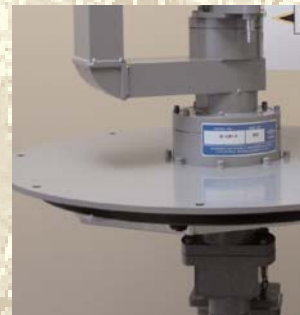


# ROTARY JOINTS

## Air Traffic Control

*Field-proven  
Worldwide  
Reliability!*



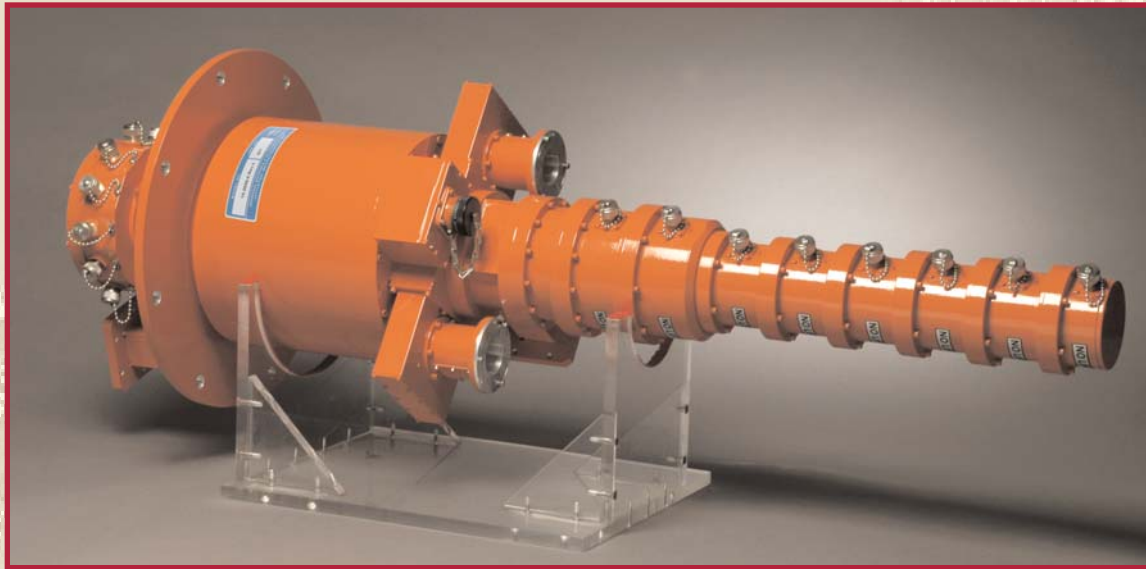
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ROTARY JOINTS

# Air Traffic Control

*Field-proven Worldwide Reliability!*



## Primary & Secondary ATC Radar Rotary Joint

Airport Surveillance Radar (ASR)

9 Channel: S-Band/L-Band/740 MHz

Waveguide: WR-284

Coaxial: 2 S-Band/3 Mode-S L-Band/3 740 MHz

19 Channel **ROLL-RING**<sup>®</sup>

Dual Encoder Provisions

*Installations: Kazakhstan*

*Diamond Series: 2920*



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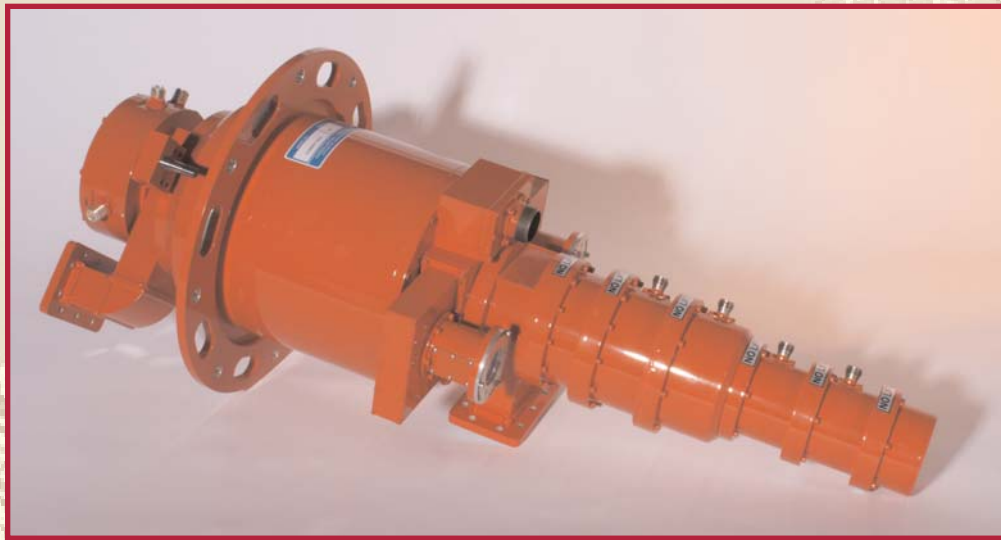
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ROTARY JOINTS

