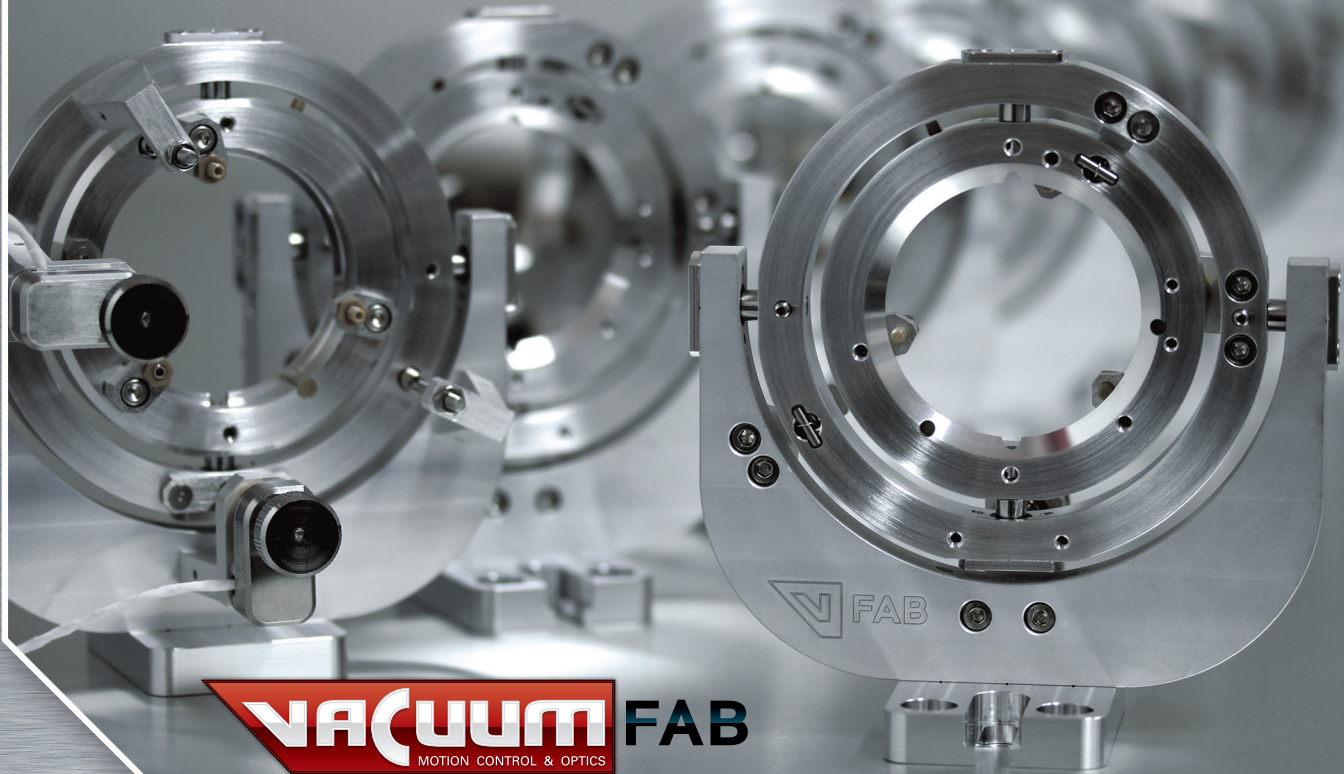
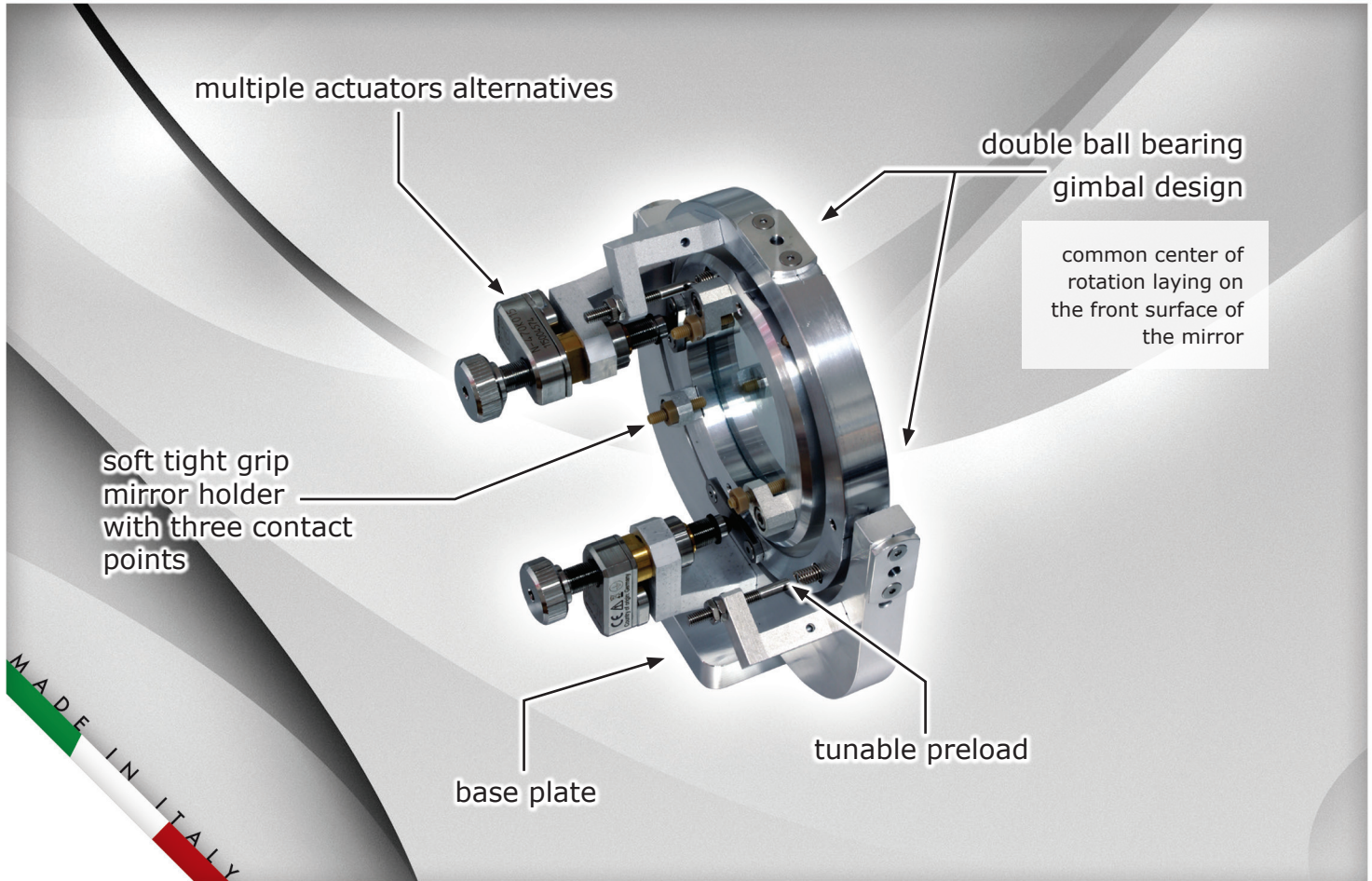


