

High-stability Mirror Mount with Piezo Drive Motor

MHX-PDM    W4159

The Piezo Drive Motors are mounted on a High-stability Mirror Mount, which characteristics of maximize stiffness and faster to reach thermal equilibrium are achieved by a hollow-frame design. Operated by a Piezo Drive Motor, it can be remotely controlled and adjusted with high resolution. It eliminates the need to reach into the optical path, prevents unintentional interruption of the optical path, and ensures stability and safety of the optical system. Ideal for applications such as interferometry and precise measurement.



Compatible optics diameter			
0.5 in	1 in	2 in	4 in
φ12.7mm	φ25.4mm	φ50.8mm	φ101.6mm

- Adhesive holes for mirror adhesion and pin holes for anti-rotation and positioning are equipped.
- High-density stainless steel is used for the material, but the weight has been reduced by reducing the thickness.
- The frame design provides a higher moment of inertia to maximize stiffness and reduced-mass sections allowing it to reach thermal equilibrium faster for maximum stability.
- The Piezo Drive Motor mounted on this product is a dedicated Piezo Drive Motor to enable high-resolution adjustment.

Guide

► For operation, use the dedicated Piezo Drive Controller (PDM-ID-02).



- One controller is required for each product.
- This product comes with two connection cables (2m) dedicated to the Piezo Drive Controller.

Attention

- Piezo Drive Motors are driven by an inertia mechanism using a piezoelectric element, so there are variations in speed and minimum travel depending on the individual unit and the direction of motion. Please understand this in advance.
- The Piezo Drive Motor attached to this product is dedicated to the MHX-PDM series. The standard PDM series cannot be installed. Please contact our Sales for details.
- When used with a cross beam (optical system such as a Michelson interferometer), the effective diameter of the beam becomes smaller.

Part Number	Pedestal Bases (PST)	Posts (With tip thread)			
		M4	8-32 UNC	M6	1/4-20UNC
MHX-12.7	○ With small-head screw (attached)	×	×	×	×
MHX-25.4	○	○	○	×	×
MHX-50.8	○	○	○	×	×
MHX-101.6	○	×	×	○	○

MHX-25.4/50.8 Series

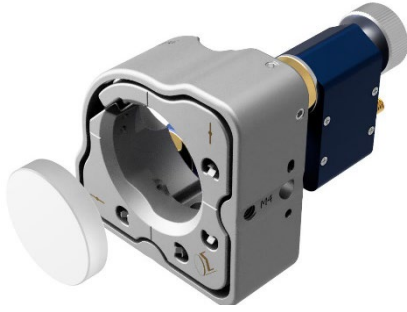


- MHX-12.7 is not compatible with tip threads rods.
- MHX-25.4/50.8 cannot be attached to M6 rods (RO). Use M4 or 8-32 UNC rods (ROC, RO-UU) when using a rod.
- To attach MHX-101.6 to rods, use M6 or 1/4-20UNC rods (RO-20, ROU-20).
- Both MHXs can be secured to post stands (PST) or spacers with M4 or 8-32 UNC threads. (For MHX-12.7, use the supplied small head bolts.)
- When using a rod, it is not possible to change the beam transmission direction of the mirror holder. Use a post stand (PST) to change the direction.

MHX-A-PDM_E2301

Mounting direction

MHX-A-PDM**



Mounting direction **Front**

Number of adjustment axes

MHX-A-PDM**

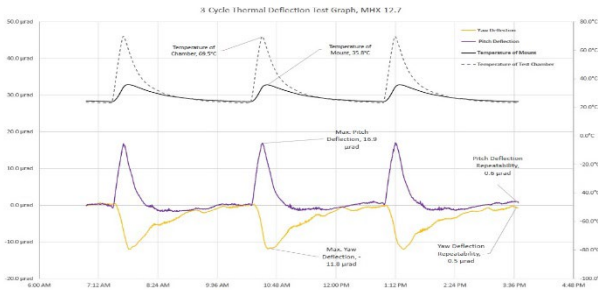
2 axes of adjustment



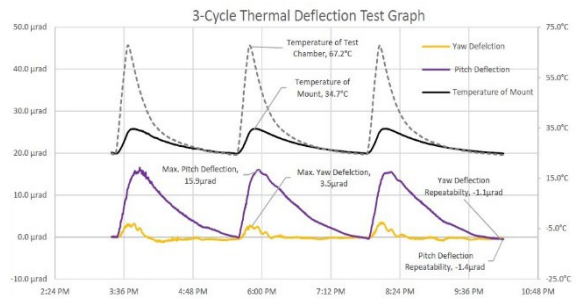
(Tilt · Rotation)

