microcut
SWITZERLAND

THE CUTTING EDGE OF A MICRON

MicroBore 20/50

Micro Bore Sizing Machine
for micro-bores
with Ø **0.015 – 0.060 mm**

MicroBore 20/50

www.microcut.ch

Machine types

MicroBore 20	Ø	0.015 – 0.035 mm
MicroBore 50	Ø	0.030 – 0.060 mm

Typical workpieces

rotation-symmetric workpiece

Outer diameter:	approx. 1.00 - 8.00
Length:	approx. 5.0 - 16.5 mm
Material:	sapphire, ceramic, tungsten carbide, steel etc.

System description

- Lapping process with free abrasive grain
- Automatic slurry distribution and dosing system (diamond-suspension)
- Single sided fixed conical tool (floating)
- Rotation and oscillation on workpiece
- Force controlled machining process
- Automatic tool dressing and feeding system to compensate tool wear

System advantages

- Geometric corrections: roundness, cylindricity
- Sizing of the bore dimension and the dimensional accuracy
- Surface finishing achievement
- No changes in the bore positioning alignment, therefore:
  - simple workpiece fixture possible
  - machining of smallest inner diameters on stepped bores
  - only a minimum of oversize is necessary
- Quality control by process analyses
- Stock removal of approx. 2 - 10 µm, depending on bore diameter, bore length and material

Workpiece handling, loading and unloading

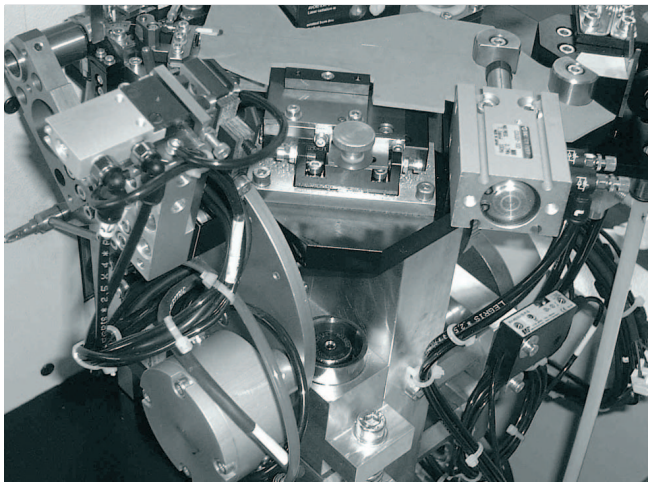
- Integrated loading and unloading unit (optional)
- Designed according to workpiece and customer requirements

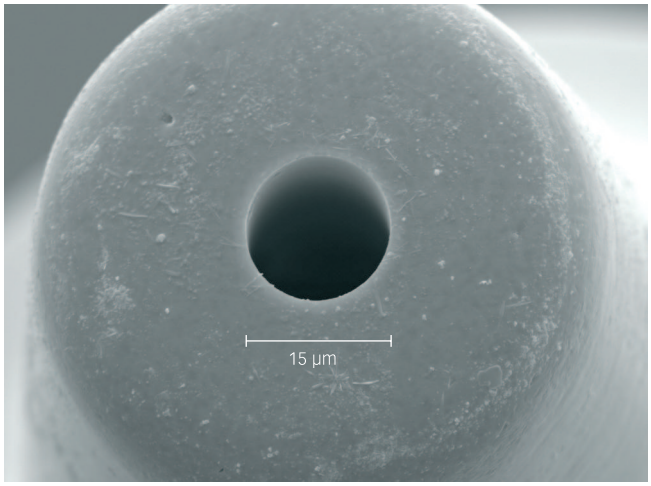
Technical data

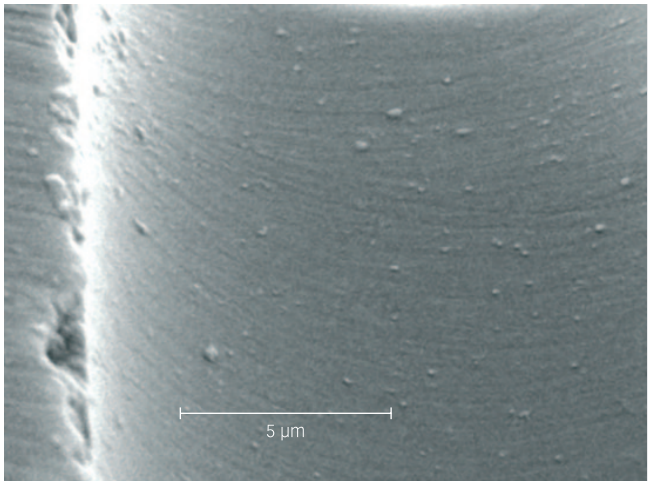
- Oscillating high frequency workpiece spindle (19 Hz /60'000 min^{-1})
- Wear resistant linear-guiding
- Different specified parameter access levels
- Software controlled process parameters
- Visualised and recorded process parameters for each machined bore

Electrical requirements:	3 x 400 V, 50/60 Hz
Power consumption:	800 VA
Air requirements:	5,5 bar (dry, clean filtered air)
Dimensions (L x W x H):	1050 x 1000 x 1600 mm
Weight:	approx. 450 kg

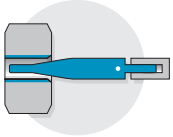
Subject to modifications







1.) Machining-Head of MicroBore 20
2.) Bonding capillary
3.) Processed bore surface



Microcut® Bore Sizing

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