

PT-25 HEAVY DUTY PAN & TILT UNIT



**40 N-m (30 lb-ft) of output torque
on each axis handles heavy loads**

**Available in either AC or DC power
configurations**

**Corrosion-resistant housing is ideal for
use in hazardous environments**



Dual axis heavy duty pan & tilt to remotely position camera systems, acoustic equipment, and other instrumentation.

The unparalleled reliability of the PT-25 is due in part to its rugged construction. Housings and machined components are made of corrosion resistant, hard-anodized aluminum. All external hardware is made of stainless steel, with oceanographic and nuclear applications in mind.

The PT-25 provides 40 N-m (30 lb-ft) of output torque on each axis. Heavy-duty ball bearings supporting the output shaft allow it to accommodate heavier payloads up to 100 pounds. The drive train for each axis of the pan & tilt uses either a reversible synchronous motor or a brushless stepper motor coupled to low backlash harmonic gearing. The rugged design of the gear train allows stalling of either output shaft without damage to the gears or the motor.

With the choice of different AC or DC power configurations the PT-25 can be used in a wide array of varying environments and applications.

The PT-25 heavy duty pan & tilt complements all ROS underwater lights and camera systems and was designed to be an integral part of turnkey, remotely operated, video inspection systems.

All ROS positioning units are available in either dual or single axis configurations.

ROS has been manufacturing an array of harsh environment cameras, lights, positioners, and specialized systems designed for oceanographic, nuclear, industrial, and military applications for over 30 years.

PT-25 - Heavy Duty Pan and Tilt Unit

PERFORMANCE

Power:	120 VAC, 0.5 amps per axis; 24 VAC option available 24 VDC, 1.5 amps per axis	
Torque:	30 lb-ft (40 N-m) per axis	
Rotation Speed (80:1 gears):	60 Hz: 5.4 degrees/second (0.90 RPM) 50 Hz: 4.9 degrees/second (0.82 RPM)	
Harmonic gear backlash (80:1 gears):	0.5 degrees (30 arc minutes)	
Scan Range (both axes):	360 degrees	
Scan Range with optional yoke bracket:	360 degrees pan axis, +/- 90 degrees tilt axis	
Static braking option (24 VDC model only):	Requires an additional connector pin	

MECHANICAL

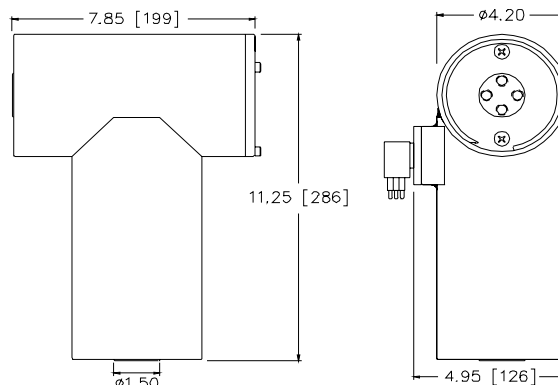
Housing Material:	Anodized 6061-T6 Aluminum	Electropolished 316 Stainless Steel
Height:	286 mm (11.25 in)	286 mm (11.25 in)
Width:		
Air-filled:	199 mm (7.85 in)	199 mm (7.85 in)
Oil-filled with bellofram:	243 mm (9.55 in)	243 mm (9.55 in)
Length without connector:	126 mm (4.95 in)	126 mm (4.95 in)
Main Body Diameter:	107 mm (4.20 in)	107 mm (4.20 in)
Output Shaft Diameter:	38.1 mm (1.50 in)	38.1 mm (1.50 in)
Weight in Air:		
Air-filled:	8.7 kg (19.2 lbs)	10.5 kg (23.2 lbs)
Oil-filled:	9.8 kg (21.5 lbs)	11.6 kg (25.5 lbs)
Weight in Water:		
Air-filled:	4.6 kg (10.2 lbs)	9.3 kg (20.6 lbs)
Oil-filled:	5.7 kg (12.5 lbs)	10.8 kg (23.9 lbs)
Standard Connectors:	LPMBH-5-MP, LPMBH-7-MP	
Housing Mounting:	Four 3/8-16 threaded holes in output pan shaft	
Equipment Mounting:	Four 3/8-16 threaded holes in output tilt shaft	
Mounts:	ROS mounting plate and yoke bracket optional	
External Mechanical Limits:	ROS stop collar optional	
Compensator (oil-filled units only):	Bellofram	

ENVIRONMENTAL

Operating Depth:	
Air-filled:	30 m (100 ft)
Oil-filled:	3,000 m (10,000 ft) standard 6,000 m (20,000 ft) available
Operating Temperature:	0°C to +50°C (32°F to 122°F)
Storage Temperature:	-20°C to +60°C (-4°F to 140°F)
Radiation Tolerance:	1 x 10 ⁸ rad (max accumulated dose)

ROS STANDARD PIN-OUT

- 1 - COMMON
- 2 - TILT CCW
- 3 - TILT CW
- 4 - PAN CW
- 5 - PAN CCW
- 6 - BRAKING (OPTION)



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