CAT.DMSWBROCHURE.11/21

SUMITOMO
CARBIDE - CBN - DIAMOND

High-Productivity High-Feed Cutter for Rough Milling

DMSW

Ultra-High Feed Rates and Deep Depth of Cuts!

P M K N S H

SUMITOMO
ELECTRIC
GROUP

DMSW Series

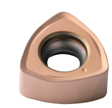
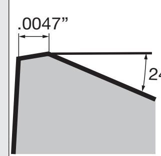
General Features and Benefits

- DMSW insert provides a compound arc-shape cutting edge which allows for high efficiency feed rates up to 0.138" IPT.
- Cutting forces are reduced due to a 75 degree lead angle which promotes stable machining in long projection applications.

Milling Cutter Product Range

Type		Product Code	Diameters Available (Inch)					Diameters Available (*mm*)												Shape
			ø1.5	ø2.0	ø2.5	ø3.0	ø4.0	ø35	ø40	ø42	ø50	ø52	ø63	ø66	ø80	ø85	ø100	ø125	ø160	
Inch	Shell Mill	DMSW30000R		4	4, 6	6, 7	8													
Metric	Shell Mill	DMSW08000RS									4, 5	4, 5	4, 5*, 6*	5, 6	6, 8	6, 8	6	8	10	
Metric	Shell Mill	DMSW08000R Inch Arbor									4, 5		4, 5, 6		6, 8		6	8	10	
Inch	Endmill	DMSW31500EW	3	3																
Inch	Endmill	DMSW31500ELC	3																	
Metric	Endmill	DMSW08000E						2	3		3		4							
Metric	Endmill	DMSW08000EL						2	3		3		4							
Inch	Modular	DMSW30000M	3																	
Metric	Modular	DMSW08000M						2	3	3										

Chipbreaker

Material	P M K S H
	G Chipbreaker
Chipbreaker	
Cutting Edge CrossSection	

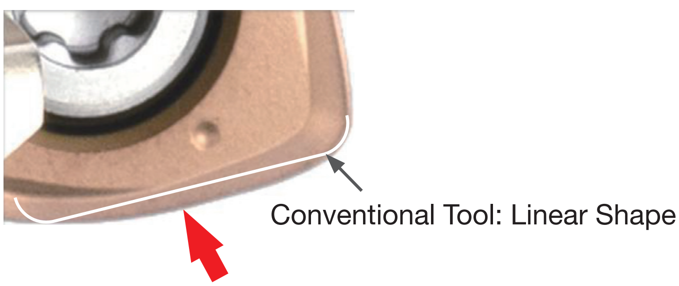
Inch Arbor: Inch Arbor

● Numbers inside are number of teeth

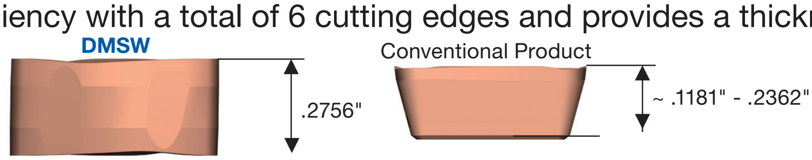
*: Different diameter shanks available

Insert Features

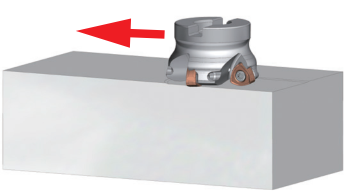
- The Compound arc-shape cutting edge is capable of a high feed rate of 0.138" IPT at 0.020" axial depth of cut.

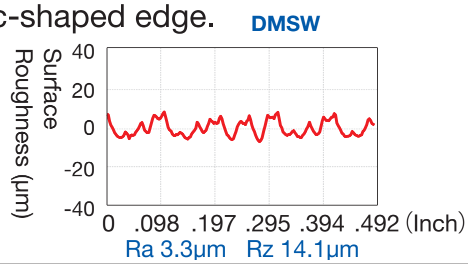


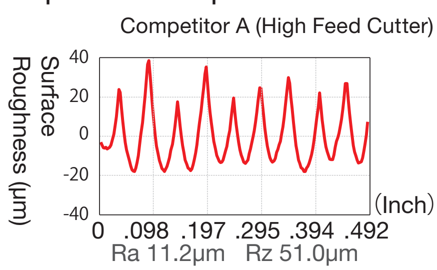
- The insert provides economical efficiency with a total of 6 cutting edges and provides a thickness of 0.2756" for increased strength.



- Compared to conventional high feed mill cutter insert, DMSW insert provides improved surface finish due to the arc-shaped edge.





