

Vacuum Vertical Control Mirror Mount VMHV RoHS Catalog Code W4167

A vacuum-compatible, stainless steel mirror mount for operation from top, designed for use inside vacuum chambers. The top surface adjustment function and side-cut shape enable installation in tight spaces and allows for close-proximity placement of components.



- These products are engineered with vacuum use in mind, from material selection to cleaning and packaging.
- Moving parts are lubricated with BARRIERTA SUPER IS/V grease, known for its low outgassing performance.
- No adhesives are used in this product.
- VMHV-L-F allows the mirror to be inserted from the front, while VMHV-L-R allows insertion from the rear. Both types include mirror adhesive wells, an anti-rotation structure for installation, and positioning pin holes.
- The mount can be mounted either by fastening from the top using screws onto a plate, or by securing it from the bottom via a pedestal base or post.

Guide

- The product and included screws are delivered in vacuum packaging to maintain high cleanliness.
- Use a 1.5mm Allen wrench for adjusting the tilt and rotation. Bare hands cannot turn the tilt/rotating screw.
- Vacuum Pedestal Bases (VPST) and Posts (VRO) are also available and can be mounted using the supplied screws.
- A Non-Magnetic Vacuum-Compatible version (VMHV-NM series) is also available.

Attention

- When opening the vacuum packaging, do so in a cleanroom environment and avoid touching the product directly with bare hands.
- Hexagonal wrench is not included.

Vacuum Performance Data (Ultimate Pressure & Outgassing Rate)

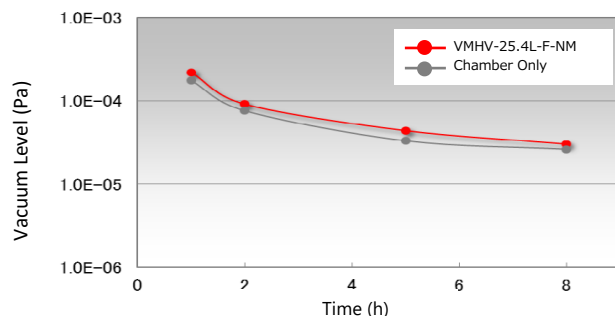
The measurement was performed by placing the finished product in an actual vacuum chamber and evaluating its outgassing characteristics. The following data shows an example of measured outgas rate tested with the vacuum-compatible vertical control mirror mount (VMHV-25.4L-F-NM).

About the Evaluation

- Outgas Rate

Part Number	Pump-down Time h	Outgas [Pa·m ³ /s/unit]
VMHV-25.4L-F-NM	1	2.09×10^{-6}
	8	1.87×10^{-7}

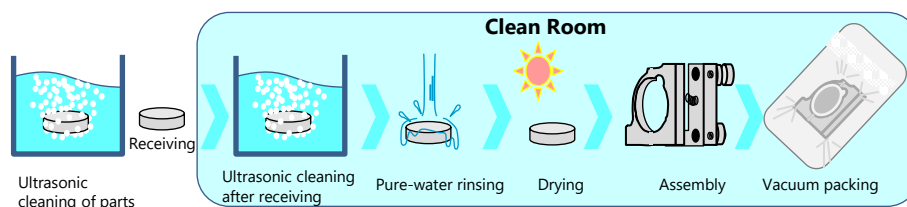
Ultimate Pressure (Part Number VMHV-25.4L-F-NM)



System Specifications

- Vacuum pump
Type: Turbo-molecular pump
Model : Turbo-V250
Manufacturer: Agilent Technologies (formerly VARIAN)
Pumping Speed : 250 L/sec
- Mass spectrometer
Type : Quadrupole Mass Spectrometer
Model : QME200
Mass Range : 1 - 100
Manufacturer : PFEIFFER Vacuum

Reference Cleaning (Vacuum specifications)



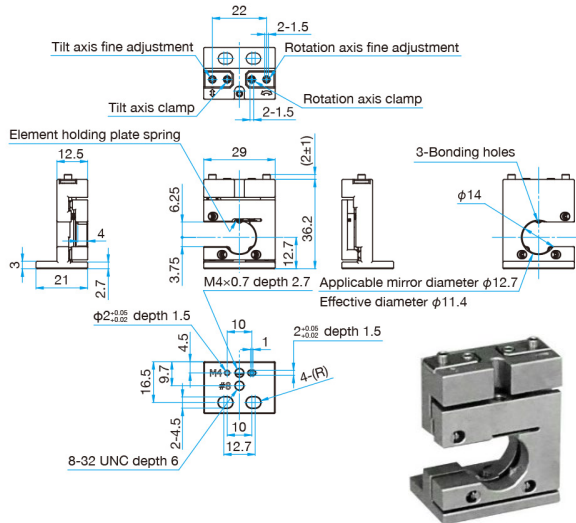
In the ultra-high vacuum, gas adsorbed on the metal surface can be a problem. Stainless steel and aluminum are protected from corrosion by creating an oxide film immediately after processing. However, when oil and water is present on the surface after processing, oxide film can not be generated properly, and it may cause outgassing. For this reason, proper cleaning is first carried out for the parts and later for the finished product also.

