

High-Productivity High-Feed Cutters for Rough Milling

DMSL / DMSW

ULTRA-HIGH FEED RATES!

Promo Code: DMS24

Buy (10) inserts per pocket
Get (1) cutter FREE

Ends 09/30/24

Ready to Create
New Standards



DMSL / DMSW Series



General Features and Benefits

- DMSW & DMSL inserts provide a compound arc-shape cutting edge which allows for feed rates up to 0.138" IPT.
- Cutting forces are reduced due to a large lead angle which promotes stable machining in long projection applications.
- Introducing the DMSL series for smaller diameters starting at 0.625".

Milling Cutter Product Range (mm)

Type	Product Code	Diameters Available (mm)																				
		ø16	ø18	ø20	ø22	ø25	ø26	ø28	ø30	ø32	ø35	ø40	ø42	ø50	ø52	ø63	ø66	ø80	ø85	ø100	ø125	ø160
Shell Mill	DMSL06000RS										5 6		5 8	8	8	8	9					
	DMSL06000R												5 8		8							
	DMSW08000RS												4 5	4 5	4 5 6	5 6	6 8	6 8	6	8	10	
	DMSW08000R Inch Arbor												4 5		4 5 6		6 8		6	8	10	
Endmill	DMSL06000E	2	2	3 4	3 4	4 5		4 5	5	5 6	5	6										
	DMSL06000EL	2	2	3	3	4		4	5	5	5	6										
	DMSW08000E										2	3	3	4								
	DMSW08000EL										2	3	3	4								
Modular	DMSL06000M	2	2	3 4	3 4	4 5	4	4 5	5	5 6	5	6	6									
	DMSW08000M									2	3	3										

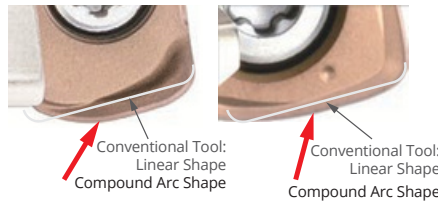
Milling Cutter Product Range (Inch)

Type	Product Code	Diameters Available (Inch)								
		ø.625	ø0.75	ø1.0	ø1.25	ø1.5	ø2.0	ø2.5	ø3.0	ø4.0
Shell Mill	DMSL20000R					5 6	5 8	8		
	DMSW30000R						4	4 6	6 7	8
Endmill	DMSL20000EW	2	3	4 5	5 6					
	DMSL20000ELC	2	3	4 5	5 6					
	DMSW30000EW					3	3			
	DMSW30000ELC					3				
Modular	DMSL20000M	2	3	4 5	5 6					
	DMSW30000M					3				

Inch Arbor Numbers inside are number of teeth * Different pilot diameters available

Insert Features

● The Compound arc-shape cutting edge is capable of a high feed up to 0.138" IPT at low axial depth of cuts.



Chipbreaker (DMSL)

Work	P M K S	P M K H	
Material	Low-rigidity Milling	General-purpose	Heavy Interrupted, High-Hardness
Applications	Low Cutting Force	General-purpose	High Strength
Features	L	G	H
Chipbreaker			
Cutting Edge	14°	10°	-4°
Cross Section	24°	24°	18°
Section	4-cornered	4-cornered	4-cornered

Chipbreaker (DMSW)

Work Material	P M K S	P M K H	
Applications	Low-rigidity Milling	General-purpose	Heavy Interrupted, High-Hardness
Features	Low Cutting Force	General-purpose	High Strength
Chipbreaker	L	G	H
Cutting Edge			
Cross Section	24°	24°	15°
Section	6-cornered	6-cornered	6-cornered

Grade Application Range

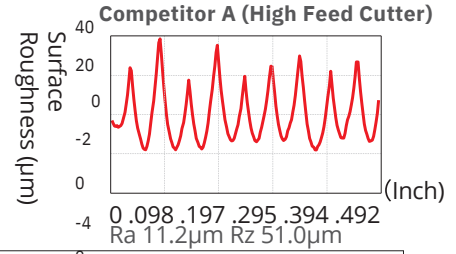
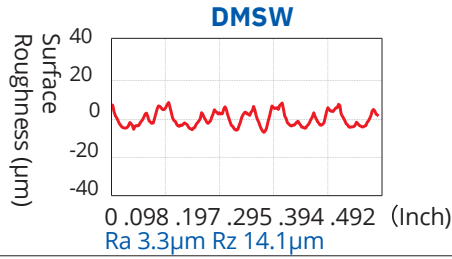
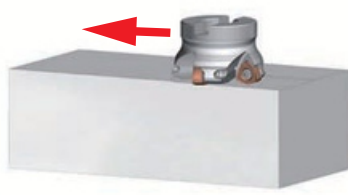
Work Material	Finishing to Light Cutting	Medium Cutting	Rough to Heavy Cutting
P Steel	ACU2500		
	ACP2000		
	ACP3000		
M Stainless Steel	ACU2500		
	ACS2500		
	ACS3000		
S Exotic Alloy	ACU2500		
	ACK2000		
	ACK3000		

