HASO4
126 BROADBAND

Wavefront sensor
The Hulk

From UV to IR
Large pupil
Alignment-free

NEO compatible

HASO4 126 BROADBAND +

The HASO4 126 BROADBAND Shack-Hartmann wavefront sensor provides high-resolution combined with a large pupil and large band for unmatched precision and versatility.

This generation features the new SpotTracker™ technology. It provides absolute wavefront and tilt information, eliminating alignment requirements for faster and easier implementation.

Compatible with the Optical Engineer Companion modular system: easily combine the accessories you need.

APPLICATIONS

Successfully used in the most demanding applications in optical metrology, microscopy, and laser diagnostics, the HASO4 126 BROADBAND performs multiple functions:
+ Quantify the aberrations of optical systems
+ Align the system to ensure that it performs at its best
+ Predict the optical system's performance in terms of focusing capability (PSF) or imaging quality (MTF)
+ Quantify the effects of temperature and gravity on system performance
+ Verify that the optics comply with specifications
+ Directly measure the optical system's wavelength dependency
+ Pilot a wavefront corrector to change the system's aberrations
+ Check whether the optical mount overly distorts the optics

FEATURES

+ Easy wavefront measurement on the whole spectrum of the sensor: 350 - 1100 nm with no wavelength dependency
+ Easy setup on any beam size thanks to the large 13.8 x 10.2 mm^2 pupil
+ Direct wavefront acquisition of converging and diverging F/5 beams with an accuracy of λ/100 RMS, including astigmatism and high-order aberrations
+ Beam collimation with an accuracy better than 300 m radius of curvature
+ Control and adjustment of axial laser beam deviation better than 3 μrad RMS

SPECIFICATIONS

OPERATING SPECS

|	
Aperture dimension	13.8 x 10.2 mm²
Number of microlenses	170 x 126
Maximum acquisition frequency	30 Hz (USB 3.0)
Calibrated wavelength range	350 - 1100 nm
Minimum power	0.15 nW
External trigger	TTL signal
Operating system	Windows 10

OPTICAL SPECS

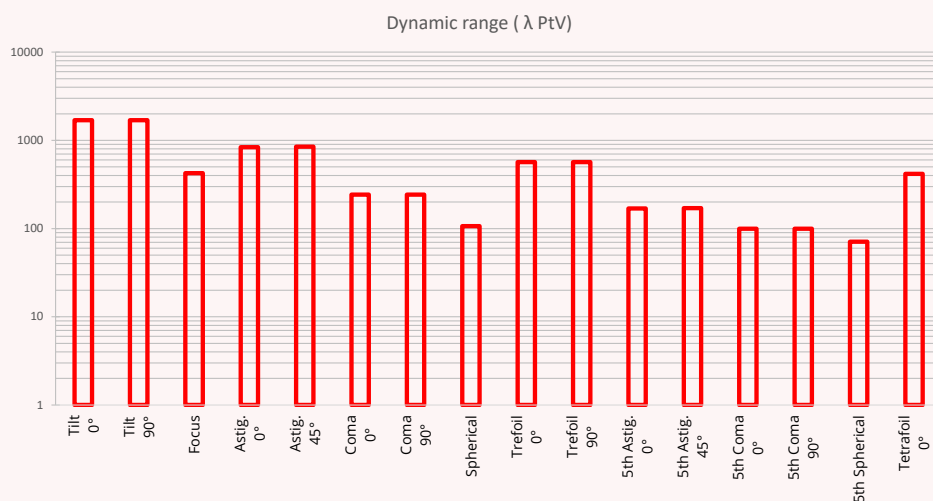|	
Repeatability	$< \lambda/200$ RMS
Absolute wavefront measurement accuracy	
• λ between 350-600 nm	≤ 6 nm RMS
• λ between 600-1100 nm	$\sim \lambda/100$ RMS
Spatial sampling	~ 80 µm
Tilt dynamic range	$> \pm 3°$
Focus dynamic range	± 0.010 m to $\pm \infty$

MISC

Dimensions (Height x Width x Length)	42 x 47 x 60 mm³
Weight for USB version	185 g
Working temperature	15 - 30 °C
Interface	Ethernet or USB 3.0
Power consumption	3.6 W (USB 3.0)

HASO4
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Wavelength range (nm)

1100
1000
900
800
700
600
500
400
350
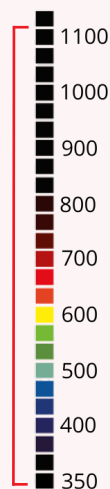
Dynamic range (λ PtV)

HASO4 126 BROADBAND
Dynamic range at λ = 635 nm

DIMENSIONS (mm)

