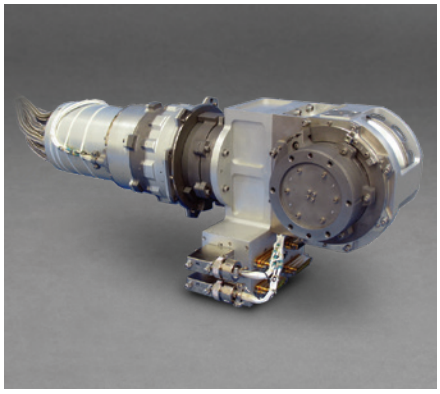
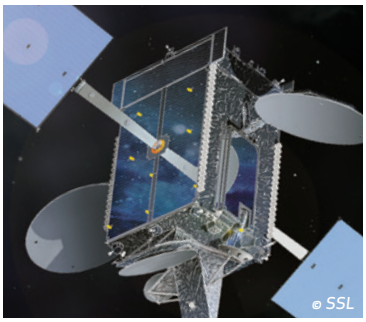
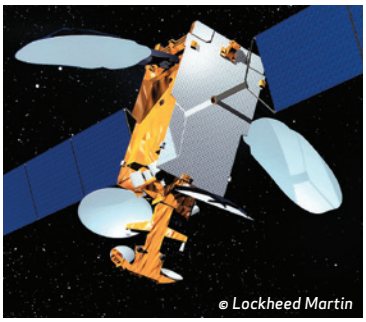
TYPE-55
BIAXIAL GIMBAL ASSEMBLY



The Type 55 biaxial gimbal assembly is a robust two-axis gimbal which is right-sized for supporting and positioning the majority of larger payloads. It is based on the Moog Type 5 rotary incremental actuator. The gimbal can be configured for limited rotation, with the inclusion of range-defining hard stops on the actuator outputs, or, for continuous rotation on one or both axes with the integration of a slip ring assembly. A variety of accessory devices is available for position feedback - potentiometers, optical encoders, or sine-cosine resolvers. Selecting a qualified unit in its existing configuration will have cost and schedule benefits; however, the modular construction of the gimbal makes substitutions and modifications to meet mission requirements easy to implement. Options include launch latching mechanisms if the payload itself is not restrained at launch. Typical Type 55 gimbal performance specifications are shown in the table below. The unit is driven by the standard Moog Electronic Control Unit.





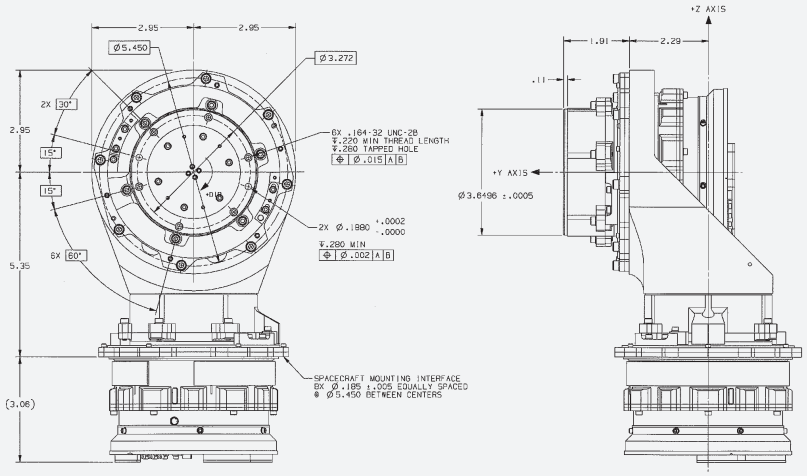
MOOG

TYPE-55 BIAXIAL GIMBAL ASSEMBLY

SPECIFICATIONS

Parameter	Data
Output Step Size	0.0075 degrees
Output Torque	50 Nm
Holding Torque Unpowered	55 Nm
Power Per Axis	17 W
Operating Temperature Range	-30° C to +65° C
Mass	7.5 Kg
Inertia Capability	> 400 Kg.m2
Position Sensor	Potentiometer ± 1.5 deg. linearity

TYPE-55 BIAXIAL GIMBAL DIMENSIONS



HERITAGE PROGRAMS

ACTS, ADEOS I AND II, COMETS, CLASSIFIED, Iridium, MOTHRA, GLORY, W2A, AceS, Astra 1KR, Sirius 4, M2S1

The small-angle rotary incremental actuator is a long-established product at Moog. The first unit produced was a Type 5 that was integrated into a biaxial gimbal. Since then, this has been a very popular application of the Type 5 actuator.

Type 55 gimbals have been produced in both azimuth-elevation and cross-axis (X-Y) geometries. The large, load-capable output section of the actuators means that the gimbal design can be cantilever – no bearings other than the actuator output bearings are needed. The geometry of some payloads may mandate other bearings - e.g. the Iridium SADA; ADEOS – however they are not necessary. Actuator output bearings have the load capability to carry all loads on the gimbal output, and the interaxis bracket which connects the two actuators is also designed to meet the load and stiffness requirements of the gimbal. Mission-specific design of the interaxis bracket also accommodates any special gimbal geometry requirements: axis spacing, output member offset, etc. This modular nature of biaxial gimbal construction makes it possible to select heritage units in a part-by-part manner; achieving configuration and performance requirements while still maximizing Moog heritage.

MOOG
SPACE AND DEFENSE GROUP

21339 Nordhoff Street, Chatsworth, CA 91311
Sandra Browne – sbrowne@moog.com (International)
Scott Reynolds – sreynolds@moog.com (USA & Canada)
+1.818.734.6700 • www.moog.com

Moog Space and Defense @MoogSDG @MoogSDG @MoogSDG