

PRODUCT NEWS

PN-E-004
(Web-only version)

SERIES EXPANSION
new grade "DS250"



For heat resistant alloy, titanium alloy and hardened stainless steel

SKS-GII Type 09

- Bore type : $\phi 40\sim 80$
- Modular type : $\phi 20\sim 42$
- Shank type : $\phi 25\sim 35$



Specifically designed for high efficiency machining of difficult to cut materials

The optimized cutting edge design provides sharpness & low cutting resistance that is ideal for difficult-to-cut materials

Precise ground insert provides run out accuracy and longer tool life

Multi-edge design enables high efficiency Machining

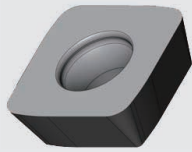


SKG09/MSG09 Type

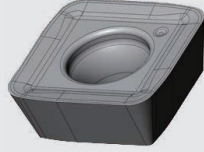
● Insert Lineup

Wear resistance

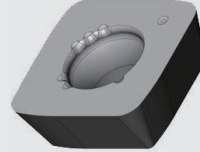
Fracture resistance



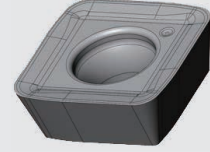
SDEW090312ZER
(JC7518/DS118)



SDET090312ZDER-SM
(DS118)



SDEW090312ZER
(JC7550/DS250/DS150)



SDET090312ZDER-SM
(JC7550/DS250/DS150)

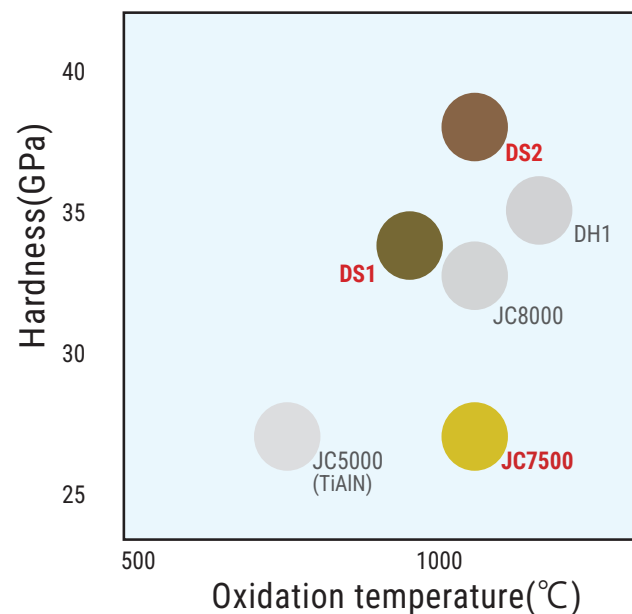
● Application

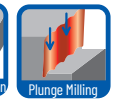
Insert	Titanium alloy	Inconel	SUS630	SUS316
SDEW090312ZER (JC7518)		■	◎	
SDEW090312ZER (DS250)			●	◎
SDEW090312ZER (JC7550)			●	◎
SDEW090312ZER (DS118)	◎			
SDEW090312ZER (DS150)	●			
SDET090312ZDER-SM (DS250)		●	●	●
SDET090312ZDER-SM (JC7550)		●	●	●
SDET090312ZDER-SM (DS150)	●			
SDET090312ZDER-SM (DS118)	●			

◎: stable machining ●: unstable machining ■: light load machining

	DS2 Coating	DS1 Coating	JC7500 Coating
Composition	TiAlSiN	TiB ₂	AlTiCrN
Hardness (GPa)	36 - 38	33 - 35	27 - 28
Oxidation temperature (°C)	1100 - 1200	900 - 1000	1000 - 1100
Coefficient of friction	0.3	0.4	0.5