# Vacuum Gimbal Mirror Mounts

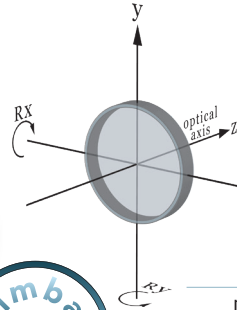
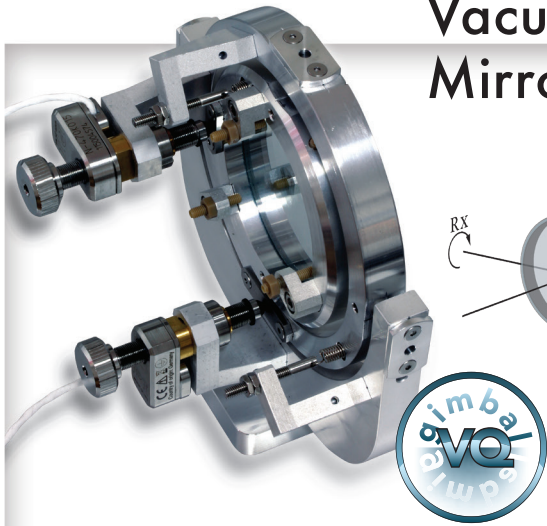


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# Vacuum Gimbal Mirror Mounts (Small)



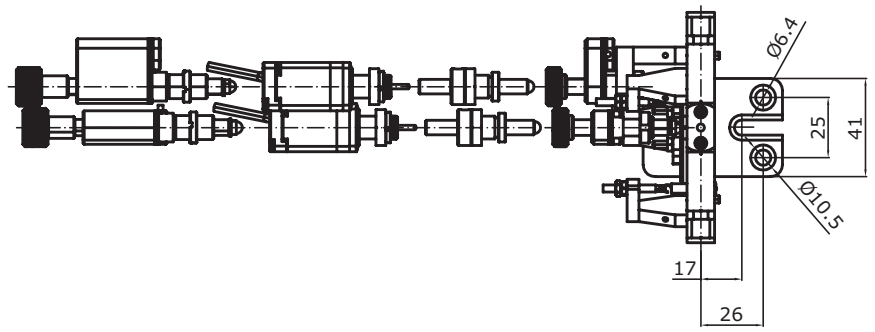
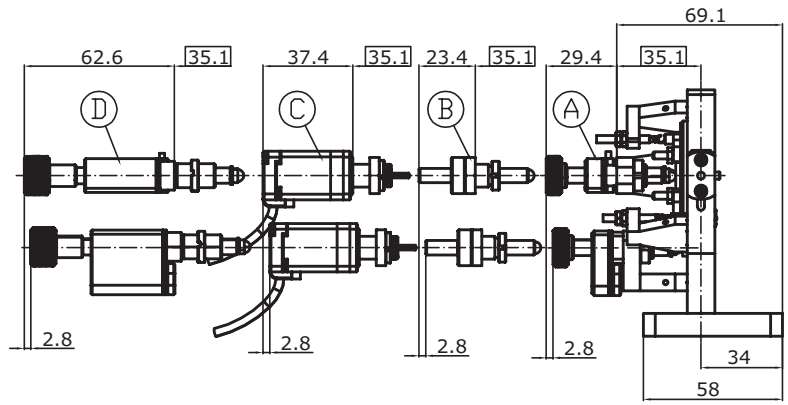
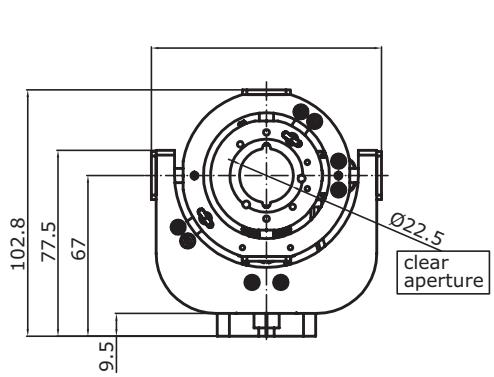
- Sizes 1", 2", 3", 4"
- For HV, UVH, cryo & hard-rad environments
- Manual, piezo & stepper drive configurable
- +/- 5° stroke