3-cycle thermal deflection test graph

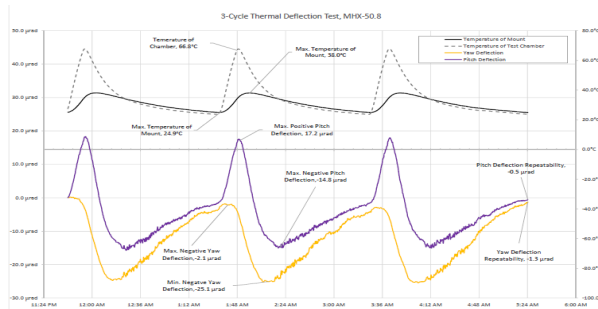
MHX-12.7



MHX-25.4

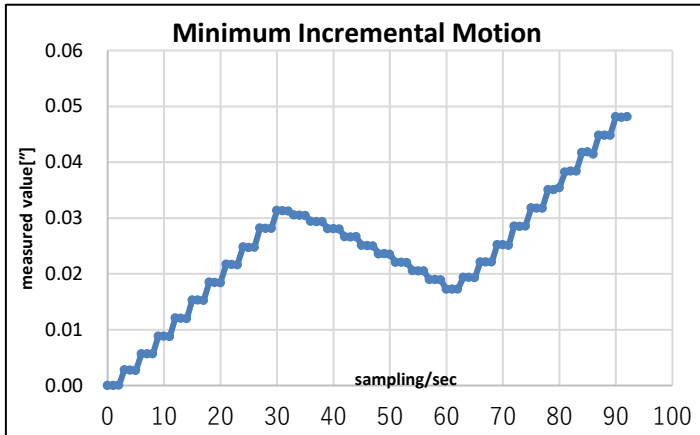


MHX-50.8

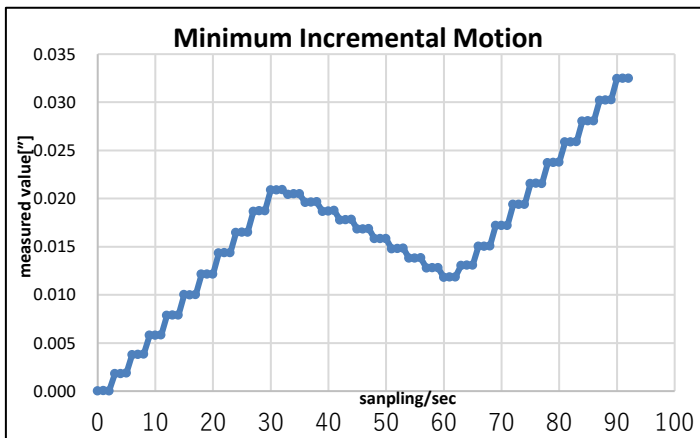


Minimum incremental motion

MHX-12.7A-PDM



MHX-25.4A-PDM



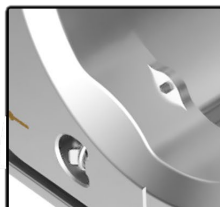
MHX Features at Glance

The hollow-frame design provides higher moment of inertia to maximize stiffness

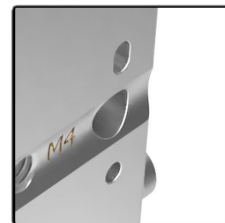
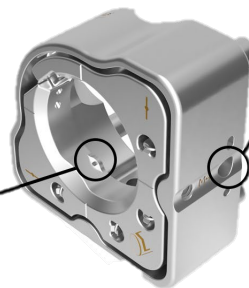


