PRODUCT NEWS

PN-E-015

SERIES EXPANSION

DIJET

SKS-GII

for high feed machining with 4corners.

SKG / MSG type

Face Milling | Pocket Milling | Helical Interpolation | Copy Milling | Plunge Milling

- SKG / MSG10 type
  - ■ Bore type : φ50~80
  - ■ Modular type : φ25~42

- SKG14 type
  - ■ Bore type : φ50~100

DIJET GmbH

www.dijet.de

SKS-GII

SKG / MSG type, innovative High Feed Cutter achieved extremely excellent metal removal rate !

Feature 1

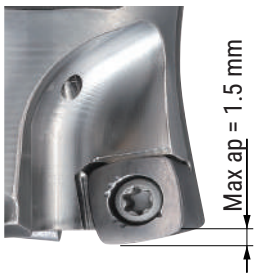
Provides stabilty even milling of deep cavities.

Feature 2

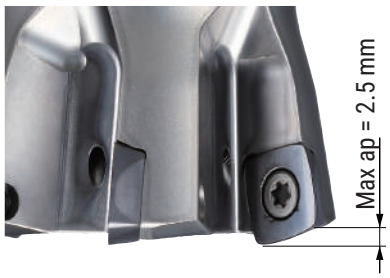
4 corner positive insert with low cutting forces.

Feature 3 **Flat top insert**

SKG-10 type : Max ap=1.5mm
(insert : SPNW100415ZTR)



SKG-14 type : Max ap=2.5mm
(insert : SPNW140515ZTR)



Feature 4 **Chip breaker insert**

Optimized cutting edge for machining of difficult to cut materials like titanium alloy.

Effective for machining that requires reduced cutting loads or long overhang application.

SM breaker for
difficult to cut materials

PM breaker for
mold steel

Feature 5

Insert grades for a wide range of materials
<JC8118> <JC8050> <JC7550> <DS150>

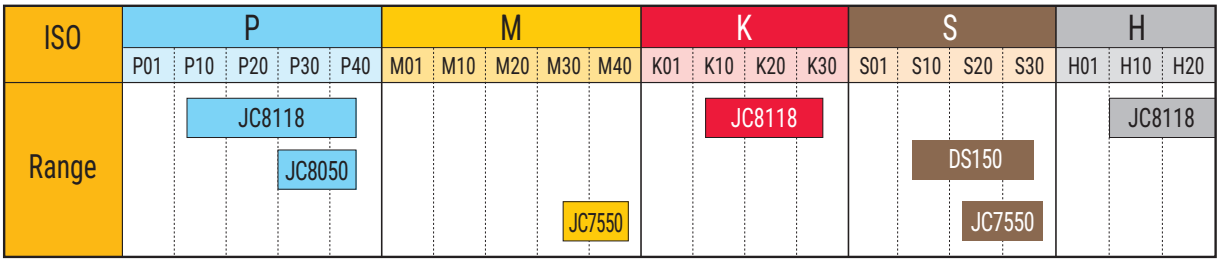
JC8118
for **mold steel, hardened steel**
from 38HRC upto 50HRC

JC8050
for **mold steel, general steel**
below 36HRC

JC7550
for **Titanium alloy, stainless steel**

DS150
for **Titanium alloy**

○ Application

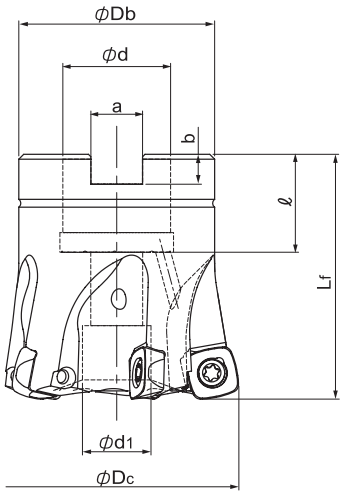


Feature 6

Excellent chip evacuation

Through coolant hole | G - Body | Face Milling | Copy Milling | Pocket Milling | Helical Interpolation | Plunge Milling

