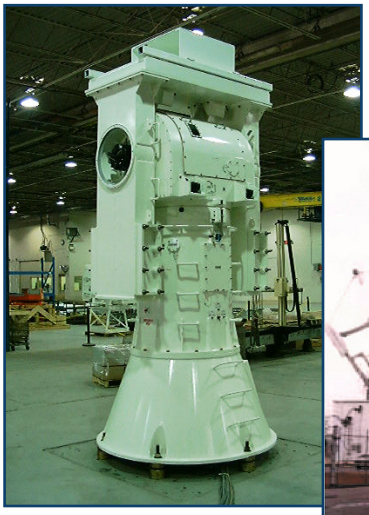
KRATOS
READY FOR WHAT'S NEXT™

Model P4800 Post Pedestal

Model P4800 Pedestal Features

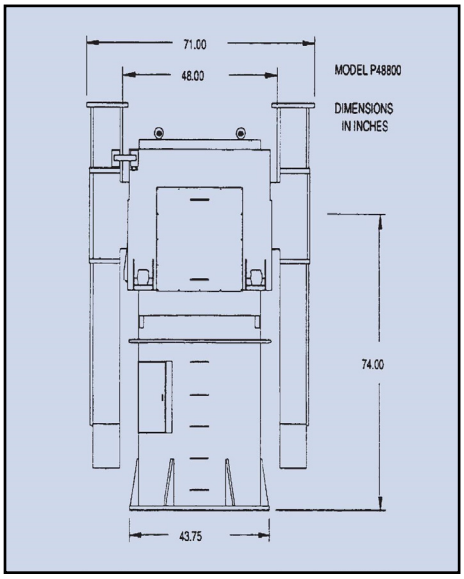
- Heavy Duty Tracking Pedestal
- Dual Gear Driven with Bias, to Eliminate Backlash
- Up to 30 deg/sec Velocity
- Servo Driven Twin Motors on Elevation and Azimuth
- Precision Resolvers or Position Encoders for Angular Feedback
- 4000 Pound Payload Weight
- Environmentally Sealed



Model P4800 Post Pedestal

Ideal for applications such as tracking radars, satellite tracking antennas, communications systems, ELINT antennas, and EW simulators, the Kratos Model P4800 Post Pedestal features dual, geared drives in azimuth and elevation. Drive systems are biased electronically to eliminate mechanical backlash in the gearing. The resulting system provides high reliability and accurate pointing for RF antennas. Pedestal and control electronics produce wide bandwidth servo performance with very low jitter suitable for automatic tracking. The pedestal will support balanced loads of up to 4000 pounds at velocities of 30 deg/sec. Optional features include slip rings, rotary joints, and custom load support structures.

Only tested, field-proven components are used in the design of this pedestal. Hardware is military-temperature rated, and mechanical design is rugged. Reliability and long life are the hallmarks of this pedestal.



Features

Dual Drives

Each axis contains dual, opposed drives consisting of DC servo motors opertating through reduction gears. Axes have failsafe friction brakes and manual drives. By electronically baising the amplifiers, the drive motors keep the gear trains constantly in contact, eliminating geartrain backlash.

Position Encoders

The position encoder in each axis is a resolver transmitter driven by anti-backlash gearing. Optional optical encoders or rotary inductosyns may also be used.

Bearings

The bearings are large diameter bull gear bearing with overturning moment capacity of 85,000 ft-lbs. This ensures a very high safety margin; yet provides necessary stiffness to meet the specifications of highly accurate systems.

Seals

Teflon lip seals environmentally protect the rotating interfaces of the positioned, effectively designed to exclude water, dirt, and dust while producing minimum system friction.

Materials

The positioned is constructed of the highest quality materials, selected to provide maximum corrosion resistance with minimum weight. Typical components include 6061 aluminum alloy for structural material and cadmium plated 300 series CRES fasteners.

Axis Travel

Physical stops limit the rotation in each axis. The elevation axis travel is -10° to +95°, while the azimuth axis travel is +180° plus over-travel. Continuous azimuth travel is available with optional slip rings.

Riser

Customer requirements determine riser height.

Stow Pins

Stow pins are mounted on each axis to lock the axes in position for storage or transportation.

Load Platform (Optional)

Custom-designed platforms are bolted to the load supports of the elevation axis.

Amplifiers

The pedestal can be controlled with a Model 3200 Servo Amplifier.

Performance

Velocity			
Azimuth	0.05°/sec min.	20°/sec rated	30°/sec max.
Elevation	0.05°/sec min.	20°/sec rated	30°/sec max.

Acceleration	
Azimuth	40°/sec²
Elevation	40°/sec²

Accuracy	
Bearing Wobble	0.01°
Orthogonality	0.02°
Backlash	0.018° (0.00° dual drive)

Output Torque, rated velocity (dual drive)	
Azimuth	20,000 ft/lbs.
Elevation	8,000 ft/lbs.

Rate Loop Bandwidth, at rated inertia (6700 ft/ibs-sec²)	
Azimuth	13 Hz
Elevation	13 Hz

Compliance (dual drive)	
Azimuth	$1.5x10^{-8}$ RADft./lbs.
Elevation	$1.5x10^{-8}$ RADft./lbs.
Static Repeatability	+/- .010

Configuration

Pedestal Type	Elevation-over-Azimuth post
Drive System	DC motor/planetary gear head (dual drive)
Servo Amplifier	Pulse width modulated (PWM) amplifier with analog rate loop electronics
Pedestal Weight	10,000 pounds
Payload Weight	4,000 pounds (not including counterweights)

Interfaces

Mechanical	
Base	40.0 inch diameter bolt circle, 8 holes equally spaced, 1.00 inch diameter holes
Payload	Payload supports are optional, determined by customer specification.

Electrical	
Base	MS Type Connectors
Payload	MS Type Connectors
Ground Stud	Located at base of pedestal

Features

Finish	Pretreatment; Final coat customer specified
Handcranks	Electrically Interlocked
Failsafe Brakes	Both Axes
Safety Switch	Mounted at Pedestal Base
Slip Rings (optional)	Azimuth Axis with 6 inch through hole

Kratos Defense & Security Solutions Inc.
1120 Jupiter Road, Suite 102
Plano, Texas, 75074
USA
Phone: 1 (214) 291-7654
Fax: 1 (214) 291-7655
www.KratosDefense,com
Space@KratosDefense.com

***Bulletin PED-03A** 06/20*