning toolholder equipped with round positive insert.
The top clamp ensures good rigidity in roughing applications.

Applications:

Profiling multipurpose turning toolholder for general applications, roughing, semi-finishing and finishing.



CRSN		h=h1	b	L1	L2	f	Insert size	
Ref.	CRSN R/L 2525 M12-4CD	25	25	150	28	32	RNGN 1204..	0,750
	CRSN R/L 2525 M12-7CD	25	25	150	28	32	RNGN 1207..	0,750
	CRSN R/L 3225 P12-4CD	32	25	170	28	32	RNGN 1204..	1,050
	CRSN R/L 3225 P12-7CD	32	25	170	28	32	RNGN 1207..	1,050

CD						
	CRSN R/L 2525 M12-4CD	IRSN 45	1160	2413	9414	5004
	CRSN R/L 2525 M12-7CD	IRSN 43	1160	2413	9414	5004
	CRSN R/L 3225 P12-4CD	IRSN 45	1160	2413	9414	5004
	CRSN R/L 3225 P12-7CD	IRSN 43	1160	2413	9414	5004

	RNGN			
	Ref.	l	s	d
	RNGN 1204..	-	4,76	12,00
RNGN 1207..	-	7,94	12,00	
Negative round insert				
For more information see page: F.07				
RNGN				

- Ceramic tools
- Parting and grooving
- Threading
- Drills
- Cartridges
- Brazed tools
- Tooling

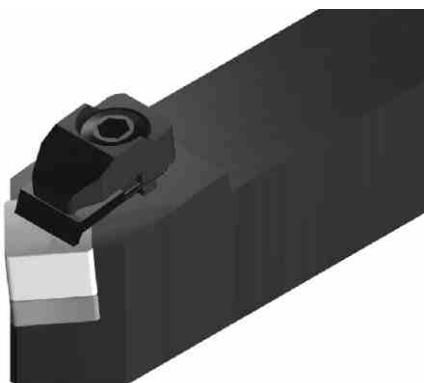
Inserts

General turning

Aluminium wheel turning

Automatic lathes

Ceramic tools

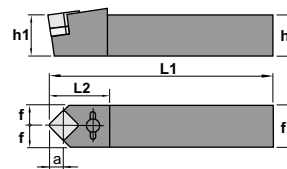


Characteristics:

Toolholder for external turning and chamfering applications equipped with square negative inserts. The top clamp ensures good rigidity in roughing applications.

Applications:

External turning and chamfering toolholder for general applications, roughing, semi-finishing and finishing.

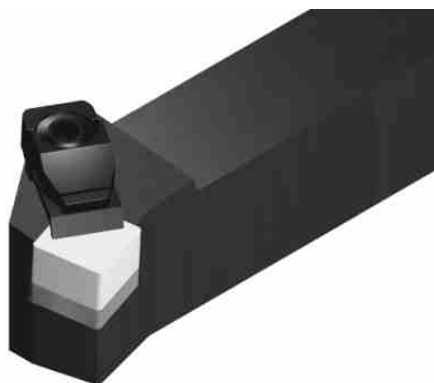


CSDN 45°

Ref.		h=h1	b	L1	L2	f	a	Insert size	
CD	CSDN N 2525 M12-4CD	25	25	150	35	12,5	8,32	SNGN 1204..	0,750
	CSDN N 2525 M12-7CD	25	25	150	35	12,5	8,32	SNGN 1207..	0,750
	CSDN N 3225 P12-4CD	32	25	170	35	12,5	8,32	SNGN 1204..	1,050
	CSDN N 3225 P12-7CD	32	25	170	35	12,5	8,32	SNGN 1207..	1,050
	CSDN N 2525 M15-CD	25	25	150	38	12,5	10,23	SNGN 1507..	0,750
	CSDN N 3225 P15-CD	32	25	170	38	12,5	10,23	SNGN 1507..	1,050
CX	CSDN N 2525 M12-4CX	25	25	150	35	12,5	8,32	SNGX 1204..	0,750
	CSDN N 2525 M12-7CX	25	25	150	35	12,5	8,32	SNGX 1207..	0,750
	CSDN N 3225 P12-4CX	32	25	170	35	12,5	8,32	SNGX 1204..	1,050
	CSDN N 3225 P12-7CX	32	25	170	35	12,5	8,32	SNGX 1207..	1,050
	CSDN N 2525 M15-CX	25	25	150	38	12,5	10,23	SNGX 1507..	0,750
	CSDN N 3225 P15-CX	32	25	170	38	12,5	10,23	SNGX 1507..	1,050

CD	CSDN N 2525 M12-4CD	ISSN 454	1160	9414	2417	-	5004
	CSDN N 2525 M12-7CD	ISSN 434	1160	9414	2417	-	5004
	CSDN N 3225 P12-4CD	ISSN 454	1160	9414	2417	-	5004
	CSDN N 3225 P12-7CD	ISSN 434	1160	9414	2417	-	5004
	CSDN N 2525 M15-CD	ISSN 534	1180	9414	2417	-	5004
	CSDN N 3225 P15-CD	ISSN 534	1180	9414	2417	-	5004
CX	CSDN N 2525 M12-4CX	ISSN 454	1160	-	-	2415	5004
	CSDN N 2525 M12-7CX	ISSN 434	1160	-	-	2415	5004
	CSDN N 3225 P12-4CX	ISSN 454	1160	-	-	2415	5004
	CSDN N 3225 P12-7CX	ISSN 434	1160	-	-	2415	5004
	CSDN N 2525 M15-CX	ISSN 534	1180	-	-	2415	5004
	CSDN N 3225 P15-CX	ISSN 534	1180	-	-	2415	5004

	SNG..		l	s	d	
	Ref.	SNG.. 1204..	12,70	4,76	12,70	
		SNG.. 1207..	12,70	7,94	12,70	
		SNG.. 1507..	15,87	7,94	15,87	
Negative square inserts.						
For more information see page: F.08						
	SNGN	SNGX				

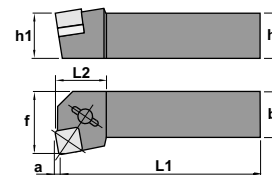


Characteristics:

Toolholder for face turning applications equipped with square negative inserts and strong cutting edges. The top clamp ensures good rigidity in roughing applications.

Applications:

Face turning toolholder for general applications, roughing, semi-finishing and finishing.



