ULTRA-PRECISION-TURNING MACHINE

**MTC 250**

**SPECIFICATIONS:**

**Control:**
Delta Tau Power PMAC

**CNC Axes:**
X, Z, and B, C

**LINEAR AXES:**

- Bearing design: Hydraulic oil bearing
- Drive system: 5-axis linear motor, 3-axis torque motor
- Travel: X- and Z-axis - 250 mm
- Speed: X- and Z-axis max. 5000 mm/min
- Top feed: 600 N/mm
- Linear encoder: Resolution ± 0.009 mm

**B-AXIS:**

- Bearing Type: Hydraulic oil bearing
- Drive System: Brushless DC motor
- Rotation angle: 360°
- Speed: max. 18 RPM

**MAIN SPINDLE (C-AXIS):**

- Bearing Type: Air bearing
- Drive system: DC servo motor
- Speed: Spindle max. 4000 RPM and 2350 RPM in C-axis mode
  - Optional max. 10000 RPM and 3000 RPM in C-axis mode
- Workpiece diameter: Ø 210 mm (Ø 350 mm with B-Axis or optional)

**OPTIONS:**

- Coolant for on/off mode / freewheel machining with dynamic axis system
- Tool tool axis
- Process monitoring camera
- Tool measuring system
- Workpiece surface measuring system
- Minimum quantity lubrication
- B-Axis
- Balancing Software
- 3D-touch probe
- etc.
The MTC series of machines (Micro Turning Center) was designed according to the needs of ultra-precision turning. By using diamond tools, optical surface quality can be achieved on a wide range of materials like crystals, metals and plastics. A lightweight construction of the moving parts enables the machine axes to be used in a dynamic mode. Thus, in combination with the C-Axis (option), allowing for the turning of non-rotationally symmetric / free-form workpieces.

The MTC 250 is based on a T-shaped natural granite bed. X- and Z-axis slides, as well as the housing of the main spindle are made of granite too. Both slides and the optional B-Axis use hydrostatic (oil) bearings. The main spindle features an air bearing and is mounted to the X-slide.

An optional tool setting camera can be mounted to the main spindle housing, using an industrial pallet system for the connection, to allow for an easy and accurate remounting. Tool holders and a mechanical interface for the in-process camera, as well as different measuring devices like 3D touch probes or LVDTs can be mounted to the Z-slide.

When using the rotary table (option), its faceplate is used to mount all the tooling and measurement equipment, offering additional capabilities to the system, such as using the B-axis as a tool turret. The rotary table can also be used to keep a constant cutting point on the tool (3-axis machining). Furthermore, the rotary B-axis can be used to selectively change the cutting point if the tool is worn out.

Besides many other accessories, that make the MTC 250 an all-purpose tool, there is the possibility to make customized solutions, to adopt the machine to your needs.

Please do not hesitate to contact us.