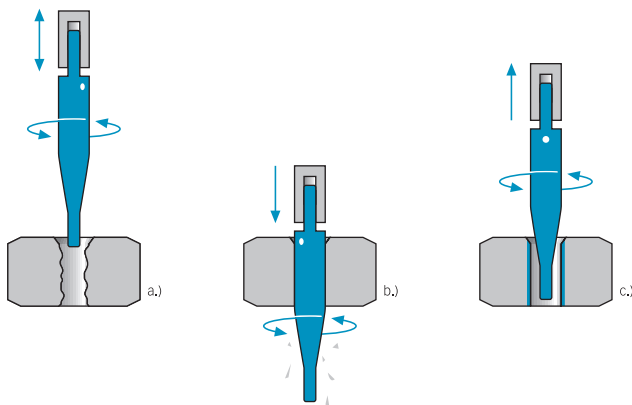




# Microcut® Bore Sizing



## Precise and easy processing of the smallest bores

Standard honing- and lapping machines as well as tooling and customised solutions for the machining of existing raw bores, in the **range of 0.015 mm to 2.50 mm**, are the daily tasks of the company Microcut Ltd.

**Microcut® Bore Sizing** (MBS) is designed as an integrated, easy handling, system comprising machines, cutting tools and services.

### Machine



### Cutting tools



### Services

- ▶ Consulting
- ▶ Customer trials
- ▶ Process development
- ▶ Job order production
- ▶ Service

### New

- Subcontracting of small and medium sized series
- Integrated deburring station on UniBore 800

### Achieved quality criterias

Machine UniBore 800 in combination with the specified tooling performs **bore geometries** in a narrow tolerance band as accurate as:

- **Bore diameter tolerance** (+/- 0.5 µm)
- **Roundness** (< 0.2 µm)
- **Cylindricity** (< 0.4 µm)
- **Parallelism** (< 0.5 µm)
- **Reproducibility** (< 0.2 µm)
- **Surface finish** (Rz < 0.2 µm)

### Advantages of MBS (Microcut® Bore Sizing) processes:

- Simple machine concept and therefore less down time and maintenance
- Stable process with high reproducibility
- Minimal tooling wear with large abrasive coated layer length of up to 400 mm and therefore longer tool live
- Measuring unit for correction of geometry and wear can be omitted

Materials from hard to soft, such as PCD; ceramics; tungsten carbide; steel; glas and plastics can be machined.

## Machining processes for:

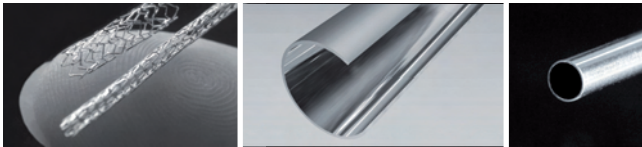
### Automotive

- Gasoline and diesel-injection-systems (Injector components)
- Hydraulic-control-valves



### Medtec and analytical

- Stents, capillaries
- Ceramic components
- Pipettes
- Dental turbines



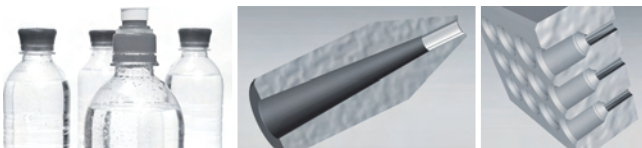
### Watches

- Gears
- Base plates, bridges



### Die and mould manufacturing

- Plungerbores
- Ejectorpinholes
- Valve gate nozzles
- Hotrunner systems



### Cutting tools for hardened glass cutting

- Scriber wheels



### Bonding capillaries for chip manufacturing

- Capillaries for wire bonder



### Total solutions for Fiber-Optic

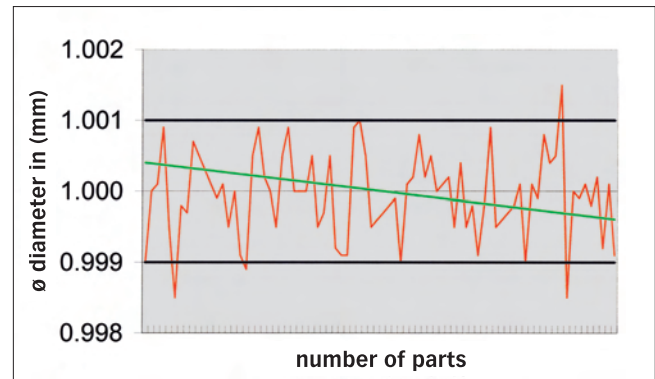
- Ferrule production



## Today's process requirements

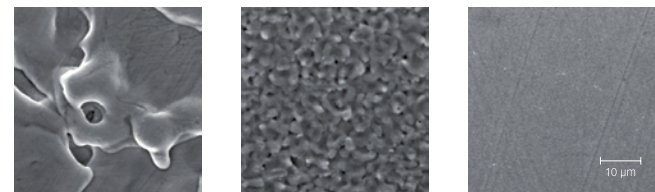
Increased efficiency, down-sizing and highest precision demands, for various components with small bores, are today's must and will be achieved by latest technologies only. Microcut® is the leader with the required know how and supplies the necessary production equipment and machining processes.

## Accuracy and reproducibility: +/- 0.5 µm



— other processes: e.g. honing, grinding      — MBS

## Surface roughness



EDM rough, Rz = 10 µm

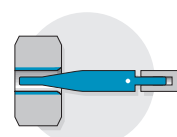
EDM fine, Rz = 1.5 µm

MBS, Rz = 0.12 µm



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Subject to modifications