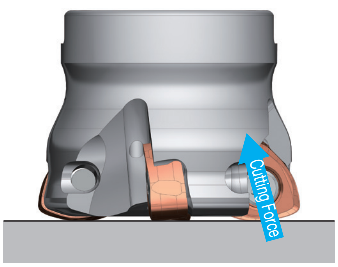


Machine: Vertical Machining Center BT50, **Part Material:** 1050 Carbon Steel, **Insert:** WNMU0807ZNER-G-ACU2500
Milling Cutter: DMSW08063RS04 (ø63 4 teeth), **Cutting Conditions:** v_c= 500 SFM, f_z= .0984 IPT, a_p= .0197", a_e= 1.5748", Dry

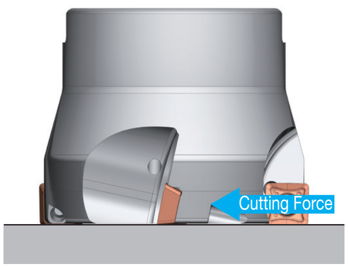
DMSW SERIES

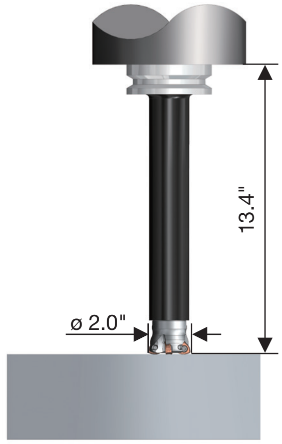
- With small depth of cut, DMSW can provide high efficiency machining with long projections.

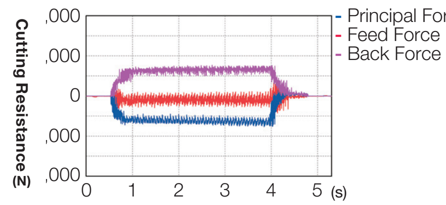
DMSW



(Reference) Shoulder Milling Tool

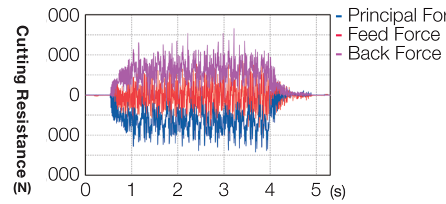






Reduced Chattering

Competitor B (High Feed Cuter)



Heavy Chattering

Machine: Vertical Machining Center BT50, **Part Material:** 1050 Medium Carbon Steel,
Milling Cutter: DMSW08050RS04 (ø50 4 teeth)
Insert: WNMU0807ZNER-G-ACU2500
Cutting Conditions: v_c= 525 SFM, f_z= .0256 IPT, a_p= .0315", a_e= 1.772", Dry

■ Precautions for Corner Finishing

* Corners will have over-cut or under-cut material relative to the corner profile.

Fig 1

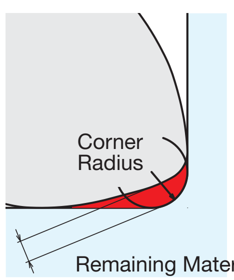
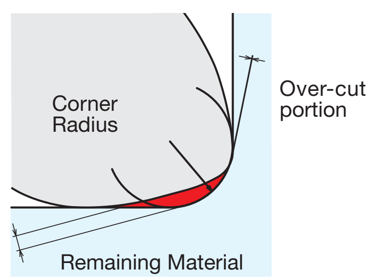


Fig 2



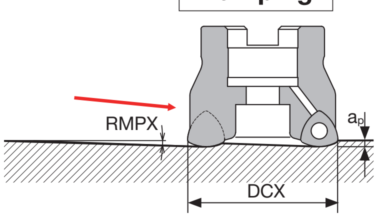
Corner Radius (Inch)	Unmachined Surface (Inch)	Over-Cut	Fig.
.0789	.0480	0	1
.0984	.0425	0	1
.1181	.0374	0	1
.1378	.0327	.0016	2

Precautions for Helical Milling

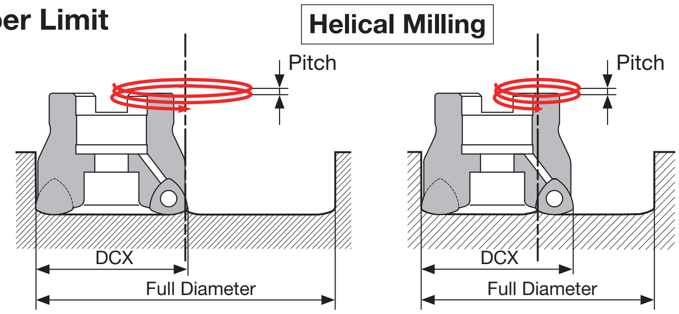
- Above the max. machining diameter, the center uncut portion can be removed by traverse cutting with the same cutter.
- Below the min. machining diameter, the centre uncut portion cannot be removed with the same cutter.