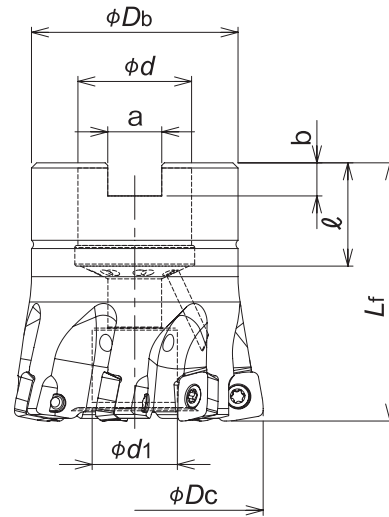
DIJET Coating MAP





SKG09
TYPE

Bore Type



Cat.No.	Stock	No. of inserts	Dimensions (mm)								Arbor set bolt	Weight (kg)	Insert
			φDc	Lf	φDb	φd	φd1	a	b	ℓ			
SKG-5040R-09-16	●	5	40	40	37	16	13.5	8.4	5.6	18	M8	0.21	SDEW090312ZER SDET090312ZDER-SM
SKG-7050R-09-22	●	7	50	40	22	16.5	10.4	6.3	20		M10	0.35	
SKG-7052R-09-22	●		52								M10	0.37	
SKG-8063R-09-22	●	8	63	50	48	17					M10	0.58	
SKG-8066R-09-27	●		66	50	M12X1.75X30★						0.60		
SKG-9080R-09-27	●	9	80	60	27	20	12.4	7	22	M12X1.75X30★	0.97		

All cutters are supplied without inserts or wrench.

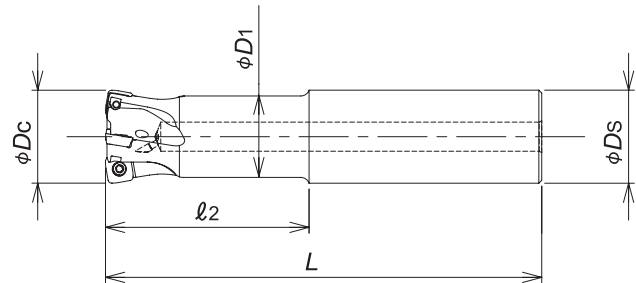
Screw	Torque(N.m)	Wrench
DSW-307H	2.1	A-10

SKG09/MSG09 type

SKG09
TYPE

Shank Type

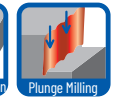
Through
coolant
hole



Cat.No.	Stock	No. of inserts	Dimensions (mm)					Insert
			ϕDc	$\ell 2$	L	$\phi D1$	ϕDs	
SKG-3025-60-09-S25	○	3	25	60	140	23	25	SDEW090312ZER SDET090312ZDER-SM
SKG-3025-100-09-S25	○			100	180			
SKG-4032-70-09-S32	○	4	32	70	150	28	32	
SKG-4032-120-09-S32	○			120	200			
SKG-5035-70-09-S32	○	5	35	70	150	31	32	
SKG-5035-120-09-S32	○			120	200			

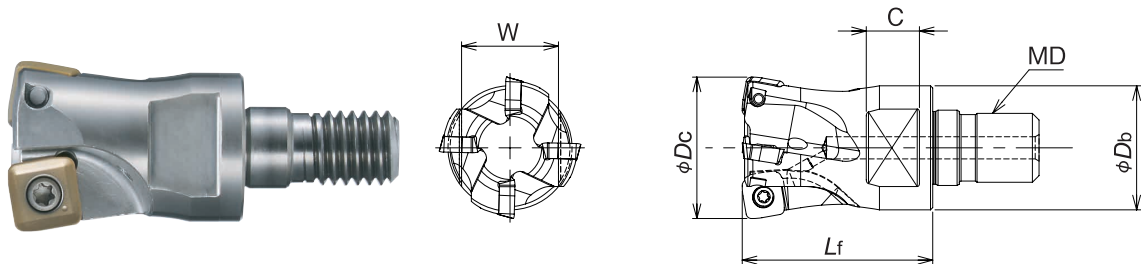
All cutters are supplied without inserts or wrench.

Screw	Torque(N.m)	Wrench
DSW-307H	2.1	A-10



MSG09
TYPE

Modular Type



Cat.No.	Stock	No. of inserts	Dimensions (mm)						Insert	Parts
			ϕD_c	Lf	ϕD_b	MD	C	W		
MSG-2020-09-M10	●	2	20	30	19	M10	9	14	SDEW090312ZER SDET090312ZDER-SM	DSW-306H
MSG-2022-09-M10	○		22			M10				
MSG-3025-09-M12	●	3	25	35	23	M12	11	19		DSW-307H
MSG-4028-09-M12	○	4	28		23.6					
MSG-4032-09-M16	●	5	32	43	28	M16	12	22		
MSG-5035-09-M16	●		35		29					
MSG-5040-09-M16	●		40		32	M16	14	26		
MSG-5042-09-M16	●		42							

All cutters are supplied without inserts or wrench.

