



» Gear Couplings

Dentex® torsionally rigid, power transmission couplings which transmit torque between two steel gear hubs and the internal toothing of a nylon drive sleeve.

The gear coupling is designed to relieve neighbouring shaft bearings from non-controlled additional bearing loads.

Maximum shaft diameters of 100 mm can be accommodated with maximum torques up to 2,400 Nm and speeds up to 8,000 rpm.

- » Single or double engagement options suit a variety of applications.
- » Continuous sleeve or flanged connections for high power drives.
- » Vari-Crown tooth form has higher tooth strength when misaligned.
- » Available for either horizontal or vertical installations.
- » Disengaging or shear pin options on request.
- » Spacer type connections accommodate large shaft end gaps.
- » Nylon sleeve options require no lubrication.

The Dentex® coupling is a flexible gear coupling whose typical features are two congruent hubs with crowned teeth which transmit torque by meshing with the internal toothing of a housing component. The coupling sleeve with axially parallel involute gearing is centred at the tooth flanks of the coupling hubs. The coupling design meets the requirement to compensate radial, angular, and axial shaft displacements in order to relieve the neighbouring shaft bearings from non-controlled additional bearing loads. Even with the maximum permissible displacement edge contact of the teeth is excluded and there will be no periodic variation of the angular velocity. The high internal cushioning properties of the plastic material used for the coupling sleeve reduce the effect of shock loading.

Dentex® couplings are as suitable for horizontal shaft connection as they are for vertical connection, for reversing and intermittent service, and they have electrical insulating properties, a low weight, a low flywheel effect and, owing to their compactness, only little space is required for them. The steel/plastic combination also has the advantage that no lubrication by oil or grease is required; the coupling therefore does not need any maintenance.

Maximum service reliability is guaranteed at temperatures in the range from -25°C to +80°C. It is necessary to use a coupling sleeve in heat polyamide for temperatures up to 140°C.

» All Steel Gear Couplings

jbj offer a variety of designs and models of Lovejoy Sier Bath & Hercuflex gear couplings from standard off the shelf to bespoke special designs.

These gear couplings are available in a wide range of designs. These include C & F standard hubs and sleeves, mill motor hubs, vertical floating shaft and spacer, brake drum and brake disc. Materials range from standard steel to alloy steel and if required stainless steel.

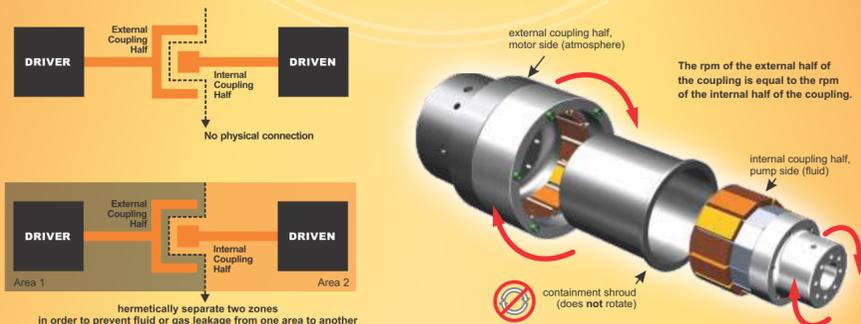
- » High load capacity
- » Compact size
- » Suitable for arduous and harsh operating environments
- » Standard and special designs
- » Compensate for axial, radial and angular misalignment.
- » Horizontal and vertical assembly possible.
- » Double and single engagement designs.

Gear-couplings are the foremost coupling type. They can do things that many other coupling types are unable to perform, or that need expensive modifications and de-rating to function. Gear couplings have the highest power density, offer more variations, a wider size, torque, and bore capacity than any other coupling type. They are easily modified for shear pin service, floating shaft type, vertical applications, electrical isolation, limited end float, and can have a brake drum or disc added. While some features may be available on other couplings, it is typically easier and cost effective to modify a gear coupling. With all these advantages, the gear coupling is used on more applications versus the nearest competing coupling type.



comprehensive range of components www.jbj.co.uk

permanent magnetic couplings built to suit your system.



Magnetic couplings capable of transmitting torque from 3 to 600 Nm without mechanical contact between two shafts through magnetic forces that are established between the internal and external rotor. The magnetic coupling is ideal for applications where prevention of leakage from the pump is essential. Magnetic couplings also prevent vibrations and, radial and axial loads to the pump shaft. The magnetic coupling is a synchronous system with a primary function of hermetically separating two areas.

There is no need to alter your system as the magnetic coupling will be designed to suit your machinery.

These magnetic couplings can be used to connect gear pumps, screw pumps, centrifugal pumps, etc. with all types of

electric motor or gear box including U.S.A. standards such as NEMA types.

