CRYOGENICS PRODUCTS

CRYOGENIC SUBMICRA ACTUATOR

What is the CSA?

The Cryogenic Submicron Actuator (CSA) is a mid-range linear actuator (±5 mm) with submicron resolution, suitable for use at cryogenic temperatures. The CSA's motion system employs a stepper motor coupled to a geared nut and screw assembly, optimized for precise positioning.

Features

- Suitable for vacuum conditions ($<10^{-6}$ mbar).
- Suitable for cryogenic temperatures ($\approx$ 12K).
- Interface: 3.50 mm diameter ball tip
- Compact design.

These features make it an ideal tool for positioning precision components, such as mirrors and diodes, that can be mounted directly on the tip.

CSA applications

The CSA is specifically designed for use in a wide range of demanding applications, including cryogenic mechanisms, space systems, optical instruments, medical devices, and scientific research. Its advanced thermal performance ensures reliability and efficiency in extremely low-temperature environments.

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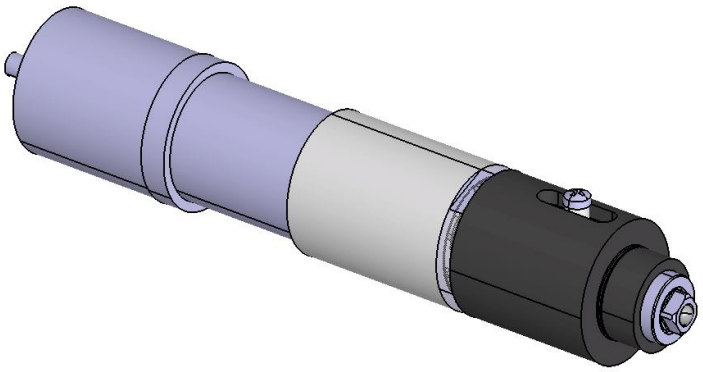
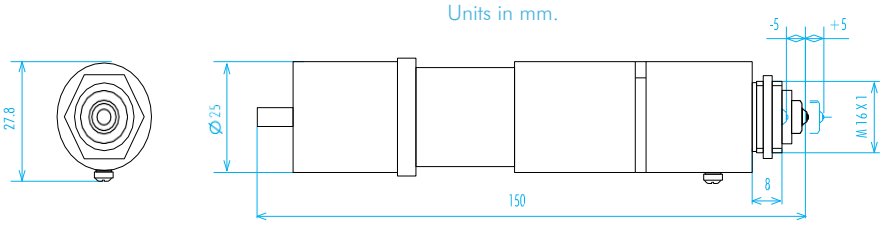


Technical Information

292 g (10.22 oz)

Body material: Al 6082 T6 black anodized



Part number	CSA-10000
Size	ø30 x 160 mm ø1.18 x 6.30 in
Motion range	± 5 mm ± 0.197 in
Speed range	0 - 0.1 mm/s 0 - 0.004 in/sec
Load capability	> 30 N > 6.74 lbf
Temperature range	12 - 300 K -438 to 80 F
Pressure range	$< 10^{-6}$ to 10^{3} mbar $< 7.5x10^{-7}$ to 750 Torr
Resolution	0.03 µm $1.18x10^{-6}$ in
Repeatability	0.20 µm $7.87x10^{-6}$ in
Accuracy	3.6 µm $1.42x10^{-4}$ in
Connector	MDM-9P (Micro-D)