# Air Traffic Control

*Field-proven Worldwide Reliability!*



## Primary & Secondary ATC Radar Rotary Joint

Airport Surveillance Radar (ASR)

6 Channel: S-Band/L-Band

Waveguide: WR-284

Coaxial: 2 S-Band/3 L-Band

Up to 24 Channel **ROLL-RING®**

Dual Encoder Provisions

*Installations: Colombia, Bahamas, Romania, Taiwan, India, Hungary, Lithuania, Indonesia, Korea*  
*Diamond Series: 2620*



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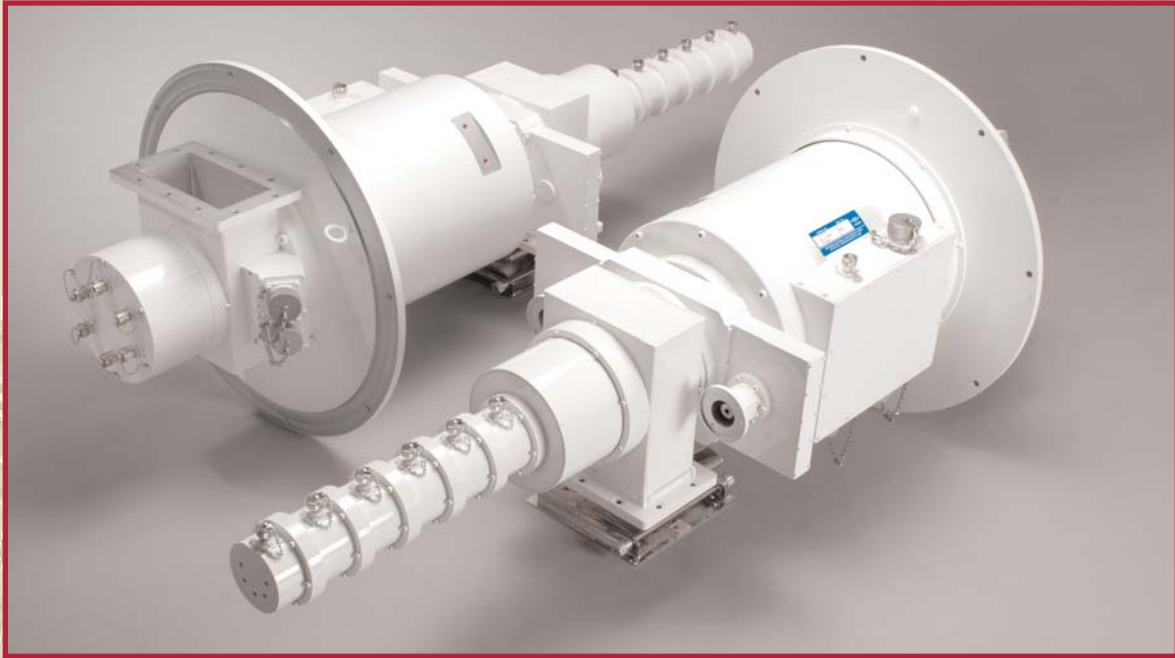
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ROTARY JOINTS

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## En Route ATC Radar Rotary Joint

Air Route Surveillance Radar (ARSR)

7 Channel: L-Band

Waveguide: WR-650

Coaxial: 3 L-Band/3 L-Band (SSR)