■ Ramping / Helical Milling Upper Limit

Ramping



Helical Milling



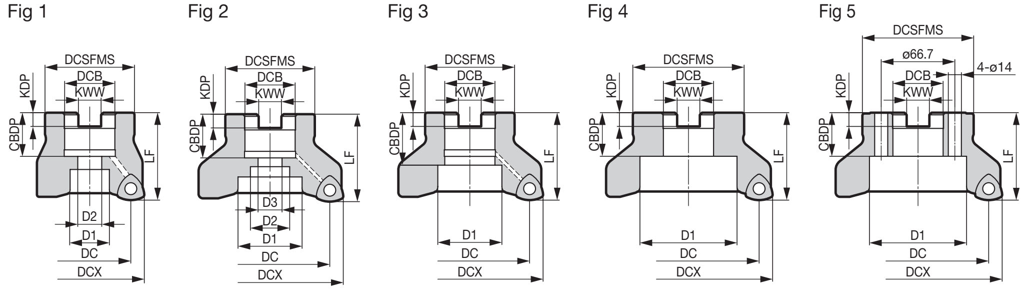
	Max. Dia. DCX (inch / mm)	Ramping Max. Ramping Angle RMPX (°)	Helical Ramping: Max. Machining Dia. (Inch / mm)	Max Pitch	Standard Diameter (Inch)	Max Pitch	Min. Machining Dia. (Inch / mm)	Max Pitch
Inch	1.500	0.8	2.972	0.063	2.346	0.031	2.252	0.020
	2.000	1.4	3.972	0.079	3.343	0.079	3.185	0.039
	2.500	1.2	4.972	0.079	4.343	0.079	4.118	0.039
	3.000	1.2	5.972	0.079	5.339	0.079	4.976	0.039
	4.000	0.8	7.972	0.079	7.339	0.079	6.976	0.039
Metric	35	0° 30'	69.3	1.3	53.5	0.5	52.0	0.5
	40	0° 48'	79.3	2.0	63.4	1.0	60.2	0.5
	42	0° 48'	83.3	2.0	67.4	1.0	63.9	0.5
	50	1° 24'	99.3	2.0	83.3	2.0	79.1	1.0
	52	1° 24'	103.3	2.0	87.3	2.0	82.8	1.0
	63	1° 12'	125.3	2.0	109.3	2.0	103.6	1.0
	66	1° 12'	131.3	2.0	115.3	2.0	109.4	1.0
	80	1° 12'	159.3	2.0	143.2	2.0	134.0	1.0
	85	1° 12'	169.3	2.0	153.2	2.0	144.0	1.0
	100	0° 48'	199.3	2.0	183.2	2.0	174.0	1.0
	125	Not recommended						
	160	Not recommended						

DMSW Series

Rake Angle	Radial	-7° to -10°
	Axial	-6°

.1181 75° 3mm 75°

Fig 1 Fig 2 Fig 3 Fig 4 Fig 5



■ Body (Shell Type)

Dimensions (inch / *mm*)