The magnetic coupling works by using the power generated by permanent magnets. No external power supply is needed, as these are permanent magnets not electro-magnets.

- » no fluid leakage from pump seals.* (depending on application)
- » maintenance free.
- » no transmitted vibration.
- » management of misalignment between shafts.
- » hermetic separation between two areas.
- » ability to limit a maximum torque.

ATEX on request



quality products for mechanical & fluid power

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jbj Techniques Limited is ISO certified. Committed to international cooperation & verification of industrial standards. registered in England No. 1185489. A range of products ATEX certified to directive 94/9/E requirements.



quality products for mechanical & fluid power

mechanical power transmission couplings

www.jbj.co.uk/couplings.html



Power transmission couplings . . .

What is your application?
Which power transmission coupling would best serve your purpose?
Which size and specification of coupling will safely and cost effectively fulfill your requirements?



ask for a complimentary coupling element size selection chart, proving to be very useful to many of our customers.

jbj Techniques provide an extensive range of couplings for mechanical power transmission with 14 different designs and 22 different styles in our gear coupling range alone. Ranging from miniature couplings, all steel gear couplings, flexible spider couplings, shaft couplings, torque limiting couplings, disc and grid type couplings, ATEX compliant and shaft locking devices. Magnetic couplings for power transmission between hermetically sealed areas.

There are a range of criteria in specifying the most suitable coupling for your application but the jbj Techniques technical department will guide you all the way to specify the right coupling for power transmission. We have a wide range of mechanical power transmission couplings for almost any

application. Many are in stock for prompt delivery to keep systems running. **Downtime costs money after all.** There are also many bespoke varieties and we have the comprehensive machine shop to create those custom designs for those not so common applications.

ATEX certified couplings for hazardous areas and magnetic couplings to transmit mechanical power between hermetically sealed areas.

We have the technical ability and experience to help specify and then supply the right coupling for mechanical power transmission in your application.

www.jbj.co.uk/couplings.html

» Spider / Straight Jaw Couplings



Spidex® torsionally flexible shaft couplings, also known as jaw couplings, enable the connection of shafts or flanges via a polyurethane drive ring. The flexibility of the drive ring allows the power transmission coupling to compensate for parallel, angular and axial displacements. Maximum shaft diameters of 200 mm can be accommodated with maximum torques up to 18,650 Nm and maximum speeds of 19,000 rpm.

- » Torsional elasticity
- » Dampening
- » Blind assembly
- » Safe against break-down
- » No maintenance
- » Hub material: Aluminium (Al), Cast Iron (GG/GGG), Sintered Steel (Si), Steel (St)

The involute teeth of the elastomeric inserts are crowned in order to avoid edge pressure on the tooth flanks and so avoid undesirable axial thrust. The puncture proof spider coupling can be loaded extremely high since the elastic elements are submitted to compression and not to bending moments of force. The elastomer gear ring, made of a newly developed Simitr-Polyurethane of various degrees of shore hardness, has important advantages in comparison with the standard polyurethanes. It is non-ageing, with resistance against hydrolysis (can be used in tropical conditions), non-abrasive, has a high self-dampening effect and is also resistant to oil and ozone. It can be used with temperatures ranging from -40 °C to +100 °C.

Lovejoy straight jaw couplings are available in a variety of metal hubs & element materials. Elements are available in 1 piece design or snap-ring design so the element can be changed in situ. They are ideally suited for most shaft to shaft & spacer applications.



» Torsional Couplings



- » Solve torsional vibration problems within Diesel engine application.
- » Torsionally flexible or rigid dependant on application.
- » Low weight, low moment of inertia.
- » Small overall length aids equipment design.
- » Flanged versions suit SAE standard and non-standard arrangements.
- » LM series design protects driver/driven equipment under stall condition.
- » HTR rubber elements suitable for temperatures of -40°C to +90°C and Hytrel elements suitable for temperatures of -50°C to +120°C.

These torsional couplings solve torsional vibration problems typical of those found in diesel engine applications. The torsional coupling dampens torsional vibrations and tunes the system to have critical speeds outside the operating range.

» Disc Couplings



jbi Techniques offer a wide variety of superior disc coupling products in models designed to meet the application needs of today's worldwide power transmission market.

Using advanced design techniques, implementation of Finite Element Analysis, and extensive testing of materials, an innovative disc pack profile design has been developed, revolutionary to traditional disc pack designs found in the market.

This disc pack can accommodate 1/2° to 1-1/2° of angular misalignment, and is used in all Lovejoy disc coupling products.

