



SUMITOMO

CARBIDE - CBN - DIAMOND

DGC Milling Series

Uses both SNMT & ONMT inserts
Up to 16 cutting edges!



High Performance Milling Systems

General Purpose 45° Lead Face Mill



DGC 45° Lead Face Mill

for steel & cast iron milling



■ Features & Benefits

Improved reliability and quality

Improved Super ZX coating and insert runout provides stable tool life for production runs.

An excellent lineup of Inserts with optimized chamfers to prevent burrs improves surface finish.

Superior economy

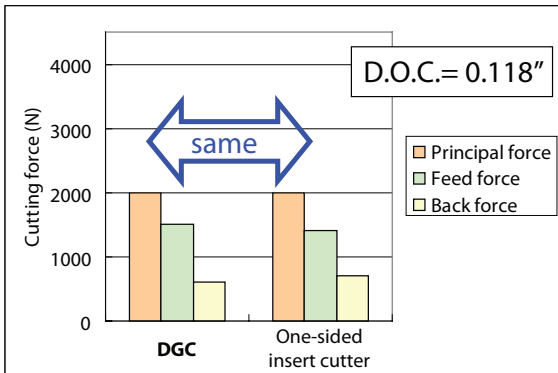
With the same sharpness of similar one-sided inserts, you get twice the corners. Also, the cutter body holds both the ONMT & SNMT inserts, allowing up to 16 corners.

Extensive Lineup

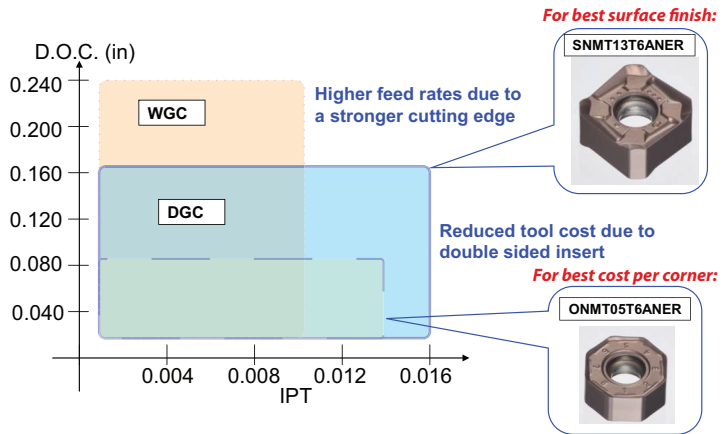
A wide range of diameters (2.000" to 10.000") and pitches (Normal, Fine, Extra Fine) allows you to optimize your application.

Cutting performance: DGC vs. WGC

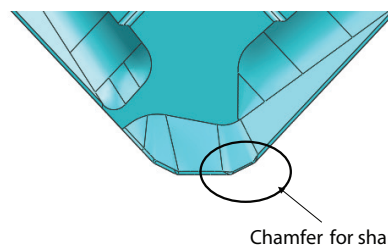
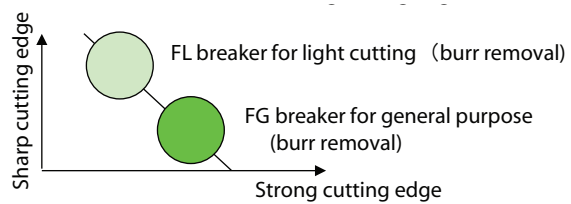
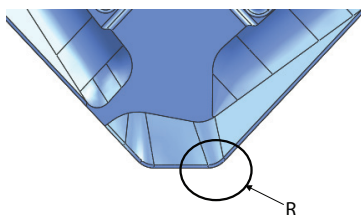
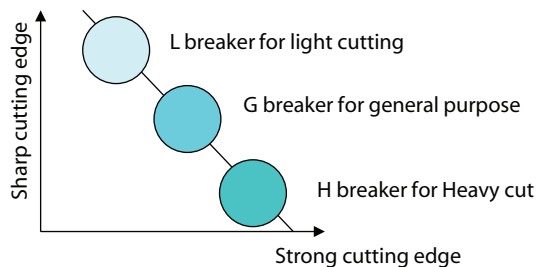
Work material : Cr-Mo Steel(SCM435)
Cutting conditions : $vc=500$ SFM $fz=.012$ IPT
Tool dia: 4.00"



