

INSIGHT

— get the latest industry and company news from ACORN —

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critical component*

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industrial services limited

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INDUSTRY UPDATES

new | innovative | value



Protorque release range of Lawn & Garden Belts

Protorque has released a new range of v-belts specifically designed for ride-on lawn mowers, Rotavators and other outdoor power equipment commonly used by groundskeepers and landscape gardeners.



SKF develop new roller bearings for wind turbines

The high durability gearbox bearing for wind was developed to meet the high demands on rolling bearings in wind turbine gearboxes. The bearing include a thermochemical heat-treatment process to increase fatigue resistance.



Flender introduce 3 new N-EUPEX couplings

Flender is expanding their N-Eupex range of flexible couplings by introducing three new types. The new products provide additional flexibility in systems without losing the compact design and high load capacity of a pin coupling.



NSK introduces new bearing for Aggregates industries

NSK has come up with a solution that improves bearing life on conveyors in mining environments. The long-life spherical roller bearing with detachable seal increases uptime by up to 20 times, providing higher reliability.



Ewellix launches smart electro-mechanical actuator

EWELLIX has developed a smart electro mechanical actuator, offering built-in monitoring/diagnostics and communication. It also offers a typical meantime to failure of 75 years. Ideal for demanding applications.



SKF CO₂ dashboard

How is your bearing selection affecting your industry's CO₂ footprint? SKF has released the "CO₂ Dashboard" that let's users explore how emission related to production and use of bearings are distributed for different industries, making it easier to find the best components.

UPDATES FROM ACORN

VISIT US AT PPMA



From 27th – 29th September, the Acorn team will be joining over 400 other exhibitors to showcase the latest products and solutions in the market. Among the solutions on show will be the Nadella AXNR System, which is a flexible and customisable system that helps with reducing workspace areas while increasing efficiency and reliability, ideal for multiple areas from traditional assembly lines to modern packaging automation, medical equipment and more. This system will feature alongside the latest linear motion & automation technologies, maintenance-free chains, food safe couplings & motors and essential maintenance solutions.

On the stand, there will be four senior members of the ACORN team who are ready to offer their expert advice on how to get the most from your machinery while hitting the strict production and environmental targets in the production, processing & packaging industries.

PPMA Total show will take place in Birmingham's NEC Arena; catch up with the ACORN team and grab a refreshment by visiting us on stand J40 - we can't wait to see you!

