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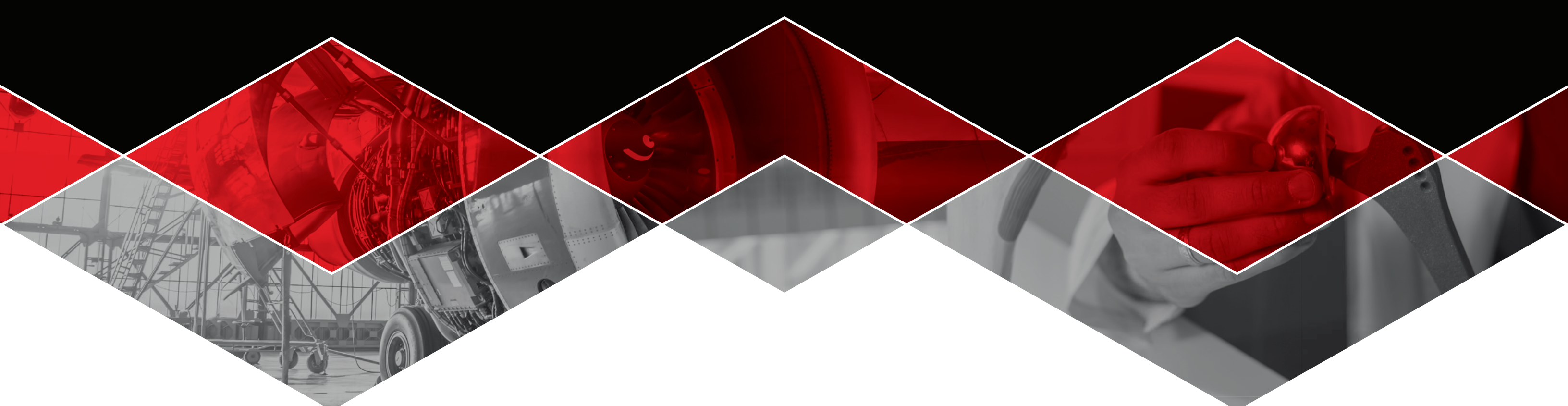
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 MITSUBISHI MATERIALS U.S.A.

## MEMSS SERIES END MILL

DYNAMIC SOLID CARBIDE END MILL  
FOR HIGH EFFICIENCY MILLING (HEM)



# MEMSS SERIES END MILL

## DYNAMIC SOLID CARBIDE END MILL FOR HIGH EFFICIENCY MILLING (HEM)

The MEMSS features variable helix and variable pitch design for reduced harmonics. Reduced cycle time results in higher metal removal rates. The MEMSS end mills feature an AlCrN coating which allows long, predictable tool life in milling applications involving high temperatures and abrasive workpiece materials, such as titanium and ph stainless steels. This is ideal for trochoidal milling applications in medical and aerospace industries.



### FEATURES

- Variable helix and variable pitch design for reduced harmonics
- Made from Premium Micro Grain Carbide
- Excellent performance in light profiling, High Efficiency Milling (HEM), and finishing applications

