



ULTRA-PRECISION-MILLING MACHINE

MMC 5000

SPECIFICATIONS:

Control:	Delta Tau Power Pmac
CNC-axis:	X and Z, Y (optional), A, C (optional)
Bearing Type:	X-axis air bearing design , Z-axis roller-bearing
Drive system:	Linear motor / servo motors
Travel:	X = 5000 mm, Z = 410 mm
Speed:	1 mm / min up to 800 mm / min

MILLING SPINDLE:

Bearing Type:	air bearing design
Drive system:	brushless DC motor
Speed range:	100 - 3000 RPM
Milling head:	Ø 200 mm - Ø 500 mm

OPTIONEN:

Workpiece thickness measurement ($\pm 0,5 \mu\text{m}$)
Milling spindle for workpiece up to Ø 500 mm
Manually operated tilting axis (B-axis), 360°
Interferometer: measuring area max. 12"
Indexing head (air bearing) for polygon manufacture
Rotary table (air bearing)
Y-axis (roller- air-bearing design)

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non ferrous metals
plastics and
crystals

The MMC (micro milling center) series machines were developed according to the needs of ultra precision milling. By using diamond tools, optical surface quality can be achieved on a wide range of materials like crystals, nonferrous metals and plastics.

In the basic version the MMC 5000 consists of a main X-axis featuring a linear air bearing (feed axis), a linear roller bearing Z-axis (infeed axis) and the milling spindle (air bearing) mounted on top of Z-slide. The main application is face milling of optical and mechanical precision components. A Y-Axis is available as an option.

Another usefull accessory is a second milling spindle, used perpendicular to the first one, thus allowing for the machining of two sides of a workpiece to perpendicularity in one setup.

Accessories, like vacuum chucks, different milling spindles, touch probes for part thickness measurement, machine interferometers and other sensors for insitu measurement of workpiece shape and roughness, make the MMC 600 and 900 machines an effective tool. Besides further accessories, there is the possibility to make custom-ized

solutions, to adapt the machine to your needs. Please do not hesitate to contact us.

- Aerostatic bearing technology
- Granite base
- Passive vibration isolation system
- Flatness: 0.1 μm within 100 mm \varnothing
- Roughness: 2 nm (Ra)



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