

Altra High Performance Couplings



 **Altra Couplings®**

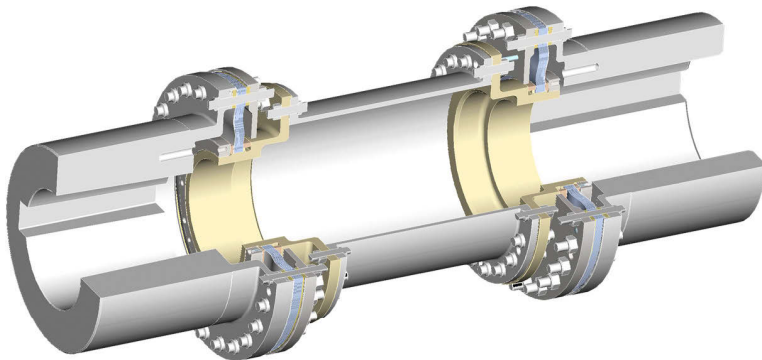
*TB Wood's • Ameridrives • Huco
Bibby Turboflex • Lamiflex*

The World Leader in Industrial Coupling Technology





Ameridrives Couplings Ameriflex Diaphragm Coupling

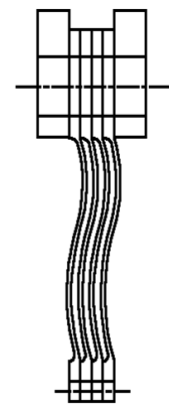


Since its introduction in 1971, the Ameriflex multiple convoluted diaphragm coupling has continued to set new standards for life and reliability in high performance machinery applications. Today, by using the latest design and manufacturing technology, Ameridrives Couplings is able to offer increased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

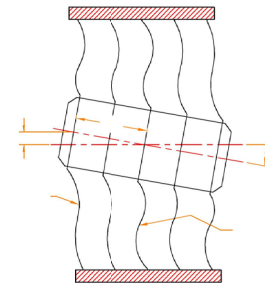
Advanced analysis and manufacturing processes have produced increased ratings without reducing safety factors. The use of the latest finite element analysis methods verified by strain gage and dynamic testing has allowed for a more precise calculation of the Ameriflex diaphragm stresses.

Features:

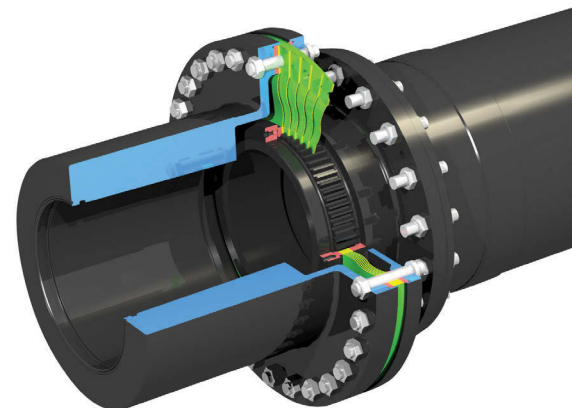
- Designed for infinite life
- High torque to diameter and weight ratio
- Diaphragms are 15-5PH stainless steel
- Diaphragms are shot-peened for improved fatigue strength and corrosion resistance
- Low bending moments and axial force result in lower bearing loads
- High axial travel
- Multiple separated 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



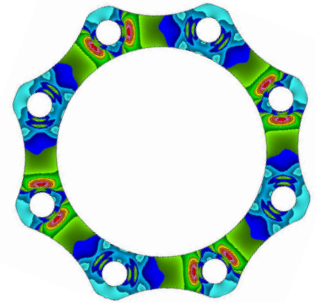
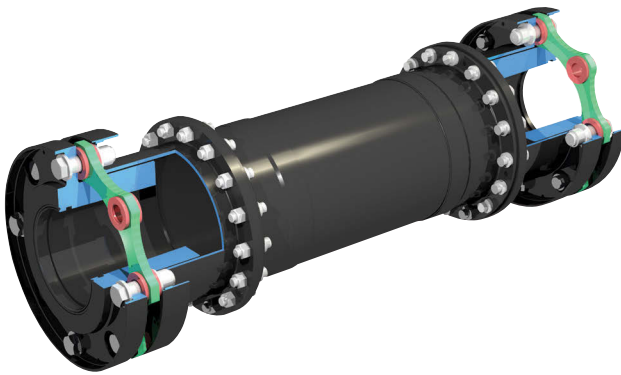
Thin Convoluted
Diaphragm



