

Hembrug Mikroturn® Twin Spindle

Finish Hard Turning

up to part \varnothing 100 mm

- narrow **tolerances**
- more **flexibility**
- higher **productivity**
- cost **saving**



The hard turning company


HEMBRUG
MACHINE TOOLS

Finish hard turning with **production improvements** of up to 100%

The Mikroturn® Twin Spindle is a fully hydrostatic turning machine used for processing ultra-precision components up to 100 mm in diameter. The Mikroturn® Twin Spindle allows production improvements of up to 100%. This is achieved by the implementation of two fully hydrostatic spindles with integrated spindle motors and a fully automated parts handling robot.

Elimination of **non-cutting time**

The dual spindle design makes it possible to simultaneously machine a part in one spindle while loading a part in the other spindle. This eliminates all non-cutting time associated with a single spindle machine configuration. In cases where the cycle time equals the load-unload time, production increases can be as much as 100%!

Integrated spindle motors

The integrated spindle motors provide a high torque (0-6.000 rpm in 0,6 sec.) and are much more compact than the previous generation which is a big advantage in a twin, parallel spindle design. The hard turning process that is offered with the Hembrug Mikroturn® machine series is in many cases three times faster than comparable grinding operations. The Mikroturn® Twin Spindle goes even a step further and offers additional cycle time and production improvements.

Achievable tolerances:

- Surface finish tolerances (Ra) : 0.1 - 0.4 μm
- Shape accuracies : 0.1 - 2 μm
- Dimensional accuracies : $\leq 2 \mu\text{m}$
- Max. turning diameter : 100 mm



Specifications

Max. part diameter I	$\varnothing 100 \times 40 \text{ mm}$
Max. part diameter II	$\varnothing 50 \times 80 \text{ mm}$
Max. part weight	1 kg
Max. spindle speed	8,000 rpm
Main spindle run-out	0.1 μm
Z-axis travel	350 mm
X-axis travel	240 mm
Rapid travers rate	30 m/min
Max. feed rate	0-10 m/min
Positioning accuracy	1 μm
Slide repeatability (\pm)	0.1 μm
CNC resolution	0.01 μm

Options

Precision tailstock
Hainbuch collet chucks
8 position tool turret (VDI-System)
Part and tool measurement
Automatic chip conveyor
Post process measuring systems

Represented by:



The **hard turning** company

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