These disc packs are manufactured using high grade stainless steel (AISI-301), ensuring high strength, high endurance to fatigue, and resistance to most environmental conditions.

These disc couplings utilize standardised disc packs with 4, 6 or 8 bolt designs. While the 8 bolt design can transmit greater torque than the 6 or 4 bolt design, it is not able to accommodate as much angular misalignment.

These couplings can also be fitted with overload bushings to protect the disc pack during momentary torsional overloads.

- » Eliminates the need for lubrication and coupling maintenance.
- » Coupling can be inspected without disassembly.
- » Condition of disc packs can be inspected with a strobe light while the machine is running. (Note: It is not recommended that couplings be operated without coupling guards.)
- » Easy to assess equipment misalignment.
- » Torsionally rigid without any backlash.
- » No wearing parts.
- » Resistance to harsh environments.
- » Long life when properly sized and aligned.
- » High power density (higher torque for a given outside diameter).
- » Lovejoy supports the API-610 Standard up to 3,800 RPM.
- » Standardised disc packs ensure repeatability necessary for meeting the balance and piloting requirements as mandated by API-610.
- » Various spacer types available to suit customers requirements now fully ATEX approved.

» Grid Couplings



- » Torsionally flexible and resilient - vibration reduction up to 30%, plus cushion shock loads to safeguard driving and driven equipment.
- » Quick installation and easy maintenance reduces labour and downtime costs.
- » Fully interchangeable with industry standards.
- » Versatile stock; metric and imperial size cover fasteners available.
- » High tensile, shot-peened alloy steel grids and precision machined hubs ensure superior performance and long life.

The flexible nature of the spring-like grid absorbs impact energy by spreading it out over time, thus reducing the magnitude of the peak loads. This is possible because of the progressive contact that occurs between the curved profile of the hub teeth and the flexible grid. Therefore, as the load increases, more of the tooth comes into contact with the grid, thus supplying superior protection and supreme performance.

Our grid couplings are designed for versatility. Common hubs and grids are used within a given size range for both horizontal and vertical split cover models. Grid installation and replacement is cost effective at only a fraction of the complete coupling cost.

Made from high tensile alloy steel, the grid spring is carefully formed to shape, then hardened and tempered under controlled conditions. Next, the grids are shot-peened, compressing the surface molecules and leaving a residually stressed surface. This process creates a stronger surface in compression.

Any load applied on the coupling in operation must first surmount the compressive forces created by peening before the tensile stress reaches the grid. This provides a dramatic increase in rating over other coupling types, increases reserve strength for longer life and may permit selection of a smaller coupling, thus reducing cost.

» S-Flex Couplings



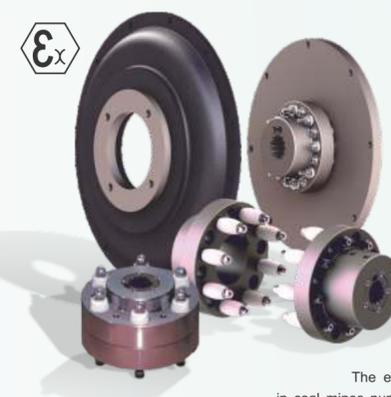
The simple design of the S-Flex coupling ensures ease of assembly and reliable performance.

- » Easy to Install
- » Maintenance Free
- » No Lubrication
- » Dampens Vibration and Controls Shock
- » Torsionally Soft
- » Double Engagement

The S-Flex coupling design is comprised of three parts. Two flanges with internal teeth engage an elastomeric flexible sleeve with external teeth. Each flange is attached to the respective shaft of the driver and driven and torque is transmitted across the flanges through the sleeve. Misalignment and torsional shock loads are absorbed by shear deflection in the sleeve. The shear characteristic of the S-Flex coupling is very well suited to absorb impact loads.

The S-Flex coupling from jbi Techniques offers combinations of flanges and sleeves which can be assembled to suit your specific application. Thirteen sizes are available with torque capabilities that range from 6.78 Nm to 8189 Nm. The S-Flex flanges are offered in five models which are made from zinc die cast or cast iron. Sleeves are available in EPDM rubber, Neoprene, or Hytrel® to address a wide variety of application requirements. No special tools are required for assembly or disassembly. S-Flex couplings can be used in a wide range of applications.

» JXL Anti-static/Flameproof Couplings



ATEX certificated to Directive: 94/9/EC II2GD-IM2-T6.
Harmonised standards: EN13463-4, EN13463-5, EN50303, EN13463-1.

ATEX compliant 'JXL' torsionally resilient couplings, of pin and bush design, comprise two fully machined steel flanges which are coupled via a series of drive pins and 'hytrel' flexible elements. The elements have the ability to absorb shock loads and dampen vibration.

