ADVANCED PERFORMANCE
FIZEAU INTERFEROMETERS

S300 | 4MP

Fizeau Interferometer for Flat Surface Measurement
4-Megapixel Imaging and Two Optional Sources

SYSTEM OVERVIEW

Output Diameter	306 mm (12 inch)[5]
Optical Centerline	285.6 mm (11.24 inch)
Focus Range (position readout)	±2 meters
Interferometer Size (L x W x H)	76 x 40 x 50 cm
Weight	TBD
Measurement Techniques	Fast/SensitiveSynchronous, Vibration-Tolerant PSI Plus Vibration-Insensitive Carrier Fringe
Alignment System	2-Spot with reticle with 2° Capture Range
Standard Light Source	Frequency Stabilied HeNe Laser
Optional Light Sources	SCI SpectrÄ & ÄTLas
Output Polarization	Circular or Linear, for birefringent materials
Camera Resolution	2044 x 2044
Camera Frame Rate (max)[7]	≤180 Hz
Shutter Speed (shortest)	9 μs
Digitization	12 bit
Computer & Software	High-Performance PC, Windows 11 64-bit OS & REVEAL Software
Mounting Configurations	Horizontal or Vertical or Adjustable

PERFORMANCE

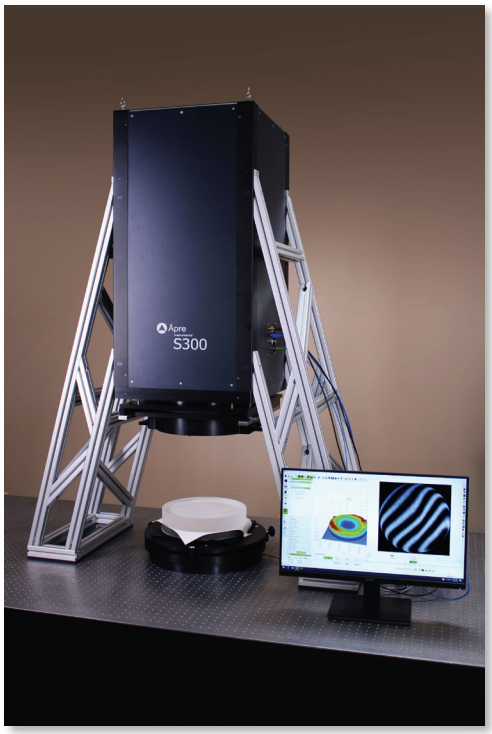
Image Resolution	375 μm (2.7 l/mm)
Image Distortion	<0.06%
Fringe Resolution	>500 fr/aperture
Retrace Error[3] @ 200 fringes	< λ/15 [4]
RMS Simple Repeatability[1]	<0.6 nm RMS 2σ
RMS Wavefront Repeatability[2]	<0.6 nm RMS 2σ
Measurable Part Reflectivity	0.5% to 100% Specify
Transmission Flat	λ/20 calibrated PVr flatness

OPERATIONAL ENVIRONMENT[6]

Temperature	15°C to 30C
ΔT/Δt	<1°C per 15 min
Humidity	5 to 95% relative, non-condensing
Vibration Isolation	Isolation System recommended for PSI

[1] RMS Simple Repeatability Test: The RMS for 36 sequential measurements with each measurement the average of 16 measurements each of a short <2 mm plano cavity
[2] RMS Wavefront Repeatability Test: Measure 36 sequential Measurements (M1, M2,...M30) each consisting of 16 averages. Then average all 36 measurements create a synthetic reference, "Ref", RMS wavefront repeatability equals the 2X the standard deviation of all 30 Ref - Mn results.
[3] Retrace Error is defined as the PV residual error between a nulled measurement (the reference), subtracted from a measurement with 500 fringes of tilt, and expres sed by the first 36 Zernike polynomials
[4] λ/20 optionally available
[5] Up to 310mm is available on special request
[6] These parametes outline the conditions under which the system can operate; they do not represent the environmental stability required to meet specified performance.
[7] Source dependent

Specifications subject to change without notice



Vertical Mounted S300|HR

The S300|HR can be mounted vertically or horizontally.

