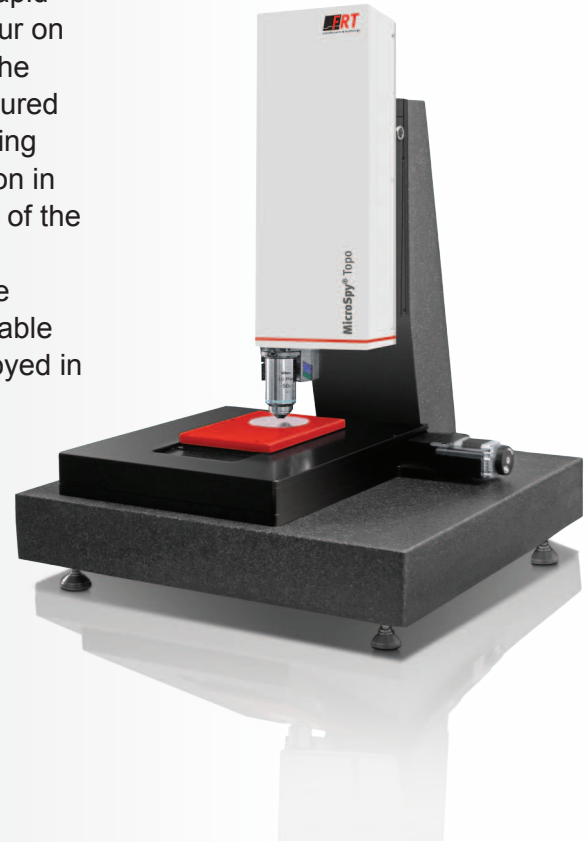


# MicroSpy® Topo

The **MicroSpy® Topo** is a confocal microscope ideally suited to the rapid non-contact characterization of 3D-topography, roughness and contour on a wide variety of parts in the laboratory and manufacturing sectors. The competitively priced MicroSpy® Topo can handle highly reflective, textured and transparent surfaces with ease. Because of the confocal measuring principle, this FRT surface measuring tool has excellent high resolution in the nanometer range. Due to the large-area measurement procedure of the FRT CFM sensor, meaningful results are available within seconds. The MicroSpy® Topo has a motorized x-y stage for convenient sample positioning and comes with various measuring objectives. This adaptable and user-friendly measurement solution has been successfully employed in numerous companies and industries.

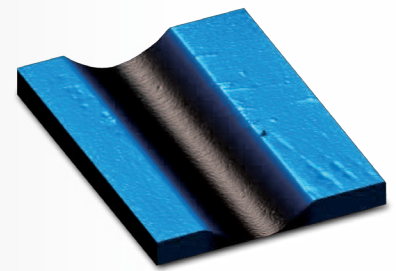


## MEASURING TASKS

*Roughness*   *Step Height*   *Topography*   *Wear*  
*Defect Inspection*   *3D Map*   *Flatness*   *Waviness*  
*Coplanarity*   *Bumps*   *Membrane Bow*   ...

## SYSTEM CHARACTERISTICS

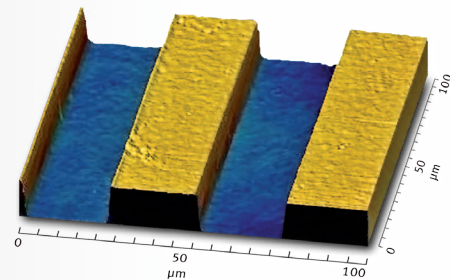
- Motorized sensor approach with precision spindle
- Control and measurement computer with TTF monitor
- Lateral stitching functionality for enlarged measuring fields
- Confocal measuring mode with excellent depth of field
- Extensive range of 2D and 3D filters and evaluation routines
- Simple and efficient control with FRT Acquire Software
- User-friendly FRT Mark III evaluation software with numerous evaluation and display options