CSKN 75°

Ref.		h=h1	b	L1	L2	f	a	Insert size	
CSKN R/L	2525 M12-4CD	25	25	150	27	32	3,06	SNGN 1204..	0,750
	2525 M12-7CD	25	25	150	27	32	3,06	SNGN 1207..	0,750
	3225 P12-4CD	32	25	170	27	32	3,06	SNGN 1204..	1,050
	3225 P12-7CD	32	25	170	27	32	3,06	SNGN 1207..	1,050
	2525 M15-CD	25	25	150	28	32	3,77	SNGN 1507..	0,750
	3225 P15-CD	32	25	170	28	32	3,77	SNGN 1507..	1,050
CSKN R/L	2525 M12-4CX	25	25	150	27	32	3,06	SNGX 1204..	0,750
	2525 M12-7CX	25	25	150	27	32	3,06	SNGX 1207..	0,750
	3225 P12-4CX	32	25	170	27	32	3,06	SNGX 1207..	1,050
	3225 P12-7CX	32	25	170	27	32	3,06	SNGX 1207..	1,050
	2525 M15-CX	25	25	150	28	32	3,77	SNGX 1507..	0,750
	3225 P15-CX	32	25	170	28	32	3,77	SNGX 1507..	1,050
	4040 P15-CX	40	40	170	28	32	3,77	SNGX 1507..	1,300

Ceramic tools

Parting and grooving

Threading

Drills

Cartridges

Brazed tools

Tooling

CD	CSKN R/L 2525 M12-4CD	ISSN 454	1160	9414	2417	-	5004
	CSKN R/L 2525 M12-7CD	ISSN 434	1160	9414	2417	-	5004
	CSKN R/L 3225 P12-4CD	ISSN 454	1160	9414	2417	-	5004
	CSKN R/L 3225 P12-7CD	ISSN 434	1160	9414	2417	-	5004
	CSKN R/L 2525 M15-CD	ISSN 534	1180	9414	2417	-	5004
	CSKN R/L 3225 P15-CD	ISSN 534	1180	9414	2417	-	5004
CX	CSKN R/L 2525 M12-4CX	ISSN 454	1160	-	-	2415	5004
	CSKN R/L 2525 M12-7CX	ISSN 434	1160	-	-	2415	5004
	CSKN R/L 3225 P12-4CX	ISSN 454	1160	-	-	2415	5004
	CSKN R/L 3225 P12-7CX	ISSN 434	1160	-	-	2415	5004
	CSKN R/L 2525 M15-CX	ISSN 534	1180	-	-	2415	5004
	CSKN R/L 3225 P15-CX	ISSN 534	1180	-	-	2415	5004
	CSKN R/L 4040 P15-CX	ISSN 534	1180	-	-	2415	5004

Ref.	SNG.		l	s	d
	SNG. 1204..		12,70	4,76	12,70
	SNG. 1207..		12,70	7,94	12,70
	SNG. 1507..		15,87	7,94	15,87

Negative square inserts.

For more information see page: F.08

SNGN	SNGX

CD

CX

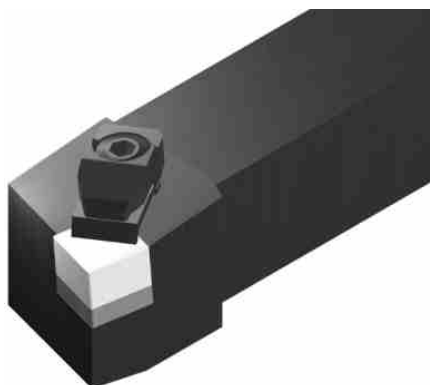
Inserts

General turning

Aluminium wheel turning

Automatic lathes

Ceramic tools

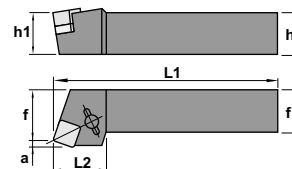


Characteristics:

Toolholder for external turning applications equipped with square negative inserts. The top clamp ensures good rigidity in roughing applications.

Applications:

External turning toolholder for general applications, roughing, semi-finishing and finishing.



CSRN 75°

Ref.		h=h1	b	L1	L2	f	a	Insert size	Kg
CD	CSRN R/L 2525 M12-4CD	25	25	150	32	27	3,06	SNGN 1204..	0,750
	CSRN R/L 2525 M12-7CD	25	25	150	32	27	3,06	SNGN 1207..	0,750
	CSRN R/L 3225 P12-4CD	32	25	170	32	27	3,06	SNGN 1204..	1,050
	CSRN R/L 3225 P12-7CD	32	25	170	32	27	3,06	SNGN 1207..	1,050
	CSRN R/L 2525 M15-CD	25	25	150	34	27	3,77	SNGN 1507..	0,750
	CSRN R/L 3225 P15-CD	32	25	170	34	27	3,77	SNGN 1507..	1,050
	CSRN R/L 3232 P19-CD	32	32	170	34	27	4,50	SNGX 1907..	1,150
	CSRN R/L 4040 P19-CD	40	40	170	34	27	4,50	SNGX 1907..	1,300
CX	CSRN R/L 2525 M12-4CX	25	25	150	32	27	3,06	SNGX 1204..	0,750
	CSRN R/L 2525 M12-7CX	25	25	150	32	27	3,06	SNGX 1207..	0,750
	CSRN R/L 3225 P12-4CX	32	25	170	32	27	3,06	SNGX 1204..	1,050
	CSRN R/L 3225 P12-7CX	32	25	170	32	27	3,06	SNGX 1207..	1,050
	CSRN R/L 2525 M15-CX	25	25	150	34	27	3,77	SNGX 1507..	0,750
	CSRN R/L 3225 P15-CX	32	25	170	34	27	3,77	SNGX 1507..	1,050

CD	CSRN R/L 2525 M12-4CD	ISSN 454	1160	9414	2417	-	5004
	CSRN R/L 2525 M12-7CD	ISSN 434	1160	9414	2417	-	5004
	CSRN R/L 3225 P12-4CD	ISSN 454	1160	9414	2417	-	5004
	CSRN R/L 3225 P12-7CD	ISSN 434	1160	9414	2417	-	5004
	CSRN R/L 2525 M15-CD	ISSN 534	1180	9414	2417	-	5004
	CSRN R/L 3225 P15-CD	ISSN 534	1180	9414	2417	-	5004
	CSRN R/L 3232 P19-CD	ISSN 634	1181	9414	2417	-	5004
CX	CSRN R/L 4040 P19-CD	ISSN 634	1182	9414	2417	-	5004
	CSRN R/L 2525 M12-4CX	ISSN 454	1160	-	-	2415	5004
	CSRN R/L 2525 M12-7CX	ISSN 434	1160	-	-	2415	5004
	CSRN R/L 3225 P12-4CX	ISSN 454	1160	-	-	2415	5004
	CSRN R/L 3225 P12-7CX	ISSN 434	1160	-	-	2415	5004
	CSRN R/L 2525 M15-CX	ISSN 534	1180	-	-	2415	5004
CSRN R/L 3225 P15-CX	ISSN 534	1180	-	-	2415	5004	

		SNG..		l	s	d			
	Ref.	SNG.. 1204..		12,70	4,76	12,70			
		SNG.. 1207..		12,70	7,94	12,70			
		SNG.. 1507..		15,87	7,94	15,87			
		Negative square inserts.							
		For more information see page: F.08							
	SNGN	SNGX							

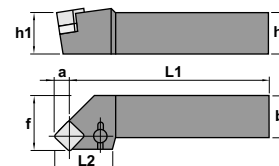


Characteristics:

Toolholder for external turning and chamfering applications equipped with square negative inserts. The top clamp ensures good rigidity in roughing applications.

Applications:

External turning and chamfering toolholder for general applications, roughing, semi-finishing and finishing.