A

46,7

20,5
OPTICAL
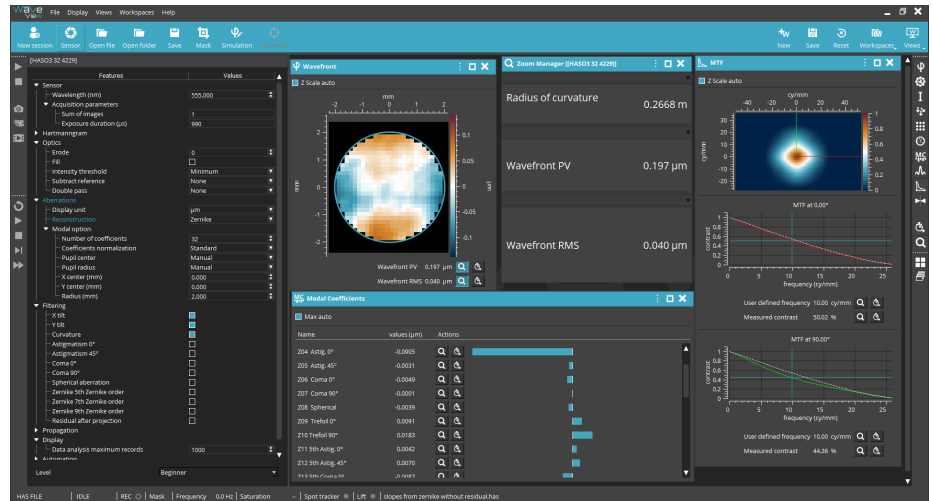AXIS

A

62,2
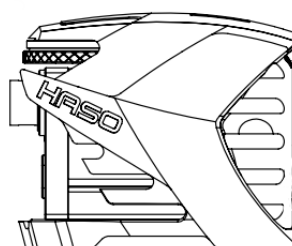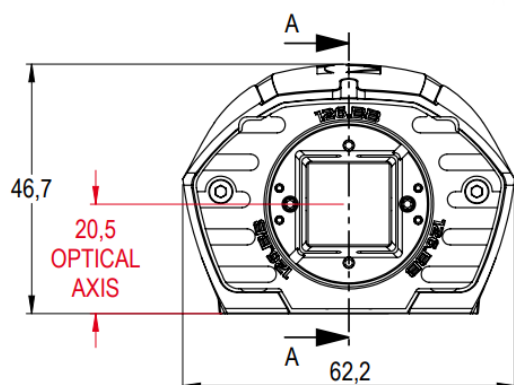
SOFTWARE

WAVEVIEW™
Metrology Software

WAVEVIEW™ is the most advanced wavefront measurement and analysis software.

It offers more than 150 features and tools optimized for a wide range of highly demanding applications.

Options :

+ Extensions for PSF, MTF and Strehl ratio

+ Optional SDK in C/C++, LabVIEW and Python

WAVETUNE™
Adaptive Optics Software

WAVETUNE™ is a unique software that seamlessly combines wavefront measurement and correction features with extensive instrument diagnostics.

It is perfectly adapted to our HASO wavefront sensors, ILAO STAR, MIRAO and mu-DM deformable mirrors, as well as to a wide range of active components.

Options :

+ Optional SDK in C/C++, LabVIEW and Python
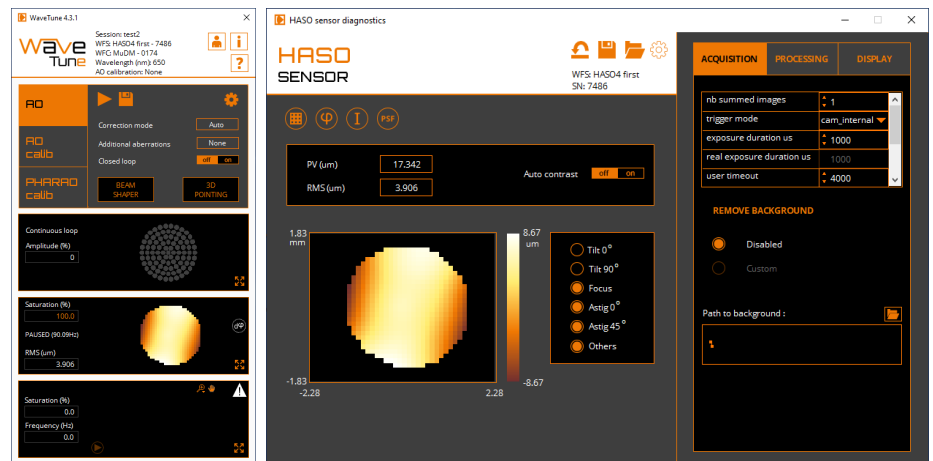
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