

High performance laser Fizeau interferometer with patented FTPSI™ technology for surface material characterization. The Verifire MST operates in wavelength shifting and multi-surface test acquisition modes enabling simultaneous metrology of multiple surfaces and material homogeneity characterization.

### SYSTEM OVERVIEW

Measurement Capability	Measures surface form of reflective materials and optics, and transmitted wavefront of transmissive optics and systems
Measurement Technique	Laser based, three-dimensional, optical phase-shifting interferometry with patented FTPSI™ (Fourier Transform Phase Shifting Interferometry) technology
Alignment System	Quick Fringe Acquisition System (QFAS) with twin spot reticle
Test Beam Diameter	4 inch (102 mm) or 6 inch (150 mm)
Optical Centerline	4.25 in. (108 mm)
Optical Magnification	1-4X motorized, encoded zoom; fixed zoom lenses 1X, 1.4X, 2X, 2.8X optional
Alignment FOV	4 inch: ±3 degrees 6 inch: ±2 degrees
Pupil Focus Range	4 inch: ±2.5 m 6 inch: ±5.5 m
Polarization <sup>1</sup>	Nominally circular <0.35
Camera Resolution	1000 x 1000 pixels
Camera Frame Rate	48 Hz
Acquisition Time	0.5 sec – 65 sec
Mounting Configuration	Horizontal or vertical
Computer and Software	High-performance PC, Windows 64-bit, and MetroPro software
Accessories	Available on request
Physical Envelope (LWH)	4 inch 59 x 32 x 34 cm 6 inch 82 x 32 x 34 cm
Weight	4 inch ≤85 lb (38 kg) 6 inch ≤100 lb (45 kg)

### LASER DETAILS

Class	IIIb
Wavelength	633 nm
Output Power	<5 mW
Coherence Length	>100 m
CDRH Classification	Class 1M, as output from aperture

### UTILITY REQUIREMENTS

Power	100 to 240 VAC, 50/60 Hz
Compressed Air	80 psi (5.5 bar); dry and filtered source (required for optional vibration isolation system)

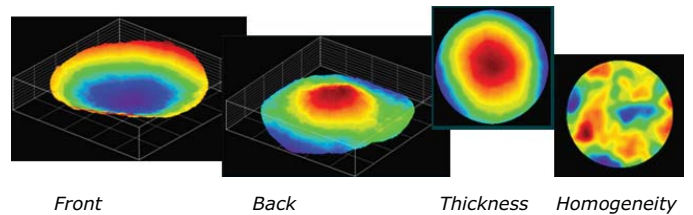
### PERFORMANCE

RMS Simple Repeatability <sup>2</sup>	<0.5 nm, $\lambda/2,100$ ( $2\sigma$ )
RMS Wavefront Repeatability <sup>3</sup>	<1.0 nm, $\lambda/1,000$ (mean + $2\sigma$ )



### OPERATIONAL ENVIRONMENT<sup>4</sup>

Temperature	15 to 30°C (59 to 86°F)
Rate of Temp. Change	<1.0°C per 15 min
Humidity	5 to 95% relative, non-condensing



### Notations

- Circular polarization is defined as  $I_{max}-I_{min}/I_{max}+I_{min}$  where  $I$  is the intensity at the center of the output aperture measured through a rotating Glan prism.
- RMS Simple Repeatability is defined by 2X the standard deviation of the RMS for 36 sequential measurements (16 averages) of a short 4 inch plano cavity.
- RMS Wavefront Repeatability is defined by the mean RMS difference plus 2X the standard deviation for the differential between all even numbered measurements and a synthetic reference (defined as the average of all odd numbered measurements); 36 sequential measurements (16 averages) form the basis for calculation.
- These parameters outline the conditions under which the system can operate; they do not represent the environmental stability required to meet specified performance.



Distribution in the UK & Ireland



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Specifications subject to change without prior notice.