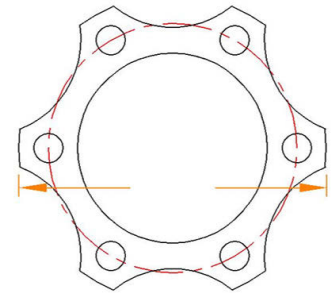
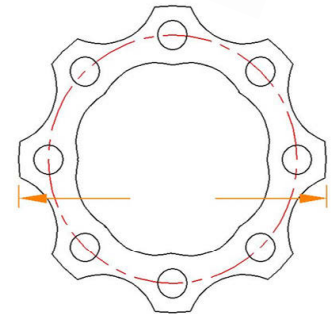


Ameridrives Couplings

Ameridisc High Performance Disc Coupling

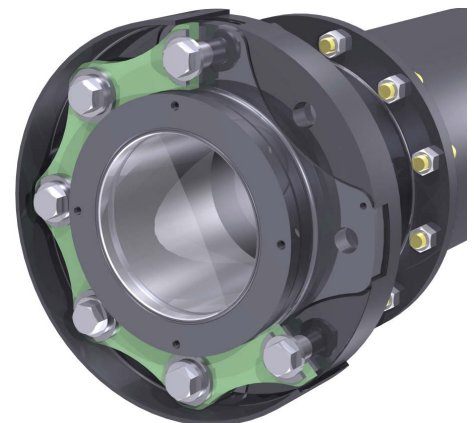


Introduced in 2005, the Ameridisc coupling was developed using advanced FEA with strain gage verification. Considered the most technically advanced disc coupling offering, it provides reliable performance for critical turbomachinery applications. It is particularly suited for high speed, turbocompressor 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





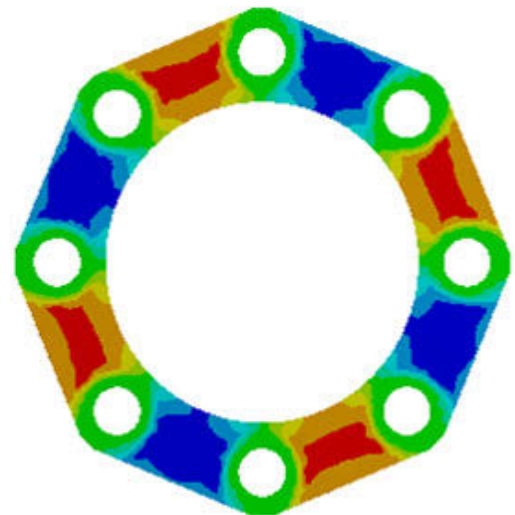
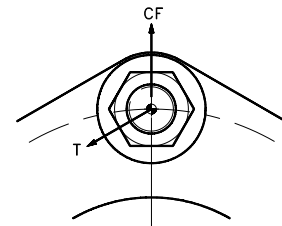
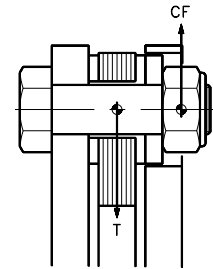
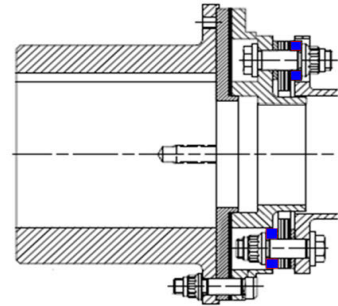
Bibby Turboflex Turboflex HF High Performance Disc Couplings

