

moore tool company

The Moore Tool Company, a leader in precision machine tool design and manufacture, produces a complete line of jig grinding machines and accessories.

The 500 Series Jig Grinder is available in three models (CPZ, CPZ-E and CPWZ) to address your specific precision grinding requirements. These CNC-controlled jig grinding machines have multiple, programmable axes (four simultaneously controlled) for complex two- and three-dimensional features.

Features

- Base assembly provides unmatched geometric accuracy and repeatability
- Fanuc multi-axis control and PC front-end with customized touchscreen user interface
- Moore ProGrind® for improved tool and labor cost savings

Moore ProGrind® Options

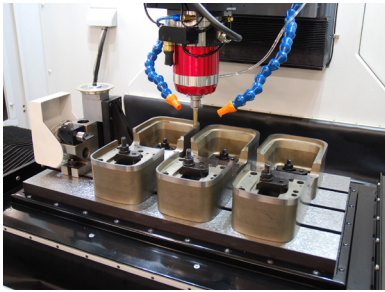
- State-of-the-art sensor technology (Moore AutoSize® and Moore AutoGrind)
- Automatic tool changer (up to 20 tools)
- Automatic tool changer electric spindle: 10,000 to 60,000 rpm
- Air spindles: 9,000 to 175,000 rpm (five spindles)
- Electric spindles: 15,000 to 80,000 rpm (three spindles)
- Flood coolant system with chiller
- Machine enclosure
- Single-axis or two-axis rotary tables
- Fire suppression system
- Vapor extraction system
- On-machine inspection/probing



Jig Grinder

500 Series

specifications



Moore ProGrind® Electric Grinding Spindle

With today's electric grinding spindle technology, constant torque is maintained throughout the speed range of 10,000 to 60,000 rpm. Superior spindle taper and high accuracy radial run-out, and repeatability tool to tool, helps ensure accuracy when using the 20 tool ATC. The hybrid ceramic ball bearings provide long life and less downtime.

Capacity

Table working surface	305 mm x 610 mm (12.0 x 24.0 in.)
Travel (X Axis)	500 mm (19.6 in.)
Travel (Y Axis)	300 mm (11.8 in.)
U-axis travel (programmable)	3,5 mm (0.140 in.)
U-axis travel (main coarse adjustment)	11 mm (0.43 inch) behind centerline of main spindle to 28,5 mm (1.125 inch) beyond center
Table top to U-axis mounting flange	280 mm to 762 mm (11.0 in. to 30.0 in.)
Table top to bottom of ATC electric grinding spindle	109,3 mm to 591,3 mm (4.28 in. to 23.28 in.)
W-axis spindle housing vertical travel	350 mm (13.8 in.)
Z-axis vertical slide travel	140 mm (5.5 in.)
Taper adjustment range	0 to 1.5° from centerline (3° included angle over full vertical travel.)
Grinding hole diameter range	0,4 to 127 mm (0.016 to 5.0 in.); or to 343 mm (13.5 in.) with optional extension plates
Load carrying capacity	300 kg (660 lbs)

Speeds and Feeds

Traverse speed: X, Y, W, Z axis	0,0001 – 2000 mm/min. (0.00001 – 80 in./min.)
Spindle speeds (planetary mode)	2 to 300 rpm
Air turbine and electric grinding spindle speeds	6,000 to 175,000 rpm
Reciprocation stroke rate (25,4 mm / 1 in.)	0 – 190 cycles/min.

Accuracy

Positioning Accuracy: Step Gauge

Deviation in full travel: X & Y axes	2,5 µm (100.0 µin.)
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Positioning Accuracy: VDI/DGQ 3441

Positional uncertainty P: X axis	2,0 µm (80.0 µin.)
Positional uncertainty P: Y axis	2,0 µm (80.0 µin.)
Positional uncertainty P: W axis ¹	2,0 µm (80.0 µin.)
Positional uncertainty P: Z axis ²	4,0 µm (160.0 µin.)
Positional deviation Pa: X axis	1,5 µm (60.0 µin.)
Positional deviation Pa: Y axis	1,5 µm (60.0 µin.)
Positional deviation Pa: W axis ¹	1,5 µm (60.0 µin.)
Positional deviation Pa: Z axis ²	3,0 µm (120.0 µin.)

Contouring Accuracy

X, Y & C at 250 mm/min., measuring a 200 mm (8 in.) ring gauge	3,0 µm (120.0 µin.)
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Geometric: Squareness (Full Travel)

X-axis table to Y-axis cross slide	0,8 µm (32.0 µin.)
Spindle housing to X-Y plane	2,0 µm (80.0 µin.)

Geometric: Alignment (Full Travel)

Total spindle travel: Parallelism of spindle centerline to column guideways	2,0 µm (80.0 µin.)
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(All statements concerning accuracy are based on calibration temperature of 20 +/- 0.5 degrees C [68 +/- 1.0 degrees F])

¹Not applicable to CPZ and CPZ-E Models

²Not applicable to CPZ Model



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