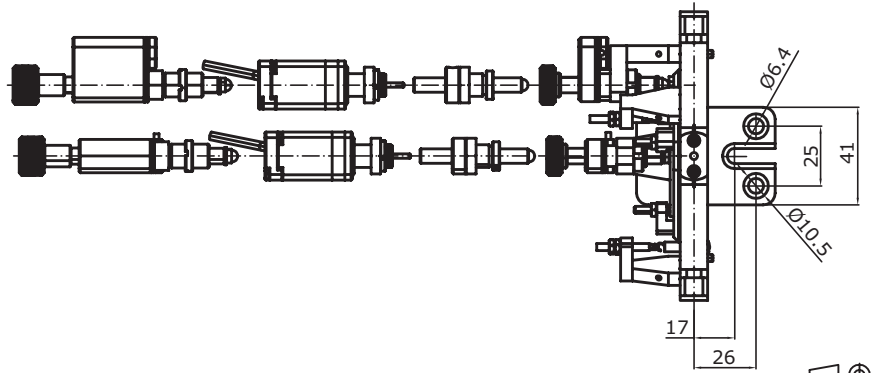
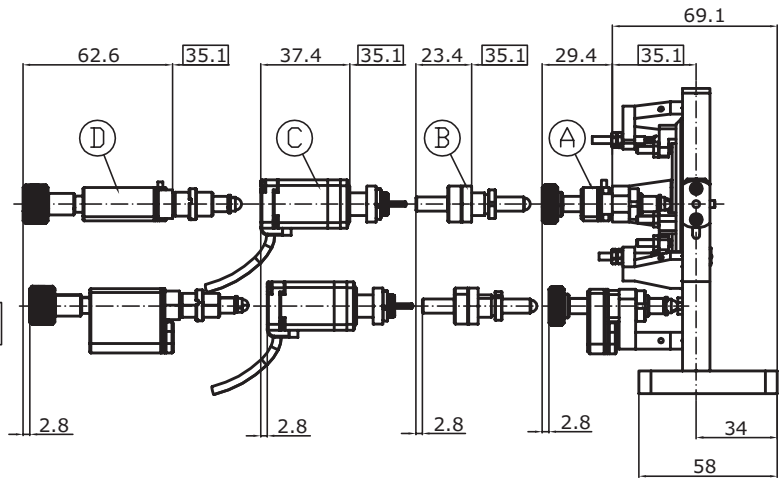
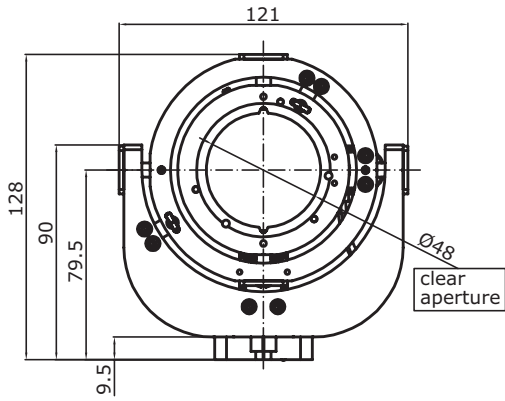
actuator type	B	C	C	A	D
environment	manual HV UHV Hard Rad	stepper HV	stepper HV	piezo HV UHV Hard Rad	piezo HV
minimum step (µm)	resolution 0,5	repeatability 0,4	resolution 0,1	resolution 0,020	resolution 0,001
1" mirror mount Ry	28,5714 (5,8933)	22,8571 (4,7146)	5,7143 (1,1787)	1,1429 (0,2357)	0,0571 (0,0118)
1" mirror mount Rx	16,3934 (3,3814)	13,1148 (2,7051)	3,2787 (0,6763)	0,6557 (0,1353)	0,0328 (0,0068)
2" mirror mount Ry	16,8067 (3,4666)	13,4454 (2,7733)	3,3613 (0,6933)	0,6723 (0,1387)	0,0336 (0,0069)
2" mirror mount Rx	11,6959 (2,4125)	9,3567 (1,9300)	2,3392 (0,4825)	0,4678 (0,0965)	0,0234 (0,0048)
3" mirror mount Ry	10,9890 (2,2666)	8,7912 (1,8133)	2,1978 (0,4533)	0,4396 (0,0907)	0,0220 (0,0045)
3" mirror mount Rx	8,6580 (1,7858)	6,9264 (1,4287)	1,7316 (0,3572)	0,3463 (0,0714)	0,0173 (0,0036)
4" mirror mount Ry	8,6207 (1,7781)	6,8966 (1,4225)	1,7241 (0,3556)	0,3448 (0,0711)	0,0172 (0,0036)
4" mirror mount Rx	7,1429 (1,4733)	5,7143 (1,1787)	1,4286 (0,2947)	0,2857 (0,0589)	0,0143 (0,0029)

