



Engineered Coupling Solutions

Global Solutions



John Crane is part of Smiths Group, a global technology business and is recognized as a global leader in the design, development and manufacture of a wide range of products and services for the world's process and industrial markets.

John Crane's Metastream couplings have been providing a rugged and reliable service to industry for over fifty years, helping rotating equipment operate at optimum levels and provide maximum availability. As a result, Metastream couplings have become the first choice of many of the world's leading companies. John Crane's policy of constant innovation and product development serves to ensure that Metastream couplings continue to satisfy the changing demands of the market while complying fully with relevant industry specifications.

Global Support

With an existing customer base which includes original equipment manufacturers, contractors and end users, John Crane places great importance on providing the highest quality of customer service tailored to meet customer specific requirements.

As a truly global coupling supplier, John Crane offers unparalleled levels of both technical and commercial support, ranging from initial design through to commissioning and inventory management over the lifetime of the plant. In addition, a network of over 200 facilities in over 50 countries provides customers with local access to a global level of support, no matter where their location, and allows them to benefit from specialized installation, shaft alignment and problem solving services.



International Brands

Behind John Crane's reputation for technological excellence lies a wealth of internationally respected brands. Products bearing such names as Sealol®, Safematic®, Lemco, Metastream®, Powerstream®, Flexibox®, Indufil®, Inovit and Orion Bearings™ can all be found in the John Crane portfolio, and all can be relied on to deliver outstanding reliability and performance.

SEALOL

METASTREAM®

ORION
BEARINGS

SAFEMATIC®

INOVIT

LEMCO



INDUFIL®

POWERSTREAM®

flexibox

Industries Served



Oil and Gas

John Crane's position as one of the leading suppliers to the global oil and gas industries is proof that their coupling products are designed to withstand the harshest process environments from the corrosive environment of the North Sea to the sub-zero temperatures of Siberia and still provide solid, reliable service. John Crane's coupling range offers solutions for both oil and gas extraction applications as well as downstream processing activities, all to the highest standard of ISO 13709 (API 610).

Applications:

- Water injection
- Export and pipeline pumps
- Blowers
- Process pumps
- Fire pumps
- Cooling tower fans

Turbomachinery

Many of the world's leading turbomachinery manufacturers and end-users specify Metastream couplings as standard, thanks to their optimized power transmission capabilities, minimal weight and reduced moment designs.

Metastream couplings are designed, manufactured and supplied in accordance with the requirements of ISO 10441 (API 671) and are backed by a comprehensive customer service and support capability.

Applications:

Metastream high performance H Series couplings are widely specified for critical applications on:

- Turbo compressor machinery
- Turbine generator sets
- Main marine turbine propulsion systems
- Boiler feed pumps
- Development test stands
- Reciprocating compressors



Chemical and Pharmaceutical

Acknowledging the need from this sector to combine increased levels of reliability and safety with cost-effective solutions, John Crane has developed a wide range of appropriate coupling products.

Applications:

- Compressors
- Mixers, agitators and reactors
- Pumps
- Fans and blowers

Power Generation

John Crane offers a range of couplings that are able to satisfy the demands of power generation applications ranging from wind turbines and fossil fuel power stations through to hydro and nuclear plants. The result is uninterrupted performance and unrivalled reliability from all types of rotating equipment.

Applications:

- Turbo generators
- Service pumps
- High speed wind turbine shafts
- Boiler feed pumps
- Cooling towers
- FGD pumps
- Nuclear handling equipment

Industries Served



Marine

An unrivalled depth of knowledge and experience in the supply of couplings for use in the harshest marine conditions has earned John Crane its current status as a leading supplier of main propulsion technology to many of the world's navies, providing a wide variety of surface and submarine vessel applications.

Applications:

- Water jets
- Main propulsion systems
- Tanker loading pumps
- Bow thrusters
- Submarine ballast pumps
- Winch drives

Pulp and Paper

A wide variety of couplings are available to accommodate specific pulp and paper industry requirements such as zero backlash for paper-making use and rugged reliability for pulp mill rotating equipment applications. This range also features a series of new models specifically created to provide improved performance in applications where gear couplings have traditionally been used.

Applications:

- Roll drives
- Process pumps
- Pulpers
- Dryers
- Vacuum pumps
- Calendars
- Refiners
- Winders



General Industries

The John Crane range of power transmission couplings provide a versatile and flexible solution for virtually any rotating equipment application where reliability and maintenance free operation are necessary.