Pictured here is the convenient vertical configuration for measuring flat components or blocks of parts such as prisms or cubes.

Äpre™

CAUTION
LASER
2M

November 2025

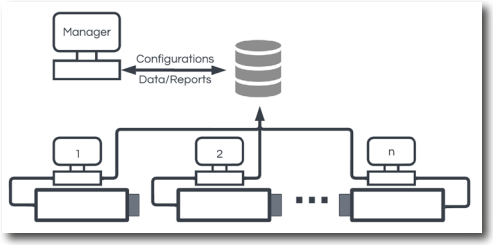
REVEAL

Metrology Software for Interferometers

Introducing REVEAL 25

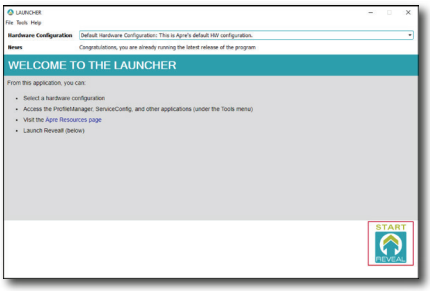
UNIQUE and NEW!: No interferometer is an island...with REVEAL 25

Load measurement recipies and report forms from a central controlled library. Automatically save data to your database. Eliminates setup errors, and user-to-user variations by standardizing the entire measurement process from a central, password controlled location.



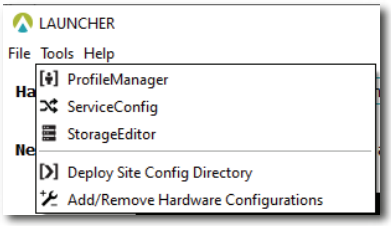
NEW! Setup user access and passwords: In the Profile Manager grant or restrict global or individual access to measurements. Assign what can be edited, where data is saved, and then password (encrypted) protect.

NEW! Configure your hardware with a click: ÄPRE state-of-the-art interferometers use multiple sources, which means multiple hardware configurations. Just switch the source, click the hardware configuration and launch REVEAL 25 to start measuring.



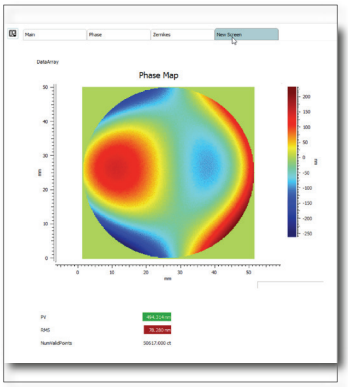
Inside REVEAL 25

REVEAL functionality is maintained: All the menus, results, screens, data and setups are maintained. So there is no learning curve.



More Analyses are Standard: Standard analysis, Optical Shop Testing and Fourier Analysis are included in the standard package so licensing is easier.

NEW! Create Your Own Custom Screens: With an easy to use editor, display the graphs and results required and even set GO/NOGO tolerance flags on important results. Then save your custom screen for future use. The screen at the right was configured in five minutes! It's that easy.



NEW! "Undo" mask shapes. You're in the middle of creating a mask and you want to make a change. The new Undo function takes you back one step to retry. Less time lost, and more freedom to experiment.

NEW! Event Log: Sometimes "things" happen. To correct an error and to get production up and running the Event Log gives you just the important information. Now you can act on it, or contact ÄPRE with the key information, and save time.

Contact ÄPRE to get REVEAL 25 on your system today.

Over ten years ago REVEAL innovated interferometer software

- *Traceable metrology via the analysis tree, saved with as-measured (.rvl) data*
- *Data analysis based on international standards and leading laboratories worldwide*
- *Apply filters/masks to data along the entire analysis tree*
- *Fast, consistent reporting via a default, and customizable report library*
- *64-bit operation to handle modern 9-Megapixel and larger cameras without crashing*
- *Remote training and debugging via TeamViewer*
- *Clean, browser like, non-overlapping screens*
- *Compatable with historic .dat data files*

Now REVEAL 25 tightens QC with enterprise control, increases security, and lets you customize screens

Äpre™

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