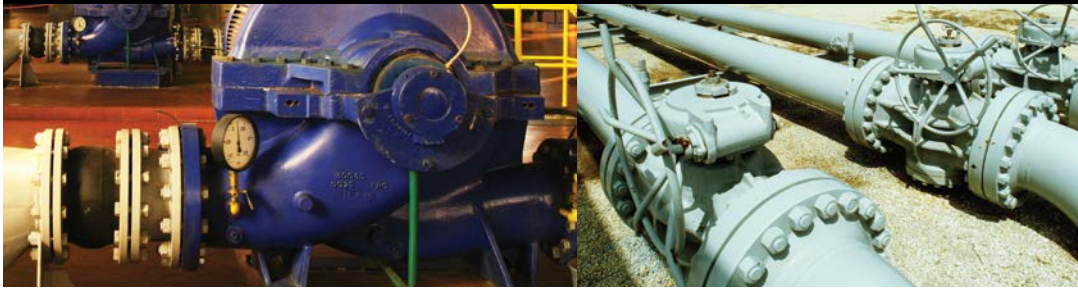


Altra High Performance Couplings

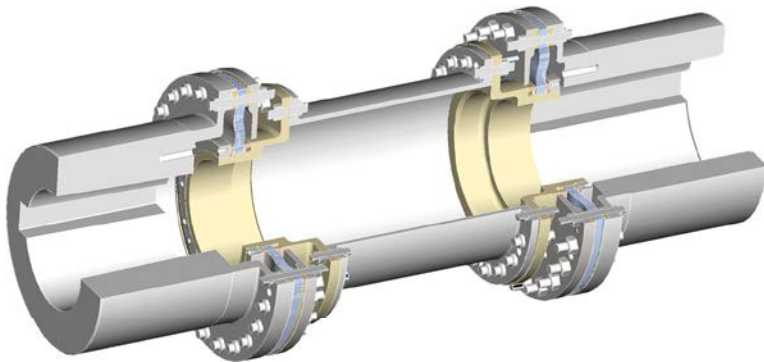


 **Altra Couplings**[®]
TB Wood's • Ameridrives • Huco
Bibby Turboflex • Lamiflex



AMERIDRIVES

Ameriflex Diaphragm Coupling

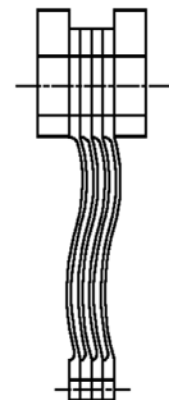


Since its introduction in 1971, the Ameriflex multiple convoluted diaphragm coupling has continued to set new standards for life and reliability in high performance machinery applications. Today, by using the latest design and manufacturing technology, Ameridrives is able to offer increased diaphragm coupling performance without compromising this outstanding reliability.

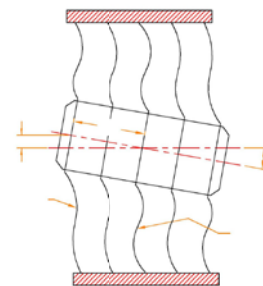
Advanced analysis and manufacturing processes have produced increased ratings without reducing safety factors. The use of the latest finite element analysis methods verified by strain gage and dynamic testing has allowed for a more precise calculation of the Ameriflex diaphragm stresses.

Features:

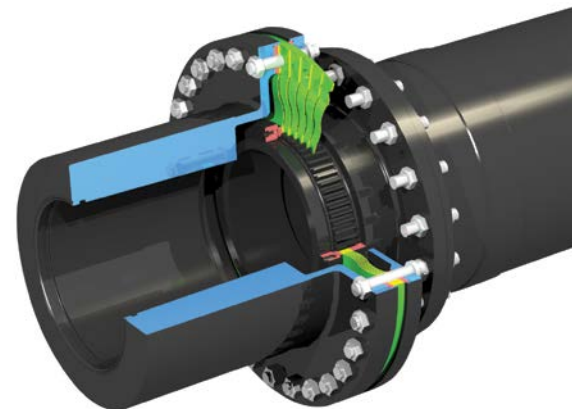
- Designed for infinite life
- High torque to diameter and weight ratio
- Diaphragms are 15-5PH stainless steel
- Diaphragms are shot-peened for improved fatigue strength and corrosion resistance
- Low bending moments and axial force result in lower bearing loads
- High axial travel
- Multiple separated diaphragms provide a built in safety feature. Failure is gradual with reduced offset stress in remaining diaphragms
- Design flexibility by changing the number of diaphragms
- Field replaceable flex-element assemblies
- API 671 Compliant

