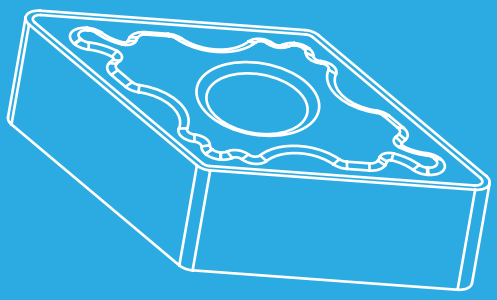
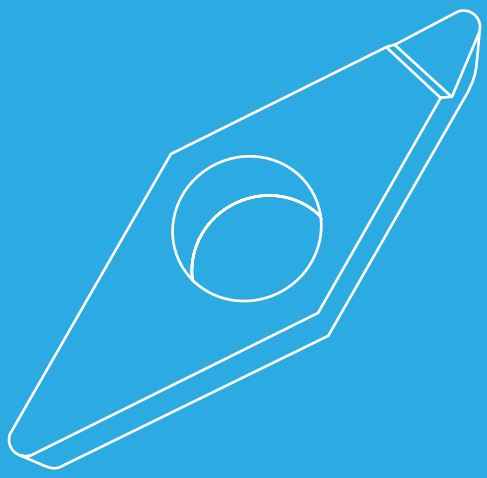
TURNING / **PCBN**





TURNING
GROOVING
THREADING
MILLING
DRILLING
ENDMILLS
DRILLS
SPARE PARTS
INDEX

C	C	G	W	12	04	08
1	2	3	4	5	6	7

1	Geometry	
C		80
D		55
R		360
S		90
T		60
V		35
W		80

2	Clearence Angle	
B		5°
C		7°
P		11°
N		0°

3	Tolerance	
	IC	T
G	±0,025	±0,13
M	±0,05 ±0,15	±0,13
U	±0,08 ±0,25	±0,13

4	Shape
A	
G	
M	
W	
X	Special

5	Shape (mm)	
C	06 09 12 16 19 25	
D	07 11 15	
R	06 09 12 15 19 25	
S	09 12 15 19 25	
T	09 11 16 22	
V	11 16 22	
W	06 08	

6	Thickness (mm)
02	2,38
03	3,18
T3	3,97
04	4,76
06	6,35
07	7,94
09	9,52
10	10,00

7	Corner Radius
02	0,20 mm
04	0,40 mm
08	0,80 mm
12	1,20 mm
16	1,60 mm
24	2,40 mm

PCBN

4C	BC	420
8	9	10

8	Number of Edges
1C	1 Corner
2C	2 Corners
3C	3 Corners
4C	4 Corners
6C	6 Corners
8C	8 Corners
FF	Full Face
SO	Solid PcBN

9	
BC	PCBN
SC	TiN Coating PCBN

10	Application
1 □□	Hardened Steel
2 □□	Cast Iron
3 □□	Super Alloy
4 □□	Universal

Grades

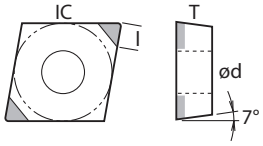
ISO DIN 513	K					H					S				
	K01	K10	K20	K30	K40	P01	P10	P20	P30	P40	S01	S10	S20	S30	S40
PCBN	BC250					BC150					BC350				
							BC170								
		SC250					SC150								
		BC420					BC420								

COATED

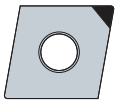
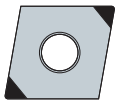
POSITIVE 7° with hole

CC□□

80



CC □□	0602 □□	09T3 □□	1204 □□
IC	6,35	9,525	12,7
T	2,38	3,97	4,76
Ød	2,80	4,40	5,50
Holder ▶	126	126	126

