



**PCBN&PCD** Insert



# TURNING General Turning Inserts

## PCBN&PCD inserts code key

General turning

PCBN&PCD inserts code key

Insert shape		
A	B	C
D	E	H
K	L	M
P	S	T
V	W	Others Z

Tolerance class							
Code	Nose height M Tolerance(mm)	Inscribed circle Tolerance(mm)	Thickness S Tolerance(mm)	Code	Nose height M Tolerance(mm)	Inscribed circle Tolerance(mm)	Thickness S Tolerance(mm)
A	±0.005	±0.025	±0.025	J	±0.005	±0.05±0.13	±0.025
F	±0.005	±0.013	±0.025	K	±0.013	±0.05±0.13	±0.025
C	±0.013	±0.025	±0.025	L	±0.025	±0.05±0.13	±0.025
H	±0.013	±0.013	±0.025	M	±0.08±0.18	±0.05±0.13	±0.13
E	±0.025	±0.025	±0.025	N	±0.08±0.18	±0.05±0.13	±0.025
G	±0.025	±0.025	±0.13	U	±0.13±0.38	±0.08±0.25	±0.13

# C N G A 12

Clearance angle of main cutting edge			
Code	Clearance angle	Code	Clearance angle
A	3°	B	5°
C	7°	D	15°
E	20°	F	25°
G	30°	N	0°
P	11°	O	Other clearance angle

Chipbreaker and clamping system		
Code	With/Without hole	Section plane of insert
N	Without	
B	With	
C	With	
A	With	
W	With	
Q	With	
X	---	Special

Diameter of IC (mm)	Length of cutting edge						
	Insert shape						
	C	D	R	S	T	V	W
3.97					06		
5.0			05		09		
5.56							
6.0			06				
6.35	06	07			11	11	
8.0			08				
9.525	09	11	09	09	16	16	06
10.0			10				
12.0			12				
12.7	12	15	12	12	22	22	08
15.875	16	19	15	15	27		
16.0			16				
19.05	19	19	19	19	33		
20.0			20				
25.0	25	25	25				
25.4			25	25			
31.75			31				
32			32				



Insert thickness			
<p>Thickness is defined as height from bottom of insert to the highest part of cutting edge.</p>			
Code	Insert thickness(mm)	Code	Insert thickness(mm)
02	2.38	06	6.35
T2	2.58	T6	6.75
03	3.18	07	7.94
T3	3.97	09	9.52
04	4.76	T9	9.72
T4	4.96	11	11.11
05	5.56	12	12.70
T5	5.95		

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

Type of cutting edge		
Code	Type of cutting edge	Picture
E	Honing	
T	Chamfering	
S	Chamfering + honing	
F	Sharp edges	

**04 04 A T 010 20 - 2 S**

Insert Structure		
Code	Type of cutting edge	Diagram
A	Single-sided insert	
B	Intact insert	
C	penetration insert	
D	Double-sided insert	

Chamfer width	
Code	Dimensions (mm)
000	--
008	0.08
012	0.12
017	0.17
022	0.22

Chamfer angle	
Code	Angle (°)
00	--
10	10
15	15
20	20
25	25

Cutting edge number	
Code	number
/	number1
2	number2
3	number3
4	number4
6	number6

The length of cutting edge			
	Standard	Elongate	Overlength
Code	Omission	S	SS
Length	Standard	+1mm	+2mm



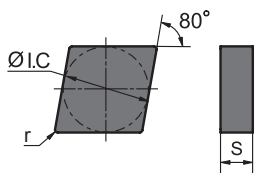




# General Turning Inserts

PCBN&PCD inserts

**CN** (Negative angle)



😊 Good working condition   🙄 Normal working condition   😞 Bad working condition

Workpiece material	Cast iron	Heat resistant alloy, Ti alloy	Super hard material	Non ferrous metal
K	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
S	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
H	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
N	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊

General turning

PCBN&PCD inserts

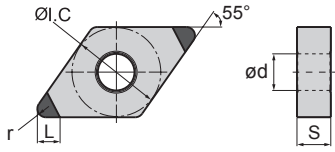
Type	Shape of insert	Model	Specifi-cation	Dimension(mm)			Cast iron				Hardened steel				Powder alloy & Superalloy				
				ØI.C	S	r	BK1011	BK1021	BK2511	BK2541	BH0121	BH1020	BH2011	BH2511	BH3511	BS1011	BS2011	BS3011	
Intact insert		CNGN120404BE	BE	12.7	4.76	0.4		○											
		CNGN120408BE		12.7	4.76	0.8		○											
		CNGN120412BE		12.7	4.76	1.2		○											
		CNGN120404BT01215	T01215	12.7	4.76	0.4		★											
		CNGN120408BT01215		12.7	4.76	0.8		★											
		CNGN120412BT01215		12.7	4.76	1.2		★											
		CNGN120404BS01225	S01225	12.7	4.76	0.4		○											
		CNGN120408BS01225		12.7	4.76	0.8		○											
		CNGN120412BS01225		12.7	4.76	1.2		○											

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below 0.5mm.

★ Recommended grade (always stock available)   ○ Make-to-order

DN (Negative angle)



😊 Good working condition    😐 Normal working condition    😞 Bad working condition

Workpiece material	Cast iron	Heat resistant alloy, Ti alloy	Super hard material	Non ferrous metal
K	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
S	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
H	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
N	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊

General turning

PCBN&PCD inserts

Type	Shape of insert	Model	Specifi-cation	Dimension(mm)					Cast iron				Hardened steel				Powder alloy& Superalloy			
				ØI.C	S	ød	r	L	BK1011	BK1021	BK2511	BK2541	BH0121	BH1020	BH2011	BH2511	BH3511	BS1011	BS2011	BS3011
Single-sided insert		DNGA150404AE-2	AE	12.7	4.76	5.156	0.4	2.5	○	○							○	○	○	
		DNGA150408AE-2		12.7	4.76	5.156	0.8	2.1	○	○								○	○	○
		DNGA150412AE-2		12.7	4.76	5.156	1.2	2.0	○	○								○	○	○
		DNGA150604AE-2		12.7	6.35	5.156	0.4	2.5	○	○								○	○	○
		DNGA150608AE-2		12.7	6.35	5.156	0.8	2.1	○	○								○	○	○
		DNGA150612AE-2		12.7	6.35	5.156	1.2	2.0	○	○								○	○	○
		DNGA150404AT01215-2	T01215	12.7	4.76	5.156	0.4	2.5	○	○								○	○	○
		DNGA150408AT01215-2		12.7	4.76	5.156	0.8	2.1	○	○								○	○	○
		DNGA150412AT01215-2		12.7	4.76	5.156	1.2	2.0	○	○								○	○	○
		DNGA150604AT01215-2		12.7	6.35	5.156	0.4	2.5	○	○								○	○	○
		DNGA150608AT01215-2		12.7	6.35	5.156	0.8	2.1	○	○								○	○	○
		DNGA150612AT01215-2		12.7	6.35	5.156	1.2	2.0	○	○								○	○	○
		DNGA150404AS01225-2	S01225	12.7	4.76	5.156	0.4	2.5	○	○				○	○	○	○	○	○	○
		DNGA150408AS01225-2		12.7	4.76	5.156	0.8	2.1	○	○				○	○	○	○	○	○	○
		DNGA150412AS01225-2		12.7	4.76	5.156	1.2	2.0	○	○				○	○	○	○	○	○	○
		DNGA150604AS01225-2		12.7	6.35	5.156	0.4	2.5	○	○				○	○	○	○	○	○	○
		DNGA150608AS01225-2		12.7	6.35	5.156	0.8	2.1	○	○				○	○	○	○	○	○	○
		DNGA150612AS01225-2		12.7	6.35	5.156	1.2	2.0	○	○				○	○	○	○	○	○	○
		DNGA150404AS00815-2	S00815	12.7	4.76	5.156	0.4	2.5												
		DNGA150408AS00815-2		12.7	4.76	5.156	0.8	2.1												
		DNGA150412AS00815-2		12.7	4.76	5.156	1.2	2.0												
		DNGA150604AS00815-2		12.7	6.35	5.156	0.4	2.5												
		DNGA150608AS00815-2		12.7	6.35	5.156	0.8	2.1												
		DNGA150612AS00815-2		12.7	6.35	5.156	1.2	2.0												

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below 0.5mm.

★ Recommended grade (always stock available)    ○ Make-to-order

Applicable tool

DDJNR/L  
Kr:93°



Page A167

PDJNR/L  
Kr:93°



A174

PDPNN  
Kr:62°30'



A175

PDPNR/L  
Kr:62°30'



A213

PDUNR/L  
Kr:93°



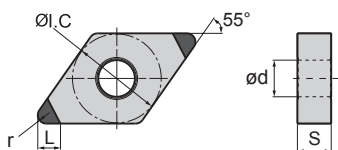
A214



# General Turning Inserts

PCBN&PCD inserts

**DN** (Negative angle)



😊 Good working condition    😐 Normal working condition    😞 Bad working condition

Workpiece material	Cast iron	Heat resistant alloy, Ti alloy	Super hard material	Non ferrous metal
K	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
S	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
H	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
N	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊

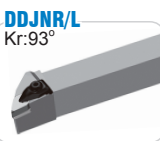
Type	Shape of insert	Model	Specifi- -cation	Dimension(mm)					Cast iron				Hardened steel				Powder alloy & Superalloy			
				ØI.C	S	ød	r	L	BK1011	BK1021	BK2511	BK2541	BH0121	BH1020	BH2011	BH2511	BH3511	BS1011	BS2011	BS3011
Single-sided Insert		DNGA150404AS01735-2	S01735	12.7	4.76	5.156	0.4	2.5							○	○	○			
		DNGA150408AS01735-2		12.7	4.76	5.156	0.8	2.1							○	○	○			
		DNGA150412AS01735-2		12.7	4.76	5.156	1.2	2.0							○	○	○			
		DNGA150604AS01735-2		12.7	6.35	5.156	0.4	2.5							○	○	○			
		DNGA150608AS01735-2		12.7	6.35	5.156	0.8	2.1							○	○	○			
		DNGA150612AS01735-2		12.7	6.35	5.156	1.2	2.0							○	○	○			
Double-sided insert		DNGA150404DE-4	DE	12.7	4.76	5.156	0.4	2.5	○	○							○	○	○	
		DNGA150408DE-4		12.7	4.76	5.156	0.8	2.1	○	○							○	○	○	
		DNGA150412DE-4		12.7	4.76	5.156	1.2	2.0	○	○							○	○	○	
		DNGA150604DE-4		12.7	6.35	5.156	0.4	2.5	○	○							○	○	○	
		DNGA150608DE-4		12.7	6.35	5.156	0.8	2.1	○	○							○	○	○	
		DNGA150612DE-4		12.7	6.35	5.156	1.2	2.0	○	○							○	○	○	
		DNGA150404DT01215-4	T01215	12.7	4.76	5.156	0.4	2.5	★	★							★	★	★	
		DNGA150408DT01215-4		12.7	4.76	5.156	0.8	2.1	★	★							★	★	★	
		DNGA150412DT01215-4		12.7	4.76	5.156	1.2	2.0	★	★							★	★	★	
		DNGA150604DT01215-4		12.7	6.35	5.156	0.4	2.5	★	★							★	★	★	
		DNGA150608DT01215-4		12.7	6.35	5.156	0.8	2.1	★	★							★	★	★	
		DNGA150612DT01215-4		12.7	6.35	5.156	1.2	2.0	★	★							★	★	★	

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below 0.5mm.

