

KNOW + HOW

Hygienic Solutions

Sanitation and cleanliness has been a hot topic for some time now, with companies being pushed more than ever to increase awareness around hygiene. But it's how we manage these expectations that delivers results.

ERIKS In Action

Getting Torpoint Ferry back on track

A huge project, with very little time. But no panic from ERIKS Specialist Engineering

In Focus

Testing the water with WRAS-approved adhesives

Failure to check that an adhesive complies with the necessary standards can lead to disastrous consequences. Are you positive yours comply?

Debate

Devil's Advocate

What legacy has Donald Trump really left behind, and what can be learned from his presidential reign?

ERIKS



Rethinking food safety

SKF Food Line ball bearing units - Blue Range: Proactive food safety

For food producers, hygiene and proactive food safety take top priority in asset design. However, bearings can be a potential source of serious food contamination.

SKF, with microbiology experts from RISE (Research Institutes of Sweden), have discovered that bacterial contamination can build up inside bearing units during operation, and even during hygienic cleaning.

If bacteria can get in, they can also get out! The answer is a hygienically-designed, fully sealed bearing unit.

The new SKF Food Line ball bearing units - Blue Range is a relubrication-free solution that supports your proactive food safety processes. Sealed from both sides and filled with allergen-free grease, they allow you to actively reduce food safety risks by combining hygienic design, relubrication-free technology, corrosion resistance and food grade components. Coming from SKF, they also provide outstanding bearing performance!



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Food safety risks: <https://ter.li/video>

The solution: <https://ter.li/catalogue>

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Welcome



What can I say about 2020? When speaking with our employees and customers, the most common phrase we've heard is 'challenging,' and I can but only agree.

Richard Ludlam
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The past 12 months has thrown many obstacles at the world of industry, challenging its supply chain, interrupting production, changing the ways in which we now must operate. But what I can say from experience, is the way in which we have come together as a collective to overcome these issues has been remarkable, and a true breath of fresh air.

As we leave 2020 behind us, there's no doubt that the challenges will evolve, and new ones will appear, but by continuing to work in unison, I'm confident that we can get back to prosperous ways filled with innovation.

Before we dive into this exciting issue of Know+How, I'd like to wish you all a Happy New Year from everyone at ERIKS, we're glad to have you back.

Due to the pandemic, sanitation and cleanliness has been a hot topic for some time now, so it seems quite apt that the first edition of the year focuses on Hygienic Solutions. Today, companies are being pushed more than ever to increase their awareness around hygiene, whether that be personal or industry related. So, drawing upon decades of experience, with demonstratable examples from our specialist engineers and partner suppliers, this edition delivers insight and foresight into managing

these expectations and new methods to ensure maximum hygiene, productivity, and efficiency.

For our ERIKS In Action section, we look at how we continue to support our customers with their projects, including how our Specialist Engineering team assisted Torpoint Ferry to get back on track, with a large-scale sheave redesign.

In Focus takes a look at the stringent regulations around the use of threadlockers and sealants in water applications, and how LOCTITE®'s range of WRAS-approved products eliminate such worries.

And for Making Industry Work Better, we bring you Timken's latest solution – the Poly-Round® Series, engineered specifically to improve uptime and guarantee food safety.

Finally, for the debate piece, we take a step outside the box to discuss Donald Trump's presidential legacy and what we have learned from his four-year reign in office.

We hope that you enjoy this issue, and as always, we'd love to hear your opinions on any of the topics within. If you have any stories on how you've helped make industry work better, please don't hesitate to contact us via email, and remember to check out our website for even more news, views and blogs from ERIKS.

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NEVER MISS AN ISSUE

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KNOW + HOW

Reliability

Thanks to improved technology and Industry 4.0 data capabilities, plant managers can now gain a better insight and understanding into the reliability of their assets, achieving positive impacts on production, efficiency, and maintenance.

ERIKS In Action
80 Years of Success
 Looking back fondly on the past 80 years, we now focus on embracing new technologies to deliver unparalleled value, increased productivity, and improved reliability and performance to our customers.

In Focus
Making Online Monitoring Part of Your Maintenance Strategy
 Getting a holistic view of your assets will help you make a more confident and effective response to maintenance and repair issues.

Debate
Playing Devil's Advocate
 The disastrous effects of Covid-19 on the global economy are clear to see, but is there a glimmer of light at the end of the tunnel?

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Thumbs down for Carbon Pricing

A recent study by scientists from the University of Potsdam and ETH Zurich has revealed that carbon pricing schemes have lacked the efficiency initially hoped for, noting that such schemes even in countries where carbon prices are high, have delivered very little effect to the speed of technological change.

Author of the study, Johan Lilliestam, commented: *"The significant reductions in emissions that we are seeing are being driven not by urgently needed investment in zero-carbon technologies, but by operational shifts towards less carbon-intensive applications. The effect of switching from gasoline to diesel or from coal to gas-fired power generation is practically irrelevant when it comes to achieving climate neutrality."*

An overallocation of emission certificates leading to low carbon prices was identified as the main factor in the failure of driving change through carbon prices, with the team now suggesting that sector-specific promotion of climate-friendly technologies is the best strategy moving forward if we are to see significant change.

We're always interested to know your thoughts, so why not tell us what you think by emailing knowhoweditor@eriks.co.uk

COVID-19 opening the door to innovation

Recent research by Digital Catapult and the Made Smarter Technology Accelerator has suggested that the COVID-19 pandemic could be the pathway for UK manufacturers to consider implementing technologies such as 5G and AI into their business.

77% of respondents to the recent study declared their openness to change, but revealed that areas such as funding, cyber security and lack of in-house skills were holding them back from making advancements.

To offer assistance in breaking down these barriers, the Made Smarter Technology Accelerator wants to bring established manufacturers in partnerships with innovative start-ups to develop new technology prototypes to help drive productivity, digitalisation and innovation, further developing Industry 4.0.

Joining the programme as partners will be Babcock International Group, BAE Systems, GAF, Northumbrian Water Group, O'Neills, Irish International Sports Company Limited, Safran Landing Systems and Sainsburys, who have set 14 challenges for respondents.

The winning applicants will be provided with £20,000 of funding each, and a strong growth platform to help them further develop prototypes to address the challenges, which range from increasing shelf-life to reducing waste.