General Cutting Conditions



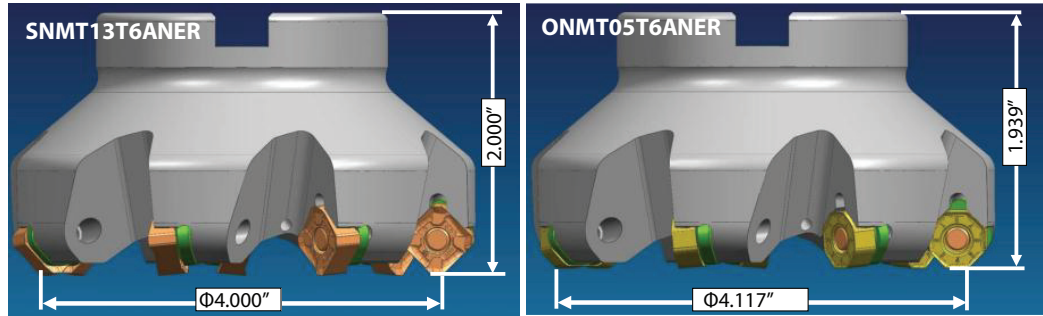
Edge Preparations



■ Technical Information

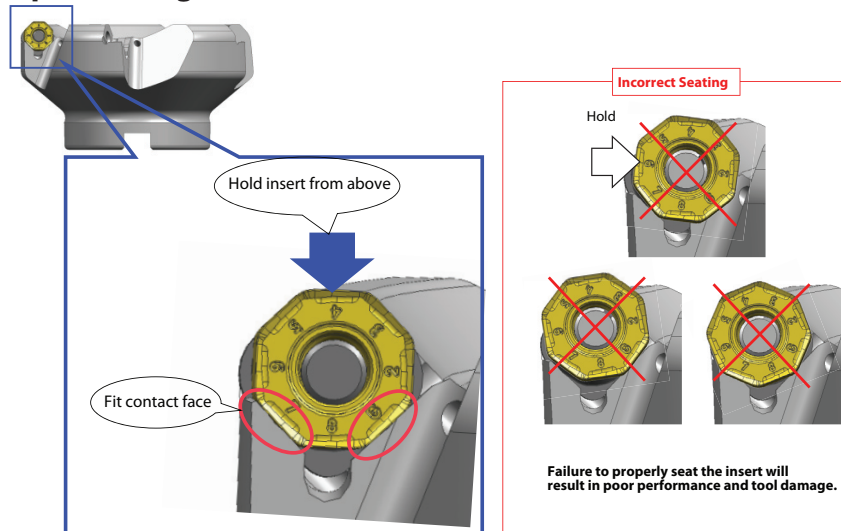
DGC Variation of Diameter by Insert

Both SNMT and ONMT inserts can be used on the same cutter body



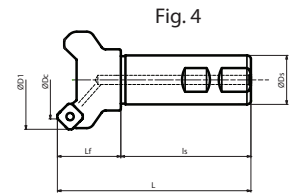
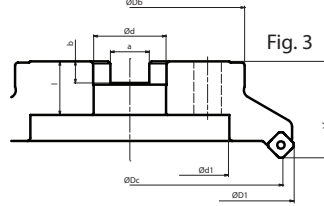
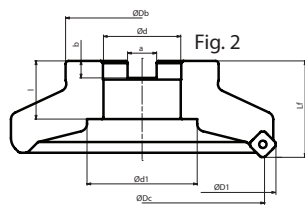
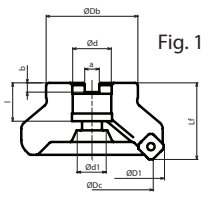
EX. ϕ 4.000"	# of cutting edges	Tool dia.	Cutter height	Max D.O.C
SNMT	8	4"	2"	6mm 0.236"
ONMT	16	4.117"	1.939"	3mm 0.118"

