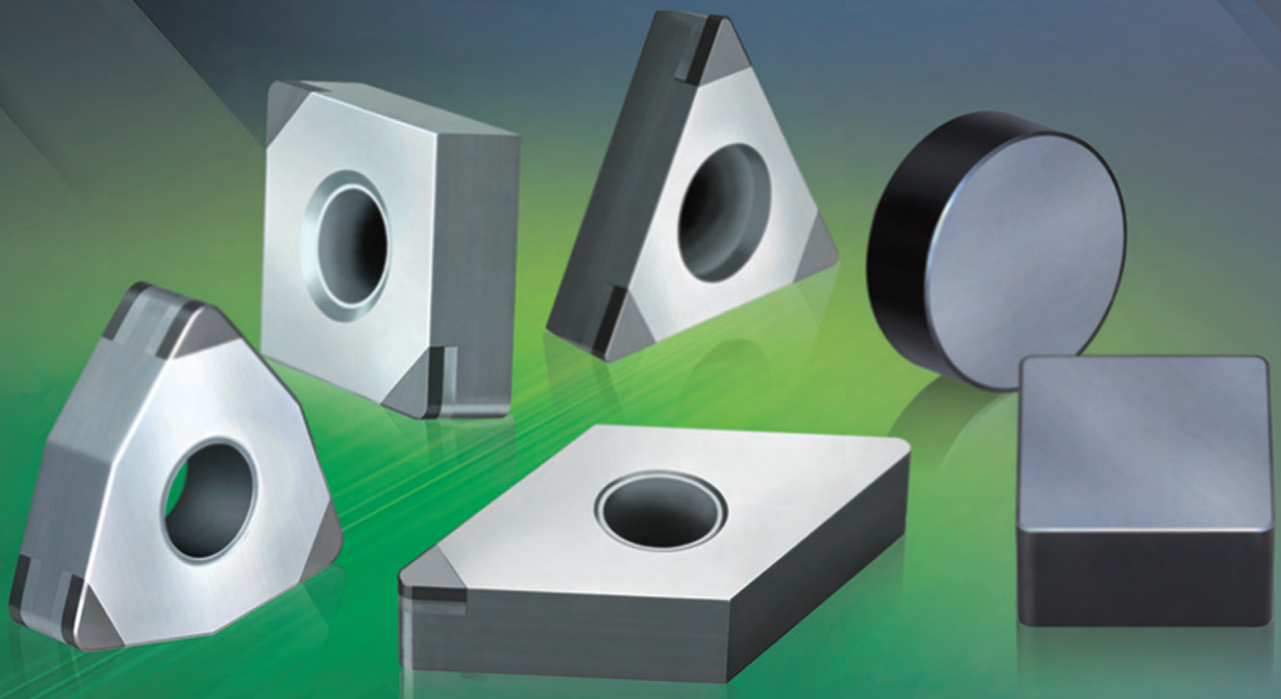
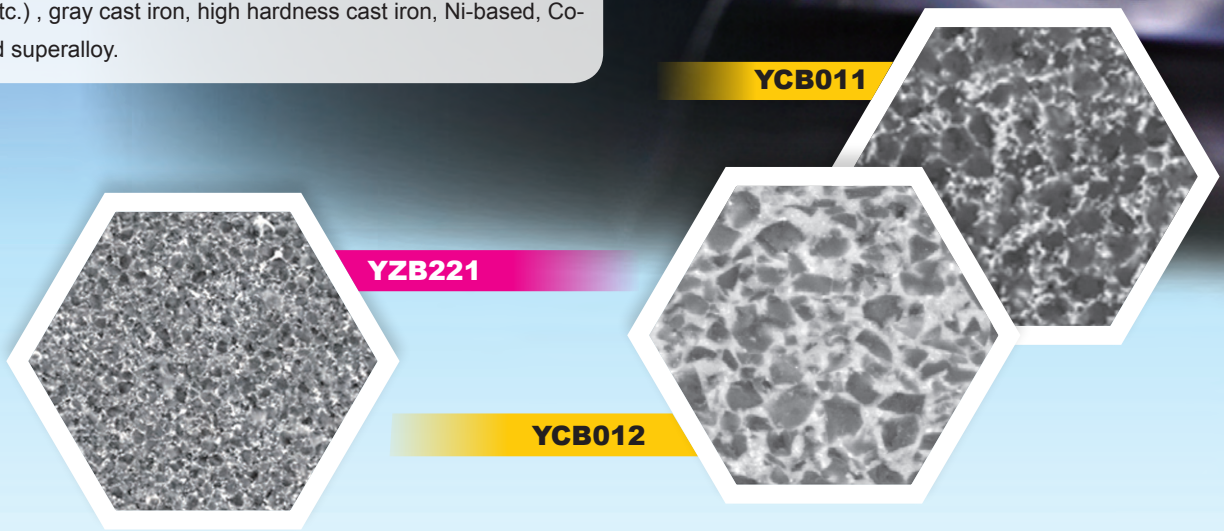
New product for turning



PCBN&PCD *inserts*

Polycrystalline Cubic Boron Nitride PCBN

PCBN is a synthesis of CBN powder and special binder under ultra-high pressure and high temperature conditions. PCBN has high hardness, high thermal stability and high chemical inertness, mainly suited to machining in hardened steel with hardness above HRC45 (eg carbon tool steel, bearing steel and die steel, etc.) , gray cast iron, high hardness cast iron, Ni-based, Co-based, and Fe-based superalloy.



YCB012 H Super hard material

Low CBN content, high wear resistance and thermal stability, suitable for continuous ~ light interrupted cutting of hardened steel.

YCB011 K Cast iron

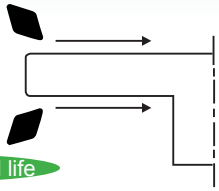
High CBN content, high wear resistance and strength, suitable for cutting cast iron materials, strong interrupted cutting in hardened steel.

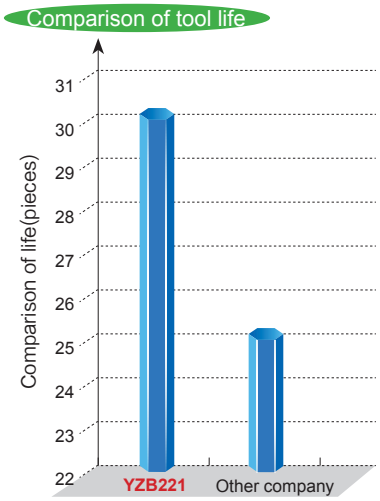
YZB221 K Cast iron

High CBN content, high wear resistance and impact resistance, good versatility, suitable for cutting cast iron materials.

