

SPS-2000 Precision Positioner

High-Performance Positioning System

COBHAM

Cobham Advanced Electronic Solutions, Lansdale, PA - USA

The most important thing we build is trust

SPS Series Precision Positioners

Features

- Cost-effective solution for precise positioning for up to 400 lbs. payloads
- T-bar, yoke or 3-axis configurations
- Easily setup and optimized for varying payloads
- Angular resolution of 24 bits (0.4 μ radians with Inductosyns)
- Brushless, direct-drive, permanent-magnet motors for high reliability, and high performance with zero backlash
- High-speed microprocessor control
- C-based firmware for fast response, ease of use and flexibility
- Controlled by analog joystick or digitally via PC
- Positioner weighs 160-180 lbs.
- Suitable for military land, sea and airborne environments



SPS-2000

Cobham's standardized, commercial off-the-shelf (COTS) SPS Series of Precision Positioners are based on a scalable design resulting from over 25 years of satisfying demanding customer requirements. Precise positioning, high reliability, high payload to weight ratios, low maintenance and cost effective solutions are hallmarks of Cobham's SPS Series of Precision Positioners. As our customer, you will benefit from Cobham's proven experience in electronic imaging, signal processing, control systems and system integration.

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SPS-2000 Performance Specifications*

Resolution	24 bits (0.4 μ rad with Inductosyns)
Accuracy	$\pm 0.0007^\circ$ ($\pm 12 \mu$ rad)
Repeatability	$\pm 0.0003^\circ$ ($\pm 6 \mu$ rad)
Velocity	0.01° to 90° / sec (nominal)
Acceleration	90° / sec ² (nominal)
Base Motion Stabilization with high performance-FOG	25 μ rad (depends on PSD)
Motor Torque, Peak (nominal)	47 ft-lb AZ 25 ft-lb EL
Travel	+/- 180° AZ -15° to + 95° EL (Std)
Resonant Frequency (payload dependent)	Azimuth 30 Hz Elevation 40 Hz

Features

The pedestal is pre-treated with chemical conversion coating and finished by powder-coating. Alternately, it can be painted according to customer specifications. It uses all-stainless-steel hardware and is supplied with stow locks for safe transportation. A pedestal-safe switch is included to allow maintenance personnel to immobilize the pedestal during maintenance. Mechanical stops and a payload-specific electrical inter-face are also standard items

Configuration

Pedestal Type	Elevation over Azimuth T-Bar, Yoke, 3-Axis
Drive Motors	Brushless DC
Weight, Positioner	150-180 lb (nominal)
Payload	Up to 400 lb

Mechanical

Mechanical	16.5" dia. bolt circle, with 6 equally spaced 0.600" dia. holes
LOS	29" above the pedestal base (Nominal)
Payload	As per customer specification

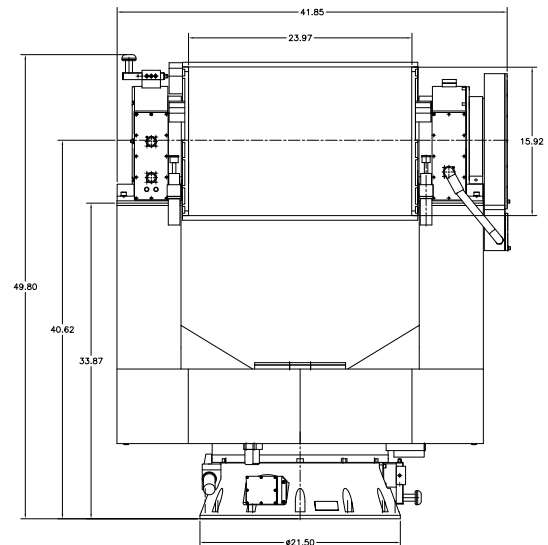
Environmental

Temperature	
Operating	30°C to + 50°C
Storage	-40°C to + 70°C
Relative Humidity	98%

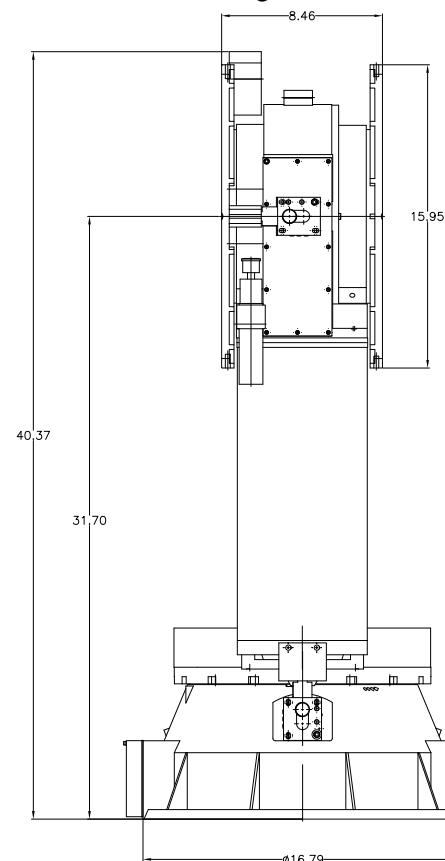
Options

Inductosyn	Transportable base
Joystick	Payload/system integration
Slip rings	Remote stow pins
Leveling	Optical encoders
Rotary joints	Autotracker
Drift control	Turnkey systems
	Video tracker
	Image stabilization

Mechanical Data (not to scale)



Yoke Configuration



Post Configuration

Power

The Positioner derives its power from the servo control unit. The servo control unit operates from:

- 115/240 VAC, single-phase, 50/60 Hz power;
- 208 VAC (optional), three-phase, 50/60 Hz power;
- 24/28 VDC (optional).

* Specifications subject to change without notice