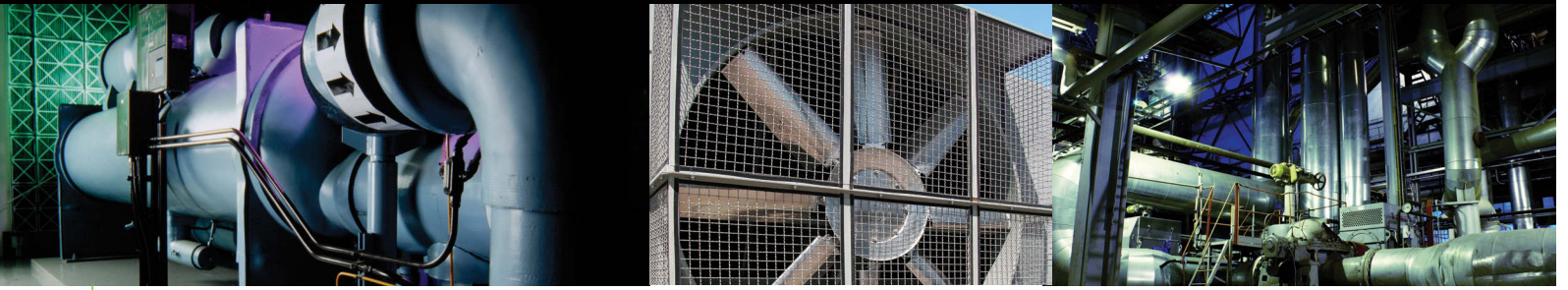


Bibby Turboflex has been a market leader in flexible couplings for over 80 years. The Turboflex profiled disc coupling was first introduced to the high performance market in 1958 and today has tens of thousands of couplings in operation. This extensive experience, developed on providing solutions to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

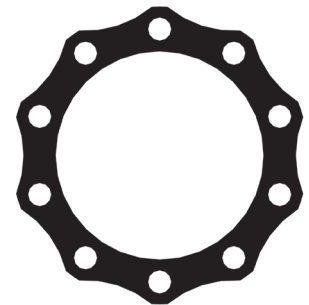
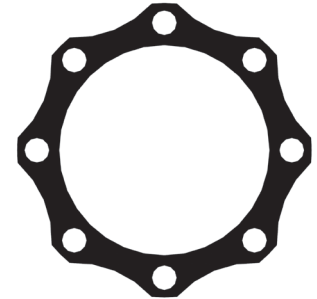
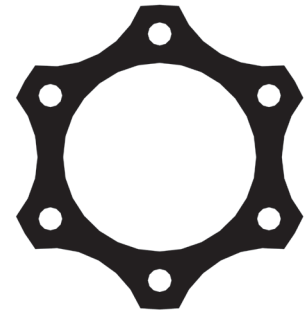
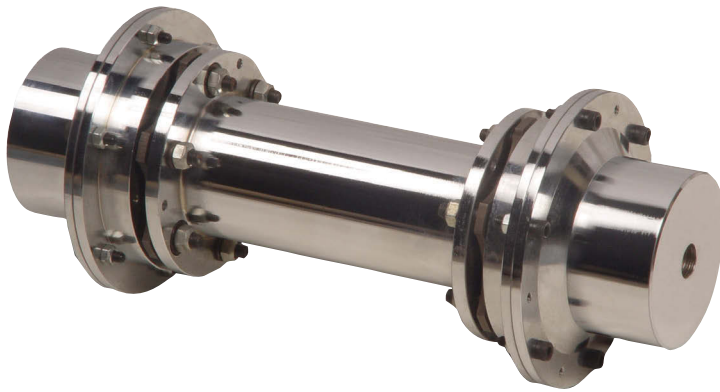
Features:

- Power dense polygon shaped disc
- Blade edge has relatively low stresses
- Oversized fasteners means 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

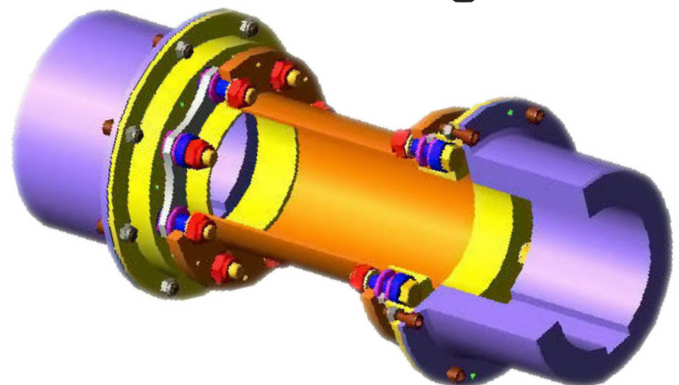


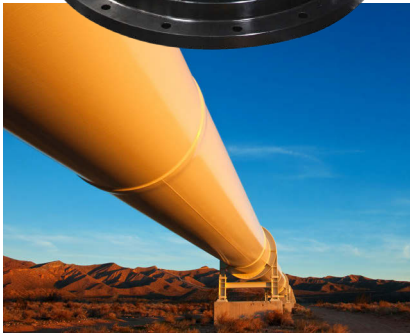
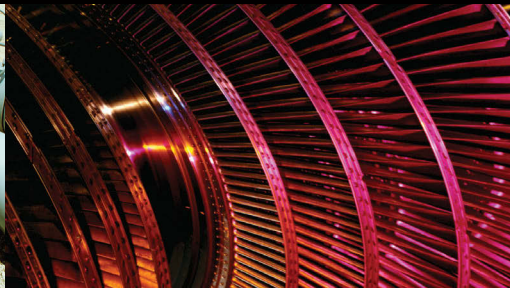
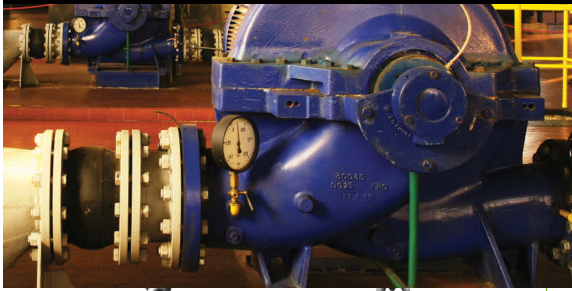
Since 1999, Lamiflex has supplied high quality couplings to many South American customers. Our focus is to exceed customer requirements and provide solutions for the most challenging applications.

