



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**⁽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.

KEY FEATURES



Large spectral
range acceptance



High resolution
416 x 360 phase pixels



Diverging beam
compatible



Low outgassing



Operating under vacuum
& atmospheric pressure



Compactness

SID4 V VACUUM COMPATIBLE

HIGH RESOLUTION WAVEFRONT SENSOR

ADVANTAGES

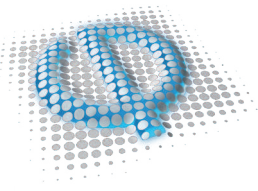
- 1 Invariant to thermal and mechanical vacuum constraints
- 2 Tolerates vacuum-cycles without any performance decrease
- 3 MTBF > 10 years

**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	9.98 x 8.64 mm ²
Maximun NA*	0.2
Spatial resolution	24 μ m
Phase and intensity Sampling	416 x 360
Accuracy	20 nm RMS
Resolution (Phase)	< 2 nm RMS
Frame rate	10 fps
Real-time processing frequency	3 Hz (full resolution)
Dimensions	73 x 71 x 90 mm ³
Weight	~450 g

* Optional software module necessary



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上海昊量光电设备有限公司 Phone: 4006-888-532 WeChat: www.phasics.com | contact@phasics.com www.auniontech.com

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PHASICS S.A.

Bâtiment Mercury I - Espace Technologique
Route de l'Orme des Merisiers
91190 Saint-Aubin
FRANCE
Tel : +33(0)1 80 75 06 33

PHASICS CORP.

1023 Walnut Street
Suite 100
Boulder CO 80302
USA
Tel : +1 415 610 9741