

Milling Cutter for High-Efficient General Face Milling

SEC-Sumi Dual Mill **DGC** Series

Rev. 9

Original body design enables dual use of two different-shaped inserts



Expansion The DGC series insert lineup includes double-sided SNMT/SNET and ONMT/ONET types
Up to 16 corners can be used for improved economy
New-generation coated carbide grades for milling XCU2500/XCK2000 now available for DGC series



The DGC series insert lineup includes double-sided SNMT/SNET and ONMT/ONET types. Up to 16 corners can be used for improved economy.

General Features

SEC-Sumi Dual Mill DGC series employs double-sided inserts with up to 16 corners for excellent economy. This is a general-purpose cutter featuring high cutting edge strength for high-efficiency milling and a low-burr chipbreaker design that provides high machined surface quality.

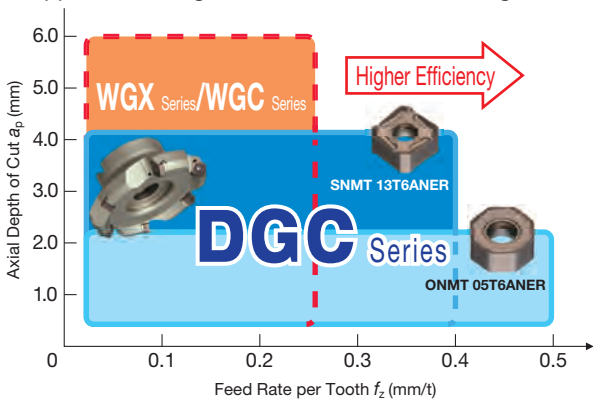


Features

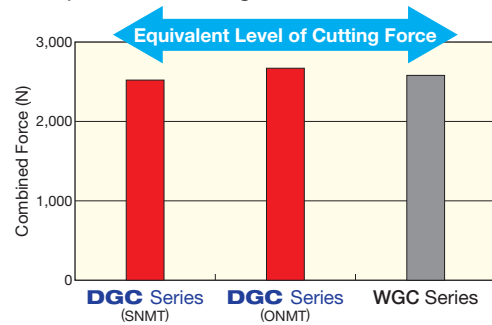
- Same cutting performance as single-sided inserts plus superior economy

Achieves levels of cutting edge sharpness and machined surface quality equivalent to single-sided cutters at a maximum depth of cut of $a_p = 3\text{mm}$.

- Application Range for General Steel Machining



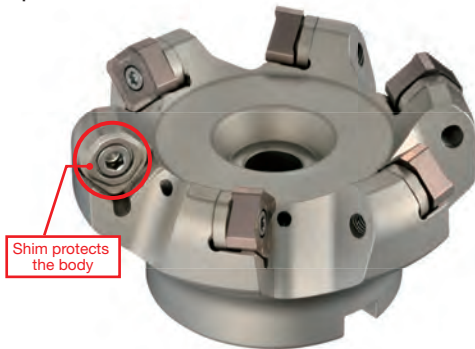
- Comparison of Cutting Force



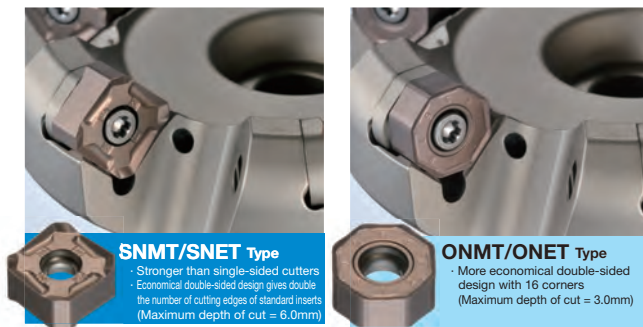
Work Material: SCM435 Tool: $\phi 100$
Cutting Conditions: $V_c = 200\text{m/min}$, $f_z = 0.3\text{mm/t}$, $a_p = 3\text{mm}$, $a_e = 85\text{mm}$

- Dual-purpose body features

Two types of inserts can be used with a single body depending on the milling application, to help reduce tool costs.



Use two types of insert for different applications



- Choose a tool to suit your application from a comprehensive lineup

Cutter Diameter: $\phi 40\text{mm}$ to $\phi 250\text{mm}$
No. of Teeth: 3 to 10
Mounting: Metric/Inch

Cutter Diameter: $\phi 50\text{mm}$ to $\phi 250\text{mm}$
No. of Teeth: 4 to 14
Mounting: Metric/Inch

Cutter Diameter: $\phi 50\text{mm}$ to $\phi 250\text{mm}$
No. of Teeth: 5 to 18
Mounting: Metric/Inch

Cutter Diameter: $\phi 40\text{mm}$ to $\phi 63\text{mm}$
No. of Teeth: 3 to 4
Mounting: Metric



DGC 13000R(S)
Standard Pitch



DGC M 13000R(S)
Fine Pitch



DGC F 13000R(S)
Extra Fine Pitch



DGC 13000EW
Shank Type

- General-purpose grade applicable to any work material

Introducing the new grade ACU2500, which is applicable to a wide variety of processes and work materials such as steel, stainless steel and cast iron.

Chipbreaker Selection

Work Material	P M K S				N	P K	
Applications	Light Cutting/ Burr Prevention	Light Cutting	General-purpose/ Burr Prevention	General-purpose	Heavy Cutting	Non-Ferrous Metal	Finishing Surface Roughness Emphasised
Features	Low Resistance With Chamfer	Low Resistance	Standard/ With Chamfer	Standard	High Strength	High Rake	Wiper
Chipbreaker	FL Type	L Type	FG Type	G Type	H Type	S Type	W Type
Cutting Edge Cross Section							
8	Not Available		Not Available		Not Available	Not Available	(*)

*Can only be used in conjunction with 8 corner inserts

Improved machining quality

- FG Type / FL Type chipbreakers feature a chamfered corner to minimise burrs and provide excellent milling quality.