Screw	Torque(N.m)	Wrench
DSW-306H	1.8	A-10
DSW-307H	2.1	A-10

SKG09/MSG09 type

SKG/MSG09
TYPE

Insert

Fig. 1



Fig. 1

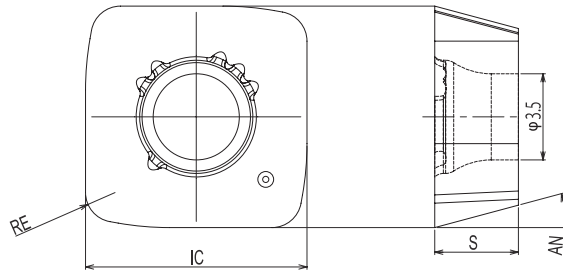
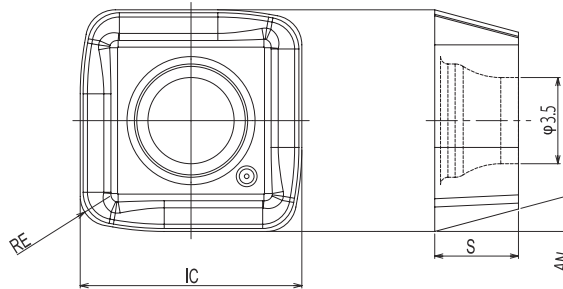


Fig. 2



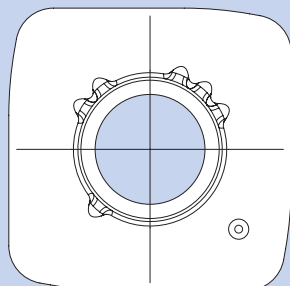
Fig. 2



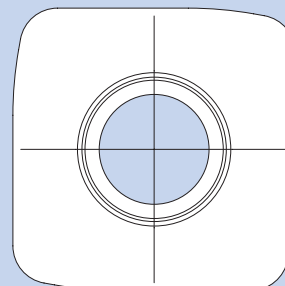
Cat.No.	Tolerance	PVD Coating					Dimensions (mm)				Fig.
		DS118	DS150	JC7518	^{NEW} DS250	JC7550	RE	IC	S	AN	
SDEW090312ZER	E	●	●	●	●	●	1.2	9	3.4	15°	1
SDET090312ZDER-SM		●	●		●	●					2

Note) 10 inserts per case.

