

## Key Features & Benefits

- Excellent optical quality (Strehl ratio > 0.95) with control voltages set to zero
- Large clear aperture – 40 mm diameter (36 mm deformable)
- Stroke of +/- 3  $\mu\text{m}$  in focus / defocus mode
- Sufficient spatial resolution and stroke for mitigation of common aberrations in optical systems
- Control voltage range  $\pm 100$  V
- High operational bandwidth (> 10 kHz)
- Compact enclosure
- Part of the Optonicus WACO Design Kit

## Applications

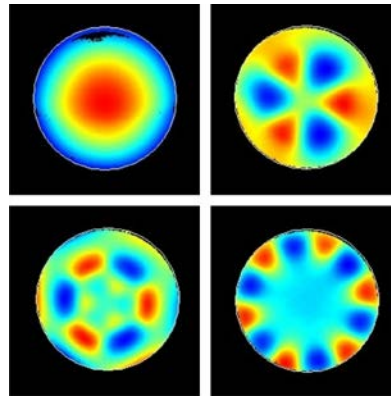
- Active imaging
- Adaptive optics
- Free-space laser communications
- Medical imaging
- Laser tracking
- Remote sensing systems

# WACO DM

## Multi-Actuator Deformable Mirror

High optical quality, large optical aperture and high operational bandwidth deformable mirror with 7, 16, or 31 actuators for low-resolution phase aberration compensation

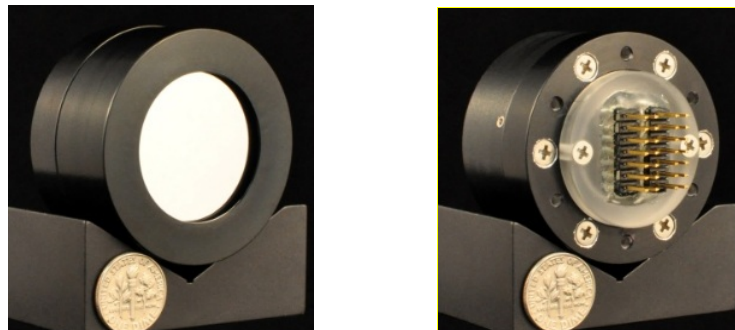
The WACO DM is an advanced wavefront control device consisting of a semi-passive bimorph mirror supported by an underlying actuator array. Each actuator in the array can be individually regulated by control voltages to achieve the desired surface shape. The number of actuators in the WACO DM can be 7, 16, 31, or customer-specified.



**Examples of WACO DM-16 mirror surface deformation in response to control voltages**

Based on advanced technology used in its manufacturing, the WACO DM performance strengths include large aperture, high bandwidth and excellent optical quality (Strehl ratio > 0.95 when control voltages are set to 0).

WACO DM multi-actuator deformable mirrors can be purchased as a component of the WACO Design Kit or individually.



**Deformable mirror WACO DM-16 (front and back views)**

## WACO DM Technical Specifications

### Optical

- Clear aperture diameter: 40 mm or customer specified in the range from 20 mm to 40 mm
- Deformable surface aperture: 36 mm, others possible on custom build
- Stroke in focus/defocus mode:  $\pm 3 \mu\text{m}$

### Electrical

- Number of control electrodes: 7, 16, or 31
- Control input voltages:  $\pm 100 \text{ V}$
- Compensation bandwidth:  $> 10 \text{ kHz}$

### Mechanical

- Diameter: 50.4 mm (2") matching the standard 2" lens/mirror mount; larger possible on custom build
- Length: 47 mm (1.9") including electrical connector