

SID4V | VACUUM COMPATIBLE & HIGH RESOLUTION

WAVE FRONT SENSOR



→ Phasics is innovating by proposing the first off-the-shelf vacuum compatible wavefront sensor on the market.

SID4V is designed to perform wavefront measurements **under high vacuum**. The wavefront measurement is realized in-situ in the same conditions as the experiment. With Phasics' unique strategy for **adaptive optics**⁽¹⁾ it is now possible to correct the aberrations of every single optical element up to the target location inside the vacuum chamber.

It is also used to characterize laser beams **after compression** inside the compressor vessel.

Finally, **gas jet and plasma density**⁽²⁾ are now measured as close to the target as possible.

DESIGNED FOR VACUUM DOWN TO 10⁻⁶ mbar NO CONTAMINATION IN THE VACUUM CHAMBER

↓ SPECIFICATIONS

Vacuum compatibility	> 10 ⁻⁶ mbar
Wavelength range	400 - 1100 nm
Aperture dimensions	4.73 x 3.55 mm ²
Maximum NA*	0.2
Spatial resolution	29.6 μm
Phase and intensity Sampling	160 x 120
Accuracy	15 nm RMS
Resolution (Phase)	2 nm RMS
Acquisition rate	60 fps
Real-time processing frequency	7 Hz (full resolution)
Dimensions (WxHxL)	54 x 46 x 75.3 mm
Weight	~250 g

* Optional software necessary

↘ KEY FEATURES

- Low outgassing
- Invariant to thermal and mechanical vacuum constraints
- Tolerates vacuum-cycles without any performance decrease
- Both functional under vacuum and atmospheric pressure
- Diverging beam compatible
- High resolution 160 x 120 phase pixels
- Large spectral acceptance
- Interface Giga Ethernet
- MTBF > 10 years
- Compactness

Application notes: (1) After last focusing optics correction with Phasics adaptive optics loop - (2) Wavefront-based plasma characterization

PHASICS - The phase control company