DESCRIPTION		EDGE	PCBN						
			BC150	BC170	SC150	BC250	SC250	BC350	BC420
	CCGW060202	1C	●			●	●		●
	CCGW060204	1C	●	●	●	●	●	●	●
	CCGW060208	1C		●		●	●		●
	CCGW09T302	1C	●			●	●		●
	CCGW09T304	1C	●	●	●	●	●	●	●
	CCGW09T308	1C		●		●	●		●
	CCGW120404	1C	●	●	●	●	●		●
	CCGW120408	1C		●		●	●	●	●
	CCGW060202	2C	●			●	●		●
	CCGW060204	2C	●	●	●	●	●	●	●
	CCGW060208	2C		●		●	●		●
	CCGW09T302	2C	●			●	●		●
	CCGW09T304	2C	●	●	●	●	●	●	●
	CCGW09T308	2C		●		●	●		●
	CCGW120404	2C	●	●	●	●	●		●
	CCGW120408	2C		●		●	●	●	●

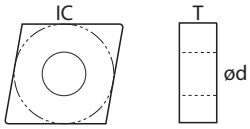
Vc • fn • ap ▶ 78

Sangeo cutting tools

NEGATIVE with hole

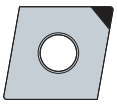
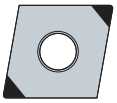
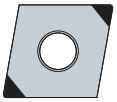
CN□□

80



CN □□	1204 □□
IC	12,7
T	4,76
Ød	5,16

Holder ▶ 131

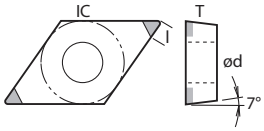
DESCRIPTION		EDGE	PCBN						
			BC150	BC170	SC150	BC250	SC250	BC350	BC420
	CNGA120404	1C	●						●
	CNGA120408	1C	●	●	●	●	●	●	●
	CNGA120412	1C				●	●		●
	CNGA120404	2C	●						●
	CNGA120408	2C	●	●	●	●	●	●	●
	CNGA120412	2C				●	●		●
	CNGA120404	4C	●						●
	CNGA120408	4C	●	●	●	●	●	●	●
	CNGA120412	4C				●	●		●

Vc • fn • ap ▶ 78

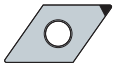
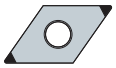
POSITIVE 7° with hole

DC□□

55



DC □□	0702 □□	11T3 □□
IC	6,35	9,525
T	2,38	3,97
Ød	2,80	4,40
Holder ▶	139	139

DESCRIPTION		EDGE	PCBN						
			BC150	BC170	SC150	BC250	SC250	BC350	BC420
	DCGW070202	1C	●						●
	DCGW070204	1C	●	●	●	●	●	●	●
	DCGW070208	1C				●	●		●
	DCGW11T302	1C	●						●
	DCGW11T304	1C	●	●	●	●	●	●	●
	DCGW11T308	1C				●	●		●
	DCGW070202	2C	●						●
	DCGW070204	2C	●	●	●	●	●	●	●
	DCGW070208	2C				●	●		●
	DCGW11T302	2C	●						●
	DCGW11T304	2C	●	●	●	●	●	●	●
	DCGW11T308	2C				●	●		●

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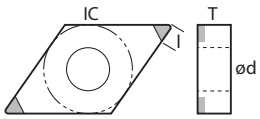
INDEX

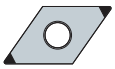
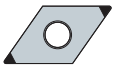
NEGATIVE with hole

DN□□

55



DN □□	1504 □□	1506 □□
IC	12,7	12,7
T	4,76	6,35
Ød	5,16	5,16
Holder ▶	149	149

DESCRIPTION		EDGE	PCBN						
			BC150	BC170	SC150	BC250	SC250	BC350	BC420
	DNGA150404	1C	●						●
	DNGA150408	1C	●	●	●	●	●	●	●
	DNGA150604	1C	●						●
	DNGA150608	1C	●	●	●	●	●	●	●
	DNGA150612	1C		●	●	●	●		●
	DNGA150404	2C	●						●
	DNGA150408	2C	●	●	●	●	●	●	●
	DNGA150604	2C	●						●
	DNGA150608	2C	●	●	●	●	●	●	●
	DNGA150612	2C		●	●	●	●		●
	DNGA150404	4C	●						●
	DNGA150408	4C	●	●	●	●	●	●	●
	DNGA150604	4C	●						●
	DNGA150608	4C	●	●	●	●	●	●	●
	DNGA150612	4C		●	●	●	●		●