	Cat. No.	Stock	Max. Dia. DCX	Dia. DC	Boss DCSFMS	Height LF	Bore Dia. DCB	Keyway Width KWW	Keyway Depth KDP	Mounting Depth CBDP	Bolt D1	Bolt D2	Bolt D3	Number of Teeth	Weight (lb / *kg*)	Fig
Inch	DMSW32000R04	●	2.000	1.346	1.500	1.750	0.750	0.312	0.190	0.750	0.609	0.406	—	4	0.640	1
	DMSW32500R04	●	2.500	1.846	1.750	1.750	1.000	0.375	0.220	0.750	0.797	0.531	—	4	0.992	1
	DMSW32500R06	●	2.500	1.846	1.750	1.750	1.000	0.375	0.220	0.750	0.797	0.531	—	6	0.948	1
	DMSW33000R06	●	3.000	2.342	2.250	1.750	1.000	0.375	0.220	0.750	0.797	0.531	—	6	1.650	1
	DMSW33000R07	●	3.000	2.342	2.250	1.750	1.000	0.375	0.220	0.750	0.797	0.531	—	7	1.630	1
	DMSW34000R08	●	4.000	3.342	3.543	2.500	1.500	0.625	0.380	1.000	2.000	1.181	0.781	8	4.894	2
Metric	DMSW08050RS04	★	*50*	*33.4*	*41*	*40*	*22*	*10.4*	*6.3*	*20*	*16.7*	*11*	—	4	*0.25*	1
	DMSW08050RS05	★	*50*	*33.4*	*41*	*40*	*22*	*10.4*	*6.3*	*20*	*16.7*	*11*	—	5	*0.24*	1
	DMSW08052RS04		*52*	*35.4*	*41*	*40*	*22*	*10.4*	*6.3*	*20*	*17*	*11*	—	4	*0.27*	1
	DMSW08052RS05		*52*	*35.4*	*41*	*40*	*22*	*10.4*	*6.3*	*20*	*17*	*11*	—	5	*0.25*	1
	DMSW08063RS04	★	*63*	*46.4*	*50*	*40*	*22*	*10.4*	*6.3*	*20*	*18*	*11*	—	4	*0.46*	1
	DMSW08063RS05	★	*63*	*46.4*	*50*	*40*	*22*	*10.4*	*6.3*	*20*	*18*	*11*	—	5	*0.46*	1
	DMSW08063RS06	★	*63*	*46.4*	*50*	*40*	*22*	*10.4*	*6.3*	*20*	*18*	*11*	—	6	*0.44*	1
	DMSW08063RS05-27	★	*63*	*46.4*	*50*	*50*	*27*	*12.4*	*7*	*22*	*20*	*14*	—	5	*0.55*	1
	DMSW08063RS06-27	★	*63*	*46.4*	*50*	*50*	*27*	*12.4*	*7*	*22*	*20*	*14*	—	6	*0.53*	1
	DMSW08066RS05-27		*66*	*49.4*	*50*	*50*	*27*	*12.4*	*7*	*22*	*20*	*14*	—	5	*0.60*	1
	DMSW08066RS06-27		*66*	*49.4*	*50*	*50*	*27*	*12.4*	*7*	*22*	*20*	*14*	—	6	*0.58*	1
	DMSW08080RS06	★	* *80*	*63.3*	*55*	*50*	*27*	*12.4*	*7*	*22*	*20*	*14*	—	6	*0.88*	1
	DMSW08080RS08	★	* *80*	*63.3*	*55*	*50*	*27*	*12.4*	*7*	*22*	*20*	*14*	—	8	*0.84*	1
	DMSW08085RS06		* *85*	*68.3*	*55*	*50*	*27*	*12.4*	*7*	*22*	*20*	*14*	—	6	*1.01*	1
	DMSW08085RS08		* *85*	*68.3*	*55*	*50*	*27*	*12.4*	*7*	*22*	*20*	*14*	—	8	*0.99*	1
	DMSW08100RS06	★	*100*	*83.3*	*70*	*50*	*32*	*14.4*	*8*	*32*	*46*	—	—	6	*1.29*	3
	DMSW08125RS08	★	*125*	*108.3*	*80*	*63*	*40*	*16.4*	*9*	*29*	*52*	*29*	—	8	*2.41*	1
	DMSW08160RS10	★	*160*	*143.3*	*130*	*63*	*40*	*16.4*	*9*	*29*	*90*	—	—	10	*4.73*	5
Metric - Inch Arbor	DMSW08050R04	★	*50*	*33.4*	*41*	*40*	*22.225*	*8.4*	*5*	*20*	*16.7*	*11*	—	4	*0.25*	1
	DMSW08050R05	★	*50*	*33.4*	*41*	*40*	*22.225*	*8.4*	*5*	*20*	*16.7*	*11*	—	5	*0.24*	1
	DMSW08063R04	★	*63*	*46.4*	*50*	*40*	*22.225*	*8.4*	*5*	*20*	*18*	*11*	—	4	*0.46*	1
	DMSW08063R05	★	*63*	*46.4*	*50*	*40*	*22.225*	*8.4*	*5*	*20*	*18*	*11*	—	5	*0.46*	1
	DMSW08063R06	★	*63*	*46.4*	*50*	*40*	*22.225*	*8.4*	*5*	*20*	*18*	*11*	—	6	*0.44*	1
	DMSW08080R06	★	* *80*	*63.3*	*70*	*63*	*31.75*	*12.7*	*8*	*32*	*27*	*18*	—	6	*1.32*	1
	DMSW08080R08	★	* *80*	*63.3*	*70*	*63*	*31.75*	*12.7*	*8*	*32*	*27*	*18*	—	8	*1.28*	1
	DMSW08100R06	★	* *100*	*83.3*	*70*	*63*	*31.75*	*12.7*	*8*	*32*	*46*	*27*	*18*	6	*1.75*	2
	DMSW08125R08	★	*125*	*108.3*	*80*	*63*	*38.1*	*15.9*	*10*	*35.5*	*55*	*30*	—	8	*2.55*	1
	DMSW08160R10	★	*160*	*143.3*	*100*	*63*	*50.8*	*19.1*	*11*	*38*	*72*	—	—	10	*4.18*	4

Take note of the cutter mounting size (DCB) when selecting a cutter. Inserts are sold separately.
For mounting the ø80, ø85, and ø100mm sized cutters marked with * to an arbor , use a JIS B1176 hex socket bolt (metric specification: M12 x 30 to 35mm, inch specification: M16 x 40 to 45mm).

●: USA Stocked Item
★: Worldwide Warehouse Item
Blank: Made-to-order item

■ Parts

N·m Recommended Tightening Torque (N·m)

Applicable Cutter	Flat Insert Screw	N·m	Integrated Wrench	Detachable Wrench Handle Grip	Detachable Wrench Bit	Anti-seize Cream
DMSW08160R(S)10	BFTX0513IP	5.0	TRDR20IP	—	—	SUMI-P
Other than above	BFTX0513IP	5.0	—	HPL2025	TRB20IP	SUMI-P

■ Identification Code - Inch

DMSW	3	2000	R	S	05
Series	Insert Series	Cutter Dia.	Feed Direction	Metric Bore	Number of Teeth

■ Identification Code - Metric

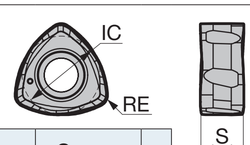
DMSW	08	063	R	S	05 -	27
Series	Insert Size	Cutter Dia.	Feed Direction	Metric Bore	Number of Teeth	Mounting Size

