



# More Precision

ELTROTEC // Industrial Endoscopes





- Ø 0.9mm to 2.0mm
- Lengths: 20mm to 450mm
- High quality quartz fibres
- Focusable from 1mm to ∞
- Easily pliable - high break resistance provides robustness
- External focus ring for dioptre adjustment

#### Description:

The miniature Eltrotec ME endoscope is ideally suited for the inspection of miniature components and channels in the field of micro-electronics and precision engineering.

Unlike other miniature endoscopes with a gradient index lens, the ME can also slightly be bent without suffering damage. The image quality is comparable to that of all conventional lens systems.

The object is illuminated using an external light source from our range of accessories. The endoscopes can optionally be connected to a camera system.

#### Features:

- Flexible due to special design using quartz glass fibres (semi-rigid)
- Focusable from 1mm to ∞
- Perfect image sharpness
- True-colour image reproduction
- Special adaptations possible

#### Benefit:

Robust due to high break resistance

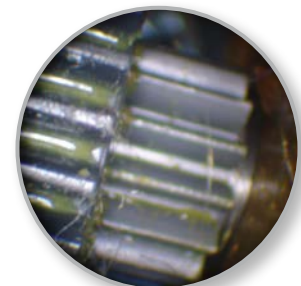
#### Operating conditions:

- Temperature in air:
  - Endoscope probe: -20°C to +60°C
  - Complete endoscope: -20°C to +50°C
- Pressure resistance in air: up to 5 bar
- Resistance to liquids:
  - The endoscope probe can be immersed in the following liquids for short periods: water, saline solution (5%), kerosene, petrol, diesel, 70% alcohol
- Humidity: up to 95% at 40° (no condensation)

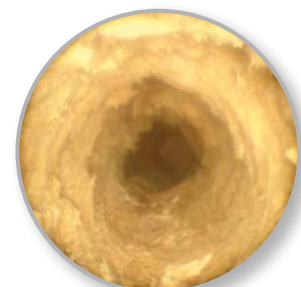
#### Application examples:



Deposits in pipe



Gear wheel



Deposits in pipe

Type ME					
Outer-Ø mm	Direction of view	Field of View	Resolution	Length mm	Article no.
0.9 - 1.3	0°	50°	10,000	20	20531943
				60	20531944
				100	20531945
				140	20531946
				180	20531947
1.4 - 2.0	0°	70°	10,000	20	20531948
				60	20531949
				100	20531950
				140	20531951
				180	20531952
				220	20531953
				260	20531954
				300	20531955
				350	20531956
				400	20531957
1.4 - 2.0	0°	60°	30,000	450	20531958
				20	20530958
				60	20531959
				100	20531960
				140	20531961
				180	20530308
				220	20531962
				260	20531963
				300	20531964
				350	20531965
1.5 - 2.0	90°	70°	10,000	400	20531966
				450	20531967
				20	20531968
				60	20531969
				100	20531970
				140	20531971
				180	20530372
				220	20531973
				260	20531974
				300	20531975
350	20531976				
400	20531977				
450	20531978				

All endoscopes available with outer-Ø in increments of 0.1mm

Accessories		
Article		Article no.
Optical fibre	Length: 1500mm, in PVC tube with FOT connection	20541980
90° mirror tube, up to ø 1.3 mm	rotatable, outer-ø = endoscope + 0.2 mm	20541979
90° mirror tube, from ø 1.4 mm	rotatable, outer-ø = endoscope + 0.3 mm	20540309
Transport case		20541931

#### Accessories:

Optical fibres, TV cameras, video processors and light sources

## High performance sensors made by Micro-Epsilon



Sensors and systems for displacement and position



Sensors and measurement devices for non-contact temperature measurement



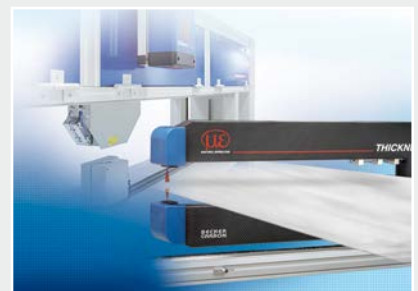
2D/3D profile sensors (laser scanner)



Optical micrometers, fibre optic sensors and fibre optics



Colour recognition sensors, LED analyzers and colour online spectrometer



Measurement and inspection systems