★ Recommended grade (always stock available)    ○ Make-to-order

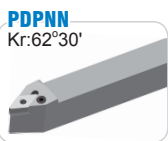
Applicable tool



Page A167



A174



A175



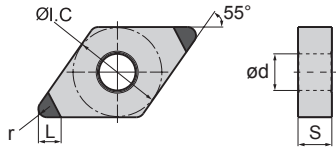
A213



A214



DN □ □ (Negative angle)



😊 Good working condition    😐 Normal working condition    😞 Bad working condition

Workpiece material	<b>K</b> Cast iron	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
	<b>S</b> Heat resistant alloy, Ti alloy	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
	<b>H</b> Super hard material	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
	<b>N</b> Non ferrous metal	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊

Type	Shape of insert	Model	Specifi- -cation	Dimension(mm)					Cast iron				Hardened steel				Powder alloy & Superalloy					
				Ø1.C	S	ød	r	L	BK1011	BK1021	BK2511	BK2541	BH0121	BH1020	BH2011	BH2511	BH3511	BS1011	BS2011	BS3011		
Double-sided insert		DNGA150404DS01225-4	S01225	12.7	4.76	5.156	0.4	2.5	○	○			★	★	★	★	★	○	○	○		
		DNGA150408DS01225-4		12.7	4.76	5.156	0.8	2.1	○	○					★	★	★	★	★	○	○	○
		DNGA150412DS01225-4		12.7	4.76	5.156	1.2	2.0	○	○					★	★	★	★	★	○	○	○
		DNGA150602DS01225-4		12.7	6.35	5.156	0.2	2.7								★	★	★	★			
		DNGA150604DS01225-4		12.7	6.35	5.156	0.4	2.5	○	○						★	★	★	★	○	○	○
		DNGA150608DS01225-4		12.7	6.35	5.156	0.8	2.1	○	○						★	★	★	★	○	○	○
		DNGA150612DS01225-4		12.7	6.35	5.156	1.2	2.0	○	○						★	★	★	★	○	○	○
		DNGA150404DS00815-4		12.7	4.76	5.156	0.4	2.5								★	★	○				
		DNGA150408DS00815-4	12.7	4.76	5.156	0.8	2.1								★	★	○					
		DNGA150412DS00815-4	12.7	4.76	5.156	1.2	2.0								★	★	○					
		DNGA150602DS00815-4	12.7	6.35	5.156	0.2	2.7									★	★	○				
		DNGA150604DS00815-4	12.7	6.35	5.156	0.4	2.5									★	★	○				
		DNGA150608DS00815-4	12.7	6.35	5.156	0.8	2.1									★	★	○				
		DNGA150612DS00815-4	12.7	6.35	5.156	1.2	2.0									★	★	○				
		DNGA150404DS01735-4	12.7	4.76	5.156	0.4	2.5										○	★	○			
		DNGA150408DS01735-4	12.7	4.76	5.156	0.8	2.1										○	★	○			
		DNGA150412DS01735-4	12.7	4.76	5.156	1.2	2.0										○	★	○			
		DNGA150602DS01735-4	12.7	6.35	5.156	0.2	2.7										○	★	○			
		DNGA150604DS01735-4	12.7	6.35	5.156	0.4	2.5										○	★	○			
		DNGA150608DS01735-4	12.7	6.35	5.156	0.8	2.1										○	★	○			
		DNGA150612DS01735-4	12.7	6.35	5.156	1.2	2.0										○	★	○			

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below 0.5mm.

★ Recommended grade (always stock available)    ○ Make-to-order

Applicable tool

DDJNR/L  
Kr:93°



Page A167

PDJNR/L  
Kr:93°



A174

PDPNN  
Kr:62°30'



A175

PDPNR/L  
Kr:62°30'



A213

PDUNR/L  
Kr:93°

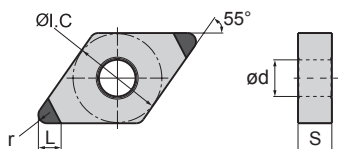


A214



PCBN&PCD inserts

**DN** □ □ (Negative angle)



😊 Good working condition    😐 Normal working condition    😞 Bad working condition

Workpiece material	Cast iron	Heat resistant alloy, Ti alloy	Super hard material	Non ferrous metal
K	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
S	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
H	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
N	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊

General turning

PCBN&PCD inserts

Type	Shape of insert	Model	Specifi-cation	Dimension(mm)					Cast iron				Hardened steel				Powder alloy & Superalloy				
				Ø1.C	S	ød	r	L	BK1011	BK1021	BK2511	BK2541	BH0121	BH1020	BH2011	BH2511	BH3511	BS1011	BS2011	BS3011	
Penetration insert		DNGA150404CE-2	CE	12.7	4.76	5.156	0.4	2.5		○											
		DNGA150408CE-2		12.7	4.76	5.156	0.8	2.1		○											
		DNGA150412CE-2		12.7	4.76	5.156	1.2	2.0		○											
		DNGA150604CE-2		12.7	6.35	5.156	0.4	2.5		○											
		DNGA150608CE-2		12.7	6.35	5.156	0.8	2.1		○											
		DNGA150612CE-2		12.7	6.35	5.156	1.2	2.0		○											
		DNGA150404CT01215-2	T01215	12.7	4.76	5.156	0.4	2.5		★											
		DNGA150408CT01215-2		12.7	4.76	5.156	0.8	2.1		★											
		DNGA150412CT01215-2		12.7	4.76	5.156	1.2	2.0		★											
		DNGA150604CT01215-2		12.7	6.35	5.156	0.4	2.5		★											
		DNGA150608CT01215-2		12.7	6.35	5.156	0.8	2.1		★											
		DNGA150612CT01215-2		12.7	6.35	5.156	1.2	2.0		★											
		DNGA150404CS01225-2	S01225	12.7	4.76	5.156	0.4	2.5		○											
		DNGA150408CS01225-2		12.7	4.76	5.156	0.8	2.1		○											
		DNGA150412CS01225-2		12.7	4.76	5.156	1.2	2.0		○											
		DNGA150604CS01225-2		12.7	6.35	5.156	0.4	2.5		○											
		DNGA150608CS01225-2		12.7	6.35	5.156	0.8	2.1		○											
		DNGA150612CS01225-2		12.7	6.35	5.156	1.2	2.0		○											

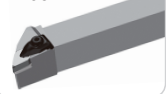
According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below 0.5mm.

★ Recommended grade (always stock available)    ○ Make-to-order

Applicable tool

**DDJNR/L**  
Kr:93°



Page A167

**PDJNR/L**  
Kr:93°



A174

**PDPNN**  
Kr:62°30'



A175

**PDPNR/L**  
Kr:62°30'



A213

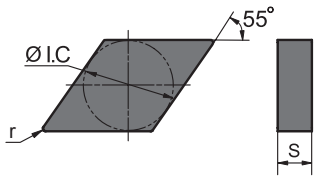
**PDUNR/L**  
Kr:93°



A214



**DN** (Negative angle)



😊 Good working condition    😐 Normal working condition    😞 Bad working condition

Workpiece material	Cast iron	Heat resistant alloy, Ti alloy	Super hard material	Non ferrous metal
K	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
S	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
H	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
N	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊

Type	Shape of insert	Model	Specifi- cation	Dimension(mm)			Cast iron				Hardened steel				Powder alloy & Superalloy			
				ØI.C	S	r	BK1011	BK1021	BK2511	BK2541	BH0121	BH1020	BH2011	BH2511	BH3511	BS1011	BS2011	BS3011
Intact insert		DNGN150404BE	BE	12.7	4.76	0.4		○										
		DNGN150408BE		12.7	4.76	0.8		○										
		DNGN150412BE		12.7	4.76	1.2		○										
		DNGN150604BE		12.7	6.35	0.4		○										
		DNGN150608BE		12.7	6.35	0.8		○										
		DNGN150612BE		12.7	6.35	1.2		○										
		DNGN150404BT01215	T01215	12.7	4.76	0.4			★									
		DNGN150408BT01215		12.7	4.76	0.8			★									
		DNGN150412BT01215		12.7	4.76	1.2			★									
		DNGN150604BT01215		12.7	6.35	0.4			★									
		DNGN150608BT01215		12.7	6.35	0.8			★									
		DNGN150612BT01215		12.7	6.35	1.2			★									
		DNGN150404BS01225	S01225	12.7	4.76	0.4		○										
		DNGN150408BS01225		12.7	4.76	0.8		○										
		DNGN150412BS01225		12.7	4.76	1.2		○										
		DNGN150604BS01225		12.7	6.35	0.4		○										
		DNGN150608BS01225		12.7	6.35	0.8		○										
		DNGN150612BS01225		12.7	6.35	1.2		○										

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below 0.5mm.

★ Recommended grade (always stock available)    ○ Make-to-order

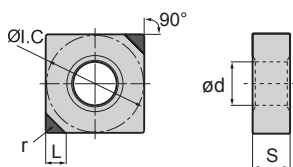
General turning

PCBN&PCD inserts



PCBN&PCD inserts

**SN** (Negative angle)



😊 Good working condition    😐 Normal working condition    😞 Bad working condition

Workpiece material	Cast iron	Heat resistant alloy, Ti alloy	Super hard material	Non ferrous metal
K	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
S	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
H	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
N	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊

General turning

PCBN&PCD inserts

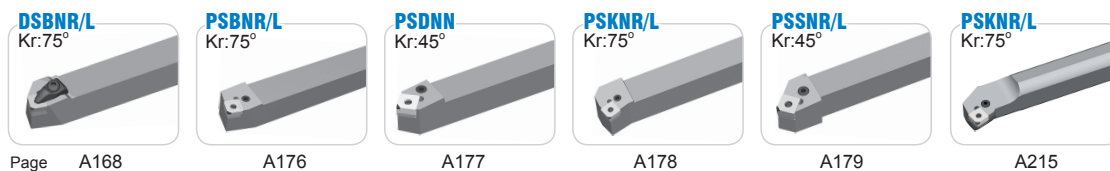
Type	Shape of insert	Model	Specifi- cation	Dimension(mm)					Cast iron				Hardened steel				Powder alloy & Superalloy				
				ØI.C	S	ød	r	L	BK1011	BK1021	BK2511	BK2541	BH0121	BH1020	BH2011	BH2511	BH3511	BS1011	BS2011	BS3011	
Single-sided insert		SNGA120404AE-2	AE	12.7	4.76	5.156	0.4	2.5	○	○							○	○	○		
		SNGA120408AE-2		12.7	4.76	5.156	0.8	2.2	○	○								○	○	○	
		SNGA120412AE-2		12.7	4.76	5.156	1.2	2.0	○	○									○	○	○
		SNGA120404AE-4		12.7	4.76	5.156	0.4	2.5											○	○	○
		SNGA120408AE-4		12.7	4.76	5.156	0.8	2.2											○	○	○
		SNGA120412AE-4		12.7	4.76	5.156	1.2	2.0											○	○	○
		SNGA120404AT01215-2	T01215	12.7	4.76	5.156	0.4	2.5	○	○									○	○	○
		SNGA120408AT01215-2		12.7	4.76	5.156	0.8	2.2	○	○									○	○	○
		SNGA120412AT01215-2		12.7	4.76	5.156	1.2	2.0	○	○									○	○	○
		SNGA120404AT01215-4		12.7	4.76	5.156	0.4	2.5											○	○	○
		SNGA120408AT01215-4		12.7	4.76	5.156	0.8	2.2											○	○	○
		SNGA120412AT01215-4		12.7	4.76	5.156	1.2	2.0											○	○	○
		SNGA120404AS01225-2	S01225	12.7	4.76	5.156	0.4	2.5	○	○									○	○	○
		SNGA120408AS01225-2		12.7	4.76	5.156	0.8	2.2	○	○									○	○	○
		SNGA120412AS01225-2		12.7	4.76	5.156	1.2	2.0	○	○									○	○	○
		SNGA120404AS01225-4		12.7	4.76	5.156	0.4	2.5					○	○	○	○	○	○	○	○	○
		SNGA120408AS01225-4		12.7	4.76	5.156	0.8	2.2					○	○	○	○	○	○	○	○	○
		SNGA120412AS01225-4		12.7	4.76	5.156	1.2	2.0					○	○	○	○	○	○	○	○	○
		SNGA120404AS00815-4	S00815	12.7	4.76	5.156	0.4	2.5					○	○							
		SNGA120408AS00815-4		12.7	4.76	5.156	0.8	2.2					○	○	○						
		SNGA120412AS00815-4		12.7	4.76	5.156	1.2	2.0					○	○	○						
		SNGA120404AS01735-4	S01735	12.7	4.76	5.156	0.4	2.5									○	○	○		
		SNGA120408AS01735-4		12.7	4.76	5.156	0.8	2.2									○	○	○		
		SNGA120412AS01735-4		12.7	4.76	5.156	1.2	2.0									○	○	○		

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below 0.5mm.

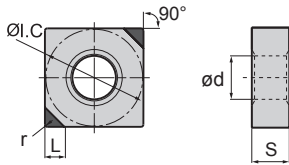
★ Recommended grade (always stock available)    ○ Make-to-order

Applicable tool





**SN** (Negative angle)



😊 Good working condition    😐 Normal working condition    😞 Bad working condition

Workpiece material	Cast iron	Heat resistant alloy, Ti alloy	Super hard material	Non ferrous metal
K	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
S	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
H	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
N	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊

Type	Shape of insert	Model	Specifi- -cation	Dimension(mm)					Cast iron				Hardened steel				Powder alloy & Superalloy			
				Ø1.C	S	ød	r	L	BK1011	BK1021	BK2511	BK2541	BH0121	BH1020	BH2011	BH2511	BH3511	BS1011	BS2011	BS3011
Double-sided insert		SNGA120404DE-4	DE	12.7	4.76	5.156	0.4	2.5	○	○										
		SNGA120408DE-4		12.7	4.76	5.156	0.8	2.2	○	○										
		SNGA120412DE-4		12.7	4.76	5.156	1.2	2.0	○	○										
		SNGA120404DT01215-4	T01215	12.7	4.76	5.156	0.4	2.5	★	★										
		SNGA120408DT01215-4		12.7	4.76	5.156	0.8	2.2	★	★										
		SNGA120412DT01215-4		12.7	4.76	5.156	1.2	2.0	★	★										
		SNGA120404DS01225-4	S01225	12.7	4.76	5.156	0.4	2.5	○	○										
		SNGA120408DS01225-4		12.7	4.76	5.156	0.8	2.2	○	○										
		SNGA120412DS01225-4		12.7	4.76	5.156	1.2	2.0	○	○										
		SNGA120404DS01225-8	S00815	12.7	4.76	5.156	0.4	2.5				○	○	○	○	○				
		SNGA120408DS01225-8		12.7	4.76	5.156	0.8	2.2				○	○	○	○	○				
		SNGA120412DS01225-8		12.7	4.76	5.156	1.2	2.0				○	○	○	○	○				
		SNGA120404DS00815-8	S01735	12.7	4.76	5.156	0.4	2.5								○	○	○		
		SNGA120408DS00815-8		12.7	4.76	5.156	0.8	2.2								○	○	○		
		SNGA120412DS00815-8		12.7	4.76	5.156	1.2	2.0								○	○	○		
		SNGA120404DS01735-8	S01735	12.7	4.76	5.156	0.4	2.5												
		SNGA120408DS01735-8		12.7	4.76	5.156	0.8	2.2												
		SNGA120412DS01735-8		12.7	4.76	5.156	1.2	2.0												

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below 0.5mm.

★ Recommended grade (always stock available)    ○ Make-to-order

Applicable tool

DSBNR/L Kr:75°



Page A168

PSBNR/L Kr:75°



A176

PSDNN Kr:45°



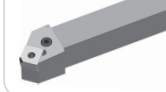
A177

PSKNR/L Kr:75°



A178

PSSNR/L Kr:45°



A179

PSKNR/L Kr:75°



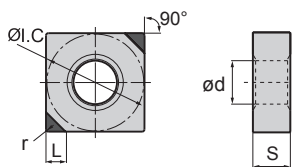
A215

General turning

PCBN&PCD inserts



### SN□□ (Negative angle)



😊 Good working condition    😐 Normal working condition    😞 Bad working condition

Workpiece material	Cast iron	Heat resistant alloy, Ti alloy	Super hard material	Non ferrous metal
K	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
S	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
H	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
N	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊

General turning

PCBN&PCD inserts

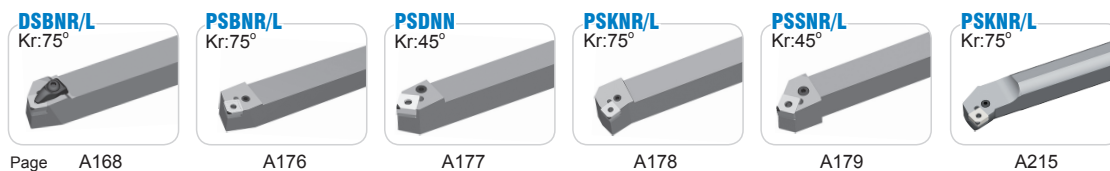
Type	Shape of insert	Model	Specifi- cation	Dimension(mm)					Cast iron				Hardened steel				Powder alloy & Superalloy				
				Øl.C	S	ød	r	L	BK1011	BK1021	BK2511	BK2541	BH0121	BH1020	BH2011	BH2511	BH3511	BS1011	BS2011	BS3011	
Penetration insert		SNGA120404CE-2	CE	12.7	4.76	5.156	0.4	2.5		○											
		SNGA120408CE-2		12.7	4.76	5.156	0.8	2.2		○											
		SNGA120412CE-2		12.7	4.76	5.156	1.2	2.0		○											
		SNGA120404CE-4		12.7	4.76	5.156	0.4	2.5		○											
		SNGA120408CE-4		12.7	4.76	5.156	0.8	2.2		○											
		SNGA120412CE-4		12.7	4.76	5.156	1.2	2.0		○											
		SNGA120404CT01215-4	T01215	12.7	4.76	5.156	0.4	2.5		★											
		SNGA120408CT01215-4		12.7	4.76	5.156	0.8	2.2		★											
		SNGA120412CT01215-4		12.7	4.76	5.156	1.2	2.0		★											
		SNGA120404CT01215-2		12.7	4.76	5.156	0.4	2.5		★											
		SNGA120408CT01215-2		12.7	4.76	5.156	0.8	2.2		★											
		SNGA120412CT01215-2		12.7	4.76	5.156	1.2	2.0		★											
		SNGA120404CS01225-4	S01225	12.7	4.76	5.156	0.4	2.5		○											
		SNGA120408CS01225-4		12.7	4.76	5.156	0.8	2.2		○											
		SNGA120412CS01225-4		12.7	4.76	5.156	1.2	2.0		○											
		SNGA120404CS01225-2		12.7	4.76	5.156	0.4	2.5		○											
		SNGA120408CS01225-2		12.7	4.76	5.156	0.8	2.2		○											
		SNGA120412CS01225-2		12.7	4.76	5.156	1.2	2.0		○											

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below 0.5mm.

★ Recommended grade (always stock available)    ○ Make-to-order

#### Applicable tool



Page A168

A176

A177

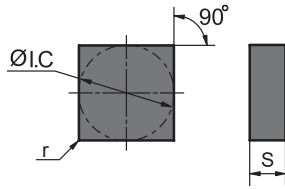
A178

A179

A215



**SN** (Negative angle)



😊 Good working condition    😐 Normal working condition    😞 Bad working condition

Workpiece material	Cast iron	Heat resistant alloy, Ti alloy	Super hard material	Non ferrous metal
K	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
S	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
H	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
N	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊

Type	Shape of insert	Model	Specifi- -cation	Dimension(mm)			Cast iron				Hardened steel				Powder alloy & Superalloy				
				ØI.C	S	r	BK1011	BK1021	BK2511	BK2541	BH0121	BH1020	BH2011	BH2511	BH3511	BS1011	BS2011	BS3011	
Intact insert		SNGN120404BE	BE	12.7	4.76	0.4		○											
		SNGN120408BE		12.7	4.76	0.8		○											
		SNGN120412BE		12.7	4.76	1.2		○											
		SNGN120404BT01215	T01215	12.7	4.76	0.4		★											
		SNGN120408BT01215		12.7	4.76	0.8		★											
		SNGN120412BT01215		12.7	4.76	1.2		★											
		SNGN120404BS01225	S01225	12.7	4.76	0.4		○											
		SNGN120408BS01225		12.7	4.76	0.8		○											
		SNGN120412BS01225		12.7	4.76	1.2		○											

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below 0.5mm.