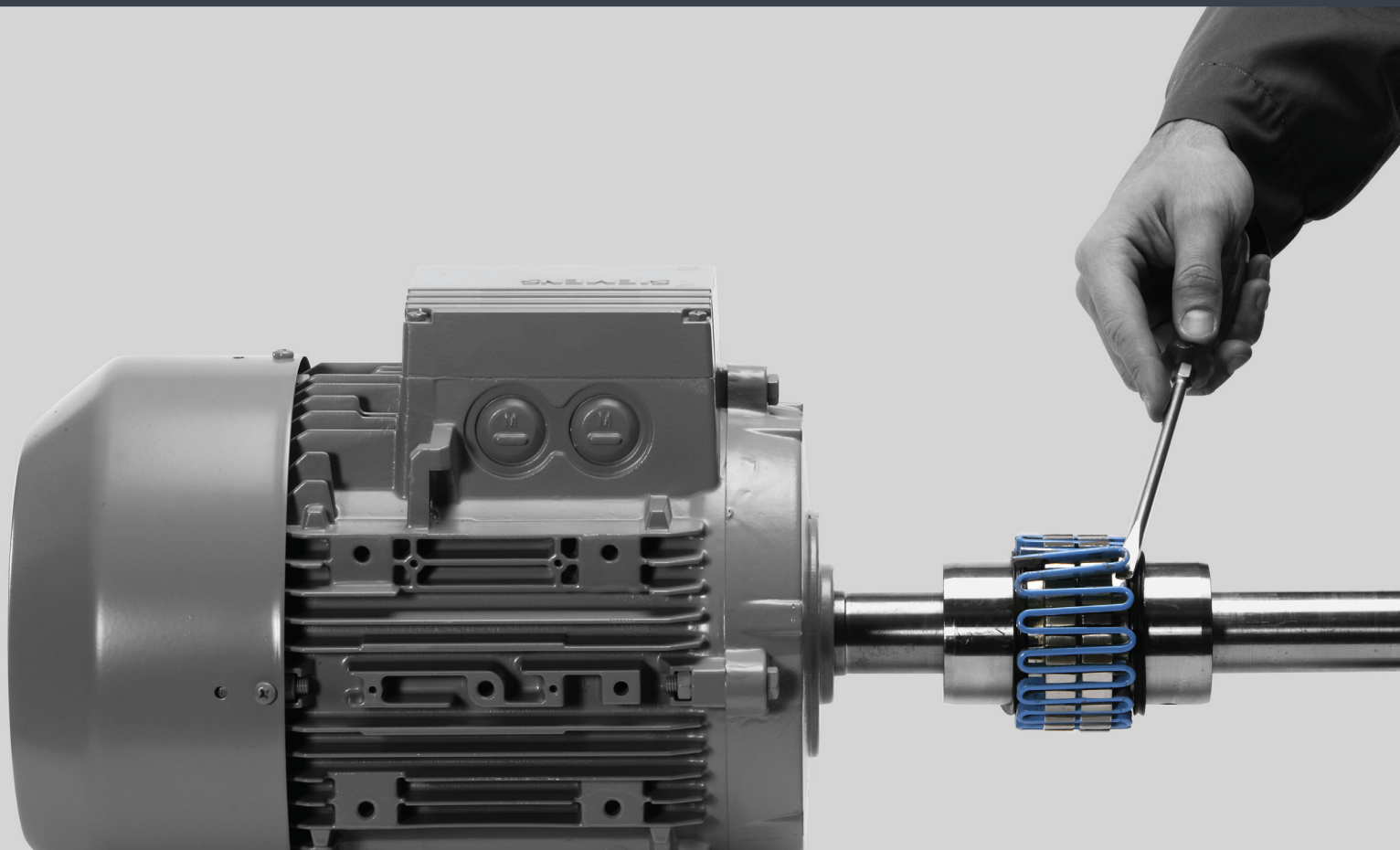
DON'T MISS OUT



UPCOMING SPECIAL OFFER

Keep your eyes peeled for upcoming special offers on maintenance products throughout 2022!

Next up is up to 10% off lubrication during August 2022. Quote 'DMAUG22' at checkout.



IT'S ALL ABOUT COUPLINGS

Used to connect driving equipment to driven equipment, couplings are a critical machine component that can sometimes be overlooked when it comes to selection and maintenance. These critical components come in many different shapes and sizes, so it can be confusing trying to navigate what couplings are used for, what they do, and which couplings are best for your machinery.

We have put together the essential list of everything you need to know about each different type of Coupling, including their features and benefits and in what machinery you will often find them:

Flexible Couplings

Flexible Couplings come in many different variations, but all of these have 1 thing in common – its elastomeric properties. These properties typically come from an elastomer or elastic type

element that is usually made of a rubber or urethane compound. This element absorbs impact, dampens vibrations, and cushions shock loads, making it ideal for applications with high shaft misalignment. Depending on your application, the type of flexible coupling you use differs and can provide added benefits to your machine.

Jaw Couplings

Jaw couplings are made up of 3 parts, two metallic hubs and an elastomeric spacing element (also known as a spider) this means depending on your application, these couplings offer various levels of dampening protection. In addition, these versatile couplings have a fail-safe design, meaning that even if the spider fails, the coupling can continue to operate without its dampening properties until the spider is replaced. They also do not require lubrication during



operation, making them a minimal maintenance choice that helps to reduce machine downtime for your business.

Tyre Couplings

Tyre couplings have two metal hubs with a tyre shaped spacer positioned in between – this enables the coupling to transmit torque. The tyre also gives this coupling outstanding vibration dampening capabilities and excellent resistance to shock loads, helping to extend the life of the connected equipment in a wide range of industries.



Gear Couplings

Gear couplings are an excellent choice for universal use and are often suitable for most applications as they can transmit high torque while working at low speeds.



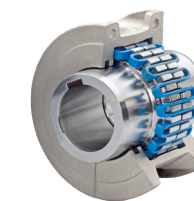
is limited. Like other flexible couplings, a claw couplings elastic element dampens vibration and cushions shock loads, helping to extend the life of surrounding equipment in a range of industries.

Pin & Bush Couplings

Another fail-safe coupling option is pin and bush couplings. These couplings also have fantastic vibration and shock load dampening properties, all while accommodating up to 0.5° of misalignment. Also, their fail-safe design makes them ideal for use in safety equipment such as fire pumps and elevator drives.



Grid Coupling



When your application has elevated levels of vibration and large shock loads, grid couplings are the ideal solution. Due to the grid that runs between the two slotted hubs of the coupling, these components have a high torsional flexibility. This helps to reduce vibration, which aids in prolonging the life of the surrounding drive equipment.