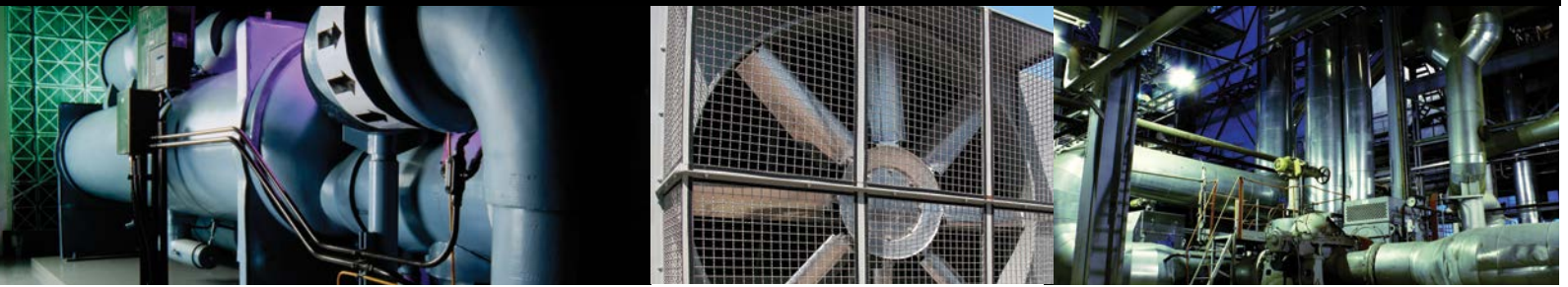


15-5 PH Stainless Diaphragm Pack



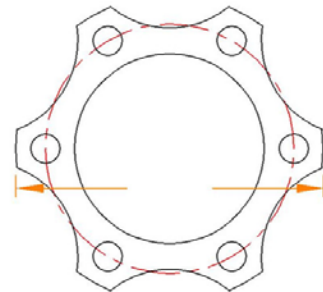
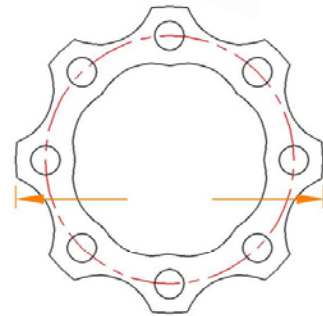
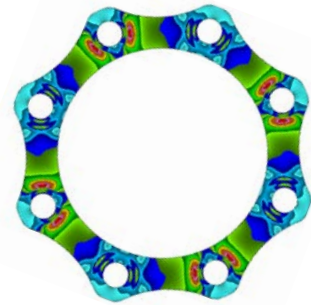
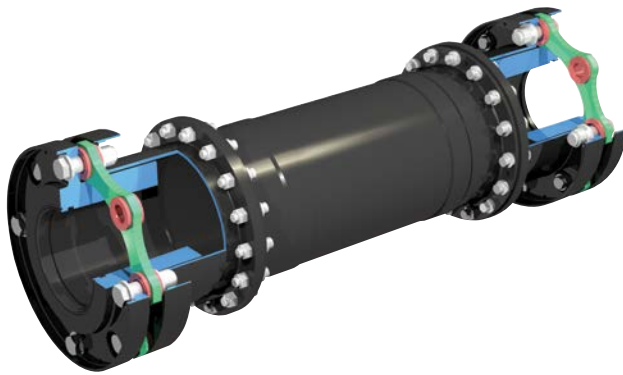
Thin Convoluted Diaphragm





AMERIDRIVES

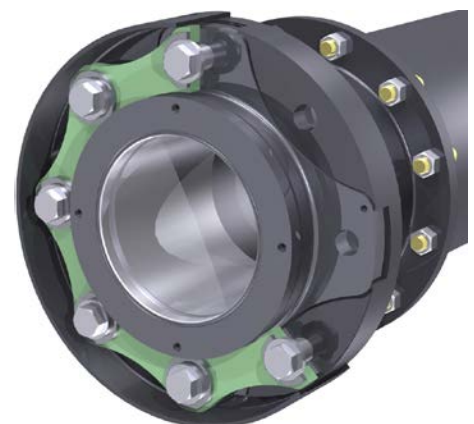
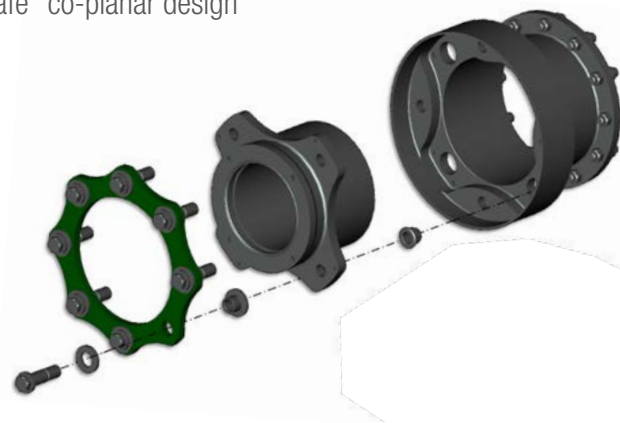
Ameridisc High Performance Disc Coupling