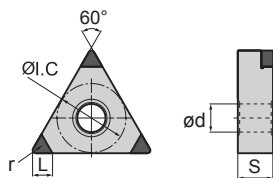
★ Recommended grade (always stock available)    ○ Make-to-order

General turning

PCBN&PCD inserts



### TN□□ (Negative angle)



😊 Good working condition    😐 Normal working condition    😞 Bad working condition

Workpiece material	Cast iron	Heat resistant alloy, Ti alloy	Super hard material	Non ferrous metal
K	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
S	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
H	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
N	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊

General turning

PCBN&PCD inserts

Type	Shape of insert	Model	Specifi- -cation	Dimension(mm)					Cast iron				Hardened steel				Powder alloy & Superalloy			
				ØI.C	S	ød	r	L	BK1011	BK1021	BK2511	BK2541	BH0121	BH1020	BH2011	BH2511	BH3511	BS1011	BS2011	BS3011
Single-sided insert		TNGA160404AE-3	AE	9.525	4.76	3.81	0.4	2.5	○	○							○	○	○	
		TNGA160408AE-3		9.525	4.76	3.81	0.8	2.2	○	○								○	○	○
		TNGA160412AE-3		9.525	4.76	3.81	1.2	2.0	○	○								○	○	○
		TNGA160404AT01215-3	T01215	9.525	4.76	3.81	0.4	2.5	○	○								○	○	○
		TNGA160408AT01215-3		9.525	4.76	3.81	0.8	2.2	○	○								○	○	○
		TNGA160412AT01215-3		9.525	4.76	3.81	1.2	2.0	○	○								○	○	○
		TNGA160404AS01225-3	S01225	9.525	4.76	3.81	0.4	2.5	○	○					○	○	○	○	○	○
		TNGA160408AS01225-3		9.525	4.76	3.81	0.8	2.2	○	○					○	○	○	○	○	○
		TNGA160412AS01225-3		9.525	4.76	3.81	1.2	2.0	○	○					○	○	○	○	○	○
		TNGA160404AS00815-3	S00815	9.525	4.76	3.81	0.4	2.5							○	○	○			
		TNGA160408AS00815-3		9.525	4.76	3.81	0.8	2.2							○	○	○			
		TNGA160412AS00815-3		9.525	4.76	3.81	1.2	2.0							○	○	○			
		TNGA160404AS01735-3	S01735	9.525	4.76	3.81	0.4	2.5									○	○	○	
		TNGA160408AS01735-3		9.525	4.76	3.81	0.8	2.2									○	○	○	
		TNGA160412AS01735-3		9.525	4.76	3.81	1.2	2.0									○	○	○	
Double-sided insert		TNGA160404DE-6	DE	9.525	4.76	3.81	0.4	2.5	○	○							○	○	○	
		TNGA160408DE-6		9.525	4.76	3.81	0.8	2.2	○	○								○	○	○
		TNGA160412DE-6		9.525	4.76	3.81	1.2	2.0	○	○								○	○	○
		TNGA160404DT01215-6	T01215	9.525	4.76	3.81	0.4	2.5	★	★								★	★	★
		TNGA160408DT01215-6		9.525	4.76	3.81	0.8	2.2	★	★								★	★	★
		TNGA160412DT01215-6		9.525	4.76	3.81	1.2	2.0	★	★								★	★	★

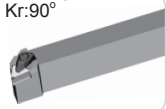
According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below 0.5mm.

★ Recommended grade (always stock available)    ○ Make-to-order

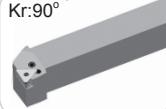
#### Applicable tool

DTGNR/L  
Kr:90°



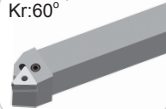
Page A169

PTFNR/L  
Kr:90°



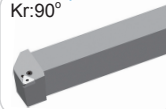
A180

PTTNR/L  
Kr:60°



A181

PTGNR/L  
Kr:90°



A182

PTFNR/L  
Kr:90°

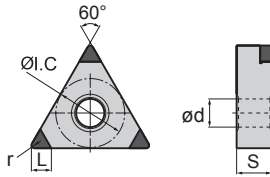


A216





**TN** (Negative angle)



😊 Good working condition    😐 Normal working condition    😞 Bad working condition

Workpiece material	Cast iron	Heat resistant alloy, Ti alloy	Super hard material	Non ferrous metal
K	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
S	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
H	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
N	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊

Type	Shape of insert	Model	Specifi- cation	Dimension(mm)					Cast iron				Hardened steel				Powder alloy & Superalloy					
				ØI.C	S	ød	r	L	BK1011	BK1021	BK2511	BK2541	BH0121	BH1020	BH2011	BH2511	BH3511	BS1011	BS2011	BS3011		
Double-sided insert		TNGA160404DS01225-6	S01225	9.525	4.76	3.81	0.4	2.5	○	○			★	★	★	★	★	○	○	○		
		TNGA160408DS01225-6		9.525	4.76	3.81	0.8	2.2	○	○					★	★	★	★	★	○	○	○
		TNGA160412DS01225-6		9.525	4.76	3.81	1.2	2.0	○	○					★	★	★	★	★	○	○	○
		TNGA160404DS00815-6	S00815	9.525	4.76	3.81	0.4	2.5						★	★	○						
		TNGA160408DS00815-6		9.525	4.76	3.81	0.8	2.2						★	★	○						
		TNGA160412DS00815-6		9.525	4.76	3.81	1.2	2.0						★	★	○						
		TNGA160404DS01735-6	S01735	9.525	4.76	3.81	0.4	2.5										○	★	○		
		TNGA160408DS01735-6		9.525	4.76	3.81	0.8	2.2									○	★	○			
		TNGA160412DS01735-6		9.525	4.76	3.81	1.2	2.0								○	★	○				
Penetration insert		TNGA160404CE-3	CE	9.525	4.76	3.81	0.4	2.5			○											
		TNGA160408CE-3		9.525	4.76	3.81	0.8	2.2			○											
		TNGA160412CE-3		9.525	4.76	3.81	1.2	2.0			○											
		TNGA160404CT01215-3	T01215	9.525	4.76	3.81	0.4	2.5				★										
		TNGA160408CT01215-3		9.525	4.76	3.81	0.8	2.2					★									
		TNGA160412CT01215-3		9.525	4.76	3.81	1.2	2.0						★								
		TNGA160404CS01225-3	S01225	9.525	4.76	3.81	0.4	2.5				○										
		TNGA160408CS01225-3		9.525	4.76	3.81	0.8	2.2				○										
		TNGA160412CS01225-3		9.525	4.76	3.81	1.2	2.0				○										

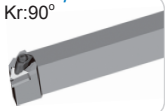
According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below 0.5mm.

★ Recommended grade (always stock available)    ○ Make-to-order

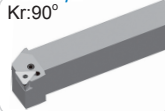
Applicable tool

DTGNR/L  
Kr:90°



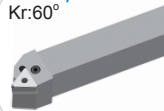
Page A169

PTFNR/L  
Kr:90°



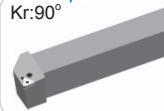
A180

PTTNR/L  
Kr:60°



A181

PTGNR/L  
Kr:90°



A182

PTFNR/L  
Kr:90°



A216

General turning

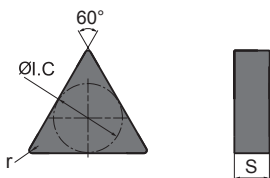
PCBN&PCD inserts



# General Turning Inserts

PCBN&PCD inserts

**TN** (Negative angle)



😊 Good working condition   🙄 Normal working condition   😞 Bad working condition

Workpiece material	Cast iron	Heat resistant alloy, Ti alloy	Super hard material	Non ferrous metal
K	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
S	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
H	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
N	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊

General turning

PCBN&PCD inserts

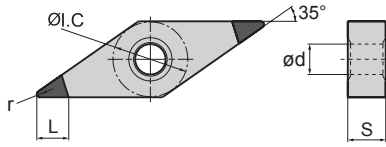
Type	Shape of insert	Model	Specification	Dimension(mm)			Cast iron				Hardened steel				Powder alloy & Superalloy				
				ØI.C	S	r	BK1011	BK1021	BK2511	BK2541	BH0121	BH1020	BH2011	BH2511	BH3511	BS1011	BS2011	BS3011	
Intact insert		TNGN160404BE	BE	9.525	4.76	0.4		○											
		TNGN160408BE		9.525	4.76	0.8		○											
		TNGN160412BE		9.525	4.76	1.2		○											
		TNGN160404BT01215	T01215	9.525	4.76	0.4		★											
		TNGN160408BT01215		9.525	4.76	0.8		★											
		TNGN160412BT01215		9.525	4.76	1.2		★											
		TNGN160404BS01225	S01225	9.525	4.76	0.4		○											
		TNGN160408BS01225		9.525	4.76	0.8		○											
		TNGN160412BS01225		9.525	4.76	1.2		○											

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below 0.5mm.

★ Recommended grade (always stock available)   ○ Make-to-order

**VN** (Negative angle)



😊 Good working condition    😐 Normal working condition    😞 Bad working condition

Workpiece material	<b>K</b> Cast iron	😊😊😊😊
	<b>S</b> Heat resistant alloy, Ti alloy	😊😊😊😊
	<b>H</b> Super hard material	😊😊😊😊
	<b>N</b> Non ferrous metal	😊😊😊😊

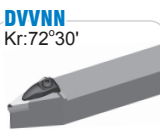
Type	Shape of insert	Model	Specifi- -cation	Dimension(mm)					Cast iron				Hardened steel				Powder alloy & Superalloy			
				ØI.C	S	ød	r	L	BK1011	BK1021	BK2511	BK2541	BH0121	BH1020	BH2011	BH2511	BH3511	BS1011	BS2011	BS3011
Single-sided insert		VNGA160404AE-2	AE	9.525	4.76	3.81	0.4	2.8									○	○	○	
		VNGA160408AE-2		9.525	4.76	3.81	0.8	2.5										○	○	○
		VNGA160412AE-2		9.525	4.76	3.81	1.2	2.0										○	○	○
		VNGA160404AT01215-2	T01215	9.525	4.76	3.81	0.4	2.8										○	○	○
		VNGA160408AT01215-2		9.525	4.76	3.81	0.8	2.5										○	○	○
		VNGA160412AT01215-2		9.525	4.76	3.81	1.2	2.0										○	○	○
		VNGA160404AS01225-2	S01225	9.525	4.76	3.81	0.4	2.8					○	○	○	○	○	○	○	○
		VNGA160408AS01225-2		9.525	4.76	3.81	0.8	2.5					○	○	○	○	○	○	○	○
		VNGA160412AS01225-2		9.525	4.76	3.81	1.2	2.0					○	○	○	○	○	○	○	○
		VNGA160404AS00815-2	S00815	9.525	4.76	3.81	0.4	2.8					○	○	○					
		VNGA160408AS00815-2		9.525	4.76	3.81	0.8	2.5					○	○	○					
		VNGA160412AS00815-2		9.525	4.76	3.81	1.2	2.0					○	○	○					
		VNGA160404AS01735-2	S01735	9.525	4.76	3.81	0.4	2.8								○	○	○		
		VNGA160408AS01735-2		9.525	4.76	3.81	0.8	2.5								○	○	○		
VNGA160412AS01735-2	9.525	4.76		3.81	1.2	2.0								○	○	○				
Double-sided insert		VNGA160404DE-4	DE	9.525	4.76	3.81	0.4	2.8									○	○	○	
		VNGA160408DE-4		9.525	4.76	3.81	0.8	2.5									○	○	○	
		VNGA160412DE-4		9.525	4.76	3.81	1.2	2.0									○	○	○	
		VNGA160404DT01215-4	T01215	9.525	4.76	3.81	0.4	2.8										★	★	★
		VNGA160408DT01215-4		9.525	4.76	3.81	0.8	2.5										★	★	★
		VNGA160412DT01215-4		9.525	4.76	3.81	1.2	2.0										★	★	★

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below 0.5mm.

