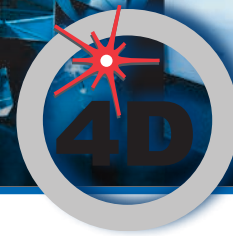


# AccuFiz<sup>®</sup> D



## Short Coherence Fizeau Interferometer

### Real-World Performance

The AccuFiz D is a vibration insensitive, on-axis, dynamic Fizeau interferometer, for high accuracy measurement of optical grade surfaces. With a short coherence length source, the AccuFiz D measures plane parallel surfaces without the need for coating to attenuate extraneous interference fringes.

The AccuFiz D eliminates the need for phase shifting, incorporating patented technology using a single camera, high-speed phase sensor that makes a wavefront measurement in as little as 150 microseconds. Because acquisition time is so short, the AccuFiz D can be used under almost any conditions, even for measuring moving parts, without vibration isolation.

The short coherence length source enables measurement of close (<0.2 mm) parallel glass surfaces. Other applications include remote cavity measurements, testing index homogeneity, measuring thin optics, and environmental chamber tests.

### Complete System

The AccuFiz D is a turnkey instrument including the interferometer, 4Sight Focus wavefront analysis software, a high-speed computer system, and a hand controller to adjust focus, zoom and extended source size.

### Industry Leading Analysis Software

4Sight™ Focus wavefront analysis software features a user-friendly interface with unmatched simplicity, analysis features and graphical displays. Acquire single, averaged, burst or continuous measurements, access all settings, and display results from dozens of analyses, all from a single screen. Zernike, Seidel, geometric and diffraction analyses are all easy to perform. Comprehensive data sharing lets you read, write, save and print from most file types.

## FEATURES

- Compact, Lightweight, Rugged Design
- Vibration Insensitive Dynamic Operation
- Remote Operation with Hand Controller
- 10X Zoom
- Compatible with Standard Fizeau Optics
- 4MP Camera
- Adjustable Extended Source

## APPLICATIONS

- Thin, Transparent Optics
- Isolate & Measure Individual Surfaces
- Remote Cavity/ Optical Thickness
- Flats, Spheres, Prisms, etc.
- Transmission Testing of Components and Systems
- Optical Testing of Moving Parts
- Vacuum and Environmental Chamber Testing



AccuFiz D Fizeau Interferometer and Source Module

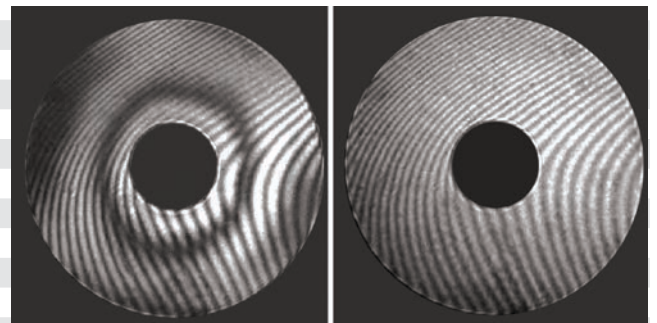
# AccuFiz<sup>®</sup> D

## Specifications

Description	AccuFiz D
<b>Optical Configuration</b>	Dynamic Fizeau interferometer system
<b>Acquisition Mode</b>	Instantaneous phase shifting with pixelated phase sensor
<b>Laser Source</b>	636 nm, short coherence length, approximately 200 $\mu$ m
<b>Aperture Size</b>	100 mm collimated standard; beam expanders available
<b>Reference Optics</b>	Bayonet mounted; 11.4 cm (4.5 in) optical axis
<b>Zoom</b>	Continuous 1–10X Smart Zoom with pan, calibrated at all zoom settings
<b>Pupil Focus Range</b>	Motorized; $\pm 2$ m, at all zoom settings
<b>Alignment</b>	Twin spot; controllable camera optimizes alignment signal; adjustable brightness, zoom
<b>Camera</b>	2K x 2K pixels, 12-bit; exposure 1 msec typical
<b>Remote Operation</b>	Wireless remote controls focus, zoom, pan, extended source size, measurement
<b>Data Array</b>	Selectable: full, half, quarter resolution
<b>Path Matching</b>	Motorized, automated; 0–500 mm (0–19.7 in) range standard Optional cavity length to 2 m (78.7 in)
<b>Computer System</b>	High performance PC
<b>Operating System</b>	Windows <sup>®</sup> 10
<b>System Software</b>	4Sight™ Focus analysis and acquisition software
<b>Physical Envelope</b>	Interferometer: 51.4 x 23.8 x 20.3 cm (20.2 x 9.4 x 8.0 in) Source Module: 28.2 x 68.2 x 17.0 cm (11.1 x 26.8 x 6.7 in)
<b>Weight</b>	Interferometer: <13.6 kg (30 lbs); Source Module: <20 kg (44 lbs)
<b>Mounting Configurations</b>	Horizontal, look-down or look-up
<b>Optical Axis</b>	4.25 in (10.8 cm)
<b>Power Consumption</b>	< 750 Watts
<b>Temperature Range</b>	Operational: 16–27° C (60–80° F), non-condensing Storage: -1–38° C (30–100° F), non-condensing
<b>Options</b>	
<b>Motorized Tip/Tilt</b>	Precise, remote reference alignment
<b>Mounting Accessories</b>	Comprehensive line of mounts
<b>Reference &amp; Return Optics</b>	Compatible with all bayonet mount flats and spheres Broad range of F/# and aperture sizes to best match test parts
<b>Performance</b>	
<b>Acquisition Rate</b>	> 25 frames/sec
<b>Live Phase Display</b>	> 25 frames/sec (1/4 resolution)
<b>Sample Reflectivity</b>	1 to 100% (attenuation required)
<b>RMS Repeatability</b>	<0.00005 wave (0.03 nm)*
<b>RMS Precision</b>	<0.0005 wave (0.3 nm)**
<b>Uncalibrated Accuracy</b>	< $\lambda$ /20 transmission flats (typical with reference subtract)
<b>Warranty</b>	One year, limited, standard; extendable; Includes on-site system installation and operator training.



AccuFiz D Surface Isolation Source Module



With Typical Interferometer

With AccuFiz D

All specifications subject to change without notice.

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

\*\* Mean standard deviation of 10 Difference Surface maps, each map being an average of 16 measurements with extended source.

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# 4D Technology

An Onto Innovation Business



LASER RADIATION  
AVOID EXPOSURE TO BEAM  
CLASS 3R LASER PRODUCT  
<5mW at 636nm

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