

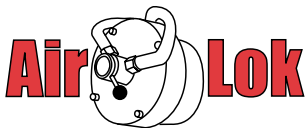
**1.000" I.D. to 5.000" O.D. (25.4 to 127.0 mm)**

**Reliable Performance**

The model MS delivers optimum power in a compact design. This combination makes it an ideal power unit for a variety of standard and custom applications. As a beveling tool, it machines small to mid-sized tubes and pipes with heavy walls and/or hard alloy materials up to 5.000" (127.0 mm) O.D. Standard and specialty tooling is available to perform accurate O.D. and I.D. beveling, stub removal from headers, seal-weld removal and even fin removal.

The excellent power-to-weight ratio and reliable performance of the MS enables us to use it as a power unit for other applications. Install a custom J-prep tool holder and mill accurately for orbital welding. Install a precision flange facer and you can place any of a variety of finishes to clean and square flanges.

The AirLock option can also be added. This time-saving product locks and unlocks the tool instantly with the flip of a valve to dramatically cut large volume job times.



- **Machines Accurate J-Preps For Orbital Welding Projects**
- **Fast Stub Removal From Headers**
- **Flange Facing Attachment Adds Versatility**
- **Hand Hole Cap Removal**
- **Fin Removal**

**Specifications\***

Working Range .....	1.000" (25.4 mm) I.D. to 5.000" (127.0 mm) O.D.
Pneumatic Motor .....	0.9 H.P. (.66 kW)
Recommended Air Pressure .....	90 PSI (6.1 Bar)
Recommended Volume .....	38 CFM (1.1 m <sup>3</sup> /min.)
Speed .....	100 RPM
Electric Motor .....	1.5 H.P. (1.1 kW), 120/230 V, 10.0A
Speed (2 speed) .....	98 or 176 RPM
Minimum Working Clearance .....	4.000" (101.6 mm) X 15.000" (381.0 mm)
Weight, Pneumatic .....	21.0 lbs. (9.5 kg)
Length, Pneumatic.....	18.000" (457.2 mm)
Weight, Electric.....	20.0 lbs. (9.1 kg)
Length, Electric.....	18.000" (457.2 mm)

## Fixed Tool Holder



### Fixed Tool Holder

4.000" (101.6 mm) Tool Holder



1.000" (25.4 mm) I. D. to  
3.250" (82.6 mm) O.D.

5.500" (127.0 mm) Tool Holder



1.875" (47.6 mm) I. D. to  
5.000" (127.0 mm) O.D.

4.000" (101.6 mm) Tool Holder



1.750" (44.5 mm) I. D. to  
4.000" (101.6 mm) O.D.

5.500" (127.0 mm) Tool Holder



2.625" (66.7 mm) I. D. to  
5.625" (142.9 mm) O.D.

### Sliding Tool Holder

4.000" (101.6 mm) Tool Holder



1.000" (25.4 mm) I.D. to  
4.000" (101.6 mm) O.D.

5.500" (127.0 mm) Tool Holder



1.000" (25.4 mm) I.D. to  
5.500" (139.7 mm) O.D.

## Sliding Tool Holder



### Fixed Tool Holder

4.000" (101.6 mm) Tool Holder



1.000" (25.4 mm) I.D. to  
3.250" (82.6 mm) O.D.

5.500" (127.0 mm) Tool Holder



2.000" (50.8 mm) I.D. to  
5.000" (127.0 mm) O.D.

4.000" (101.6 mm) Tool Holder



1.750" (44.5 mm) I.D. to  
4.000" (101.6 mm) O.D.

5.500" (127.0 mm) Tool Holder



2.625" (66.7 mm) I.D. to  
5.625" (142.9 mm) O.D.

### Sliding Tool Holder

4.000" (101.6 mm) Tool Holder



1.000" (25.4 mm) I.D. to  
4.000" (101.6 mm) O.D.

5.500" (127.0 mm) Tool Holder



1.000" (25.4 mm) I.D. to  
5.500" (139.7 mm) O.D.



## Internal locking

There are two internal locking systems for torque-free operation, enhancing operator safety and productivity.