A manufacturing focus shift

According to a recent survey published by Make UK and PwC, the UK's new trading relationship with the EU, coupled with attractive investment and talent recruitment opportunities are clouding many manufacturers' judgement. Although more and more companies believe that the positives outweigh the risks in terms of boosting productivity and agility through investment.

Make UK chief executive, Stephen Phipson, said:

"The transition to new trading arrangements with the EU was always going to be the biggest challenge facing manufacturers this year. However, just as the sector rose to the challenge of aiding the national effort at the start of the pandemic, it is clearly set to do so again as we re-build the economy and take advantage of the opportunities from digital technologies."

Controlling costs remains a priority, but an estimated 57% of manufacturers are looking to invest in new product developments, and positively, 25% of businesses are looking to re-shore their overseas activities back to the UK. Additionally, 30% are planning to enter new markets this year, diversifying their income streams in a conscious effort to combat any similar crisis' in the future.



Nissan moves to take advantage of UK post-Brexit trade rules

New post-Brexit trade rules guaranteeing zero tariffs on EU exports has pushed Japanese auto manufacturer, Nissan, to reconsider its production of batteries used in their Leaf electric cars, moving production to the UK, a strategy which has been given the thumbs up by Prime Minister Boris Johnson.

COO, Ashwani Gupta, believes that this agreement will 'redefine' the UK's automotive industry, whilst protecting

thousands of jobs in the process. He said: *"Sunderland is one of the top three plants in the world for competitiveness for Nissan. Brexit gives us a competitive advantage in the UK and outside."*

Currently an estimated 30,000 Leaf electric cars are manufactured each year at the facility, most using a locally sourced 40kWh battery. This new move from Nissan will see more powerful 62kWh versions which are currently made in the company's home country, move to their Sunderland facility.

A reduction in water usage in manufacturing is needed, and NOW!

Ian Hart, Business Development Director at adi Projects, has suggested that a reduction in water consumption in manufacturing is needed, and argues that only by making changes to our approach now, will this precious resource remain protected for the future.

According to the Environment Agency, demand for water could exceed supply within 25 years, citing that water usage has risen from 85L per day in the 1960s to 143L per day presently, partly due to an increase in population during that period.

But only by doing our bit, can we avert this problem. So, why aren't UK manufacturers taking steps towards conserving water? Such as do many manufacturers in Africa

who use a process called 'managed aquifer recharge' that injects wastewater back into the ground for reuse.

What Ian is suggesting, is that if manufacturers are committed to water conservation, we will all reap the benefits. Engaging with an expert partner to conduct a water audit will establish your usage, how effectively it's being used, and identify opportunities to reduce consumption. This will then be followed by determining how new processes can be integrated to enable the recovery and reuse of water.

Ian argues that now is the time to change our mindset and understand that water is a scarce commodity and begin to treat it with more care and respect. Then we will all be winners.

ECON launches new series of ball valves

Ball valves take a leading role in the valve industry, catering for an enormous scope of applications across a wide variety of industries.

ERIKS own brand, ECON, who has been manufacturing proven-quality designs since 1892 focusing on technical superiority, has recently launched a new series of premium 3-piece ball valves.

The quarter-turn construction makes these valves easy to operate and reduces

maintenance costs. Moreover, the full bore versions are ideal for conditions which require maximum flow capacity with minimum pressure drop.

These new valves are food safe to EC1935 when ordered in stainless steel trim, and are also available with Fire Safe or Lloyds certification and can be fitted with a variety of actuators.

If you would like further information, please contact your local ERIKS Service Centre.



Combat high-traffic touch points with high-level protection

For over 100 years, Ansell has been delivering advanced protection solutions designed to keep people out of harms way, utilising decades of expertise, innovative technologies and cutting-edge design techniques.

Introducing the HyFlex® 11-100 – the only industrial glove available on the market designed with Ionic+™, an EPA-registered antimicrobial technology that lasts the lifecycle of the product, and self-sanitising 360° protection of both the liner and coating to protect from bacterial-related odour, stain and fabric degradation.

Perfectly suited for industries including manufacturing, logistics, transportation, recycling, waste disposal and hospitality, HyFlex® 11-100 gloves are compliant with EU biocides Regulations 528/2012 and are touchscreen compliant for added convenience.

Actively remove stubborn rust with OKS 661

The appearance of stubborn rust is an issue presented to maintenance engineers and mechanics far and wide. But now, thanks to the newest addition to the ever-expanding OKS portfolio of speciality lubricants, the ingenious formula of OKS 661 is the answer to your rust problems.

A new, chemically active rust remover, OKS 661 has been specifically engineered to loosen problematic rusting connections, remove flash rust, and eradicate nuisance stains from difficult to access areas with speed, during repair and maintenance servicing tasks.

Safe for use in both indoor and outdoor environments due to its zero petrol and mineral oil content, the slow evaporation rate of OKS 661 achieves an increased exposure time, meaning that even the most stubborn rust will reliably dissolve, restoring connection mobility to ensure maximum efficiency.



LIGHT REDEFINED

The New P&H SERIES



CORE



WORK



SIGNATURE

Redefining light **one torch at a time**

Internationally respected for their extensive range of portable lighting solutions, LedLenser are proud to announce the launch of the new P- and H-series torches and headlamps with CORE, WORK and SIGNATURE variants.

Revolutionising and redefining the P- and H-series in their current form, this new three-tier concept features products that

have been precision engineered to incorporate class leading technologies and features, while maintaining the powerful illumination you've come to expect from the brand.

The CORE range continues the legacy of the well-known P- and H-series, combining a proven history with modern technology to cater for your everyday illumination requirements. While the WORK line builds further on these foundations, incorporating

enhanced features including optimised light with natural colour reproduction, rubber accents for protection against damage, and resistance against chemical splashes.

Finally, the SIGNATURE series represents the premium end of the model range, offering a larger range of integrated features and wider scope of accessories making them more suited for demanding outdoor applications.

Unleash new welding performance with **the 3M™ Speedglas™ G5-02 helmet**

Designed for specialist TIG welders undertaking high-performance, critical work, the innovative 3M™ Speedglas™ Welding Helmet G5-02 sets the new standards for precision ADF (auto-darkening filter) viewing.

Previously, TIG welders had to compromise: a slim helmet or wide view. But today, with a curved G5-02 ADF, welders can now focus on their work and not their equipment.

Delivering unrivalled clarity before, during and after welding tasks with 3M™ Speedglas™ Natural Colour Technology, the more realistic view enables better control over your arc, while colours appear brighter in both light and dark states.

