




HAS04

BROADBAND

Wavefront sensor
The Workhorse

From UV to IR
Versatile
Alignment-free



 compatible



HASO4 BROADBAND +

A great choice for almost any lab or industrial application, the HASO4 BROADBAND is Imagine Optic's most versatile wavefront sensor.

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 BROADBAND performs multiple functions :

- + Quantify the aberrations of an optical system
- + Align the system to ensure that it performs at its best
- + Predict the performance of optical systems in terms of focusing capability or imaging quality
- + Quantify the effects of temperature and gravity on system performance
- + Verify that the optics comply with specifications
- + Measure directly the optical system's wavelength dependency
- + Drive a wavefront corrector to rectify system 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
- + Direct wavefront acquisition of converging and diverging F/5 beams with an accuracy of about $\lambda/100$ 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 $3 \mu\text{rad}$ RMS



SPECIFICATIONS

OPERATING SPECS

Aperture dimension	6.9 x 5.1 mm ²
Number of microlenses	68 x 50
Maximum acquisition frequency	58 Hz
Calibrated wavelength range	350 - 1100 nm
Minimum power	0.15 nW
External trigger	TTL signal

OPERATING SYSTEM

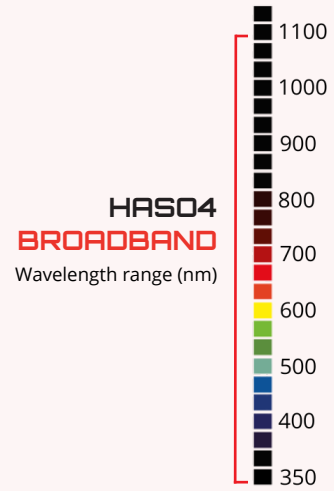
Windows 10

OPTICAL SPECS

Repeatability	< $\lambda/200$ RMS
Absolute wavefront measurement accuracy	
• λ between 350-600 nm	≤ 6 nm RMS
• λ between 600-1100 nm	~ $\lambda/100$ RMS
Spatial sampling	~ 105 μ m
Tilt dynamic range	> $\pm 3^\circ$
Focus dynamic range	± 0.008 m to $\pm \infty$

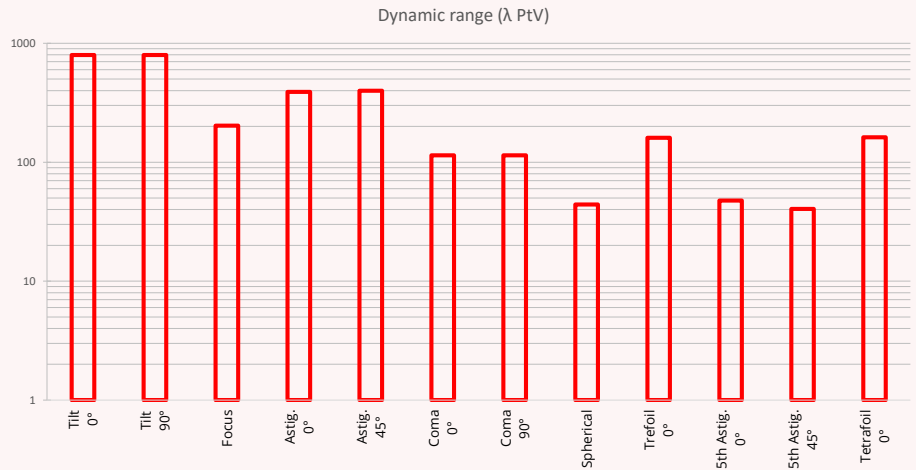
MISC

Dimensions (Height x Width x Length)	42 x 47 x 60 mm ³
Weight	200 g
Working temperature	15 - 30 °C
Interface	USB 3.0
Power consumption	3.1 W