Number of adjustable axes
Selectable from 2 or 3 axes
PDM type is 2 axes

3 Adhesive Wells



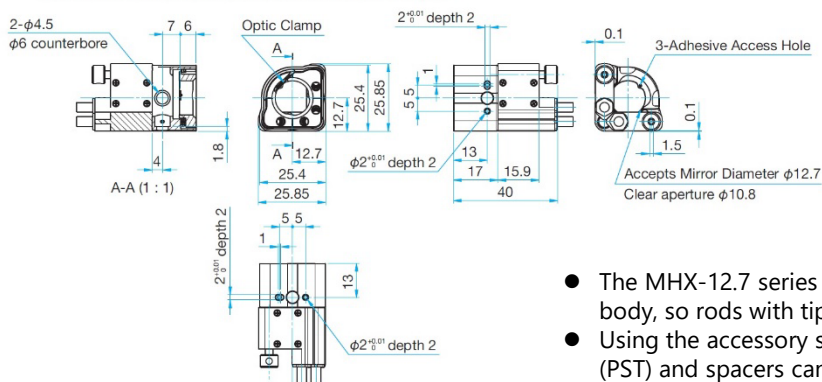
Mounting orientation of optics
Selectable from front or back side
PDM type is Front mounting



Additional features include
"Keying Pin Slots"

MHX-12.7A-PDM

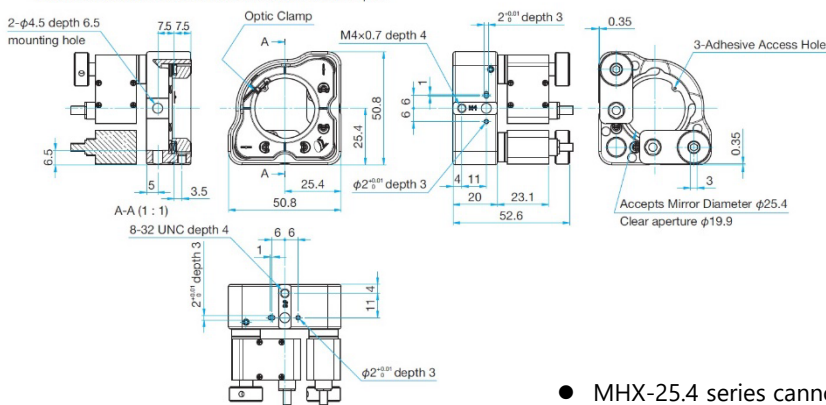
- SUS Hexagonal socket small head cap screw M4×6...1 screw
- SUS Hexagonal socket small head cap screw 8-32UNC×1/4...1 screw
- Piezo Drive Controller Connection Cable PAS-CA-2...2 pcs



- The MHX-12.7 series does not have threaded holes in the body, so rods with tip threads cannot be attached.
- Using the accessory small head screw, Pedestal Bases (PST) and spacers can be secured with M4 or 8-32UNC screws.

MHX-25.4A-PDM

- SUS Hexagonal socket head cap screw M4×12...1 screw
- SUS Hexagonal socket head cap screw 8-32UNC×1/2...1 screw
- Piezo Drive Controller Connection Cable PAS-CA-2...2 pcs