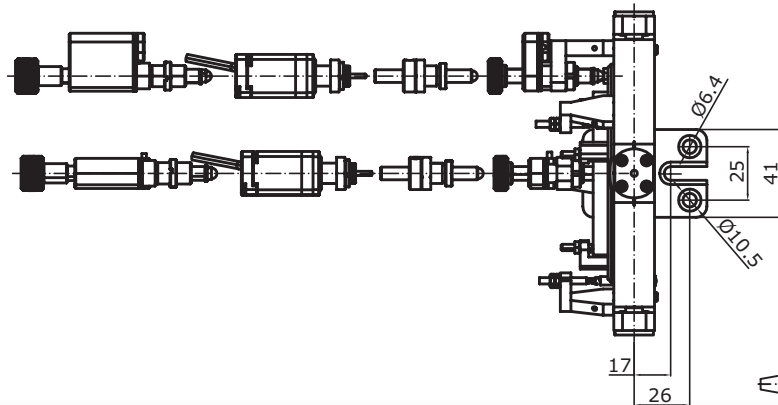
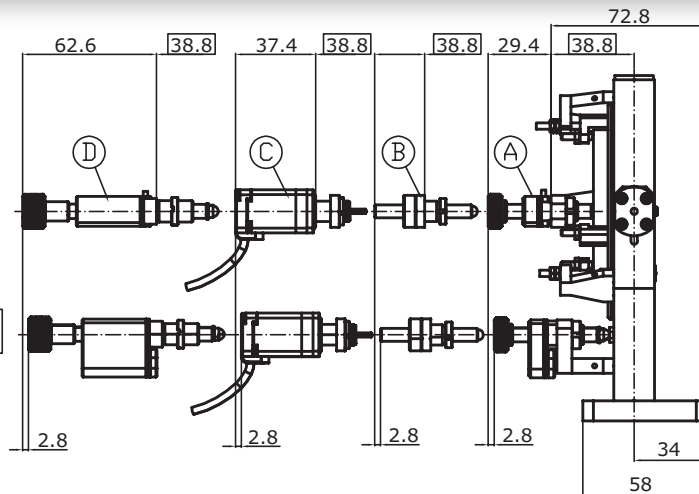
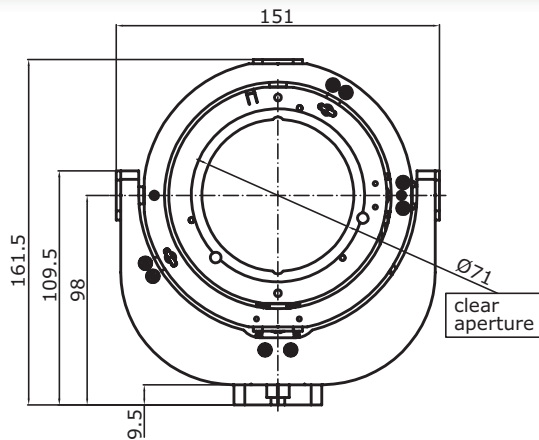
units: µm (arcsec) - theoretical values

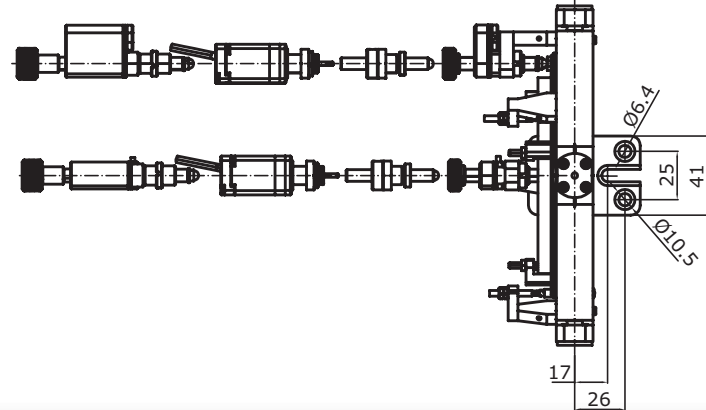
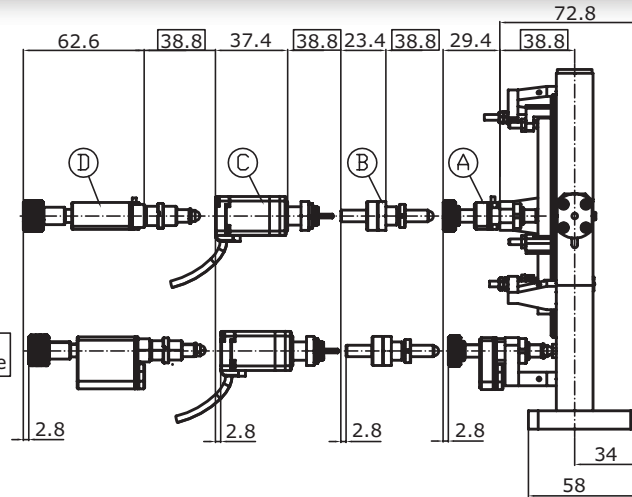
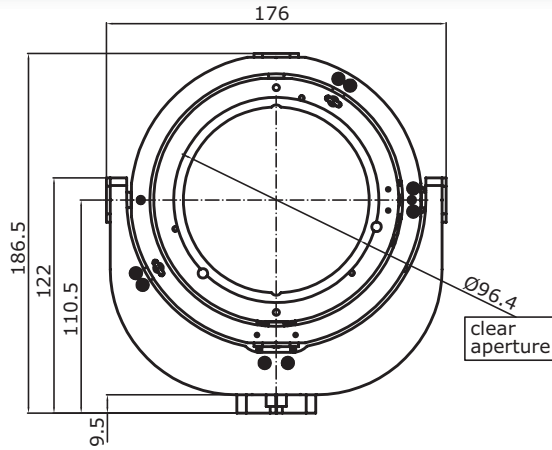
The Gimbal design of these pan-tilt vacuum optics positioners allows pure rotation of the optical axis without changing the length of the optical path and without translating it. Every drive unit actuates an independent degree of rotation. Preloaded bearing and adjustable spring preload guarantee high resolution and stable positioning overtime.

