

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 two models (CPZ and CPWZ) to address your specific ultra-precision 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
- Flood coolant system with chiller
- Machine enclosure
- Single-axis or two-axis rotary tables
- Air spindles: 9,000 to 175,000 rpm (five spindles)
- Electric spindles: 15,000 to 80,000 rpm (three spindles)
- 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.) |
| 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 | 2,0 µm (80.0 µin.) |
| Positional uncertainty P: Z axis | 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 | 1,5 µm (60.0 µin.) |
| Positional deviation Pa: Z axis | 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.) |
| 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.) |

(All statements concerning accuracy are based on calibration temperature of 20 +/- 0.5 degrees C [68 +/- 1.0 degrees F])



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