Case

Workpiece：Brake disc
Workpiece Material： Cast Iron (HB180)
Insert grade：YZB221/grade of other company
Insert specification： DNGA432-2
Operation： Wet machining
Cutting data：V_c=1800SFPM, f_n=0.008in/r
a_p=0.004in



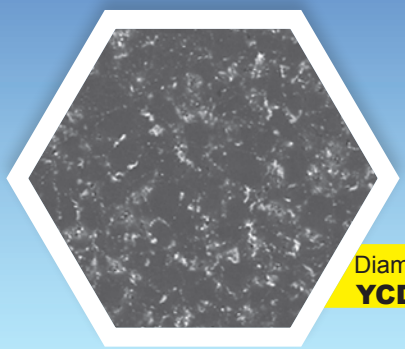


Application and machining Parameter Guidelines:

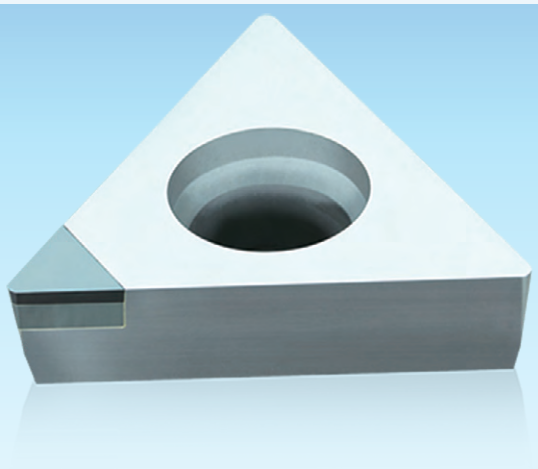
Workpiece material		Grade	Speed(SFPM)	Feed(in/r)	Depth of Cut(in)
Cast iron	Grey cast iron	YCB011	2600 (1600–4900)	0.012(0.004–0.02)	≤0.04
		YZB221	3200 (1600–4900)	0.016(0.004–0.04)	≤0.157
	High hardness Cast iron	YCB011	1600 (1000–2600)	0.008(0.004–0.016)	≤0.02
		YZB221	1900 (1000–2600)	0.016(0.004–0.031)	≤0.079
Hardened steel		YCB012	500 (320–800)	0.006(0.001–0.012)	≤0.02

Polycrystalline Diamond PCD

PCD has high hardness, excellent abrasion resistance, thermal conductivity, low coefficient of friction, suitable for cutting in non-ferrous metal and their alloys (such as: Cu, Al, Mg, etc.), non-metallic materials, and composite materials (such as: MMC, ceramics, reinforced plastics, etc.).



Diamond sintered body
YCD011



YCD011 N Non-ferrous materials

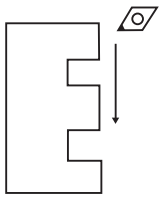
◆Medium-grained diamond PCD material with a good balance between wear resistance and toughness;
◆Good versatility;
◆Suitable for high-speed machining of non-ferrous metals such as aluminum alloy, copper, magnesium and their alloys with medium and low silicon content;
◆Suitable for high speed machining of glass fiber and plastics;
◆For use in machining of carbide and ceramics.

Application and machining Parameter Guidelines:

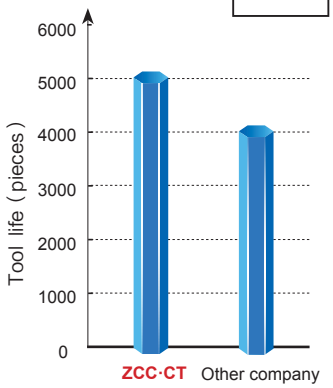
Workpiece material	Speed(SFPM)	Feed(in/r)	Depth of Cut(in)
Pure aluminum	3250(650–4900)	0.008（0.001–0.024）	≤0.08
Aluminum alloy (Si content ≤12%)	2600(650–4900)	0.008（0.001–0.02）	
Aluminum alloy (Si content>12%)	1950(650–4900)	0.008（0.001–0.016）	
Copper, magnesium and their alloy	2300(650–3900)	0.008（0.001–0.016）	
Reinforced plastic	1950(300–3200)	0.008（0.004–0.012）	≤0.06
Glass fiber material	1600(300–2600)	0.006（0.004–0.012）	

Case

Workpiece：MOTO CYLINDER HEAD
Workpiece Material： Aluminum alloy (HB250)
Insert grade：YCD011/grade of other company
Insert specification：DCGW13(2.5)1
Operation：Wet machining
Cutting data：Vc=3250 SFPM，fn=0.014in/r
ap=0.08in