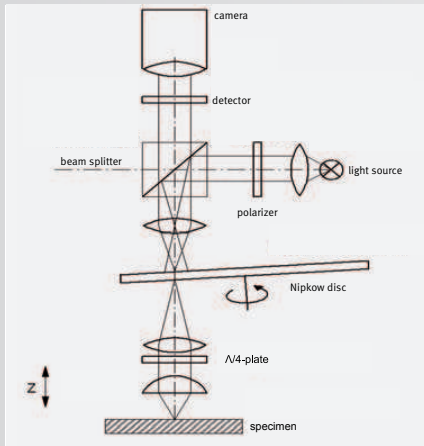
Groove calibration standard

## BENEFITS

- Attractive price-performance ratio
- Professional quality assurance based on precise optical metrology
- High performance and economical measuring tool
- Durable, minimal servicing and low maintenance
- Excellent reproducibility due to stable construction and high quality components
- Intuitive handling with fast evaluation of results



Precision linear measuring scale made of glass



## Measuring Principle

The light of a high-performance LED is focused by a movable lens on an object's surface, then reflected and finally captured by a detector. If the object is out of focus, its illumination and image on the detector are blurred, which results in a very low output signal. Once the object's surface is in the focus of the light beam, a maximum signal is received. Very precise information on the height can be obtained by gradually moving the focal point (lens) in z-direction.

This punctiform principle can be extended into a field of view method by the use of a rotating Nipkow disc which distributes the incident light beam line by line over the object's surface with high speed to measure 3D topography, structure and roughness.

System				
Assembly	Granite Stand			
Sensor	CFM Confocal Microscope			
Scanning Stage				
Travel	100 mm x 100 mm			
Drive Type	Ball Screw			
Bearing Type	Ball Bearing			
Encoder Resolution	0.078 µm			
Flatness	< 4 µm / 100 mm			
Max. Speed	25 mm / s			
Load Capacity	10 kg			
z-Axis	Motorized Axis, Piezo			
z-Axis Travel	50 mm			
System Requirements				
Environmental Requirements	Clean, Vibration Free, Stable Temperature			
Input Voltage	110 V / 220 V AC, 1 Phase			
Footprint (L x W x H)	510 mm x 530 mm x 760 mm			
Weight	approx. 115 kg (Measurement Device 100 kg)			
Measuring Characteristics (Objective)				
	10x CFM	20x CFM	50x CFM	100x CFM
Measuring Range xy	1920 µm x 1440 µm	960 µm x 720 µm	384 µm x 288 µm	192 µm x 144 µm
Measuring Range z	400 µm	400 µm	400 µm	400 µm
Resolution (lateral)	2.46 µm	1.23 µm	0.49 µm / 0.42 µm *	0.25 µm / 0.37 µm *
Resolution (vertical)	10 nm	3 nm	2 nm	1 nm
Numerical Aperture	0.5	0.75	0.8	0.9

\* geometric / optical

**Questions? Talk to an Expert!**

<p><b>Germany</b>  <b>FRT, Fries Research &amp; Technology GmbH</b>                  Phone +49 (0)2204 - 84 24 30                  Fax +49 (0)2204 - 84 24 31                  E-Mail: <a href="mailto:info@frt-gmbh.com">info@frt-gmbh.com</a></p>	<p><b>Switzerland</b>  <b>FRT Suisse AG</b>                  Phone +41 (0)41 - 83 22 252                  Fax +49 (0)2204 - 84 24 31                  E-Mail: <a href="mailto:info@frt-suisse.ch">info@frt-suisse.ch</a></p>
<p><b>Asia / Pacific</b>  <b>FRT Shanghai Co., Ltd.</b>                  Phone +86 21 - 3876 0907                  Fax +86 21 - 3876 0917                  E-Mail: <a href="mailto:info@frt-china.cn">info@frt-china.cn</a></p>	<p><b>America</b>  <b>FRT of America, LLC (West)</b>                  Phone +1 408 - 261 2632                  Fax +1 408 - 261 1173                  E-Mail: <a href="mailto:info@frtofamerica.com">info@frtofamerica.com</a></p>

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