Water and Waste Water

The need for maintenance-free operation from unmanned pumps in remote locations is one of the key reasons why Metastream couplings are well suited to the water and wastewater industry. Their versatility enables them to satisfy many different types of application and their rugged construction allows them to resist the effects of the most demanding operating environments.

Refrigeration and Industrial Compressors

Refrigeration and compressor applications are particularly well served by Metastream couplings, as their high reliability and low imposed load characteristics ensure that the coupled machine bearings are subject to minimum stress during operation.

Machine Drives

John Crane couplings frequently provide a flexible and reliable solution for use on machine drives where the specific nature of the application can vary greatly. Benefits include zero backlash as well as maintenance free operation.

Product Range

Metastream Flexible Couplings

Metastream flexible power transmission couplings are designed for applications where the shaft ends are nominally 'in line'. They have earned an enviable reputation for their ability to accommodate misalignments while still minimising vibration and imposed loads on the coupled machinery. High-speed applications are well served by the high torsional rigidity and natural balance features.

Each Metastream coupling incorporates spacer retention anti-fly features, plus an all-metal construction that eliminates the need for lubrication and maintenance and ensures minimal downtime.

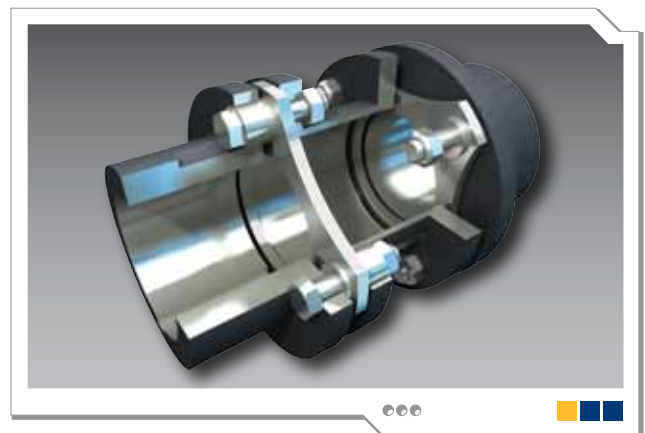
L Series

Couplings in the L Series range are designed for a wide variety of industrial applications which demand all the benefits of a membrane coupling from a simplified and cost-effective package.

L Series units deliver a maximum value solution, but one which does not compromise on reliability or safety and they feature robust membrane units that have been designed to provide reliable operation in the most demanding applications.

Key Benefits:

- Built in overload protection
- Pre-assembled membrane pack for ease of overall assembly
- Low imposed loads on bearings



T Series

The T Series range of couplings has been specifically designed to meet the exacting standards of ISO 13709 (API 610), to all its editions. The coupling comes as a cartridge design to maximise reliability, while also making it very easy to fit on site. This concept ensures the high level of integral balance is maintained when the coupling is installed. The coupling incorporates many features listed as standard, to ensure safe and trouble free operation, giving the user that fit and forget reliability expected of all Metastream products.

Key Benefits:

- Easy to fit
- Meets ISO 14691
- Meets ISO 13709 (API 610)
- TLK meets ISO10441 (API 671)
- TSK can be supplied to BS EN ISO10441 (API 671) if requested
- Intrinsic balance exceeds AGMA class 9
- Coated carbon steel for corrosion protection
- Choice of hub configuration to suit shaft diameters

T Series - Close Coupled TSR and TSE

The TSR and TSE ranges have been designed specifically for use on close-coupled applications. They offer three formats each featuring variations on hub orientation and position along the shaft to suit a wide range of distances between shaft ends (DBSE), ranging from 3mm (1/8") through to the DBSE of a standard T Series coupling. A split spacer design allows replacement of the membranes without the need to move the connected machines.

Key Benefits

- Ideal replacement for gear couplings
- Can be inspected without moving connected machinery
- No maintenance or lubrication is required



Product Range

M Series

M Series couplings can handle a high degree of misalignment and still provide outstanding levels of reliability which is why many users now specify them by name. They feature a unique design that transmits power across a spoke form membrane pack. This membrane pack, together with the M Series unique anti-fly bearing, ensures that in the unlikely event of membrane failure, the coupling will disconnect the drive from the driven machine and prevent damage from occurring.

