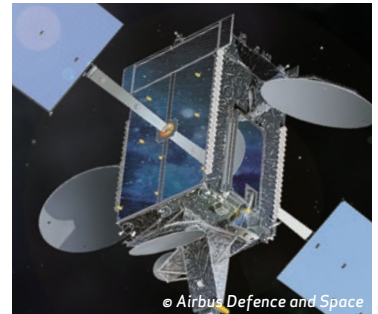


TYPE 33 BIAXIAL GIMBAL



The Type 33 Biaxial Gimbal is of a size appropriate for many antennas, and it has become by far our most popular Antenna Pointing Mechanism configuration. Available in either Elevation/Azimuth or X/Y, these units have proven their reliability and versatility many times over. Each actuator of the gimbal can incorporate cable management capability. The actuators are based on Moog's heritage Type 3 actuator design with significant on-orbit experience.

The gimbals can incorporate a wide range of options. Launch locks, caging mechanisms, cable management systems, position sensors and waveguide brackets/mounting features are some examples of the options available to the designer. Please contact Moog engineers for assistance when evaluating options for your application.



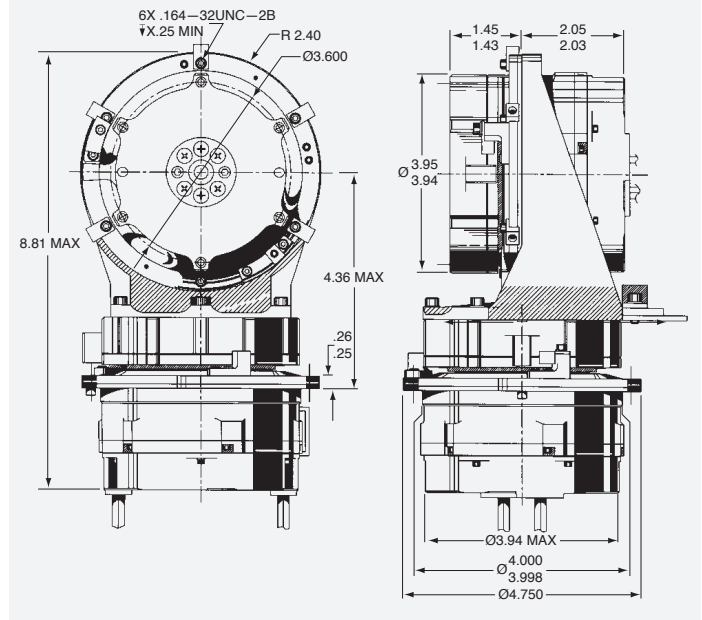
TYPE 33 BIAXIAL GIMBAL

PERFORMANCE SPECIFICATIONS

Characteristic	Units	Basis	Data
Output Step Angle*	Degrees	Standard	0.009375
Steps/Revolution*	–	Standard	38,400
Harmonic Drive Ratio*	–	Standard	160:1
Output Step Rate*	Step/Sec (Deg/Sec)	Maximum	400 (3.75)
Power*	Watts	Nominal	10
Inertial Capability*	Slug ft ²	Typical	25
	kg-m ²	Typical	34
Output Torque*	lb-in	Typical	150
	N-m	Typical	17
Holding Torque Powered*	lb-in	Typical	300
	N-m	Typical	34
Unpowered*	lb-in	Typical	80
	N-m	Typical	9.0
Torsional Stiffness in the AZ-EL Plane	lb-in/rad	Typical	150,000
	N-m/rad	Typical	16,950
Perpendicular to Plane	lb-in/rad	Typical	110,000
	N-m/rad	Typical	12,428
Output Flange Load Capability Axial	lb	Maximum	420
	N	Maximum	1,868
Transverse	lb	Maximum	420
	N	Maximum	1,868
Moment	lb-ft	Maximum	150
	N-m	Maximum	203
Total Assembly Weight	lb	Typical	9.6
	kg	Typical	4.4

* Each Axis
Please contact Moog application engineers to discuss optional actuator performance requirements

DIMENSIONAL DRAWINGS



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