Extremely thin and lightweight, the high-end technology incorporates 3M™'s most advanced electronics and four arc sensor, reliably switching at very low TIG settings, meeting new pr ISO 16321 "TIG+" standards.

To complete, a new exhaled air venting design has been incorporated to reduce heat and humidity, ensuring the wearer remains comfortable during tasks.



Getting Torpoint Ferry back on track



Mahesh Patel
Engineering Manager
ERIKS

Just imagine. Public safety at risk, severe commuter delays, and a media frenzy all hit at once. Now throw in a global pandemic. You can understand why many thought they were fighting the impossible. But as the Great Nelson Mandela once said: *“It always seems impossible until it gets done.”*

“ The largest chain ferry service in the world ”

Having previously completed a guide chain tray sheave project at Torpoint Ferry Terminal, ERIKS Power Transmission Product Business Unit were invited back to investigate critical failures on the gantry sheaves at the port which were causing severe disruption to service.

Just so you get a feel for the scale and importance of the project, the Torpoint Ferry is the largest chain ferry service in the world, and the UK’s busiest inland waterway crossing, catering for the demands of 8,000 vehicles and 1,500 pedestrians every day, operating 24/7/365 regardless of conditions.

With service already reduced with one ship out of commission due to a scheduled 14-week overhaul, the potential for a second ferry down was increased, worrying terminal staff and the local community. Understandable considering maximum capacity was only three ferries. Pressure from the media was heating up, two-hour delays were being touted, and serious impacts to commuters in the pipeline, if a resolution wasn’t found, and quickly.

The pandemic hit

Investigation complete. Plan devised. Great start. From scratch, ERIKS Engineering Projects Team were to design, configure, manufacture, and supply the correct components to enable the tricky rebuild of the gantry sheaves at either end of the port.

But problems hit early that were out of ERIKS’ control. Cue the impacts of COVID-19 and the restrictions imposed by the then first lockdown.

“ ERIKS engineering team didn’t share this lack of confidence ”





Understanding how critical this repair was, work quickly commenced in sourcing the required parts to begin the rebuild. Confidence wasn't at its peak given the current situation, with the Ferry Manager stressing that this was *"Impossible in lockdown."* Luckily for the customer and users of Torpoint, the ERIKS engineering team didn't share this lack of confidence, knowing the strengths of our supply network and the know-how of our in-house technical experts.

Off-the-shelf not an option

With the proposal agreed in March, the parts were ordered and the engineering work got underway. There were currently no drawings available, and due to the bespoke nature of the design, unfortunately an 'off-the-shelf' was solution wasn't an option.

So, the first task for ERIKS was to redesign the blueprints and with very little to go on.

Utilising the limited samples, with no formal load calculations or Finite Element Analysis (FEA) available, together with consultation with Tamar Crossing engineer's, CAD design drawings were prepared and signed-off.

From drawings to reality

Designed decades ago, for operation with chains, the newly approved blueprints were to convert the sheaves back to the required rope format, while remaining fit for purpose with the current installation.

Following collection and delivery to our Plymouth Service Centre, strip-down and inspection were completed, then measurements taken and recorded.

The ERIKS team then began the bespoke engineering, with the full scope of the project including: 12-off sheaves assemblies in total were manufactured from high-quality steel, hardened, and tempered in the sheave throat. Which comprised of several components i.e. bronze bushes, pivot plates and arms and high tensile shafts. In addition to these components heavy lifting capacity Bow and Dee shackles were designed and manufactured.

“Redesign the blueprints and with very little to go on”

The scope of the project also required mobile machining to be done on site due to number of permanently fixed components which formed part of the new sheave assemblies.



This was organised, planned, and completed with specialist mobile machinery with the required Health and Safety measures in place due to working in a confined space.

Once all engineering worked had been completed, the new sheaves and pulleys were re-installed and to the joys of the Torpoint Ferry management team, and the locals of course, service was returned to full working capacity.

Looks like Nelson was right after all

From enquiry to back-in-service took approximately five months, which considering the initial fears that the terminal would have been out of commission for up to 12 months is quite remarkable, given the scale of the project combined with the many COVID-19 implications.

So, just like Nelson said: *"It always seems impossible, until it gets done."*



Tie the Knot with **ERIKS** SupplyPartner Programme



Graeme Fullerton
Director - Strategic Account Management
& Strategic Marketing

ERIKS

Best-Selling American author, John. C. Maxwell once wrote *“Coming together is a beginning. Keeping together is progress. Working together is success.”* – and at ERIKS Industrial Services we truly believe that by working together, we can achieve great things.

It’s always been a privilege to be considered as a key supply partner to many customers spanning multiple industries for MRO products, services and solutions. Adding value to your business through increased productivity, reduced costs, and compliance is what we do best, but as a company that strives for continuous improvement, we believe that we can offer your even more.

Times have drastically changed since the world was struck with the global COVID-19 pandemic, but our willingness to support our loyal customers has never diminished. We have taken this time to re-evaluate our commercial offers and service commitments, whilst keeping a keen eye on technological development and latest best practice processes.

This different strategy has enabled us to identify new ways to improve our efficiency, with the aim of feeding these changes directly back to you and your business to positively impact both your purchasing and operational budgets, as well as our own operational efficiency.

“ Our willingness to support our loyal customers has never diminished ”

Making your life easy

Generally, in-direct or MRO supply often represents only a small proportion of your overall annual procurement budget, but in fact, carries a high volume of transactions, utilising a wide range of suppliers, which comes with a variety of associated costs.

Here’s where the **ERIKS SupplyPartner Programme** will make your life easier, by delivering reductions in your cost of acquisition, improving compliance, and increasing productivity for those who have on-going requirements for maintenance products and services.

Your priorities are central

The ERIKS philosophy is built on understanding our customer’s needs, but the level to which we can both enjoy these benefits truly depends on the degree to which we commit to each other.

Historically, we have worked alongside many of our customers without any formal agreement in place. But today, the **ERIKS SupplyPartner Programme** changes the dynamics of our working relationship through simplicity, open two-way dialogue, and improved commitment. To put it simply, you outline your priorities, and we work as a team to deliver on your objectives.

“ **ERIKS SupplyPartner Programme** will make your life easier ”

It's all part of the package

Flexibility and simplicity form the foundations to our partnership proposal, **ERIKS SupplyPartner Programme** which encompasses all the supply chain challenges that you may face, and how we aim to address these. But for simplicity, we have structured our offer in three levels.