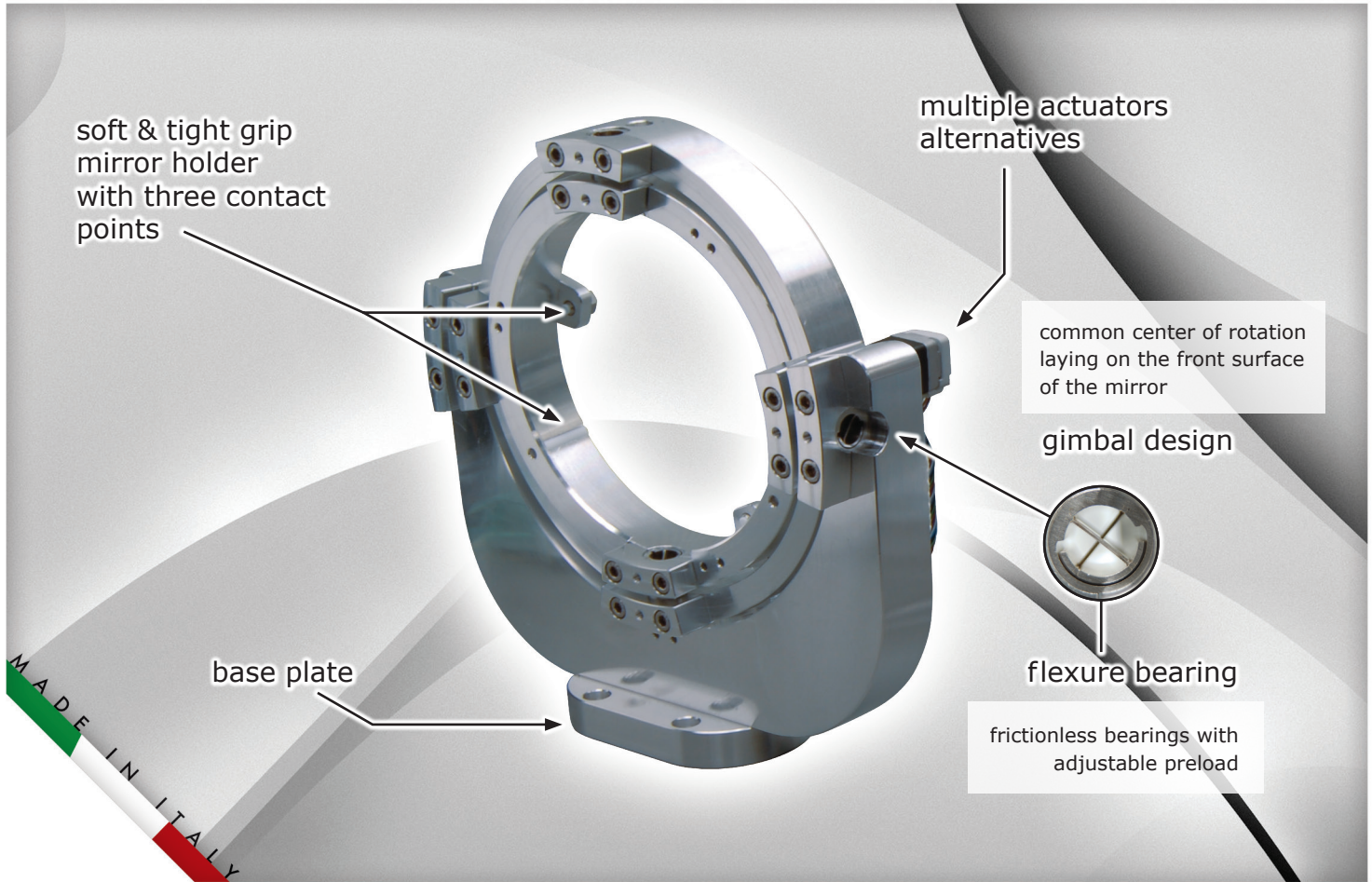
Selected materials choice and experienced mechanical design make them suitable for extreme environments such as HV, UHV, cryo and high radiation. Three actuator technologies available: manual fine pitch screw, stepper motorized, piezo motorized in open or closed loop.





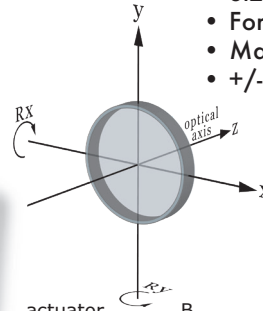








# Vacuum Gimbal Mirror Mounts (Large)



- Sizes 6", 7", 8"
- For HV, UVH, cryo & hard-rad environments
- Manual, piezo & stepper drive configurable
- +/- 5° stroke

