

S150 | HR Specification

System Overview

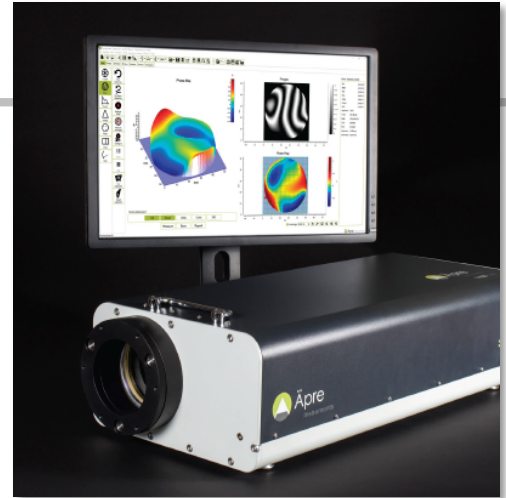
Interferometer Type	Fizeau Interferometer
Measurement Capability	Measures surface and transmitted wavefront up to mid-spatial frequencies
Measurement Techniques	Vibration Tolerant Phase Shifting interferometry Vibration Insensitive Carrier Fringe interferometry
Alignment System	2-spot with reticle with 2° capture range
Test Beam Diameter	6 inch (153 mm)
Optical Centerline	4.25 in (108 mm)
Laser Source	Stabilized 633 nm HeNe ~1 mW laser power, higher power available
Laser Frequency Stability	<0.0001 nm
Coherence Length	>100 m
Polarization	Circular
Camera Resolution	2044 X 2044
Shutter Speed – shortest	9 μ s (shortest exposure time)
Digitization	12 bits
Image Resolution	150 μ m over entire FOV (Detector Limited)
Image Distortion	<0.1% over entire focusing range
Image Field Flatness	30 μ m (worst case) @ 4.5 meters part distance
Fringe Resolution	500 Carrier Fringe 670 fringes VTPST
Focus Range	\pm 4.5 meters
Computer & Software	High-Performance PC, any Windows® 64-bit OS, REVEAL software
Mounting Configurations	Horizontal or Vertical
Accessories	Industry standard bayonet
Physical (L x W x H)	70 x 32 x 25 cm (27.6 x 12.6 x 9.8 inch)
Weight	~40 kg (88 lbs)

Performance

RMS Repeatability	<0.5 nm RMS 2 σ – with NO averaging
RMS Wavefront Repeatability	<0.4 nm RMS 2 σ – with NO averaging
Retrace Error @ Maximum Fringes	<0.06 waves
Measurable Part Reflectivity	1% to 99%

Operating Environment

Temperature	15 °C to 30 °C (59 °F to 86 °F)
Δ T/ Δ t	<1.0 °C/15 min
Humidity	5 to 95% relative, non-condensing
Vibration Isolation	Isolation System recommended for PSI



Data Acquisition and Analysis Software

Instrument control for data acquisition, and robust algorithms to create reliable phase maps are the foundation of interferometers. And just like all Äpre Instruments interferometers, industry standard analysis and a unique built-in report writer convert data into information in 6 seconds, to quickly improve and control your process.

The 64-bit architecture easily supports 4-Megapixel acquisition and its modular construction means robust, reliable performance. And running on any 64-bit Microsoft® OS it's on an operating system your IT department will endorse.

<https://www.youtube.com/channel/UCk75a5L6mWxjSV7ldPUBCeA>

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