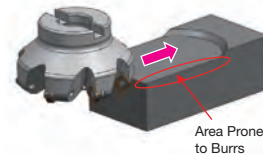
FG Type



Competitor's Product

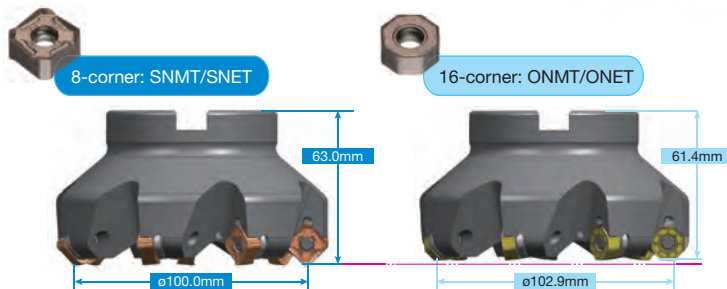


FG Type chipbreakers with low-burr design enable high-quality milling with few burrs and minimal edge chipping



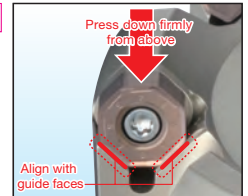
Work Material : SCM435
Tool : $\phi 100$
Cutting Conditions : $V_c = 200\text{m/min}$, $f_z = 0.2\text{mm/t}$
 $a_p = 3\text{mm}$, $a_e = 85\text{mm}$

Cutter Diameter and Cutting Edge Height



16-corner Mounting Method

! Firmly align insert with guide faces, press down in the direction of the arrow, and tighten the screw to fix the insert.



! Note that while the 8-corner and 16-corner types can be used interchangeably on the same body, however they create different cutter diameters, cutting edge heights and maximum cutting depths.

Body Shape (Example: With Cutter Diameter of $\phi 100\text{mm}$)

Insert	Cutter Dia. DC (mm)	Cutting Edge Height LF (mm)	Max. Depth of Cut APMX (mm)
SNMT/SNET	100.0	63.0	6.0
ONMT/ONET	102.9	61.4	3.0

Recommended Cutting Conditions (SNMT/SNET)

ISO	Work Material	Hardness	Cutting Speed v_c (m/min) Min. - Optimum - Max.	Feed Rate f_z (mm/t) Min. - Optimum - Max.	Depth of Cut a_p (mm)	Insert Grade
P	General Steel	180 to 280 HB	150-200-250	0.10-0.25-0.40	< 4	ACU2500
	Mild Steel	$\leq 180\text{HB}$	180-250-350	0.10-0.30-0.45	< 4	ACP200
	Die Steel	200 to 220 HB	100-150-200	0.15-0.25-0.35	< 4	ACP300 XCU2500
M	Stainless Steel	—	160-200-250	0.15-0.23-0.30	< 3	ACU2500 ACM300
K	Cast Iron	250HB	100-200-250	0.10-0.25-0.40	< 5	ACU2500 ACK200 ACK300 XCU2500 XCK2000
N	Non-Ferrous Metal	—	500-750-1,000	0.15-0.23-0.30	< 3	DL1000
S	Exotic Alloy	—	30-50-80	0.10-0.20-0.30	< 3	ACU2500 ACM200 ACM300

Note The cutting conditions above are a guide. Actual conditions will need to be adjusted according to machine rigidity, work clamp rigidity, depth of cut and other factors.

Recommended Cutting Conditions (ONMT/ONET)

ISO	Work Material	Hardness	Cutting Speed v_c (m/min) Min. - Optimum - Max.	Feed Rate f_z (mm/t) Min. - Optimum - Max.	Depth of Cut a_p (mm)	Insert Grade
P	General Steel	180 to 280 HB	150-200-250	0.10-0.30-0.50	< 2	ACU2500
	Mild Steel	$\leq 180\text{HB}$	180-250-350	0.10-0.50-0.50	< 2	ACP200
	Die Steel	200 to 220 HB	100-150-200	0.15-0.25-0.30	< 2	ACP300 XCU2500
M	Stainless Steel	—	160-200-250	0.15-0.23-0.30	< 2	ACU2500 ACM300
K	Cast Iron	250HB	100-200-250	0.10-0.30-0.50	< 2	ACU2500 ACK200 ACK300 XCU2500 XCK2000
S	Exotic Alloy	—	30-50-80	0.10-0.20-0.30	< 2	ACU2500 ACM200 ACM300

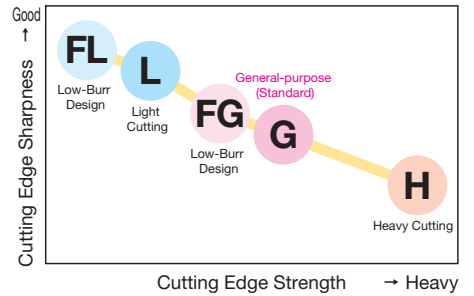
Note The cutting conditions above are a guide. Actual conditions will need to be adjusted according to machine rigidity, work clamp rigidity, depth of cut and other factors.

Precautions when Using Wiper Inserts with Holes



- When mounting the wiper insert, attach it as shown in Fig 1. When mounted as shown in Fig 2, normal machined surface roughness cannot be obtained.
- The wiper insert has a single corner specification.
- For milling with wiper inserts, see "The Basics of Milling, Milling Edition" in Chapter N of the General Catalogue.

Chipbreaker Selection Guide



Grade Application Range

New-generation coated carbide grades **XCU2500/XCK2000** now available!
 Enhanced lineup of coated grades in addition to cemented carbide and cermet for milling steel, stainless steel, cast iron, and aluminum alloy.