20 Channel Slip Ring

Dual Encoder Provisions

*Installations: Cyprus, Venezuela*

*Diamond Series: 2700*



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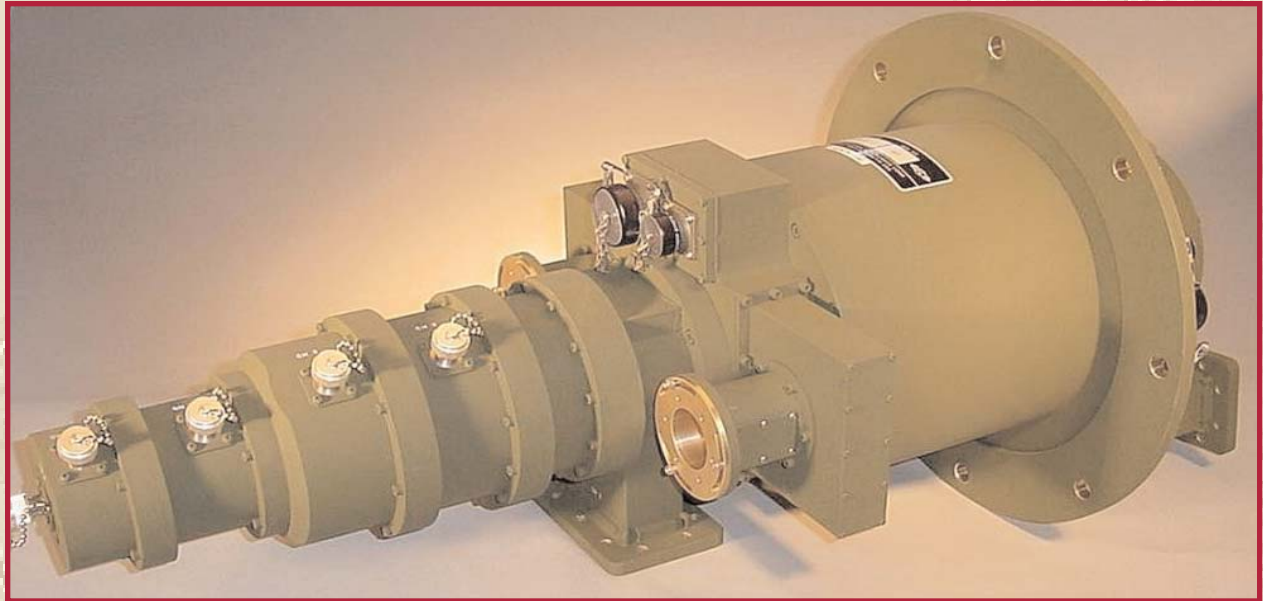
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ROTARY JOINTS

# Air Traffic Control

*Field-proven Worldwide Reliability!*



## Primary & Secondary ATC Radar Rotary Joint

Airport Surveillance Radar (ASR)

6 Channel: S-Band/L-Band

Waveguide: WR-284

Coaxial: 2 S-Band/3 L-Band

24 Channel **ROLL-RING**<sup>®</sup>

Dual Encoder Provisions

*Installations: U.S. Military*

*Diamond Series: 2620*



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## TPS-63 Rotary Joint

3 Channel Coaxial L-Band  
High-power EIA connectors

*Installations: Egypt  
Diamond Series: 2362*



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## Secondary Surveillance Radar (SSR) Rotary Joint

3 Channel Coaxial L-Band Rotary Joint

Fully Mode S Compliant

Options with:

**ROLL-RING®**/Slip Rings

Encoder Provisions

*Installations: Macedonia, Slovenia, Colombia, Portugal, Brazil, Belgium, Indonesia, Korea*  
*Diamond Series: 2355*



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ROTARY JOINTS

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## Primary ATC Radar Rotary Joint

