Gimbal Mirror Holders | MHAN-S/MHA/MHAN-DM

RoHS

Mirrors can rotate 360 degrees in the pitch direction.
Ideal for applications where the incident light has multiple angles of incidence.

- The angle of the mirror can be fine tuned with the coarse/fine switching clamp.
- The mount is designed to have the reflective surface at the center of rotation of the mount. Mirror thickness does not affect this.
- 0.25 mm fine pitch screw adjusters or differential micrometers can be used to save space and provide finer adjustment for MHAN mounts ϕ50.8 mm and under

Guide

- The RO-20-60 post (diameter ϕ20mm, length 60mm) is included but it can be replaced with other sizes. Special tools are required to remove the post. Different sized post can be specified at the time of purchase.
- Kinematic mirror holders, MHG-NL, should be used for low optical axes applications. Reference C014

Attention

- Beam splitters mounted at 45 degrees will have the beam blocked by the aluminum frame.The BHAN gimbal beamsplitter holders are recommended and have a larger transmitted clear aperture. Reference C026
- Use the coarse/fine switching clamp to lock down the mount after the desired adjustment.
- The post should be well secured before adjusting the mount.

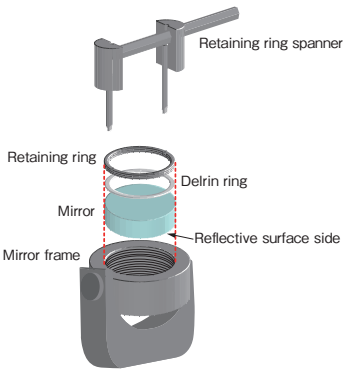
Mirror Mounting Methods

When mounting a mirror in a mirror holder, use gloves or finger cots so that finger prints do not get on the mirror.

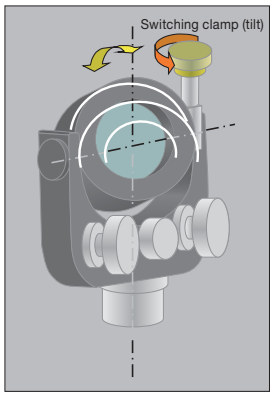
When securing a mirror to the gimbal mirror holder, place the reflective surface downward so that the mirror will be tight against the bottom (face side) of the mirror frame. Place a Delrin ring on the mirror from the top, so that it does not scratch the mirror. Secure the retaining ring into the mirror frame using a spanner wrench or similar tool.

Guide:
First, tighten the retaining ring until it just contacts the mirror.
Second, firmly tighten the retaining ring once, until mirror frame and mirror, Delrin ring, and retaining ring are all in tight contact.
Third, loosen the retaining ring until the mirror can move.
Finally, slowly tighten the retaining ring, stopping at the position where the retaining ring is held lightly. So as not to put stress on the mirror.

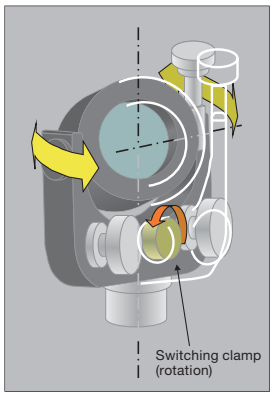
When shipping or when used in locations with a lot of vibration, it is possible that the retaining ring will come loose, and the mirror will fall off. In this case, either firmly tighten the retaining ring so that it does not come loose, or secure the retaining ring with thread locking adhesive.