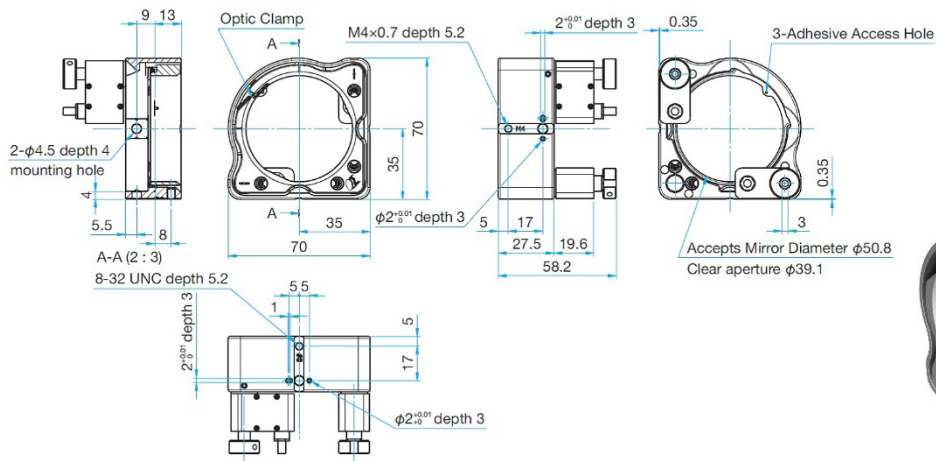


- MHX-25.4 series cannot be attached to M6 rods (RO). Use M4 or 8-32 UNC rods (ROC, RO-UU) when using a rod.
- Both MHXs can be secured to post stands (PST) or spacers with M4 or 8-32 UNC threads.

Specifications		MHX-12.7A-PDM	MHX-25.4A-PDM	MHX-50.8A-PDM	MHX-101.6A-PDM
Part Number		MHX-12.7A-PDM	MHX-25.4A-PDM	MHX-50.8A-PDM	MHX-101.6A-PDM
Compatible Optics Diameter		φ12.7	φ25.4	φ50.8	φ101.6
Compatible Optics Thickness		2~6	3~7	5~13	Φ10~20
Clear Aperture[mm]		φ10.8	φ19.9	φ39.1	φ96
Optical Axis Height[mm]		12.7	25.4	35	63.5
Number of Adjustment Axes		2	2	2	2
Mounting Direction		Front	Front	Front	Front
Adjustment Range	Tilt [°]	±3	±3	±3	±2
	Rotation [°]	±3	±3	±3	±2
Minimum Travel	Tilt ["]	<0.35"	<0.15"	<0.08"	<0.035"
	Rotation ["]	<0.35"	<0.15"	<0.08"	<0.035"
Weight [kg]		0.05	0.24	0.4	1.2

MHX-50.8A-PDM

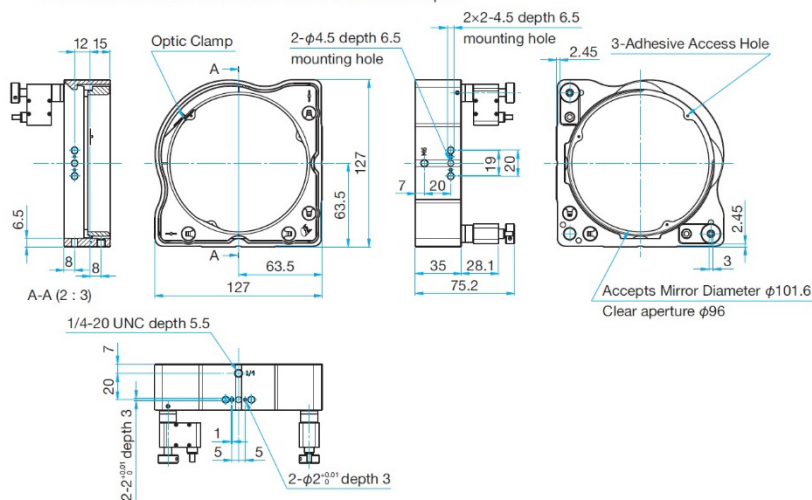
- SUS Hexagonal socket head cap screw M4x10...1 screw
- SUS Hexagonal socket head cap screw 8-32UNCx3/8...1 screw
- Piezo Drive Controller Connection Cable PAS-CA-2...2 pcs



- MHX-50.8 series cannot be attached to M6 rods (RO). Use M4 or 8-32 UNC rods (ROC, RO-UU) when using a rod.
- Both MHXs can be secured to post stands (PST) or spacers with M4 or 8-32 UNC threads.

MHX-101.6A-PDM

- SUS Hexagonal socket head cap screw M4x12...3 screw
- SUS Hexagonal socket head cap screw 8-32UNCx1/2...3 screw
- Piezo Drive Controller Connection Cable PAS-CA-2...2 pcs



- To attach MHX-101.6 to rods, use M6 or 1/4-20UNC rods (RO-20, ROU-20).
- Both MHXs can be secured to post stands (PST) or spacers with M4 or 8-32 UNC threads.