SKG10 TYPE Bore Type



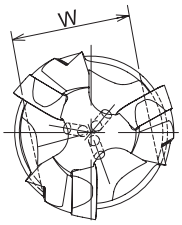
Cat.No.	Stock	No. of inserts	Dimensions (mm) φDc	Lf	φDb	φd	φd1	a	b	ℓ	Arbor set bolt	Weight (kg)	Inserts
SKG-4050R-10-22	●	4	50	50	40	22	14	10.4	6.3	20	M10X1.5X35★	0.3	SPNW10.. SPET10.. SPMT10..
SKG-5050R-10-22	●	5									M10X1.5X35★	0.3	
SKG-5052R-10-22	●		52				16.6				M10	0.3	
SKG-5063R-10-22	○		63		48		17				M10	0.5	
SKG-5063R-10-27	○					27	20	12.4	7	22	M12X1.75X30★	0.5	
SKG-6063R-10-22	●	6				22	17	10.4	6.3	20	M10	0.5	
SKG-6063R-10-27	●					27	20	12.4	7	22	M12X1.75X30★	0.5	
SKG-6066R-10-27	●		66		50						M12X1.75X30★	0.6	
SKG-6080R-10-27	●		80		60						M12X1.75X30★	0.9	

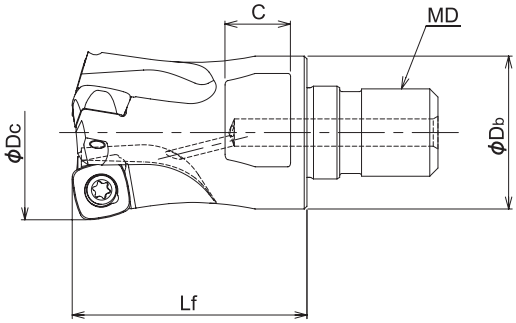
Note) All cutters are supplied without inserts or wrenches.

Screw	Torque(N.m)	Wrench
TSW-3509H	3.0	A-15T

Through coolant hole | G - Body

MSG10 TYPE Modular Type





Cat.No.	Stock	No. of inserts	Dimensions (mm) φDc	Lf	φDb	MD	C	W	Insert
MSG-2025-10-M12	●	2	25	35	23	M12	11	19	SPNW10.. SPET10.. SPMT10..
MSG-3032-10-M16	●	3	32	43	28	M16	12	22	
MSG-3035-10-M16	○		35		30		14	26	
MSG-4040-10-M16	●	4	40		32				
MSG-4042-10-M16	●		42						

Note) All cutters are supplied without inserts or wrenches.

Screw	Torque(N.m)	Wrench
TSW-3509H	3.0	A-15

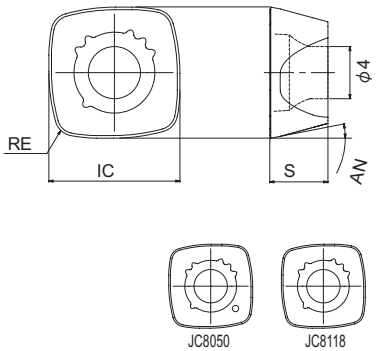
● : Standard stock items ○ : Stock in Japan

SKG/MSG10 TYPE

Insert

Fig. 1

Fig. 2



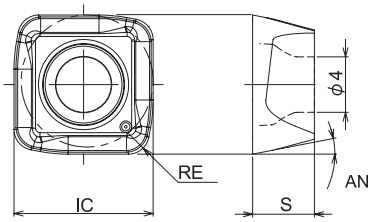
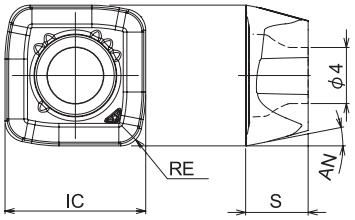
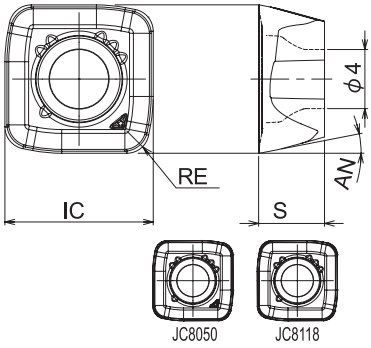