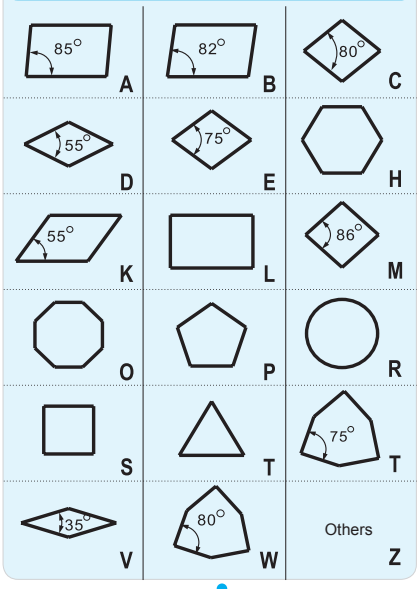


Comparison of tool life

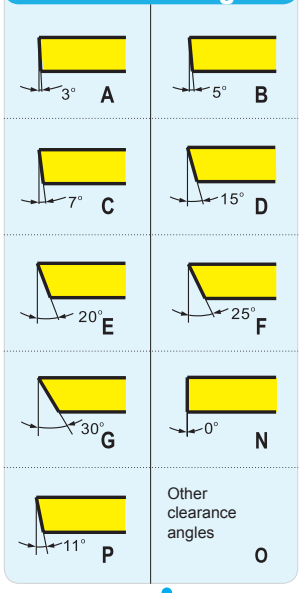


A

Insert shape



Major cutting edge Clearance angle

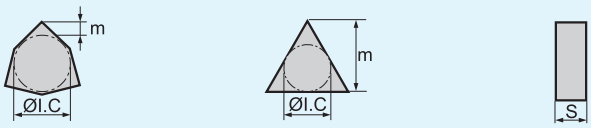


Chipbreaker and clamping system

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

C N G A

Tolerances, inch



Letter Symbol	Tolerances in inches		
	m	s	d
A	±0.0002	±0.001	±0.0010
F	±0.0002	±0.001	±0.0005
C	±0.0005	±0.001	±0.0010
H	±0.0005	±0.001	±0.0005
E	±0.0010	±0.001	±0.0010
G	±0.0010	±0.005	±0.0010
J	±0.0002	±0.001	±0.002 ±0.005
K	±0.0005	±0.001	±0.002 ±0.005
L	±0.0010	±0.001	±0.002 ±0.005
M	±0.003 ±0.007	±0.005	±0.002 ±0.005
N	±0.003 ±0.007	±0.001	±0.002 ±0.005
U	±0.005 ±0.015	±0.005	±0.003 ±0.010

Inscribed circle diameter	Tolerances for M		Tolerances for d	
	Class M	Class U	Class M.J.K.L	Class U
0.250	±0.003	±0.005	±0.002	±0.003
0.375	±0.003	±0.005	±0.002	±0.003
0.500	±0.005	±0.008	±0.003	±0.005
0.625	±0.006	±0.011	±0.004	±0.007
0.750	±0.006	±0.011	±0.004	±0.007
1.000	±0.007	±0.015	±0.005	±0.010

Insert shape D

Inscribed circle diameter	Tolerances for M	Tolerances for M
±0.250	±0.004	±0.002
±0.375	±0.004	±0.002
±0.500	±0.006	±0.003
±0.625	±0.007	±0.004
±0.750	±0.007	±0.004

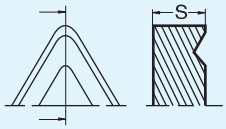
Insert shape D

Inscribed circle diameter	Tolerances for M	Tolerances for M
±0.250	±0.006	±0.002
±0.375	±0.006	±0.002
±0.500	±0.008	±0.003
±0.625	±0.011	±0.004
±0.750	±0.011	±0.004

Inscribed circle diameter

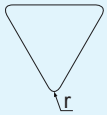
Code	Inscribed circle diameter(inch)
2	0.250
3	0.375
4	0.500
5	0.625
6	0.750
8	1.000

Insert thickness



Code	1.5	2	2.5	3	4	4.5	5	6
Inscribed radius diameter(inch)	0.094	0.125	0.156	0.187	0.250	0.266	0.313	0.375

Nose radius



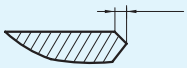
Code	X0	0	1	2	3	4	5	6
Nose acircle (inch)	0	0.008	0.016	0.031	0.047	0.063	0.079	0.094

4 3 1 T 020 20 - 2

Profile of edges

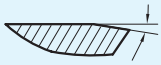
Code	Inscribed circle diameter	
E	honing	
T	chamfering	
S	Chamfering+honing	
F	sharp edges	

Width of chamfer (inch)



010-0.004	030-0.012	050-0.020
015-0.006	035-0.014	100-0.039
020-0.008	040-0.016	200-0.079
025-0.010	045-0.018	

Angle of chamfer



15-15°	25-25°
20-20°	30-30°

Number of cutting nose

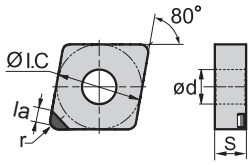
Code	Number	Diagram
Unspeci-fied	Single edge	
2	Double edges	
3	Three edges	
4	Four edges	

CNGA433 ISO standard code

	Grade						
	YCB011	YCB012	YCB121	YCB211	YZB121	YZB221	YZB231
Type of cutting edge	T	S	T	S	S	T	T
Chamfer angle	15°	20°	20°	25°	20°	20°	20°
Chamfer width	0.006	0.004	0.008	0.006	0.004	0.008	0.010

A

CN □□



Good working conditions · General working conditions · Adverse working conditions

Workpiece material				
H Hardened material		General		
K Cast iron	Good		Good	
N Ferrite materials				General

Inserts shape	Type	Dimensions(inch)					Grade			
		ØI.C	S	ød	r	la	YCB011	YCB012	YZB221	YCD011
	CNGA431	0.5	0.18	0.203	0.016	0.0984	○	○		
	CNGA432	0.5	0.18	0.203	0.031	0.0945	○	○		
	CNGA433	0.5	0.18	0.203	0.047	0.0906	○	○		
	CNGA431-2	0.5	0.18	0.203	0.016	0.0984	●	●		
	CNGA432-2	0.5	0.18	0.203	0.031	0.0945	●	●		
	CNGA433-2	0.5	0.18	0.203	0.047	0.0906	○	○		
	CNGA431-2	0.5	0.18	0.203	0.016	0.0984			○	
	CNGA432-2	0.5	0.18	0.203	0.031	0.0945			○	
	CNGA433-2	0.5	0.18	0.203	0.047	0.0906			○	

● Always stock available ○ Produce according to order

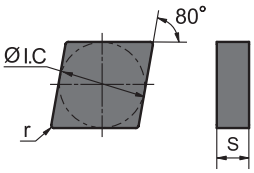
Type of cutting edge

Grade	Standard	Sharp	Strengthened
YCB011	T01515	T01010	S01525
YCB012	S01025	T01015	S01035
YZB221	S02020	T01010	S02535

Non-standard edge needs to be tailor-made.