### BENEFITS

- Reduced harmonics
- Higher metal removal rates
- Improved cycle time

### OUTCOMES

- Reliable and long tool life
- Economical efficiency



# MEMSS 5 Flute • Corner Radius

High-Performance Solid End Mill for cutting all types of materials

Major Dimensions							
EDP	Item No.	DC	APMX	LF	Radius	DCON	Flute
62146753	MEMSS5-0250-0625-R020	0.25	0.625	2.5	0.02	0.25	5
62146760	MEMSS5-0312-0750-R020	0.3125	0.75	2.5	0.02	0.3125	5
62146777	MEMSS5-0375-0875-R015	0.375	0.875	2.5	0.015	0.375	5
62109642	MEMSS5-0375-0875-R030	0.375	0.875	2.5	0.03	0.375	5
62146784	MEMSS5-0375-0875-R060	0.375	0.875	2.5	0.06	0.375	5
62146791	MEMSS5-0500-1250-R015	0.5	1.25	3	0.015	0.5	5
62146807	MEMSS5-0500-1250-R030	0.5	1.25	3	0.03	0.5	5
62146814	MEMSS5-0500-1250-R060	0.5	1.25	3	0.06	0.5	5
62146821	MEMSS5-0500-1250-R090	0.5	1.25	3	0.09	0.5	5
62146838	MEMSS5-0500-1250-R125	0.5	1.25	3	0.125	0.5	5
62146845	MEMSS5-0625-1250-R015	0.625	1.25	3.5	0.015	0.625	5
62146852	MEMSS5-0625-1250-R030	0.625	1.25	3.5	0.03	0.625	5
62146869	MEMSS5-0625-1250-R060	0.625	1.25	3.5	0.06	0.625	5
62146876	MEMSS5-0625-1250-R090	0.625	1.25	3.5	0.09	0.625	5
62146883	MEMSS5-0625-1250-R125	0.625	1.25	3.5	0.125	0.625	5
62146890	MEMSS5-0750-1500-R015	0.75	1.5	4	0.015	0.75	5
62146906	MEMSS5-0750-1500-R030	0.75	1.5	4	0.03	0.75	5
62146913	MEMSS5-0750-1500-R060	0.75	1.5	4	0.06	0.75	5
62146920	MEMSS5-0750-1500-R090	0.75	1.5	4	0.09	0.75	5
62146937	MEMSS5-0750-1500-R125	0.75	1.5	4	0.125	0.75	5
62146944	MEMSS5-1000-2000-R015	1	2	4.5	0.015	1	5
62146951	MEMSS5-1000-2000-R030	1	2	4.5	0.03	1	5
62146968	MEMSS5-1000-2000-R060	1	2	4.5	0.06	1	5
62146975	MEMSS5-1000-2000-R090	1	2	4.5	0.09	1	5
62146982	MEMSS5-1000-2000-R125	1	2	4.5	0.125	1	5

# MEMSS 6 Flute • Corner Radius

High-Performance Solid End Mill for cutting all types of materials

Major Dimensions							
EDP	Item No.	DC	APMX	LF	Radius	DCON	Flute
62178310	MEMSS6-0375-0875-R015	0.375	0.875	2.5	0.015	0.375	6
62109659	MEMSS6-0375-0875-R030	0.375	0.875	2.5	0.03	0.375	6
62178327	MEMSS6-0375-0875-R060	0.375	0.875	2.5	0.06	0.375	6
62178334	MEMSS6-0500-1250-R015	0.5	1.25	3	0.015	0.5	6
62109666	MEMSS6-0500-1250-R030	0.5	1.25	3	0.03	0.5	6
62178341	MEMSS6-0500-1250-R060	0.5	1.25	3	0.06	0.5	6
62178358	MEMSS6-0500-1250-R090	0.5	1.25	3	0.09	0.5	6
62178365	MEMSS6-0500-1250-R125	0.5	1.25	3	0.125	0.5	6
62178372	MEMSS6-0625-1250-R015	0.625	1.25	3.5	0.015	0.625	6
62178389	MEMSS6-0625-1250-R030	0.625	1.25	3.5	0.03	0.625	6
62178396	MEMSS6-0625-1250-R060	0.625	1.25	3.5	0.06	0.625	6
62178402	MEMSS6-0625-1250-R090	0.625	1.25	3.5	0.09	0.625	6
62178419	MEMSS6-0625-1250-R125	0.625	1.25	3.5	0.125	0.625	6
62178426	MEMSS6-0750-1500-R015	0.75	1.5	4	0.015	0.75	6
62178433	MEMSS6-0750-1500-R030	0.75	1.5	4	0.03	0.75	6
62178440	MEMSS6-0750-1500-R060	0.75	1.5	4	0.06	0.75	6
62178457	MEMSS6-0750-1500-R090	0.75	1.5	4	0.09	0.75	6
62178464	MEMSS6-0750-1500-R125	0.75	1.5	4	0.125	0.75	6
62178471	MEMSS6-1000-2000-R015	1	2	4.5	0.015	1	6
62178488	MEMSS6-1000-2000-R030	1	2	4.5	0.03	1	6
62178495	MEMSS6-1000-2000-R060	1	2	4.5	0.06	1	6
62178501	MEMSS6-1000-2000-R090	1	2	4.5	0.09	1	6
62178518	MEMSS6-1000-2000-R125	1	2	4.5	0.125	1	6

