



## Precision Machining Capabilities

### Multi-Axis Machining

#### (9) Mori Seiki 5 Axis Super HiCell 250

Axis travel:	x = 23.6"	y = 6.0"	z = 39.5"	c = .001 deg	b = .001 deg
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Max turning diameter = 19.68" | Max turning diameter with live tool = 14.56"

Max turning length = 28.34" | Max swing over bed = 19.68"

#### (1) 4-axis Mori Seiki NLX2500Y/700

Axis travel:	x = 10.2"	y = 4.0"	z = 31.3"	C = .001 deg.
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Max turning diameter = 18.1" | Bar work capacity = 3.1"

Max turning length = 28.6" | Max swing over bed = 23.2"

#### (1) 4-axis Mori Seiki NLX1500/500

Axis travel	x = 10.2"	y = 4.0"	z = 23.2"	C = .001 deg.
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Max turning diameter = 15.1" | Bar work capacity = 2.0"

Max turning length = 20.2" | Max swing over bed = 25"

### Turning Centers

#### (1) Hardinge Precision Conquest T51

Axis travel	x = 7.76"	z = 25"	c = .001 deg.
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Max turning diameter = 12.35" | Bar work capacity = 2.0" | Live tooling

Max turning length = 23" | Max swing over bed = 26.5" | 12' bar feed

#### (1) Hardinge Conquest H51 Super-Precision

Axis travel	x = 7.75"	z = 28.15"	c = .001 deg.
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Max turning diameter = 12.34" | Bar work capacity = 2.0" | Live tooling

Max turning length = 27" | Max swing over bed = 27.87" | .00001 Resolution all axis

#### (1) Hardinge Precision Cobra 51

Axis travel	x = 7.75"	z = 25"	
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Max turning diameter = 8.25" | Bar work capacity = 2.0" | 12' bar feed

Max turning length = 14" | Max swing over bed = 21"

**(1) Hardinge Precision Cobra 42**

Axis travel	x = 7.75"	z = 14"	
Max turning diameter = 8.25"   Bar work capacity = 1.625"			
Max turning length = 14"   Max swing over bed = 21"			

**(1) Mazak Quickturn 30**

Axis travel	x = 7.75"	z = 14"	
Max turning diameter = 8.25"   Bar work capacity = 1.625"			
Max turning length = 14"   Max swing over bed = 21"			

**(1) Hitachi Seiki HVP20**

Axis travel	x = 8.2"	z = 15.75"	
Max turning diameter = 13.3"   Bar work capacity = 2.75"			
Max turning length = 24.8"   Max swing over bed = 17.7"			

Horizontal/Vertical Machining Centers**(1) 4-axis Mori Seiki NH4000 DCG Horizontal Machining Center**

Axis travel	x = 22"	y = 22"	z = 24.8"
(2) 400mm pallets   b = .001 degree indexing			

**(1) 4-axis Hitachi Seiki HC-400 Horizontal Machining Center**

Axis travel	x = 20"	y = 18"	z = 18"
(2) 400mm pallets with automatic shuttle system   1 degree indexing on B axis			

**(1) Mori Seiki DV-5100 Vertical Machining Center**

Axis travel	x = 41.3"	y = 20.9"	z = 20.1"
.001 degree indexing on A axis			

**(1) Hitachi Seiki VM40H Vertical Machining Center**

Axis travel	x = 22"	y = 16"	z = 16"
Programmable 4th axis index milling capability.			

### **(1) Mazak 16A Vertical Machining Center**

Axis travel	x = 30"	y = 16"	z = 16"
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Programmable 4th axis index milling capability.

### **(1) Hitachi Seiki VM40II Super Productive Vertical Machining Center**

Axis travel	x = 22.01"	y = 16.12"	z = 16.12"
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(2) pallet automatic shuttle system | indexing on A axis

## Gear Shaper

### **(1) Fellows 10-4 CNC Gear Shaper**

Max pitch diameter external = 10"	Max pitch diameter internal = 10"
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Max face width, external and internal = 4"

## Wire EDM

### **(1) FANUC C400IA Wire EDM Machine**

Axis travel	x = 14.6"	y = 10.6"	z = 10.2"
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Accurate to +/- .0001 | .00001 Resolution

## Laser Etching

### **(1) Trumpf TruMark Station 5000**

Axis travel	x = 11.8"	y = 11.8"	z = 19.6"
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Maximum workpiece dimensions = 26.7" x 19.68" x 27.5"

## Quality

### **(1) Zeiss Vista DCC CMM**

Axis travel	x = 16"	y = 20"	z = 14"
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Accuracy of .000005" | Calypso software and Renishaw MIP head

### **(1) Mitutoyo BH 506**

Axis travel	x = 20"	y = 24"	z = 16"
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Accuracy of .000007" | Geopack software and Renishaw MIP head

PH-A14 Optical Comparator with Quadra - chek 200  
Mitutoyo PH-350 Optical Comparator  
Rockwell Hardness Testing  
Company and Employee Gauge Calibration Program

Toolroom/Secondary Support Equipment

- (1) Millport 3KVHII mill
- (1) Millport 1620G engine lathe
- (1) Millport MSG-618bt surface grinder