

## RayDex r

### Applications:

- Micro-flaws in injection valves
- Topography of microparts
- Topography in precision-gears
- Diameters in precision-cylinders
- Layer thickness of special coatings

### Object materials:

- Metal
- Ceramic
- Polymer
- Diamond and other coatings

### Sensor head with CCD camera:

Dimensions	61 x 61 x 800 mm <sup>3</sup>
Weight	700 gr.

### Available measurement rods:

Measuring rod 1	W: 5 mm / 15 mm;	L: 45 mm
Measuring rod 2	W: 3 mm / 7.5 mm;	L: 43 mm
Measuring rod 3	W: 1.5 / 5 mm;	L: 41 mm
Measuring rod 4	W: 0.8 / 2.5 mm;	L: 39 mm
Measuring rod 5	W: < 0.4 mm (on request)	

W: Min. / Max. working distance;

The working distance is defined by the distance between the object and the deviating point of the measuring rod. Twice the working distance defines the range of diameters.

L: length of the measuring rod

The noted length of the measuring rod is the standard length per type. On request, it can be extended to the double length

### Specifications:

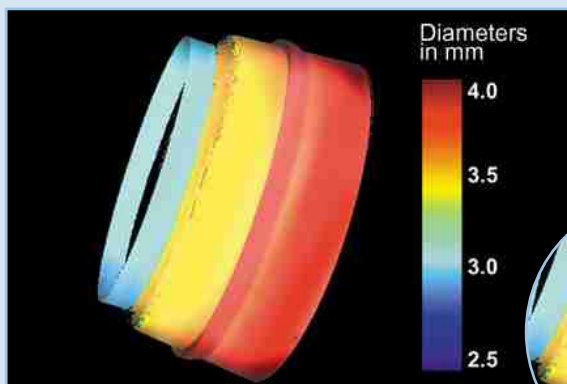
- Minimum spot size: 5 µm
- Maximum acquisition rate: 16 kHz
- Angular accuracy: 0.04°
- Rotation speed: > 5 kHz
- Accuracy<sup>1</sup>: 0.5 µm
- Repeatability<sup>1</sup>: 0.25 µm (3 sigma)
- Employed wavelength: 830 nm and 1300 nm

<sup>1</sup> For 1 kHz acquisition rate and vibration absorbing base (eg granite damped slab).  
The accuracies and repeatabilities can be increased at lower acquisition rates.



### Your Benefits:

- Rotating measurement rod, therefore fixed sample position
- Smallest interiors with a relatively large working range at few 100 nm resolution
- High aspect ratio (length/ diameter) of up to 25 / 1
- Very high acquisition rates of up to 16 kHz
- High lateral resolution by small spot size (> 5 µm)
- Surface topography, roughness, shapes, diameters within one scan
- Precise surface data even with (partly) transparent objects
- Steep slopes (sometimes > 60°)
- Negligible shadowing at very steep slopes
- Thin layers (coatings, oil film,..) without influence on the measurement.



### 3D topography of a staircase cylinder

with various diameters (in parts slightly conical) in the range between 3.0 mm and 4.0 mm. Additionally, an undercut could be measured without problems (see detail). The inaccuracy of the diameter evaluation is less than about 100 nm.