Work Material	Finishing to Light Cutting	Medium Cutting	Rough to Heavy Cutting
P Steel	Coated Carbide	ACU2500 XCU2500 ACP100	ACP200 ACP300
	Cermet	T4500A	
	Coated Carbide	ACU2500 XCU2500 ACM200	ACM300
M Stainless Steel	Coated Carbide	ACU2500 XCU2500 ACM200	ACM300
	Cermet	T4500A	
	Coated Carbide	ACU2500 XCU2500 XCK2000 ACK200	ACK300
K Cast Iron	Coated Carbide	ACU2500 XCU2500 XCK2000 ACK200	ACK300
	Cemented Carbide	DL1000	EH520

The letters "C" and "P" at the end of each grade indicate the coating type. ▽: CVD ▲: PVD

Grade Features

New coating technology that realises absolute stability ABSOTECH™ (Absolute Technology)

ABSOTECH
PVD

Coating Layer

Carbide substrate

Cross Section of Cutting Edge Coating TEM Image

New Super Multi-Layered Structure
Higher hardness and twice the conventional wear resistance due to a fine crystal structure AlTiCrBN-based nano-layered coating

High Adhesion Strength
Coating adhesion significantly increased for twice or more the conventional chipping resistance

Applicable Grades: **ACU2500**

ABSOTECH
CVD

Coating Layer

Carbide substrate

Cross Section of Cutting Edge Coating TEM Image

Pure Cubic Crystal AlTiN with High Al Content
With proprietary structural control technology, differently composed layers of AlTiN are stacked at the nanometre level. With a high-Al composition containing over 80% Al on average, it also maintains a cubic crystalline structure to achieve excellent thermal resistance and high hardness. Vastly improved wear resistance.

Special Surface Treatment
Proprietary surface treatment introduces high compression stress to the coating, suppressing the development of cracks. Greatly improved fracture and thermal crack resistance.

Applicable Grades: **XCU2500, XCK2000**

ACP200/ACP300/ACK300/ACM300

NEW SUPER ZX COAT

Realises superb stability due to a carbide substrate optimised for steel, cast iron, and stainless steel with a highly chipping-resistant coating.

ACP100/ACK200/ACM200

SUPER FF COAT

Realises superb stability in high-efficiency machining due to a carbide substrate optimised for steel, cast iron, and stainless steel with a highly wear-resistant coating.

DL1000

AURORA Coat (DLC (Diamond-like Carbon))

Second only to diamond in terms of hardness, this flat and smooth coating has a low coefficient of friction and provides excellent adhesion resistance to deliver better machined surface quality.

Application Examples

Component/Work Material	Automotive Component/Cast Steel		
	Cat. No.	DGC Series	Conventional Tool
Tool	Body	DGCM13080R (ø80)	ø80
	Insert	SNMT13T6ANER-G (8 Corners)	Single-Sided (4 Corners)
	Number of Teeth	6	6
	Insert Grade	ACP200	PVD Grade
	Cutting Speed (m/min)	160	160
Cutting Conditions	Feed Rate per Tooth (mm/t)	0.31	0.31
	Feed Rate (mm/min)	1,184	1,184
	Axial Depth of Cut (mm)	3	3
	Cutting Width (mm)	60	60
	Number of Workpieces (pcs./corner)	2	2
	Dry/Wet	Wet	Wet

Can be used under the same conditions as the single-sided inserts. Improves tool economy by doubling the number of cutting edges.

Component/Work Material	Machine Component/S50C		
	Cat. No.	DGC Series	Conventional Tool
Tool	Body	DGCM13160R (ø160)	ø160
	Insert	SNMT13T6ANER-FG (8 Corners)	Single-Sided (8 Corners)
	Number of Teeth	10	10
	Insert Grade	ACP200	PVD Grade
	Cutting Speed (m/min)	133	133
Cutting Conditions	Feed Rate per Tooth (mm/t)	0.132	0.132
	Feed Rate (mm/min)	350	350
	Axial Depth of Cut (mm)	2.5	2.5
	Cutting Time	287min	287min
	Dry/Wet	Dry	Dry

Reduces burrs and achieves higher milling quality compared to conventional tools.

Component/Work Material	Machine Component/Cast Steel		
	Cat. No.	DGC Series	Conventional Tool
Tool	Body	DGCM13125R (ø125)	ø125
	Insert	ONMT05T6ANER-G (16 Corners)	Double-Sided (8 Corners)
	Number of Teeth	8	8
	Insert Grade	ACP200	PVD Grade
	Cutting Speed (m/min)	160	160
Cutting Conditions	Feed Rate per Tooth (mm/t)	0.29	0.29
	Feed Rate (mm/min)	945	945
	Axial Depth of Cut (mm)	2.5	2.5
	Dry/Wet	Dry	Dry

Reduces tool costs by doubling the number of cutting edges.

Component/Work Material	Machine Component/Stainless Steel		
	Cat. No.	DGC Series	Conventional Tool
Tool	Body	DGC13100R (ø100)	ø100
	Insert	SNMT13T6ANER-G (8 Corners)	Single-Sided (4 Corners)
	Number of Teeth	5	5
	Insert Grade	ACM300	PVD Grade
	Cutting Speed (m/min)	150	150
Cutting Conditions	Feed Rate per Tooth (mm/t)	0.15	0.15
	Feed Rate (mm/min)	360	360
	Axial Depth of Cut (mm)	2.0	2.0
	Dry/Wet	Wet	Wet

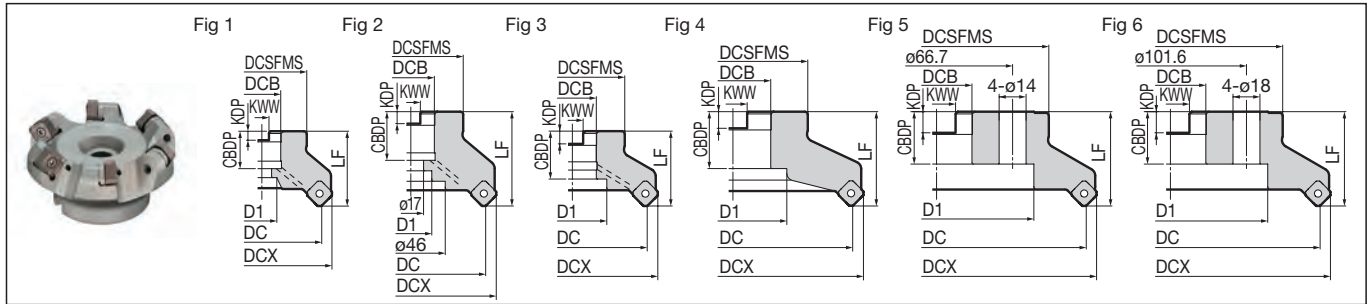
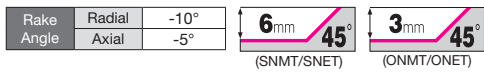
Doubles the number of cutting edges and provides over 3 times longer tool life per corner compared to conventional tools.