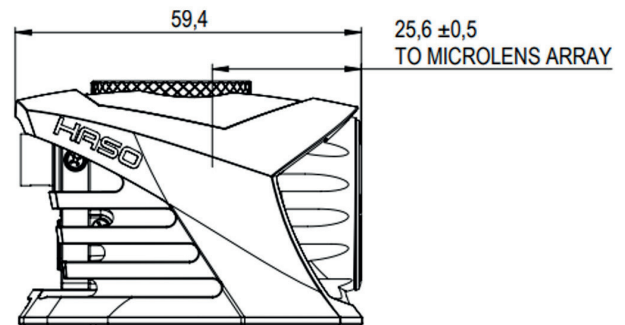
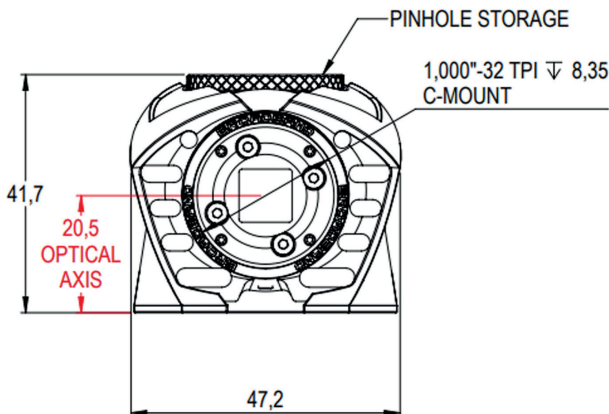


HASO4 BROADBAND

Dynamic range at $\lambda = 750$ nm



DIMENSIONS (mm)



SOFTWARE

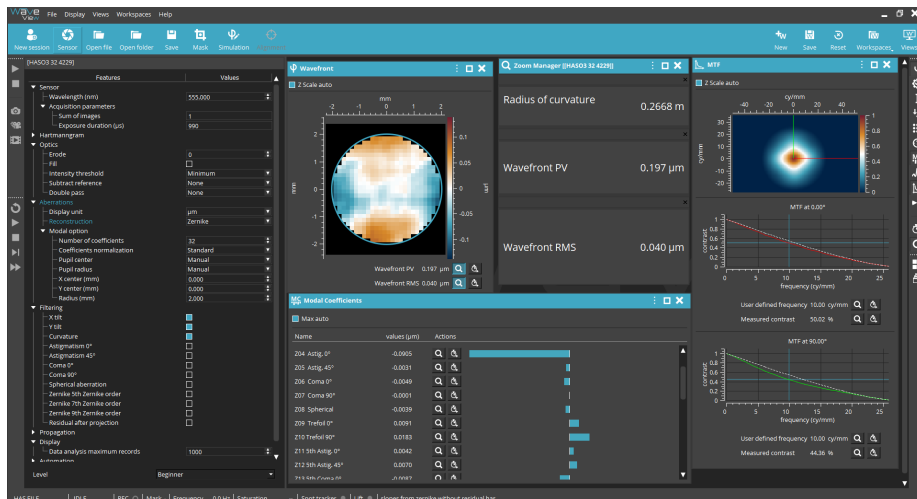
WAVEVIEW™ Metrology Software

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



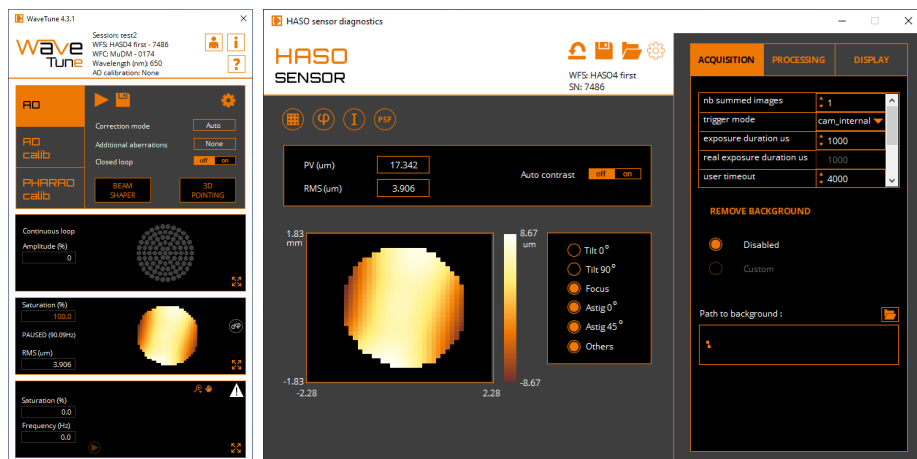
WAVETUNE™ Adaptive Optics Software

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



CONTACT US

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