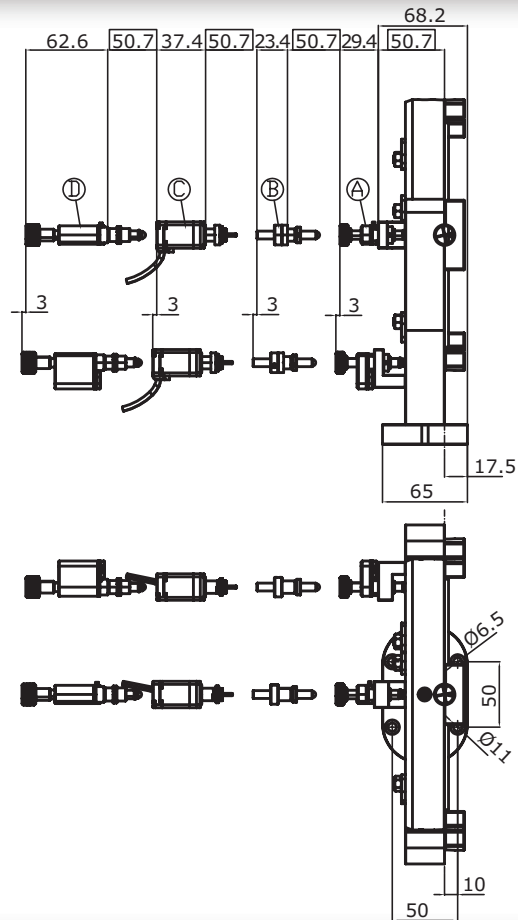
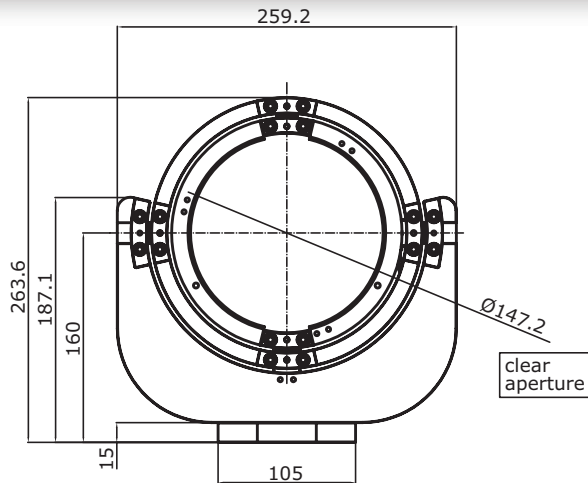


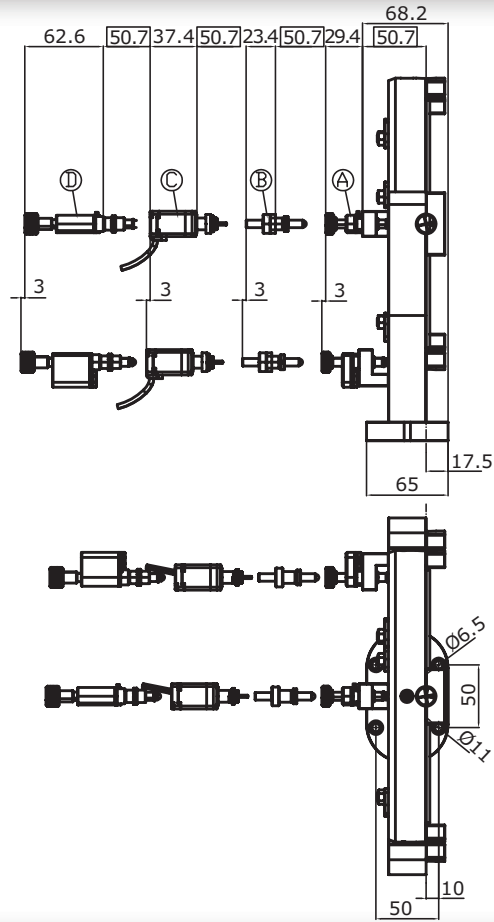
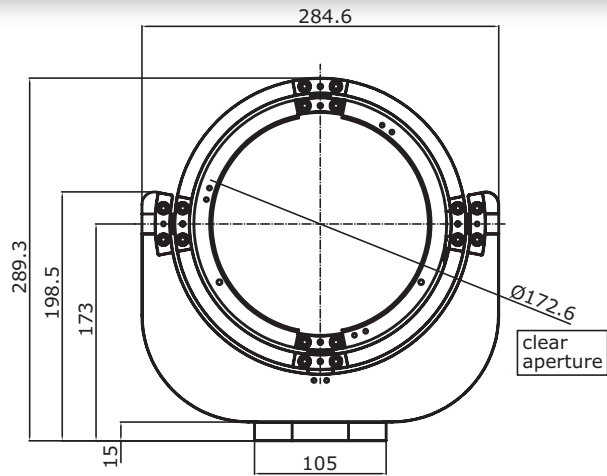
The Gimbal design of these pan-tilt vacuum optics positioners allows pure rotation of the optical axis without changing the length of the optical path and without translating it. Every drive unit actuates an independent degree of rotation. Preloaded bearing and adjustable spring preload guarantee high resolution and stable positioning overtime.

Selected materials choice and experienced mechanical design make them suitable for extreme environments such as HV, UHV, cryo and high radiation. Three actuator technologies available: manual fine pitch screw, stepper motorized, piezo motorized in open or closed loop.

actuator type	B manual	C stepper	C stepper	A piezo	D piezo
environment	HV UHV Hard Rad	HV	HV	HV UHV Hard Rad	HV
minimum step (µm)	resolution	repeatability	resolution	resolution	resolution
	0,5	0,4	0,1	0,020	0,001
6" mirror mount Ry	6,0901 (1,2562)	4,8721 (1,0049)	1,2180 (0,2512)	0,2436 (0,0502)	0,0122 (0,0025)
6" mirror mount Rx	5,1230 (1,0567)	4,0984 (0,8453)	1,0246 (0,2113)	0,2049 (0,0423)	0,0102 (0,0021)
7" mirror mount Ry	5,2743 (1,0879)	4,2194 (0,8703)	1,0549 (0,2176)	0,2110 (0,0435)	0,0105 (0,0022)
7" mirror mount Rx	4,5331 (0,9350)	3,6265 (0,7480)	0,9066 (0,1870)	0,1813 (0,0374)	0,0091 (0,0019)
8" mirror mount Ry	4,6512 (0,9594)	3,7209 (0,7675)	0,9302 (0,1919)	0,1860 (0,0384)	0,0093 (0,0019)
8" mirror mount Rx	4,0650 (0,8385)	3,2520 (0,6708)	0,8130 (0,1677)	0,1626 (0,0335)	0,0081 (0,0017)

