

PhaseCam®

Model 4020HP

4D Technology

High Power Dynamic Twyman-Green Laser Interferometer

Instantaneous Acquisition

The PhaseCam® 4020HP dynamic laser interferometer includes a high power, 25 mW HeNe laser for measuring the surface of low reflectivity (<1%) samples such as measuring aspheres using Computer Generated Holograms (CGHs).

The PhaseCam 4020HP incorporates a single camera, high-speed optical phase sensor that makes a wavefront measurement in less than 30 microseconds—hundreds of times faster than a temporal phase shifting interferometer. Because acquisition time is so short, the PhaseCam can be used without vibration isolation or turbulence control, making it ideally suited for use on the production floor, in clean rooms and in environmental test chambers.

Complete Measurement System

The PhaseCam 4020HP is a turnkey instrument that includes the interferometer, 4Sight™ advanced wavefront analysis software, and high-speed computer system. Samples with any reflectivity from <1% to 100% can be measured without the use of an external attenuator.

Industry Leading Analysis, Standard

4Sight wavefront analysis software features a user-friendly interface with unmatched simplicity, analysis features and graphical displays. The Measurement Console display aids alignment and execution of single, averaged, burst or continuous data acquisition. The Measurement Flow interface lets you visualize the entire measurement data flow, from raw acquisition through masking, reference subtraction, terms removal, etc. 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 from most file types, including MetroPro IDL®, MatLab®, Opticode®, Vision®, HDF5® and CodeV®. Generating phase movies to characterize deforming surfaces and moving parts is simple and straightforward.

Accessory Optics

Diverger lenses are available for measuring spherical elements, and corner cubes are available for easy alignment.

FEATURES

- Vibration Insensitive Dynamic Operation
- 25 mW HeNe Laser Source
- < 30 μsec Data Acquisition Time
- 2000 x 2000 Pixel Camera
- Outstanding Data Analysis and Visualization Software

APPLICATIONS

- Quality Verification of Low-Reflective Optical Components
- Large Telescope Optics
- Vacuum and Environmental Chamber Testing
- Production Floor Quality Control
- Optical Testing of Moving Parts



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