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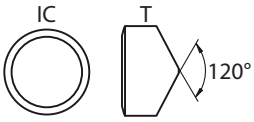
Sangeo cutting tools

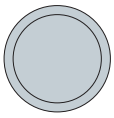
POSITIVE 7° without hole

RC□□

360



RC □□	0603 □□	0903 □□	1204 □□
IC	6,35	9,525	12,7
T	3,18	3,18	4,76
Ød	-	-	-
Holder	-	-	-

DESCRIPTION		EDGE	PCBN						
			BC150	BC170	SC150	BC250	SC250	BC350	BC420
	RCGX060300	FF	●	●					●
	RCGX090300	FF	●	●					●
	RCGX120400	FF	●	●					●

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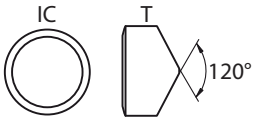
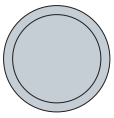
POSITIVE 7° without hole

RC□□

360



RC □□	0603 □□	0903 □□	1204 □□
IC	6,35	9,525	12,7
T	3,18	3,18	4,76
Ød	-	-	-
Holder ▶	-	-	-

DESCRIPTION		EDGE	PCBN						
			BC150	BC170	SC150	BC250	SC250	BC350	BC420
	RCGX060300	SO							●
	RCGX090300	SO							●
	RCGX120400	SO							●

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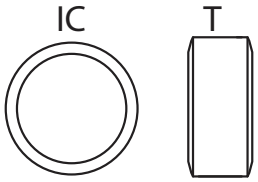
Sangeo cutting tools

NEGATIVE without hole

RN□□

360



RN □□	0603 □□	0903 □□	1204 □□
IC	6,35	9,525	12,70
T	3,18	3,18	4,76
Ød	-	-	-

DESCRIPTION		EDGE	PCBN						
			BC150	BC170	SC150	BC250	SC250	BC350	BC420
	RNGN060300	SO							●
	RNGN090300	SO							●
	RNGN120400	SO							●

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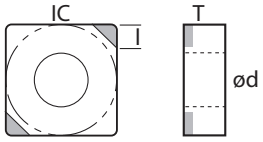
Sangeo cutting tools

NEGATIVE with hole

SN□□

90



SN □□	1204□□
IC	12,7
T	4,76
Ød	5,16

Holder ▶ 163

DESCRIPTION		EDGE	PCBN						
			BC150	BC170	SC150	BC250	SC250	BC350	BC420
	SNGA120404	1C	●						●
	SNGA120408	1C	●	●					●
	SNGA120412	1C		●					●
	SNGA120404	2C	●						●
	SNGA120408	2C	●	●					●
	SNGA120412	2C		●					●
	SNGA120404	4C	●						●
	SNGA120408	4C	●	●					●
	SNGA120412	4C		●					●
	SNGA120404	8C	●						●
	SNGA120408	8C	●	●					●
	SNGA120412	8C		●					●

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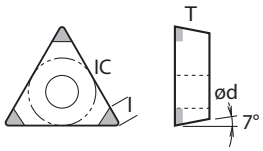
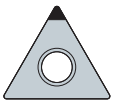
POSITIVE 7° with hole

TC□□

60



TC □□	0902□□	1102□□	16T3□□
IC	5,56	6,35	9,525
T	2,38	2,38	3,97
Ød	2,50	2,80	4,40
Holder ▶	171	171	171

DESCRIPTION		EDGE	PCBN						
			BC150	BC170	SC150	BC250	SC250	BC350	BC420
	TCGW090202	1C	●						●
	TCGW090204	1C	●	●	●	●	●		●
	TCGW110202	1C	●					●	●
	TCGW110204	1C	●	●	●	●	●		●
	TCGW110208	1C		●					●
	TCGW16T304	1C	●						●
	TCGW16T308	1C	●	●				●	●
	TCGW090202	3C	●						●
	TCGW090204	3C	●	●	●	●	●		●
	TCGW110202	3C	●					●	●
	TCGW110204	3C	●	●	●	●	●		●
	TCGW110208	3C		●					●
	TCGW16T304	3C	●						●
	TCGW16T308	3C	●	●				●	●

