

XRS1-800/900/1600/2500 Piezo Shutters

Description

The XRS1 series is DSM's line of piezo actuated shutter assemblies. Each shutter uses two opposed piezoelectric actuators to block the beam. When energized, the actuators open to permit the beam to pass through. Options are available to make the shutters ultra-high vacuum compatible and the 900 & 2500 are customizable with different beam blocking teeth materials. For dynamic applications, a K-type thermocouple is included with each shutter to monitor temperature. Contact DSM for other options or questions.



Highlights:

- Flexure-guided for smooth, parallel motion
- UHV Compatible
- High natural frequencies and rapid response
- Customizable and scalable for new applications

Applications:

- Shutter/Beam Stop
- Optical Setups
- Free Electron Laser (FEL) Beam Stop
- Photonics
- Light Manipulation
- Science & Research institutions
- Test & Inspection Systems

Specifications (When Using VF-500-XRS Amplifier)	XRS1-800	XRS1-900	XRS1-1600	XRS1-2500
Open Aperture [MIN] (μm):	680	900	1180	2500
Typical Operating Voltage (V):	0 to +160	0 to +160	0 to +160	0 to +160
Operating Temperature Range as Read by Thermocouple ($^{\circ}\text{C}$):	-20 to 80	-20 to 80	-20 to 80	-20 to 80
Mounting Interface:	M2.5	M2 or #2	M2.5	M2.5 x 6mm
First Translational Natural Frequency (Hz):	500	900	300	500
Open or Close Move Duration (ms):	>3.4	>2	>5.7	>7*
Open/Dwell/Close Cycle (ms):	>8	>5	>12	>15*
Capacitance (μF):	3.4	3.4	3.4	12.8
Frame material:	Stainless steel	Titanium	Stainless steel	Titanium
Mass (g):	230 \pm 10%	250 \pm 10%	230 \pm 10%	500 \pm 10%
Outline Dimensions (mm):	52.5 x 44 x 22.2	56.0 x 44.0 x 16.0	52.5 x 44 x 22.2	97.0 x 21.5 x 62.8

* Limited by Amplifier, Faster Speeds Possible with Custom Amplifier (Contact DSM for More Information)