Introduced in 2005, the Ameridisc coupling was developed using advanced FEA with strain gage verification. Considered the most technically advanced disc coupling offered, it provides reliable performance for critical turbomachinery applications. It is particularly suited for high speed, turbocompressor trains where a lightweight, reduced moment design is required to meet rotor dynamic issues.

Features:

- Optimized disc profile results in uniform stress distribution
- Industry leader in power density and bore capacity
- Proprietary disc coating prevents fretting and corrosion
- Discs available in 301 stainless steel, Inconel and Monel
- Black oxide, heat treated, alloy steel torque transmitting components are standard
- API 671 compliant
- Optional “fail-safe” co-planar design





BIBBY TURBOFLEX

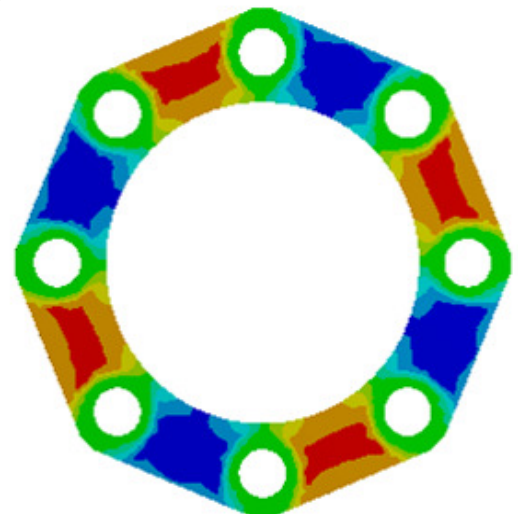
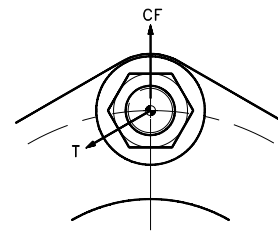
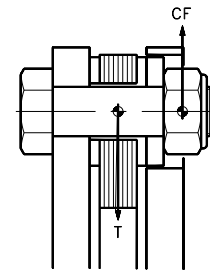
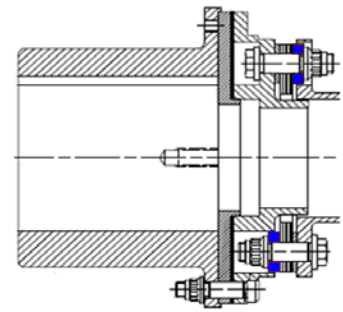
Turboflex HF High Performance Disc Couplings



Bibby Turboflex has been a market leader in flexible couplings for over 80 years. The Turboflex profiled disc coupling was first introduced to the high performance market in 1958 and today has tens of thousands of couplings in operation. This extensive experience, developed on providing solutions to the most challenging turbomachinery applications, offers a high quality flexible coupling at a lower cost than other brands.

Features:

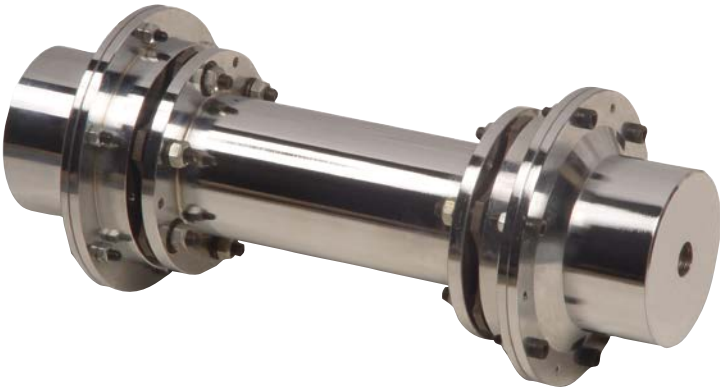
- Power dense polygon shaped disc
- Blade edge has relatively low stresses
- Oversized fasteners mean high torque and the ability to transmit torque through flange face friction. They also eliminate the need to coat the disc
- Blades can be stamped providing a more economical solution
- API 671 and ISO 10441 compliant
- Standard fail-safe Monel overload bushings





