PVC-5.5 Parallelogram Voice Coil Stage

Overview: With a dime-sized footprint, the PVS-5.5 Parallelogram Voice Coil Stage is a compact, high performance, positioning system specifically developed for applications requiring both high precision and high-speed positioning over a short to medium stroke. The PVS-5.5 is ideal for optical focusing and other micro-positioning applications in markets such as semiconductor, medical, optical testing, scanning microscopy, circuit board assembly and micro manufacturing.

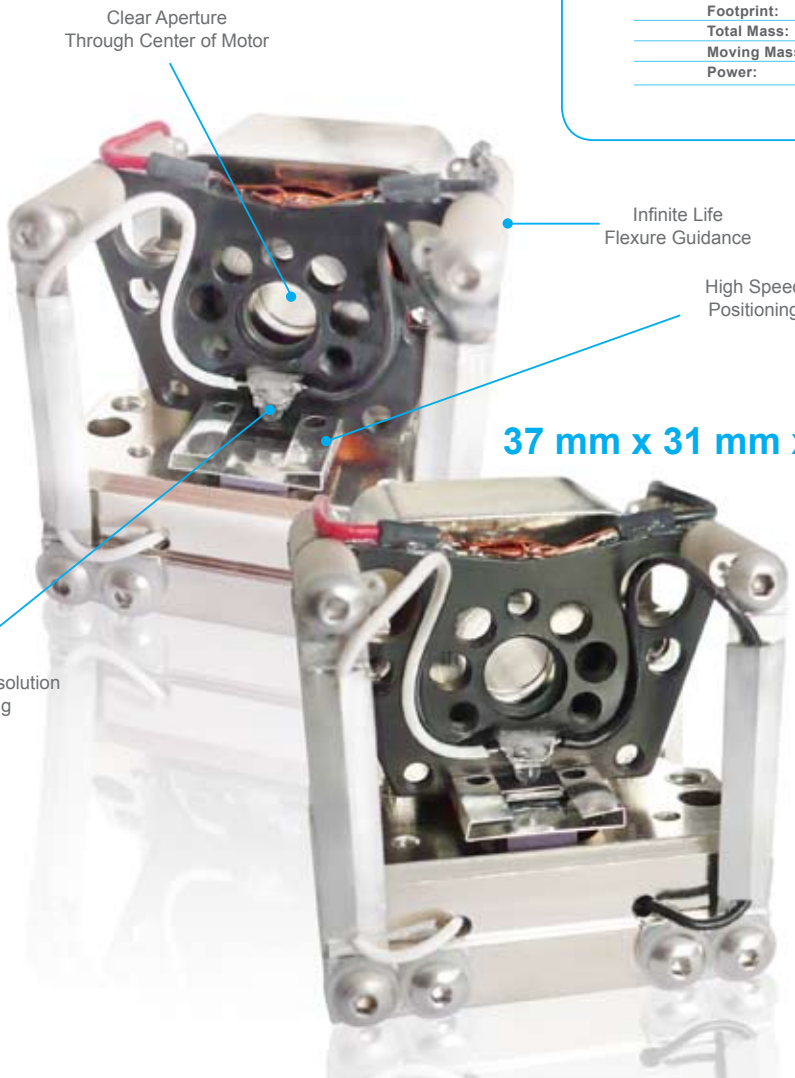
Stage: The PVS-5.5 Parallelogram Voice Coil Stage is guided along a single axis by an infinite life, flexure linkage system. The use of flexures produces a light, friction-free package that allows it to be mounted vertically or horizontally and multiple sets of mounting holes included for convenient mounting.

Voice Coil: Voice coil motors produce the least amount of electrical noise of *any* motor type available today and the PVS-5.5 uses a high force voice coil motor to move the stage. Moving mass has been optimized to be as light as possible for minimum response time because the voice coil motor adds no additional friction to the stage.

Positioning Feedback Sensor: The PVC-5.5's sub-micron resolution linear displacement sensor has high bandwidth and low noise for precise and responsive movements. It uses a frictionless, non-contact optical technology and its small package maintains the compact nature of the system. Even the illumination source attached to the moving mass has extremely low mass to avoid limiting system performance.

PVS-5.5 Specifications:

Clear Aperture:	5 mm
Range of Motion:	5 mm
Positioning Resolution:	75 nm
Peak Force:	0.65 N, 10 sec
Max Continuous Force:	0.65 N
Motor Constant:	1.10 N/Amp
Coil Resistance:	4.5 ohms
Coil Inductance:	350 µH
Non-Linearity:	<±0.5%
Repeatability, Short Term:	200 nm
Repeatability, Long Term:	50 ppm/1000 hrs.
Temperature Stability:	±250 nm/°C
Hysteresis:	None
Deadband:	None
Travel Non-Straightness:	<160 µm
Footprint:	37 x 31 x 32 mm
Total Mass:	70 grams
Moving Mass:	5 grams
Power:	±12V to ±24V@1A



37 mm x 31 mm x 32 mm Footprint

FEATURES:

Clear Aperture Through Center of Motor
Sub-Micron Resolution Positioning
High Speed Positioning
Compact Packaging
Integrated Position Feedback Sensor
Medium Force Generation
Infinite Life Flexure Guidance
Horizontal or Vertical Operation
Simple Electrical Interfacing
Clean Room Compatibility
Patent Pending Technologies
Low Cost

We pride ourselves in giving OEMs and VARs precisely the tools they need to make the best systems possible—our highest priority is in applications support. Our knowledgeable engineers will help you analyze your objectives to achieve the very best solutions, even before you become a customer. Undivided attention and long term relationships ensures your success—and ours. Please contact Paul Swanson or our office by phone: (408) 245-7161, fax: (408) 245-7160, mail: 461 East Evelyn Avenue / Sunnyvale, CA 94086, or by email: pa.swanson@equipsolutions.com