CSSN 45°

Ref.		h=h1	b	L1	L2	f	a	Insert size		
CSSN R/L	2525 M12-4CD	25	25	150	35	32	8,32	SNGN 1204..	0,750	
	2525 M12-7CD	25	25	150	35	32	8,32	SNGN 1207..	0,750	
	3225 P12-4CD	32	25	170	35	32	8,32	SNGN 1204..	1,050	
	3225 P12-7CD	32	25	170	35	32	8,32	SNGN 1207..	1,050	
	2525 M15-CD	25	25	150	37	32	10,23	SNGN 1507..	0,750	
	3225 P15-CD	32	25	170	37	32	10,23	SNGN 1507..	1,050	
	3232 P19-CD	32	32	170	37	32	12,50	SNGN 1907..	1,150	
	4040 P19-CD	40	40	170	37	32	12,50	SNGN 1907..	1,300	
	CSSN R/L	2525 M12-4CX	25	25	150	35	32	8,32	SNGX 1204..	0,750
		2525 M12-7CX	25	25	150	35	32	8,32	SNGX 1207..	0,750
3225 P12-4CX		32	25	170	35	32	8,32	SNGX 1204..	1,050	
3225 P12-7CX		32	25	170	35	32	8,32	SNGX 1207..	1,050	
2525 M15-CX		25	25	150	37	32	10,23	SNGX 1507..	0,750	
3225 P15-CX		32	25	170	37	32	10,23	SNGX 1507..	1,050	

Ceramic tools

Parting and grooving

CD	CSSN R/L 2525 M12-4CD	ISSN 454	1160	9414	2417	-	5004
	CSSN R/L 2525 M12-7CD	ISSN 434	1160	9414	2417	-	5004
	CSSN R/L 3225 P12-4CD	ISSN 454	1160	9414	2417	-	5004
	CSSN R/L 3225 P12-7CD	ISSN 434	1160	9414	2417	-	5004
	CSSN R/L 2525 M15-CD	ISSN 534	1180	9414	2417	-	5004
	CSSN R/L 3225 P15-CD	ISSN 534	1180	9414	2417	-	5004
	CSSN R/L 3232 P19-CD	ISSN 634	1181	9414	2417	-	5004
	CSSN R/L 4040 P19-CD	ISSN 634	1182	9414	2417	-	5004
CX	CSSN R/L 2525 M12-4CX	ISSN 454	1160	-	-	2415	5004
	CSSN R/L 2525 M12-7CX	ISSN 434	1160	-	-	2415	5004
	CSSN R/L 3225 P12-4CX	ISSN 454	1160	-	-	2415	5004
	CSSN R/L 3225 P12-7CX	ISSN 434	1160	-	-	2415	5004
	CSSN R/L 2525 M15-CX	ISSN 534	1180	-	-	2415	5004
	CSSN R/L 3225 P15-CX	ISSN 534	1180	-	-	2415	5004

Threading

Drills

Cartridges

	SNG.				
	Ref.	l	s	d	
	SNG. 1204..	12,70	4,76	12,70	
SNG. 1207..	12,70	7,94	12,70		
SNG. 1507..	15,87	7,94	15,87		
Negative square inserts.					
For more information see page: F.08					
	SNGN	SNGX			

Brazed tools

Tooling

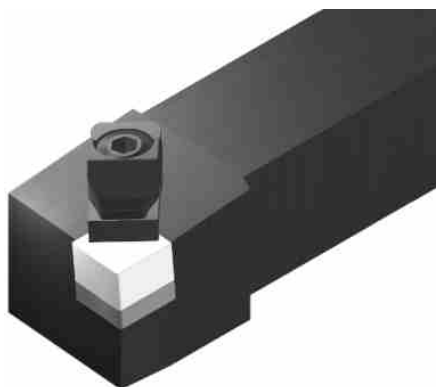
Inserts

General turning

Aluminium wheel turning

Automatic lathes

Ceramic tools

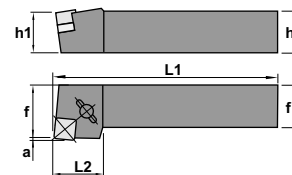


Characteristics:

Toolholder for external turning applications equipped with square negative inserts. The top clamp ensures good rigidity in roughing applications.

Applications:

External turning toolholder for general applications, roughing, semi-finishing and finishing.

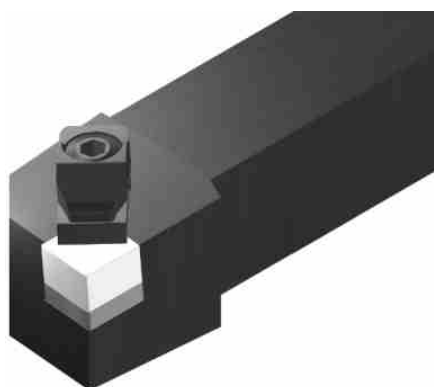


CSXN 85°

Ref.		h=h1	b	L1	L2	f	a	Insert size	Kg
CD	CSXN R/L 2525 M12-4CD	25	25	150	30	32	1,03	SNGN 1204..	0,750
	CSXN R/L 2525 M12-7CD	25	25	150	30	32	1,03	SNGN 1207..	0,750
	CSXN R/L 3225 P12-4CD	32	25	170	30	32	1,03	SNGN 1204..	1,050
	CSXN R/L 3225 P12-7CD	32	25	170	30	32	1,03	SNGN 1207..	1,050
	CSXN R/L 2525 M15-CD	25	25	150	33	32	1,38	SNGN 1507..	0,750
	CSXN R/L 3225 P15-CD	32	25	170	33	32	1,38	SNGN 1507..	1,050
CX	CSXN R/L 2525 M12-4CX	25	25	150	30	32	1,03	SNGX 1204..	0,750
	CSXN R/L 2525 M12-7CX	25	25	150	30	32	1,03	SNGX 1207..	0,750
	CSXN R/L 3225 P12-4CX	32	25	170	30	32	1,03	SNGX 1204..	1,050
	CSXN R/L 3225 P12-7CX	32	25	170	30	32	1,03	SNGX 1207..	1,050
	CSXN R/L 2525 M15-CX	25	25	150	33	32	1,38	SNGX 1507..	0,750
	CSXN R/L 3225 P15-CX	32	25	170	33	32	1,38	SNGX 1507..	1,050

CD	CSXN R/L 2525 M12-4CD	ISSN 454	1160	9414	2417	-	5004
	CSXN R/L 2525 M12-7CD	ISSN 434	1160	9414	2417	-	5004
	CSXN R/L 3225 P12-4CD	ISSN 454	1160	9414	2417	-	5004
	CSXN R/L 3225 P12-7CD	ISSN 434	1160	9414	2417	-	5004
	CSXN R/L 2525 M15-CD	ISSN 534	1180	9414	2417	-	5004
	CSXN R/L 3225 P15-CD	ISSN 534	1180	9414	2417	-	5004
CX	CSXN R/L 2525 M12-4CX	ISSN 454	1160	-	-	2415	5004
	CSXN R/L 2525 M12-7CX	ISSN 434	1160	-	-	2415	5004
	CSXN R/L 3225 P12-4CX	ISSN 454	1160	-	-	2415	5004
	CSXN R/L 3225 P12-7CX	ISSN 434	1160	-	-	2415	5004
	CSXN R/L 2525 M15-CX	ISSN 534	1180	-	-	2415	5004
	CSXN R/L 3225 P15-CX	ISSN 534	1180	-	-	2415	5004

		SNG..		l	s	d			
	Ref.	SNG.. 1204..		12,70	4,76	12,70			
		SNG.. 1207..		12,70	7,94	12,70			
		SNG.. 1507..		15,87	7,94	15,87			
		Negative square inserts.							
		For more information see page: F.08							
	SNGN	SNGX							

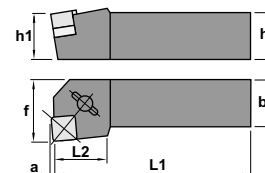


Characteristics:

Toolholder for external turning applications equipped with square negative inserts. The top clamp ensures good rigidity in roughing applications.