Fig. 3

Fig. 4





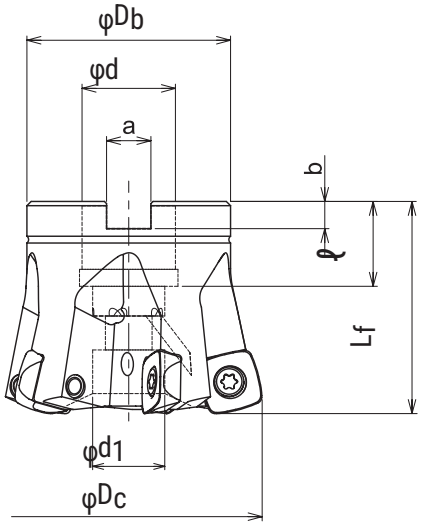
Cat.No.	Tolerance	PVD Coating				Dimensions (mm)				Fig.
		DS150	JC7550	JC8050	JC8118	RE	IC	S	AN	
SPNW100415ZTR	N			●	●	1.5	10	4.46	11°	1
SPET100415ZPER-SM	E	●	●							2
SPMT100415ZPER-SM	M	●	●							3
SPMT100415ZPTR-PM				●	●					4

Note) 10 inserts per case.

● : Standard stock items ◯ : Stock in Japan

Through coolant hole | G - Body | Face Milling | Copy Milling | Pocket Milling | Helical Interpolation | Plunge Milling

SKG14 TYPE — Bore Type



Cat.No.	Stock	No. of inserts	Dimensions (mm)								Arbor set bolt	Weight (kg)	Inserts
			φDc	Lf	φDb	φd	φd1	a	b	ℓ			
SKG-4050R-14-22	●	4	50	50	40	22	14	10.4	6.3	19.05	M10X1.5X35★	0.3	SPNW14.. SPMT14..
SKG-4052R-14-22	●		52		42		17				M10X1.5X35★	0.3	
SKG-4063R-14-22	●		63		48					20	M10	0.5	
SKG-4063R-14-27	●					27	20	12.4	7	22	M12X1.75X35★	0.5	
SKG-5066R-14-27	●	5	66		50						M12X1.75X35★	0.5	
SKG-5080R-14-27	●		80		60		37				M12X1.75X35★	0.8	
SKG-6100R-14-32	●	6	100	63	70	32	45	14.4	8	25	M16	1.6	

Note) All cutters are supplied without inserts or wrenches.

Screw	Torque(N.m)	Wrench
CSW-513H	5.5	A-20

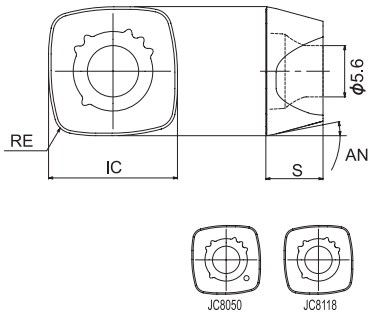
● : Standard stock items ◯ : Stock in Japan

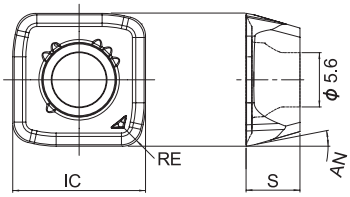
SKG14 TYPE Insert

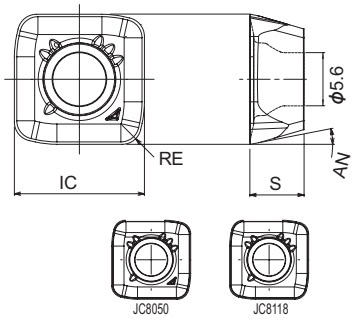
Fig. 1

Fig. 2

Fig. 3







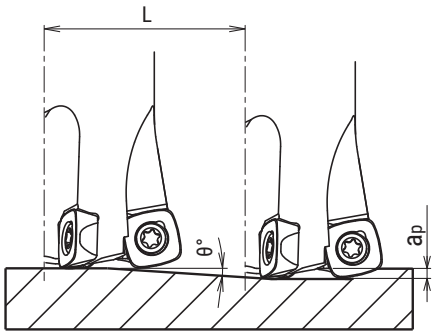
Cat.No.	Tolerance	PVD Coating				Dimensions (mm)				Fig.
		DS150	JC7550	JC8050	JC8118	RE	IC	S	AN	
SPNW140515ZTR	N			●	●	1.5	13.7	5.56	11°	1
SPMT140520ZPER-SM	M	●	●			2				2
SPMT140520ZPTR-PM				●	●					3

Note) 10 inserts per case.