Component/Work Material	Machine Component/Cast Iron		
	Cat. No.	DGC Series	Conventional Tool
Tool	Body	DGCM13125R (ø125)	ø125
	Insert	SNMT13T6ANER-G (8 Corners)	Double-Sided (8 Corners)
	Number of Teeth	8	8
	Insert Grade	ACU2500	PVD Grade
	Cutting Speed (m/min)	157	157
Cutting Conditions	Feed Rate per Tooth (mm/t)	0.12	0.12
	Feed Rate (mm/min)	384	384
	Axial Depth of Cut (mm)	2.5	2.5
	Number of Workpieces (pcs./corner)	480	480
	Dry/Wet	Wet	Wet

Drastically reduced cutting edge failure with the same output. Able to continue use, longer tool life.

Component/Work Material	Automotive Component/Cast Iron		
	Cat. No.	DGC Series	Conventional Tool
Tool	Body	DGC13100RS (ø100)	—
	Insert	SNMT13T6ANER-G	Double-Sided (8 Corners)
	Number of Teeth	5	5
	Insert Grade	XCU2500	CVD Grade
	Cutting Speed (m/min)	240	240
Cutting Conditions	Feed Rate per Tooth (mm/t)	0.3	0.3
	Feed Rate (mm/min)	1,146	1,146
	Axial Depth of Cut (mm)	3.0	3.0
	Cutting Width (mm)	—	—
	Dry/Wet	Dry	Dry

Suppresses wear/chipping to achieve 2.5x longer tool life.



Body (Standard Pitch)

													Dimensions (mm)	
Cat. No.	Stock	Dia. DC	Max. Dia. DCX	Boss DCSFMS	Height LF	Hole Dia. DCB	Keyway Width KWW	Keyway Depth KDP	Mounting Depth CBDP	Bolt D1	Number of Teeth	Weight (kg)	Fig	
Metric	DGC 13040RS	● 40(42.9)	54(50.8)	36	40(38.44)	16	8.4	5.6	18	13.5	3	0.3	1	
	13050RS	● 50(52.9)	64(60.8)	40	40(38.44)	22	10.4	6.3	20	18	3	0.4	1	
	13063RS	● 63(65.9)	77(73.8)	50	40(38.44)	22	10.4	6.3	20	18	4	0.5	1	
	13080RS	● 80(82.9)	94(90.8)	60	50(48.44)	27	12.4	7	25	20	4	1.2	1	
	13100RS	● 100(102.9)	114(110.8)	70	50(48.44)	32	14.4	8.5	32	46	5	1.6	3	
	13125RS	● 125(127.9)	139(135.8)	80	63(61.44)	40	16.4	9.5	29	52	6	2.8	1	
	13160RS	● 160(162.9)	174(170.8)	130	63(61.44)	40	16.4	9.5	29	88	7	4.5	5	
	13200RS	● 200(202.9)	214(210.8)	150	63(61.44)	60	25.7	14	35	130	8	7.1	6	
13250RS	● 250(252.9)	264(260.8)	190	63(61.44)	60	25.7	14	35	160	10	11.2	6		
Inch	DGC 13080R	● 80(82.9)	94(90.8)	60	50(48.44)	25.4	9.5	6	25	20	4	1.2	1	
	13100R	● 100(102.9)	114(110.8)	70	63(61.44)	31.75	12.7	8	32.5	28	5	2.2	2	
	13125R	● 125(127.9)	139(135.8)	80	63(61.44)	38.1	15.9	10	35.5	55	6	2.8	1	
	13160R	● 160(162.9)	174(170.8)	100	63(61.44)	50.8	19.1	11	38	72	7	4.5	4	
	13200R	● 200(202.9)	214(210.8)	150	63(61.44)	47.625	25.4	14	35	130	8	7.1	6	
	13250R	● 250(252.9)	264(260.8)	190	63(61.44)	47.625	25.4	14	35	150	10	11.2	6	

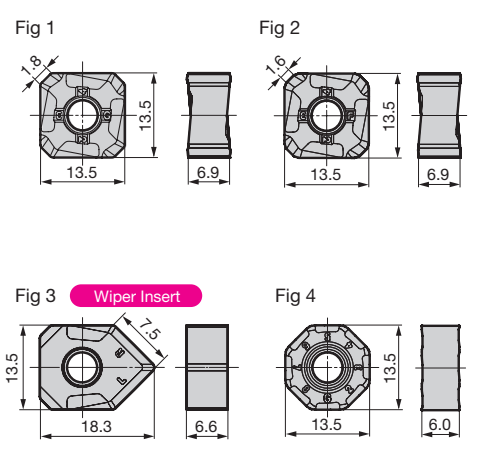
() indicates value for ONMT/ONET type inserts.

Inserts are sold separately. Sizes ø160mm and above do not have coolant holes.

For mounting the ø80 and ø100mm sized cutters marked with * to an arbor, use a JIS B1176 hex socket bolt (ø80: M12 x 30 to 35mm, ø100: M16 x 40 to 45mm).