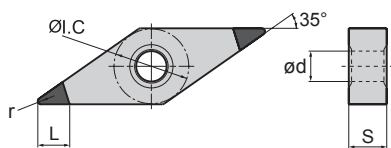
★ Recommended grade (always stock available)    ○ Make-to-order

Applicable tool





### VN□□ (Negative angle)



😊 Good working condition    😐 Normal working condition    😞 Bad working condition

Workpiece material	Cast iron	Heat resistant alloy, Ti alloy	Super hard material	Non ferrous metal
K	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
S	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
H	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
N	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊

Type	Shape of insert	Model	Specifi- cation	Dimension(mm)					Cast iron				Hardened steel				Powder alloy & Superalloy					
				ØI.C	S	ød	r	L	BK1011	BK1021	BK2511	BK2541	BH0121	BH1020	BH2011	BH2511	BH3511	BS1011	BS2011	BS3011		
Double-sided insert		VNGA160404DS01225-4	S01225	9.525	4.76	3.81	0.4	2.8					★	★	★	★	★	○	○	○		
		VNGA160408DS01225-4		9.525	4.76	3.81	0.8	2.5							★	★	★	★	○	○	○	
		VNGA160412DS01225-4		9.525	4.76	3.81	1.2	2.0								★	★	★	★	○	○	○
		VNGA160404DS00815-4	S00815	9.525	4.76	3.81	0.4	2.8							★	★	○					
		VNGA160408DS00815-4		9.525	4.76	3.81	0.8	2.5							★	★	○					
		VNGA160412DS00815-4		9.525	4.76	3.81	1.2	2.0								★	★	○				
		VNGA160404DS01735-4	S01735	9.525	4.76	3.81	0.4	2.8										○	★	○		
		VNGA160408DS01735-4		9.525	4.76	3.81	0.8	2.5										○	★	○		
		VNGA160412DS01735-4		9.525	4.76	3.81	1.2	2.0										○	★	○		
Penetration insert		VNGA160402CE-2	CE	9.525	4.76	3.81	0.2	3.3														
		VNGN160404CE-2		9.525	4.76	3.81	0.4	2.8														
		VNGN160408CE-2		9.525	4.76	3.81	0.8	2.5														
		VNGN160412CE-2		9.525	4.76	3.81	1.2	2.0														
		VNGA160402CT01215-2	T01215	9.525	4.76	3.81	0.2	3.3														
		VNGN160404CT01215-2		9.525	4.76	3.81	0.4	2.8														
		VNGN160408CT01215-2		9.525	4.76	3.81	0.8	2.5														
		VNGN160412CT01215-2		9.525	4.76	3.81	1.2	2.0														
		VNGA160402CS01225-2	S01225	9.525	4.76	3.81	0.2	3.3														
		VNGN160404CS01225-2		9.525	4.76	3.81	0.4	2.8														
		VNGN160408CS01225-2		9.525	4.76	3.81	0.8	2.5														
		VNGN160412CS01225-2		9.525	4.76	3.81	1.2	2.0														

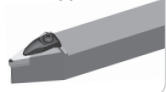
According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below 0.5mm.

★ Recommended grade (always stock available)    ○ Make-to-order

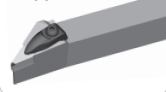
#### Applicable tool

DVNN  
Kr:72°30'



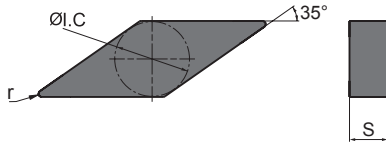
Page A170

DVJNR/L  
Kr:93°



A170

**VN** □ □ (Negative angle)



😊 Good working condition    😐 Normal working condition    😞 Bad working condition

Workpiece material	Cast iron	Heat resistant alloy, Ti alloy	Super hard material	Non ferrous metal
K	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
S	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
H	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
N	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊

Type	Shape of insert	Model	Specifi-cation	Dimension(mm)			Cast iron				Hardened steel				Powder alloy& Superalloy				
				ØI.C	S	r	BK1011	BK1021	BK2511	BK2541	BH0121	BH1020	BH2011	BH2511	BH3511	BS1011	BS2011	BS3011	
Intact insert		VNGN160402BE	BE	9.525	4.76	0.4		○											
		VNGN160404BE		9.525	4.76	0.4		○											
		VNGN160408BE		9.525	4.76	0.8													
		VNGN160412BE		9.525	4.76	1.2													
		VNGN160402BT01215	T01215	9.525	4.76	0.4		★											
		VNGN160404BT01215		9.525	4.76	0.4		★											
		VNGN160408BT01215		9.525	4.76	0.8		★											
		VNGN160412BT01215		9.525	4.76	1.2		★											
		VNGN160402BS01225	S01225	9.525	4.76	0.4			○										
		VNGN160404BS01225		9.525	4.76	0.4			○										
		VNGN160408BS01225		9.525	4.76	0.8													
		VNGN160412BS01225		9.525	4.76	1.2													

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below 0.5mm.

★ Recommended grade (always stock available)    ○ Make-to-order

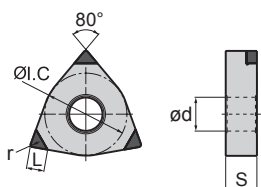
General turning  
PCBN&PCD inserts



# General Turning Inserts

PCBN&PCD inserts

**WN** □ □ (Negative angle)



😊 Good working condition    😐 Normal working condition    😞 Bad working condition

Workpiece material	Cast iron	Heat resistant alloy, Ti alloy	Super hard material	Non ferrous metal
K	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
S	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
H	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
N	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊

General turning

PCBN&PCD inserts

Type	Shape of insert	Model	Specifi- cation	Dimension(mm)					Cast iron				Hardened steel				Powder alloy & Superalloy				
				Ø1.C	S	ød	r	L	BK1011	BK1021	BK2511	BK2541	BH0121	BH1020	BH2011	BH2511	BH3511	BS1011	BS2011	BS3011	
Single-sided insert		WNGA080404AE-3	AE	12.7	4.76	5.16	0.4	2.5										○	○	○	
		WNGA080408AE-3		12.7	4.76	5.16	0.8	2.4											○	○	○
		WNGA080412AE-3		12.7	4.76	5.16	1.2	2.3												○	○
		WNGA080404AT01215-3	T01215	12.7	4.76	5.16	0.4	2.5													
		WNGA080408AT01215-3		12.7	4.76	5.16	0.8	2.4													
		WNGA080412AT01215-3		12.7	4.76	5.16	1.2	2.3													
		WNGA080404AS01225-3	S01225	12.7	4.76	5.16	0.4	2.5					○	○	○	○	○	○	○	○	○
		WNGA080408AS01225-3		12.7	4.76	5.16	0.8	2.4					○	○	○	○	○	○	○	○	
		WNGA080412AS01225-3		12.7	4.76	5.16	1.2	2.3					○	○	○	○	○	○	○	○	
		WNGA080404AS00815-3	S00815	12.7	4.76	5.16	0.4	2.5					○	○	○						
		WNGA080408AS00815-3		12.7	4.76	5.16	0.8	2.4					○	○	○						
		WNGA080412AS00815-3		12.7	4.76	5.16	1.2	2.3					○	○	○						
		WNGA080404AS01735-3	S01735	12.7	4.76	5.16	0.4	2.5								○	○	○			
		WNGA080408AS01735-3		12.7	4.76	5.16	0.8	2.4								○	○	○			
		WNGA080412AS01735-3		12.7	4.76	5.16	1.2	2.3								○	○	○			
Double-sided insert		WNGA080404DE-6	DE	12.7	4.76	5.16	0.4	2.5	○	○											
		WNGA080408DE-6		12.7	4.76	5.16	0.8	2.4	○	○											
		WNGA080412DE-6		12.7	4.76	5.16	1.2	2.3	○	○											
		WNGA080404DT01215-6	T01215	12.7	4.76	5.16	0.4	2.5	★	★											
		WNGA080408DT01215-6		12.7	4.76	5.16	0.8	2.4	★	★											
		WNGA080412DT01215-6		12.7	4.76	5.16	1.2	2.3	★	★											

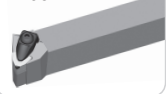
According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below 0.5mm.

★ Recommended grade (always stock available)    ○ Make-to-order

Applicable tool

DWLNRL  
Kr:95°



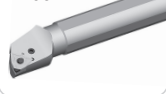
Page A171

PWLNRL  
Kr:95°



A183

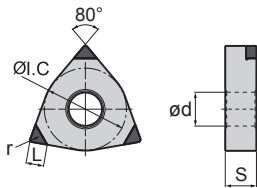
PWLNRL  
Kr:95°



A217



**WN** (Negative angle)



😊 Good working condition    😐 Normal working condition    😞 Bad working condition

Workpiece material	<b>K</b> Cast iron	😊	😊	😊	😊
	<b>S</b> Heat resistant alloy, Ti alloy				😊
	<b>H</b> Super hard material		😊	😊	😊
	<b>N</b> Non ferrous metal		😊	😊	😊

Type	Shape of insert	Model	Specifi- cation	Dimension(mm)					Cast iron				Hardened steel				Powder alloy& Superalloy			
				ØI.C	S	ød	r	L	BK1011	BK1021	BK2511	BK2541	BH0121	BH1020	BH2011	BH2511	BH3511	BS1011	BS2011	BS3011
Double-sided insert		WNGA080404DS01225-6	S01225	12.7	4.76	5.16	0.4	2.5	○	○										
		WNGA080408DS01225-6		12.7	4.76	5.16	0.8	2.4	○	○										
		WNGA080412DS01225-6		12.7	4.76	5.16	1.2	2.3	○	○										
		WNGA080404DS00815-6	S00815	12.7	4.76	3.81	0.4	2.5					★	★	○					
		WNGA080408DS00815-6		12.7	4.76	3.81	0.8	2.2					★	★	○					
		WNGA080412DS00815-6		12.7	4.76	3.81	1.2	2.0					★	★	○					
		WNGA080404DS01225-6	S01225	12.7	4.76	3.81	0.4	2.5					★	★	★	★	★			
		WNGA080408DS01225-6		12.7	4.76	3.81	0.8	2.2					★	★	★	★	★			
		WNGA080412DS01225-6		12.7	4.76	3.81	1.2	2.0					★	★	★	★	★			
		WNGA080404DS01735-6	S01735	12.7	4.76	3.81	0.4	2.5								○	★	○		
		WNGA080408DS01735-6		12.7	4.76	3.81	0.8	2.2								○	★	○		
		WNGA080412DS01735-6		12.7	4.76	3.81	1.2	2.0								○	★	○		
Penetration insert		WNGA080404CE-3	CE	12.7	4.76	5.16	0.4	2.5		○										
		WNGN080408CE-3		12.7	4.76	5.16	0.8	2.4		○										
		WNGN080412CE-3		12.7	4.76	5.16	1.2	2.3		○										
		WNGA080404CT01215-3	T01215	12.7	4.76	5.16	0.4	2.5			★									
		WNGN080408CT01215-3		12.7	4.76	5.16	0.8	2.4			★									
		WNGN080412CT01215-3		12.7	4.76	5.16	1.2	2.3			★									
		WNGA080404CS01225-3	S01225	12.7	4.76	5.16	0.4	2.5			○									
		WNGN080408CS01225-3		12.7	4.76	5.16	0.8	2.4			○									
		WNGN080412CS01225-3		12.7	4.76	5.16	1.2	2.3			○									

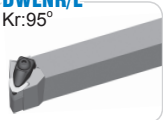
According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below 0.5mm.