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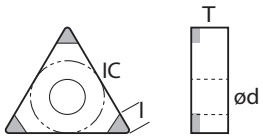
Sangeo cutting tools

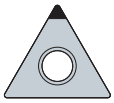
NEGATIVE with hole

TN□□

60



TN□□	1604□□
IC	9,525
T	4,76
Ød	3,81
Holder	178

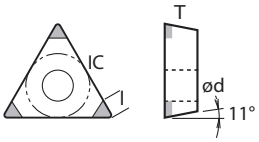
DESCRIPTION		EDGE	PCBN						
			BC150	BC170	SC150	BC250	SC250	BC350	BC420
	TNGA160404	1C	●						●
	TNGA160408	1C	●	●	●	●	●	●	●
	TNGA160412	1C				●	●		●
	TNGA160404	3C	●						●
	TNGA160408	3C	●	●	●	●	●	●	●
	TNGA160412	3C				●	●		●

Vc • fn • ap 78

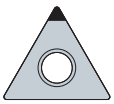
POSITIVE 11°
with hole

TP □□

60



TP □□	0802□□	0902□□	1103□□
IC	4,76	5,56	6,35
T	2,38	2,38	3,18
Ød	2,30	3,00	3,40
Holder ▶	177	177	177

DESCRIPTION		EDGE	PCBN						
			BC150	BC170	SC150	BC250	SC250	BC350	BC420
	TPGW080202	1C	●						●
	TPGW080204	1C	●	●	●				●
	TPGW090202	1C	●						●
	TPGW090204	1C	●	●	●				●
	TPGW110302	1C	●						●
	TPGW110304	1C	●	●	●	●			●
	TPGW110308	1C		●	●	●			●
	TPGW080202	3C	●						●
	TPGW080204	3C	●	●	●				●
	TPGW090202	3C	●						●
	TPGW090204	3C	●	●	●				●
	TPGW110302	3C	●						●
	TPGW110304	3C	●	●	●	●			●
	TPGW110308	3C		●	●	●			●

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Sangeo cutting tools

TURNING
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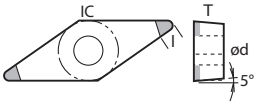
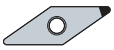
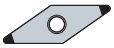
POSITIVE 5° with hole

VB□□

35



VB□□	1103□□	1604□□
IC	6,35	9,525
T	3,18	4,76
Ød	2,80	4,40
Holder ▶	183	183

DESCRIPTION		EDGE	PCBN						
			BC150	BC170	SC150	BC250	SC250	BC350	BC420
	VBGW110302	1C	●						●
	VBGW110304	1C	●	●	●	●			●
	VBGW160402	1C	●			●		●	●
	VBGW160404	1C	●	●	●				●
	VBGW160408	1C	●						●
	VBGW110302	2C	●						●
	VBGW110304	2C	●	●	●	●			●
	VBGW160402	2C	●			●		●	●
	VBGW160404	2C	●	●	●				●
	VBGW160408	2C	●						●

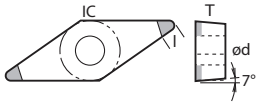
Vc • fn • ap ▶ 78

Sangeo cutting tools

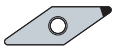
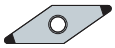
POSITIVE 7° with hole

VC□□

35



VC□□	1103□□	1604□□
IC	6,35	9,525
T	3,18	4,76
Ød	2,80	4,40
Holder ▶	189	189

DESCRIPTION		EDGE	PCBN						
			BC150	BC170	SC150	BC250	SC250	BC350	BC420
	VCGW110302	1C	●						●
	VCGW110304	1C	●	●	●	●			●
	VCGW160404	1C	●			●		●	●
	VCGW160408	1C	●	●	●				●
	VCGW110302	2C	●						●
	VCGW110304	2C	●	●	●	●			●
	VCGW160404	2C	●			●		●	●
	VCGW160408	2C	●	●	●				●

