

# R-25-FB

## HEAVY DUTY ROTATOR UNIT WITH FEEDBACK



**Internal limit switch and feedback potentiometer provide orientation information at control station**

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

**Optional RS-485 control for advanced control options and features**



*Single axis heavy duty rotator with position feedback and optional RS-485 control to remotely orient camera systems, acoustic equipment, and other instrumentation.*

The unparalleled reliability of the R-25-FB 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 for deep water or hazardous environment applications.

The R-25-FB provides 40 N-m (30 lb-ft) of output torque. Heavy-duty ball bearings supporting the output shaft allow it to accommodate heavier payloads up to 100 pounds. The drive train for the rotator 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 the output shaft without damage to the gear or the motor.

This positioner is equipped with an internal limit switch and position feedback potentiometer. The potentiometer senses rotation orientation angles for display at the remote control station.

With the choice of different power configurations, AC or DC, the R-25-FB can be used in a wide array of varying environments and applications. Additionally, the 24 VDC model with optional RS-485 communication protocol is highly configurable and precision controllable.

The PT-25-FB 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 single or dual axis configurations.

# R-25-FB - Heavy Duty Rotator Unit with Feedback

## PERFORMANCE

Power:	120 VAC, 0.5 amps; 24 VAC option available 24 VDC, 1.0 amps
Torque:	30 lb-ft (40 N-m)
Rotation Speed (80:1 gears):	
60 Hz:	5.4 degrees/second (0.90 RPM)
50 Hz:	4.9 degrees/second (0.82 RPM)
RS-485 model only:	Programmable, 0.5 to 20 degrees/second (0.08 to 3.3 RPM)
Harmonic gear backlash (80:1 gears):	0.5 degrees (30 arc minutes)
Scan Range:	+/- 170 degrees max
Feedback Potentiometer:	Absolute position (1000 ohm wire-wound)
Resolution:	+/- 0.5 degrees (30 arc minutes); high-resolution potentiometer available
Static braking option (24 VDC model only):	Requires an additional connector pin
Control protocol option (24 VDC model only):	RS-485, 2-wire half duplex, 8 bit data, 1 stop bit, no parity, no hardware flow control
Networkability (RS-485 model only):	Up to 32 ROS RS-485 nodes sharing the same cable for power and communication

## MECHANICAL

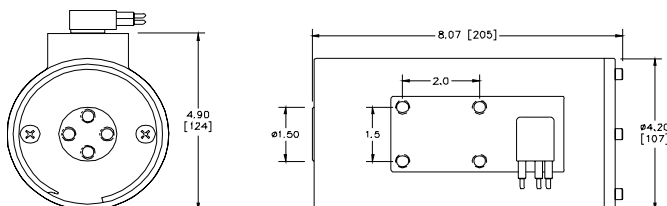
Housing Material:	Anodized 6061-T6 Aluminum
Length:	
Air-filled:	205 mm (8.07 in)
Oil-filled with bellofram:	243 mm (9.58 in)
Height without connector:	124 mm (4.90 in)
Main Body Diameter:	107 mm (4.20 in)
Output Shaft Diameter:	38.1 mm (1.50 in)
Weight in Air:	
Air-filled:	4.8 kg (10.5 lbs)
Oil-filled:	5.3 kg (11.7 lbs)
Weight in Water:	
Air-filled:	2.9 kg (6.5 lbs)
Oil-filled:	3.5 kg (7.7 lbs)
Standard Connector:	LPBH-9-MP
Housing Mounting:	Four 3/8-16 threaded holes in mounting boss
Equipment Mounting:	Four 3/8-16 threaded holes in output 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 <sup>8</sup> rad (max accumulated dose)

## ROS STANDARD PIN-OUT

- 1 - COMMON
- 2 - CCW
- 3 - CW
- 4 - N/C
- 5 - N/C
- 6 - +15 VDC FEEDBACK EXCITATION
- 7 - -15 VDC FEEDBACK EXCITATION
- 8 - FEEDBACK
- 9 - BRAKING (OPTION)



5618 Copley Drive  
San Diego, CA 92111 USA  
Tel (858) 565-8500  
Fax (858) 565-8808  
East Coast Office (804) 754-3936

[www.rosys.com](http://www.rosys.com)  
[sales@rosys.com](mailto:sales@rosys.com)