★ Recommended grade (always stock available)    ○ Make-to-order

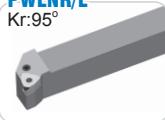
Applicable tool

DWLNR/L  
Kr:95°



Page A171

PWLNR/L  
Kr:95°



A183

PWLNR/L  
Kr:95°



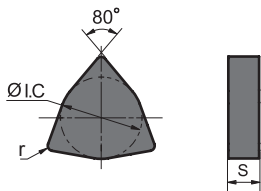
A217



# General Turning Inserts

PCBN&PCD inserts

**WN** □ □ (Negative angle)



😊 Good working condition   🙄 Normal working condition   😞 Bad working condition

Workpiece material	Cast iron	Heat resistant alloy, Ti alloy	Super hard material	Non ferrous metal
K	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
S	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
H	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
N	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊

General turning

PCBN&PCD inserts

Type	Shape of insert	Model	Specifi-cation	Dimension(mm)			Cast iron				Hardened steel				Powder alloy & Superalloy				
				ØI.C	S	r	BK1011	BK1021	BK2511	BK2541	BH0121	BH1020	BH2011	BH2511	BH3511	BS1011	BS2011	BS3011	
Intact insert		WNGN080404BE	BE	12.7	4.76	0.4		○											
		WNGN080408BE		12.7	4.76	0.8		○											
		WNGN080412BE		12.7	4.76	1.2		○											
		WNGN080404BT01215	T01215	12.7	4.76	0.4		★											
		WNGN080408BT01215		12.7	4.76	0.8		★											
		WNGN080412BT01215		12.7	4.76	1.2		★											
		WNGN080404BS01225	S01225	12.7	4.76	0.4		○											
		WNGN080408BS01225		12.7	4.76	0.8		○											
		WNGN080412BS01225		12.7	4.76	1.2		○											

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below 0.5mm.

★ Recommended grade (always stock available)   ○ Make-to-order

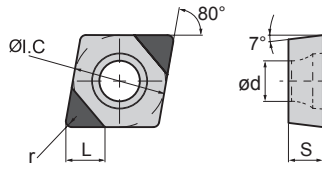




General turning

PCBN&PCD inserts

**CC** (Positive angle)



😊 Good working condition    😐 Normal working condition    😞 Bad working condition

Workpiece material	Cast iron	Heat resistant alloy, Ti alloy	Super hard material	Non ferrous metal
K	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
S	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
H	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
N	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊

Insert shape	Sepcification	Dimension(mm)					Cast iron				Hardened steel				Powder alloy& Superalloy			
		Ø1.C	S	ød	r	L	BK1011	BK1021	BK2511	BK2541	BH0121	BH1020	BH2011	BH2511	BH3511	BS1011	BS2011	BS3011
	CCGW060202AE-2	6.35	2.38	2.8	0.2	2.5	○	○								○	○	○
	CCGW060204AE-2	6.35	2.38	2.8	0.4	2.5	○	○								○	○	○
	CCGW060208AE-2	6.35	2.38	2.8	0.8	2.4	○	○								○	○	○
	CCGW060202AS01225-2	6.35	2.38	2.8	0.2	2.5					○	○	○	○		○	○	○
	CCGW060204AS01225-2	6.35	2.38	2.8	0.4	2.5					○	○	○	○		○	○	○
	CCGW060208AS01225-2	6.35	2.38	2.8	0.8	2.4					○	○	○	○		○	○	○
	CCGW060202AT01225-2	6.35	2.38	2.8	0.2	2.5	○	○								○	○	○
	CCGW060204AT01225-2	6.35	2.38	2.8	0.4	2.5	○	○								○	○	○
	CCGW060208AT01225-2	6.35	2.38	2.8	0.8	2.4	○	○								○	○	○
	CCGW09T302AE-2	9.525	3.97	4.4	0.2	2.5	○	○								○	○	○
	CCGW09T304AE-2	9.525	3.97	4.4	0.4	2.5	○	○								○	○	○
	CCGW09T308AE-2	9.525	3.97	4.4	0.8	2.4	○	○								○	○	○
	CCGW09T302AS01225-2	9.525	3.97	4.4	0.2	2.5					○	○	○	○		○	○	○
	CCGW09T304AS01225-2	9.525	3.97	4.4	0.4	2.5					○	○	○	○		○	○	○
	CCGW09T308AS01225-2	9.525	3.97	4.4	0.8	2.4					○	○	○	○		○	○	○
	CCGW09T302AT01225-2	9.525	3.97	4.4	0.2	2.5	○	○								○	○	○
	CCGW09T304AT01225-2	9.525	3.97	4.4	0.4	2.5	○	○								○	○	○
	CCGW09T308AT01225-2	9.525	3.97	4.4	0.8	2.4	○	○								○	○	○
	CCGW120402AE-2	12.7	4.76	5.5	0.2	2.5	○	○								○	○	○
	CCGW120404AE-2	12.7	4.76	5.5	0.4	2.5	○	○								○	○	○
	CCGW120408AE-2	12.7	4.76	5.5	0.8	2.4	○	○								○	○	○
	CCGW120402AS01225-2	12.7	4.76	5.5	0.2	2.5					○	○	○	○		○	○	○
	CCGW120404AS01225-2	12.7	4.76	5.5	0.4	2.5					○	○	○	○		○	○	○
	CCGW120408AS01225-2	12.7	4.76	5.5	0.8	2.4					○	○	○	○		○	○	○
	CCGW120402AT01225-2	12.7	4.76	5.5	0.2	2.5	○	○								○	○	○
	CCGW120404AT01225-2	12.7	4.76	5.5	0.4	2.5	○	○								○	○	○
	CCGW120408AT01225-2	12.7	4.76	5.5	0.8	2.4	○	○								○	○	○

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below 0.5mm.

★ Recommended grade (always stock available)    ○ Make-to-order

Applicable tool

SCACR/L  
Kr:90°



Page A184

SCLCR/L  
Kr:95°



A185

SCLCR/L  
Kr:95°



A218

SCFCR/L  
Kr:90°



A232

SCLCR/L  
Kr:95°



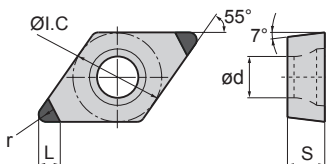
A233



# General Turning Inserts

PCBN&PCD inserts

**DC** (Positive angle)



😊 Good working condition    😐 Normal working condition    😞 Bad working condition

Workpiece material	Cast iron	Heat resistant alloy, Ti alloy	Super hard material	Non ferrous metal
K	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
S	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
H	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
N	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊

General turning

PCBN&PCD inserts

Insert shape	Sepcification	Dimension(mm)					Cast iron				Hardened steel				Powder alloy& Superalloy			
		ØI.C	S	ød	r	L	BK1011	BK1021	BK2511	BK2541	BH0121	BH1020	BH2011	BH2511	BH3511	BS1011	BS2011	BS3011
	DCGW070202AE-2	6.35	2.38	2.8	0.2	2.7	○	○								○	○	○
	DCGW070204AE-2	6.35	2.38	2.8	0.4	2.5	○	○								○	○	○
	DCGW070208AE-2	6.35	2.38	2.8	0.8	2.1	○	○								○	○	○
	DCGW070202AS01225-2	6.35	2.38	2.8	0.2	2.7					○	○	○	○		○	○	○
	DCGW070204AS01225-2	6.35	2.38	2.8	0.4	2.5					○	○	○	○		○	○	○
	DCGW070208AS01225-2	6.35	2.38	2.8	0.8	2.1					○	○	○	○		○	○	○
	DCGW070202AT01225-2	6.35	2.38	2.8	0.2	2.7	○	○								○	○	○
	DCGW070204AT01225-2	6.35	2.38	2.8	0.4	2.5	○	○								○	○	○
	DCGW070208AT01225-2	6.35	2.38	2.8	0.8	2.1	○	○								○	○	○
	DCGW11T302AE-2	9.525	3.97	4.4	0.2	2.7	○	○								○	○	○
	DCGW11T304AE-2	9.525	3.97	4.4	0.4	2.5	○	○								○	○	○
	DCGW11T308AE-2	9.525	3.97	4.4	0.8	2.1	○	○								○	○	○
	DCGW11T302AS01225-2	9.525	3.97	4.4	0.2	2.7					○	○	○	○		○	○	○
	DCGW11T304AS01225-2	9.525	3.97	4.4	0.4	2.5					○	○	○	○		○	○	○
	DCGW11T308AS01225-2	9.525	3.97	4.4	0.8	2.1					○	○	○	○		○	○	○
	DCGW11T302AT01225-2	9.525	3.97	4.4	0.2	2.7	○	○								○	○	○
	DCGW11T304AT01225-2	9.525	3.97	4.4	0.4	2.5	○	○								○	○	○
	DCGW11T308AT01225-2	9.525	3.97	4.4	0.8	2.1	○	○								○	○	○

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below 0.5mm.

★ Recommended grade (always stock available)    ○ Make-to-order

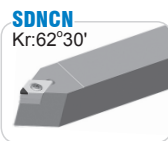
Applicable tool



Page A186



A187



A188



A219

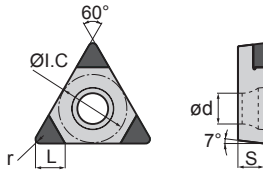


A220



A221

TC  $\square$   $\square$  (Positive angle)



😊 Good working condition    😐 Normal working condition    😞 Bad working condition

Workpiece material	Cast iron	Heat resistant alloy, Ti alloy	Super hard material	Non ferrous metal
K	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
S	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
H	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
N	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊

Insert shape	Sepcification	Dimenson(mm)					Cast iron				Hardened steel				Powder alloy& Superalloy		
		ØI.C	S	ød	r	L	BK1011	BK1021	BK2511	BK2541	BH0121	BH1020	BH2011	BH2511	BH3511	BS1011	BS2011
	TCGW090202AE-3	5.56	2.38	2.5	0.2	2.5	○	○							○	○	○
	TCGW090204AE-3	5.56	2.38	2.5	0.4	2.5	○	○							○	○	○
	TCGW090208AE-3	5.56	2.38	2.5	0.8	2.2	○	○							○	○	○
	TCGW090202AS01225-3	5.56	2.38	2.5	0.2	2.5					○	○	○	○	○	○	○
	TCGW090204AS01225-3	5.56	2.38	2.5	0.4	2.5					○	○	○	○	○	○	○
	TCGW090208AS01225-3	5.56	2.38	2.5	0.8	2.2					○	○	○	○	○	○	○
	TCGW090202AT01225-3	5.56	2.38	2.5	0.2	2.5	○	○							○	○	○
	TCGW090204AT01225-3	5.56	2.38	2.5	0.4	2.5	○	○							○	○	○
	TCGW090208AT01225-3	5.56	2.38	2.5	0.8	2.2	○	○							○	○	○
	TCGW110202AE-3	6.35	2.38	2.8	0.2	2.5	○	○							○	○	○
	TCGW110204AE-3	6.35	2.38	2.8	0.4	2.5	○	○							○	○	○
	TCGW110208AE-3	6.35	2.38	2.8	0.8	2.2	○	○							○	○	○
	TCGW110202AS01225-3	6.35	2.38	2.8	0.2	2.5					○	○	○	○	○	○	○
	TCGW110204AS01225-3	6.35	2.38	2.8	0.4	2.5					○	○	○	○	○	○	○
	TCGW110208AS01225-3	6.35	2.38	2.8	0.8	2.2					○	○	○	○	○	○	○
	TCGW110202AT01225-3	6.35	2.38	2.8	0.2	2.5	○	○							○	○	○
	TCGW110204AT01225-3	6.35	2.38	2.8	0.4	2.5	○	○							○	○	○
	TCGW110208AT01225-3	6.35	2.38	2.8	0.8	2.2	○	○							○	○	○

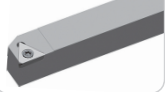
According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below 0.5mm.

