

MicroProf® 100

The **MicroProf® 100** is the universal surface measuring instrument for simple, fast measuring of surfaces of any kind. This FRT surface measuring instrument can be used in development and production, for instance, to investigate a wide range of surfaces, from smooth to very rough, from matt to reflective or even transparent. An extensive range of sensors makes it possible to optimally and individually adapt the MicroProf® 100 to suit your measuring task at any time. Furthermore, the simple automation of measurements boosts productivity and process reliability. The simple, intuitive handling of the FRT surface measuring instrument and the immediate results save valuable time in the workplace. The flexible MicroProf® 100 is already being used with great success in many companies and industrial sectors.



MEASURING TASKS

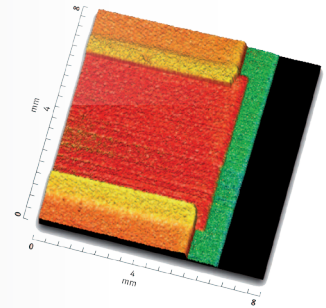
Roughness Step Height Film Thickness Wear
3D Map Waviness Layer Stacks Bumps
Flatness Topography Coplanarity Roll off Amount ...

SYSTEM CHARACTERISTICS

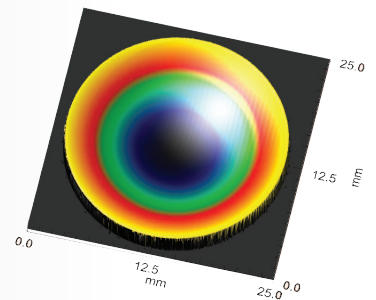
- Integrated CCD camera with add-on illumination
- Brilliant, long-living, and energy-efficient LED
- Based on the tried and tested FRT CWL technology
- Motorized sensor approach with high-precision axis
- Vertical stitching function to expand the height measuring range
- Control and measurement computer with TFT monitor
- Simple and efficient control with FRT Acquire Software
- User-friendly FRT Mark III evaluation software with numerous evaluation and display options according to DIN-ISO and SEMI standards

BENEFITS

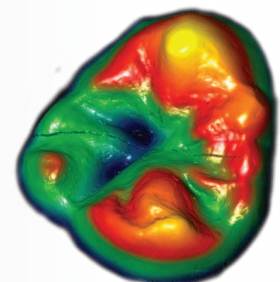
- Attractive price-performance ratio
- 3D measurements with micro- and nanometer resolution
- Professional quality assurance based on precise optical metrology
- High performance and economical measuring tool
- Durable, minimal servicing and low maintenance
- Fast availability and simple operation
- Application specific consulting and service from skilled FRT experts



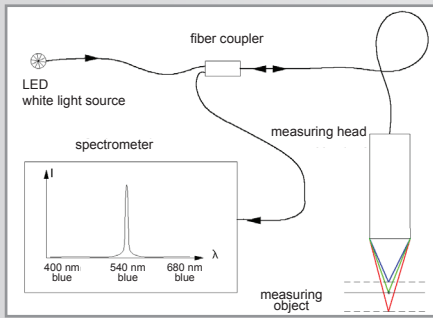
Back side metallization of a wafer



Curvature of a lens



Topography of a tooth



Measuring Principle

The **MicroProf® 100** is one of the FRT multi-sensor measuring devices and can be flexibly adjusted to customer requirements by the simple change of the sensor. Among other, the principle of the chromatic distance measurement can be used. White light is focused on the surface by a measuring head with a strongly wavelength-dependent focal length.

The spectrum of the light reflected on the surface generates a peak in the spectrometer. The wavelength of this peak is used to determine the height on the sample. The measuring tool handles transparent, highly reflective or even light absorbing surfaces and materials.

System	
Assembly	Gantry Design
Sensor	Multi-Sensor
Scanning Stage	
Travel	100 mm x 100 mm
Drive Type	Ball Screw
Bearing Type	Crossed Roller Bearing
Encoder Resolution	0.5 µm
Flatness	< 1 µm / 100 mm
Max. Speed	100 mm / s
Load Capacity	5 kg
z-Axis	Motorized Axis
z-Axis Travel	50 mm (100 mm optional)
System Requirements	
Environmental Requirements	Clean, Vibration Free, Stable Temperature
Input Voltage	110 V / 220 V AC, 1 Phase
Footprint (L x W x H)	460 mm x 360 mm x 477 mm
Weight	41 kg (without electronics)
Measuring Characteristics (Measuring Head)	CWL 600 µm *
Measuring Range xy	100 mm x 100 mm
Measuring Range z	600 µm
Resolution (lateral)	2 µm
Resolution (vertical)	6 nm

* Sensor CWL 600 µm taken as an example, other sensors are available.

Questions? Talk to an expert!

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