Back-lash Free Couplings

Back-lash free couplings are often found in applications where precision is key. Back-lash occurs because of the spacing of components within an application, this backlash often accumulates in the couplings as the joining piece for components. Using a back-lash free coupling minimises the effects of backlash within the system, helping to increase accuracy levels. These couplings come in the form of:

- Beam Couplings - Machined from a single piece of aluminium or stainless steel, beam couplings offer torsional stiffness while compensating for misalignment and back-lash – ideal for high-speed applications that require high accuracy.



- Bellows Couplings – These couplings can flex while still being rigid under torsional loads, meaning it can accurately transmit velocity, angular position, and torque. It's ability to flex also allows for parallel & angular misalignment and

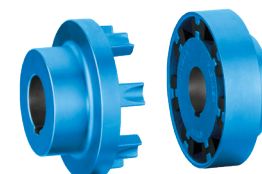


Curved tooth gear couplings

Curved tooth gear couplings are known for their easy of assembly and their maintenance free operation making them ideal for inhospitable environments. These couplings also have a good resistance to chemicals, meaning they offer a low cost, reliable service for industries such as: Minerals & Mills, Pulp & Paper, Petrochemical, Oil & Gas, Machine Tools and Railway.



Claw Couplings



Claw couplings can be a great option for machinery where either angular, parallel or axial shaft misalignment is an issue. These couplings generally have a short overall length, meaning they are suitable for applications where space on the shaft

axial motion.

• Oldham Couplings – Oldham couplings are the ideal solution for high levels of parallel misalignment, while also being a highly customisable to suit your specific applications needs. These couplings are often found in a range of industries such as food & beverage, pharmaceutical & medical, and semiconductor applications.



Rigid Couplings

Rigid Couplings are often found in lower speed or lower torque applications and are used where a solid connection is needed between two shafts of the same size. They tend to be high strength couplings that are used to keep alignment between shafts. These couplings are often considered the most basic, but most cost-effective coupling.

One piece, two piece and set screw rigid couplings

There are three different variations of rigid couplings, each supply unique features and benefits for applications. These variations include:

• One-piece rigid couplings – good holding power but disassembly of surrounding equipment is needed for fitting.



• Two-piece rigid couplings – The highest holding power of all rigid coupling with a two-part split design making fitting and removal much easier.

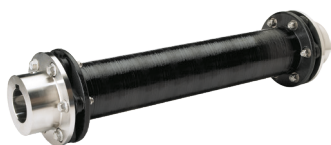


• Set screw rigid couplings – This variation is screwed to the shaft but again, requires disassembly of surrounding equipment for fitting and removal.



Torsionally Rigid Couplings

Torsionally rigid couplings are generally suitable for most industrial applications. This category includes disc and composite couplings. These can feature zero back-lash, low-restoring forces, and electrically insulated designs.



Other Couplings

These Couplings can fall into either flexible or rigid

depending on the requirements of your application.

Flywheel Couplings

Flywheel couplings, also known as flange couplings, are a torsionally rigid coupling that provide maintenance free operation that's free from resonance. This makes them ideal for applications such as cranes, harvesting machines and floor conveyors.



Chain Couplings



Chain couplings have flanges that are linked with duplex roller chains, meaning they are a high strength coupling choice. Not only this, but these couplings can transmit high levels of torque AND accommodate up to 2° of misalignment, helping to protect surrounding equipment from damage.

Fluid Couplings

Where vibration in machinery is high, you may find a fluid coupling. This is because these couplings have an excellent level of vibration dampening and provide a controlled soft start up. Commonly found in applications such as conveyors, mills, shredders, crushers and agitators, fluid couplings can withstand the harsh conditions found in the environments these applications are often found.



This is just a basic overview of the different types of couplings that Acorn can provide, alongside custom solutions, we can help you to find the **exact** coupling your machine needs.

Our specialised Couplings & Drives department are on hand to answer all your coupling questions and queries, so get in touch with them today.



TALK TO THE EXPERTS

Connect with Couplings Product Manager, Tom Fowler on LinkedIn, or:

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HOW TO KNOW WHEN TO USE A BEARING HEATER

How do you mount your bearings? Oil bath? Open flame? Mounting kit? Bearing heater? Brute force? Well, what if we told you that one in six premature bearing failures occur as a result of poor fitting practices. The force required for mounting rises as the bearing size increases, this makes it essential to ensure you're getting it right.

Heat is one of the most effective methods used to mount bearings. This is because when the inner ring is heated, it expands to allow the bearing to slide onto the shaft without the need for excessive force. Although there are many ways to heat a bearing, the best method is using an induction bearing heater, particularly when mounting larger bearings.

But, how do you know when to use an induction heater and what temperature you should heat your bearings to?

When should you use a bearing heater?