★ Recommended grade (always stock available)    ○ Make-to-order

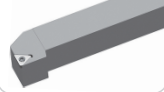
Applicable tool

STACR/L  
Kr:90°



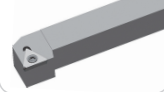
Page A198

STFCR/L  
Kr:90°



A198

STGCR/L  
Kr:91°



A199

STECR/L  
Kr:60°



A200

STFCR/L  
Kr:90°

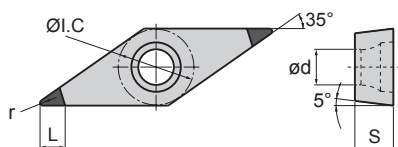


A223



PCBN&PCD inserts

## VB□□ (Positive angle)



😊 Good working condition   😐 Normal working condition   😞 Bad working condition

Workpiece material	Cast iron	Heat resistant alloy, Ti alloy	Super hard material	Non ferrous metal
K	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
S	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
H	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊
N	😊😊😊😊	😊😊😊😊	😊😊😊😊	😊😊😊😊

Insert shape	Sepcification	Dimenson(mm)					Cast iron				Hardened steel				Powder alloy& Superalloy			
		ØI.C	S	ød	r	L	BK1011	BK1021	BK2511	BK2541	BH0121	BH1020	BH2011	BH2511	BH3511	BS1011	BS2011	BS3011
	VBGW160402AE-2	9.525	4.76	4.4	0.2	3.3	○	○								○	○	○
	VBGW160404AE-2	9.525	4.76	4.4	0.4	2.8	○	○								○	○	○
	VBGW160408AE-2	9.525	4.76	4.4	0.8	2.5	○	○								○	○	○
	VBGW160402AS01225-2	9.525	4.76	4.4	0.2	3.3					○	○	○	○		○	○	○
	VBGW160404AS01225-2	9.525	4.76	4.4	0.4	2.8					○	○	○	○		○	○	○
	VBGW160408AS01225-2	9.525	4.76	4.4	0.8	2.5					○	○	○	○		○	○	○
	VBGW160402AT01225-2	9.525	4.76	4.4	0.2	3.3	○	○								○	○	○
	VBGW160404AT01225-2	9.525	4.76	4.4	0.4	2.8	○	○								○	○	○
	VBGW160408AT01225-2	9.525	4.76	4.4	0.8	2.5	○	○								○	○	○

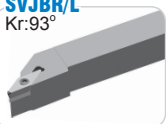
According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

When using PCBN blades, please try to keep the cutting depth below 0.5mm.

★ Recommended grade (always stock available)   ○ Make-to-order

### Applicable tool

SVJBR/L  
Kr:93°



Page A189

SVABR/L  
Kr:90°



A190

SVVBN  
Kr:72°30'



A191

SVQBR/L  
Kr:107°30'



A226

SVUBR/L  
Kr:93°



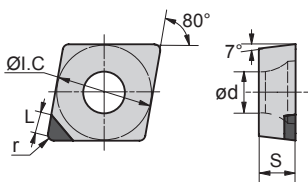
A227





PCBN&PCD inserts

## CC□□ (Positive angle)



😊 Good working condition   😐 Normal working condition   😞 Bad working condition

Workpiece material	Working condition			
	😊	😐	😞	😞
<b>K</b> Cast iron				
<b>S</b> Heat resistant alloy, Ti alloy				
<b>H</b> Super hard material				
<b>N</b> Non ferrous metal	😊	😊	😐	😞

Type	Shape	Specification	Dimension(mm)					Grade			
			ØI.C	S	ød	r	L	DN0121	DN0511	DN1021	DN3021
0° rake angle		CCGW060202AF	6.35	2.38	2.8	0.2	2.6	○	○	○	○
		CCGW060204AF	6.35	2.38	2.8	0.4	2.5	★	★	★	★
		CCGW060208AF	6.35	2.38	2.8	0.8	2.4	○	○	○	○
		CCGW09T302AF	9.525	3.97	4.4	0.2	2.6	○	○	○	○
		CCGW09T304AF	9.525	3.97	4.4	0.4	2.5	○	○	○	○
		CCGW09T308AF	9.525	3.97	4.4	0.8	2.4	★	★	★	★
		CCGW120402AF	12.7	4.76	5.5	0.2	2.6	○	○	○	○
		CCGW120404AF	12.7	4.76	5.5	0.4	2.5	○	○	○	○
		CCGW120408AF	12.7	4.76	5.5	0.8	2.4	★	★	★	★
7° rake angle		CCMX060202AF	6.35	2.38	2.8	0.2	2.6	○	○	○	○
		CCMX060204AF	6.35	2.38	2.8	0.4	2.5	○	○	○	○
		CCMX060208AF	6.35	2.38	2.8	0.8	2.4	○	○	○	○
		CCMX09T302AF	9.525	3.97	4.4	0.2	2.6	○	○	○	○
		CCMX09T304AF	9.525	3.97	4.4	0.4	2.5	○	○	○	○
		CCMX09T308AF	9.525	3.97	4.4	0.8	2.4	○	○	○	○
		CCMX120402AF	12.7	4.76	5.5	0.2	2.6	○	○	○	○
		CCMX120404AF	12.7	4.76	5.5	0.4	2.5	○	○	○	○
		CCMX120408AF	12.7	4.76	5.5	0.8	2.4	○	○	○	○

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

★ Recommended grade (always stock available)   ○ Make-to-order

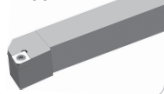
### Applicable tool

SCACR/L  
Kr:90°



Page A184

SCLCR/L  
Kr:95°



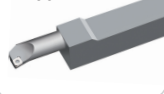
A185

SCLCR/L  
Kr:95°



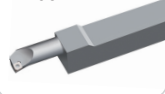
A218

SCFCR/L  
Kr:90°



A232

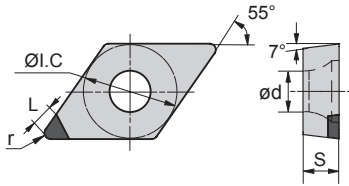
SCLCR/L  
Kr:95°



A233



**DC** □ □ (Positive angle)



😊 Good working condition    😐 Normal working condition    😞 Bad working condition

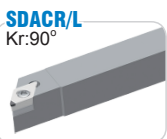
Workpiece material	<b>K</b> Cast iron				
	<b>S</b> Heat resistant alloy, Ti alloy				
	<b>H</b> Super hard material				
	<b>N</b> Non ferrous metal	😊	😊	😐	😞

Type	Shape	Specification	Dimension(mm)					Grade			
			ØI.C	S	ød	r	L	DN0121	DN0511	DN1021	DN3021
0° rake angle		DCGW070202AF	6.35	2.38	2.8	0.2	2.7	○	○	○	○
		DCGW070204AF	6.35	2.38	2.8	0.4	2.5	○	○	○	○
		DCGW070208AF	6.35	2.38	2.8	0.8	2.1	★	★	★	★
		DCGW11T302AF	9.525	3.97	4.4	0.2	2.7	○	○	○	○
		DCGW11T304AF	9.525	3.97	4.4	0.4	2.5	○	○	○	○
		DCGW11T308AF	9.525	3.97	4.4	0.8	2.1	★	★	★	★
7° rake angle		DCMX070202AF	6.35	2.38	2.8	0.2	2.7	○	○	○	○
		DCMX070204AF	6.35	2.38	2.8	0.4	2.5	○	○	○	○
		DCMX070208AF	6.35	2.38	2.8	0.8	2.1	○	○	○	○
		DCMX11T302AF	9.525	3.97	4.4	0.2	2.7	○	○	○	○
		DCMX11T304AF	9.525	3.97	4.4	0.4	2.5	○	○	○	○
		DCMX11T308AF	9.525	3.97	4.4	0.8	2.1	○	○	○	○

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

★ Recommended grade (always stock available)    ○ Make-to-order

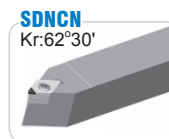
Applicable tool



Page A186



A187



A188



A219



A220



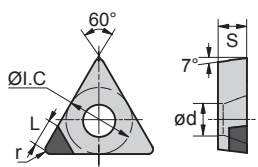
A221

General turning

PCBN&PCD inserts



## TC□□ (Positive inserts)



😊 Good working condition   🙄 Normal working condition   😞 Bad working condition

Workpiece material	<b>K</b> Cast iron				
	<b>S</b> Heat resistant alloy, Ti alloy				
	<b>H</b> Super hard material				
	<b>N</b> Non ferrous metal	😊	😊	🙄	😞

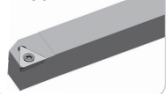
Type	Shape	Specification	Dimension(mm)					Grade			
			ØI.C	S	ød	r	L	DN0121	DN0511	DN1021	DN3021
0° rake angle		<b>TCGW090202AF</b>	5.56	2.38	2.5	0.2	2.5	○	○	○	○
		<b>TCGW090204AF</b>	5.56	2.38	2.5	0.4	2.5	○	○	○	○
		<b>TCGW090208AF</b>	5.56	2.38	2.5	0.8	2.2	★	★	★	★
		<b>TCGW110202AF</b>	6.35	2.38	2.8	0.2	2.5	○	○	○	○
		<b>TCGW110204AF</b>	6.35	2.38	2.8	0.4	2.5	○	○	○	○
		<b>TCGW110208AF</b>	6.35	2.38	2.8	0.8	2.2	★	★	★	★
7° rake angle		<b>TCMX090202AF</b>	5.56	2.38	2.5	0.2	2.5	○	○	○	○
		<b>TCMX090204AF</b>	5.56	2.38	2.5	0.4	2.5	○	○	○	○
		<b>TCMX090208AF</b>	5.56	2.38	2.5	0.8	2.2	○	○	○	○
		<b>TCMX110202AF</b>	6.35	2.38	2.8	0.2	2.5	○	○	○	○
		<b>TCMX110204AF</b>	6.35	2.38	2.8	0.4	2.5	○	○	○	○
		<b>TCMX110208AF</b>	6.35	2.38	2.8	0.8	2.2	○	○	○	○