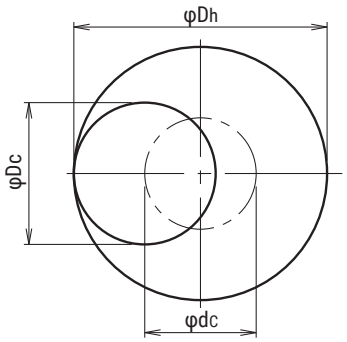
● : Standard stock items ◯ : Stock in Japan

■ Recommended Data for Profile Milling

Ramping



Helical interpolation



● Calculation of tool pass dia.

$$\varphi dc = \varphi Dh - \varphi Dc$$

Tool pass dia. Bore dia. Tool Dia.

● Depth of cut per one circuit should not exceed max. depth of cut Ap

● Down cutting is recommended, tool pass rotation should be counterclockwise

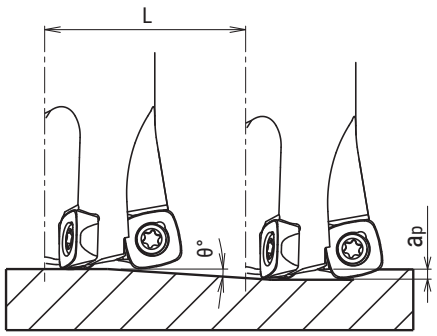
● In case of ramping and helical interpolation, apply 70% or less feed (Vf) from standard cutting condition table.

● SPNW100415ZTR / SPNW140515ZTR

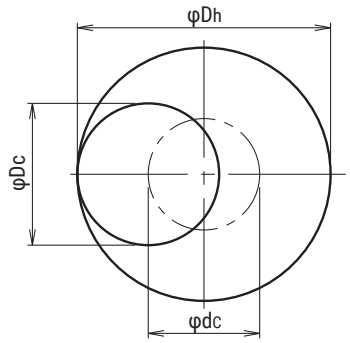
Cat.No.	Tool dia. (mm)	Effective Cutting dia. (mm)	Max.depth of cut : ∂p (mm)	Ramping		Helical interpolation	
				Max.ramping angle θ°	Total cutting length at Max.(∂p) L (mm)	Min.Bore dia. Dh min.(mm)	Max.Bore dia. Dh max. (mm)
MSG-2025-10	25	9.8	1.5	1°	85.9	36	48
MSG-3032-10	32	16.8	1.5	1°	85.9	50	62
MSG-3035-10	35	19.8	1.5	1°	85.9	56	70
MSG-4040-10	40	24.8	1.5	1°	85.9	66	78
MSG-4042-10	42	26.8	1.5	1°	85.9	70	82
SKG-*050R-10	50	34.8	1.5	1°	85.9	86	98
SKG-5052R-10	52	36.8	1.5	1°	85.9	90	102
SKG-*063R-10	63	47.8	1.5	0°45'	114.6	112	124
SKG-6066R-10	66	50.8	1.5	0°45'	114.6	118	130
SKG-6080R-10	80	64.8	1.5	0°30'	171.9	146	158
SKG-4050R-14	50	28.4	2.5	1°	143.2	80	98
SKG-4052R-14	52	30.4	2.5	1°	143.2	84	102
SKG-*063R-14	63	41.4	2.5	0°45'	191	106	124
SKG-5066R-14	66	44.4	2.5	0°45'	191	112	130
SKG-5080R-14	80	58.4	2.5	0°30'	286.5	140	158
SKG-6100R-14	100	78.4	2.5	0°20'	430	180	198

■ Recommended Data for Profile Milling

Ramping



Helical interpolation



- Calculation of tool pass dia.

$$\varphi dc = \varphi Dh - \varphi Dc$$

Tool pass dia. Bore dia. Tool Dia.

- Depth of cut per one circuit should not exceed max. depth of cut Ap
- Down cutting is recommended, tool pass rotation should be counterclockwise

- In case of ramping and helical interpolation, apply 70% or less feed (Vf) from standard cutting condition table.