Applications:

External turning toolholder for general applications, roughing, semi-finishing and finishing.



CSYN 85°		h=h1	b	L1	L2	f	a	Insert size	
Ref.	CSYN R/L 2525 M12-4CD	25	25	150	27	32	1,03	SNGN 1204..	0,750
	CSYN R/L 2525 M12-7CD	25	25	150	27	32	1,03	SNGN 1207..	0,750
	CSYN R/L 3225 P12-4CD	32	25	170	27	32	1,03	SNGN 1204..	1,050
	CSYN R/L 3225 P12-7CD	32	25	170	27	32	1,03	SNGN 1207..	1,050
	CSYN R/L 2525 M15-CD	25	25	150	27	32	1,38	SNGN 1507..	0,750
	CSYN R/L 3225 P15-CD	32	25	170	27	32	1,38	SNGN 1507..	1,050
Ref.	CSYN R/L 2525 M12-4CX	25	25	150	27	32	1,03	SNGX 1204..	0,750
	CSYN R/L 2525 M12-7CX	25	25	150	27	32	1,03	SNGX 1207..	0,750
	CSYN R/L 3225 P12-4CX	32	25	170	27	32	1,03	SNGX 1204..	1,050
	CSYN R/L 3225 P12-7CX	32	25	170	27	32	1,03	SNGX 1207..	1,050
	CSYN R/L 2525 M15-CX	25	25	150	27	32	1,38	SNGX 1507..	0,750
	CSYN R/L 3225 P15-CX	32	25	170	27	32	1,38	SNGX 1507..	1,050

CD	CSYN R/L 2525 M12-4CD	ISSN 454	1160	9414	2417	-	5004
	CSYN R/L 2525 M12-7CD	ISSN 434	1160	9414	2417	-	5004
	CSYN R/L 3225 P12-4CD	ISSN 454	1160	9414	2417	-	5004
	CSYN R/L 3225 P12-7CD	ISSN 434	1160	9414	2417	-	5004
	CSYN R/L 2525 M15-CD	ISSN 534	1180	9414	2417	-	5004
	CSYN R/L 3225 P15-CD	ISSN 534	1180	9414	2417	-	5004
CX	CSYN R/L 2525 M12-4CX	ISSN 454	1160	-	-	2415	5004
	CSYN R/L 2525 M12-7CX	ISSN 434	1160	-	-	2415	5004
	CSYN R/L 3225 P12-4CX	ISSN 454	1160	-	-	2415	5004
	CSYN R/L 3225 P12-7CX	ISSN 434	1160	-	-	2415	5004
	CSYN R/L 2525 M15-CX	ISSN 534	1180	-	-	2415	5004
	CSYN R/L 3225 P15-CX	ISSN 534	1180	-	-	2415	5004

	SNG.		l	s	d		
	Ref.	SNG. 1204..	12,70	4,76	12,70		Negative square inserts. For more information see page: F.08
		SNG. 1207..	12,70	7,94	12,70		
	SNG. 1507..	15,87	7,94	15,87			
	SNGN	SNGX					

Ceramic tools
Parting and grooving
Threading
Drills
Cartridges
Brazed tools
Tooling

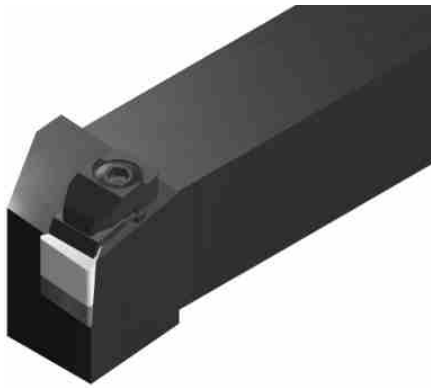
Inserts

General turning

Aluminium wheel turning

Automatic lathes

Ceramic tools

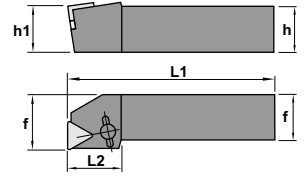


Characteristics:

Toolholder for face turning applications equipped with triangular negative inserts. The top clamp ensures good rigidity in roughing applications.

Applications:

Face turning toolholder for general applications, roughing, semi-finishing and finishing.

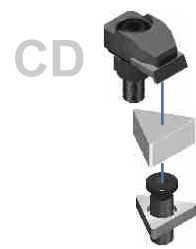


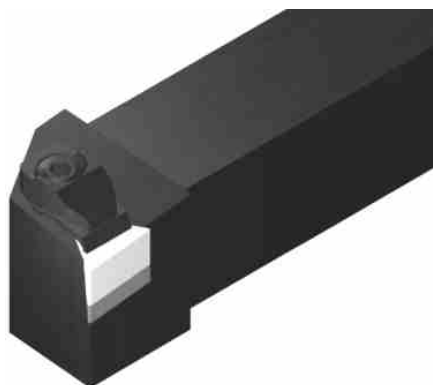
CTFN 90°

Ref.		h=h1	b	L1	L2	f	Insert size	
CTFN R/L 2525 M16-4CD		25	25	150	29	32	TNGN 1604..	0,750
CTFN R/L 2525 M16-7CD		25	25	150	29	32	TNGN 1607..	0,750
CTFN R/L 3225 P16-4CD		32	25	170	29	32	TNGN 1604..	1,050
CTFN R/L 3225 P16-7CD		32	25	170	29	32	TNGN 1607..	1,050

CD						
CTFN R/L 2525 M16-4CD		ITSN 342	1150	9416	2413	5004
CTFN R/L 2525 M16-7CD		ITSN 324	1150	9416	2413	5004
CTFN R/L 3225 P16-4CD		ITSN 342	1150	9416	2413	5004
CTFN R/L 3225 P16-7CD		ITSN 324	1150	9416	2413	5004

		TNGN		l	s	d
	Ref.	TNGN 1604..		16,50	4,76	9,52
		TNGN 1607..		16,50	7,94	9,52
Negative triangular inserts						
For more information see page: F.09						
		TNGN				



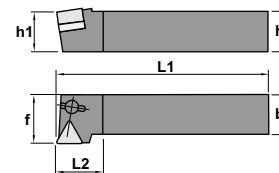


Characteristics:

Toolholder for external turning applications equipped with triangular negative inserts. The top clamp ensures good rigidity in roughing applications.