Applicable tool

CN □□



Workpiece material	Good working conditions	General working conditions	Adverse working conditions
H Hardened material		😐	
K Cast iron	😊		😊
N Ferrite materials			😐

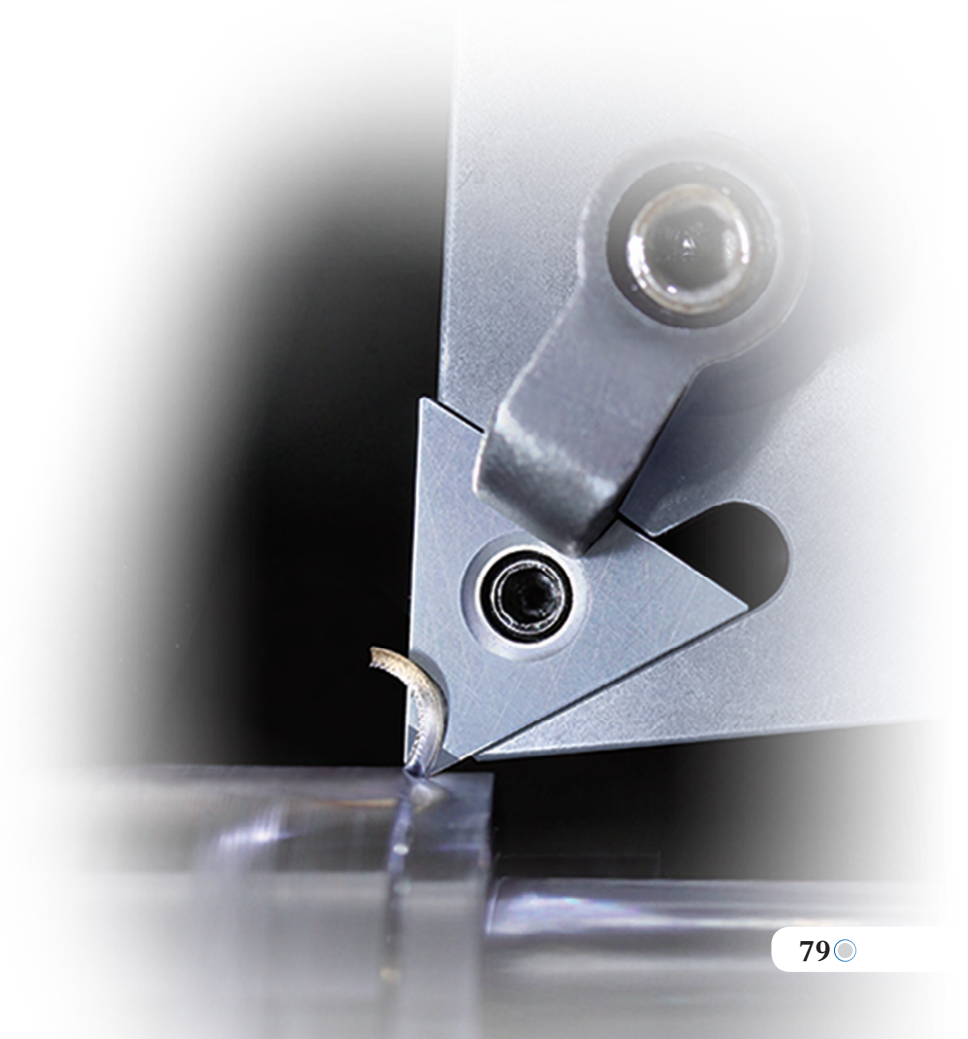
Inserts shape	Type	Dimensions(inch)			Grade			
		ØI.C	S	r	YCB011	YCB012	YZB221	YCD011
	CNGN431	0.500	0.187	0.016			○	
	CNGN4(4.5)2	0.500	0.266	0.031			○	
	CNGN453	0.500	0.313	0.047			○	

● Always stock available ○ Produce according to order

Type of cutting edge

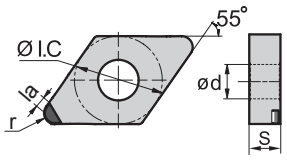
Grade	Standard	Sharp	Strengthened
YCB011	T01515	T01010	S01525
YCB012	S01025	T01015	S01035
YZB221	S02020	T01010	S02535

Non-standard edge needs to be tailor-made.



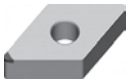
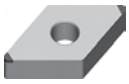
A

DN □□



Good working conditions · General working conditions · Adverse working conditions

Workpiece material				
H Hardened material		General		
K Cast iron	Good		Good	
N Ferrite materials				General

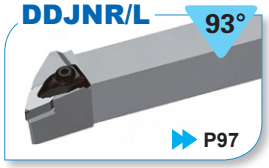
Inserts shape	Type	Dimensions(inch)					Grade			
		ØI.C	S	ød	r	la	YCB011	YCB012	YZB221	YCD011
	DNGA431	0.500	0.187	0.203	0.016	0.098	○	○		
	DNGA432	0.500	0.187	0.203	0.031	0.083	○	○		
	DNGA433	0.500	0.187	0.203	0.047	0.079	○	○		
	DNGA440	0.500	0.250	0.203	0.008	0.106	○	○		
	DNGA441	0.500	0.250	0.203	0.016	0.098	○	○		
	DNGA442	0.500	0.250	0.203	0.031	0.083	○	○		
	DNGA443	0.500	0.250	0.203	0.047	0.079	○	○		
	DNGA431-2	0.500	0.187	0.203	0.016	0.098	●	●		
	DNGA432-2	0.500	0.187	0.203	0.031	0.083	●	●		
	DNGA433-2	0.500	0.187	0.203	0.047	0.079	○	○		
	DNGA440-2	0.500	0.250	0.203	0.008	0.106	○	○		
	DNGA441-2	0.500	0.250	0.203	0.016	0.098	○	○		
	DNGA442-2	0.500	0.250	0.203	0.031	0.083	○	○		
	DNGA443-2	0.500	0.250	0.203	0.047	0.079	○	○		
	DNGA431-2	0.500	0.187	0.203	0.016	0.098			○	
	DNGA432-2	0.500	0.187	0.203	0.031	0.083			○	
	DNGA433-2	0.500	0.187	0.203	0.047	0.079			○	
	DNGA441-2	0.500	0.250	0.203	0.016	0.098			○	
	DNGA442-2	0.500	0.250	0.203	0.031	0.083			○	
	DNGA443-2	0.500	0.250	0.203	0.047	0.079			○	

● Always stock available ○ Produce according to order

Type of cutting edge

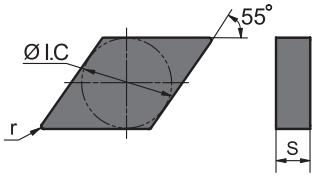
Grade	Standard	Sharp	Strengthened
YCB011	T01515	T01010	S01525
YCB012	S01025	T01015	S01035
YZB221	S02020	T01010	S02535

Non-standard edge needs to be tailor-made.