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

DMSL / DMSW Series

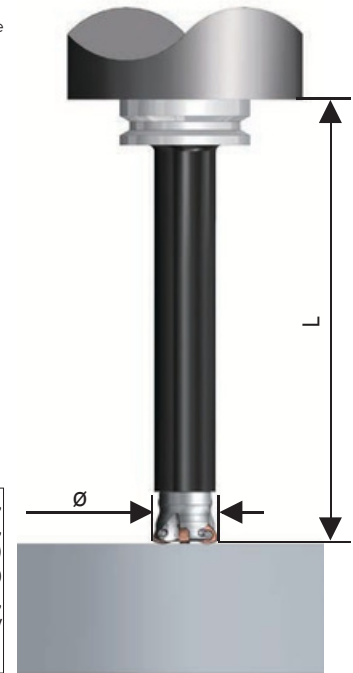
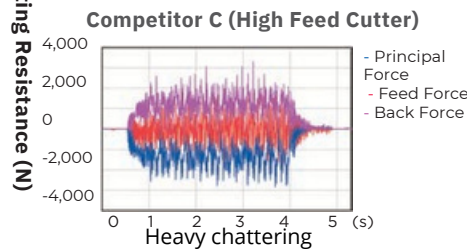
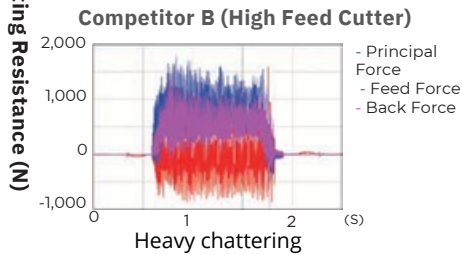
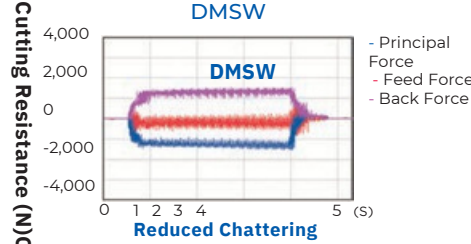
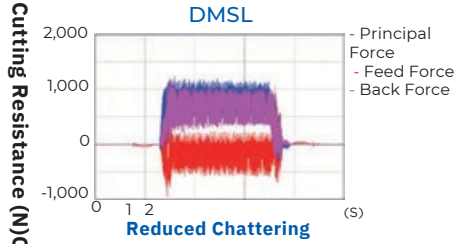


● Compared to conventional high feed mill cutter inert, DMSL and DMSW inserts provide improved surface finish due to the arc-shaped edge



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

■ Cutting Force Comparison

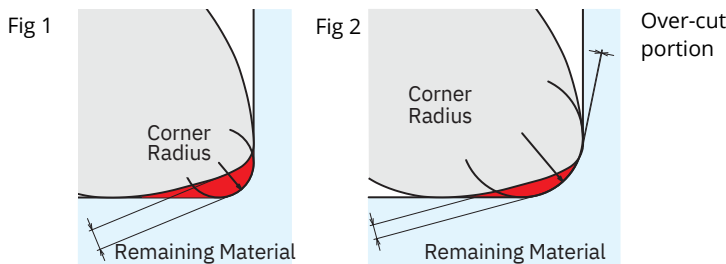


Machine: Vertical Machining Center BT50,
Part Material: 1050 Medium Carbon Steel,
Milling Cutter: DMSL06020E03 (ø20 3 teeth)
Insert: LNMU06T3ZNER-G-ACU2500
Cutting Conditions: vc= 525 SFM, fz= .0236 IPT, ap= .0315", ae= 0.787", L= 3.937, Dry

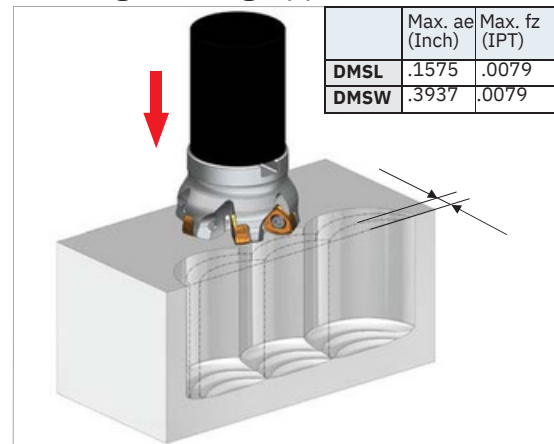
Machine: Vertical Machining Center BT50,
Part Material: 1050 Medium Carbon Steel,
Milling Cutter: DMSW08050RS04 (ø50 4 teeth)
Insert: WNMU0807ZNER-G-ACU2500
Cutting Conditions: vc= 525 SFM, fz= .0256 IPT, ap= .0315", ae= 1.772", L= 13.4", Dry