Proper Seating of the ONMT Insert



Recommended Running Conditions

ISO	Work Material	Hardness	Cutting Speed (SFM) Min. - Optimum - Max.	"Feed Rate (IPT) Min. - Optimum - Max.	Grade
P	General Steel	180-280HB	500 - 650 - 850	.004 - .008 - .0125	ACP200
	Soft Steel	≤180HB	600 - 850 - 1200	.004 - .010 - .015	ACP200
	Die Steel	200-260HB	330 - 500 - 650	.005 - .008 - .011	ACP200
M	Stainless Steel	-	520 - 660 - 820	.005 - .007 - .010	ACP300
K	Cast Iron	250HB	330 - 570 - 870	.006 - .009 - .013	ACK200
S	Exotic	-	60 - 100 - 160	.003 - .005 - .008	ACK300



Rake Angle: Radial: -10° Axial: -5°

DGC Cutter Bodies - Coarse Pitch - INCH

Catalog Number	Stock	ϕDc	$\phi D1$	ϕDb	Lf	ϕd	$\phi d1$	a	b	ℓ	Teeth	Fig.
DGC4200R	●	2.000	2.567	1.500	1.750	0.750	0.609	0.312	0.190	0.750	3	1
DGC4250R	●	2.500	3.067	1.750	1.750	1.000	0.797	0.375	0.220	0.750	4	1
DGC4300R	●	3.000	3.567	2.250	1.750	1.000	0.787	0.375	0.220	0.750	4	1
DGC4400R	●	4.000	4.567	2.870	2.000	1.250	1.000	0.500	0.280	0.750	5	1
DGC4500R	●	5.000	5.567	3.750	2.500	1.500	2.000	0.625	0.380	1.000	6	1
DGC4600R	●	6.000	6.567	4.380	2.500	1.500	2.000	0.625	0.380	1.060	7	2
DGC4800R	●	8.000	8.567	5.906	2.500	2.500	5.118	1.000	0.560	1.594	8	3
DGC41000R	●	10.000	10.567	7.480	2.756	2.500	6.299	1.000	0.531	1.575	10	3

DGC Cutter Bodies - Fine Pitch - INCH

Catalog Number	Stock	ϕDc	$\phi D1$	ϕDb	Lf	ϕd	$\phi d1$	a	b	ℓ	Teeth	Fig.
DGCM4200R	●	2.000	2.567	1.500	1.750	0.750	0.609	0.312	0.190	0.750	4	1
DGCM4250R	●	2.500	3.067	1.750	1.750	1.000	0.797	0.375	0.220	0.750	5	1
DGCM4300R	●	3.000	3.567	2.250	1.750	1.000	0.787	0.375	0.220	0.750	6	1
DGCM4400R	●	4.000	4.567	2.870	2.000	1.250	1.000	0.500	0.280	0.750	7	1
DGCM4500R	●	5.000	5.567	3.750	2.500	1.500	2.000	0.625	0.380	1.000	8	1
DGCM4600R	●	6.000	6.567	4.380	2.500	1.500	2.000	0.625	0.380	1.060	10	2
DGCM4800R	●	8.000	8.567	5.906	2.500	2.500	5.118	1.000	0.560	1.594	12	3

DGC Cutter Bodies - Extra Fine Pitch - INCH

Catalog Number	Stock	ϕDc	$\phi D1$	ϕDb	Lf	ϕd	$\phi d1$	a	b	ℓ	Teeth	Fig.
DGCF4200R	●	2.000	2.567	1.500	1.750	0.750	0.609	0.312	0.190	0.750	5	1
DGCF4250R	●	2.500	3.067	1.750	1.750	1.000	0.797	0.375	0.220	0.750	6	1
DGCF4300R	●	3.000	3.567	2.250	1.750	1.000	0.787	0.375	0.220	0.750	8	1
DGCF4400R	●	4.000	4.567	2.870	2.000	1.250	1.000	0.500	0.280	0.750	10	1
DGCF4500R	●	5.000	5.567	3.750	2.500	1.500	2.000	0.625	0.380	1.000	12	1
DGCF4600R	●	6.000	6.567	4.380	2.500	1.500	2.000	0.625	0.380	1.060	14	2
DGCF4800R	●	8.000	8.567	5.906	2.500	2.500	5.118	1.000	0.560	1.594	16	3

DGC Cutter Bodies - Shank - INCH

Catalog Number	Stock	ϕDc	$\phi D1$	ϕDb	Lf	ℓ_s	L	Teeth	Fig.
DGC4200EW	●	2.000	2.567	1.250	1.591	2.379	3.970	4	4
DGC4250EW	●	2.000	2.567	1.250	1.591	2.379	3.970	5	4

●: USA Stocked Item ★: Worldwide Warehouse Item **PLEASE NOTE:** For 40, 50 and 63mm, arbor hole is standard in metric sizes, not inch sizes.

