

## Multi™

**M**ulti™ is AgilOptics' standard line of multi-actuator deformable mirrors. Multi is available in four general sizes: 16mm, 25mm, 30mm and 50mm diameters, with a wide range of special coatings. A typical assembly fits into standard 2" optical mounts. AgilOptics will design custom mirror diameters and actuator layouts according to customer specifications.

Deformable mirrors provide accurate wavefront control for applications such as laser beam shaping. With the proper coatings, Multis are usable in high power applications. They have withstood up to 40kW/cm<sup>2</sup> continuous illumination for a maximum exposure of 60 seconds at a 1064nm wavelength.

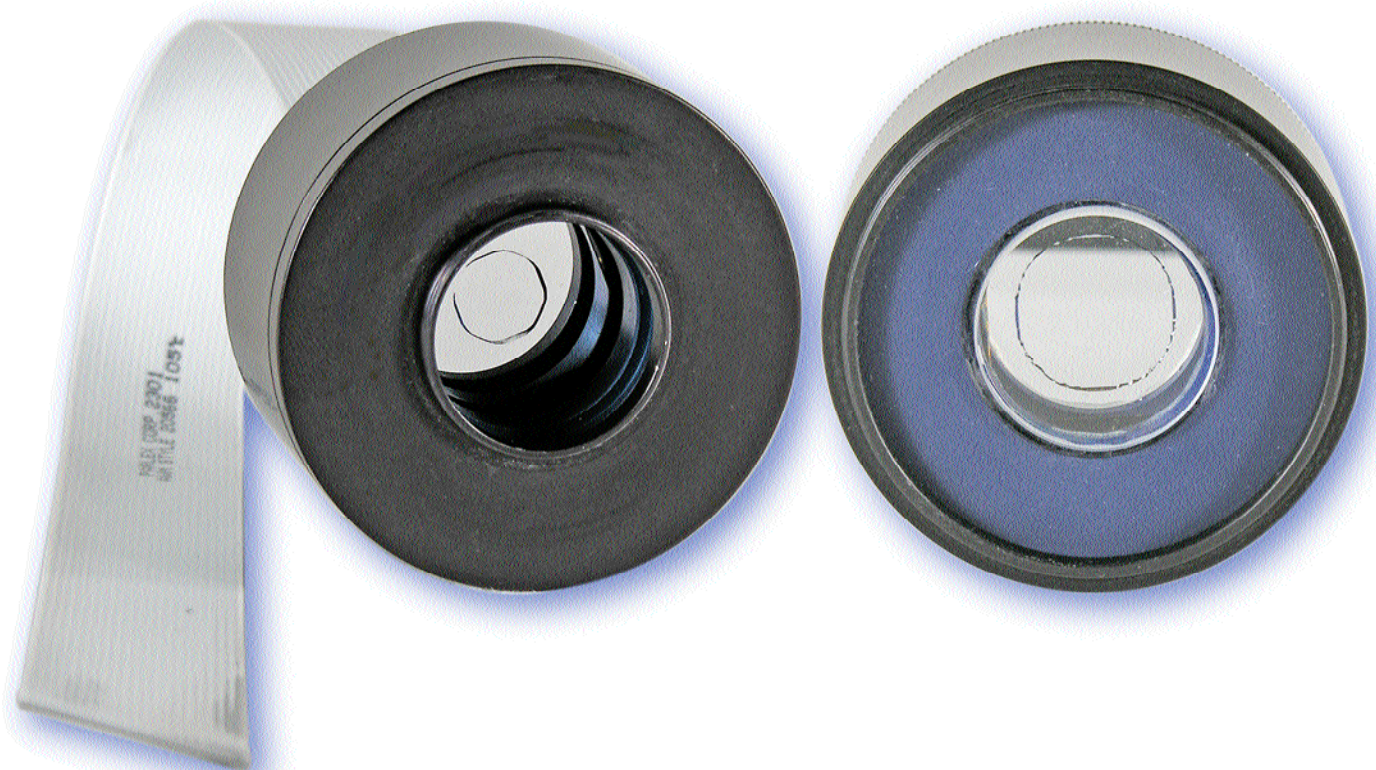
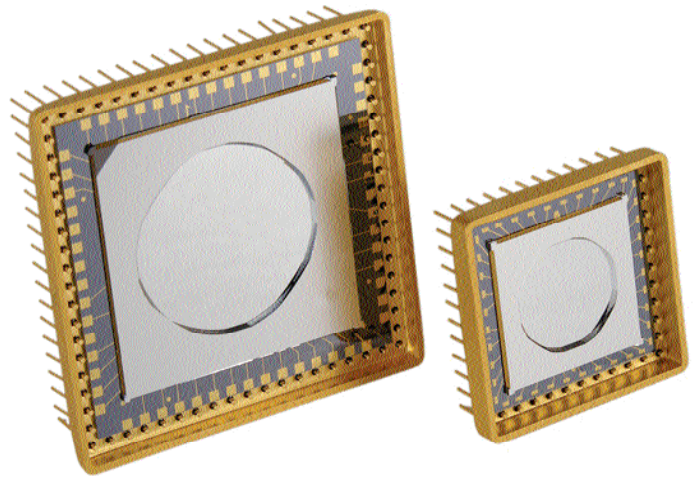
### Applications

