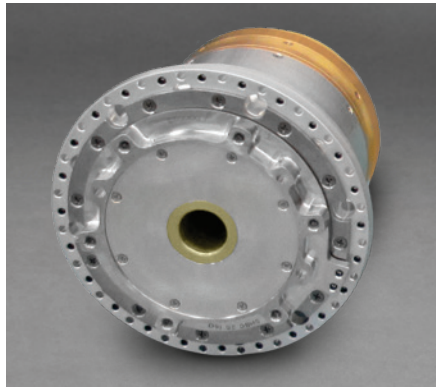


ULTRA PERFORMANCE TYPE 3 ACTUATOR AND UPT3G (GIMBAL)



The Ultra Performance Type 3 (UPT3) Actuator and UPT3G Biaxial Gimbal are designed to implement features, improvements and technology enhancements accumulated from over 40 years of experience in producing pointing and actuating mechanisms for the space industry. The UPT3 Actuator is a closely-integrated package that utilizes all available space to significantly increase performance and reliability. While design and performance margins are elevated with the

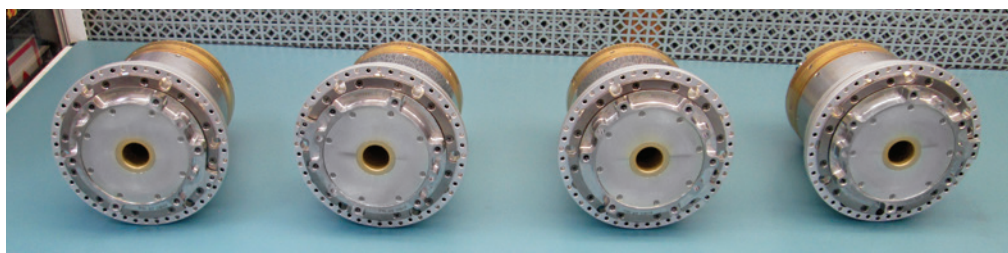
introduction of this actuator, key interface envelope dimensions of the Moog heritage Type 3 are preserved in order to facilitate interchangeability.

Innovative technology enhancements such as the Moog QuietSense (noise-free) position telemetry device will eliminate signal dropouts which have plagued similar space products for many years. Internal heaters and temperature monitoring devices further reduce the end user's integration efforts.

A through-hole egress at the center of the actuator facilitates its use in solar array drive and antenna pointing applications requiring RF rotary joints.

Fully adjustable external stops are designed to provide precise positioning/travel, while a less than 2 mdeg output step size of the UPT3 provides fine pointing capability.

A uniquely configured output stage, allows for maximum moment stiffness. Similarly, the torsional stiffness is maximized because of a cleverly organized drive mechanism, while maintaining a zero backlash payload interface.

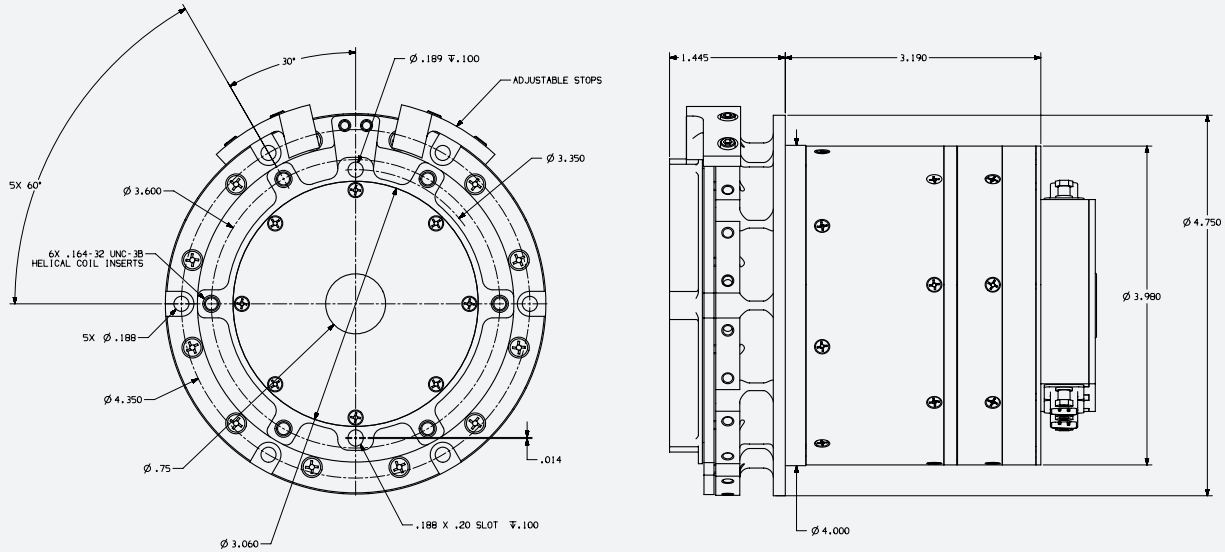


ULTRA PERFORMANCE TYPE 3 (UPT3) ACTUATOR AND UPT3G (GIMBAL)

SPECIFICATIONS

Description	UPT3 Actuator	UPT3G (Gimbal)
Number of Phases	2, 3 & 4	2, 3 & 4
Output Step Angle (Degree)	0.002	0.0016
Nominal Running Torque (in-lb)	1100	1100
Unpowered Holding Torque (in-lb)	>700	>850
Torsional Stiffness (in-lb/rad)	>250,000	>150,000 (in EL and AZ)
Moment Stiffness (in-lb/rad)	>1,100,000	>300,000 (in EL and AZ)
Operating Temperature Range	-50° to +105°	-50° to +105°
Mechanical Accuracy	<0.025	<0.025
Repeatability	<0.001	<0.001
Hysteresis	<0.015	<0.015
Load Inertia Capability	>4,500 (Kg.m ²) – Condition Dependant	>4,500 – Condition Dependant
Through Hole Diameter (inch)	0.75	0.50
Weight (lbs)	<5.75	<12.5
Fine Potentiometers (redundant)	350° Electrical Travel	350° Electrical Travel
Coarse Potentiometers (redundant)	350° Electrical Travel	350° Electrical Travel
Internal Heater (redundant)	Yes	Yes
Internal Thermistors (redundant)	Yes	Yes
Integrated Connectors (qty 4 D-sub max)	Yes	Yes

DIMENSIONS



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