LAMIFLEX COUPLINGS

Powerflex Couplings for Critical Applications

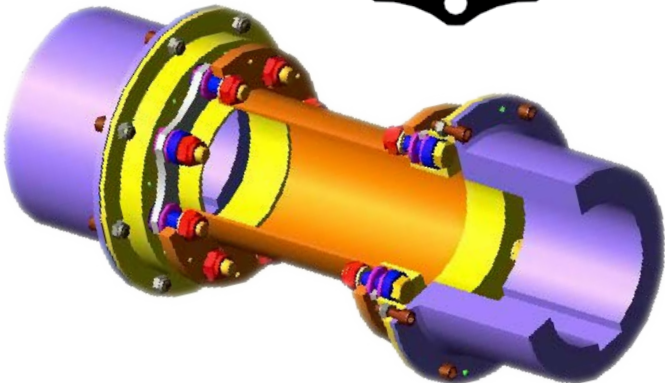
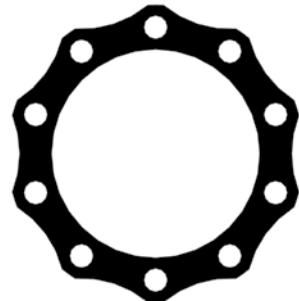
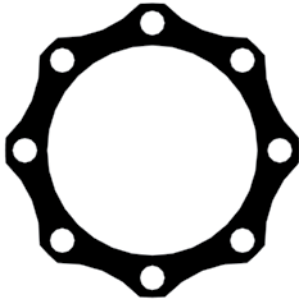
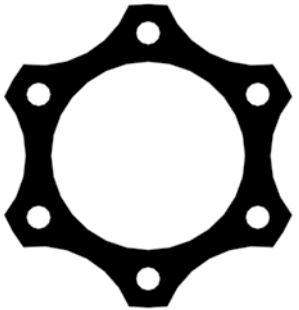


Since 1999, Lamiflex has supplied high quality couplings to many South American customers. Our focus is to exceed customer requirements and provide solutions for the most challenging applications.

The Powerflex PWH couplings have a unique design that provides a highly reliable flexible connection for critical equipment. This coupling uses the latest manufacturing processes to ensure exceptional quality and long lasting performance.

Features:

- Over 214 KNm; 1.900.000 in. lbs. of Torque
- Designed for low weight, high speed and anti-flail
- 100% local content
- Economic solution for intermediary rotations
- Applicable in pumps, fans, turbines and others





ALTRA COUPLINGS SERVICE CENTER

Dedicated Petrobras Service for Critical Equipment Couplings

The most experienced engineer team offers:

- Quick turnaround service for breakdowns
- Complete refurbishment and inspection services
- Recommended spare component replacements
- Failure analysis
- Vertical and horizontal balancing
- Field services
- Coupling retrofits/reverse engineering
- Service center for Torquetronic torquemeter coupling systems



The Power Of One, The Strength Of Many.

OTHER PRODUCT SOLUTIONS FROM ALTRA INDUSTRIAL MOTION

WWW.ALTRAMOTION.COM

Our comprehensive product offerings include various types of clutches and brakes, overrunning clutches, engineered bearing assemblies, gearing and gear motors along with linear products, belted drives, couplings and limit switches. With thousands of product solutions available, Altra provides true single source convenience while meeting specific customer requirements. Many major OEMs and end users prefer Altra products as their No. 1 choice for performance and reliability.



ELECTRIC CLUTCHES AND BRAKES

Inertia Dynamics
Matrix
Stromag
Warner Electric



HEAVY DUTY CLUTCHES AND BRAKES

Industrial Clutch
Stromag
Svendborg Brakes
Twiflex
Wichita Clutch



OVERRUNNING CLUTCHES

Formsprag Clutch
Marland Clutch
Stieber



ENGINEERED COUPLINGS AND UNIVERSAL JOINTS

Ameridrives
Bibby Turboflex
Guardian Couplings
Huco
Lamiflex Couplings
Stromag
TB Wood's



