LIFT
680

Wavefront sensor
The Best-in-class

Ultra-high spatial resolution
High accuracy
Alignment-free

NEO compatible

imagine optic

LIFT 680 +

For the LIFT 680, Imagine Optic has merged the reliability and accuracy of a Shack-Hartmann wavefront sensor with the ultra-high resolution of LIFT.

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 LIFT 680 performs multiple functions :
+ Characterize complex optics, including meta-surface and freeform optics
+ Quantify laser impact (LIDT)
+ Perform surface characterization on high and middle frequencies mirrors
+ Predict the performance of optical systems in terms of focusing capability or imaging quality
+ Quantify the effects of temperature and gravity on system performance
+ Drive a wavefront corrector to correct for system aberrations

FEATURES

The LIFT 680 enables you to perform multiple functions by combining :
+ Ultra-high spatial resolution of 680 x 504, allowing characterization over several hundreds of Zernike polynomials
+ Accuracy of λ/100 RMS permitting small defects detection
+ Dynamic range superior to 1000 λ for direct wavefront acquisition of converging and diverging beams

SPECIFICATIONS*

OPERATING SPECS

Aperture dimension	13.8 x 10.2 mm²
Phase points resolution	680 x 504
Number of microlenses	170 x 126
Maximum acquisition frequency	30 Hz (USB 3.0) or 8 Hz (with GigE converter)
Calibrated wavelength range	400 - 750 nm
Minimum power	0.7 nW
External trigger	TTL signal
Operating system	Windows 10 & 11

OPTICAL SPECS

Repeatability	< λ/200 RMS
Absolute wavefront measurement accuracy	λ/100 or 6 nm RMS
Spatial sampling	~ 20 µm
Local radius of curvature dynamic range	± 0.004 m to ± ∞

MISC

Dimension (Height x Width x Length)	47 x 62 x 60 mm³ (USB 3.0)
Weight for USB version	200 g
Working temperature	15 - 30 °C
Interface	USB 3.0 or optional GigE converter
Power consumption	3.6 W

LIFT 680
Wavelength range (nm)

1100
1000
900
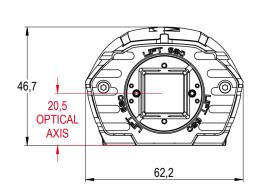800
700
600
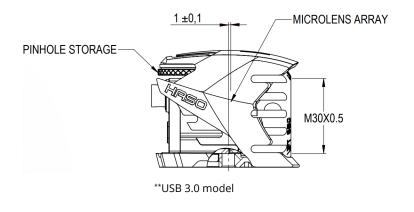500
400
350

LIFT 680
Dynamic range at λ = 635 nm

Dynamic range (λ PtV)

*Subject to changes without further notice
/!\ Acquisition & processing frequencies depend on computer

DIMENSIONS (mm)**

46,7

20,5
OPTICAL
AXIS

62,2

1 ±0,1

PINHOLE STORAGE

MICROLENS ARRAY

HASO

M30X0.5

**USB 3.0 model

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, M², Strehl ratio and advanced Zernike

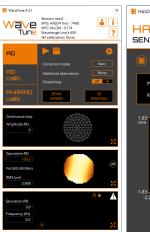+ Optional SDK in C/C++, LabVIEW and Python
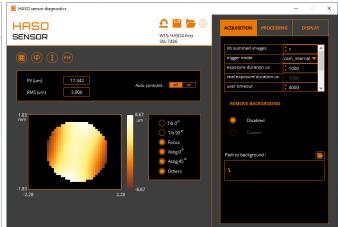

WAVETUNE™
Adaptive Optics Software

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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