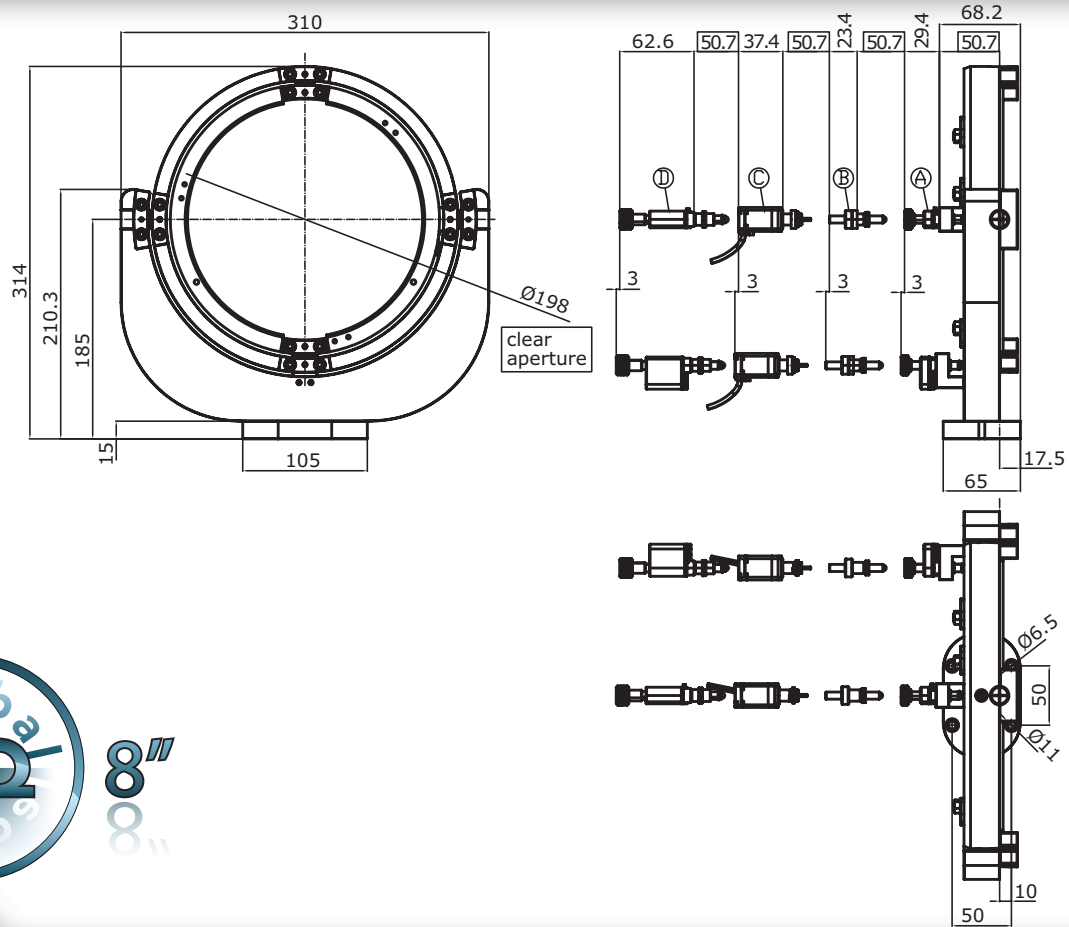
units: µm (arcsec) - theoretical values







008"



## Ordering Information

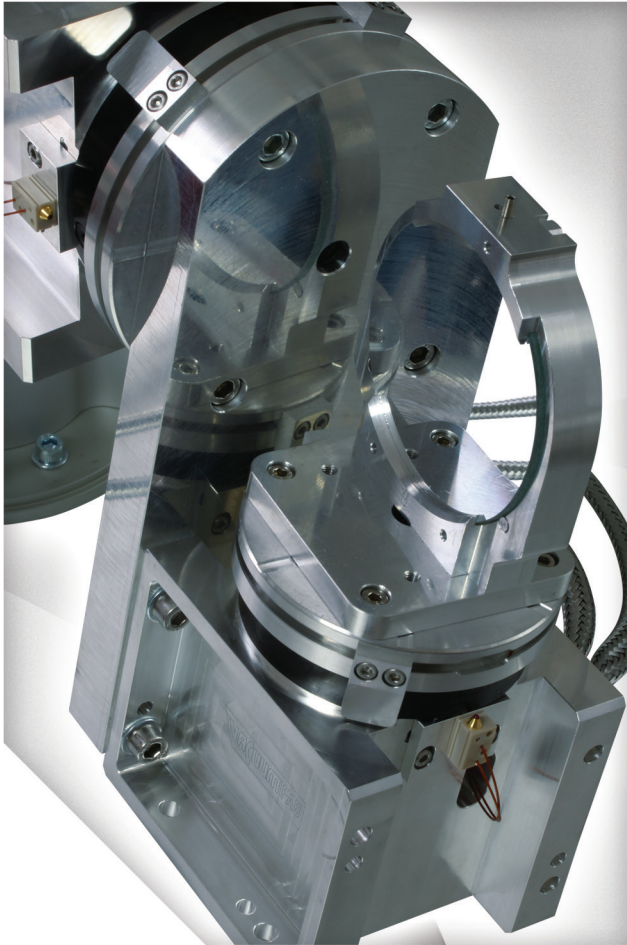
Part Number	Size	Actuator	Environment	Vacuum Cable Length
VQ Gimbal	1"	A	HV	1m
	2"	B	UHV	custom
	3"	C		
	4"	D		
	6"	OEM		
	7"			
	8"			