Insert

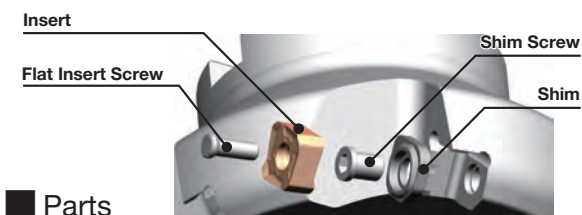
Grade Classification	Coated Carbide										Cemented Carbide	DLC	Cermet	Fig			
	High-speed/Light	Medium Cutting	Roughing	ACU2500	XCU2500	ACP100	ACP200	ACP300	XCK2000	ACK200	ACK300	ACM200	ACM300		H1	EH520	DL1000
Process	High-speed/Light	Medium Cutting	Roughing	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Cat. No.	ACU2500	XCU2500	ACP100	ACP200	ACP300	XCK2000	ACK200	ACK300	ACM200	ACM300	H1	EH520	DL1000	T4500A			
SNMT 13T6ANER-L	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
13T6ANER-G	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
13T6ANER-H	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
13T6ANER-FL	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
13T6ANER-FG	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
SNET 13T6ANER-L	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
13T6ANER-G	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
13T6ANER-FL	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
13T6ANER-FG	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
13T6ANFR-S	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
XNEU 13T6ANEN-W	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
ONMT 05T6ANER-L	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
05T6ANER-G	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
ONET 05T6ANER-L	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
05T6ANER-G	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●



Wiper inserts can only be used in combination with 8-cornered inserts.

The ACP100 and ACK200 may vary in colour or lustre, but these variations do not affect the performance. Refer to P.3 "Precautions when Using Wiper Inserts With Holes" (Mounting Precautions).

Recommended Cutting Conditions **P.3**



Identification Code

DGC 13 040 R S

Series Insert Size Cutter Dia. Feed Direction Metric Bore

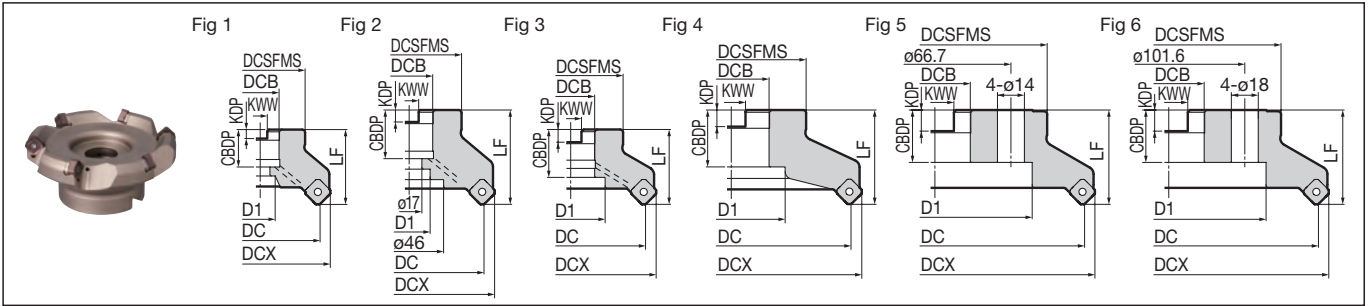
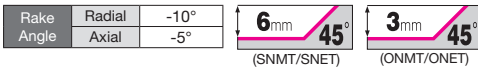
Parts

Applicable Cutter	Shim	Shim Screw	Wrench	Flat Insert Screw	Integrated Wrench	Detachable Wrench		Anti-seizure Cream	Flat Insert Screw (*)		
						Handle Grip	Bit				
DC ø40 to 125	DGCS13R	BW0609F	LH040	BFTX0412IP	N _m 3.0	—	HPS1015	TRB15IP	SUMI-P	BFTX0418IP	N _m 3.0
Other than above						TRDR15IP	—	—	—		

*Insert corners can be changed simply by loosening the screw. Only applies to ø80mm size DGC/DGCM types.

Recommended Tightening Torque (N/m) ● mark: Standard stocked item ● mark: Standard stocked item (expanded item) Blank: Made-to-order item

SEC-Sumi Dual Mill DGCM1300R(S) type



Body (Fine Pitch)

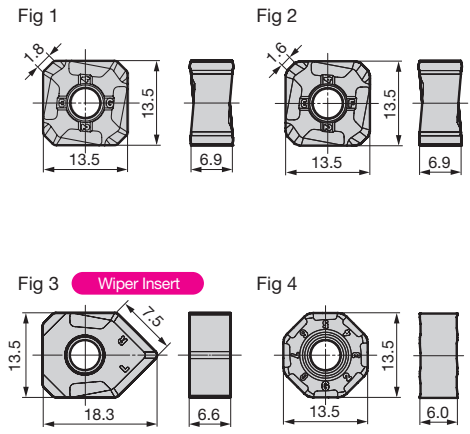
		Dimensions (mm)												
	Cat. No.	Stock	Dia. DC	Max. Dia. DCX	Boss DCSFMS	Height LF	Hole Dia. DCB	Keyway Width KWW	Keyway Depth KDP	Mounting Depth CBDDP	Bolt D1	Number of Teeth	Weight (kg)	Fig
Metric	DGCM 13050RS	●	50(52.9)	64(60.8)	40	40(38.44)	22	10.4	6.3	20	18	4	0.3	1
	13063RS	●	63(65.9)	77(73.8)	50	40(38.44)	22	10.4	6.3	20	18	5	0.5	1
	13080RS	●	80(82.9)	94(90.8)	60	50(48.44)	27	12.4	7	25	20	6	1.1	1
	13100RS	●	100(102.9)	114(110.8)	70	50(48.44)	32	14.4	8.5	32	46	7	1.5	3
	13125RS	●	125(127.9)	139(135.8)	80	63(61.44)	40	16.4	9.5	29	52	8	2.8	1
	13160RS	●	160(162.9)	174(170.8)	130	63(61.44)	40	16.4	9.5	29	88	10	4.6	5
	13200RS	●	200(202.9)	214(210.8)	150	63(61.44)	60	25.7	14	35	130	12	7	6
Inch	DGCM 13080R	●	80(82.9)	94(90.8)	60	50(48.44)	25.4	9.5	6	25	20	6	1.1	1
	13100R	●	100(102.9)	114(110.8)	70	63(61.44)	31.75	12.7	8	32.5	28	7	2.2	2
	13125R	●	125(127.9)	139(135.8)	80	63(61.44)	38.1	15.9	10	35.5	55	8	2.8	1
	13160R	●	160(162.9)	174(170.8)	100	63(61.44)	50.8	19.1	11	38	72	10	4.6	4
	13200R	●	200(202.9)	214(210.8)	150	63(61.44)	47.625	25.4	14	35	130	12	7	6
	13250R	●	250(252.9)	264(260.8)	190	63(61.44)	60	25.7	14	35	160	14	11.1	6
	13250R	●	250(252.9)	264(260.8)	190	63(61.44)	47.625	25.4	14	35	150	14	11.1	6

(.) indicates value for ONMT/ONET type inserts. Inserts are sold separately. Sizes ø160mm and above do not have coolant holes.