Applicable tool

DN □□



Workpiece material	Good working conditions	General working conditions	Adverse working conditions
H Hardened material		😐	
K Cast iron	😊		😊
N Ferrite materials			😐

Inserts shape	Type	Dimensions(inch)			Grade			
		ØI.C	S	r	YCB011	YCB012	YZB221	YCD011
	DNGN331	0.375	0.187	0.016			○	
	DNGN332	0.375	0.187	0.031			○	

● Always stock available ○ Produce according to order

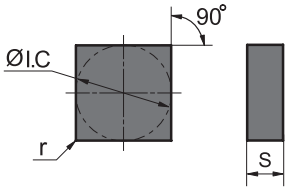
Type of cutting edge

Grade	Standard	Sharp	Strengthened
YCB011	T01515	T01010	S01525
YCB012	S01025	T01015	S01035
YZB221	S02020	T01010	S02535

Non-standard edge needs to be tailor-made.

A

SN □□



Workpiece material	Good working conditions	General working conditions	Adverse working conditions
H Hardened material		😐	
K Cast iron	😊		😊
N Ferrite materials			😐

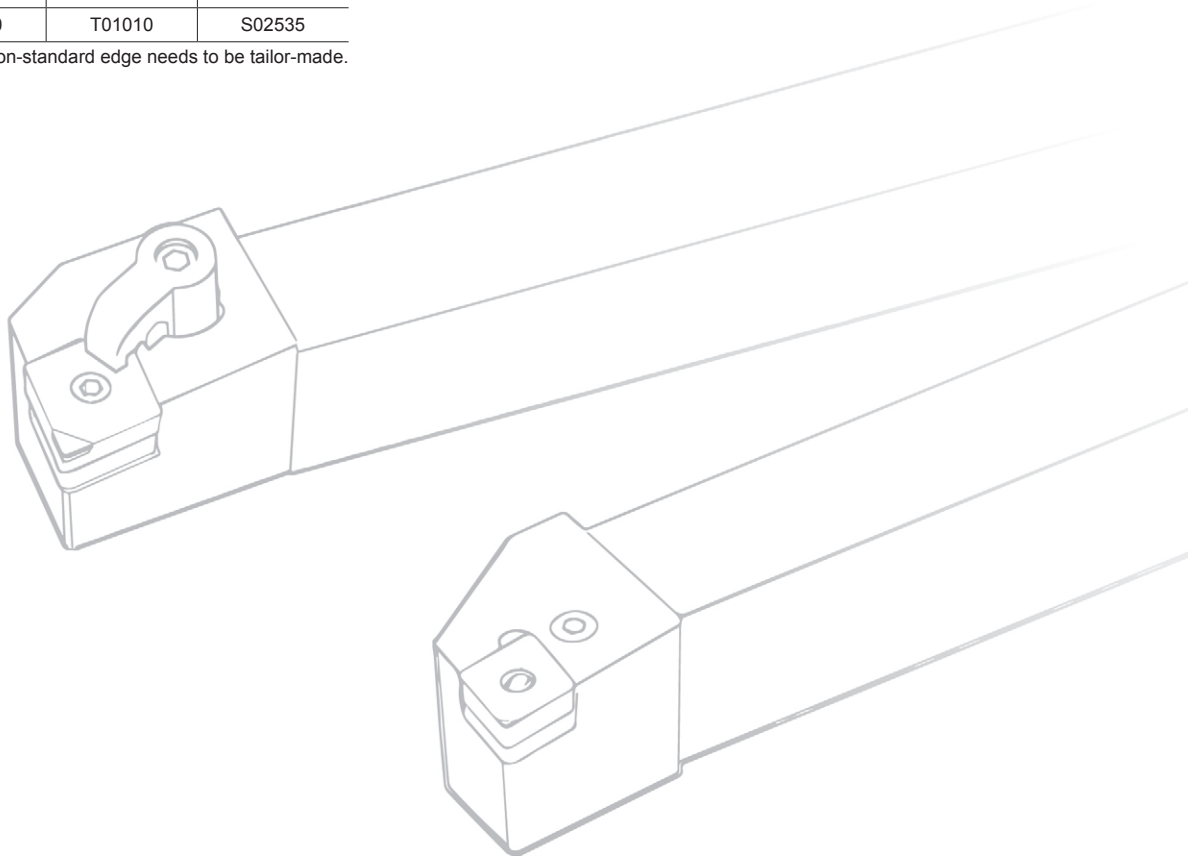
Inserts shape	Type	Dimensions(inch)			Grade			
		ØI.C	S	r	YCB011	YCB012	YZB221	YCD011
	SNGN431	0.500	0.187	0.016			○	
	SNGN432	0.500	0.187	0.031			○	
	SNGN4(4.5)3	0.500	0.266	0.047			○	
	SNGN554	0.625	0.313	0.063			○	
	SNGN555	0.625	0.313	0.079			○	

● Always stock available ○ Produce according to order

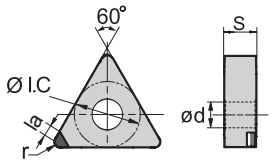
Type of cutting edge

Grade	Standard	Sharp	Strengthened
YCB011	T01515	T01010	S01525
YCB012	S01025	T01015	S01035
YZB221	S02020	T01010	S02535

Non-standard edge needs to be tailor-made.



TN □□



Workpiece material	Good working conditions	General working conditions	Adverse working conditions	
H Hardened material		😐		
K Cast iron	😊		😊	
N Ferrite materials				😐

Inserts shape	Type	Dimensions(inch)					Grade			
		ØI.C	S	ød	r	la	YCB011	YCB012	YZB221	YCD011
	TNGA330	0.375	0.187	0.15	0.008	0.098	○	○		
	TNGA331	0.375	0.187	0.15	0.016	0.098	○	○		
	TNGA332	0.375	0.187	0.15	0.031	0.087	○	○		
	TNGA333	0.375	0.187	0.15	0.047	0.079	○	○		
	TNGA330-3	0.375	0.187	0.15	0.008	0.098	○	○		
	TNGA331-3	0.375	0.187	0.15	0.016	0.098	●	●		
	TNGA332-3	0.375	0.187	0.15	0.031	0.087	●	●		
	TNGA333-3	0.375	0.187	0.15	0.047	0.079	○	○		
	TNGA331-3	0.375	0.187	0.15	0.016	0.098			○	
	TNGA332-3	0.375	0.187	0.15	0.031	0.087			○	
	TNGA333-3	0.375	0.187	0.15	0.047	0.079			○	

● Always stock available ○ Produce according to order

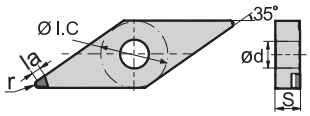
Type of cutting edge

Grade	Standard	Sharp	Strengthened
YCB011	T01515	T01010	S01525
YCB012	S01025	T01015	S01035
YZB221	S02020	T01010	S02535

Non-standard edge needs to be tailor-made.