■ Insert

Dimensions (Inch)

Grade Classification		ACU2500	ACP2000	ACP3000	ACK2000	ACK3000	ACS2500	ACS3000	Inscribed Circle IC	Thickness S	Corner Radius RE	Fig
		Coated Carbide										
Process	High-speed / Light		P		K							
	General-purpose	P K M H		P		K	M S	M S				
	Roughing	P K M H		P		K		M S				
Cat. No.												
WNMU0807ZNER-G		●	★	●			●	●	.512	.2756	.063	1
WNMU0807ZNER-H		●	★	●			●	●	.512	.2756	.063	1

fig. 1



Coolant Through Bolts		
Catalog Number	Cutter Diameter	Applicable Pilot Dia.
BFXH3/8 X 1	1.5", 2.00"	0.75"
BFXH1/2 X 1 1/4	2.50", 3.00"	1.00"
BFXH5/8 X 1 1/4	4.00"	1.25"
BFXH3/4 X 2	4.00"	1.50"
BFXH3/4 X 1 1/2	5.00"	1.50"
BFXH3/4 X 2	5.00"*	1.50"

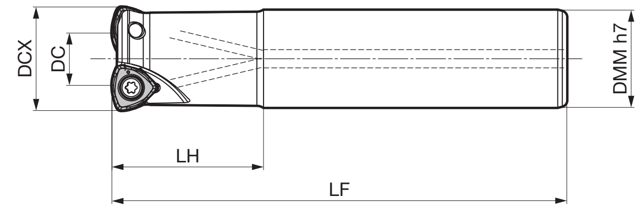
Recommended Cutting Conditions Page 5

High-Productivity High-Feed Cutter for Rough Milling
DMSW Series

Rake Angle	Radial	-10° to -13°
	Axial	-6°

.1181 75° | 3mm 75°

Fig 1



■ Body (Weldon Shank Type)

Dimensions (inch /*mm*)

	Cat. No.	Stock	Max. Dia. DCX	Dia. DC	Shank DMM	Head LH	Overall Length LF	Number of Teeth	Weight (lb / *kg*)	Fig
Inch	**DMSW31500EW03**	●	1.500	0.852	1.250	2.498	4.780	3	1.433	1
Inch	**DMSW32000EW03**	●	2.000	1.346	1.250	2.498	4.780	3	1.676	1
Metric	**DMSW08035E02**	★	*35*	*18.6*	*32*	*50*	*150*	*2*	*0.85*	1
Metric	**DMSW08040E03**	★	*40*	*23.5*	*32*	*50*	*150*	*3*	*0.86*	1
Metric	**DMSW08050E03-42**	★	*50*	*33.4*	*42*	*50*	*150*	*3*	*1.51*	1
Metric	**DMSW08063E04-42**		*63*	*46.4*	*42*	*50*	*150*	*4*	*1.66*	1

Inserts are sold separately.

■ Body (Long Shank Type)

Dimensions (inch /*mm*)

	Cat. No.	Stock	Max. Dia. DCX	Diameter DC	Shank DMM	Head LH	Overall Length LF	Number of Teeth	Weight (lb / *kg*)	Fig
Inch	**DMSW31500ELC03**	●	1.500	0.852	1.250	2.498	10.000	3	3.197	1
Metric	**DMSW08035EL02**	★	*35*	*18.6*	*32*	*60*	*210*	*2*	*1.21*	1
Metric	**DMSW08040EL03**	★	*40*	*23.5*	*32*	*60*	*210*	*3*	*1.22*	1
Metric	**DMSW08050EL03-42**	★	*50*	*33.4*	*42*	*50*	*250*	*3*	*2.54*	1
Metric	**DMSW08063EL04-42**		*63*	*46.4*	*42*	*50*	*250*	*4*	*2.68*	1

Inserts are sold separately.

●: USA Stocked Item
★: Worldwide Warehouse Item
Blank: Made-to-order item

■ Parts

Flat Insert Screw		Integrated Wrench	Anti-seize Cream
BFTX0513IP	5.0	TRDR20IP	SUMI-P

N·m Recommended Tightening Torque (N·m)

■ Identification Code - Inch

DMSW 3 2000 EW 03

DMSW	3	2000	EW	03
Series	Insert Series	Cutter Dia.	Shank Type "Weldon"	Number of Teeth

■ Identification Code - Metric

DMSW 08 050 E L 03 - 42

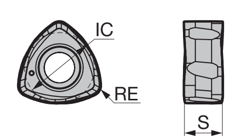
DMSW	08	050	E	L	03	42
Series	Insert Size	Max. Dia.	Shank Type	Long Type	Number of Teeth	Shank Dia.