Outline Drawing

(in : mm)

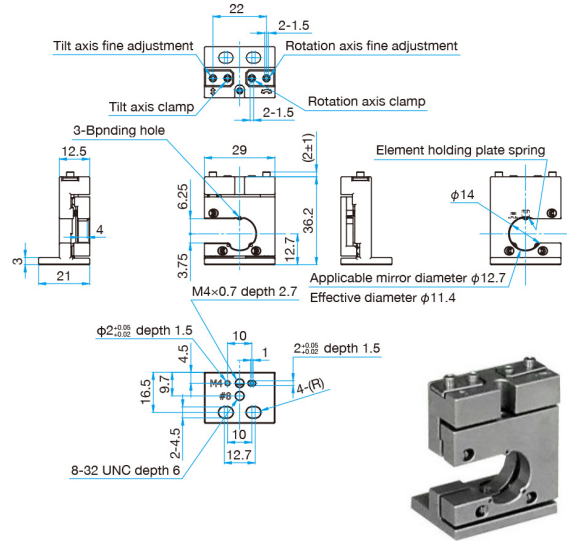
VMHV-12.7L-F

- SUS Hexagonal socket head cap screw M4×8...2 screw
- SUS Hexagonal socket head cap screw 8-32UNC×5/16...2 screw



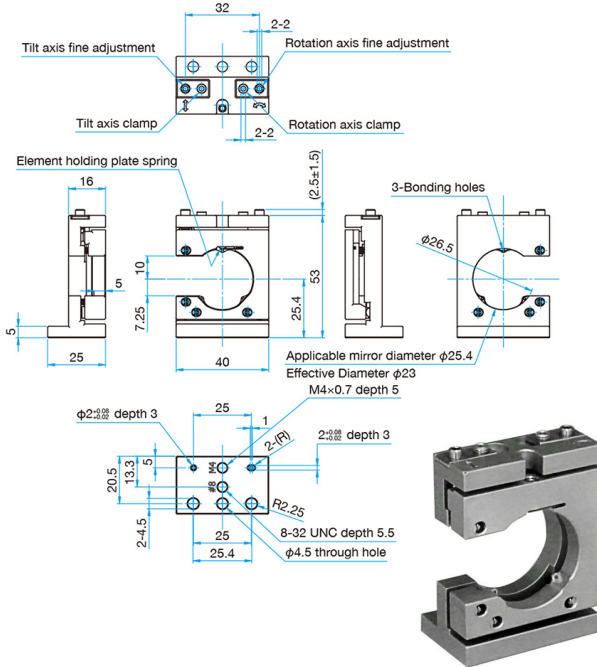
VMHV-12.7L-R

- SUS Hexagonal socket head cap screw M4×8...2 screw
- SUS Hexagonal socket head cap screw 8-32UNC×5/16...2 screw



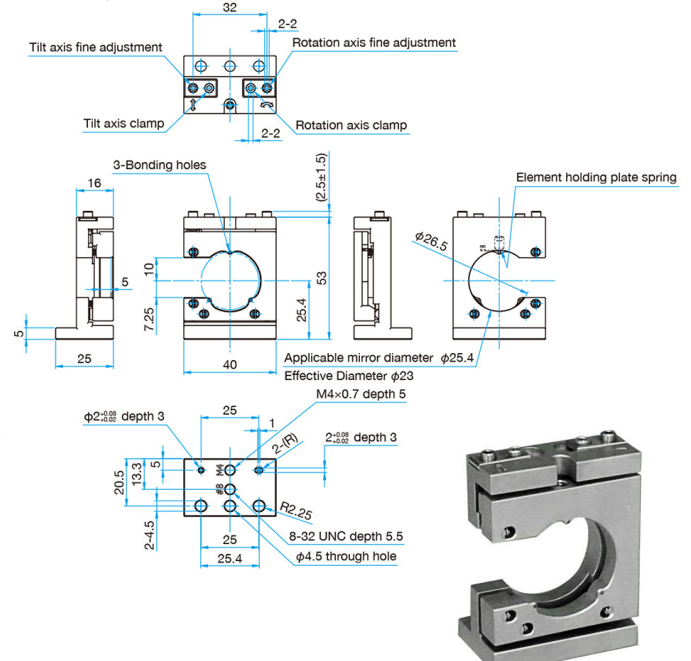
VMHV-25.4L-F

- SUS Hexagonal socket head cap screw M4×10...3 screw
- SUS Hexagonal socket head cap screw 8-32UNC×3/8...3 screw



VMHV-25.4L-R

- SUS Hexagonal socket head cap screw M4×10...3 screw
- SUS Hexagonal socket head cap screw 8-32UNC×3/8...3 screw



Specifications

Primary material : Stainless
Finish : None

Part Number	Compatible Optics Diameter [mm]	Compatible Optics Thickness [mm]	Clear Aperture [mm]	Number of Adjustment Axes	Mounting Direction	Adjustment Range		Resolution		Weight [kg]
						Tilt [°]	Rotation [°]	Tilt [°/rotation]	Rotation [°/rotation]	
VMHV-12.7L-F	φ12.7	2 - 7	φ11.4	2	Front	±2	±2	about 0.7	about 0.65	0.064
VMHV-12.7L-R	φ12.7	2 - 7	φ11.4	2	Back	±2	±2	about 0.7	about 0.65	0.064
VMHV-25.4L-F	φ25 φ25.4	3 - 7	φ23	2	Front	±1.5	±1.5	about 0.37	about 0.38	0.16
VMHV-25.4L-R	φ25 φ25.4	3 - 7	φ23	2	Back	±1.5	±1.5	about 0.37	about 0.38	0.16



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