Inserts

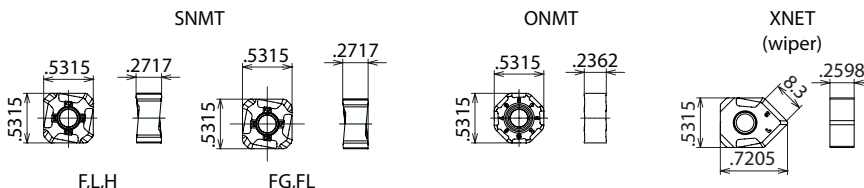
Catalog Number	ACP100	ACP200	ACP300	ACK200	ACK300
SNMT13T6ANER-L	●	●	●	●	●
SNMT13T6ANER-G	●	●	●	●	●
SNMT13T6ANER-H	●	●	●	●	●
SNMT13T6ANER-FL	○	○	○	○	○
SNMT13T6ANER-FG	○	○	○	○	○
XNET13T6ANEN-W	○	○	○	○	○
ONMT05T6ANER-L	●	●	●	●	●
ONMT05T6ANER-G	●	●	●	●	●

Hardware

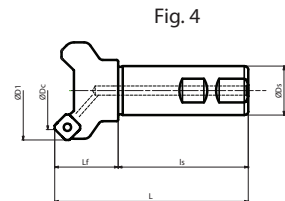
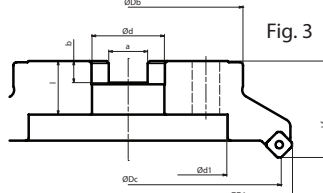
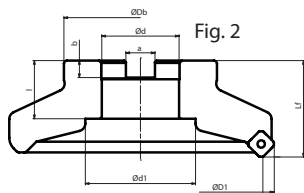
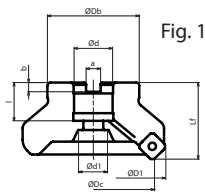
Seat	Seat Screw	Seat Wrench	Insert Screw	Wrench	Anti-seize Paste	Insert Screw
DGCS13R	BW06509F	LH040	BFTX0412IP	TRDR15IP	SUMI-P	BFTX0418IP

* Insert corner can be changed by loosening the insert screw. Can only be used with DGC & DGCM cutters with dia. of $\phi 80\text{mm}$ /4.000" or larger

●: USA Stocked Item
○: New Product arriving January 2013



Max. Depth of Cut - SNMT: 6mm (.240") ONMT: 3mm (.120")



Rake Angle: Radial: -10° Axial: -5°

DGC Cutter Bodies - Coarse Pitch - METRIC												
Catalog Number	Stock	ϕDc	$\phi D1$	ϕDb	Lf	ϕd	$\phi d1$	a	b	ℓ	Teeth	Fig.
DGC13040RS	★	40	54	36	40	16	13.5	8.4	5.6	18	3	1
DGC13050RS	★	50	64	40	40	22	18	10.4	6.3	20	3	1
DGC13063RS	★	63	77	50	40	22	18	10.4	6.3	20	4	1
DGC13080R	★	80	94	60	50	25.4	20	9.5	7	25	4	1
DGC13100R	★	100	114	70	63	31.75	28	12.7	8.5	32.5	5	1
DGC13125R	★	125	139	80	63	38.1	55	15.9	9.5	35.5	6	1
DGC13160R	★	160	174	100	63	50.8	72	19	9.5	38	7	2
DGC13200R	★	200	214	150	63	47.625	130	25.4	14	35	8	3
DGC13250R	★	250	264	190	63	47.625	150	25.4	14	35	10	3

