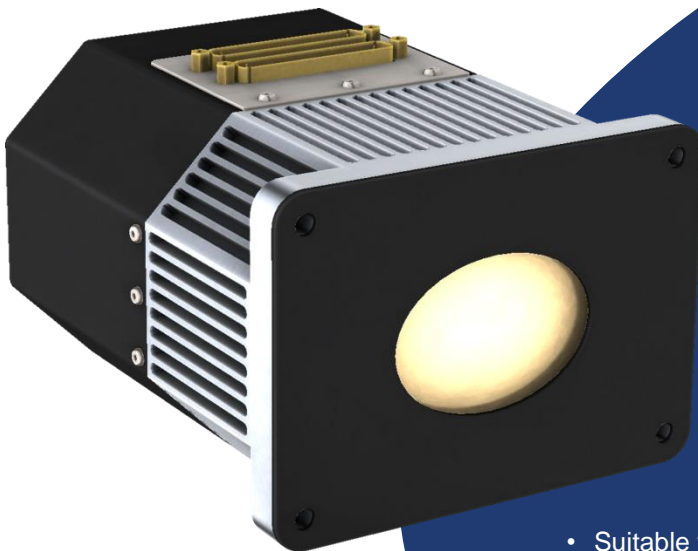


Deformable Mirror dedicated to beam shaping and wave-front correction for IR laser application (@10,6 $\mu$ m) by using  $\mu$ AME actuators.



- Improves laser beam quality through wave front correction
- Large correction amplitude
- Excellent linearity (>99%)
- Low hysteresis (<0,1%)
- High long-term stability unpowered
- No print-through effect on the optical surface
- Optical surface's shape maintained unpowered
- Suitable for high average power laser up-to 2,5 kW
- Excellent resistance to electromagnetic disturbance
- Actuators and optical surface easily exchangeable

- Working pupil:  $\varnothing 60\text{mm} \times \varnothing 85\text{mm}$ , circular beam, angle of incidence=45°
- Total aperture  $\varnothing 100\text{mm}$
- Dedicated coating for beam  $\lambda = 10,6\mu\text{m}$ , circular polarization maintained @ 45°
- Active cooling (25W absorbed): Need for water cooling circuit and dry air (30%HR max@20°C).
- Temperature monitoring (safety alert)
- 35 Actuators (actuators quantity can be adjusted for each application)
- High Zernike order correction
- Compatible with any wave-front sensor technology
- Size W 300 x H 300 x D 250 (excluding connectors)
- Weight 25kg (to be confirmed)

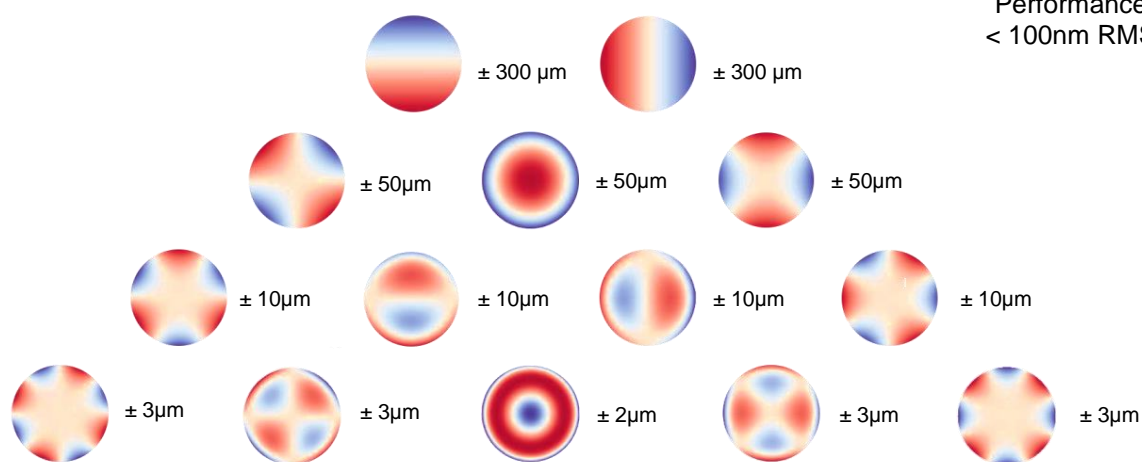
**\* $\mu$ AME-ST** : Micro Strength Actuator patented by ISP System Micro Strength Actuator driven by stepper motors, patented by ISP System(1)  
(1)ISP SYSTEM'S patents : EP1925959 A1 and FR2981139 A1

## Adaptive optics loop

MD-AME deformable mirror can be interfaced with any wave-front sensor technology (Shack Hartmann, Lateral Shearing Interferometry). ISP SYSTEM advises and supports the customers on the integration of deformable mirror in adaptive optics loop system.

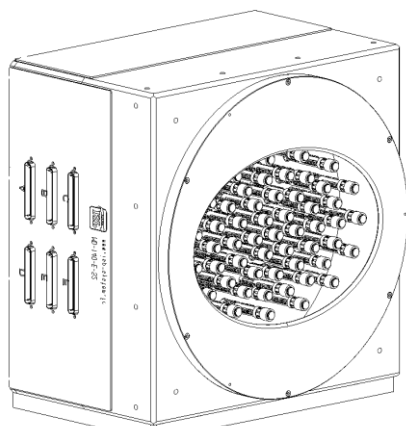
ISP SYSTEM proposes dedicated and adapted solutions for intense laser facilities. These solutions have shown their efficiency and their stability on many laser facilities worldwide.

### Zernike modes dynamics achievable, Peak to Valley (PtV)



Typical PtV amplitudes for a Ø80mm circular aperture with 35 actuators.

## Custom solutions



Thanks to its experience and skills, ISP System offers services to design custom solutions in order to fit your needs.

The main customizable features are:

- Actuators quantity
- Zernike modes dynamics and achievable order
- Aperture size and angle of incidence
- Control strategy
- Environment compatibility
- Software environment
- Optical surface coating (wavelength, damage threshold, reflectivity...)

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