We are of course maintaining our standard **Standard Account** relationship which you currently enjoy, but there are now two tiers above, that introduce increased levels of savings. The new middle tier, called **Focus**, looks to build a strong partnership, and the top tier, **Optimise**, enjoys an increased level of guaranteed commitments in addition to excellent savings. All of our partnership agreements benefit in the following areas.

Pricing

We understand that competitive pricing remains central to every supply agreement, and whilst all ERIKS commercial agreements are based on market pricing, if you upgrade to a Focus or Optimise account, you automatically gain access to further price savings with continuity pricing for our strategic/supply range.

Warranty

As part of our philosophy, we offer only the best, most tried and tested products, that we have full confidence in their performance. Therefore, we are willing to extend the original manufacturers warranty commitment by 6 or 12 months, dependant on which service level you sign-up to.

Invoicing

Our in-house calculations have revealed that it generally costs you between £12 and £40 to process an invoice. But did you know that digital processing reduces that cost to around £2.50 to £3 per invoice. That's a pretty big saving considering the number of invoices your business has to process.

To ensure you receive this excellent benefit right from the get-go, our Focus and Optimise customers automatically receive electronic invoices.

Payment Terms

For those keen to keep capital within their company to aid cashflow, both Focus and Optimise accounts attach an additional 30-day credit term.

E-Commerce Solution

Managing the indirect supply channel, sourcing, and purchasing of such a wide

range of parts and components may represent less than 20% of overall spend, but it takes around 60% of your team's time and resource to deliver.

With a desire to trade digitally, you gain so much more. By utilising the ERIKS eBusiness Solution, you instantly save time on sourcing and requisitioning, with added clarity and control. All you have to do is hit a button and everything can be automated. It really is that simple.

Price Volatility

Particularly in the current climate, predictability is critical to managing your procurement budgets. So, to support your long-term budgeting, Focus and Optimise accounts operate under the same fixed price structure for the duration of the contract – stipulated at a minimum of 1 year – with pre-agreed inflationary adjustment based on the average change of an agreed basket of goods.

Impartial Engineering and Technical Support

Drawing experience from a wide range of industries, ERIKS specialists will be available to work hand-in-hand with your teams to support with technical and engineering projects to deliver improved reliability and performance. But as you'll know from your time working with us, this has always been at the core of our 'let's make industry work better' mantra.

Service Commitment

Delivering on our promises is important to us, and although we deliver performance standards that are the envy of the industry, we know that we can do better. For Focus accounts, we will target a 2% improvement in delivery, and for Optimise accounts, we will underwrite that commitment with a penalty of 10% of the cost of goods delivered late. This shows the level of confidence that we have in ourselves, but these advancements can only be achieved by working together.

How much can I save?

Good question! Share a snapshot of your spend history with us, we will evaluate it

CHOOSE YOUR SERVICE LEVEL

	TYPICAL SAVINGS	
STANDARD	STATUS QUO	<ul style="list-style-type: none"> Standard Pricing Standard Manufacturers Warranty Standard Payment Terms Standard Service Commitment Price Volatility variable
FOCUS	10%	<ul style="list-style-type: none"> Pricing Plus Extended Manufacturers Warranty Extended Payment Terms Service Commitment (COTIF) Price Volatility fixed for agreed period
OPTIMISED	15%	<ul style="list-style-type: none"> Pricing Plus+ Extended Manufacturers Warranty+ Extended Payment Terms+ Service Commitment (COTIF)+ Price Volatility Fixed for agreed period+

and identify the forecast level of savings and the efficiency targets available. Your Local Account Manager will then help you match the spend review results with your expectations to determine the appropriate service level, and talk you through how those savings will be delivered using our indirect spend 360-degree evaluation.

Once you are comfortable with the structure of the agreement, the rest is simple – complete a partnership form and letter of intent, then we get to work. Sound too good to be true? Why not get in touch today and we can show you first-hand that it's never been easier to unlock your savings potential!

“ **ERIKS** philosophy is built on understanding our customer's needs ”

ERIKS OUR CALCULATIONS HAVE REVEALED:

An Optimise agreement with a 4-year term typically delivers savings of 15% of annual MRO spend.

A Focus agreement with a 2-year term typically delivers savings of 10% of annual MRO spend.

SIGN UP TODAY!

eriks.co.uk/supplypartner



Tom Boswell
Product Manager, Engineering & Reliability
ERIKS

MAKING ONLINE MONITORING PART OF YOUR MAINTENANCE STRATEGY

Part 3: When knowledge meets know-how

Over the past two issues of *Know+How*, we have been considering methods you can use to monitor and maintain your assets, and to achieve the key goals of any business: reduced maintenance costs, increased uptime, optimised efficiency and maximised productivity. We have also looked at how an holistic view of the data gathered will help you make more sense of – and better use of – all of it. Now, in this final part of the story, we are looking at how the information you want can provide the knowledge you need. And how know-how can turn that knowledge into the power to improve your operations.

Though monitoring ultimately delivers the benefits described above, it is only the means to an end. Between the means and the end, there's the stepping stone of better-planned maintenance.

Better-planned maintenance helps to reduce the risk of unplanned failure. Facilitating better-planned maintenance requires monitoring. And what is the most effective monitoring method you can use? Sensors.

While an engineer's inspections can only provide snapshots of data, a sensor can gather data almost continually, sweeping-up

information at intervals of 60 - 600 seconds.

This frequency means that, instead of snapshots, you have the data equivalent of a panoramic photograph, seamlessly stitched together from multiple images. The overall effect is a widescreen view that's as close as possible to capturing the whole picture at once.

Mounting sensors on maintainable items such as motors, gearboxes and pumps will provide data on how the process is affecting the asset condition. When this is assessed in the light of historical data from the same items, it does two things.

“ The data equivalent of a panoramic photograph ”



Firstly, it depicts a trend. Secondly, when that trend is compared with known values, it makes it possible to predict when a maintenance intervention will be required.

And that is when know-how can make the most of knowledge.

Refuel or rethink?

In previous articles, we have frequently used the analogy of a car. It's also a useful comparison as we consider the information we gather from sensors, and what we can do with it.

