

# DSG-HSG type



## “ Feathermill ”



## “ Feathermill ”



### ■ DSG45-4000 Type

Small size inserts offer excellent total economy and transmit excellent machining.

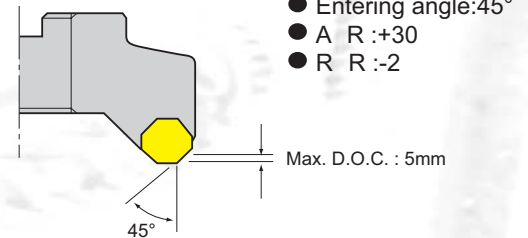


Fig.1

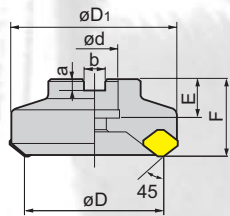


Fig.2

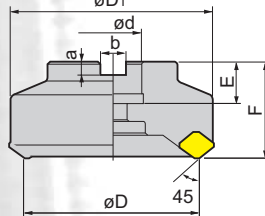


Fig.3

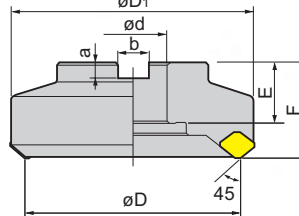
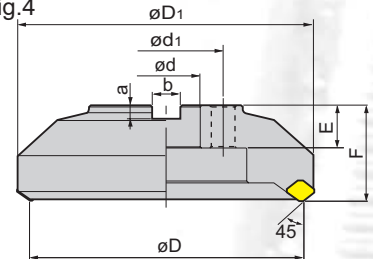


Fig.4



### ■ Body

Cat. No.	Stock	No. of inserts	Dimensions (mm)								Fig.
			$\phi D$	$\phi D_1$	F	$\phi d$	$\phi d_1$	a	b	E	
DSG45-4063M-22R-F	●	4	63	76	40	22	-	6	10.4	20	1
DSG45-4080M-27R-F	●	5	80	93	50	27	-	7	12.4	22	2
DSG45-4100M-32R-F	●	6	100	113	50	32	-	8	14.4	32	3
DSG45-4125M-40R-F	●	8	125	138	63	40	-	9	16.4	35	3
DSG45-4160M-40R-F	●	10	160	173	63	40	66.7	9	16.4	28	4
DSG45-4200M-60R-F	●	12	200	213	63	60	101.6	14	25.7	32	4

Fig.1 SGHN1203AZN-21

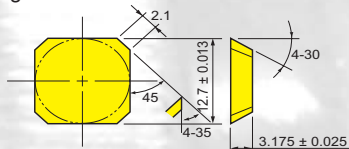


Fig.2 SGHN1203AZN-F2 (For aluminum alloy)

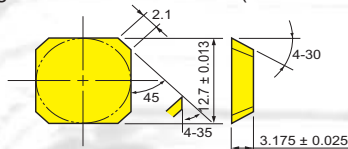
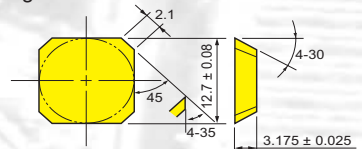


Fig.3 SGLN1203AZN-21



### ■ Inserts

Cat. No.	Coated				Cermet		Uncoated		Fig.
	JC5030	JC5040	NEW JC730U	JC610	CX90		KT9		
SGHN1203AZN-21	●	●	●	●	●		●	1	
SGHN1203AZN-F2							●	2	
NEW SGLN1203AZN-21	●							3	

### ■ Parts

Wedge	Wedge screw	Wrench
81106-1R	LS-180 (8.0 N-m)	A-27

### ■ Recommended cutting conditions

Work materials	Vc (m/min)	fz (mm/tooth)	Insert grades
Carbon steel & Alloy steel	150-300	0.2-0.5	CX90, JC730U JC5030, JC5040
Stainless steel	150-220	0.2-0.3	JC730U JC5030, JC5040
Cast iron	150-250	0.2-0.4	JC610
Aluminum alloy	300-800	0.2-0.5	KT9



# “ Feathermill-Tough ”

Indexable Tools

## ■ HSG45-5000-RS Type

Inserts mounted in cartridges and strong clamping mechanism offer heavy duty cutting with good stability.

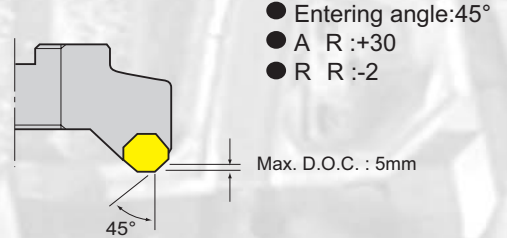
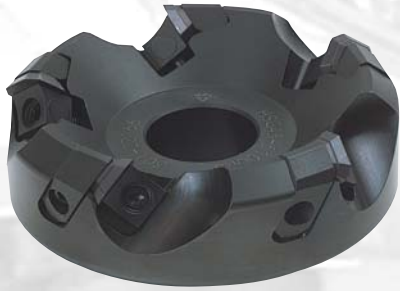


