

# MicroProf® 200

The **MicroProf® 200** is the high-performance measuring device for the non-contact and non-destructive characterization of almost all surfaces and films, and has already been employed successfully by many companies. This surface measuring instrument is based on FRT's tried and tested multi-sensor technology and is capable of performing numerous measuring tasks within just one system. A high-resolution CWL sensor allows for easy and reliable measuring of, e.g., topography, roughness, and contour. With a wide range of additional sensors it is also possible to adapt the MicroProf® 200 optimally and individually to your measuring task. Using the TTV module for inspection from both sides or using the module for automatic sample handling (MHU), the MicroProf® 200 can also be adapted easily to the customer's new measurement requirements at any time. Simultaneously, the highest automation requirements get fulfilled.

## MEASURING TASKS

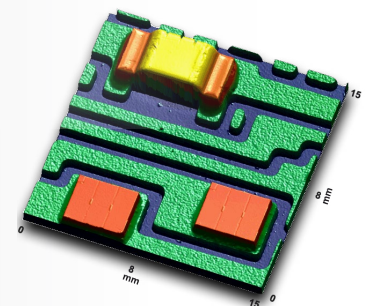
<i>Roughness</i>	<i>Step Height</i>	<i>Film Thickness</i>	<i>Wear</i>
<i>3D Map</i>	<i>Roll off Amount</i>	<i>TTV</i>	<i>Waviness</i>
<i>Topography</i>	<i>Defect Inspection</i>	<i>Membrane Bow</i>	
<i>Layer Stacks</i>	<i>Bow</i>	<i>Warp</i>	<i>Bumps</i> ...

## SYSTEM CHARACTERISTICS

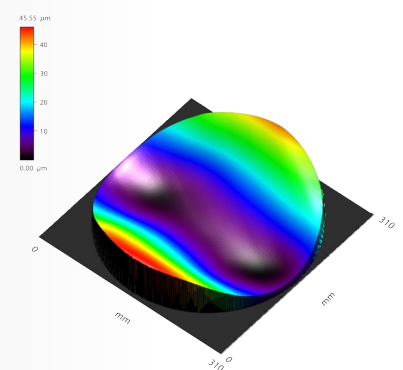
- Full multi-sensor capability
- Housing in modern industrial design
- Integrated CCD camera with add-on illumination
- Control and measurement computer with TFT monitor
- Fast xy precision table with high motion and positioning accuracy
- Stable granite construction with excellent damping properties
- Simple and efficient control with FRT Acquire software
- Fully automated 2D and 3D measurements through FRT's Acquire Automation XT metrology software
- User-friendly FRT Mark III evaluation software with numerous evaluation and display options according to DIN-ISO and SEMI standards

## BENEFITS

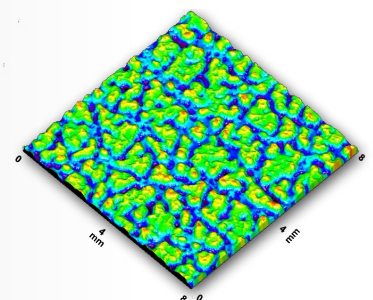
- Established measuring device from the technological leader in surface metrology
- Surface measuring instrument for the highest demands in industry and research
- One measuring system for multiple tasks and applications
- Professional quality assurance based on precise optical metrology
- Can be used flexibly, is future-proof and can be expanded at any time
- Durable, minimal servicing and low maintenance
- Application specific consulting and service from skilled FRT experts



Assembled electronic substrate  
Reference: Danfoss Silicon Power GmbH

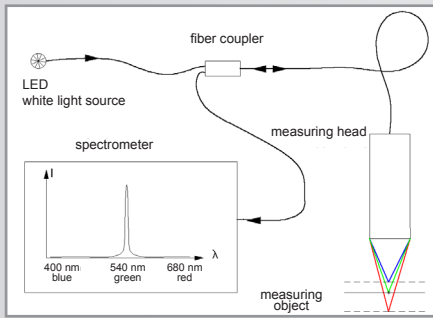


Bending of a 12-inch wafer



3D measurement of a leather imitation structure  
Reference: Audi AG, Ingolstadt

# MicroProf® 200



## Measuring Principle

The **MicroProf® 200** 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 scattered 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	250 mm x 200 mm
Drive Type	Direct Drive
Bearing Type	Crossed Roller Bearing
Encoder Resolution	50 nm
Flatness	< 2 µm / 100 mm
Max. Speed	300 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)	1100 mm x 820 mm x 1800 mm
Weight	approx. 500 kg
Measuring Characteristics (Measuring Head)	
	<b>CWL 600 µm *</b>
Measuring Range xy	250 mm x 200 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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