When the little dashboard petrol pump illuminates, and a warning tone alerts you that you only have enough fuel for 50 miles' driving, you have two choices. You can fill up at the next available service station. Or you can ease off the accelerator and drive more economically – eking out the fuel you have left to cover perhaps 60 or 70 miles instead.

With data from your sensors, and ERIKS know-how to guide you, it's possible to do the same with your maintainable items.

“When know-how can make the most of knowledge”

If an alert tells you, for example, that a threshold will be passed in two weeks, there may be intermediate actions you can take to increase that period to three or even four weeks. You have extended the Mean Time Between Failures, reduced downtime, reduced maintenance costs, and helped to maintain – or even improve – productivity.

Where know-how counts

ERIKS' know-how will help you, first by interpreting the data to identify the issue, then by delivering a diagnosis, and finally by providing the solution.

In addition, the predictive element of this process ensures that maintenance is no longer reactive. Your ERIKS maintenance engineer will be able to schedule a date for the work required, and arrive as scheduled with the correct spares, while in the meantime you continue to operate your asset. And even if the issue identified is too complex for a quick solution, ERIKS' have the in-house capabilities to resolve it.

“Maintenance is no longer reactive”

Continued...



So your maintenance parts stockholding can be reduced, your efficiency will be increased, and your peace of mind will go through the roof.

One day, sensor-gathered data will enable us – as your embedded maintenance partner – to identify issues, co-ordinate maintenance with scheduled downtime, and rectify the problem, all before you're aware it's happened.

That fourth instalment in the maintenance strategy story isn't quite ready to be written yet. But in the meantime, you can contact **ERIKS Product Manager Tom Boswell** to discover more about the operational benefits to you of online monitoring, and its aims and ambitions for the future.



Monitoring in action

Looking to avoid catastrophic production losses, one customer invested in ERIKS Digital Reliability Services, utilising state-of-the-art online monitoring through wireless sensors.

Over a period of time, a warning alarm was triggered, highlighting that the Drive End bearing of the Twiner Main Drive Motor was in a serious state of deterioration.

Utilising years of expertise, the Condition Monitoring and Vibration Analysts teams were able to remotely identify the root cause using trend data, before establishing a failure mode and implementing a corrective action plan to eliminate that specific failure mode.

It was discovered that the Drive End bearing had been previously changed out to a roller bearing, rather than the correct deep groove ball bearing, while other areas such as severe contamination and damage to the windings and commutator were also highlighted.

The current assembly was an open roller bearing with no way to seal from contamination. However, there was enough room on the Drive End shaft for extension, so drawing upon decades of engineering know-how, the team re-engineered, manufactured and fitted a new Drive End backplate that would house a 'lip seal' to help protect against contamination, while an additional nylon 'thrower' would provide greater resistance.

Investment in ERIKS Digital Reliability Services provided the customer with an early indication to an issue that otherwise would have remained undetected. The customer can now better manage any risks to production, as well as increasing health and safety for engineers, and significantly improving financial savings as proactive repairs are much more cost efficient than repair or replacement after run-to-failure.

Hygienic Geared Drives, the safe solution

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90% of bacterial contamination is caused by bad hygienic design, don't become part of that statistic, trust Fenner® Hygienic Geared Drives

Designed specifically for wash-down duty applications using acid or alkaline solutions required for food, beverage, pharmaceutical and process industries, the Fenner® range of Hygienic stainless steel geared drives provides complete interchangeability for simple upgrades as well as offering up to 15 times the service life.



TRANSMISSION
BELTS



COUPLINGS



SHAFT
FIXINGS



CHAINS



GEARBOXES



MOTORS



INVERTERS



Breaking the Boundaries of Hygienic Bearing Design



David Oliver
Channel and Platform Manager



We're not ones to normally point out the obvious, but maintaining optimal cleanliness is pivotal to reducing food safety risks in manufacturing and production environments. But achieving this isn't as simple as you first may think.

Underlying issues such as contamination of your housed bearings, the problems associated with hygienic design and introduction of relubrication-free technology have given us food for thought and so we decided to rethink our approach. Long gone are the days where stringent washdowns are enough, we must begin to understand every risk and embrace new technologies and methods if we are to reach our risk-free hygiene goals.

Across the globe, the European Hygienic Engineering Design Group (EHEDG) outlines the design standards for food production equipment, with hygienically designed relubrication-free solutions labelled as critical to further reducing safety risks in food production zones.

SKF's innovative Foodline Bearing Units Blue Range has been specifically designed to combat such concerns. Here, we take a glimpse into how SKF has developed this effective EHEDG-compliant bearing system that has the capabilities to withstand regular washdowns without the need for relubrication.

Two parts better than one

For bearings that are frequently exposed to washdown procedures to achieve their expected high performance, the sealing solution is critical.

The cleaning fluid used during washdowns poses the biggest threat to your bearings, given that detergents lower the surface



Over moulded construction offers effective base seal



tension of the liquid, allowing fluids to pass directly through conventional seals. Once inside the bearing, the detergent mixes with the lubricant oils whereby the caustic content of the detergent breaks the grease down.

On top of this, high-pressure water or high volumes of process water can also cause emulsification and flush grease away from the bearing. With these problems at the forefront of design, SKF explored a way to turn the behaviour of detergent water into an advantage.

The new solution involved a two-part seal design with multiple interlocking flanges that act as 'gutters,' with an outer lip protecting the bearing from particles and high-pressure water. Any washdown liquids that bypass the seal are then channelled along the gutter under the influence of gravity, draining away without causing any unwanted damage.



End cover incorporate a positive locking mechanism

Covering all bases

But we would like to point out that seals are not the only crucial components in protecting your bearings. In order to limit the ingress of fluids to the bearing cavity, SKF have also designed an end cover with a patent pending locking mechanism, along with effective back and base seals.

The high-performance material of the end cover provides a rigid, protective cover with enough flexibility to form an effective interference seal with the housing. Given the fact that end covers only contribute to hygiene if they remain in place, this specific end cover incorporates positive locking to the housing unit, removing the risk of accidental dislodging.

This patented rotating locking mechanism is extremely reliable, whilst also offering engineers easy dismantling without the need for tools when inspection is required.

Dynamically sealing against the shaft and statically with the housing, the back seal offers double sealing protection, stopping foodstuffs from entering the bearing cavity. This static seal in particular has a specially designed wave silhouette that provides faultless sealing.

Finally, a food-grade rubber is selectively over-moulded with the composite of the housing to create an effective base seal.