DGC Cutter Bodies - Fine Pitch - METRIC												
Catalog Number	Stock	ϕDc	$\phi D1$	ϕDb	Lf	ϕd	$\phi d1$	a	b	ℓ	Teeth	Fig.
DGCM13050RS	★	50	64	40	40	22	18	10.4	6.3	20	4	1
DGCM13063RS	★	63	77	50	40	22	18	10.4	6.3	20	5	1
DGCM13080R	★	80	94	60	50	25.4	20	9.5	7	25	6	1
DGCM13100R	★	100	114	70	63	31.75	28	12.7	8.5	32.5	7	1
DGCM13125R	★	125	139	80	63	38.1	55	15.9	9.5	35.5	8	1
DGCM13160R	★	160	174	100	63	50.8	72	19	9.5	38	10	2
DGCM13200R	★	200	214	150	63	47.625	130	25.4	14	35	12	3
DGCM13250R	★	250	264	190	63	47.625	150	25.4	14	35	14	3

DGC Cutter Bodies - Extra Fine Pitch - METRIC												
Catalog Number	Stock	ϕDc	$\phi D1$	ϕDb	Lf	ϕd	$\phi d1$	a	b	ℓ	Teeth	Fig.
DGCF13050RS	★	50	64	40	40	22	18	10.4	6.3	20	5	1
DGCF13063RS	★	63	77	50	40	22	18	10.4	6.3	20	6	1
DGCF13080R	★	80	94	60	50	25.4	20	9.5	7	25	8	1
DGCF13100R	★	100	114	70	63	31.75	28	12.7	8.5	32.5	10	1
DGCF13125R	★	125	139	80	63	38.1	55	15.9	9.5	35.5	12	1
DGCF13160R	★	160	174	100	63	50.8	72	19	9.5	38	14	2
DGCF13200R	★	200	214	150	63	47.625	130	25.4	14	35	16	3
DGCF13250R	★	250	264	190	63	47.625	150	25.4	14	35	18	3

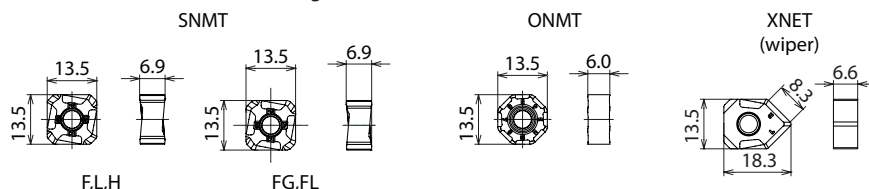
DGC Cutter Bodies - Shank - METRIC									
Catalog Number	Stock	ϕDc	$\phi D1$	ϕDb	Lf	ℓ_s	L	Teeth	Fig.
DGC13040EW	★	40	54	32	40	85	125	3	4
DGC13050EW	★	50	64	32	40	85	125	3	
DGC13063EW	★	63	77	32	40	85	125	4	

● : USA Stocked Item ★ : Worldwide Warehouse Item

Inserts					
Catalog Number	ACP100	ACP200	ACP300	ACK200	ACK300
SNMT13T6ANER-L	●	●	●	●	●
SNMT13T6ANER-G	●	●	●	●	●
SNMT13T6ANER-H	●	●	●	●	●
SNMT13T6ANER-FL	○	○	○	○	○
SNMT13T6ANER-FG	○	○	○	○	○
XNET13T6ANEN-W					○
ONMT05T6ANER-L	●	●	●	●	●
ONMT05T6ANER-G	●	●	●	●	●

Hardware						OPTIONAL*
Seat	Seat Screw	Seat Wrench	Insert Screw	Wrench	Anti-seize Paste	Insert Screw
DGCS13R	BW06509F	LH040	BFTX0412IP	TRDR151P	SUMI-P	BFTX0418IP

* Insert corner can be changed by loosening the insert screw. Can only be used with DGC & DGCM cutters with dia. of $\phi 80\text{mm}/4.000''$ or larger



Max. Depth of Cut - SNMT: 6mm (.240") ONMT: 3mm (.120")

● : USA Stocked Item
○ : New Product arriving January 2013



星隆貿易股份有限公司
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