For mounting the ø80 and ø100mm sized cutters marked with * to an arbor, use a JIS B1176 hex socket bolt (ø80: M12 x 30 to 35mm, ø100: M16 x 40 to 45mm).

Insert

Grade Classification		Coated Carbide						Cemented Carbide	DLC	Cermet	Dimensions (mm)					
Process		ACU2500	XCU2500	ACP100	ACP200	ACP300	XCK2000	ACK200	ACK300	ACM200	ACM300	H1	EH520	DL1000	T4500A	Fig
High-speed/Light		●	●	●	●	●	●	●	●	●	●	●	●	●	●	1
Medium Cutting		●	●	●	●	●	●	●	●	●	●	●	●	●	●	1
Roughing		●	●	●	●	●	●	●	●	●	●	●	●	●	●	2
Cat. No.		●	●	●	●	●	●	●	●	●	●	●	●	●	●	2
SNMT 13T6ANER-L		●	●	●	●	●	●	●	●	●	●	●	●	●	●	1
13T6ANER-G		●	●	●	●	●	●	●	●	●	●	●	●	●	●	1
13T6ANER-H		●	●	●	●	●	●	●	●	●	●	●	●	●	●	1
13T6ANER-FL		●	●	●	●	●	●	●	●	●	●	●	●	●	●	2
13T6ANER-FG		●	●	●	●	●	●	●	●	●	●	●	●	●	●	2
SNET 13T6ANER-L										●	●					1
13T6ANER-G										●	●					1
13T6ANER-FL										●	●					2
13T6ANER-FG										●	●					2
13T6ANFR-S												●	●	●	●	1
XNEU 13T6ANEN-W		●	●	●	●	●	●	●	●	●	●	●	●	●	●	3
ONMT 05T6ANER-L		●	●	●	●	●	●	●	●	●	●	●	●	●	●	4
05T6ANER-G		●	●	●	●	●	●	●	●	●	●	●	●	●	●	4
ONET 05T6ANER-L										●	●					4
05T6ANER-G										●	●					4



Wiper inserts can only be used in combination with 8-cornered inserts.

The ACP100 and ACK200 may vary in colour or lustre, but these variations do not affect the performance. Refer to P.3 "Precautions when Using Wiper Inserts With Holes" (Mounting Precautions).

Recommended Cutting Conditions P.3

Insert



Identification Code

DGC M 13 050 R S
 Series Fine Pitch Insert Size Cutter Dia. Feed Metric Direction Bore

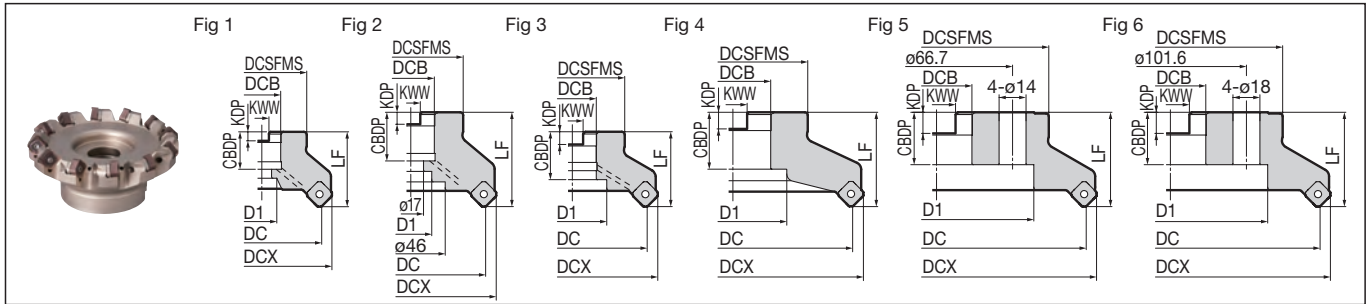
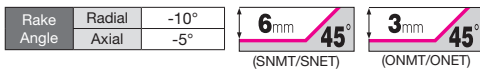
Parts

Applicable Cutter	Shim	Shim Screw	Wrench	Flat Insert Screw	Integrated Wrench	Detachable Wrench		Anti-seizure Cream	Flat Insert Screw (*)	
						Handle Grip	Bit			
DC ø50 to 125	DGCS13R	BW0609F	LH040	BFTX0412IP	—	HPS1015	TRB15IP	SUMI-P	BFTX0418IP	Nm 3.0
Other than above					TRDR15IP	—	—	—		Nm 3.0

*Insert corners can be changed simply by loosening the screw. Only applies to ø80mm size DGC/DGCM types.