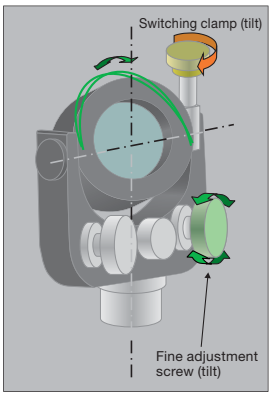
How to Use the Coarse / Fine Switching Clamp and Fine Adjustment Screws



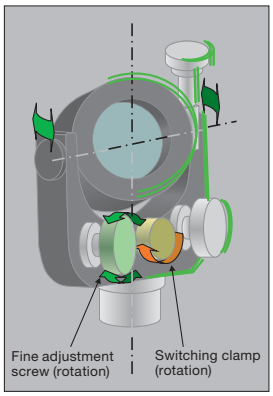
Tilt (pitch) coarse movement control



Rotation (Yaw) coarse movement control



Tilt fine movement control



Rotational fine movement control

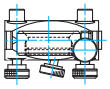
HOURS
www.hours-web.com

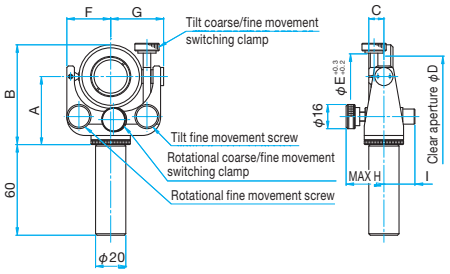
2D CAD 3D CAD

Outline Drawing

MHAN-S

M6 P1

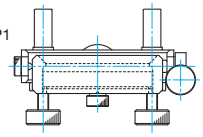


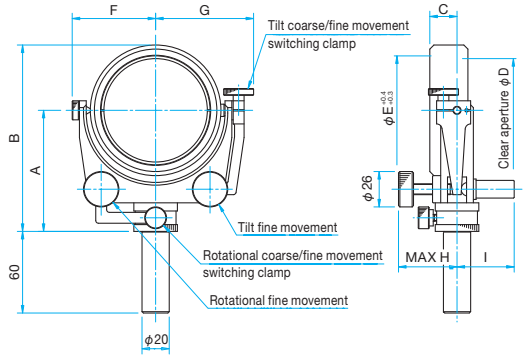


Part Number	A (mm)	B (mm)	C (mm)	ϕD (mm)	ϕE (mm)	G (mm)	F+G (mm)	MAX H (mm)	I (mm)
MHAN-20S	40	56	10	ϕ17	ϕ20	30	54	26.5	20.5
MHAN-25.4S	45	66	10	ϕ22	ϕ25.4	35	64	27	20.5
MHAN-30S	45	66	10	ϕ27	ϕ30	35	64	27	20.5
MHAN-40S	52.5	79.5	12	ϕ37	ϕ40	41	76	27.5	20.5
MHAN-50S	60	92	15	ϕ46	ϕ50	46	86	29	20.5
MHAN-50.8S	60	92	15	ϕ47	ϕ50.8	46	86	29	20.5
MHAN-60S	65	102	15	ϕ56	ϕ60	51	96	28.5	20.5

MHA

MHA-80S: M6 P1
Other: M10 P1

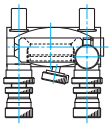


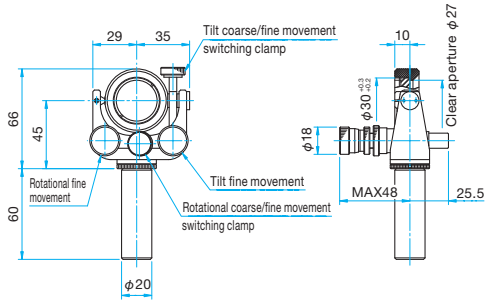


Part Number	A (mm)	B (mm)	C (mm)	ϕD (mm)	ϕE (mm)	G (mm)	F+G (mm)	MAX H (mm)	I (mm)
MHA-80S	89	137	20	ϕ75	ϕ80	72	133	48	42.5
MHA-100SA	115	177	21	ϕ95	ϕ100	101	184	48	45
MHA-130SA	128	205	24	ϕ124	ϕ130	116	214	48	45
MHA-150S	140	227	26	ϕ144	ϕ150	126	234	48	45

