

## **Technical Specifications – OKUMA MU-400VA**

OKUMA numerically controlled 5-axis machining center equipped with:

OKUMA OSP-E100M 3D-E-kit CNC control with graphical TFT color display.

CE marked execution compliant with EMC standards.

Machine Type:

MU-400VA with 2-axis high-speed trunnion rotary table

### **CNC Control – Okuma OSP-E100M:**

- TFT color display with graphical interface
- I-MAP conversational programming system
- 50 workpiece coordinate systems
- Programmable stroke limits for X and Y axes
- Simultaneous positioning and linear interpolation in X, Y and Z axes
- Circular interpolation in X-Y, Y-Z and Z-X planes
- Minimum programmable increment: 0.001 mm
- Program memory up to 256 kB
- Buffer memory: 128 kB
- On-the-fly program and offset modification during automatic operation
- Tool length offsets: 200
- Tool diameter offsets: 200
- Automatic cutter radius compensation (G40-G41-G42)
- Feedrate, rapid traverse and spindle speed override

- Fixed cycles (G73, G74, G76, G81–G87, G89)
- Repeat cycle
- Compensation for pitch errors and backlash
- Mirror function for X and Y axes
- Decimal point programming
- RS-232C serial interface
- NC power shutdown
- Pulse generator selectable for 3 axes
- Manual feed low/high/stop
- Self-diagnostic system
- Block search function
- Load monitor for main spindle motor

**Travels:**

- X-axis: 762 mm
- Y-axis: 460 mm
- Z-axis: 460 mm
- C-axis rotary table: 360°
- A-axis tilt: +20° to -110°

**Table:**

- Diameter: 400 mm
- Max load: 300 kg

**Spindle and Tool Changer (A-Type):**

- Spindle taper: ISO 40
- Tool system: BT40
- Spindle bearing diameter (front): 70 mm
- Spindle speed range: 50 – 8,000 rpm
- Spindle motor: 11 / 7.5 kW
- Torque: 198 Nm
- Full power from 750 rpm
- Tool magazine capacity: 20 tools
- Max tool diameter: 90 mm
- Max tool diameter (adjacent empty positions): 125 mm
- Max tool length: 240 mm
- Max tool weight: 8 kg
- Tool change time (tool-to-tool): 1.2 sec

**Feeds:**

- Rapid traverse X/Y: 40 m/min
- Rapid traverse Z: 32 m/min
- Cutting feed up to 32 m/min
- Axis drive motors (X, Y, Z): 4 kW each
- Ball screw diameter: 40 mm

**Machine Weight:**

- Approx. 7,700 kg

**High-Speed Spindle Option:**

- 50 – 15,000 rpm BT40 spindle
- 22 kW motor (199 Nm torque)
- Enlarged coolant system
- Spindle thermal growth compensation
- Tool magazine expanded to 32 tools

**Coolant Options:**

- High-capacity coolant pump 0.8 kW
- Coolant shower

**Chip Conveyor:**

- Automatic chip conveyor with 1,260 mm discharge height
- Hinged belt with scrapers, drum filter and large tank
- Suitable for cast iron and aluminum chips (Mayfran Consept 2000)

**Measuring Systems:**

- Automatic tool length and diameter measurement with Renishaw laser
- Tool breakage detection
- Renishaw MP10 workpiece probing system (BT40)

**Additional Control Options:**

- MOP adaptive control and overload protection

- Interactive probing cycles
- Automatic chamfering and corner rounding at any angle
- Sequence restart from interruption point
- DNC-DT500 up to 500 MB including T1 function
- Tool length offset expansion to 999
- Work offset expansion to 400 sets
- Prepared for automatic door installation
- 8 additional M-functions
- 4 media ports through the table for air or oil