

Davidson Optronics

A TRIOPTICS COMPANY

Putting Your Future in Focus

MicroFinish Topographer (MFT)

COST-EFFECTIVE SURFACE ROUGHNESS MEASUREMENT

The MicroFinish Topographer is a simple, low cost system for measuring surface roughness on small, large and very large optics. This precision phase measuring interferometer, complete with industry leading Reveal™ data analysis software, offers a combination of simplicity, analysis power and ease of use that is simply not available in a stylus profiler or workstation optical profiler.

SIMPLE LARGE OPTIC MEASUREMENT

In the standard, down-looking configuration, the MFT lets you directly measure any location on a large optic's surface, rather than using messy replication methods that can lead to contamination. Because it is directly coupled to the optic, no vibration isolation is required. Three nylon support balls gently contact the surface, and simple tip/tilt and focus controls help you quickly obtain high contrast fringes. Once the controls are set, you can move the MFT around the optic surface without readjusting, for easy, rapid and comprehensive roughness measurement.

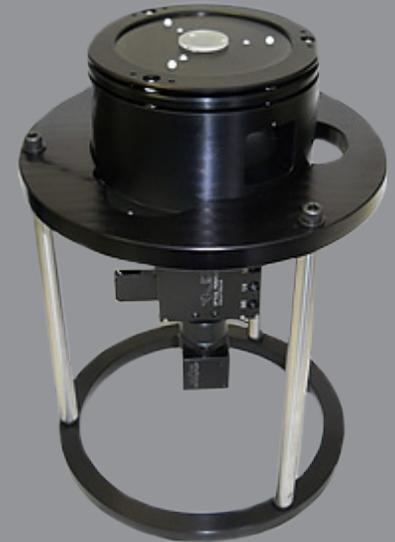
RAPID SMALL OPTICS INSPECTION

The MFT's optional look-up configuration lets you place small optics (up to 150 mm diameter) directly on the stage. Set the tip/tilt and focus once for a particular type of optic, then rapidly measure similar optics for incoming inspection or outgoing quality control without readjustment.

IMMEDIATE FINISH FEEDBACK

The MFT can be mounted on a diamond turning machine for fast surface roughness feedback without vibration isolation. By eliminating the need for re-fixturing, the MFT greatly improves productivity while also protecting critical optics from handling damage.

The MicroFinish Topographer is a complete system, with computer, software and fixturing for accurate, flexible, inexpensive surface roughness measurement.



- **Rapid, non-contact roughness measurement of small optics**
- **Easy, direct measurement of large, and very large optics**
- **Mounts directly on a diamond turning system**
- **Inexpensive, simple, flexible measurement platform**

REVEAL™

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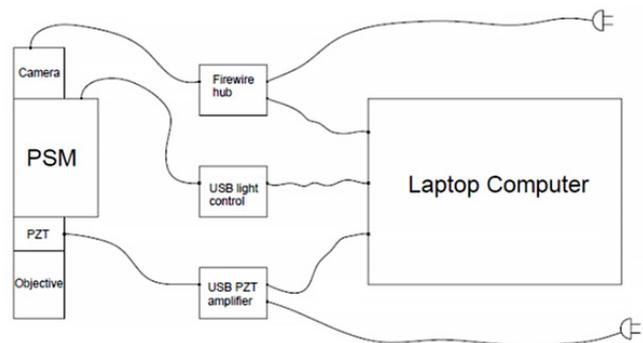
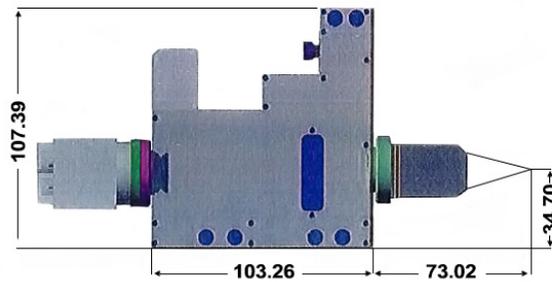
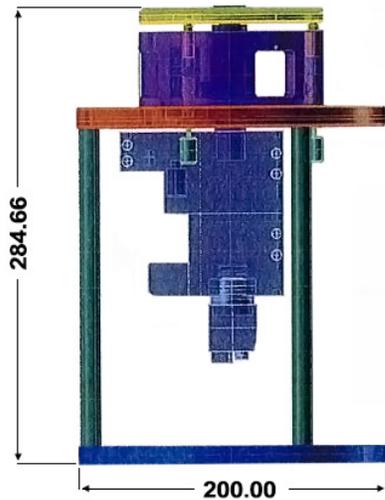
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Specifications

System Type:	Portable, high-resolution video microscope
Probe:	Phase measuring Interferometer
Objectives:	10X Nikon Mirau standard; 20X Mirau or 2.5X Michelson or SX Michelson optional
Working Distance:	2.5X: 10.3 mm 5X: 9.3 mm 10X: 7.4 mm 20X: 4.7 mm
Vertical Range:	±6 μm
Sample Reflectivity:	4-98%
Video Camera:	Point Grey Flea 1024 x 768 pixels, 1/3" format, 8 bit mono, 30 fps via Firewire
Light Sources:	Internal: Full field LED and laser diode point source, software controlled
Stages:	Downward looking standard; Optional upward looking stand; Custom for on-machine mounting.
Computer:	Dell™ desktop with Firewire Interface and Windows 7 standard
Interface:	USB based for control
Software:	Reveal™ phase shifting and analysis software
Weight:	600 g only probe; 1.6 kg downward looking, 3.2 kg upward looking
Dimensions:	189 x 107 x 31 mm deep with objective and camera; see drawings for mounting dimensions



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