Applications:

External turning toolholder for general applications, roughing, semi-finishing and finishing.

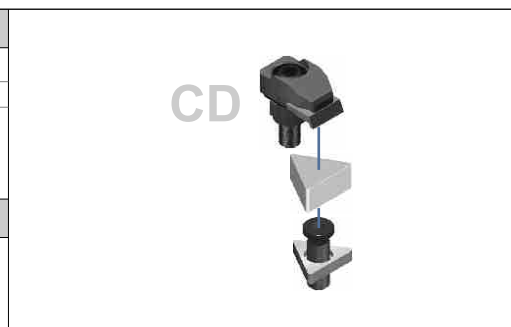


CTGN 90°

Ref.		h=h1	b	L1	L2	f	Insert size	
CTGN R/L 2525 M16-4CD		25	25	150	20	32	TNGN 1604..	0,750
CTGN R/L 2525 M16-7CD		25	25	150	20	32	TNGN 1607..	0,750
CTGN R/L 3225 P16-4CD		32	25	170	20	32	TNGN 1604..	1,050
CTGN R/L 3225 P16-7CD		32	25	170	20	32	TNGN 1607..	1,050

CD						
CTGN R/L 2525 M16-4CD		ITSN 342	1150	9416	2413	5004
CTGN R/L 2525 M16-7CD		ITSN 324	1150	9416	2413	5004
CTGN R/L 3225 P16-4CD		ITSN 342	1150	9416	2413	5004
CTGN R/L 3225 P16-7CD		ITSN 324	1150	9416	2413	5004

TNGN		l	s	d
Ref.	TNGN 1604..	16,50	4,76	9,52
	TNGN 1607..	16,50	7,94	9,52
Negative triangular inserts				
For more information see page: F.09				
TNGN				



- Ceramic tools
- Parting and grooving
- Threading
- Drills
- Cartridges
- Brazed tools
- Tooling

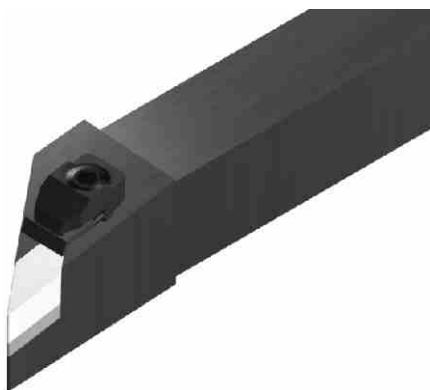
Inserts

General turning

Aluminium wheel turning

Automatic lathes

Ceramic tools

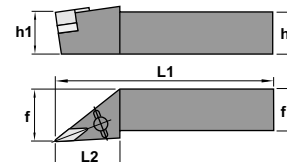


Characteristics:

External turning and profiling toolholder equipped with rhombic negative double side insert (angle 35°). The top clamp ensures good rigidity in roughing applications.

Applications:

External turning and profiling toolholder for general applications, roughing, semi-finishing and finishing.



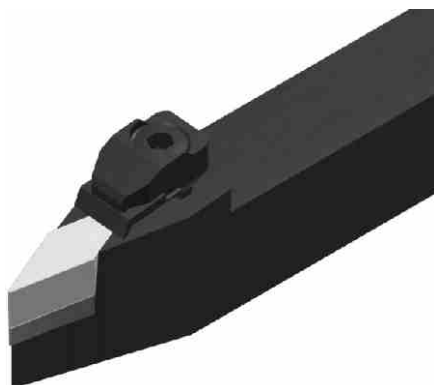
CVJN 93°

Ref.		h=h1	b	L1	L2	f	Insert size	
CVJN R/L 2525 M16-4CD	CVJN R/L 2525 M16-4CD	25	25	150	41	32	VNGN 1604..	0,750
	CVJN R/L 2525 M16-7CD	25	25	150	41	32	VNGN 1607..	0,750
	CVJN R/L 3225 P16-4CD	32	25	170	41	32	VNGN 1604..	1,050
	CVJN R/L 3225 P16-7CD	32	25	170	41	32	VNGN 1607..	1,050
CVJN R/L 2525 M16-4CX	CVJN R/L 2525 M16-4CX	25	25	150	41	32	VNGX 1604..	0,750
	CVJN R/L 2525 M16-7CX	25	25	150	41	32	VNGX 1607..	0,750
	CVJN R/L 3225 P16-4CX	32	25	170	41	32	VNGX 1604..	1,050
	CVJN R/L 3225 P16-7CX	32	25	170	41	32	VNGX 1607..	1,050

CD	CVJN R/L 2525 M16-4CD	IVSN 342	1150	9416	2417	-	5004
	CVJN R/L 2525 M16-7CD	IVSN 322	1150	9416	2417	-	5004
	CVJN R/L 3225 P16-4CD	IVSN 342	1150	9416	2417	-	5004
	CVJN R/L 3225 P16-7CD	IVSN 322	1150	9416	2417	-	5004
CX	CVJN R/L 2525 M16-4CX	IVSN 342	1150	-	-	2428	5004
	CVJN R/L 2525 M16-7CX	IVSN 322	1150	-	-	2428	5004
	CVJN R/L 3225 P16-4CX	IVSN 342	1150	-	-	2428	5004
	CVJN R/L 3225 P16-7CX	IVSN 322	1150	-	-	2428	5004

		VNG..		l	s	d		
	Ref.	VNG.. 1604..		16,50	4,76	9,52		
		VNG.. 1607..		16,50	7,94	9,52		
	Negative 35° rhombic insert							
		VNGN	VNGX					

For more information see page: F.09

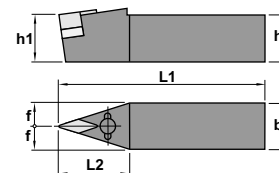


Characteristics:

External turning and profiling toolholder equipped with rhombic negative double side insert (angle 35°). The top clamp ensures good rigidity in roughing applications.

Applications:

External turning and profiling toolholder for general applications, roughing, semi-finishing and finishing.