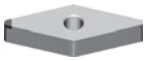
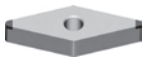
Applicable tool

VN □□



Good working conditions · General working conditions · Adverse working conditions

Workpiece material				
H Hardened material		General		
K Cast iron	Good		Good	
N Ferrite materials				General

Inserts shape	Type	Dimensions(inch)					Grade			
		ØI.C	S	ød	r	la	YCB011	YCB012	YZB221	YCD011
	VNGA330	0.375	0.187	0.15	0.008	0.130	○	○		
	VNGA331	0.375	0.187	0.15	0.016	0.110	○	○		
	VNGA332	0.375	0.187	0.15	0.031	0.098	○	○		
	VNGA333	0.375	0.187	0.15	0.047	0.079	○	○		
	VNGA330-2	0.375	0.187	0.15	0.008	0.130	○	○		
	VNGA331-2	0.375	0.187	0.15	0.016	0.110	●	●		
	VNGA332-2	0.375	0.187	0.15	0.031	0.098	●	●		
	VNGA333-2	0.375	0.187	0.15	0.047	0.079	○	○		

● Always stock available ○ Produce according to order

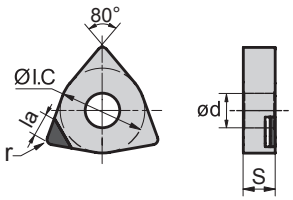
Type of cutting edge

Grade	Standard	Sharp	Strengthened
YCB011	T01515	T01010	S01525
YCB012	S01025	T01015	S01035
YZB221	S02020	T01010	S02535

Non-standard edge needs to be tailor-made.

Applicable tool

WN □□



Good working conditions | General working conditions | Adverse working conditions

Workpiece material				
H Hardened material		😐		
K Cast iron	😊		😊	
N Ferrite materials				😐

Inserts shape	Type	Dimensions(inch)					Grade			
		ØI.C	S	ød	r	la	YCB011	YCB012	YZB221	YCD011
	WNGA431-3	0.500	0.187	0.203	0.016	0.130	●	●		
	WNGA432-3	0.500	0.187	0.203	0.031	0.110	●	●		
	WNGA433-3	0.500	0.187	0.203	0.047	0.110	○	○		
	WNGA431-3	0.500	0.187	0.203	0.016	0.130			○	
	WNGA432-3	0.500	0.187	0.203	0.031	0.110			○	
	WNGA433-3	0.500	0.187	0.203	0.047	0.110			○	

● Always stock available ○ Produce according to order

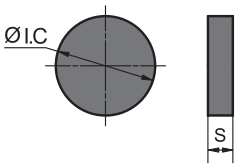
Type of cutting edge

Grade	Standard	Sharp	Strengthened
YCB011	T01515	T01010	S01525
YCB012	S01025	T01015	S01035
YZB221	S02020	T01010	S02535

Non-standard edge needs to be tailor-made.

Applicable tool

RN □□



Good working conditions General working conditions Adverse working conditions

Workpiece material				
H Hardened material		😐		
K Cast iron	😊		😊	
N Ferrite materials				😐

Inserts shape	Type	Dimensions(inch)			Grade			
		ØI.C	S	r	YCB011	YCB012	YZB221	YCD011
	RNGN32X0	0.375	0.125	--			○	
	RNGN43X0	0.500	0.187	--			○	
	RNGN45X0	0.500	0.313	--			○	
	RNGN55X0	0.625	0.313	--			○	

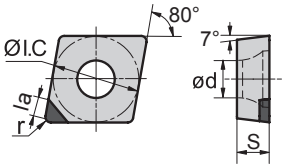
● Always stock available ○ Produce according to order

Type of cutting edge

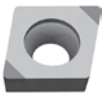
Grade	Standard	Sharp	Strengthened
YCB011	T01515	T01010	S01525
YCB012	S01025	T01015	S01035
YZB221	S02020	T01010	S02535

Non-standard edge needs to be tailor-made.

CC □□



Workpiece material	Good working conditions	General working conditions	Adverse working conditions	
H Hardened material		😐		
K Cast iron	😊		😊	
N Ferrite materials				😐

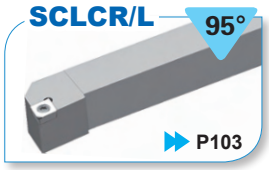
Inserts shape	Type	Dimensions(inch)					Grade			
		ØI.C	S	ød	r	la	YCB011	YCB012	YZB221	YCD011
	CCGW2(1.5)1	0.25	0.094	0.110	0.016	0.098	○	○		●
	CCGW2(1.5)2	0.25	0.094	0.110	0.031	0.094	○	○		●
	CCGW3(2.5)1	0.375	0.156	0.173	0.016	0.098	○	○		●
	CCGW3(2.5)2	0.375	0.156	0.173	0.031	0.094	○	○		●
	CCGW431	0.500	0.187	0.217	0.016	0.098	○	○		
	CCGW432	0.500	0.187	0.217	0.031	0.094	○	○		●
	CCGW433	0.500	0.187	0.217	0.047	0.091	○	○		
	CCGW2(1.5)1-2	0.25	0.094	0.110	0.016	0.098	○	○		
	CCGW2(1.5)2-2	0.25	0.094	0.110	0.031	0.094	○	○		
	CCGW3(2.5)1-2	0.375	0.156	0.173	0.016	0.098	●	●		
	CCGW3(2.5)2-2	0.375	0.156	0.173	0.031	0.094	●	●		
	CCGW431-2	0.500	0.187	0.217	0.016	0.098	●	●		
	CCGW432-2	0.500	0.187	0.217	0.031	0.094	●	●		
	CCGW433-2	0.500	0.187	0.217	0.047	0.091	○	○		

● Always stock available ○ Produce according to order

Type of cutting edge

Grade	Standard	Sharp	Strengthened
YCB011	T01515	T01010	S01525
YCB012	S01025	T01015	S01035
YZB221	S02020	T01010	S02535

Non-standard edge needs to be tailor-made.

