

## R-25 HEAVY DUTY ROTATOR UNIT



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

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

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

***Single axis heavy duty rotator to remotely position camera systems, acoustic equipment, and other instrumentation.***

The unparalleled reliability of the R-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 R-25 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.

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

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



# R-25 - Heavy Duty Rotator Unit

## PERFORMANCE

|  |  |
|--|--|
| Power:                                     | 120 VAC, 0.5 amps; 24 VAC option available<br>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)                                  |
| Harmonic gear backlash (80:1 gears):       | 0.5 degrees (30 arc minutes)                                   |
| Scan Range:                                | 360 degrees  |
| Static braking option (24 VDC model only): | Requires an additional connector pin                           |

## MECHANICAL

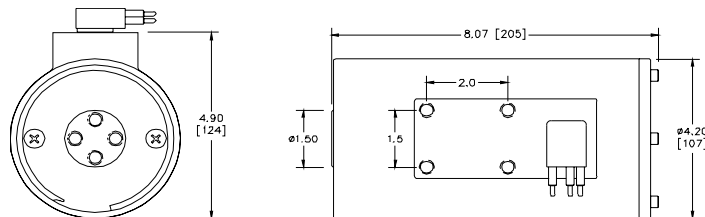
|                                      |  |
|--------------------------------------|--|
| Housing Material:                    | Anodized 6061-T6 Aluminum                    |
| Length:                              |  |
| Air-filled:                          | 205 mm (8.07 in)                             |
| 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 Connectors:                 | LPBH-3-MP, LPMBH-5-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<br>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 - BRAKING (OPTION)



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