## APPLICATION EXAMPLE

### MEMSS5-0500-1250-R030

#### Mounting Plate

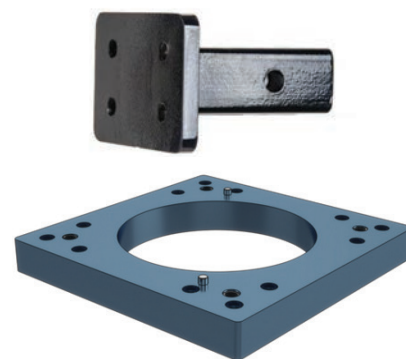
4140

#### Alloy Steel (P)

Roughing the ends of a 2.00" inch thick 4140 plate. Tool is removing an area of material roughly 4 inches wide x 2 inches thick x 1.250 long.

#### Cutting Conditions

Hardness	25 RC
Dia	0.5000
SFM	650
RPM	5000
IPM	125
DOC	1
WOC	0.06
MEMSS	20 PCS
Competitor	7 PCS



## APPLICATION EXAMPLE

### MEMSS6-0500-1250-R030

#### Armor Plate

AR500

#### Alloy Steel (P)

Customer was looking for a faster process to rough and finish the OD of his parts. The parts are 2.0" thick and the outside walls are flame cut, and need cleaned up, and finished. The MEM tool performed much better. It was larger in diameter and had a shorter gage length. This helped reduce the vibration more and was able to complete the part very quickly.

#### Cutting Conditions

Hardness	45 RC
Dia	0.5000
SFM	540
RPM	2750
IPM	132
DOC	1
WOC	0.025
MEMSS	3 PCS
Competitor	1 PCS



# MEMSS 7 Flute • Corner Radius


High-Performance Solid End Mill for cutting all types of materials


# MEMSS 5 • 6 • 7 Flutes • Square(0 Radius)

High-Performance Solid End Mill for cutting all types of materials

Major Dimensions							
EDP	Item No.	DC	APMX	LF	Radius	DCON	Flute
62178525	MEMSS7-0375-0875-R015	0.375	0.875	2.5	0.015	0.375	7
62109673	MEMSS7-0375-0875-R030	0.375	0.875	2.5	0.03	0.375	7
62178532	MEMSS7-0375-0875-R060	0.375	0.875	2.5	0.06	0.375	7
62178549	MEMSS7-0500-1250-R015	0.5	1.25	3	0.015	0.5	7
62109680	MEMSS7-0500-1250-R030	0.5	1.25	3	0.03	0.5	7
62178556	MEMSS7-0500-1250-R060	0.5	1.25	3	0.06	0.5	7
62178563	MEMSS7-0500-1250-R090	0.5	1.25	3	0.09	0.5	7
62178570	MEMSS7-0500-1250-R125	0.5	1.25	3	0.125	0.5	7
62178587	MEMSS7-0625-1250-R015	0.625	1.25	3.5	0.015	0.625	7
62178594	MEMSS7-0625-1250-R030	0.625	1.25	3.5	0.03	0.625	7
62178600	MEMSS7-0625-1250-R060	0.625	1.25	3.5	0.06	0.625	7
62178617	MEMSS7-0625-1250-R090	0.625	1.25	3.5	0.09	0.625	7
62178624	MEMSS7-0625-1250-R125	0.625	1.25	3.5	0.125	0.625	7
62178631	MEMSS7-0750-1500-R015	0.75	1.5	4	0.015	0.75	7
62178648	MEMSS7-0750-1500-R030	0.75	1.5	4	0.03	0.75	7
62178655	MEMSS7-0750-1500-R060	0.75	1.5	4	0.06	0.75	7
62178662	MEMSS7-0750-1500-R090	0.75	1.5	4	0.09	0.75	7
62178679	MEMSS7-0750-1500-R125	0.75	1.5	4	0.125	0.75	7
62178686	MEMSS7-1000-2000-R015	1	2	4.5	0.015	1	7
62178693	MEMSS7-1000-2000-R030	1	2	4.5	0.03	1	7
62178709	MEMSS7-1000-2000-R060	1	2	4.5	0.06	1	7
62178716	MEMSS7-1000-2000-R090	1	2	4.5	0.09	1	7
62178723	MEMSS7-1000-2000-R125	1	2	4.5	0.125	1	7

