

# AccuFiz™

4D Technology

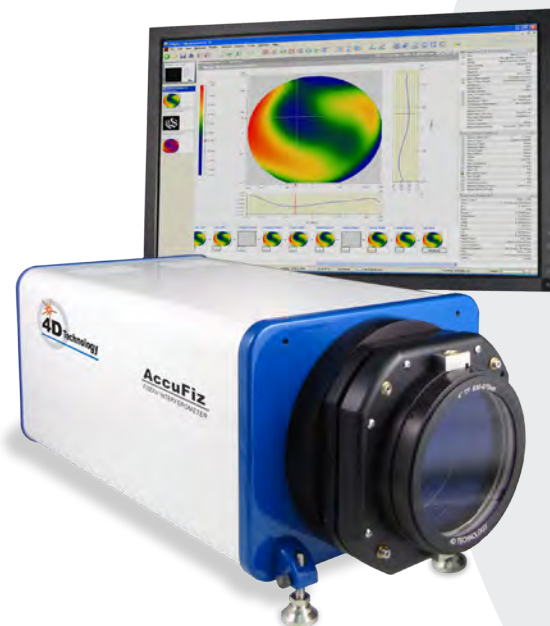
## Laser Interferometer

### Best Performance

The new AccuFiz™ compact Fizeau interferometer offers an unmatched combination of performance, quality and price, for highly accurate surface and transmission measurements of optical grade elements, assemblies and systems.

The extraordinary accuracy of the AccuFiz begins with diffraction-limited imaging. Its revolutionary optomechanical configuration offers versatility for a wide variety of test configurations. The optional Extended Precision package gives the AccuFiz the highest available accuracy and precision at high spatial frequencies, so you can see what your old interferometer has been missing, including high frequency polishing artifacts. Optional Dynamic Interferometry® capability lets you measure despite vibration and air turbulence, without an air table.

The AccuFiz is loaded with standard features, such as “Smart Zoom” which ensures repeatable lateral resolution at zoom settings up to 10X. A touch-screen remote puts control over all major functions in the palm of your hand. Compact design, rugged, monocoque construction, horizontal or look-down configurations, simplified cabling and other design touches provide the quality you’ve come to expect from 4D interferometers.



AccuFiz Laser Interferometer

### Best Software

The included 4Sight wavefront analysis software features a user-friendly interface with unmatched ease of use, analysis features and graphical displays. 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 and masking make it easy to highlight surface shape and texture. The unique Measurement Stack enables complex data manipulation and comparison. Zernike, Seidel, geometric and diffraction analyses are easy to perform. Comprehensive data sharing capabilities let you read, write, save and print most file types.

### Best Value

The AccuFiz system surpasses all other Fizeau interferometers for overall value. A range of laser sources, cameras, bayonet-mounted optics and options lets you tailor the AccuFiz to your application requirements.

4D Technology has built its reputation by designing unique interferometers to solve extreme measurement challenges. The New AccuFiz channels all of that expertise into a general purpose interferometer with an unparalleled combination of performance and price.

## FEATURES

- Temporal Phase Shifting and Dynamic Operation
- Extremely Rigid Construction
- High Accuracy and Precision; Highest Available Accuracy at High Spatial Frequencies
- Smart Zoom with Pan, for Accuracy at All Zoom Settings
- Handheld Touchscreen Remote Controller
- Highly Configurable for all Applications and Budgets
- Simplified Interface for Ease of Use

# AccuFiz™

## Specifications

| Description           | AccuFiz™   |
|-----------------------|--|
| Optical Configuration | Fizeau interferometer system   |
| Acquisition Mode      | Temporal Phase Shifting, optional Dynamic Measurement                                |
| Laser Source          | 632.8 nm HeNe; optional stabilized laser; optional 532, 1053 and 1064 nm wavelengths |
| Output Beam           | 4 in or 6 in (100 mm or 150 mm), collimated, circular polarization                   |
| Reference Optics      | Bayonet mounted  |
|                       | 4 in model: 4.25 in (10.8 cm) optical axis, horizontal or side                       |
|                       | 6 in model: 5.25 in (13.3 cm) optical axis, horizontal or side                       |
| Zoom                  | Smart Zoom, 10X with pan   |
| Pupil Focus Range     | Motorized, ±2 m, at all zoom settings  |
| Alignment             | Twin spot  |
| Camera                | 600 x 600 pixels, 12-bit standard; optional 1200 x 1200 pixels, 12-bit               |
| Hand Controller       | Remote control of focus and zoom, pan, source diameter, measurement                  |
| 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, other files supported including opd, map, dat, hdf, int, csv and txt  
 Upgrades free during warranty period

|                   |   |
|-------------------|---|
| Physical Envelope | 52.6 x 23.8 x 20.3 cm (20.7 x 9.4 x 8.0 in)                                 |
| Weight            | <13.6 kg (30 lbs)   |
| Power Consumption | < 750 Watts   |
| Temperature Range | Operational: 60–80° F, non-condensing<br>Storage: 30–100° F, non-condensing |

**Warranty** One Year, limited, on-site system installation and operator training

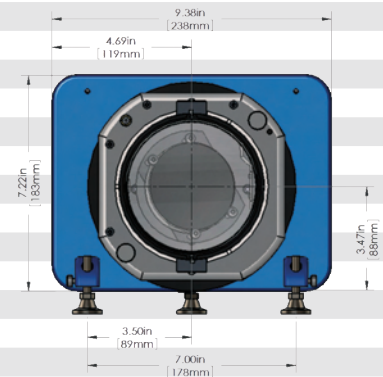
### System Performance

|                       |  |
|-----------------------|--|
| Acquisition Rate      | > 30 frames/sec display  |
| Sample Reflectivity   | 1 to 100% (attenuation required)   |
| RMS Repeatability     | < 0.0002 waves RMS* base model;<br>< 0.00004 waves RMS* with Extended Precision Option |
| Uncalibrated Accuracy | < λ/20 transmission flats (reference flat limited)                                     |

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 measurement

Dynamic Interferometry is a registered trademark, and AccuFiz is a trademark of 4D Technology Corporation. Windows 7 is a registered trademark of Microsoft Corporation.



AccuFiz Dimensions



| Model                 | Laser Safety Warnings   |
|-----------------------|---|
| HeNe Laser            | VISIBLE LASER RADIATION<br>DO NOT STARE INTO BEAM<br>CLASS 2 LASER PRODUCT<br><0.5mW at 632nm   |
| Stabilized HeNe Laser | VISIBLE LASER RADIATION<br>AVOID EXPOSURE TO BEAM<br>CLASS 3 LASER PRODUCT<br><1.5mW at 632nm   |
| 532 nm Option         | VISIBLE LASER RADIATION<br>AVOID EXPOSURE TO BEAM<br>CLASS 3B LASER PRODUCT<br><50mW at 532nm   |
| 1053 nm Option        | VISIBLE LASER RADIATION<br>AVOID EXPOSURE TO BEAM<br>CLASS 3B LASER PRODUCT<br><300mW at 1053nm |
| 1064 nm Option        | VISIBLE LASER RADIATION<br>AVOID EXPOSURE TO BEAM<br>CLASS 3B LASER PRODUCT<br><300mW at 1064nm |



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