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



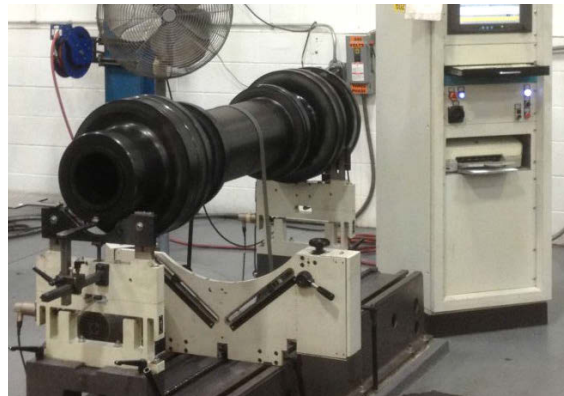


Altra Couplings Service Center

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

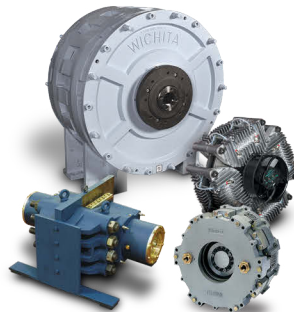
Our comprehensive product offering is comprised of nine major categories including electromagnetic clutches and brakes, heavy duty clutches and brakes, overrunning clutches, gearing, engineered couplings, engineered bearing assemblies, linear products and belted drives. With thousands of product solutions available, Altra provides true single source convenience while meeting specific customer requirements. Many major OEM's and end users prefer Altra products as their No.1 choice for performance and reliability.

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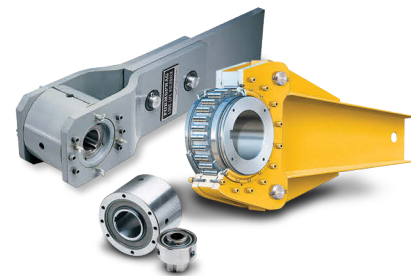
Electromagnetic Clutches and Brakes

Warner Electric
Inertia Dynamics
Matrix International



Heavy Duty Clutches and Brakes

Wichita Clutch
Twiflex Limited
Industrial Clutch



Overrunning Clutches

Formsprag Clutch
Marland Clutch
Stieber Clutch



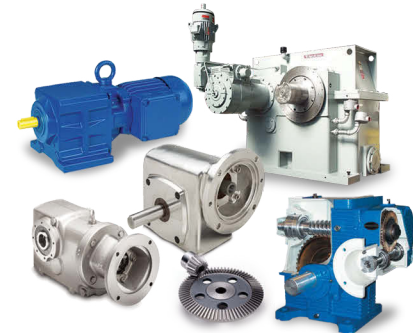
Engineered Couplings and Universal Joints

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Ameridrives Couplings
Ameridrives Power Transmission
Bibby Turboflex
Lamiflex Couplings