- Stepper and piezo motorised actuators have 1m vacuum cable unless you require a different length.
- Stepper actuators (C) are provided with a Sub-D9 test connector (not for vacuum, only for testing purpose) unless you require a vacuum connector.
- Piezo actuators (A & D) are provided with vacuum compatible Lemo connectors as a standard.
- We can supply a complete set-up if you like; if you need accessories such as vacuum connectors, vacuum feed-throughs, air wiring length, controller, software... or more please fill in the questionnaire you can download at this link:

[www.vacuumfab.it/questionario/VQ-Gimbal\\_questionnaire.pdf](http://www.vacuumfab.it/questionario/VQ-Gimbal_questionnaire.pdf)

or follow the QR code on the right

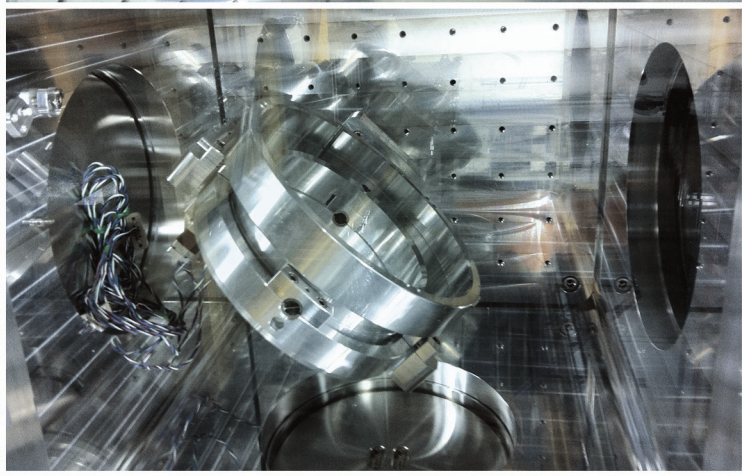
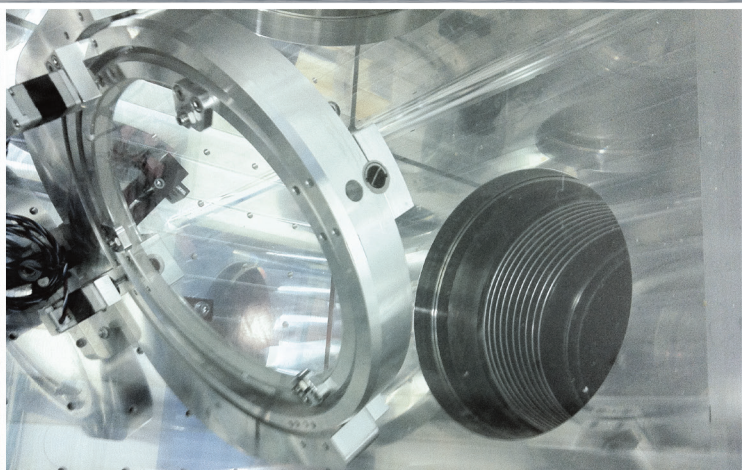
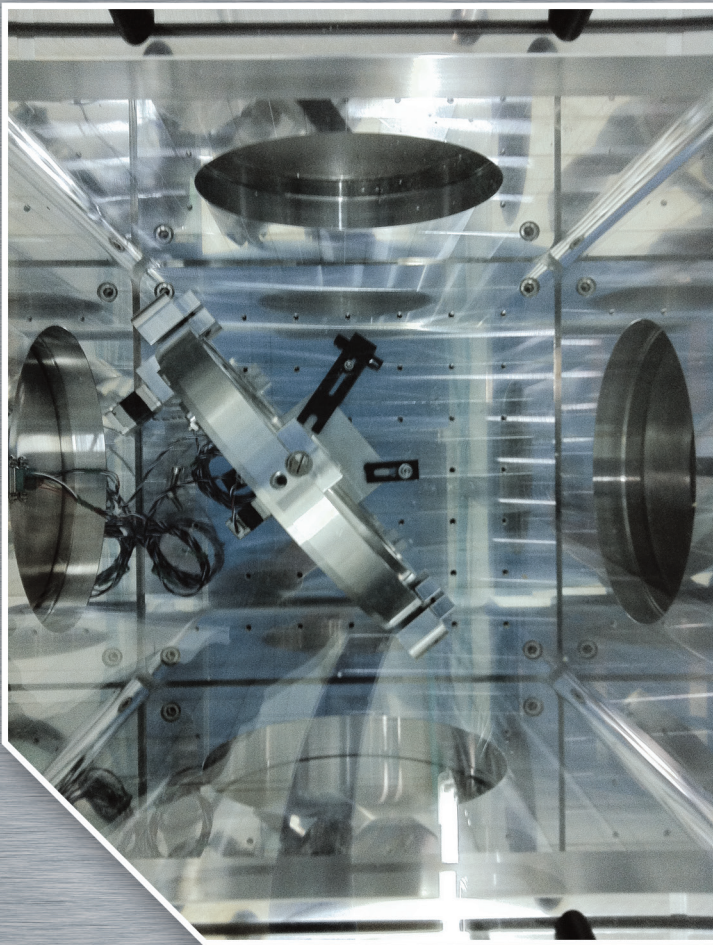


# Hard-Rad Gimbal Mirror Mount for Laser Scanning

- $\pm 90^\circ$  scanning angle
- $0,005^\circ$  C-Loop resolution
- $20^\circ/s$  scanning speed
- HR V coating 2" mirror for Hard Rad
- HardRad compliant for 1MGy

Stepper motorized C-Loop scanning head for laser topography system especially designed to be used in extreme environment with high radiation (i.e. nuclear reactors de-commissioning, visual inspection and measurement). Vacuum FAB designed and manufactured this stage which was delivered complete with 10m extreme environment wires and controller.

We could deliver a solution for your special application in extreme environment, please contact us and we'll be glad to share our experience and learn from yours to make a home run together.





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