- SPE (M) T100415ZPER-SM, SPMT100415ZPTR-PM
- SPMT140520ZPER-SM, SPMT140520ZPTR-PM

Cat.No.	Tool dia. (mm)	Effective Cutting dia. (mm)	Max.depth of cut : ∂p (mm)	Ramping		Helical interpolation	
				Max.ramping angle θ°	Total cutting length at Max.(∂p) L (mm)	Min.Bore dia. Dh min.(mm)	Max.Bore dia. Dh max. (mm)
MSG-2025-10	25	10	1.0	1°	57.3	36	48
MSG-3032-10	32	17	1.0	1°	57.3	50	62
MSG-3035-10	35	20	1.0	1°	57.3	56	70
MSG-4040-10	40	25	1.0	1°	57.3	66	78
MSG-4042-10	42	27	1.0	1°	57.3	70	82
SKG-*050R-10	50	35	1.0	1°	57.3	86	98
SKG-5052R-10	52	37	1.0	1°	57.3	90	102
SKG-*063R-10	63	48	1.0	0°45'	76.4	112	124
SKG-6066R-10	66	51	1.0	0°45'	76.4	118	130
SKG-6080R-10	80	65	1.0	0°30'	114.6	146	158
SKG-4050R-14	50	28.8	1.8	1°	103.1	80	98
SKG-4052R-14	52	30.8	1.8	1°	103.1	84	102
SKG-*063R-14	63	41.8	1.8	0°45'	137.5	106	124
SKG-5066R-14	66	44.8	1.8	0°45'	137.5	112	130
SKG-5080R-14	80	58.8	1.8	0°30'	206.3	140	158
SKG-6100R-14	100	78.8	1.8	0°20'	206.3	180	198

■Recommended Cutting Conditions - SKSG2-10 type -

Material	Insert	Grade	Vc	fz	ap	ae
Carbon Steel below 250HB	SPNW SPMT-PM	JC8050 (JC8118)	130 - 160 - 180	1.4 - 1.5 - 1.8	0.5 - 1.0 - 1.5	0.7 Dc
Tool & Die Steel below 255HB	SPNW SPMT-PM	JC8050 (JC8118)	130 - 160 - 180	1.4 - 1.5 - 1.8	0.5 - 1.0 - 1.5	0.7 Dc
Mold Steel 30-36HRC	SPNW SPMT-PM	JC8050 (JC8118)	130 - 160 - 180	1.4 - 1.5 - 1.8	0.5 - 1.0 - 1.5	0.7 Dc
Mold Steel 38-43HRC	SPNW SPMT-PM	JC8118 (JC8050)	80 - 110	1.2 - 1.3 - 1.5	0.5 - 1.0 - 1.2	0.6 Dc
Hardened Die Steel 42-52HRC	SPNW	JC8118	100	1.0 - 1.2 - 1.4	0.3 - 0.6 - 1.0	0.5 Dc
Grey & Nodular Cast Iron	SPNW SPMT-PM	JC8118	160 - 180	1.5 - 1.8	0.5 - 1.2 - 1.5	0.7 Dc
Stainless Steel	SPMT-SM SPET-SM	JC7550	100 - 130 -150	0.9 -1.0 - 1.4	0.5 - 1.0	0.6 Dc
Titanium Alloy	SPMT-SM SPET-SM	DS150	60	0.4 - 0.6	0.4 - 1.0	0.6 Dc

Note
1. Please adjust cutting conditions according to machine rigidity or work rigidity. (the above table is guide for cutting on a BT50 machine.)
2. In case of chatter ocurring, recommended to reduce ap or rpm and keep feed per tooth.
3. ap should be reduced when using on low rigidity machine.
4. Use air blow.
★ap ≦1.0 when using SPMT/SPET insert.

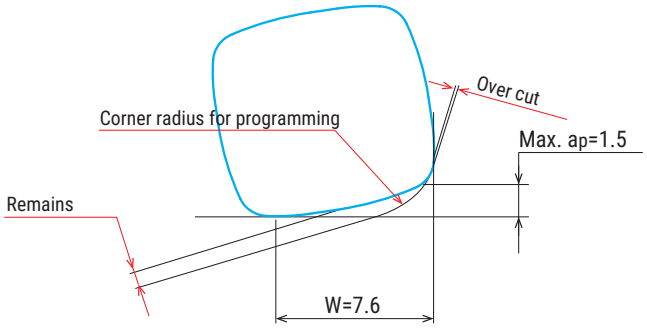
■Recommended Cutting Conditions - SKSG2-14 type -