CVVN 62°30'

Ref.		h=h1	b	L1	L2	f	Insert size	
CVVN N 2525 M16-4CD	CVVN N 2525 M16-4CD	25	25	150	45	12,5	VNGN 1604..	0,750
	CVVN N 2525 M16-7CD	25	25	150	45	12,5	VNGN 1607..	0,750
	CVVN N 3225 P16-4CD	32	25	170	45	12,5	VNGN 1604..	1,050
	CVVN N 3225 P16-7CD	32	25	170	45	12,5	VNGN 1607..	1,050
CVVN N 2525 M16-4CX	CVVN N 2525 M16-4CX	25	25	150	45	12,5	VNGX 1604..	0,750
	CVVN N 2525 M16-7CX	25	25	150	45	12,5	VNGX 1607..	0,750
	CVVN N 3225 P16-4CX	32	25	170	45	12,5	VNGX 1604..	1,050
	CVVN N 3225 P16-7CX	32	25	170	45	12,5	VNGX 1607..	1,050

Ceramic tools

Parting and grooving

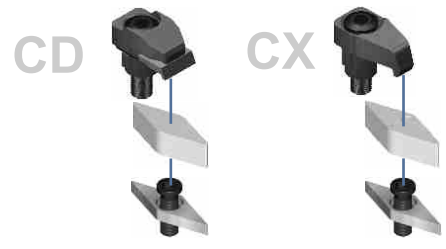
CD	CVVN N 2525 M16-4CD	IVSN 342	1150	9416	2417	-	5004
	CVVN N 2525 M16-7CD	IVSN 322	1150	9416	2417	-	5004
	CVVN N 3225 P16-4CD	IVSN 342	1150	9416	2417	-	5004
	CVVN N 3225 P16-7CD	IVSN 322	1150	9416	2417	-	5004
CX	CVVN N 2525 M16-4CX	IVSN 342	1150	-	-	2428	5004
	CVVN N 2525 M16-7CX	IVSN 322	1150	-	-	2428	5004
	CVVN N 3225 P16-4CX	IVSN 342	1150	-	-	2428	5004
	CVVN N 3225 P16-7CX	IVSN 322	1150	-	-	2428	5004

Threading

Drills

Cartridges

VNG.		l	s	d
Ref.	VNG. 1604..	16,50	4,76	9,52
	VNG. 1607..	16,50	7,94	9,52
Negative 35° rhombic insert				
For more information see page: F.09				
VNGN	VNGX			



Brazed tools

Tooling

Inserts

General turning

Aluminium wheel turning

Automatic lathes

Ceramic tools

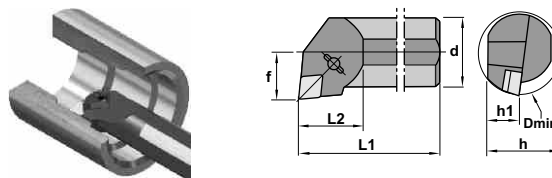


Characteristics:

Multipurpose boring bar equipped with rhombic negative double side insert (angle 80°). The top clamp ensures good rigidity in roughing applications.

Applications:

Internal boring bar for general applications, roughing, semi-finishing and finishing.



CCLN 95°

Ref.		d	h1	L1	L2	f	h	Dmin	Insert size	Kg
CD	S32S CCLN R/L 12-7CD	32	15,0	250	40	22	30	40	CNGN 1207..	1,450
	S40T CCLN R/L 12-4CD	40	18,5	300	35	27	37	70	CNGN 1204..	2,700
	S40T CCLN R/L 12-7CD	40	18,5	300	35	27	37	70	CNGN 1207..	2,700
	S50U CCLN R/L 12-4CD	50	23,5	350	38	32	47	70	CNGN 1204..	4,950
	S50U CCLN R/L 12-7CD	50	23,5	350	38	32	47	70	CNGN 1207..	4,950
CX	S32S CCLN R/L 12-7CX	32	15,0	250	40	22	30	40	CNGX 1207..	1,450
	S40T CCLN R/L 12-4CX	40	18,5	300	35	27	37	70	CNGX 1204..	2,700
	S40T CCLN R/L 12-7CX	40	18,5	300	35	27	37	70	CNGX 1207..	2,700
	S50U CCLN R/L 12-4CX	50	23,5	350	38	32	47	70	CNGX 1204..	4,950
	S50U CCLN R/L 12-7CX	50	23,5	350	38	32	47	70	CNGX 1207..	4,950

CD	S32S CCLN R/L 12-7CD	-	-	9414	2417	-	5004
	S40T CCLN R/L 12-4CD	ICSN 452	1161	9414	2417	-	5004
	S40T CCLN R/L 12-7CD	ICSN 432	1161	9414	2417	-	5004
	S50U CCLN R/L 12-4CD	ICSN 452	1160	9414	2417	-	5004
	S50U CCLN R/L 12-7CD	ICSN 432	1160	9414	2417	-	5004
CX	S32S CCLN R/L 12-7CX	-	-	-	-	2415	5004
	S40T CCLN R/L 12-4CX	ICSN 452	1161	-	-	2415	5004
	S40T CCLN R/L 12-7CX	ICSN 432	1161	-	-	2415	5004
	S50U CCLN R/L 12-4CX	ICSN 452	1160	-	-	2415	5004
	S50U CCLN R/L 12-7CX	ICSN 432	1160	-	-	2415	5004

	CNG..				
	l	s	d		
 	Ref.	CNG.. 1204..	12,90	4,76	12,70
		CNG.. 1207..	12,90	7,94	12,70
Negative 80° - Rhombic inserts					
For more information see page: F.05					
	CNGN	CNGX			

CD

CX



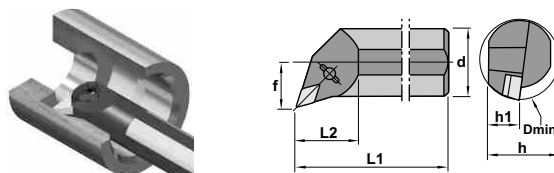
Characteristics:

Profiling boring bar equipped with rhombic negative double side insert (angle 55°).

The top clamp ensures good rigidity in roughing applications.

Applications:

Internal boring bar for general applications, roughing, semi-finishing and finishing.



CDQN 107°30'

Ref.		d	h1	L1	L2	f	h	Dmin	Insert size	
S32S CDQN R/L 12-7CD	S32S CDQN R/L 12-7CD	32	15,0	250	40	22	30	50	DNGN 1207..	1,450
	S40T CDQN R/L 12-4CD	40	18,5	300	35	27	37	70	DNGN 1204..	2,700
	S40T CDQN R/L 12-7CD	40	18,5	300	35	27	37	70	DNGN 1207..	2,700
	S50U CDQN R/L 15-4CD	50	23,5	350	38	32	47	70	DNGN 1504..	4,950
	S50U CDQN R/L 15-7CD	50	23,5	350	38	32	47	70	DNGN 1507..	4,950
S32S CDQN R/L 12-7CX	S32S CDQN R/L 12-7CX	32	15,0	250	40	22	30	50	DNGX 1207..	1,450
	S40T CDQN R/L 12-4CX	40	18,5	300	35	27	37	70	DNGX 1204..	2,700
	S40T CDQN R/L 12-7CX	40	18,5	300	35	27	37	70	DNGX 1207..	2,700
	S50U CDQN R/L 15-4CX	50	23,5	350	38	32	47	70	DNGX 1504..	4,950
	S50U CDQN R/L 15-7CX	50	23,5	350	38	32	47	70	DNGX 1507..	4,950

Ceramic tools

Parting and grooving

CD	S32S CDQN R/L 12-7CD	-	-	9414	2413	-	5004
	S40T CDQN R/L 12-4CD	3719	1230	9414	2413	-	5004
	S40T CDQN R/L 12-7CD	3710	1230	9414	2413	-	5004
	S50U CDQN R/L 15-4CD	IDSN 452	1160	9414	2417	-	5004
	S50U CDQN R/L 15-7CD	IDSN 432	1160	9414	2417	-	5004
CX	S32S CDQN R/L 12-7CX	-	-	-	-	2415	5004
	S40T CDQN R/L 12-4CX	3719	1230	-	-	2415	5004
	S40T CDQN R/L 12-7CX	3710	1230	-	-	2415	5004
	S50U CDQN R/L 15-4CX	IDSN 452	1160	-	-	2432	5004
	S50U CDQN R/L 15-7CX	IDSN 432	1160	-	-	2432	5004