Fig.1

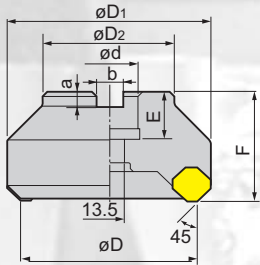


Fig.2

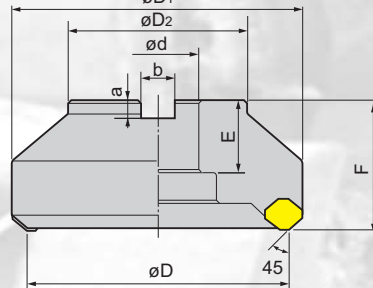
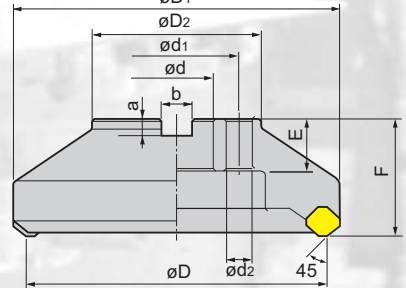


Fig.3



## ■ Body

Cat. No.	Stock	No. of inserts	Dimensions (mm)										Fig.
			$\phi D$	$\phi D_1$	$\phi D_2$	F	$\phi d$	$\phi d_1$	$\phi d_2$	a	b	E	
HSG45-5080-27RS-F	●	4	80	93	60	50	27	-	-	7	12.4	22	1
HSG45-5100-32RS-F	●	5	100	113	70	50	32	-	-	8	14.4	32	2
HSG45-5125-40RS-F	●	6	125	138	85	63	40	-	-	9	16.4	35	2
HSG45-5160-40RS-F	●	8	160	173	100	63	40	66.7	14	9	16.4	28	3
HSG45-5200-60RS-F	●	10	200	213	154	63	60	101.6	18	14	25.7	32	3
HSG45-5250-60RS-F	●	12	250	263	154	63	60	101.6	18	14	25.7	32	3

Fig.1 SGHN1504AZN-44

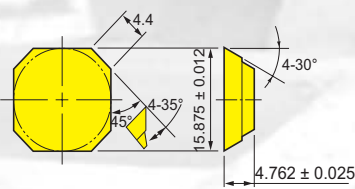


Fig.2 SGHN1504AZR-F1 For devibration

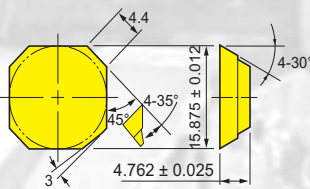


Fig.3 SGLN1504AZN-44

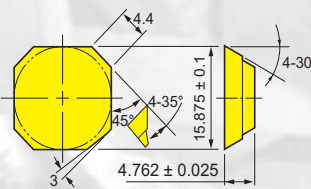
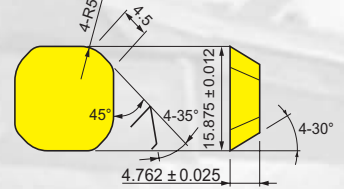


Fig.4 SGHN1504AZR5



## ■ Inserts

Cat. No.	Coated				Cermet		Uncoated		Fig.
	JC5030	JC5040	NEW JC730U	JC610	CX90		KT9		
SGHN1504AZN-44	●	●	●	●	●		●	1	
SGHN1504AZR-F1	●			●	●		○	2	
NEW SGLN1504AZN-44	●							3	
NEW SGLN1504AZR5		●						4	

○ Will not be available after current stock exhausted.



## “ Feathermill-Tough ”



### ■ HSG45-5000RS Type

#### ■ Parts

Wedge	Wedge screw	Wrench	Cartridges	Cartridge screw
DX-80808	LS-180 (8.0 N-m)	A-27	ST451R for Ø 80 & 100mm. or ST452R for Ø 125+250 mm.	LS-140

#### ■ Recommended cutting conditions

Work materials	Vc (m/min)	fz (mm/tooth)	Insert grades
Carbon steel & Alloy steel	150-300	0.2-0.5	CX90, JC730U JC5030, JC5040
Stainless steel	150-220	0.2-0.3	JC730U JC5030, JC5040
Cast iron	150-250	0.2-0.4	JC610
Aluminum alloy	300-800	0.2-0.5	KT9

#### ■ Recommended cutting conditions for high feed application with SGHN1504AZR5

Work materials	Hardness (HB)	Insert grade	Vc (m/min)	fz (mm/tooth)	Depth Ap
Carbon steel & Alloy steel	180 - 280	JC5040	150 - 200	1.0 - 2.0	Up to 5

Note: Over 1.5mm depth of cut requires machine's kW. (40cm<sup>3</sup>/kW)

#### ■ Cutting data for high feed Feathermill High metal removal rate (f=1.45mm/tooth at 5mm depth)

Chips at face milling 1) Ap=2mm, f=1.45mm/th, Q=800cm <sup>3</sup> 	<b>Work</b>	<b>Part name</b>	Frame
		<b>Material</b>	Low carbon steel (SS400)
1) Ap=5mm, f=1.45mm/th, Q=2,000cm <sup>3</sup> 	<b>Tool</b>	<b>Tool No.</b>	HSG45-5125R (125, 6N)
		<b>Insert No.</b>	SGLN1504AZR5, JC5040
<b>Result</b>	<b>Cutting conditions</b>	<b>Cutting speed</b>	181 m/min (460 min <sup>-1</sup> )
		<b>Feed speed</b>	4,000 mm/min, 1.45 mm/th
		<b>Ap</b>	1): 2 mm, 2): 5 mm
		<b>Ae</b>	100 mm
		<b>Coolant</b>	Air blow
		<b>Machine</b>	Horizontal NC milling, 70kW
Current condition is Ap=8mm, F=800mm/min. Q=832cm <sup>3</sup> /min. Feathermill could cut with 2) condition. Q=2,000cm <sup>3</sup> /min.			