GEAR DRIVES

Bauer Gear Motor
Boston Gear
Delroyd Worm Gear
Nuttall Gear



GEAR MOTORS

Bauer Gear Motor



POWER TRANSMISSION COMPONENTS

LINEAR ACTUATORS AND CONTROLS

Warner Linear



ENGINEERED BEARING ASSEMBLIES

Kilian



AIR MOTORS

Huco



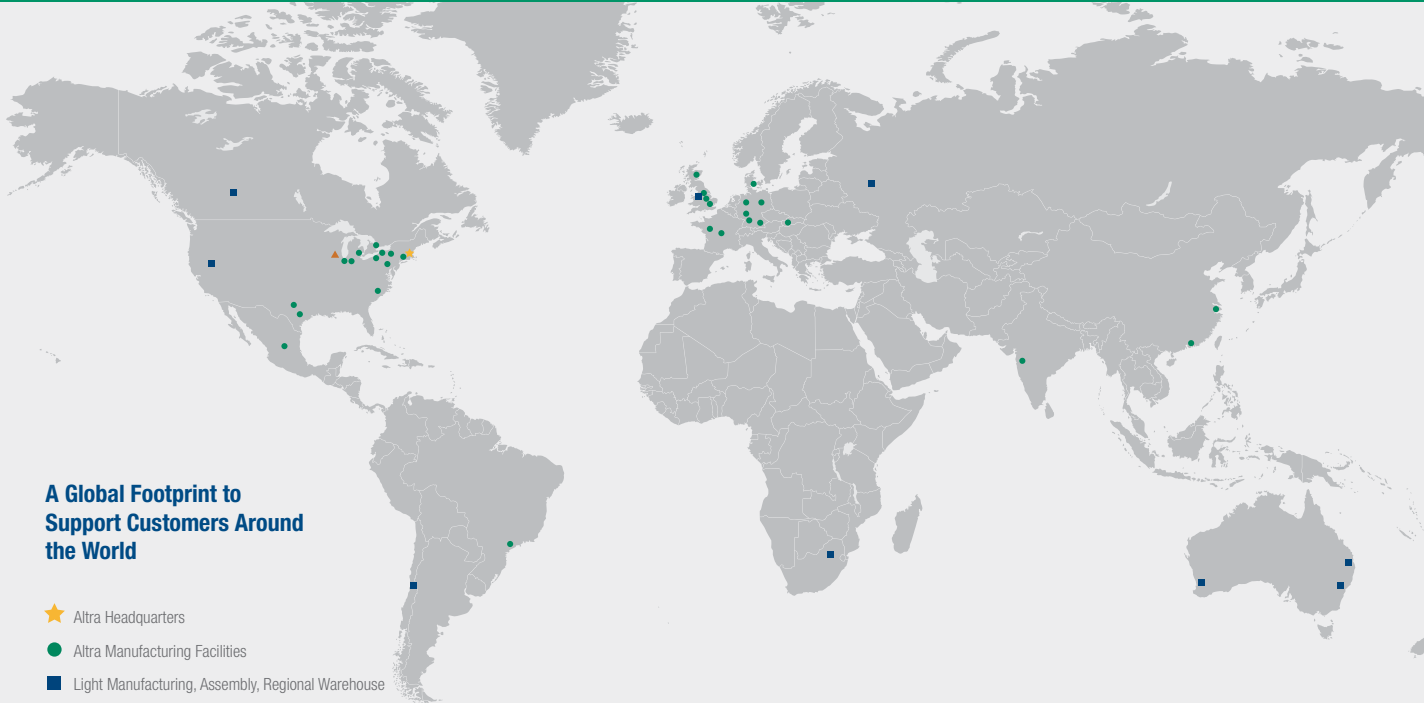
BELTED DRIVES AND SHEAVES

TB Wood's



GEARED CAM LIMIT SWITCHES

Stromag



A Global Footprint to Support Customers Around the World

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- Altra Manufacturing Facilities
- Light Manufacturing, Assembly, Regional Warehouse
- ▲ Altra Shared Services and ECB Technology Center

The Brands of Altra Industrial Motion

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Geared Cam Limit Switches

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Electric Clutches & Brakes

- Inertia Dynamics**
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- Matrix**
www.matrix-international.com
- Stromag**
www.stromag.com
- Warner Electric**
www.warnerelectric.com

Linear Products

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www.warnerlinear.com

Engineered Bearing Assemblies

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Heavy Duty Clutches & Brakes

- Industrial Clutch**
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- Stromag**
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- Svendborg Brakes**
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- Boston Gear**
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- Delroyd Worm Gear**
www.delroyd.com
- Nuttall Gear**
www.nuttallgear.com

Overrunning Clutches

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- Marland Clutch**
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www.stieberclutch.com



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