Material	Insert	Grade	Vc	fz	ap	ae
Carbon Steel below 250HB	SPNW SPMT-PM	JC8050 (JC8118)	100 - 150	1.4 - 1.8	0.6 - 2.0	0.7 Dc
Tool & Die Steel below 255HB	SPNW SPMT-PM	JC8050 (JC8118)	100 - 150	1.4 - 1.8	0.6 - 2.0	0.7 Dc
Mold Steel 30-36HRC	SPNW SPMT-PM	JC8050 (JC8118)	100 - 150	1.4 - 1.8	0.6 - 2.0	0.7 Dc
Mold Steel 38-43HRC	SPNW SPMT-PM	JC8118 (JC8050)	80 - 100	1.4 - 1.5	0.7 - 1.6	0.6 Dc
Hardened Die Steel 42-52HRC	SPNW	JC8118	70 - 90	0.7 - 1.2	0.5 - 1.0	0.5 Dc
Grey & Nodular Cast Iron	SPNW SPMT-PM	JC8118	160 - 180	1.4 - 1.8	0.6 - 2.0	0.7 Dc
Stainless Steel	SPMT-SM	JC7550	100 - 150	1.0 - 1.3	0.7 - 1.5	0.6 Dc
Titanium Alloy	SPMT-SM	DS150	60	0.4 - 0.6	0.7 - 1.3	0.6 Dc

Note
1. Please adjust cutting conditions according to machine rigidity or work rigidity. (the above table is guide for cutting on a BT50 machine.)
2. In case of chatter ocurring, recommended to reduce ap or rpm and keep feed per tooth.
3. ap should be reduced when using on low rigidity machine.
4. Use air blow.
★ap ≦1.8 when using SPMT insert.

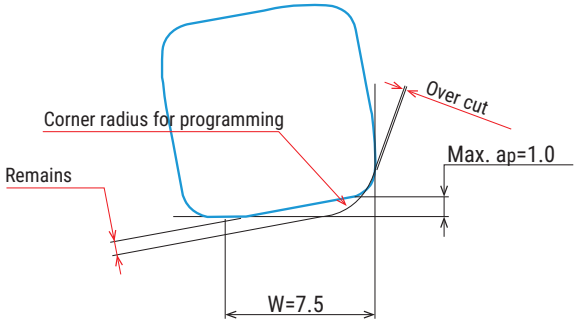
■ Definition of corner shape for programming

● **SPNW100415ZTR**



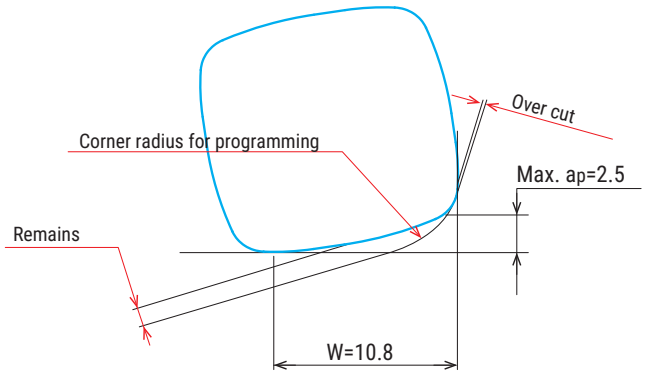
Corner radius for programming	Over cut	Remains
R2.5	0	0.99
R3.0 (Standard)	0	0.84
R3.5	0.09	0.71
R4.0	0.23	0.59

● **SPE(M)T100415ZPER-SM / SPMT100415ZPTR-PM**



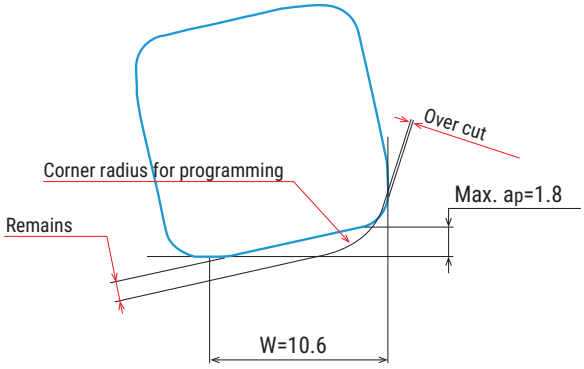
Corner radius for programming	Over cut	Remains
R2.5 (Standard)	0	0.77
R3.0	0.09	0.68
R3.5	0.25	0.60
R4.0	0.43	0.52

● **SPNW140515ZTR**



Corner radius for programming	Over cut	Remains
R3.5	0	1.60
R4.0 (Standard)	0	1.46
R4.5	0.06	1.32
R5.0	0.17	1.19

● **SPMT140520ZPER-SM / SPMT140520ZPTR-PM**



Corner radius for programming	Over cut	Remains
R3.5 (Standard)	0	1.35
R4.0	0.02	1.25
R4.5	0.14	1.12
R5.0	0.29	1.05

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