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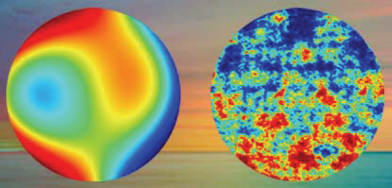
ADVANCED PERFORMANCE
FIZEAU INTERFEROMETERS

NIR S-Series | 4MP



NIR wavelengths available 1053 nm and 1064 nm

<table>
<tr><th>SYSTEM OVERVIEW</th><th>S50|4MP-NIR</th><th>S100|4MP-NIR</th><th>S150|4MP-NIR</th></tr>
<tr><td>Interferometer Type</td><td colspan="3">Fizeau Configuration</td></tr>
<tr><td>Function</td><td colspan="3">Surface, wavefront, TTV, and angle metrology</td></tr>
<tr><td>Output Diameter</td><td>51 mm (2 inch)</td><td>102 mm (4 inch)</td><td>153 mm (6 inch)</td></tr>
<tr><td>Optical Centerline</td><td>108 mm (4.25)</td><td>108 mm (4.25 inch)</td><td>133 mm (5.24 inch)</td></tr>
<tr><td>Focus Range (encoded)</td><td>±0.5 meters</td><td>±2.0 meters</td><td>±4.5 meters</td></tr>
<tr><td>Interferometer Size (L x W x H)</td><td>63 x 29 x 18 cm</td><td>70 x 32 x 26 cm</td><td>90.2 x 40.8 x 23.9 cm</td></tr>
<tr><td>Weight</td><td>25 kg (55 lbs)</td><td>33 kg (73 lbs)</td><td>50 kg (110 lbs)</td></tr>
<tr><td>Phase Measurement Techniques</td><td colspan="3">Vibration-Tolerant PSI, Plus Vibration-Insensitive Carrier Fringe</td></tr>
<tr><td>Alignment System</td><td colspan="3">2-Spot with reticle with ±2° Capture Range</td></tr>
<tr><td>Optional Light Sources</td><td colspan="3">SM Laser Diode: 1064 nm or 1053 nm</td></tr>
<tr><td>Output Polarization</td><td colspan="3">Circular (Other options available)</td></tr>
<tr><td>Camera Resolution</td><td colspan="3">2048 x 2048 pixel</td></tr>
<tr><td>Camera Frame Rate(max)</td><td colspan="3">60 Hz @ 2048 X 2048 pixels</td></tr>
<tr><td>Shutter Speed (shortest)</td><td colspan="3">9 μs</td></tr>
<tr><td>Camera Digitization</td><td colspan="3">8 bit</td></tr>
<tr><td>Computer & Software</td><td colspan="3">High-Performance PC, Windows 10 64-bit OS & REVEAL Software</td></tr>
<tr><td>Mounting Configurations</td><td colspan="3">Horizontal or Vertical</td></tr>
<tr><td>Accessories</td><td colspan="3">Optical Accessories and Mounts Available</td></tr>
<tr><th colspan="4">PERFORMANCE</th></tr>
<tr><td>Image Resolution[5]</td><td>63 μm
16 l/mm</td><td>125 μm
8 l/mm</td><td>188 μm
5.3 l/mm</td></tr>
<tr><td>Image Distortion</td><td colspan="3"><0.06%</td></tr>
<tr><td>Fringe Resolution</td><td colspan="3">>600 fr/aperture</td></tr>
<tr><td>Retrace Error[3] @ 600 fringes</td><td colspan="3">≤ λ/15[4]</td></tr>
<tr><td>RMS Simple Repeatability[1]</td><td colspan="3">≤0.6 nm RMS 1σ</td></tr>
<tr><td>RMS Wavefront Repeatability[2]</td><td colspan="3">≤0.6 nm RMS 1σ</td></tr>
<tr><td>Measurable Part Reflectivity</td><td colspan="3">0.1%to 40% direct and >41% with attenuation filter or coatings</td></tr>
<tr><th colspan="4">OPERATIONAL ENVIRONMENT[6]</th></tr>
<tr><td>Temperature</td><td colspan="3">15°C to 30°C</td></tr>
<tr><td>ΔT/Δt</td><td colspan="3"><1°C per 15 min</td></tr>
<tr><td>Humidity</td><td colspan="3">5 to 95% relative, non-condensing</td></tr>
<tr><td>Vibration Isolation</td><td colspan="3">Isolation system recommended</td></tr>
</table>

[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 expressed by the first 36 Zernike polynomials

[4] λ/20 optionally available

[5] Resolution is detector limited at 800 lines/aperture

[6] These parametes outline the conditions under which the system can operate; they do not represent the environmental stability required to meet specified performance.

Specifications subject to change without notice

Äpre

CAUTION
LASER
2M

November 2025

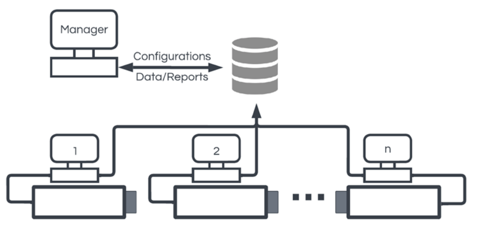
REVEAL

Metrology Software for Interferometers

Introducing REVEAL 25

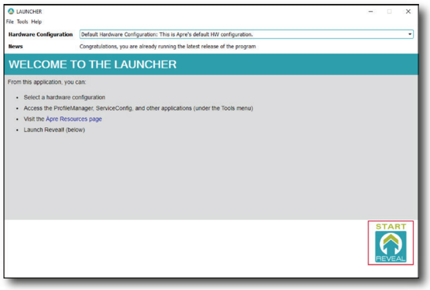
REVEAL 25 Starts with the REVEAL Launcher

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.



Hardware Configuration Default Hardware Configuration: This is Apre's default HW configuration.

News Congratulations, you are already running the latest release of the program

WELCOME TO THE LAUNCHER

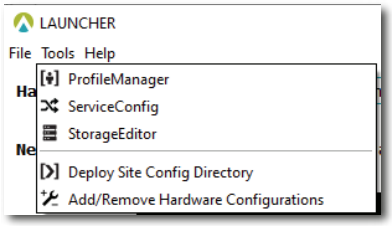
From this application, you can:

- Select a hardware configuration
- Access the ProfileManager, ServiceConfig, and other applications (under the Tools menu)
- Visit the Apre Resources page
- Launch Reveall (below)

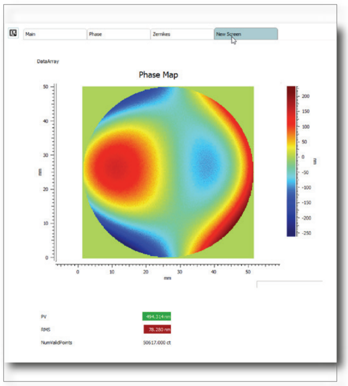
Inside REVEAL 25

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.



PV 494.314 nm

RMS 78.280 nm

NumValidPoints 50617.000 ct

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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