Belted Drives and Sheaves

TB Wood's



Gearing

Boston Gear
Nuttall Gear
Delroyd Worm Gear
Bauer Gear Motor



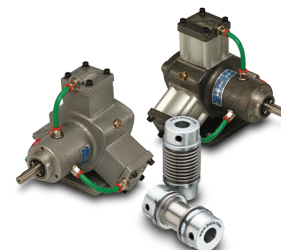
Linear Products

Warner Linear



Engineered Bearing Assemblies

Kilian Manufacturing



Precision Couplings and Air Motors

Huco Dynatork



<p>Electromagnetic Clutches and Brakes</p> <p>Warner Electric <i>Electromagnetic Clutches and Brakes</i> New Hartford, CT - USA 1-800-825-6544 <i>For application assistance: 1-800-825-9050</i></p> <p>St Barthelemy d'Anjou, France +33 (0) 2 41 21 24 24</p> <p><i>Precision Electric Coils and Electromagnetic Clutches and Brakes</i> Columbia City, IN - USA 1-260-244-6183</p> <p>Matrix International <i>Electromagnetic Clutches and Brakes, Pressure Operated Clutches and Brakes</i> Brechin, Scotland +44 (0) 1356 602000 New Hartford, CT - USA 1-800-825-6544</p> <p>Inertia Dynamics <i>Spring Set Brakes; Power On and Wrap Spring Clutch/Brakes</i> New Hartford, CT - USA 1-800-800-6445</p>	<p>Couplings</p> <p>Ameridrives Couplings <i>Mill Spindles, Ameriflex, Ameridisc</i> Erie, PA - USA 1-814-480-5000</p> <p><i>Gear Couplings</i> San Marcos, TX - USA 1-800-458-0887</p> <p>Bibby Turboflex <i>Disc, Gear, Grid Couplings, Overload Clutches</i> Dewsbury, England +44 (0) 1924 460801 Boksburg, South Africa +27 11 918 4270</p> <p>TB Wood's <i>Elastomeric Couplings</i> Chambersburg, PA - USA 1-888-829-6637 – Press #5 <i>For application assistance: 1-888-829-6637 – Press #7</i></p> <p><i>General Purpose Disc Couplings</i> San Marcos, TX - USA 1-888-449-9439</p> <p>Ameridrives Power Transmission <i>Universal Joints, Drive Shafts, Mill Gear Couplings</i> Green Bay, WI - USA 1-920-593-2444</p> <p>Huco Dynatork <i>Precision Couplings and Air Motors</i> Hertford, England +44 (0) 1992 501900 Chambersburg, PA - USA 1-888-829-6637</p> <p>Lamiflex Couplings <i>Flexible Couplings, Bearing Isolators, and Coupling Guards</i> São Paulo, SP - Brasil +55-11-5679-6533</p>	<p>Heavy Duty Clutches and Brakes</p> <p>Wichita Clutch <i>Pneumatic Clutches and Brakes</i> Wichita Falls, TX - USA 1-800-964-3262 Bedford, England +44 (0) 1234 350311</p> <p>Twiflex Limited <i>Caliper Brakes and Thrusters</i> Twickenham, England +44 (0) 20 8894 1161</p> <p>Industrial Clutch <i>Pneumatic and Oil Immersed Clutches and Brakes</i> Waukesha, WI - USA 1-262-547-3357</p> <p>Gearing</p> <p>Boston Gear <i>Enclosed and Open Gearing, Electrical and Mechanical P.T. Components</i> Charlotte, NC - USA 1-800-825-6544 <i>For application assistance: 1-800-816-5608</i></p> <p>Bauer Gear Motor <i>Geared Motors</i> Esslingen, Germany +49 (711) 3518 0 Somerset, NJ - USA 1-732-469-8770</p> <p>Nuttall Gear and Delroyd Worm Gear <i>Worm Gear and Helical Speed Reducers</i> Niagara Falls, NY - USA 1-716-298-4100</p>	<p>Overrunning Clutches</p> <p>Formsprag Clutch <i>Overrunning Clutches and Holdbacks</i> Warren, MI - USA 1-800-348-0881 – Press #1 <i>For application assistance: 1-800-348-0881 – Press #2</i></p> <p>Marland Clutch <i>Roller Ramp and Sprag Type Overrunning Clutches and Backstops</i> South Beloit, IL - USA 1-800-216-3515</p> <p>Stieber Clutch <i>Overrunning Clutches and Holdbacks</i> Heidelberg, Germany +49 (0) 6221 30 47 0</p> <p>Belted Drives and Sheaves</p> <p>TB Wood's <i>Belted Drives</i> Chambersburg, PA - USA 1-888-829-6637 – Press #5 <i>For application assistance: 1-888-829-6637 – Press #7</i></p> <p>Engineered Bearing Assemblies</p> <p>Kilian Manufacturing <i>Engineered Bearing Assemblies</i> Syracuse, NY - USA 1-315-432-0700</p> <p><small>For information concerning our sales offices in Asia Pacific check our website www.altramotion.com.cn</small></p>
<p>Linear Products</p> <p>Warner Linear <i>Linear Actuators</i> Belvidere, IL - USA 1-800-825-6544 <i>For application assistance: 1-800-825-9050</i></p> <p>St Barthelemy d'Anjou, France +33 (0) 2 41 21 24 24</p>			

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