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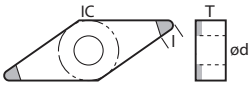
Sangeo cutting tools

TURNING
GROOVING
THREADING
MILLING
DRILLING
ENDMILLS
DRILLS
SPARE PARTS
INDEX

NEGATIVE with hole

VN□□

35



VN □□	1604□□
IC	9,525
T	4,76
Ød	3,81
Holder	191

DESCRIPTION		EDGE	PCBN						
			BC150	BC170	SC150	BC250	SC250	BC350	BC420
	VNGA160404	1C	●						●
	VNGA160408	1C	●	●	●	●	●	●	●
	VNGA160404	2C	●						●
	VNGA160408	2C	●	●	●	●	●	●	●
	VNGA160404	4C	●						●
	VNGA160408	4C	●	●	●	●	●	●	●

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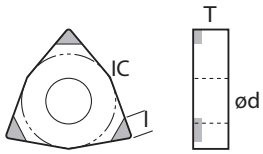
Sangeo cutting tools

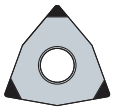
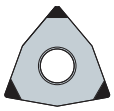
NEGATIVE with hole

WN□□

80



WN □□	0604□□	0804□□
IC	9,525	12,7
T	4,76	4,76
Ød	3,81	5,16
Holder ▶	194	194

DESCRIPTION		EDGE	PCBN						
			BC150	BC170	SC150	BC250	SC250	BC350	BC420
	WNGA060404	1C	●						●
	WNGA060408	1C	●						●
	WNGA080404	1C	●						●
	WNGA080408	1C	●	●		●		●	●
	WNGA080412	1C		●					●
	WNGA060404	3C	●						●
	WNGA060408	3C	●						●
	WNGA080404	3C	●						●
	WNGA080408	3C	●	●		●		●	●
	WNGA080412	3C		●					●
	WNGA080404	6C	●						●
	WNGA080408	6C	●	●		●		●	●
	WNGA080412	6C		●					●

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Sangeo cutting tools

TURNING
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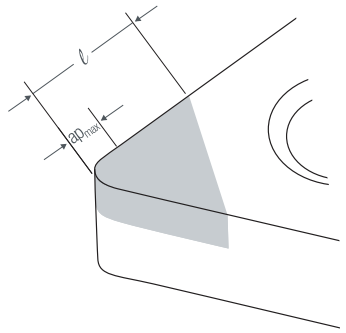
Cutting Parameters

KG	GREY CAST IRON
KN	NODULAR CAST IRON
KW	WHITE CAST IRON
KS	SINTERED MATERIAL

HH	HARDENED STEEL
HC	CASE HARDENED STEEL
HB	BEARING STEEL
SA	SUPER ALLOYS (Ni Based)



$ap_{max} < 20\sim30\%\ \ell$

MATERIAL		ap (mm)	fn (mm/rev)	CUTTING CONDITION	PCBN						
					BC150	BC170	SC150	BC250	SC250	BC350	BC420
H	HH	0,05~0,25	0,05~0,20		120~250	100~230	100~200				100~220
							80~180				80~180
	HC	0,05~0,25	0,08~0,25				100~180				100~200
							80~160				80~160
	HB	0,05~0,25	0,05~0,20		120~220	100~200	100~180				100~200
							80~150				90~150
K	KG	0,10~0,50	0,10~0,30						400~1000		400~1200
									400~800		400~1000
	KN	0,10~0,30	0,05~0,20					250~400			250~500
								150~300			200~400
	KW	0,10~0,30	0,10~0,30						60~100		60~120
									50~80		50~100
	KS	0,05~0,20	0,05~0,25					160~250	160~250		160~280
											120~220
S	SA	0,05~0,20	0,10~0,20							120~300	

Sangeo cutting tools