Threading

Drills

Cartridges

		DNG.		l	s	d
	Ref.	DNG.. 1204..	DNG.. 1207..	13,05	4,76	10,70
		DNG.. 1504..	DNG.. 1507..	15,50	4,76	12,70
		DNG.. 1207..	DNG.. 1504..	13,05	7,94	10,70
		DNG.. 1507..	DNG.. 1207..	15,50	7,94	12,70
Negative 55° - Rhombic inserts For more information see page: F.06						
		DNGN	DNGX			

CD

CX

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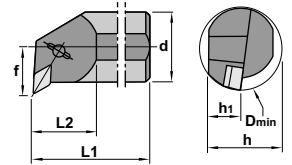


Characteristics:

Profiling boring bar equipped with rhombic negative double side insert (angle 55°).
 The top clamp ensures good rigidity in roughing applications.

Applications:

Internal boring bar for general applications, roughing, semi-finishing and finishing.



CDUN 93°

Ref.		d	h1	L1	L2	f	h	Dmin	Insert size	Kg
CD	S32S CDUN R/L 12-7CD	32	15,0	250	40	22	30	40	DNGN 1207..	1,450
	S40T CDUN R/L 12-4CD	40	18,5	300	50	27	37	70	DNGN 1204..	2,700
	S40T CDUN R/L 12-7CD	40	18,5	300	50	27	37	70	DNGN 1207..	2,700
	S50U CDUN R/L 15-4CD	50	23,5	350	50	32	47	70	DNGN 1504..	4,950
	S50U CDUN R/L 15-7CD	50	23,5	350	50	32	47	70	DNGN 1507..	4,950
CX	S32S CDUN R/L 12-7CX	32	15,0	250	40	22	30	40	DNGX 1207..	1,450
	S40T CDUN R/L 12-4CX	40	18,5	300	50	27	37	70	DNGX 1204..	2,700
	S40T CDUN R/L 12-7CX	40	18,5	300	50	27	37	70	DNGX 1207..	2,700
	S50U CDUN R/L 15-4CX	50	23,5	350	50	32	47	70	DNGX 1504..	4,950
	S50U CDUN R/L 15-7CX	50	23,5	350	50	32	47	70	DNGX 1507..	4,950

CD	S32S CDUN R/L 12-7CD	-	-	9416	2413	-	5004
	S40T CDUN R/L 12-4CD	3719	1230	9416	2413	-	5004
	S40T CDUN R/L 12-7CD	3710	1230	9416	2413	-	5004
	S50U CDUN R/L 15-4CD	IDSN 452	1160	9416	2417	-	5004
	S50U CDUN R/L 15-7CD	IDSN 432	1160	9416	2417	-	5004
CX	S32S CDUN R/L 12-7CX	-	-	-	-	2415	5004
	S40T CDUN R/L 12-4CX	3719	1230	-	-	2415	5004
	S40T CDUN R/L 12-7CX	3710	1230	-	-	2415	5004
	S50U CDUN R/L 15-4CX	IDSN 452	1160	-	-	2432	5004
	S50U CDUN R/L 15-7CX	IDSN 432	1160	-	-	2432	5004

	DNG..	l	s	d	
 	Ref. DNG.. 1204..	13,05	4,76	10,70	
	DNG.. 1207..	13,05	7,94	10,70	
	DNG.. 1504..	15,50	4,76	12,70	
	DNG.. 1507..	15,50	7,94	12,70	
Negative 55° - Rhombic inserts					For more information see page: F.06
	DNGN	DNGX			

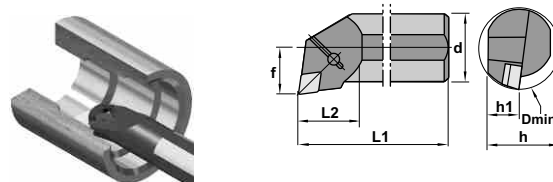


Characteristics:

Multipurpose boring bar equipped with rhombic negative double side insert (angle 75°). The top clamp ensures good rigidity in roughing applications.

Applications:

Internal boring bar for general applications, roughing, semi-finishing and finishing.



CELN 97°30'

Ref.		d	h1	L1	L2	f	h	Dmin	Insert size	Kg
S40T CELN R/L 13-CD	S40T CELN R/L 13-CD	40	18,5	300	32	27	37	50	ENG 1307..	2,700
	S50U CELN R/L 13-CD	50	23,5	350	32	35	47	63	ENG 1307..	4,950
S40T CELN R/L 13-CX	S40T CELN R/L 13-CX	40	18,5	300	32	27	37	50	ENGX 1307..	2,700
	S50U CELN R/L 13-CX	50	23,5	350	32	35	47	63	ENGX 1307..	4,950

CD							
S40T CELN R/L 13-CD	S40T CELN R/L 13-CD	IESN 432	1161	9414	2417	-	5004
	S50U CELN R/L 13-CD	IESN 432	1160	9414	2417	-	5004
S40T CELN R/L 13-CX	S40T CELN R/L 13-CX	IESN 432	1161	-	-	2415	5004
	S50U CELN R/L 13-CX	IESN 432	1160	-	-	2415	5004

ENG.		l	s	d		
Ref.	ENG. 1307..	13,12	7,94	12,70	CD	CX
Negative 75° - Rhombic inserts						
For more information see page: F.06						
ENGN	ENGX					

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Automatic lathes

Ceramic tools

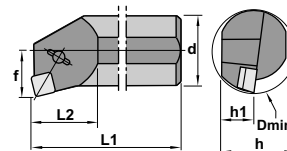


Characteristics:

Boring bar for internal turning applications equipped with square negative inserts and strong cutting edges. The top clamp ensures good rigidity in roughing applications.

Applications:

Internal turning boring bar for general applications, roughing, semi-finishing and finishing.