### I.D. Range

Wedge Sets	Inches	MM	Rod/ Shaft Cone
1.000	1.000 - 1.250	25.4 - 31.8	.875
1.250	1.250 - 1.625	31.8 - 41.3	1.250
1.625	1.625 - 2.000	41.3 - 50.8	1.250
2.000	2.000 - 2.375	50.8 - 60.3	1.250
2.375	2.375 - 2.750	60.3 - 69.9	1.250
2.750	2.750 - 3.125	69.9 - 79.4	1.250
3.125	3.125 - 3.500	79.4 - 88.9	1.250
3.500	3.500 - 3.875	88.9 - 98.4	1.250
3.875	3.875 - 4.250	98.4 - 108.0	1.250
4.250	4.250 - 4.625	108.0 - 117.5	1.250
4.625	4.625 - 5.000	117.5 - 127.0	1.250



### I.D. Range

Collet Size	Inches	MM	Rod/ Shaft
1.000	1.000 - 1.125	25.4 - 28.6	7°
1.125	1.125 - 1.250	28.6 - 31.8	7°
1.250	1.250 - 1.375	31.8 - 34.9	10°
1.375	1.375 - 1.500	34.9 - 38.1	10°
1.500	1.500 - 1.625	38.1 - 41.3	10°
1.625	1.625 - 1.750	41.3 - 44.5	10°
1.750	1.750 - 1.875	44.5 - 47.6	10°
1.875	1.875 - 2.000	47.6 - 50.8	10°
2.000	2.000 - 2.125	50.8 - 53.9	10°
2.125	2.125 - 2.250	53.9 - 57.2	10°
2.250	2.250 - 2.375	57.2 - 60.3	10°
2.375	2.375 - 2.500	60.3 - 63.5	10°
2.500	2.500 - 2.625	63.5 - 66.7	10°
2.625	2.625 - 2.750	66.7 - 69.9	10°
2.750	2.750 - 2.875	69.9 - 73.0	10°
2.875	2.875 - 3.000	73.0 - 76.2	10°
3.000	3.000 - 3.125	76.2 - 79.4	10°
3.125	3.125 - 3.250	79.4 - 82.6	10°
3.250	3.250 - 3.375	82.6 - 85.7	10°
3.375	3.375 - 3.500	85.7 - 88.9	10°
3.500	3.500 - 3.625	88.9 - 92.1	10°
3.625	3.625 - 3.750	92.1 - 95.3	10°
3.750	3.750 - 3.875	95.3 - 98.4	10°
3.875	3.875 - 4.000	98.4 - 101.6	10°
4.000	4.000 - 4.125	101.6 - 104.8	10°
4.125	4.125 - 4.250	104.8 - 108.0	10°
4.250	4.250 - 4.375	108.0 - 111.1	10°
4.375	4.375 - 4.500	111.1 - 114.3	10°
4.500	4.500 - 4.625	114.3 - 117.5	10°
4.625	4.625 - 4.750	117.5 - 120.7	10°
4.750	4.750 - 4.875	120.7 - 123.8	10°
4.875	4.875 - 5.000	123.8 - 127.0	10°

# MSJ / J-preps

## Precise J-Prep Tooling

The precision J-prep tool holder combines accuracy with ease-of-use and maximum efficiency.

The tool holder positions the tooling for a .030" (.76 mm) land depth. The beveled tool can be adjusted a full .250" (6.4 mm) to create the optimum land dimension for your orbital welding application.

Once the tool is set, the replaceable carbide inserts enable the operator to change tooling without disturbing your cutter settings.

Special insert holders can be custom manufactured to match the specific bevel angle you need. Contact your H&S representative or the factory to discuss your special application needs.

