

HPDM



High Power Deformable Mirror

- High reflectivity coating
- Handles laser powers up to 100KW
- Optimal for strong atmospheric turbulence correction
- High Speed : >2kHz

USE CASE

Our high power deformable mirror delivers real time wavefront correction for demanding outdoor and long range optical applications. Designed for high energy beams, it ensures stable, precise and efficient beam propagation even in challenging atmospheric conditions.

It enhances system performance by:

- Compensating turbulence for improved beam quality
- Maintaining optimal focus over long distances
- Withstanding high power laser environments
- Easily integrated as a standalone DM or part of a complete AO system

Ideal for advanced optical platforms requiring reliability, accuracy, and high energy robustness.

KEY VALUES

Number of actuators	10x10 typical, more on request
Reflectance	Up to 99.98% depending on wavelength and angle of incidence
Clear aperture	50 to 100mm typical. Custom geometry on request
Beam parameter	Top hat or gaussian
Scattering	<70ppm
Optical power	Up to 100kW (with cooling)
Roughness	5 angstroms RMS
Pitch	5mm standard, larger pitch on request
Surface quality	<30nm RMS surface
Dead actuators	None
Total stroke	+/-8um surface (16um pv wavefront), larger stroke possible on request
Actuator coupling	20%
Linearity and hysteresis error	<10%
RMS Linearity	<5% pv
Open loop bandwidth	>3kHz @-3dB
DM dissipated power	<1W

OUR COMPANY

Bertin Alpao, a subsidiary of the Bertin Technologies Group, designs and manufactures a complete range of adaptive optics components and systems for research and industry.

Since its inception in 2007, Bertin Alpao is revolutionizing the field of adaptive optics by providing highly reliable and precise solutions such as deformable mirrors, wavefront sensors, and tailor-made adaptive optics systems, for demanding applications including space, astronomy, optical communications, quantum key distribution, ophthalmology, microscopy, microelectronics and laser applications. Bertin Alpao empowers users to correct optical aberrations in real time, enabling ultra-high resolution imaging or very low communication and power losses.