Key Benefits:

- Unrivalled reliability - 50 years MTBC (mean time between change)
- ISO 13709 (API 610) and ISO 14691 as standard. ISO 10441 (API 671) optional.
- Pre-assembled cartridge style membrane units provide easy installation and good balance retention
- Composite option for long DBSE applications

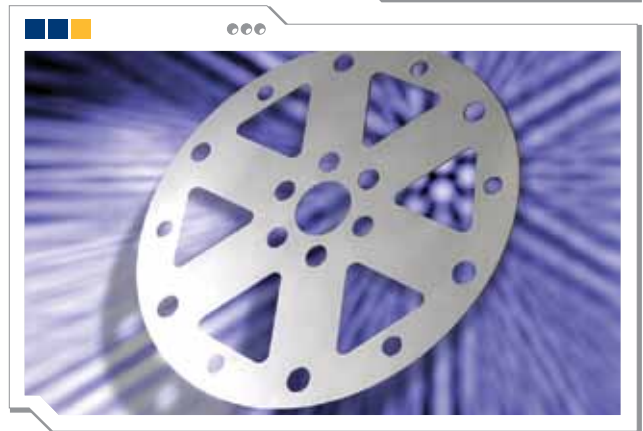
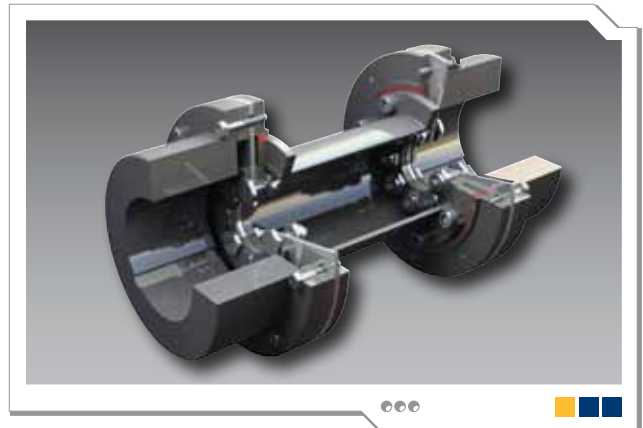
H Series

There are three distinct groups of couplings in the H series high performance range:

- Metastream H-FE couplings feature a factory assembled transmission unit, providing high torque capacity with low weight
- Metastream H-RE reduced moment couplings use two factory assembled hub/flexible membrane units and a detachable spacer to produce a high integrity coupling suited for most medium speed and high speed compressor drives
- Metastream H-CE couplings offer the lowest possible overhung moments, and additional shrouding of the flexible elements and bolts. This arrangement produces a high integrity coupling suited for most medium speed and high speed compressor drives

Key Benefits:

- ISO 10441 (API 671) requirements – designed for critical unsparred machines
- Pre-assembled membrane pack for ease of assembly
- Low imposed loads on bearings





Other products in the range

- Lase-A-Lign Ex laser alignment equipment together with precision stainless steel shims comply with ATEX and are ideal when working in potentially explosive environments.
- C Series rigid couplings for vertical pumps ISO 13709 (API 610)
- A Series urethane wrap around coupling for demanding industrial applications

Technology

Advanced computer-aided design (CAD) and finite element modeling techniques are combined with a comprehensive range of test and evaluation facilities to continually develop and improve the range of couplings available. John Crane also continues to extend technological and material boundaries in their efforts to provide tailored solutions which satisfy the most demanding of applications.

Quality

- Compliance with ISO 9001
- Compliance with ISO 14001
- Externally inspected by Lloyds, DNV and other accredited bodies
- All Metastream couplings conform to EU Directive 94/9/EC (ATEX)

Selection Tools

The standard range of couplings can be selected from the Power Transmission Couplings area under Products on the John Crane website at www.johncrane.com



KSelect is an internet based selection program. This selection program provides all necessary technical data including inertias and torsional stiffness. Visit the Power Transmission Coupling pages under Products at www.johncrane.com for more information.



For your nearest John Crane facility, please contact one of the locations below.



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smiths
bringing technology to life

If the products featured will be used in a potentially dangerous and/or hazardous process, your John Crane representative should be consulted prior to their selection and use. In the interest of continuous development, John Crane Companies reserve the right to alter designs and specifications without prior notice. ISO 9001, ISO 14001 Certified, Meets ISO 14691. Details available on request.

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