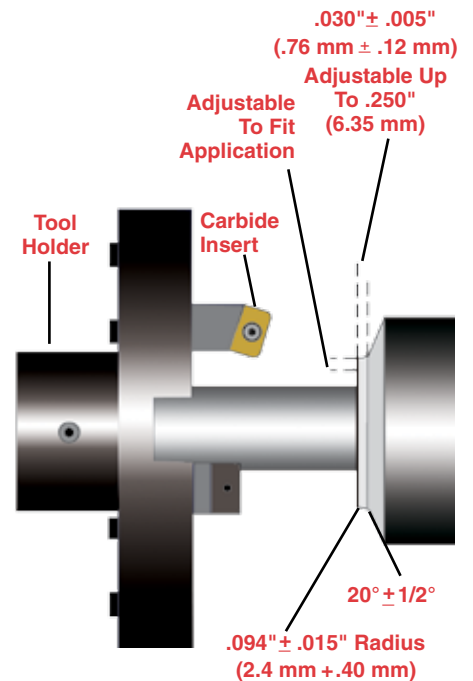


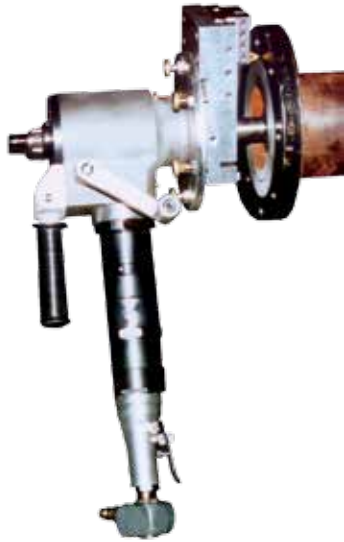
The model MSJ delivers the accuracy you need to place J-preps on tubes up to 4.500" (114.3 mm) O.D for orbital welding and other applications where accuracy is critical.



## Custom Tooling

The bevel cutter features a unique depth adjustment of up to .250" (6.4 mm) to allow creation of the land length you want.





## MSF Flange Facer

### Precision Controls

The MSF produces surface finishes from record-groove (500 RMS) to smooth 63 RMS. This is controlled with 6 individual trip pins. Each trip pin advances the tool .005" (.125 mm) per revolution. A maximum of .031" (.787 mm) travel is accomplished with all six pins engaged. The convenient crank feed produces a .083" (2.1 mm) axial travel per handle revolution. This allows the operator to accurately set the depth of cut to remove a minimum amount of material.

The variable speed control valve assures maximum efficiency and surface finish.

### Quality Tooling

Raised-face surface machining is accomplished with replaceable carbide insert tooling for reliable accuracy. For machining bolt hole patterns on raised-face or performing full resurfacing on flat-faced flanges, high quality, resharpenable tool steel tooling is required.

Now you can resurface flanges accurately with a portable tool. The light weight makes it easy to handle by a single worker while the high torque motor and patented gear sets deliver power and reliability.

### Versatile Working Range

Two insert holders (low and high range) are provided to cover the full working range. These assure the most compact package possible for working in tight areas.

### Specifications\*

Working Range.....	1.250" (31.8 mm) I.D. to 6.190" (157.2 mm) O.D.
Minimum Working	
Radial Clearance.....	6.000" (152.4 mm) X 15.000" (381.0 mm)
Weight .....	26.0 lbs. (11.8 kg)
Mandrel Weight.....	4.0 lbs. (1.8 kg)
Length.....	20.000" (508.0 mm)
Mandrel Length.....	13.000" (330.2 mm)
Tool Feed	
Rate.....	.005" (.125 mm) per pin, .031" (.787 mm)
Maximum	
Axial Feed.....	.083" (2.1 mm) per Feed Crank Revolution

\* Specifications are subject to change without notice.

## Elbow Mandrels

The accuracy to perform all of your critical tube machining projects is achieved with our elbow mandrels.

These mandrels accurately center and firmly lock our beveling tools in place to bevel, square and perform other end machining on elbows. They lock securely even in short-radius elbows with only a .500" (12.7 mm) minimum depth.



Size	Pin Length	I.D. Range	
		Inches	MM
A	0.594	1.750 – 2.000	44.5 – 50.8
B	0.719	2.000 – 2.250	50.8 – 57.2
C	0.844	2.250 – 2.500	57.2 – 63.5
D	0.969	2.500 – 2.750	63.5 – 69.9
E	1.094	2.750 – 3.000	69.9 – 76.2
F	1.219	3.000 – 3.250	76.2 – 82.6
G	1.344	3.250 – 3.500	82.6 – 88.9
H	1.469	3.500 – 3.750	88.9 – 95.3
I	1.594	3.750 – 4.000	95.3 – 101.6
J	1.719	4.000 – 4.250	101.6 – 108.0
K	1.844	4.250 – 4.500	108.0 – 114.3

The elbow mandrels are used for all flange facing applications starting at 1.750" (44.5 mm) I.D. Smaller tubes, 1.000" to 1.750" (25.4 – 44.5 mm) I.D., requires the collet locking system.



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