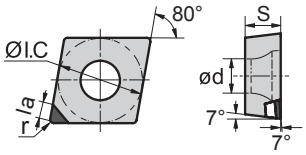


External turning

Internal turning

A

CC □□

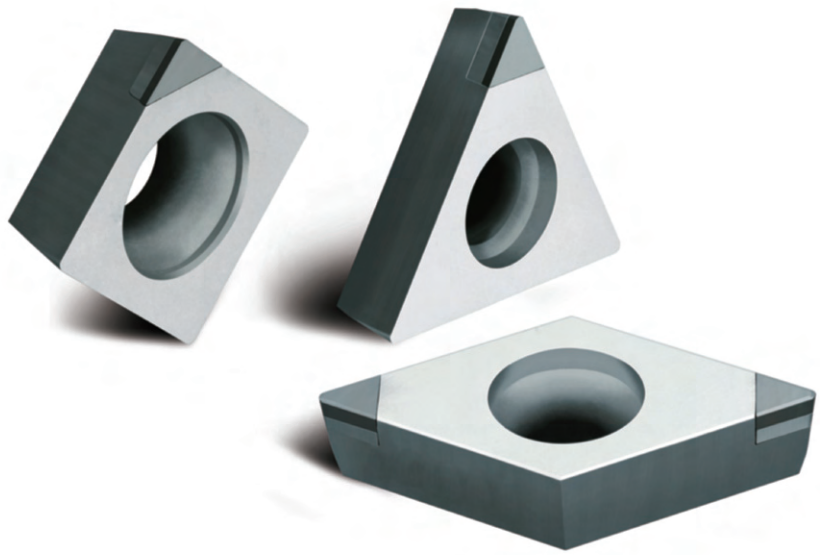


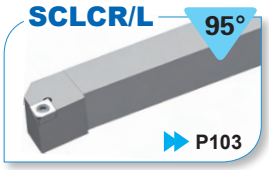
Good working conditions · General working conditions · Adverse working conditions

Workpiece material				
H Hardened material		😐		
K Cast iron	😊		😊	
N Ferrite materials				😐

Inserts shape	Type	Dimensions(inch)					Grade			
		ØI.C	S	ød	r	la	YCB011	YCB012	YZB221	YCD011
	CCMX2(1.5)0	0.250	0.094	0.110	0.008	0.098				●
	CCMX2(1.5)1	0.250	0.094	0.110	0.016	0.098				●
	CCMX2(1.5)2	0.250	0.094	0.110	0.031	0.094				●
	CCMX3(2.5)1	0.375	0.156	0.173	0.016	0.098				●
	CCMX3(2.5)2	0.375	0.156	0.173	0.031	0.094				●
	CCMX432	0.500	0.187	0.217	0.031	0.094				●

● Always stock available ○ Produce according to order

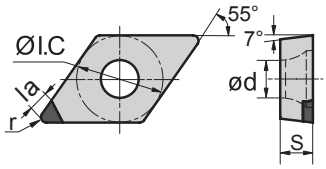




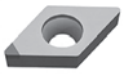
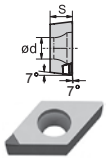
External turning

Internal turning

DC □□



Workpiece material	Good working conditions	General working conditions	Adverse working conditions	
H Hardened material		😐		
K Cast iron	😊		😊	
N Ferrite materials				😐

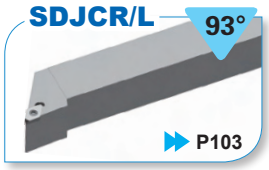
Inserts shape	Type	Dimensions(inch)					Grade			
		ØI.C	S	ød	r	la	YCB011	YCB012	YZB221	YCD011
	DCGW2(1.5)0	0.250	0.094	0.110	0.008	0.106	○	○		●
	DCGW2(1.5)1	0.250	0.094	0.110	0.016	0.098	○	○		●
	DCGW2(1.5)2	0.250	0.094	0.110	0.031	0.083	○	○		
	DCGW3(2.5)1	0.375	0.156	0.173	0.016	0.098	○	○		●
	DCGW3(2.5)2	0.375	0.156	0.173	0.031	0.083	○	○		●
	DCGW2(1.5)0-2	0.250	0.094	0.110	0.008	0.106	○	○		
	DCGW2(1.5)1-2	0.250	0.094	0.110	0.016	0.098	○	○		
	DCGW2(1.5)2-2	0.250	0.094	0.110	0.031	0.083	○	○		
	DCGW3(2.5)1-2	0.375	0.156	0.173	0.016	0.098	●	●		
	DCGW3(2.5)2-2	0.375	0.156	0.173	0.031	0.083	●	●		
	DCMX2(1.5)0	0.250	0.094	0.110	0.008	0.106				●
	DCMX2(1.5)1	0.250	0.094	0.110	0.016	0.098				●
	DCMX3(2.5)1	0.375	0.156	0.173	0.016	0.098				●
	DCMX3(2.5)2	0.375	0.156	0.173	0.031	0.083				●

● Always stock available ○ Produce according to order

Type of cutting edge

Grade	Standard	Sharp	Strengthened
YCB011	T01515	T01010	S01525
YCB012	S01025	T01015	S01035
YZB221	S02020	T01010	S02535

Non-standard edge needs to be tailor-made.