Moulding the perfect solution

Housing geometry and surface characteristics also have effects on cleanability. Contaminants have a habit of becoming trapped in voids and other spaces, another area that SKF has successfully addressed.

Since mechanical loads are usually relatively low in food and beverage applications, SKF decided to use polymer composite housing designs. Such materials can easily be moulded into smooth shapes, creating desirable features such as sloping surfaces. However, designing a moulded housing requires the use of internal or external reinforcing ribs. These types of structures create voids inside the components, inaccessible voids that are difficult to clean

and provide the perfect breeding ground for microbial growth – precisely what you need to avoid.

So, to reap the true benefits of moulded housing designs, with minimal disadvantages, SKF investigated the possibilities of over-moulding technology. This different approach required a two-step manufacturing process where you begin by moulding the structural components of the housing, then injecting a second material – in this instance a flexible rubber – to fill the voids within the parts.

A polypropylene material, reinforced with long glass fibres was used to deliver the right combination of structural and moulding characteristics. Polypropylene is extremely resistant to chemical attack and unlike nylon, does not absorb water. Under the right moulding conditions, a smooth finish can be achieved, as well as good recyclability at end of life – adding further to its advantages.

Up to the test

Pitting the new hygienically designed bearing unit against a conventional re-lubricable unit during a comparative washdown test conducted by RISE, the evidence demonstrated the benefits of hygienic design in cleanability. The results displayed that the new bearings required 30% less water compared to historical designs, largely owing to the elimination of grease discharge.

From a performance perspective, the newly designed bearing and sealing system performed well in both in-house testing and when installed on customers sites. Early tests of the bearing insert at one customer plant, where conventional food and beverage bearings previously required replacing every nine months and re-lubricating every 10 days, the bearings using with the new lubricant and seal combination operated reliably for more than 18 months without relubrication.

Assessing the risks at the early possible stage, and identifying new methods to reduce such risks has clearly paid dividends. When discussing the new units following the trial at the customers site, the customer expressed their delight at the results and did not wish to remove from operation and return to SKF for analysis. Certainly a positive step forward.



Patented bearing sealing system

How untangling hoses saved £26,000



Colin MacMillan
Technical Specialist, Industrial Hose
ERIKS

Hoses can tie-up money. Leak cash. Spray budgets up the wall. And their associated health and safety considerations can easily trip people up. That's why a concerned engineering manager called in ERIKS to take a close look at the hose assets of a major Scottish Malt Whisky distillery.

A leak of any fluid from a worn or damaged hose is a problem. When what's leaking is Malt whisky, at 2-3 litres per minute, it's not just a problem but serious money down the drain.

In the same way, a hydraulic hose burst is always an injury risk, due to the pressure the fluid is under. But when the hose lacks burst protection, and is next to a dedicated walkway, then the risk becomes an accident waiting to happen.

An exercise which began with a visual skim survey continued with a 14-day in-depth inspection of 364 hoses. And it revealed many more issues that were wasting the customer's money and reducing their operational efficiency on a daily basis.

“ Serious money down the drain ”

A site for sore feet

Site surveys can be challenging and time-consuming at the best of times. During a global pandemic is not the best of times.

Adding to the difficulties was the location of the customer's site. Like many Scotch Malt whisky distilleries, it's remote. When overnight accommodation is hard to find because of a pandemic, it seems more remote than ever.

Even on site, things didn't get much easier.

The site map provided was old, and the site had been updated and changed over a number of years. An in-depth knowledge of the number of hoses in use, or their locations wasn't mapped to its fullest. The site covers 1½ by 2½ miles, and contains nearly 50 large warehouses, and had to be inspected entirely on foot. However, Colin MacMillan – the Technical Specialist from ERIKS Flow Control – couldn't just wander at will.

With the warehouses containing large VAT's of premium quality whisky, security was tight and access not always easy. Even pointing out he wasn't a risk because he preferred vodka to whisky didn't help to open any doors for Colin.



Problems in the pipeline

The full survey took a total of 14 days, with support from ERIKS Industrial Hose Application Engineer Ian Glover.

As well as the 'red flag' issues described opposite, a number of other problems and potential improvements were identified. These ranged from opportunities for better housekeeping and hose storage which would help to extend the life of the hoses, to recommendations for more appropriate fittings, to eliminate the safety risk of a fitting being blown from a hose.

In at least one application, ERIKS' specialists identified that the wrong hose was being used for the media it was transporting. A basic nitrile rubber hydraulic hose was being used for 28% caustic soda.

This was steadily eroding the liner and creating a health and safety hazard.

Hoses were also found with gouges, cuts, weathering and aging, putting them at risk of leaks and bursts.

To eradicate this going forward ERIKS are now also organising a full training schedule for not only the Hose Management system, but also best practices for housekeeping, correct hose fittings and H&S best practices.

No loose ends

“ Reducing operational efficiency ”

Different areas of the customer's site, and management of different functions within the process, were operating independently.

This loose integration not only meant reduced site-wide best practice, and costly duplication of hose purchases. It also prevented the creation of a centralised asset register and a co-ordinated inspection and testing regime.

Under ERIKS' advice and guidance, a comprehensive hose asset register has now been put together, providing full visibility of all hose assets. An inspection and testing regime has also been established, which will increase efficiency and reduce the cost of hose asset management, not least by co-ordinating site visits.

By also following predictive maintenance practices, the need for emergency breakdown repairs should be greatly reduced.

And with all hose assets now correctly identified and tagged, in the event of a breakdown it will be easier to ensure the correct replacement is fitted. Or, if that's unavailable, the next inspection will show



that the replacement was temporary and the correct hose needs to be installed as soon as possible.

Looking ahead ERIKS will potentially now hold consignment stock on site ready for use on the correct applications and also further reduce lead times and application downtime, delivering more added value and savings.

By tying-up all these hose loose ends for the customer, ERIKS have established a comprehensive, efficient, cost-effective and safety-conscious hose asset management process. One which has delivered £12,000 of signed-off cost savings.

“ 12,000 signed-off cost savings ”

With a further £14,000 in the process of being signed off as we go to print, as well as all the leaks now under control, with the value still to be calculated.

Cheers to that. Or as they say in Scotland: *Slàinte mhath.*

A good time to think about grease

If 2020 has taught us anything, it's that contamination can come from the most unexpected sources. In a wet environment of the kind common in the meat and meat processing sectors, that source is bacterial contamination of the grease surface, which can lead to further contamination in the process.