GRADE MARKING



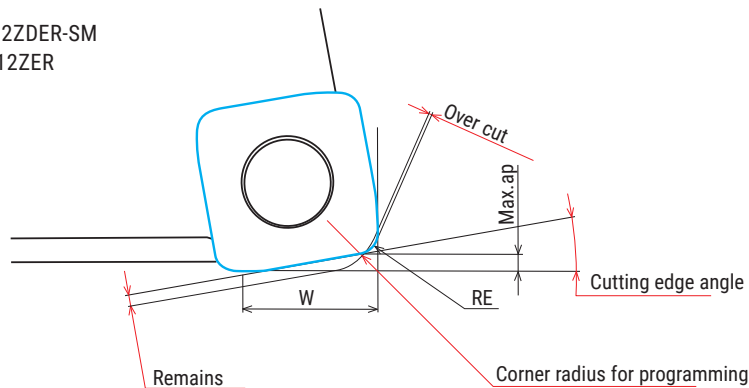
JC7550/DS250/DS150



JC7518/DS118

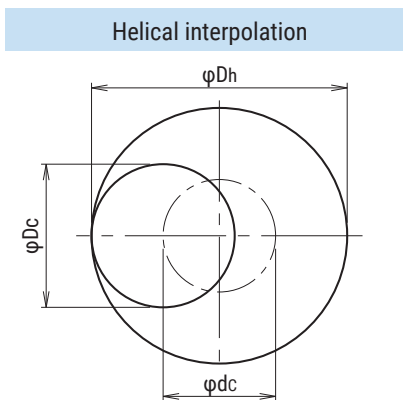
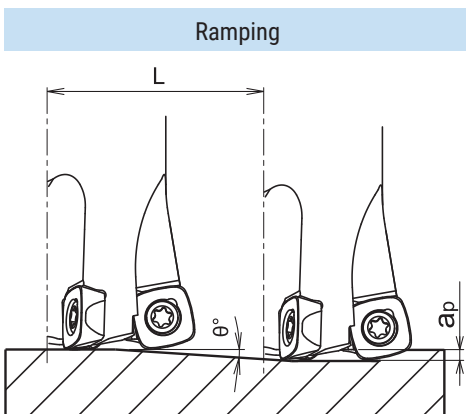
Definition of corner shape for programming

■ SDET090312ZDER-SM
SDEW090312ZER



Corner radius for programming	Remains	Over cut	Max.ap	W	Cutting edge angle
1.5	0.81	0	0.9	7.1	10°
2 (Standard)	0.73	0			
2.5	0.65	0.08			

Recommended Data for Profile Milling



- Calculation of tool pass dia.

$$\phi_{dc} = \phi_{Dh} - \phi_{Dc}$$

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

Cat.No.	Tool dia.	Effective cutting dia.	Max.depth of cut : ap	Ramping		Helical interpolation	
				Max.ramping angle θ	Total cutting length at Max.ap : L(mm)	Min.Bore dia. (mm)	Max.Bore dia. (mm)
MSG-2020-09-M10	20	5.6	0.9	1°	51.6	27	38
MSG-2022-09-M10	22	7.7	0.9	1°	51.6	31	42
MSG-3025-09-M12	25	10.7	0.9	1°	51.6	37	48
MSG-4028-09-M12	28	13.7	0.9	1°	51.6	43	54
MSG-4032-09-M16	32	17.6	0.9	1°	51.6	51	62
MSG-5035-09-M16	35	20.6	0.9	1°	51.6	57	68
MSG-5040-09-M16	40	25.7	0.9	1°	51.6	67	78
MSG-5042-09-M16	42	27.7	0.9	1°	51.6	71	82
SKG-3025-60-09-S25	25	10.7	0.9	1°	51.6	37	48
SKG-3025-100-09-S25	25	10.7	0.9	1°	51.6	37	48
SKG-4032-70-09-S32	32	17.6	0.9	1°	51.6	51	62
SKG-4032-120-09-S32	32	17.6	0.9	1°	51.6	51	62
SKG-5035-70-09-S32	35	20.6	0.9	1°	51.6	57	68
SKG-5035-120-09-S32	35	20.6	0.9	1°	51.6	57	68
SKG-5040R-09-16	40	25.7	0.9	1°	51.6	67	78
SKG-7050R-09-22	50	35.6	0.9	1°	51.6	87	98
SKG-7052R-09-22	52	37.6	0.9	1°	51.6	91	102
SKG-8063R-09-22	63	48.7	0.9	0°45'	68.8	113	124
SKG-8066R-09-27	66	51.7	0.9	0°45'	68.8	119	130
SKG-9080R-09-27	80	65.7	0.9	0°30'	103.1	147	158

■ Recommended Cutting Conditions - SKSG2-09 type -

Material	Insert	Grade	Vc	fz	ap	ae
Austenitic Stainless Steel	SDEW (SDET)	JC7550 (DS250)	125 - 150	0.8 - 1.0	0.3 - 0.8	0.6 Dc
Martensitic Stainless Steel	SDEW	JC7550 (DS250)	155 - 190	0.8 - 1.0	0.3 - 0.8	0.6 Dc
Duplex Stainless Steel	SDEW	JC7518 (JC7550) (DS250)	85 - 100	0.25 - 0.3	0.3 - 0.8	0.4~0.6 Dc
Titanium Alloy	SDEW	DS150 (DS118)	60	0.5 - 0.6	0.3 - 0.8	0.6 Dc
Heat Resistant Alloy	SDEW	JC7518 (JC7550)	25 - 30	0.5 - 0.6	0.2 - 0.5	0.4~0.6 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 occurring, 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.
5. Wet cutting is recommended for machining Super Duplex, Titanium Alloy, Heat Resistant Alloy.