MHAN-30DM

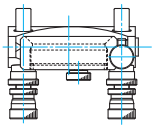
M6 P1

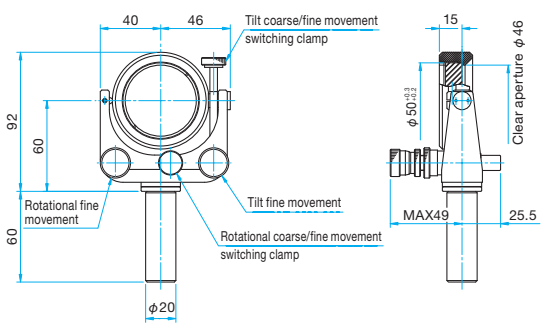




MHAN-50DM

M6 P1





Screw Type

Primary material: Aluminum
Finish: Black Anodized

Part Number	Options specified*	Compatible Optics Diameter [mm]	Compatible Optics Thickness [mm]	Reflected Beam Clear Aperture (45° incidence) [mm]	Fine Adjustment Range Tilt [°]	Fine Adjustment Range Rotation [°]	Fine Adjustment Resolution Tilt [°/rotation]	Fine Adjustment Resolution Rotation [°/rotation]	Weight [kg]
MHAN-20S	N/UU	ϕ20	2 – 6	ϕ9.2	±4	±4	about 0.54	about 0.68	0.3
MHAN-25.4S	N/UU	ϕ25, ϕ25.4	2 – 6	ϕ12.7	±4	±4	about 0.54	about 0.68	0.4
MHAN-30S	N/UU	ϕ30	2 – 6	ϕ16.3	±4	±4	about 0.54	about 0.68	0.4
MHAN-40S	N/UU	ϕ40	2 – 8	ϕ23.3	±4	±4	about 0.45	about 0.55	0.6
MHAN-50S	N/UU	ϕ50	3 – 11	ϕ30.4	±4	±4	about 0.35	about 0.48	0.7
MHAN-50.8S	N/UU	ϕ50.8	3 – 11	ϕ30.4	±4	±4	about 0.35	about 0.48	0.7
MHAN-60S	N/UU	ϕ60	3 – 11	ϕ37.5	±3	±4	about 0.31	about 0.41	0.9
MHA-80S	—	ϕ80	4 – 15	ϕ50.9	±3.5	±5	about 0.49	about 0.72	1.6
MHA-100SA	—	ϕ100	4 – 15	ϕ65.1	±3.4	±5	about 0.35	about 0.52	1.9
MHA-130SA	—	ϕ130	7 – 18	ϕ86.3	±2.9	±4	about 0.30	about 0.42	2.3
MHA-150S	—	ϕ150	4 – 20	ϕ100.4	±2.5	±4	about 0.26	about 0.38	2.5

* For specifying options, please refer to “Conversion of Posts, Post Holders and Pedestal Bases of Holders”. Reference C007

Precision Type

Primary material: Aluminum
Finish: Black Anodized

Part Number	Options specified*	Compatible Optics Diameter [mm]	Compatible Optics Thickness [mm]	Fine Adjustment Range Tilt [°]	Fine Adjustment Range Rotation [°]	Fine Adjustment Resolution Tilt [°/rotation]	Fine Adjustment Resolution Rotation [°/rotation]	Ultra Fine Adjustment Resolution Tilt [°/rotation]	Ultra Fine Adjustment Resolution Rotation [°/rotation]	Ultra Fine Adjustment Indicator Conversion Tilt [°/DIV]	Ultra Fine Adjustment Indicator Conversion Rotation [°/DIV]	Weight [kg]
MHAN-30DM	N/UU	ϕ30	2 – 6	±4	±4	about 1.08	about 1.35	about 0.11	about 0.14	about 0.002	about 0.002	0.47
MHAN-50DM	N/UU	ϕ50	3 – 11	±3	±4	about 0.71	about 0.95	about 0.07	about 0.10	about 0.001	about 0.002	0.58

* For specifying options, please refer to “Conversion of Posts, Post Holders and Pedestal Bases of Holders”. Reference C007