Shaun Hays
Marketing Communications Manager



Contaminated grease can lead to loss of production, to product recall and reputational damage, all having far-reaching consequences. Fortunately, there are easy ways to avoid it happening in your facility.

“ Going beyond NSF requirements ”

When ‘good enough’ isn’t good enough

The food sector is clearly highly regulated. There are strict controls on which products can and can’t be used in areas where food is present.

The ingredients for these products are tested and audited, as are the products themselves. So, when food manufacturers use the correct, authorised products, then food safety is optimised.

The NSF public health and safety organisation sets the standards and tests the products. So, choosing NSF registered products will usually ensure safety in food manufacturing environments and processes [see box-out].

However, in a sector such as meat processing, where operating conditions are harsh and contamination is virtually unavoidable, there is a clear case for going beyond NSF requirements – for the safety and protection of your customers, your output, and your brand.

“ Lubrication performance will be severely compromised ”



Going to the Extreme

Lubricants with incidental food contact need to be NSF H1 registered. But this classification has limitations which could cause problems.

In wet operating environments, bacteria are more likely to grow. This is particularly true in the meat industry, where bacteria are present on the meat itself. Give them the right conditions and even food grade grease can be a perfect breeding ground and become contaminated, leading to a range of problems.

A grease contaminated by bacteria may develop a different – or even foul – smell. It could become discoloured or grow visible mould. As it deteriorates due to contamination it may harden, or conversely become runny. In either case, its lubrication performance will be severely compromised.

The solution is Rocol Foodlube Extreme grease, which:

- contains an antimicrobial compound
- is NSF H1 registered
- is ISO21469 certified (manufactured in a hygienic environment)
- has extreme water wash-off resistance
- has excellent oxidation stability to extend re-lubrication intervals and reduce TCO
- is certified Halal and Kosher.

Anti-microbe, pro-performance

A grease which becomes contaminated by bacteria is a grease with problems for your facility and your product.

It could contaminate product which then has to be scrapped or, if the product reaches the marketplace, recalled. Or it could cause the grease to deteriorate, with knock-on effects on the lubricated asset.

A grease which is not lubricating effectively will lead to greater wear and tear on bearings. This in turn will lead to more frequent bearing replacement. The grease itself will also need to be replaced or replenished more often, with cost and efficiency implications.

So increased noise, rattle or squealing from bearings, or a reduction in lubrication intervals, may be the result of contaminated grease. And if your solution is simply to replace the grease with more of the same, you’re not eliminating the problem but simply kicking it further down the road. The grease is highly likely to become contaminated again, to deteriorate again, and to cause the same problem again.

“ Contains an antimicrobial compound ”

But change to Rocol Foodlube Extreme grease which has an additive to protect itself from bacteria and the issues due to bacterial contamination will be significantly reduced, the resulting problems less likely, and performance, efficiency and productivity will all improve.



When NSF is ‘Not Safe for Food’

Certification by the American NSF Food Safety Division is usually clear proof that a product is safe for use in a food production or processing environment. But not always.

There are three important NSF classifications, but only two indicate suitability for food contact:

- **NSF H1** – certified for incidental contact
- **NSF 3H** – certified as a release agent, which can involve direct food contact
- **NSF H2** – certified only for uses with no contact with food

ROCOL FOODLUBE Extreme

is not only H1 registered, but also fits in to HACCP and GMP plans, and is manufactured in a controlled environment. This makes it one of only a small handful of manufacturers to have ISO 21469 certification.

Bearing down on contamination



Robert Bryan
UK Territory Manager

NSK

As we move towards a post-COVID world, there will undoubtedly be a greater focus on hygiene. As a result, maintenance teams at food and beverage plants, along with machinery and equipment suppliers and system integrators, must increase their efforts to avert any opportunities for contamination. Deploying a new strategy, effectively, demands a component-level approach, one in which astute bearing selection will pay a vital part with significant benefits to unlock.

For many years, the food and beverage industry has been a focus area for NSK, and to combat these increasingly important issues, NSK continues to provide components with multiple highly-relevant design characteristics, such as corrosion-resistant materials, sealed construction and lifelong lubricants, that are all compatible with foodstuffs.

The challenges are endless

Bearing applications for food plants stretch far and wide, from raw material, to primary (cutting and mixing) and secondary (moulding), conveying, inspection, heating and packaging processes - while beverage applications focus on bottle moulding, filling, sealing and packaging. But they all have one thing in common – the requirement for high-speed, uninterrupted, hygienic operation.

To put it bluntly, continuous high-speed operation, stringent hygiene standards and demanding operating conditions call for reliable, robust bearings that facilitate cost-effective production, while optimised performance and maintenance-free operations are also essential, despite having to withstand high temperatures, excessive water and intrusive chemicals.

The bearings must also prevent any potential contamination safely and reliably.

The truth is, your bearings have an endless list of challenges to contend with.

A silver lining for food facilities

Among the core products from NSK specifically for hygiene-related applications, is the RHP Silver-Lube® range of corrosion-resistant bearing units.

Silver-Lube® units consist of bearing inserts with high-grade stainless steel rings and balls, cage, flingers and set screws, further enhanced with durable, heat-resistant silicone rubber seals. These inserts are located within a high-strength PBT thermoplastic housing, featuring a stainless steel grease nipple and bolt-hole liners, purposely moulded into the housing to achieve optimum hygiene.

Administered with the necessary lubrication with a wide-temperature USDA H1 food-grade grease, Silver-Lube® bearing units are designed for applications where frequent washdowns are pivotal, optimum hygiene standards are required, and good chemical resistance over a broad temperature scope is essential to production.

Available in a variety of configurations – pillow block, two-bolt flange, four-bolt flange and take-up – Silver-Lube® units are capable of accommodating initial misalignment from mounting errors. This capability makes these bearings ideal candidates for use in food and beverage plant machinery such as shakers, fillers, centrifugal separators, bottling machines and conveyors.

Adding to the strong list of hygienic benefits, the PBT thermoplastic resin housings of the NSF-approved Silver-Lube® bearings are paint-free, eliminating potential of chipping or flaking, while also offering an exceptional working temperature suitability from -20° to +90°C. And let's not forget the long life capacity and low total cost of ownership.