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

★ Recommended grade (always stock available)   ○ Make-to-order

### Applicable tool

**STACR/L**  
Kr:90°



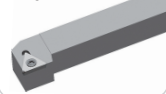
Page A198

**STFCR/L**  
Kr:90°



A198

**STGCR/L**  
Kr:91°



A199

**STECR/L**  
Kr:60°



A200

**STFCR/L**  
Kr:90°

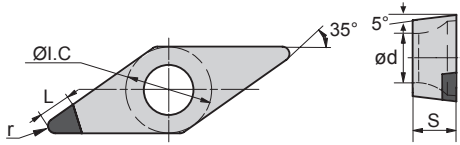


A223





**VB** (Positive inserts)



😊 Good working condition    😐 Normal working condition    ☹️ Bad working condition

Workpiece material	Good working condition	Normal working condition	Bad working condition
<b>K</b> Cast iron			
<b>S</b> Heat resistant alloy, Ti alloy			
<b>H</b> Super hard material			
<b>N</b> Non ferrous metal	😊	😊	☹️

Type	Shape	Specification	Dimension(mm)					Grade			
			ØI.C	S	ød	r	L	DN0121	DN0511	DN1021	DN3021
0° rake angle		<b>VBGW160402AF</b>	9.525	4.76	4.4	0.2	3.3	○	○	○	○
		<b>VBGW160404AF</b>	9.525	4.76	4.4	0.4	2.8	○	○	○	○
		<b>VBGW160408AF</b>	9.525	4.76	4.4	0.8	2.5	★	★	★	★
5° rake angle		<b>VBMX160402AF</b>	9.525	4.76	4.4	0.2	3.3	○	○	○	○
		<b>VBMX160404AF</b>	9.525	4.76	4.4	0.4	2.8	○	○	○	○
		<b>VBMX160408AF</b>	9.525	4.76	4.4	0.8	2.5	○	○	○	○

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

★ Recommended grade (always stock available)    ○ Make-to-order

General turning

PCBN&PCD inserts

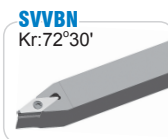
Applicable tool



Page A189



A190



A191



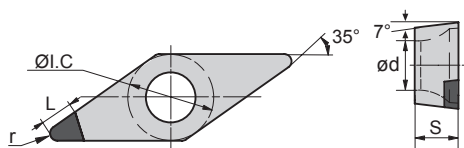
A226



A227



### VC□□ (Positive inserts)



😊 Good working condition   😐 Normal working condition   😞 Bad working condition

Workpiece material	Good working condition	Normal working condition	Bad working condition
<b>K</b> Cast iron			
<b>S</b> Heat resistant alloy, Ti alloy			
<b>H</b> Super hard material			
<b>N</b> Non ferrous metal	😊	😊	😐

Type	Shape	Specification	Dimension(mm)					Grade			
			ØI.C	S	ød	r	L	DN0121	DN0511	DN1021	DN3021
0° rake angle		<b>VCGW160402AF</b>	9.525	4.76	4.4	0.2	3.3	○	○	○	○
		<b>VCGW160404AF</b>	9.525	4.76	4.4	0.4	2.8	○	○	○	○
		<b>VCGW160408AF</b>	9.525	4.76	4.4	0.8	2.5	○	○	○	○
7° rake angle		<b>VCMX160402AF</b>	9.525	4.76	4.4	0.2	3.3	○	○	○	○
		<b>VCMX160404AF</b>	9.525	4.76	4.4	0.4	2.8	○	○	○	○
		<b>VCMX160408AF</b>	9.525	4.76	4.4	0.8	2.5	○	○	○	○

According to processing requirements, the size and number of non-standard tool nose arcs can be provided.

★ Recommended grade (always stock available)   ○ Make-to-order

### Applicable tool

**SVVCN**  
Kr:72°30'



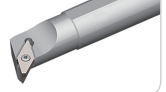
Page A192

**SVJCR/L**  
Kr:93°



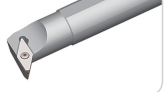
A193

**SVOCR/L**  
Kr:107°30'



A224

**SVUCR/L**  
Kr:93°



A225



**Abnormal failure and solutions for cast iron machining**

	Abnormal failure	Solution
<b>Breakage</b>	Breakage occurs on chamfer of rake face	Enlarge chamfered negative rake angle
	Edge crashing appears when finishing grey cast iron	
<b>Abrasion</b>	Abrasion occurs when machining nodular cast iron	Change to dry cutting
	Abrasion under dry cutting conditions	Reduce cutting speed
	Abrasion occurs when machining grey cast iron	Change to dry cutting, increase cutting speed
<b>Surface quality</b>	Bad surface finish	Increase cutting speed, increase nose radius, reduce feed rate
	Bad cylindricity and coaxiality	Reduce nose radius, improve stability, change to positive insert
	Burrs	Change to positive insert, reduce chamfer width

**Abnormal failure and solutions for hardened steel**

	Abnormal failure	Solution
<b>Breakage</b>	Cutting edge breakage	Enlarge chamfered negative rake angle; raise cutting speed and reduce feed
	Flaking and crater wear on rake face	Reduce cutting speed
	Thermal cracks	Change to dry cutting; reduce cutting speed
<b>Abrasion</b>	Wear occurs on chamfer of rake face	Reduce cutting speed
	Rapid wear when finishing grey cast iron	
<b>Surface quality</b>	Bad surface finish	Vibration Reduce chamfered negative rake angle; reduce nose radius; reduce feed rate; improve stability
		Tool mark Increase nose radius; reduce feed rate; change to dry cutting; increase cutting speed
	Bad cylindricity and coaxiality	Reduce nose radius; improve stability; change to positive insert



### Ceramic inserts code key

Insert shape		

Tolerance class							
Code	Nose height M Tolerance(mm)	Inscribed circle Tolerance(mm)	Thickness S Tolerance(mm)	Code	Nose height M Tolerance(mm)	Inscribed circle Tolerance(mm)	Thickness S Tolerance(mm)
A	±0.005	±0.025	±0.025	J	±0.005	±0.05-±0.13	±0.025
F	±0.005	±0.013	±0.025	K	±0.013	±0.05-±0.13	±0.025
C	±0.013	±0.025	±0.025	L	±0.025	±0.05-±0.13	±0.025
H	±0.013	±0.013	±0.025	M	±0.08-±0.18	±0.05-±0.13	±0.13
E	±0.025	±0.025	±0.025	N	±0.08-±0.18	±0.05-±0.13	±0.025
G	±0.025	±0.025	±0.13	U	±0.13-±0.38	±0.08-±0.25	±0.13

**R P G N**

Clearance angle of main cutting edge			
Code	Clearance angle	Code	Clearance angle
A		B	
C		D	
E		F	
G		N	
P		O	Other clearance angle

Chipbreaker and clamping system		
Code	With/Without hole	Section plane of insert
N	Without	
B	With	
C	With	
A	With	
W	With	
Q	With	
X	---	Special



Length of cutting edge						
Diameter of IC (mm)	Insert shape					
	C	D	S	T	V	W
3.97				06		
5.0						
5.56				09		
6.0						
6.35	06	07		11	11	
8.0						
9.525	09	11	09	16	16	06
10.0						
12.0						
12.7	12	15	12	22	22	08
15.875	16		15	27		
16.0		19				
19.05	19		19	33		
20.0						
25.0	25	25				
25.4			25			
31.75						
32						

Insert thickness			
<p>Thickness is defined as height from bottom of insert to the highest part of cutting edge.</p>			
Code	Insert thickness(mm)	Code	Insert thickness(mm)
02	2.38	06	6.35
T2	2.58	T6	6.75
03	3.18	07	7.94
T3	3.97	09	9.52
04	4.76	T9	9.72
T4	4.96	11	11.11
05	5.56	12	12.70
T5	5.95		

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

**09 07 00 T 010 20 - V**

Type of cutting edge		
Code	Type of cutting edge	Picture
E	Honing	
T	Chamfering	
S	Chamfering + honing	
F	Sharp edges	

Chamfer width (mm)			
010	0.10	040	0.40
015	0.15	045	0.45
020	0.20	050	0.50
025	0.25	100	1.00
030	0.30	200	2.00
035	0.35		

Chamfer angle	
05	5°
10	10°
15	15°
20	20°
25	25°
30	30°

V-type positioning surface



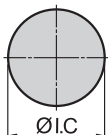
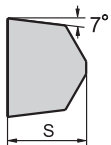
# TURNING General Turning Inserts

## Ceramic inserts

General turning

Ceramic inserts

😊 Good working condition   🙄 Normal working condition   😞 Bad working condition

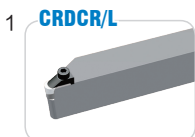


Workpiece material	<b>K</b> Cast iron	😞
	<b>S</b> Heat resistant alloy	🙄
	<b>H</b> Super hard material	🙄

Inserts shape	Type	Dimensions(mm)		Grade
		ØI.C	S	
	<b>RCGN090700T01015-V</b>	9.525	7.94	○
	<b>RCGN090700T01520-V</b>	9.525	7.94	○
	<b>RCGN090700T01020-V</b>	9.525	7.94	●
	<b>RCGN120700T01015-V</b>	12.7	7.94	○
	<b>RCGN120700T01020-V</b>	12.7	7.94	○
	<b>RCGN120700T01520-V</b>	12.7	7.94	○

★ Recommended grade (always stock available)   ● Available grade (always stock available)   ○ Make-to-order

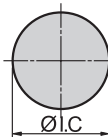
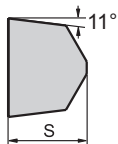
### Applicable tool



Page A205

2. Tailor-made nonstandard CRXCR

😊 Good working condition   🙄 Normal working condition   😞 Bad working condition

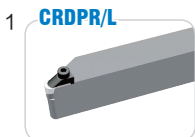


Workpiece material	<b>K</b> Cast iron	😞
	<b>S</b> Heat resistant alloy	🙄
	<b>H</b> Super hard material	🙄

Inserts shape	Type	Dimensions(mm)		Grade
		ØI.C	S	
	<b>RPGN090700T01015-V</b>	9.525	7.94	○
	<b>RPGN090700T01520-V</b>	9.525	7.94	○
	<b>RPGN090700T01020-V</b>	9.525	7.94	●
	<b>RPGN120700T01015-V</b>	12.7	7.94	○
	<b>RPGN120700T01020-V</b>	12.7	7.94	○
	<b>RPGN120700T01520-V</b>	12.7	7.94	○

★ Recommended grade (always stock available)   ● Available grade (always stock available)   ○ Make-to-order

### Applicable tool



Page A205

2. Tailor-made nonstandard CRXCR