AccuFiz® MWIR

4D Technology

3.8 µm Infrared Fizeau Interferometer

Accurate IR Measurement

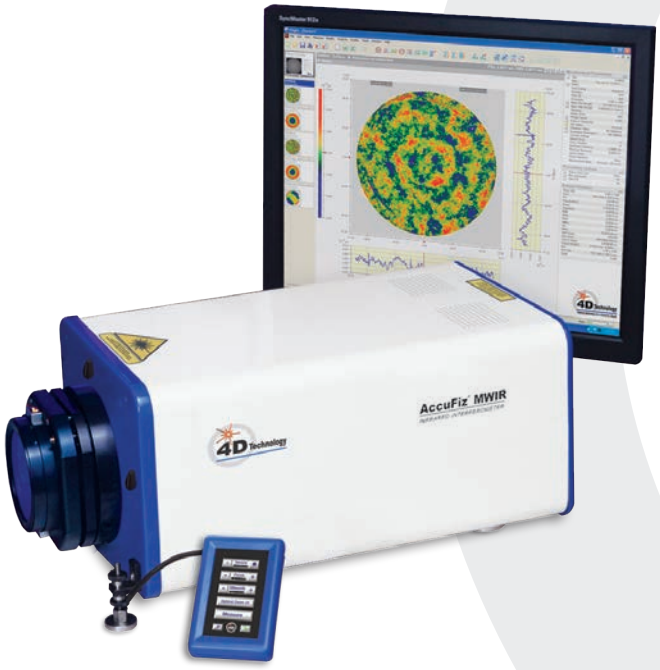
The AccuFiz® MWIR laser interferometer operates at a wavelength of 3.8 µm for accurate measurement of polished and rough-ground optics and metal surfaces. With simple controls and a built-in visible alignment laser, the system is ideal for measuring concave, convex and afocal IR components, as well as IR telescopes and lens systems. Its ability to capture high slopes enables measurement of aspherical optics without the need for a holographic element.

The AccuFiz MWIR is loaded with standard features, such as a touch-screen remote, motorized controls and discrete 2X zoom. Rugged construction, user-friendly 4Sight™ software, and quality in every detail make the AccuFiz the new best choice for verifying IR optics.

Optional, vibration-insensitive dynamic mode enables measurements under almost any environmental condition without vibration isolation or turbulence control. This insensitivity to environmental factors makes the AccuFiz ideally suited for use in clean rooms and in environmental test chambers. Transmission flats and spheres are available for measuring afocal and focal components and systems.

Industry Leading Analysis, Standard

The included 4Sight wavefront analysis software features an intuitive interface and excellent ease of use. The Measurement Screen puts all common measurement controls in one place, while the Measurement Flow lets you visualize the entire measurement data flow. 2D and 3D displays, filtering options, and masking tools make it easy to highlight surface shape and texture. Zernike, Seidel, geometric and diffraction analyses are easy to perform. Comprehensive data sharing capabilities let you read, write, save and print most file types.



AccuFiz MWIR

FEATURES

- 3.8 µm Wavelength
- Visible Alignment Beam
- Dedicated Dual Spot Alignment Camera for IR
- Adjustable Extended Source for Low Noise
- High Slope Capture for Aspheric Measurement
- Outstanding Data Analysis and Visualization Software
- Optional Vibration Insensitive Dynamic Operation

APPLICATIONS

- Focal and Afocal IR Components
- Aspherical Components
- Optical Systems
- Rough-Ground Optics and Metal Surfaces

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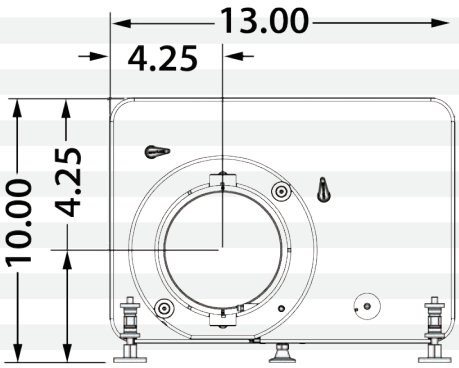
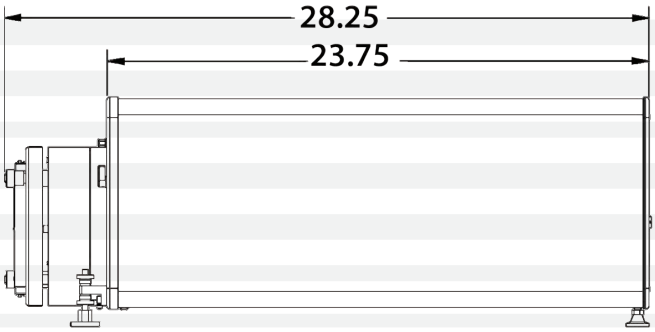
Specifications

Configuration	**AccuFiz MWIR**
Description	Turnkey Fizeau interferometer system
Acquisition Mode	Temporal phase shifting, optional dynamic measurement
Alignment Mode	Visible alignment beam; dual spot dedicated camera for IR
Wavelength	3.8 microns
Maximum Output	180 mW at 3.8 microns, <5 mW at 532 nm (alignment laser)
Maximum Cavity Length	>10 m
Beam Diameter	75 mm collimated
Polarization	Linear
Pupil Focus Range	±1 m
Pupil Magnification	Discrete 2X optical zoom
Camera	480 x 480 pixels
Frame Rate	25 frames/sec display; 7.5 frames/sec ITAR export compliant-version
Motorized Controls	Zoom, focus, beam attenuation, source size
Computer System	High performance PC with dual monitors
Operating System	Windows® 7
System Software	4Sight™ Analysis Software
	Reference generation, subtraction, data averaging, masking
	2D and 3D surface maps
	Zernike / Seidel / Slope / Geometric / Fourier Analysis
	Fiducial aided data set mapping
	Absolute Sphere, 3-Flat calibration
	HDF4 / HDF5 data format standard, others supported
	including opd, map, dat, hdf, int, csv and txt
	Upgrades free during warranty period
Physical Envelope	< 71.9 x 33.0 x 25.4 cm (28.3 x 13.0 x 10.0 in)
Weight	< 31.8 kg (70 lbs)
Power consumption	< 750 Watts @100-240VAC, 50/60Hz
Temperature Range	Operational: 16–27° C (60–80° F), non-condensing
	Storage: -1–38° C (30–100° F), non-condensing
Warranty	One Year, limited, on-site system installation and operator training





Options	
Transmission Spheres	Focal lengths from F 0.75–F9
Beam Expanders	Range of expanders on request

System Performance	
Acquisition Rate	< 25 frames/sec display; 7.5 frames/sec ITAR export compliant-version
	< 25 frames/sec max data acquisition with optional dynamic mode; 7.5 frames/sec ITAR export compliant-version
Sample Reflectivity	10 to 100%
RMS Repeatability	< λ/2000*
RMS Precision	< λ/1000**

*** One sigma for RMS of 10 data sets of calibration mirror, each data set being an average of 16 measurements.**

**** Average RMS of the difference of 10 data sets between measured surface and the calibrated surface. Each data set being an average of 16 measurements.**

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