CSKN 75°

Ref.		d	h1	L1	L2	f	h	Dmin	Insert size	
CD	S32S CSKN R/L 12-7CD	32	15,0	250	40	22	30	40	SNGN 1207..	1,450
	S40T CSKN R/L 12-4CD	40	18,5	300	67	27	37	70	SNGN 1204..	2,700
	S40T CSKN R/L 12-7CD	40	18,5	300	67	27	37	70	SNGN 1207..	2,700
	S50U CSKN R/L 12-4CD	50	23,5	350	67	35	47	70	SNGN 1204..	4,950
	S50U CSKN R/L 12-7CD	50	23,5	350	67	35	47	70	SNGN 1207..	4,950
CX	S32S CSKN R/L 12-7CX	32	15,0	250	40	22	30	40	SNGX 1207..	1,450
	S40T CSKN R/L 12-4CX	40	18,5	300	67	27	37	70	SNGX 1204..	2,700
	S40T CSKN R/L 12-7CX	40	18,5	300	67	27	37	70	SNGX 1207..	2,700
	S50U CSKN R/L 12-4CX	50	23,5	350	67	35	47	70	SNGX 1204..	4,950
	S50U CSKN R/L 12-7CX	50	23,5	350	67	35	47	70	SNGX 1207..	4,950

CD	S32S CSKN R/L 12-7CD	-	-	9414	2417	-	5004
	S40T CSKN R/L 12-4CD	ISSN 454	1161	9414	2417	-	5004
	S40T CSKN R/L 12-7CD	ISSN 434	1161	9414	2417	-	5004
	S50U CSKN R/L 12-4CD	ISSN 454	1160	9414	2417	-	5004
	S50U CSKN R/L 12-7CD	ISSN 434	1160	9414	2417	-	5004
CX	S32S CSKN R/L 12-7CX	-	-	-	-	2415	5004
	S40T CSKN R/L 12-4CX	ISSN 454	1161	-	-	2415	5004
	S40T CSKN R/L 12-7CX	ISSN 434	1161	-	-	2415	5004
	S50U CSKN R/L 12-4CX	ISSN 454	1160	-	-	2415	5004
	S50U CSKN R/L 12-7CX	ISSN 434	1160	-	-	2415	5004

SNG..		l	s	d
Ref.	SNG.. 1204..	12,70	4,76	12,70
	SNG.. 1207..	12,70	7,94	12,70

Negative square inserts.

For more information see page: F.08

CD

CX

SNGN

SNGX

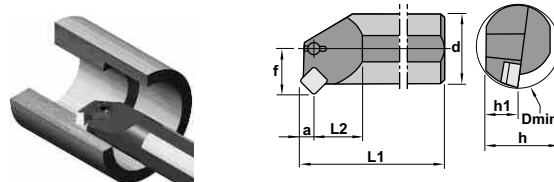


Characteristics:

Boring bar for internal turning and chamfering applications equipped with square negative inserts. The top clamp ensures good rigidity in roughing applications.

Applications:

Internal turning and chamfering toolholder for general applications, roughing, semi-finishing and finishing.



CSSN 45°		d	h1	L1	L2	f	h	Dmin	Insert size	
Ref.	S32S CSSN R/L 12-7CD	32	15,0	250	40	22	30	40	SNGN 1207..	1,450
	S40T CSSN R/L 12-4CD	40	18,5	300	50	27	37	70	SNGN 1204..	2,700
	S40T CSSN R/L 12-7CD	40	18,5	300	50	27	37	70	SNGN 1207..	2,700
	S50U CSSN R/L 15-CD	50	23,5	350	50	32	47	70	SNGN 1507..	4,950
	S32S CSSN R/L 12-7CX	32	15,0	250	40	22	30	40	SNGX 1207..	1,450
	S40T CSSN R/L 12-4CX	40	18,5	300	50	27	37	70	SNGX 1204..	2,700
	S40T CSSN R/L 12-7CX	40	18,5	300	50	27	37	70	SNGX 1207..	2,700
	S50U CSSN R/L 15-CX	50	23,5	350	50	32	47	70	SNGX 1507..	4,950

CD	S32S CSSN R/L 12-7CD	-	-	9414	2417	-	5004
	S40T CSSN R/L 12-4CD	ISSN 454	1161	9414	2417	-	5004
	S40T CSSN R/L 12-7CD	ISSN 434	1161	9414	2417	-	5004
	S50U CSSN R/L 15-CD	ISSN 534	1180	9414	2417	-	5004
CX	S32S CSSN R/L 12-7CX	-	-	-	-	2415	5004
	S40T CSSN R/L 12-4CX	ISSN 454	1161	-	-	2415	5004
	S40T CSSN R/L 12-7CX	ISSN 434	1161	-	-	2415	5004
	S50U CSSN R/L 15-CX	ISSN 534	1180	-	-	2415	5004

	SNG.		l	s	d		
	Ref.	SNG. 1204..	12,70	4,76	12,70		
		SNG. 1207..	12,70	7,94	12,70		
		SNG. 1507..	15,87	7,94	15,87		
Negative square inserts.							
For more information see page: F.08							
	SNGN	SNGX					

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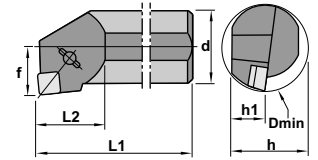


Characteristics:

Boring bar for internal turning applications equipped with square negative inserts and strong cutting edges. The top clamp ensures good rigidity in roughing applications.

Applications:

Internal turning boring bar for general applications, roughing, semi-finishing and finishing.



CSYN 85°

Ref.		d	h1	L1	L2	f	h	Dmin	Insert size	Kg
CD	S32S CSYN R/L 12-7CD	32	15,0	250	40	22	30	40	SNGN 1207..	1,450
	S40T CSYN R/L 12-4CD	40	18,5	300	67	27	37	70	SNGN 1204..	2,700
	S40T CSYN R/L 12-7CD	40	18,5	300	67	27	37	70	SNGN 1207..	2,700
	S50U CSYN R/L 12-4CD	50	23,5	350	67	35	47	70	SNGN 1204..	4,950
	S50U CSYN R/L 12-7CD	50	23,5	350	67	35	47	70	SNGN 1207..	4,950
CX	S32S CSYN R/L 12-7CX	32	15,0	250	40	22	30	40	SNGX 1207..	1,450
	S40T CSYN R/L 12-4CX	40	18,5	300	67	27	37	70	SNGX 1204..	2,700
	S40T CSYN R/L 12-7CX	40	18,5	300	67	27	37	70	SNGX 1207..	2,700
	S50U CSYN R/L 12-4CX	50	23,5	350	67	35	47	70	SNGX 1204..	4,950
	S50U CSYN R/L 12-7CX	50	23,5	350	67	35	47	70	SNGX 1207..	4,950

CD	S32S CSYN R/L 12-7CD	-	-	9414	2417	-	5004
	S40T CSYN R/L 12-4CD	ISSN 454	1161	9414	2417	-	5004
	S40T CSYN R/L 12-7CD	ISSN 434	1161	9414	2417	-	5004
	S50U CSYN R/L 12-4CD	ISSN 454	1180	9414	2417	-	5004
	S50U CSYN R/L 12-7CD	ISSN 434	1180	9414	2417	-	5004
CX	S32S CSYN R/L 12-7CX	-	-	-	-	2415	5004
	S40T CSYN R/L 12-4CX	ISSN 454	1161	-	-	2415	5004
	S40T CSYN R/L 12-7CX	ISSN 434	1161	-	-	2415	5004
	S50U CSYN R/L 12-4CX	ISSN 454	1180	-	-	2415	5004
	S50U CSYN R/L 12-7CX	ISSN 434	1180	-	-	2415	5004

	SNG.		l	s	d	
	Ref.	SNG.. 1204..	12,70	4,76	12,70	
		SNG.. 1207..	12,70	7,94	12,70	
Negative square inserts.						
						For more information see page: F.08
	SNGN	SNGX				



Ceramic tools

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