Major Dimensions						
EDP	Item No.	DC	APMX	LF	DCON	Flute
62197656	MEMSS5-0250-0625	0.25	0.625	2.5	0.25	5
62197663	MEMSS5-0312-0750	0.3125	0.75	2.5	0.3125	5
62197670	MEMSS5-0375-0875	0.375	0.875	2.5	0.375	5
62197687	MEMSS5-0500-1250	0.5	1.25	3	0.5	5
62197694	MEMSS5-0625-1250	0.625	1.25	3.5	0.625	5
62197700	MEMSS5-0750-1500	0.75	1.5	4	0.75	5
62197717	MEMSS5-1000-2000	1	2	4.5	1	5
62197724	MEMSS6-0375-0875	0.375	0.875	2.5	0.375	6
62197731	MEMSS6-0500-1250	0.5	1.25	3	0.5	6
62197748	MEMSS6-0625-1250	0.625	1.25	3.5	0.625	6
62197755	MEMSS6-0750-1500	0.75	1.5	4	0.75	6
62197762	MEMSS6-1000-2000	1	2	4.5	1	6
62197779	MEMSS7-0375-0875	0.375	0.875	2.5	0.375	7
62197786	MEMSS7-0500-1250	0.5	1.25	3	0.5	7
62197793	MEMSS7-0625-1250	0.625	1.25	3.5	0.625	7
62197809	MEMSS7-0750-1500	0.75	1.5	4	0.75	7
62197816	MEMSS7-1000-2000	1	2	4.5	1	7

<p>APPLICATION EXAMPLE</p> <p><b>MEMSS7-0500-1250-R030</b></p> <p><b>Bracket</b></p> <p><b>17-4</b></p> <p><b>Stainless Steel (M)</b></p> <p>MEMSS7 endmill cuts much smoother than competitors and was able to run fast and better tool life. 17-4 is not an easy material to cut and it worked great. Used to profile rough finish and to rough out a slot that was 1.1" deep and 1" long.</p>	<p><b>Cutting Conditions</b></p> <p>Hardness 38 RA</p> <p>Dia 0.5000</p> <p>SFM 300</p> <p>RPM 2300</p> <p>IPM 32</p> <p>DOC 1.1</p> <p>WOC 0.03</p> <p>MEMSS 255 PCS</p> <p>Competitor 110 PCS</p>	
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<p>APPLICATION EXAMPLE</p> <p><b>MEMSS5-0312-0750</b></p> <p><b>AR Trigger</b></p> <p><b>8620 Cast</b></p> <p><b>Alloy Steel (P)</b></p> <p>Great improvement to surface finish and extra tool life.</p>	<p><b>Cutting Conditions</b></p> <p>Hardness 28RC</p> <p>Dia .3125</p> <p>SFM 825</p> <p>RPM 10,100</p> <p>IPM 190</p> <p>DOC .290</p> <p>WOC .025</p> <p>MEMSS 1440 PCS</p> <p>Competitor 960 PCS</p>	
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**For Your Safety**

- Don't handle inserts and chips without gloves.
- Please machine within the recommended application range and exchange expired tools with new ones in advance of breakage.
- Please use safety covers and wear safety glasses.
- When using compounded cutting oils, please take fire precautions.
- When attaching inserts or spare parts, please use only the correct wrench or driver.
- When using rotating tools, please make a trial run to check run-out, vibration and abnormal sounds etc.



[www.mmus-carbide.com](http://www.mmus-carbide.com)

Tools specifications subject to change without notice.

MEMSS-US-2020.11



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