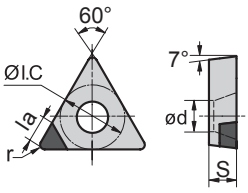


External turning

Internal turning

A

TC □□



Workpiece material	Good working conditions	General working conditions	Adverse working conditions	
H Hardened material		😐		
K Cast iron	😊		😊	
N Ferrite materials				😐

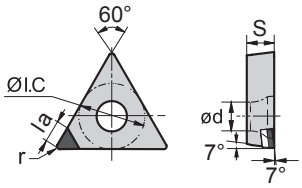
Inserts shape	Type	Dimensions(inch)					Grade			
		ØI.C	S	ød	r	la	YCB011	YCB012	YZB221	YCD011
	TCGW1.8(1.5)1	0.219	0.094	0.098	0.016	0.098	○	○		●
	TCGW1.8(1.5)2	0.219	0.094	0.098	0.031	0.087	○	○		●
	TCGW2(1.5)0	0.250	0.094	0.110	0.008	0.098	○	○		●
	TCGW2(1.5)1	0.250	0.094	0.110	0.016	0.098	○	○		●
	TCGW2(1.5)2	0.250	0.094	0.110	0.031	0.087	○	○		●
	TCGW221	0.250	0.125	0.110	0.016	0.098	○	○		●
	TCGW3(2.5)1	0.375	0.156	0.173	0.016	0.098	○	○		●
	TCGW3(2.5)2	0.375	0.156	0.173	0.031	0.087	○	○		●
	TCGW3(2.5)3	0.375	0.156	0.173	0.047	0.079	○	○		●
	TCGW1.8(1.5)1-3	0.219	0.094	0.098	0.016	0.098	○	○		
	TCGW1.8(1.5)2-3	0.219	0.094	0.098	0.031	0.087	○	○		
	TCGW2(1.5)0-3	0.250	0.094	0.110	0.008	0.098	○	○		
	TCGW2(1.5)1-3	0.250	0.094	0.110	0.016	0.098	●	●		
	TCGW2(1.5)2-3	0.250	0.094	0.110	0.031	0.087	●	●		
	TCGW221-3	0.250	0.125	0.110	0.016	0.098	●	●		
	TCGW3(2.5)1-3	0.375	0.156	0.173	0.016	0.098	●	●		
	TCGW3(2.5)2-3	0.375	0.156	0.173	0.031	0.087	●	●		
	TCGW3(2.5)3-3	0.375	0.156	0.173	0.047	0.079	○	○		

● Always stock available ○ Produce according to order

External turning

Internal turning

TC □□



Workpiece material	Good working conditions	General working conditions	Adverse working conditions	
H Hardened material		😐		
K Cast iron	😊		😊	
N Ferrite materials				😐

Inserts shape	Type	Dimensions(inch)					Grade			
		ØI.C	S	ød	r	la	YCB011	YCB012	YZB221	YCD011
	TCMX1.8(1.5)1	0.219	0.094	0.098	0.016	0.098				●
	TCMX1.8(1.5)2	0.219	0.094	0.098	0.031	0.079				●
	TCMX2(1.5)0	0.250	0.094	0.110	0.008	0.098				●
	TCMX2(1.5)1	0.250	0.094	0.110	0.016	0.098				●
	TCMX2(1.5)2	0.250	0.094	0.110	0.031	0.079				●
	TCMX221	0.250	0.125	0.110	0.016	0.098				●
	TCMX3(2.5)1	0.375	0.156	0.173	0.016	0.098				●
	TCMX3(2.5)2	0.375	0.156	0.173	0.031	0.079				●
	TCMX3(2.5)3	0.375	0.156	0.173	0.047	0.079				●

● Always stock available ○ Produce according to order

Type of cutting edge

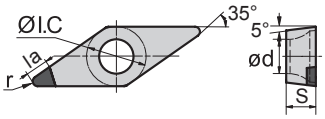
Grade	Standard	Sharp	Strengthened
YCB011	T01515	T01010	S01525
YCB012	S01025	T01015	S01035
YZB221	S02020	T01010	S02535

Non-standard edge needs to be tailor-made.

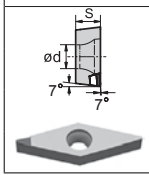
External turning

Internal turning

VB □□



Workpiece material	Good working conditions	General working conditions	Adverse working conditions	
H Hardened material		😐		
K Cast iron	😊		😊	
N Ferrite materials				😐

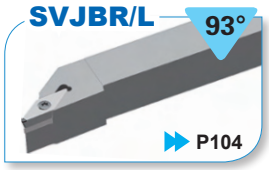
Inserts shape	Type	Dimensions(inch)					Grade			
		ØI.C	S	ød	r	la	YCB011	YCB012	YZB221	YCD011
	VBGW331	0.375	0.187	0.173	0.016	0.110	○	○		●
	VBGW332	0.375	0.187	0.173	0.031	0.098	○	○		●
	VBGW333	0.375	0.187	0.173	0.047	0.079	○	○		●
	VBGW331-2	0.375	0.187	0.173	0.016	0.110	●	●		
	VBGW332-2	0.375	0.187	0.173	0.031	0.098	●	●		
	VBGW333-2	0.375	0.187	0.173	0.047	0.079	○	○		
	VBMX331	0.375	0.187	0.173	0.016	0.110				●
	VBMX332	0.375	0.187	0.173	0.031	0.098				●
	VBMX333	0.375	0.187	0.173	0.047	0.079				●

● Always stock available ○ Produce according to order

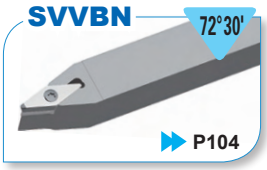
Type of cutting edge

Grade	Standard	Sharp	Strengthened
YCB011	T01515	T01010	S01525
YCB012	S01025	T01015	S01035
YZB221	S02020	T01010	S02535

Non-standard edge needs to be tailor-made.

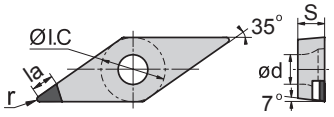


External turning



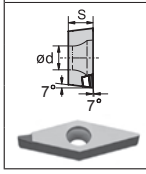
Internal turning

VC □□



Good working conditions | General working conditions | Adverse working conditions

Workpiece material				
H Hardened material		😐		
K Cast iron	😊		😊	
N Ferrite materials				😐

Inserts shape	Type	Dimensions(inch)					Grade			
		ØI.C	S	ød	r	la	YCB011	YCB012	YZB221	YCD011
	VCGW331	0.375	0.187	0.173	0.016	0.110				●
	VCGW332	0.375	0.187	0.173	0.031	0.098				●
	VCGW333	0.375	0.187	0.173	0.047	0.079				●
	VCMX331	0.375	0.187	0.173	0.016	0.110				●
	VCMX332	0.375	0.187	0.173	0.031	0.098				●
	VCMX333	0.375	0.187	0.173	0.047	0.079				●

● Always stock available ○ Produce according to order

External turning