■ Precautions for Corner Finishing

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



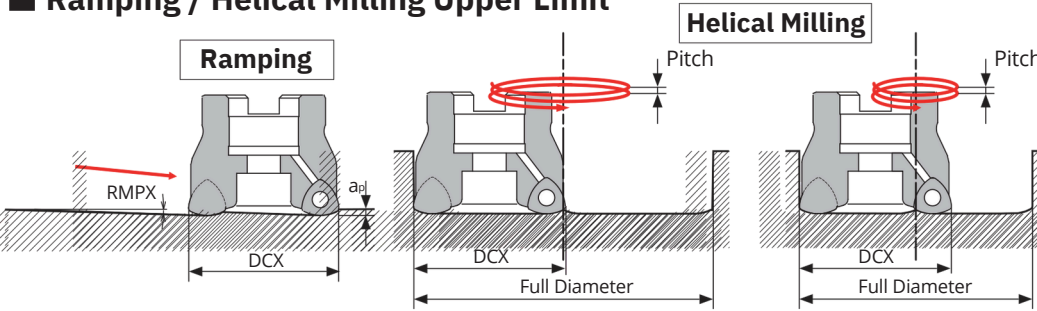
■ Plunge Cutting Upper Limit



DMSL (*Programmable Radius)			
Corner Radius (Inch)	Unmachined Surface	Over-Cut	Fig.
.0197	.0346	0	1
.0394	.0272	0	1
.0591*	.0213	0	1
.0787	.0161	.0008	2

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

■ Ramping / Helical Milling Upper Limit



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 center uncut portion cannot be removed with the same cutter.

DMSL

	Max. Dia. DCX (inch / mm)	Ramping		Helical Ramping				
		Max. Ramping Angle RMPX (°)	Max. Machining Dia. (Inch/mm)	Max Pitch	Standard Diameter (Inch)	Max Pitch	Min. Machining Dia. (Inch / mm)	Max Pitch
Inch	0.625	0.6	1.224	0.024	0.949	0.019	0.929	0.010
	0.750	1.0	1.472	0.039	1.197	0.024	1.134	0.019
	1.000	0.9	1.972	0.039	1.693	0.035	1.602	0.019
	1.250	0.7	2.472	0.039	2.193	0.035	2.091	0.019
	1.500	0.6	2.972	0.039	2.693	0.039	2.575	0.019
	2.000				Not recommended			
	2.500				Not recommended			
Metric	16	0.6	31.3	0.6	24.4	0.3	23.8	0.25
	18	0.8	35.3	0.8	28.3	0.4	27.2	0.3
	20	1.0	39.3	1.0	32.3	0.6	30.5	0.3
	22	1.0	43.3	1.0	36.3	0.7	34.3	0.3
	25	1.0	49.3	1.0	42.3	0.9	39.9	0.3
	26	1.0	51.3	1.0	44.3	0.9	41.8	0.3
	28	0.9	55.3	1.0	48.2	0.9	45.7	0.3
	30	0.8	59.3	1.0	52.2	1.0	49.6	0.3
	32	0.7	63.3	1.0	56.2	1.0	53.6	0.3
	35	0.6	69.3	1.0	62.2	1.0	59.5	0.3
	40	0.5	79.3	1.0	72.2	1.0	69.6	0.3
	42	0.5	83.3	1.0	76.2	1.0	73.5	0.3
	50				Not recommended			
	52				Not recommended			
	63				Not recommended			
66				Not recommended				
80				Not recommended				

DMSW

	Max. Dia. DCX (inch / mm)	Ramping		Helical Ramping				
		Max. Ramping Angle RMPX (°)	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	0.5	69.3	1.3	53.5	0.5	52.0	0.5
	40	0.8	79.3	2.0	63.4	1.0	60.2	0.5
	42	0.8	83.3	2.0	67.4	1.0	63.9	0.5
	50	1.4	99.3	2.0	83.3	2.0	79.1	1.0
	52	1.4	103.3	2.0	87.3	2.0	82.8	1.0
	63	1.2	125.3	2.0	109.3	2.0	103.6	1.0
	66	1.2	131.3	2.0	115.3	2.0	109.4	1.0
	80	1.2	159.3	2.0	143.2	2.0	134.0	1.0
	85	1.2	169.3	2.0	153.2	2.0	144.0	1.0
	100	0.8	199.3	2.0	183.2	2.0	174.0	1.0
	125				Not recommended			
160				Not recommended				