HASO3™ FIRST

Performance, value, ease of use!

Thanks to their compact size and Firewire connectivity, HASO FIRST wavefront sensors are surprisingly easy to deploy. They provide exceptionally accurate and reliable measurements at speeds up to 60 Hz by taking advantage of the HASO family's unique features including:

- plug-and-play integration
- measure phase and intensity, both simultaneously and independently
- work with or without a reference beam
- λ/100 accuracy without compromising dynamic range
- small footprint fits into any setup
- insensible to vibrations

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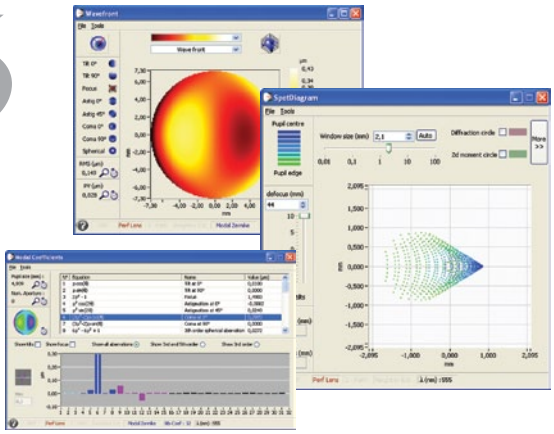
HASO3 FIRST



The all-new HASO FIRST is an ideal choice for results driven professionals in domains including adaptive optics, optical process optimization, laser beam characterization, and many others. These custom-calibrated, mono-wavelength (±50 nm) units enable you to build your very own high-quality wavefront metrology systems based on our patented Shack-Hartmann technology.

HASO FIRST is delivered with HASOv3, our industry leading wavefront analysis software. With just a few clicks, you can perform both zonal and modal wavefront reconstruction as well as visualize the spot image and raw camera data. Optional add-ons enable you to go even further and calculate the PSF, MTF, Strehl ratio and obtain the M^2 parameter.

Even more, HASO FIRST is ready for integration into your adaptive optics loop. Coupled with our powerful CASAO™ software package and a deformable mirror or SLM, you can correct and form wavefronts to optimize your beam's shape and focal spot, or correct wavefront aberrations in microscopy applications ranging from bioimaging to nanolithography.

Aperture dimension	3.6 x 4.6 mm²
Number of microlenses	32 x 40
Tilt dynamic range	> ± 3 ° (≈ 400 λ)
Focus dynamic range	± 0.018 m to ± ∞ (≈ 300 λ)
Repeatability (rms)	< λ/200
Wavefront measurement accuracy in absolute mode (rms)[1]	~ λ/100
Wavefront measurement accuracy in relative mode (rms)[2]	~ λ/150
Tilt measurement sensitivity (rms)	5 µrad
Focus measurement sensitivity (rms)	3.10^{-3} m^{-1}
Spatial resolution	~ 110 µm
Maximum acquisition frequency	60 Hz
Calibrated wavelength	in the 400-1100 nm range, details on request
Dimensions / weight	30 x 35 x 54 mm / 150 g
Working temperature	15 – 30° C
Power supply	12 V / 2 W
Interface	Firewire
Operating system	Windows XP, Windows 7 (Version B for x64)

(1) Wavefront as seen by the device. (2) Difference between the real wavefront and a reference wavefront obtained in similar conditions (5λ of shift max).

To speak with a sales engineer, learn more or to find a distributor in your region, please visit www.imagine-optic.com/find.

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