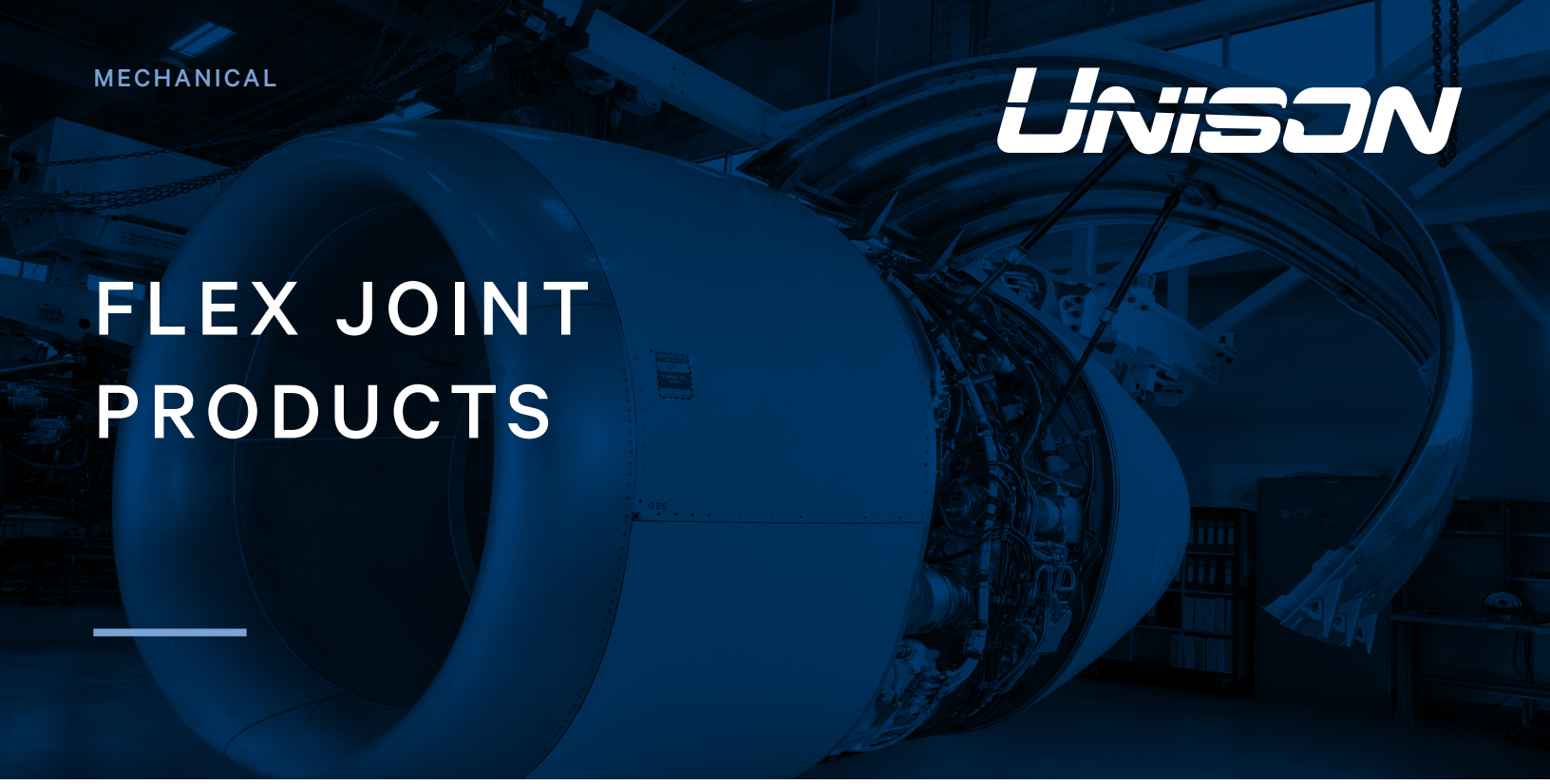
MECHANICAL



FLEX JOINT PRODUCTS

UNISON DESIGNS, DEVELOPS, TESTS, AND MANUFACTURES A VARIETY OF FLEX JOINT PRODUCTS FOR OPTIMAL WEIGHT, ENVELOPE AND BENDING MOMENT IN HARSH ENVIRONMENTS

WHY UNISON - ONE OPTIMIZED SOLUTION

Unison, a GE wholly owned subsidiary, has extensive experience in designing, developing, qualifying and integrating EBU systems. For almost three decades Unison has developed capabilities to effectively design, develop, test, and manufacture a wide variety of flex joint products.

This experience is deployed across multiple engine programs and a wide variety of commercial and military aircrafts. Unison has leveraged its EBU expertise to develop optimized solutions that improve performance while decreasing weight and improving manufacturability.

Unison is uniquely positioned in the industry with its ability to enter into close collaboration with both engine and airframe development teams.

FLEX PRODUCTS AVAILABLE:

BALL JOINT

AXIAL JOINT

BELLOWS

GIMBAL JOINT

MATERIALS:

- Stainless steel 321
- Inconel 718
- Inconel 625

OUR FLEX PRODUCTS ADVANTAGE

Unison flexible products are used in a wide range of applications to absorb thermal expansion and facilitate duct assembly for commercial and military engines and power generation jet turbines.

Sealed ball joints, axial joints, and bellows comprise the bulk of Unison's production. Unison is currently expanding its gimbal joint expertise to provide improved low bending moment capability coupled with torsional resistance.

BALL JOINT TYPE	ADVANTAGE
Spherical	Lowest Moment Shape
Low Profile	Minimum Joint Length
Reinforced Shroud	Low Stress Layout
Machined Shroud	High Pressure
Graphite Composite Ring	Low Bending Moment
Offset Shroud	Minimum Pressure Drop

Unison provides a variety of ball joint styles to meet performance requirements and geometric constraints. Each different style helps address an operational challenge with their own benefits.

Unison's vertically integrated manufacturing allows for optimal design and manufacturability. Unison's manufacturing competencies can be summarized as follows:

- Assembly
- Bellows forming and planishing
- Borescope inspection
- Chemical and ultrasonic cleaning*
- Chemical etch and laser marking
- Coating and surface treating*
- Digital model based tool design
- Fluorescent penetrant inspection*
- Final product assembly
- Forming and stamping
- Heat treating*
- Hydraulic pressure testing
- Hydro forming
- Laser cutting and drilling*
- Machining (milling, turning, and grinding)
- Metallurgical lab evaluation*
- Radiographic inspection*
- Rapid response lean manufacturing cells

*Nadcap certified

WHY UNISON?

As a global leader in aviation performance solutions, we have the products and experience to solve your toughest aviation problems.

To learn more our team is ready to help! Contact us for additional information:

Contact.Us@UnisonIndustries.com

Visit us at www.UnisonIndustries.com

Call your Unison sales representative