■ Insert

Dimensions (Inch)

Grade Classification		Coated Carbide										
Process	High-speed / Light		P		K							
	General-purpose	P K M H		P		K	M S	M S				
	Roughing	P K M H		P		K		M S				
Cat. No.		ACU2500	ACP2000	ACP3000	ACK2000	ACK3000	ACS2500	ACS3000	Inscribed Circle IC	Thickness S	Corner Radius RE	Fig
WNMU0807ZNER-G		●	★	●			●	●	.512	.2756	.063	1
WNMU0807ZNER-H		●	★	●			●	●	.512	.2756	.063	1

Fig 1

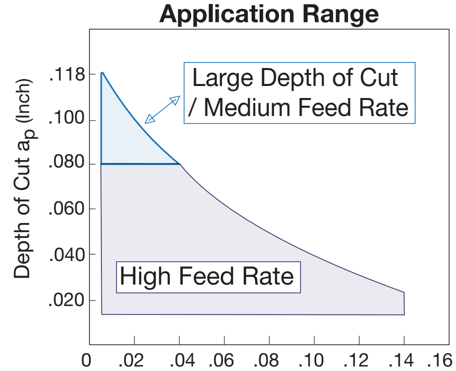


■ Recommended Cutting Conditions

ISO	Material	Hardness	Cutting Speed v_c (SFM)	Feed Rate Fz (IPT)
P	General Steel	Below 280HB	365 - 900	0.025 - 0.138
P	Alloy Steel	Below 280HB	365 - 720	0.025 - 0.090
P	Alloy Steel	Below 42HRC	365 - 650	0.025 - 0.050
M	Stainless Steel	—	330 - 550	0.025 - 0.050
K	Cast Iron	—	365 - 900	0.025 - 0.080
H	Hardened Steel	Below 52HRC	330 - 430	0.012 - 0.030

Note
- The above figures are guidelines for use with CAT50, BT50, and HSK100A machine tools at depth of cut (a_p) of .060".
- The above recommended cutting conditions may require adjustment depending on machine rigidity, workpiece rigidity and projection.

Application Range

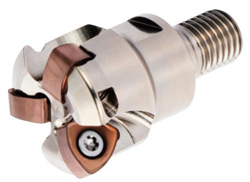


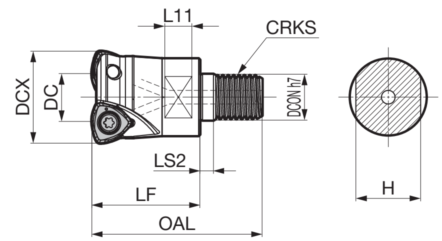
Precaution:
- Please adjust axial depth of cut (ap) based on the feed rate (IPT).
- Do not exceed the recommended depth of cut based on the feed rate (IPT).

Rake Angle	Radial	-11° to -13°
	Axial	-6°

.1181 75°　3mm 75°

Fig 1





■ Modular Head

Dimensions (inch / *mm*)

Cat. No.	Stock	Max. Dia. DCX	Dia. DC	Mounting Dia. DCON	Screw CRKS	Overall Length OAL	Effective Length LF	Length LS2	Chamfer L11	Width H	Number of Teeth	Weight (lb / *kg*)	Fig
DMSW31500M16Z3	●	1.500	0.852	0.669	M16	2.480	1.575	0.197	0.472	0.945	3	0.441	1
DMSW08035M16Z2	★	*35*	*18.6*	*17*	*M16*	*63*	*40*	*5*	*10*	*24*	*2*	*0.19*	1
DMSW08040M16Z3	★	*40*	*23.5*	*17*	*M16*	*63*	*40*	*5*	*10*	*24*	*3*	*0.21*	1
DMSW08042M16Z3		*42*	*25.5*	*17*	*M16*	*63*	*40*	*5*	*10*	*24*	*3*	*0.23*	1

Inserts are sold separately.

■ Parts

Flat Insert Screw		Integrated Wrench	Anti-seize Cream
BFTX0513IP	5.0	TRDR20IP	SUMI-P

N·m Recommended Tightening Torque (N·m)

■ Identification Code - Inch

DMSW	3	1500	M16	Z3
Series	Insert Series	Cutter Dia.	Mounting Screw Size	Number of Teeth

■ Identification Code - Metric

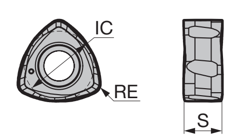
DMSW	08	040	M16	Z3
Series	Insert Size	Max. Dia.	Mounting Screw Size	Number of Teeth

■ Insert

Dimensions (*mm*)

Grade Classification		Coated Carbide										
Process	High-speed / Light		P		K							
	General-purpose	PKMH		P		K	MS	MS				
	Roughing	PKMH		P		K		MS				
Cat. No.		ACU2500	ACP2000	ACP3000	ACK2000	ACK3000	ACS2500	ACS3000	Inscribed Circle IC	Thickness S	Corner Radius RE	Fig
WNMU0807ZNER-G		●	★	●			●	●	.512	.2756	.063	1
WNMU0807ZNER-H		●	★	●			●	●	.512	.2756	.063	1

