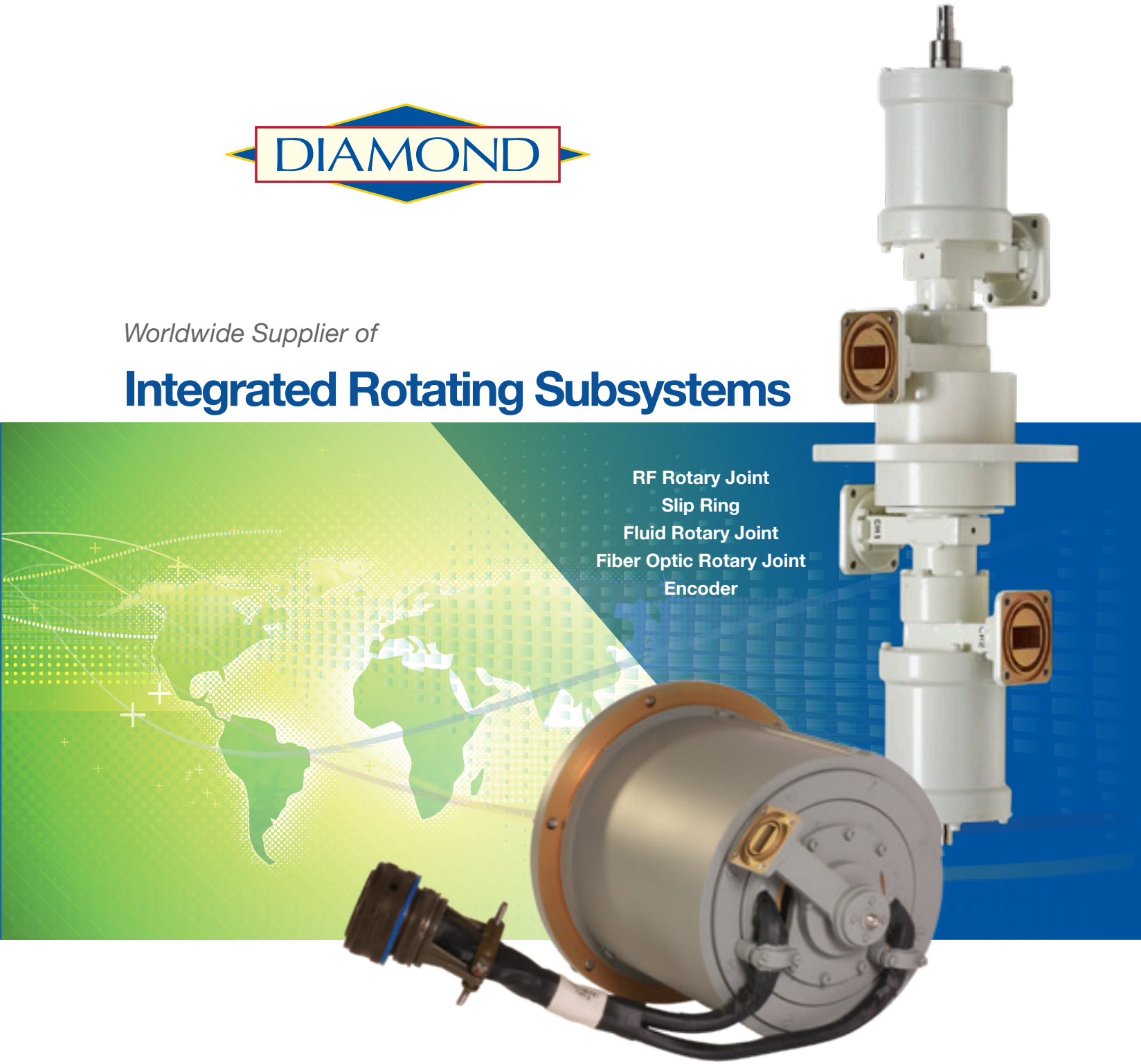
DIAMOND

Worldwide Supplier of

Integrated Rotating Subsystems



RF Rotary Joint
Slip Ring
Fluid Rotary Joint
Fiber Optic Rotary Joint
Encoder

Complete Subsystems Integration

Designing and integrating RF rotary joint technology with ancillary components is a Diamond Antenna and Microwave core competency.

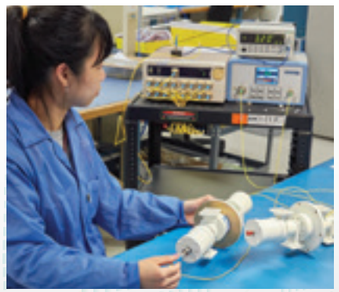
Diamond Antenna and Microwave is a worldwide supplier of integrated electromechanical rotating subsystems for ground-based, airborne, shipboard and commercial applications. OEM and system manufacturers seeking integrated rotating subsystems can partner with Diamond Antenna for a turnkey product.

