



**PHASICS**  
The phase control company

## SID4 V VACUUM COMPATIBLE HIGH RESOLUTION WAVEFRONT SENSOR

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

SID4 V 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**<sup>(1)</sup> 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<sup>(2)</sup> are now measured as close to the target as possible.

### KEY FEATURES



Large spectral  
range acceptance



High resolution  
160 x 120 phase pixels



Diverging beam  
compatible



Low outgassing



Operating under vacuum  
& atmospheric pressure



Compactness

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

# SID4 V VACUUM COMPATIBLE

## HIGH RESOLUTION WAVEFRONT SENSOR

### ADVANTAGES

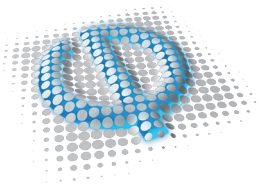
- 1 Invariant to thermal and mechanical vacuum constraints
- 2 Tolerates vacuum-cycles without any performance decrease
- 3 MTBF > 10 years

**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 <sup>2</sup>
Maximun NA*	0.2
Spatial resolution	29.6 $\mu$ m
Phase and intensity Sampling	160 x 120
Accuracy	10 nm RMS
Resolution (Phase)	< 2 nm RMS
Frame rate	60 fps
Real-time processing frequency	10 Hz (full resolution)
Dimensions	54 x 46 x 75.3 mm <sup>3</sup>
Weight	~250 g

\* Optional software module necessary



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