Fig 1



■ Recommended Cutting Conditions

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P	General Steel	Below 280HB	365 - 900	0.025 - 0.138
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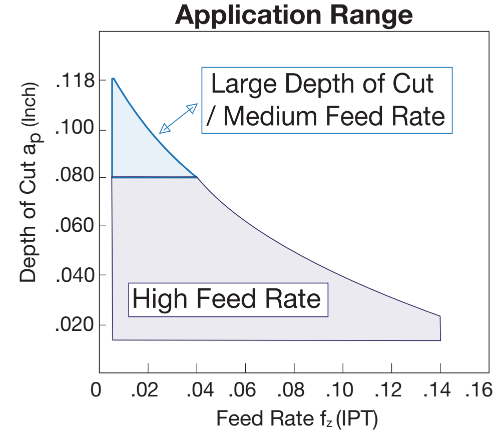
H	Hardened Steel	Below 52HRC	330 - 430	0.012 - 0.030

Note
- The above figures are guidelines for use with CAT50, BT50, and HSK100A machine tools at depth of cut (a_p) of .060".
- The above recommended cutting conditions may require adjustment depending on machine rigidity, workpiece rigidity and projection.

Application Range

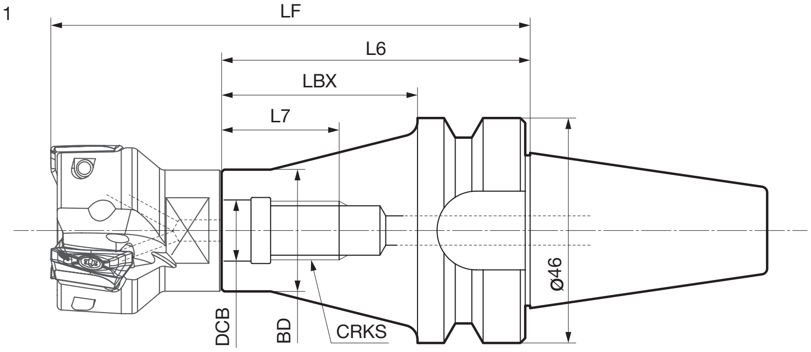


Precaution:
- Please adjust axial depth of cut (ap) based on the feed rate (IPT).
- Do not exceed the recommended depth of cut based on the feed rate (IPT).

● : USA Stocked Item　★: Worldwide Warehouse Item　Blank: Made-to-order item

Modular Tools Special Arbor (BBT Integrated Type)

Fig 1



■ BBT Integrated Arbor

Dimensions (*mm*)

Cat. No.	Stock	Screws CRKS	Bore Dia. DCB	External BD	Body Overhang L6	Length LBX	Thread Depth L7	Overhang LF*1	Coolant Hole	Fig
BBT30-M16-35	★	M16	*17*	*31.9*	*58*	*35*	*24*	*98*	Yes	1

*1 Overhang length for LF is with head mounted.
Can also be used with BT30 spindle machines.

Modular Tools - Special Arbors (Carbide Arbors / Steel Arbors)

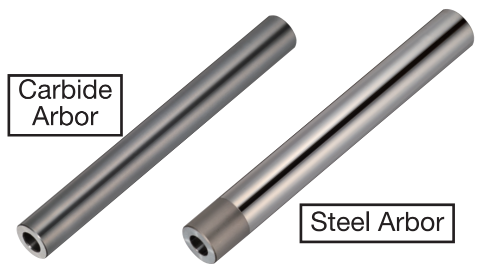
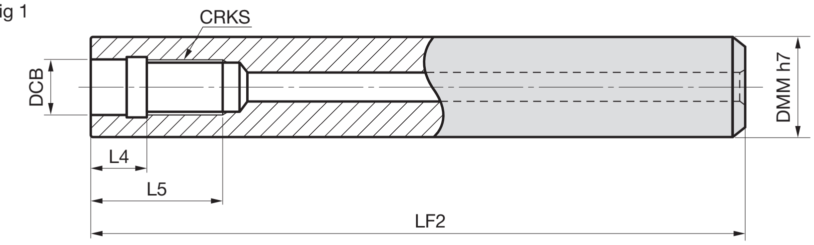


Fig 1



■ Carbide Arbor

Dimensions (*mm*)

Cat. No.	Stock	Screw CRKS	Bore Dia. DCB	Shank DMM	Overall Length LF2	Depth L4	Thread Depth L5	Overhang LF*2	Fig
MA28M16L200C	★	M16	*17*	*28*	*200*	*10*	*24*	*240*	1
MA28M16L300C	★	M16	*17*	*28*	*300*	*10*	*24*	*340*	1
MA32M16L200C	★	M16	*17*	*32*	*200*	*10*	*24*	*240*	1
MA32M16L300C	★	M16	*17*	*32*	*300*	*10*	*24*	*340*	1

●: USA Stocked Item ★: Worldwide Warehouse Item

■ Steel Arbor

Dimensions (inch / *mm*)