Induction heaters provide a controlled heating method that enables users to set the correct temperature required to mount the bearing—preventing users from heating bearings unevenly, causing irrevocable damage. User safety is also improved by removing the need for alternative heating methods such as oil baths and open flames.

Although induction bearing heaters are often ideal for mounting many types of bearing, it is not always the best option for some bearings. For example, if your bearing has an outer diameter of 100mm or less, it is classed as a small bearing; therefore, it can be cold mounted. There can also be other limitations depending on the materials used in the bearing, such as non-metallic compounds.

What temperature should you heat your bearing to?

Generally, a bearing should be heated to 80-90°C above the temperature of the shaft it is being mounted on. This will allow the bearing to slide onto the shaft easily, and as the temperature cools, a strong shrink connection will be made between the shaft and bearing. However, you should never heat a bearing above 125°C as this can cause the bearing harm.

Additionally, if your bearing contains any non-metallic components such as polyamide cages or rubber seals, it is not advisable to heat above 120°C. Solid oil bearings should not be heated above 80°C. It is always advisable to check manufacturer guidelines before heating your bearings.

Contact our knowledgeable team today.



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REDUCE YOUR CARBON FOOTPRINT



Reducing our CO₂ emissions is one of the most important steps we can take to combat the effects of climate change and protect the health and wellbeing of life on our planet. The primary cause of rising CO₂ levels is human activity, most notably our reliance on fossil fuels for energy production, transportation, and manufacturing. By choosing components that have been produced with lower carbon emissions, we can help to reduce our carbon footprint and protect the health of future generations to come.

In this article, we'll show you some of our favourite products that are manufactured with sustainability in mind, helping you to do your part when it comes to Corporate Social Responsibility.

NSK Bioplastic Bearing Cages



NSK is leading the way when it comes to reducing carbon emissions in industry with its newly launched bioplastic bearing cages. These heat resistant bearing cages are made from renewable biomass sources, mainly coming from plant materials. This marks the first time a bearing manufacturer has successfully launched a bioplastic bearing cage and has the potential to transform the market.

In comparison to standard steel cages, bioplastic bearing cages are lighter and have a lower coefficient of friction, allowing for more efficient operation. Not

only that, but they can also be designed in more advanced shapes, delivering more benefits than ever before, whilst paving the way to a carbon neutral society.

These newly developed bioplastic bearing cages are currently available for use in the bearings within fan motors of air conditioning units. However, NSK hopes to expand the range in the near future, so that every bearing will eventually be available with the option of a bioplastic cage, reducing CO₂ emissions and promoting a more sustainable society.



TSUBAKI Lambda Chain

Another product that is leading the way when it comes to reducing carbon emissions is TSUBAKI Lambda chain.

Lambda is a maintenance-free chain which has NSF-H1 food grade lubricant impregnated within its bushes. This means that the chain can be used throughout its service life without any relubrication required. Not only does this save time when it comes to maintenance, but it also reduces chemical waste, minimising your impact on the environment.

This innovative maintenance-free design also means that Lambda chain has a substantially longer service life. This means that replacement is required significantly less frequently, resulting in a reduction in CO₂ emissions for the manufacturing process, as well as a lower consumption of raw materials.

Not only does TSUBAKI Lambda chain reduce carbon emissions, but it promotes all-round sustainability whilst optimising your uptime and keeping your business moving.

TSUBAKI GT4 Winner Chain

The GT4 Winner chain from TSUBAKI is another great example of a product that has been designed with



sustainability in mind. This innovative roller chain showcases a 35% wear reduction when compared to competitor chain. This increase in service life means that you won't need to replace your chain as often, keeping CO₂ emissions to a minimum.

Not only that, but GT4 Winner chain also features innovative Lube Groove seamless bushes which help to reduce maintenance requirements. This means that you'll save time (and money) on relubrication, whilst further reducing your impact on the environment.

This chain is also made from high quality materials which can be recycled at the end of its service life, promoting a circular economy and a sustainable future for generations to come. In fact, TSUBAKI estimates that GT4 Winner chain provides a 66% reduction in CO₂ emissions throughout its service life when compared to its predecessor - an impressive feat!

In Summary

In today's world, every business is trying to do its bit in reducing CO₂ emissions and contributing to a more sustainable society. There are many products available today that are manufactured with this in mind, from NSK's bioplastic bearing cages to TSUBAKI's Lambda and GT4 Winner chain. These innovative and sustainable products can help to reduce your carbon footprint and contribute to a better tomorrow.

If you're searching for ways to reduce your carbon footprint and make more sustainable choices when it comes to specifying components for your machinery, our knowledgeable sales team is on hand. Give us a call and we'd be delighted to help.



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