- Laser Wavefront Control
- Optical System Distortion Removal
- Image Clarification
- Far Field Pattern Control
- Laser Beam Shaping

## Multi-Actuator Deformable Mirrors

### Features

- Anti-SnapDown...no more catastrophic failures!
- >10μm spherical pull
- 37 Actuators
- Made of High-Quality Silicon
- Protective Front Window (optional)
- 400nm RMS static flatness
- Active area 60-70% of diameter



### What Multi™ Can Do For You:

Combined with our drivers and software, Multi™ can:

- Clean-up laser beams
- Clarify images
- Provide far field intensity control

### Ordering Information

## MULTI – 50/61 – HR1064

Series Name      A      B      C      D

Series Name: Multi™ Multi-actuator Deformable Mirror

A: Mirror Diameter in millimeters (mm)  
B: Actuator Count

Standard Mirror Diameter/Actuator Count Combinations:

- 10/8
- 16/37
- 25/37
- 25/61
- 30/37
- 50/37
- 50/61

Custom diameter/actuator counts available to user's specifications. Contact AgilOptics for delivery and pricing.

C: Coating Type  
· HR – High Reflectivity  
· AR – Anti-Reflective

D: Wavelength

#### Multi-Wavelength Coatings

- Vis – Broad-band visible spectrum
- Al – Standard
- AgProt – Protected Silver
- Au – Gold

#### Single Wavelength Coatings

- 1315nm
- 1064nm
- 820nm
- 800nm
- 633nm
- 349nm
- 266nm

Custom coatings can be added to any mirror. Contact AgilOptics for delivery and pricing.

### Specifications

Mirror Diameter Parameter	Conditions	16 and 25 mm			30 or 50 mm			
		Min	Typ	Max	Units	Typ	Max	Units
Electrical Actuator Capacitance			140	200	pF	100	200	pF
Applied Voltage				200	V		200	V
Power Consumption (per actuator) 1kHz; 200V; 1nF		40			mW	40		mW
<b>Mechanical</b> Central Actuator Throw		8	10		µm	10		µm
Edge Actuator Throw		0.5	2	4	µm	2	4	µm
Diameter			30		mm	16		mm
Actuator Spacing			2		mm	2		mm
Actuator Area			1.4		mm <sup>2</sup>	1.4		mm <sup>2</sup>
Resonance Frequency		>1			kHz	>1		kHz
<b>Optical</b> Surface Roughness (rms)	Profilometer		5		nm	5		nm
Surface Flatness (PV)	Interferometer		400		nm	400		nm
Surface Flatness (rms)			60		nm	60		nm
Natural Surface Shape					Astigmatism			Astigmatism
Strehl Ratio	Central 80% Illuminated, Actively Flattened	65	80		%	80		%