2 Channel: S-Band  
Waveguide: WR-284  
Dual Encoder Provisions

*Installations: United Kingdom  
Diamond Series: 2281*



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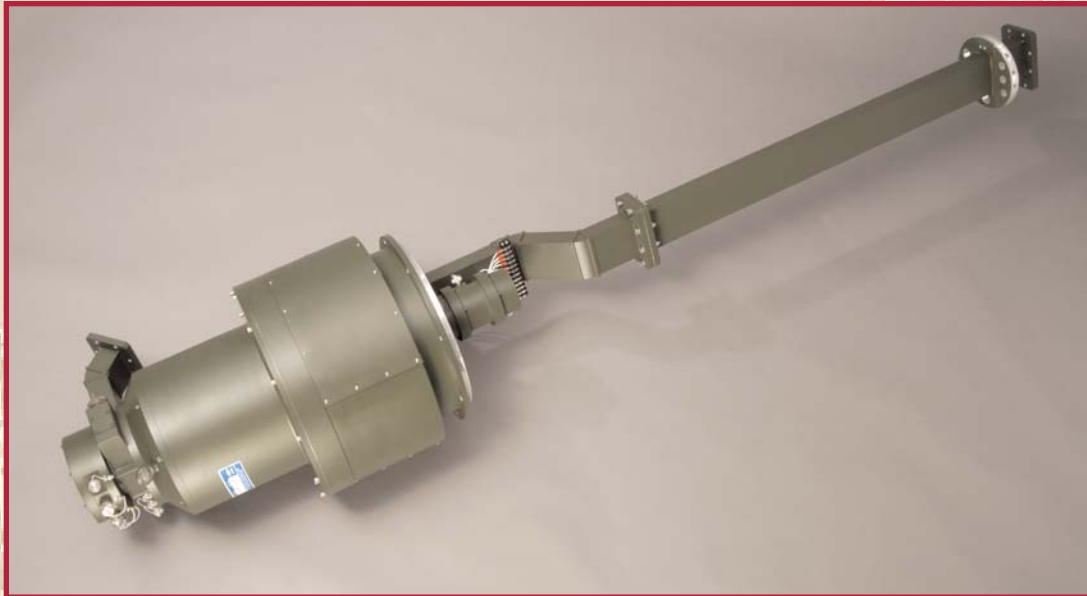
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ROTARY JOINTS

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## Primary & Secondary ATC Radar Rotary Joint

Air Force Base Approach Radar, PSR & IFF Mode 5

5 Channel: S-Band/L-Band

Waveguide: WR-284

Coaxial: 1 S-Band/3 L-Band

15 Channel **ROLL-RING®**

*Installations: Belgium*

*Diamond Series: 2530*



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Since 1956, Diamond's ATC rotary joints have been field-proven and life-tested to over 60 million revolutions. This precision rotary component includes the design and workmanship features you expect for high-reliability performance in extreme environmental conditions.

- Roll-Rings® offer many advantages over traditional slip rings. The Roll-Ring is an innovative next-generation slip ring that uses a rolling, instead of slipping, electrical contact. The rolling contact at the electrical interface provides extended operating life without field maintenance and allows airports to avoid unscheduled interruptions and downtime for maintenance until the entire rotary joint assembly is removed for factory service of bearings and seals.
- Rotary Joint mounting provisions install into either the pedestal stator or rotor, depending on the design interface. In either case, the main rotor/stator break of the rotary joint is protected by multiple internal labyrinths to keep foreign matter out of the RF path and ensure weatherproof operation. Long-life dynamic seals are used at the rotor/stator interface of the rotary joint to retain overpressure in the waveguide with minimal leakage during years of rotation. The interface of input and output waveguides is available in various flange configurations.
- Coaxial microwave channels use standard capacitively-coupled, non-contacting rings. The electrical interface also uses Diamond's patented flexible journal/compressive choke design suitable for ATC. This feature affords much better isolation

across the entire band of interest as well as lower insertion loss and a smaller size. Diamond's ATC rotary joints are fully Mode S compliant.

- Encoder provisions include a large diameter shaft to transfer rotation from the main bearings to a precision gear located concentric to the axis of rotation. The main gear then transfers position to one or two smaller gears precisely located relative to the main gear; all gears are rated AGMA 14 or better in order to ensure accuracy. Solid stainless steel rods transfer the motion to the encoder shafts.
- Aluminum dip brazings are compliant with MIL-B-7883. Silver nitrate tests confirm salts are removed. Secondary machining of brazed assemblies maintains the concentricity and tolerance requirements at critical junctions for maximum performance.
- Preloaded stainless steel ball bearings rated ABEC 5 or better, ensure a long life of trouble-free continuous rotation. After assembly and electrical and mechanical tests are complete, all units are run-in for an extended period to ensure that rotating interfaces are seated properly and that accurate performance is maintained.
- Rotary joints are painted with durable two-part epoxy-polyurethane. All standard ATC colors are available.

***Rely on Diamond's ATC rotary joints for year after year of continuous operation.***



***'Since 1956'***



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