(Nm) Recommended Tightening Torque (N/m) ● mark: Standard stocked item ● mark: Standard stocked item (expanded item) Blank: Made-to-order item

SEC-Sumi Dual Mill DGCF13000R(S) type



Body (Extra Fine Pitch)

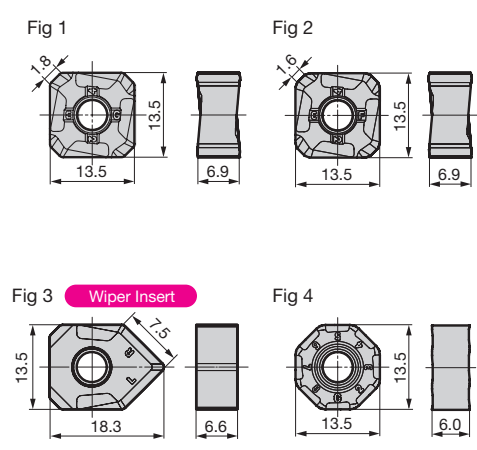
													Dimensions (mm)	
Cat. No.	Stock	Dia. DC	Max. Dia. DCX	Boss DCSFMS	Height LF	Hole Dia. DCB	Keyway Width KWW	Keyway Depth KDP	Mounting Depth CBDP	Bolt D1	Number of Teeth	Weight (kg)	Fig	
Metric	DGCF 13050RS	● 50(52.9)	64(60.8)	40	40(38.44)	22	10.4	6.3	20	18	5	0.3	1	
	13063RS	● 63(65.9)	77(73.8)	50	40(38.44)	22	10.4	6.3	20	18	6	0.5	1	
	13080RS	● 80(82.9)	94(90.8)	60	50(48.44)	27	12.4	7	25	20	8	1.1	1	
	13100RS	● 100(102.9)	114(110.8)	70	50(48.44)	32	14.4	8.5	32	46	10	1.4	3	
	13125RS	● 125(127.9)	139(135.8)	80	63(61.44)	40	16.4	9.5	29	52	12	2.7	1	
	13160RS	● 160(162.9)	174(170.8)	130	63(61.44)	40	16.4	9.5	29	88	14	4.4	5	
	13200RS	● 200(202.9)	214(210.8)	150	63(61.44)	60	25.7	14	35	130	16	6.9	6	
13250RS	● 250(252.9)	264(260.8)	190	63(61.44)	60	25.7	14	35	160	18	11	6		
Inch	DGCF 13080R	● 80(82.9)	94(90.8)	60	50(48.44)	25.4	9.5	6	25	20	8	1.1	1	
	13100R	● 100(102.9)	114(110.8)	70	63(61.44)	31.75	12.7	8	32.5	28	10	2.1	2	
	13125R	● 125(127.9)	139(135.8)	80	63(61.44)	38.1	15.9	10	35.5	55	12	2.7	1	
	13160R	● 160(162.9)	174(170.8)	100	63(61.44)	50.8	19.1	11	38	72	14	4.4	4	
	13200R	● 200(202.9)	214(210.8)	150	63(61.44)	47.625	25.4	14	35	130	16	6.9	6	
	13250R	● 250(252.9)	264(260.8)	190	63(61.44)	47.625	25.4	14	35	150	18	11	6	

() indicates value for ONMT/ONET type inserts. Inserts are sold separately. Sizes ø160mm and above do not have coolant holes.

For mounting the ø80 and ø100mm sized cutters marked with * to an arbor, use a JIS B1176 hex socket bolt (ø80: M12 x 30 to 35mm, ø100: M16 x 40 to 45mm).

Insert

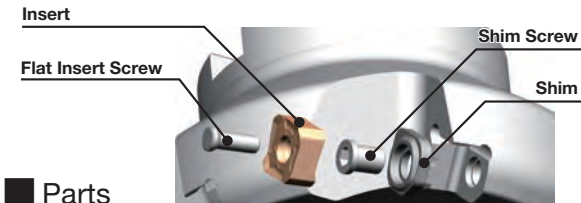
Grade Classification	Coated Carbide										Cemented Carbide	DLC	Cermets	Dimensions (mm)				
	Process													H1	EH520	DL1000	T4500A	Fig
	High-speed/Light	Medium Cutting	Roughing	High-speed/Light	Medium Cutting	Roughing	High-speed/Light	Medium Cutting	Roughing	High-speed/Light								
Cat. No.	ACU2500	XCU2500	ACP100	ACP200	ACP300	XCK2000	ACK200	ACK300	ACM200	ACM300								
SNMT 13T6ANER-L	●	●	●	●	●	●	●	●						1				
13T6ANER-G	●	●	●	●	●	●	●	●						1				
13T6ANER-H	●	●	●	●	●	●	●	●						1				
13T6ANER-FL	●	●	●	●	●	●	●	●						2				
13T6ANER-FG	●	●	●	●	●	●	●	●						2				
SNET 13T6ANER-L									●	●				1				
13T6ANER-G									●	●				1				
13T6ANER-FL									●	●				2				
13T6ANER-FG									●	●				2				
13T6ANFR-S											●			1				
XNEU 13T6ANEN-W	●	●	●	●	●	●	●	●						3				
ONMT 05T6ANER-L	●	●	●	●	●	●	●	●						4				
05T6ANER-G	●	●	●	●	●	●	●	●						4				
ONET 05T6ANER-L									●	●				4				
05T6ANER-G									●	●				4				



Wiper inserts can only be used in combination with 8-cornered inserts.

The ACP100 and ACK200 may vary in colour or lustre, but these variations do not affect the performance. Refer to P.3 "Precautions when Using Wiper Inserts With Holes" (Mounting Precautions).

Recommended Cutting Conditions P.3



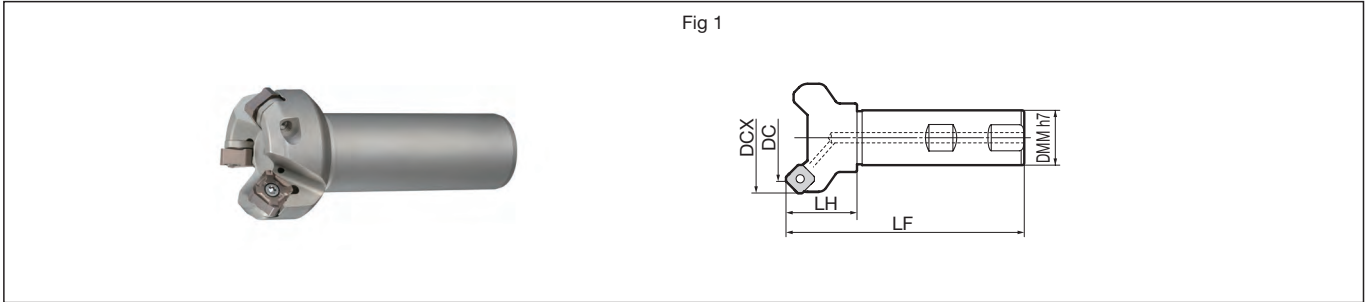
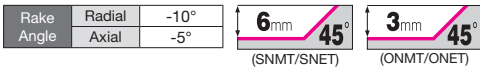
Identification Code
DGC F 13 050 R S
 Series Extra Fine Pitch Insert Size Cutter Dia. Feed Direction Metric Bore