The couplings do not produce static and do not sustain burning. Maximum shaft diameters up to 400mm with torques of 154,710Nm and speeds up to 11,000rpm can be accommodated.

The JXL range of resilient couplings are able to accept small amounts of angular, radial and axial misalignment, they are torsionally resilient, non-lubricating and capable of operating between temperatures of -50°C and +105°C.

The elements are flame resistant, anti-static and have NCB acceptance for use underground in coal mines number A2032.

All ATEX compliant JXL anti-static/flameproof couplings are capable of accepting a momentary overload of twice nominal torque.

Couplings are selected on their ability to transmit torque between rotating shafts, with restricting factors being maximum speed and shaft diameter. Suitable for horizontal and vertical applications. Shaft to shaft and also flywheel to shaft versions available.

» Tyre Couplings



Can be produced in accordance with the requirements of regulation 94/9/CE (ATEX 95) of a group II device, category 2G or 2D (zone 1) and temperature class T4.

With a flexible body that compensates misalignment and protects other components in the transmission system. UNE-FLEX couplings can be produced in accordance with the requirements of regulation 94/9/CE (ATEX 95) of a group II device, category 2G or 2D (zone 1) and temperature class T4.

The fundamental element of the tyre coupling is a neoprene rubber tyre reinforced with a synthetic mesh. It adapts itself to the working conditions, absorbing axial, radial, angular and torsional misalignments and prevents vibration via the transmission to the machines to which they are coupled. It compensates the defect of angular misalignments to 3°, radial misalignment by 4 mm, and axial misalignment of 6 mm.

These mechanical power transmission tyre couplings cushion the effects of overloading, absorb vibrations, reducing noise and protecting the machine from the destructive effects of vibration.

There is no metal to metal contact between the shafts and the hubs are completely isolated. No lubrication is needed.

Replacement: Easy and practical. There is no need to move the motor or other components within the transmission. It is sufficient to release the axial screws, so freeing the coupling. The result is better running of the machine and a longer life for the whole installation.

» Torque Limiting Couplings



- » Torque limiting up to 23,000 Nm.
- » Coupling prevents high shock loads.
- » Standard brass bushes for extended durability.
- » Torque adjustment possible even in assembled condition.
- » Acid and rust resistant versions available on request.
- » Units finish machined to suit customer applications.

<p>With Sprocket</p> <p>Torque Limiter with sprocket as unit »</p> <p>Sprockets with number of teeth and pitch according to customer's request »</p>		<p>« Automatic equipment</p> <p>« Door and gate drives</p> <p>« Adjustment drives</p>
<p>Maximum</p> <p>Torque Limiter designed for broad drive parts in long version. »</p> <p>Usable for double and triple sprockets as well as for rubber belt wheels. »</p> <p>Can be supplied complete with sprocket or belt wheels. »</p>		<p>« Belt wheels.</p> <p>« Multiple chamfer v-belt pulley.</p> <p>« Multiple chain drives.</p> <p>« General power transmission.</p> <p>« Materials handling equipment.</p> <p>« Power transmission equipment.</p> <p>« Mechanical equipment.</p>
<p>With Spidex®</p> <p>Torque Limiter for protection against overload between two shafts. »</p> <p>Rotary elastic torque limiter can be axially stretched. »</p> <p>Variable elasticity due to different shore hardnesses of the elastic part. »</p>		<p>« General mechanical design.</p> <p>« Pumps.</p> <p>« Power transmission motors.</p> <p>« Belt drives.</p>
<p>With Dentex®</p> <p>Torque Limiters with universal joints and rigid connection of two axle shafts. »</p> <p>Large axial, radial and angle flexibility due to double universal joints. »</p> <p>Axially assemble. »</p>		<p>« General mechanical design.</p> <p>« Design of drives of low demands.</p> <p>« Low number of revolutions.</p> <p>« High axial, radial and angular misalignments.</p>
<p>With Chain Sprocket</p> <p>Small axial, radial and angular deviations possible. »</p> <p>Temperature up to 280 °C possible. »</p> <p>Low revolutions. »</p>		<p>« General mechanical design.</p> <p>« Materials handling equipment.</p> <p>« Power transmission equipment.</p>
<p>With LF Torsional Coupling</p> <p>Torque Limiter for protection against overload between two shafts. »</p> <p>Highly elastic, considerable capability of change of position (axial, radial and angular changes). »</p> <p>Considerable, angular elasticity, because of 60° shore hardness of the elements of the structure, this results in strong shock and vibration dampening. »</p>		<p>« General mechanical design.</p> <p>« Pumps.</p> <p>« Suited for internal combustion engines.</p> <p>« General power transmission.</p>