As data and power transmission requirements become more complex, Diamond rotary subsystems can be designed to include RF rotary joints, low maintenance slip rings, azimuth positioning (APG), fiber optic rotary joints and fluid/media rotary joints in a single packaged design.

"With extensive experience in designing, manufacturing, and testing, Diamond Antenna integrates innovative components into custom rotating subsystems for those seeking new SATCOM and radar solutions".

Fiber Optic Rotary Joint:

A fiber optic rotary joint (FORJ) allows uninterrupted transmission of an optical signal while rotating and providing data rate transfer exceeding 10Gbit/s. Single and multi-mode transmission is available in one or multiple fiber optic channels.



Fiber Optic Rotary Joint Testing

RF Rotary Joint:

Diamond Antenna has over 2000 active waveguide and coaxial RF rotary joint designs available. A modular approach is typically selected to allow multiple unique RF channels to be incorporated together. A capacitive-coupled, non-contacting approach ensures RF specifications meet or exceed the required performance throughout the life of the product.

RF and Rotating Subsystem Testing

Media/Fluid Rotary Joint:

A Media/Fluid Rotary Joint allows the transfer of air, gas or liquid through the rotational interface. Liquid transfer is often required for the thermal management of components at the antenna. One or more channels can be integrated within the rotating subsystem.

Encoder (APG) Testing

Azimuth Positioning Generator:

The Azimuth Positioning Generator (APG) is used to synchronize return data with azimuth position. Diamond integrates various encoders or resolvers to support specific system requirements. Encoder designs can be hollow bore, shaft driven (for external removal or replacement) or ring read head style to best support compact packaging requirements.

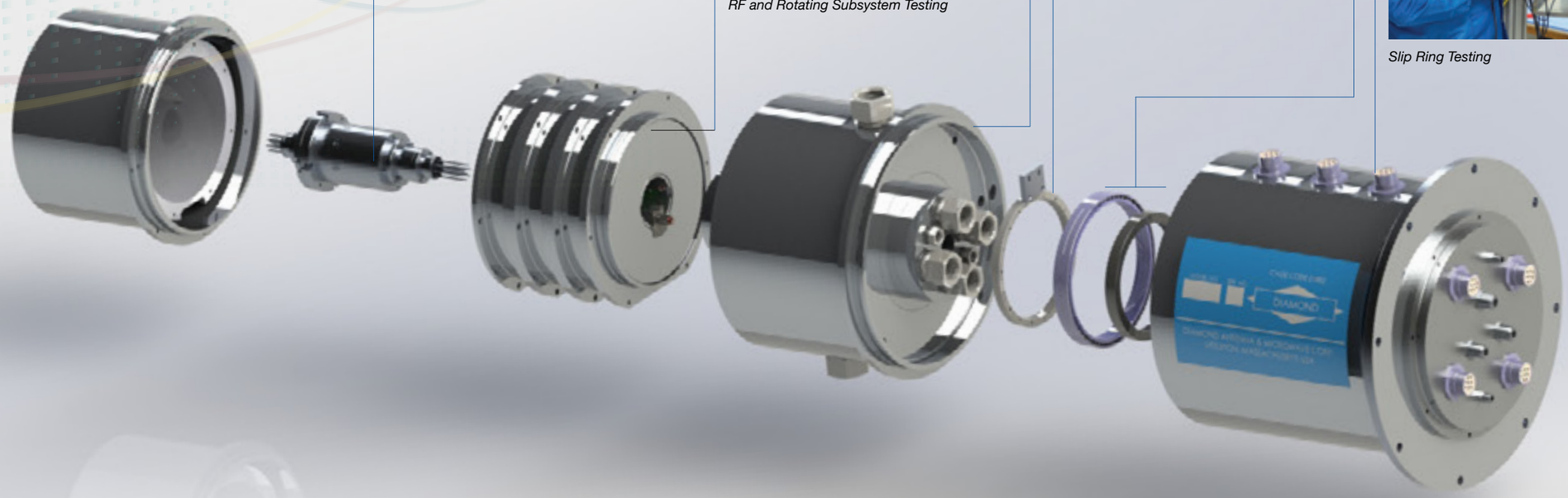
Precision Bearings and Dynamic Seals:

Precision ball bearings ensure a long life of trouble-free continuous rotation. Seals are selected to maintain internal pressure and keep outside contaminants from entering the assembly. Diamond often uses carbon face seals to support long life with continuous rotation while maintaining consistent torque requirements and low leak rates over a wide range of temperature requirements.

Slip Ring:

Slip rings allow the transmission of power and data signals during rotation. Diamond Antenna has hundreds of designs incorporating multiple approaches for slip rings based on the application requirements. If required we can offer slip ring technologies eliminating the need for in service maintenance.

Slip Ring Testing



Integrated RF and Fiber Optic Rotary Joint

AS 9100 / ISO 9001 certified design and manufacturing of precision rotating products.

For product drawings and additional information please visit our website. www.diamondantenna.com

DIAMOND

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