Parts

Applicable Cutter	Shim	Shim Screw	Wrench	Flat Insert Screw	Integrated Wrench	Detachable Wrench		Anti-seizure Cream	Flat Insert Screw (*)		
						Handle Grip	Bit				
DC ø50 to 125 Other than above	DGCS13R	BW0609F	LH040	BFTX0412IP	Nm 3.0	—	HPS1015	TRB15IP	SUMI-P	BFTX0418IP	Nm 3.0
						TRDR15IP	—	—			

*Insert corners can be changed simply by loosening the screw. Only applies to ø80mm size DGC/DGCM types.

Nm Recommended Tightening Torque (N/m) ● mark: Standard stocked item ● mark: Standard stocked item (expanded item) Blank: Made-to-order item



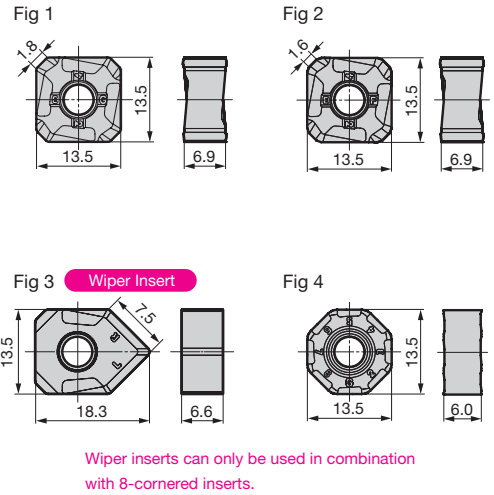
Body (Shank Type)

Cat. No.	Stock	Dia. DC	Max. Dia. DCX	Shank DMM	Head LH	Overall Length LF	Number of Teeth	Weight (kg)	Fig
DGC 13040EW	●	40(42.9)	54(50.8)	32	40(38.44)	125	3	0.7	1
13050EW	●	50(52.9)	64(60.8)	32	40(38.44)	125	3	0.9	1
13063EW	●	63(65.9)	77(73.8)	32	40(38.44)	125	4	1.1	1

() indicates value for ONMT/ONET type inserts.
 Inserts are sold separately.

Insert

Grade Classification	Coated Carbide										Cemented Carbide	DLC	Cermet	Fig
	High-speed/Light	K		P		K		M		N	N	P		
Process	Medium Cutting	K		P		K		M		N	N	P		
	Roughing	K		P		K		M		N	N	P		
Cat. No.	ACU2500	XCU2500	ACP100	ACP200	ACP300	XCK2000	ACK200	ACK300	ACM200	ACM300	H1	EH520	DL1000	T4500A
SNMT 13T6ANER-L	●	●	●	●	●	●	●	●						
13T6ANER-G	●	●	●	●	●	●	●	●						●
13T6ANER-H	●	●	●	●	●	●	●	●						●
13T6ANER-FL	●	●	●	●	●	●	●	●						●
13T6ANER-FG	●	●	●	●	●	●	●	●						●
SNET 13T6ANER-L									●	●				
13T6ANER-G									●	●				
13T6ANER-FL									●	●				
13T6ANER-FG									●	●				
13T6ANFR-S											●			
XNEU 13T6ANEN-W	●	●	●	●	●	●	●	●						●
ONMT 05T6ANER-L	●	●	●	●	●	●	●	●						
05T6ANER-G	●	●	●	●	●	●	●	●						
ONET 05T6ANER-L									●	●				
05T6ANER-G									●	●				

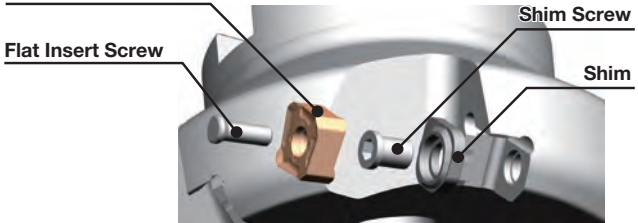


Wiper inserts can only be used in combination with 8-cornered inserts.

The ACP100 and ACK200 may vary in colour or lustre, but these variations do not affect the performance.
 Refer to P.3 "Precautions when Using Wiper Inserts With Holes" (Mounting Precautions).

Recommended Cutting Conditions **P.3**

Insert



Identification Code

DGC 13 040 EW
 Series Insert Size Cutter Dia. Shank Type

Parts

Shim	Shim Screw	Wrench	Flat Insert Screw	Wrench	Anti-seizure Cream
DGCS13R	BW0609F	LH040	BFTX0412IP	3.0	TRDR15IP

MEMO

A large grid of dotted lines for writing a memo. The grid consists of 20 columns and 30 rows of small squares, providing a structured space for text entry.

MEMO

A large grid of dotted lines for writing a memo. The grid consists of 20 columns and 30 rows of small squares, providing a structured space for text entry.

Sumitomo Electric Cutting Tools Official Apps for iOS/Android



Cutting calculation App

SumiTool Calculator



Grade & chipbreaker comparison App

SumiTool Converter



< SAFETY NOTES >



- Very hot or lengthy chips may be discharged while the machine is in operation. Therefore, machine guards, safety goggles or other protective covers must be used. Fire safety precautions must also be considered.

- Please handle with care as this product has sharp edges.
- Improper cutting conditions or mis-handling of the tool may result in breakages or projectiles. Therefore, please use the tool within its recommended conditions.

- When using non-water soluble cutting oil, precautions against fire must be taken and please ensure that a fire extinguisher is placed near the machine.

 Sumitomo Electric Industries, Ltd.

Hardmetal Division

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<https://www.sumitool.com/global>