VGM Series

Vertical-Drive Gimbal Optical Mounts

Key Features

- *Top- or Side-mounted micrometers keep hands out of beam path during adjustment*
- *Compact, vertical design fits into tight spaces*
- *Very low cross-coupling for fast, independent axis adjustments*
- *±2° travel (±1.5° VGM-2)*
- *Adaptor accommodates 0.5 in. optics*

Compact VGM Series Vertical-Drive Gimbal Mounts simplify true gimbal adjustment of optics up to 2 in. in diameter without sacrificing stable, high-resolution positioning performance. With both drives accessible from the same side, these mounts are ideal for applications where adjustments must be performed without obstructing the beam path, such as laser-cavity mirrors, output couplers and beamsplitters. By extending the drives through the top or side of safety enclosures, adjustments can be made without enclosure removal.

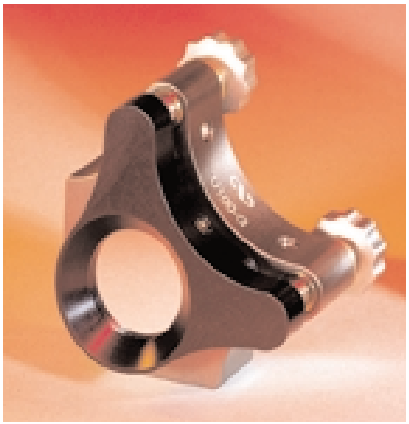
Optics are positioned so that their front surface is at the gimbal plane for uncompromised adjustability. Precision manufacturing techniques result in isolated, independent axis adjustments with minimum cross-talk and drift for demanding intra-cavity applications.

The VGM mirror mounts are offered with a choice of two different standard drives. The VGM-1AJS and VGM-2AJS feature precision 100 tpi drives. The VGM-1BD and VGM-2BD feature differential micrometers with resolution nearly ten times greater than standard vernier micrometers. For automated mirror alignment, the CMA or LTA Motorized Actuators or ESA Electrostrictive Actuators are recommended. These offer incremental motions as small as 0.02 µm–0.1 µm.

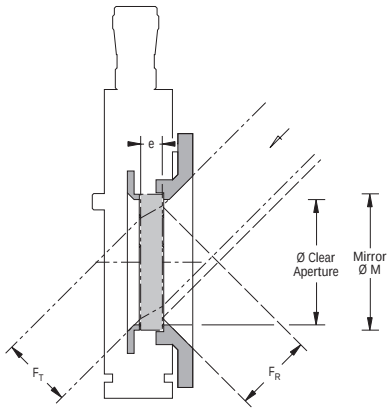
Each gimbal mount comes with a universal base plate that mounts to English or metric hole patterns. Use RH Series Riser Blocks to mount these components at fixed optical axis heights with excellent stability.

Related Products

- *ULTIMA® Gimbal Mounts (page 607)*



U100-G ULTIMA Gimbal Mount



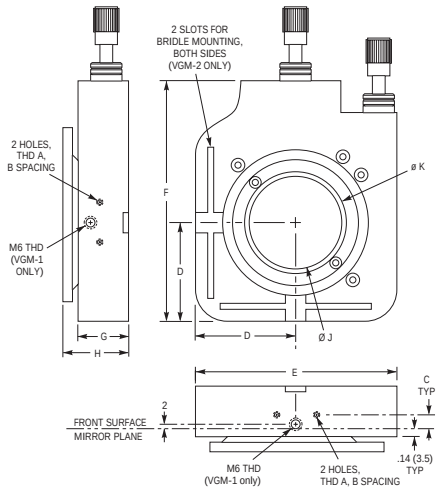
Specifications

	VGM-1	VGM-2
Optic Diameter (mm)	25.4	50.8
Clear Aperture (mm)	21	46
Maximum Mirror Thickness (mm)	8	13
Transmitted Beam (mm)	11.6	29
Reflected Beam (mm)	8	24
Angular Range	±2°	±1.5°
Sensitivity with AJS Adjustment Screws (arc sec)	26	20
Sensitivity with BHC Adjustment Screws (arc sec)	26	31
Sensitivity with BM Micrometers (arc sec)	41	31
Sensitivity with BD Differential Micrometers (arc sec)	4.1	3.1

Ordering Information

Model	Description
Gimbal Mount for nominal ø 1 in. (25.4 mm) optics	
VGM-1AJS	AJS Adjustment Screws included
VGM-1BHC	BHC Adjustment Screws included
VGM-1BM	BM Standard Micrometers included
VGM-1BD	BD Differential Micrometers included
VGM-1N	Without Actuators
Gimbal Mount for nominal ø 2 in. (50.8 mm) optics	
VGM-2AJS	AJS Adjustment Screws included
VGM-2BHC	BHC Adjustment Screws included
VGM-2BM	BM Standard Micrometers included
VGM-2BD	BD Differential Micrometers included
VGM-2N	Without Actuators
Adaptor for VGM-1 for 0.5 in. (12.7 mm) optics	
VGM-A-1-0.5	

VGM Series



CAD *See our website for CAD files*

	Thread	Dimension [in. (mm)]								
Model	A	B	C	D	E	F	G	H	J	K
VGM-1	M3	0.787 (20)	0.28 (7)	1.28 (32.5)	2.83 (72)	3.43 (94.6)	0.91 (23)	1.20 (30.5)	0.83 (21)	1.0 (25.4)
VGM-2	M4	2.480 (63)	0.43 (11)	1.97 (50)	4.02 (102)	4.59 (116.5)	0.98 (25)	1.28 (32.5)	1.81 (46)	2.0 (50.8)