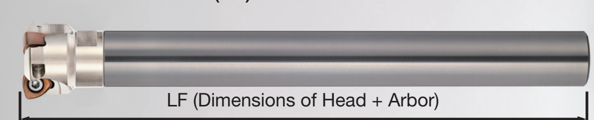
Cat. No.	Stock	Screw CRKS	Bore Dia. DCB	Shank DMM	Overall Length LF2	Depth L4	Thread Depth L5	Overhang LF*2	Fig
MA1000M16L800S	●	M16	.669	1.000	8.000	.393	.944	9.575	1
MA1250M16L800S	●	M16	.669	1.250	8.000	.393	.944	9.575	1
MA32M16L200S	★	M16	*17*	*32*	*200*	*10*	*24*	*240*	1

■ Identification Code

MA 32 M16 L200 C

- MA: Series
- 32: Shank Dia. 1.000"
- M16: Mounting Screw Size
- L200: Arbor Overall Length 8.000"
- C: Arbor Materials — C: Carbide, S: Steel

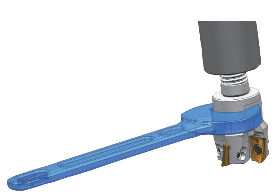
● Set Dimensions (*2)

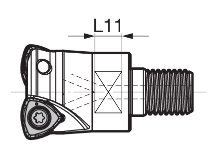


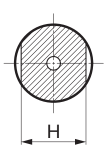
Recommended Tightening Torque (N·m)

* Caution when tightening the head.

· When mounting the head to an arbor, follow the standard tightening torque in the table below.
· Check the mounting screw size for the head and arbor beforehand.

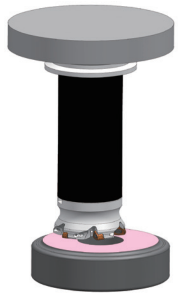


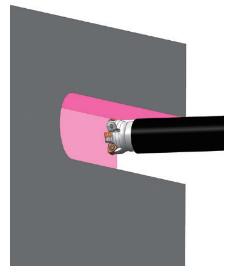


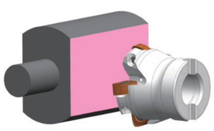


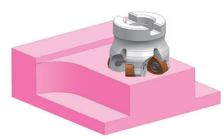
Screw Size	Regulated Tightening Torque k (N·m)	Tool Dimensions	
		L11	H
M16	90	*10*	*24*

■ Application Examples

Cast Steel Machine Component		Sumitomo	Competitor's Product
Horizontal Machining Center: BT50 	Tool	DMSW08080RS06	Single-Sided, 2 Corners
	Grade	ACU2500	—
	Chipbreaker	G	—
	Cutter Dia. (inch)	3.15 *(80mm)*	3.15 *(80mm)*
	Number of Teeth	6	5
	v_c (SFM)	262	262
	v_f (IPM)	35	35
	f_z (IPT)	.0185	.022
	a_p(Inch)	.039	.039
	a_e(inch)	2.36	2.36
	Coolant	Wet	Wet
	Results	Machining without chatter for castings with low clamp rigidity. Stability with no sudden fractures in mill-scale work, achieving 1.3x longer tool life.	

Carbon Steel S45C Machine Component		Sumitomo	Competitor's Product
Boring Machine BT50 	Tool	DMSW08050RS05	Single-Sided, 4 Corners
	Grade	ACU2500	—
	Chipbreaker	G	—
	Cutter Dia. (inch)	1.97	1.97
	Number of Teeth	5	5
	v_c (SFM)	620	620
	v_f (IPM)	197 (50mm)	197 (50mm)
	f_z (IPT)	0.033	0.033
	a_p(Inch)	0.039	0.039
	a_e(inch)	1.97	1.97
	Coolant	Dry	Dry
	Results	Effective without chatter when using a 200mm long arbor. Achieves roughing (240min) of large workpieces without indexing the inserts.	

Tempered Steel SCM440 (40HRC) Machine Component		Sumitomo	Competitor's Product
Horizontal Machining Center: BT50 	Tool	DMSW08050RS04	Single-Sided, 3 Corners
	Grade	ACU2500	—
	Chipbreaker	G	—
	Cutter Dia. (inch)	1.97" (50mm)	1.97" (50mm)
	Number of Teeth	4	4
	v_c (SFM)	689	689
	v_f (IPM)	229	229
	f_z (IPT)	0.043	0.043
	a_p(Inch)	0.059	0.059
	a_e(inch)	0.984	0.984
	Coolant	Dry	Dry
	Results	Stable machining without chipping is possible with heat-treated part material.	

Ductile Cast Iron Machine Component		Sumitomo	—
Vertical 5-axis Machining Center BT40 	Tool	DMSW08050RS05	—
	Grade	ACU2500	—
	Chipbreaker	G	—
	Cutter Dia. (inch)	1.97 (50mm)	—
	Number of Teeth	5	—
	v_c (SFM)	689	—
	v_f (IPM)	207	—
	f_z (IPT)	0.031	—
	a_p(Inch)	0.039	—
	a_e(inch)	1.18	—
	Coolant	Dry	—
	Results	Smooth and stable machining with low-rigidity equipment. Minimal insert damage after cutting for 220 minutes.	

SUMITOMO
CARBIDE - CBN - DIAMOND

DMSW PRODUCT PAGE

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