These innovative bearing units also benefit from the sealed-for-life lubrication provided by NSK's Molded-Oil technology. Molded-Oil is a solid lubricant, designed to not only prevent the ingress of contaminants such as water and particulates, but means that lubricant cannot exit the bearing and enter other areas of the machine, where it could potentially come into contact with foodstuffs.

As standard, the bearings are equipped with a proprietary oil-impregnated material that



compromises oil and a polyolefin resin with an affinity for oil. The carrier material releases lubricant continuously over a long period, ensuring the operating environment remains clean, with the removal of any oil filling requirement.

Turning over a new leaf

Food facilities around the globe are turning to NSK's innovative technology and reaping the benefits, in particular from Silver-Lube®. One such example is a plant UK Company that harvests baby leaf produce supplied to leading supermarkets.

Previously featuring a variety of low-cost mounted-unit bearings, supporting shafts of various sizes, the plant's leaf harvesting machine was experiencing regular failures during the all-important harvesting season caused by water and dirt ingress. This led to



avoidable downtime, production losses and, in the most severe cases, spoilt crops.

The plant proceeded to invite NSK experts to view the application and working conditions, which ultimately led to the recommendation of replacing the existing mounted-unit bearings with Silver-Lube®, featuring an innovative flinger seal arrangement and stainless steel bearings.

This turned out to be an informed decision, as during the following harvesting season, only two failures occurred, leading to a significant improvement in productivity, culminating in savings of €63,300 thanks to far fewer production losses.

Milking the benefits

A UK-based milk processing plant was enduring repeated bearing failures on one of

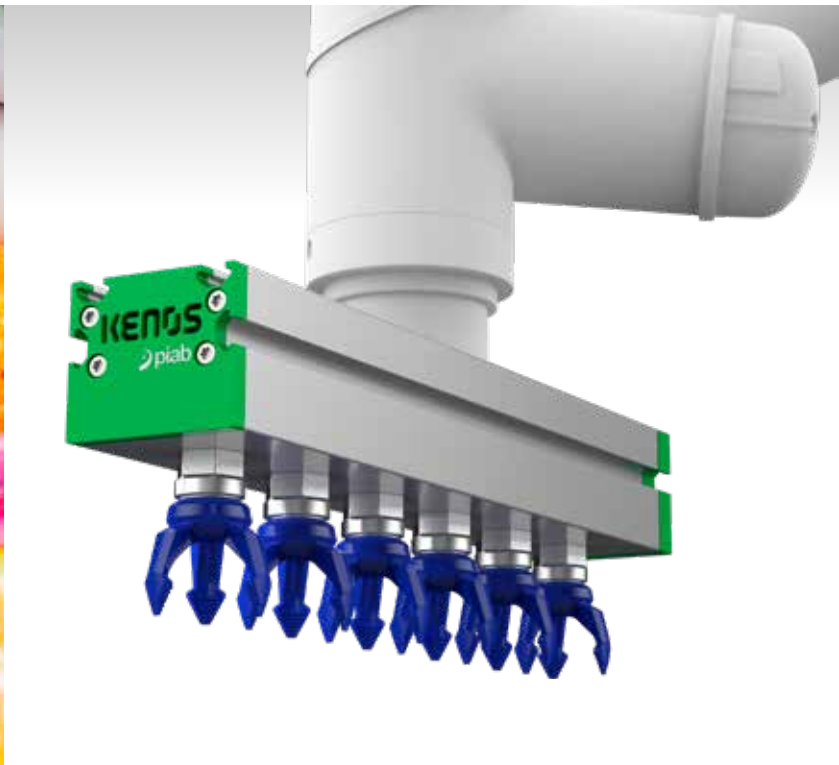
its principle conveyors, where inaccessible positioning resulted in the inability to provide re-lubrication. As a result of this frustrating occurrence, the customer was required to change the bearings every 10 weeks, at the expense of three hours downtime each time. As you can imagine this was proving rather costly, from increased maintenance time and lost production.

Following an application review undertaken by a highly trained NSK engineer as part of the AIP Value-Added Programme, the milk processing plant decided to adopt Life-Lube® bearing units, utilising stainless steel bearing inserts charged with Molded-Oil lubrication, and fitted within corrosion-resistant polymer housings.

A new lease of life

Offering the combination of Silver-Lube® corrosion-resistant housing and the sealing and lubricating properties of Molded-Oil inserts in one convenient package, more notably, Life-Lube® bearings are suitable for wet and damp conditions, including those that are exposed frequently to process fluids and harsh chemicals.

Following trials on the milk processing plant conveyor, the results were truly positive, displaying a life extension from 10 weeks to more than a full year, while also removing the need to replace the shaft after each bearing failure. This cost, coupled with the labour costs associated with deploying two maintenance engineers, as well as lost production costs, achieved annual savings of over £10,000 – now that's what you call a new lease of life!



Willy Wonka would have approved



Ian Hodkinson
Technical Sales Office Manager



A famous fictional chocolatier once said: “Invention, my dear friends, is 93% perspiration, 6% electricity, 4% evaporation, and 2% butterscotch ripple.” Care to take a guess at who?

In a real-life chocolate factory, butterscotch might not always be the secret ingredient, but invention created from in-depth research and development, solely focused on delivering solutions within the food and confectionary industry, has certainly defined the latest offering from Piab.

Whether you are looking to gently convey delicate ingredients or candy, pick and place luxuriously finished chocolates, or grip soft bags of sweets at the end of a production line, Piab’s range of world leading vacuum equipment products is laced with innovation.

Got the soft touch

Adding to the successful piSOFTGRIP® range, Piab’s latest serving sees the introduction of a new smaller size of the renowned soft gripping tool, developed especially with the food and confectionary industry in mind.

This new and improved vacuum-based soft gripper has the capabilities to safely grip sensitive and lightweight objects of odd geometries or usual surface types. piSOFTGRIP® features three gripping fingers and a sealed vacuum cavity, combined to form one single piece, resulting in a simple, easy-to-operate, and robust product.

piSOFTGRIP® is also not sensitive to dust and the gripping force can be easily adjusted and controlled by the applied vacuum level, gripping objects with a diameter of up to 30mm (1.18”).

“ A simple, easy-to-operate, and robust product ”

Easy to use, control and clean

This innovative soft gripping vacuum tool is as easy to control and install as a suction cup, and can be used in multimode applications, enabling you to place multiple piSOFTGRIP®s in a row or other grid structures, supporting the different types of picks that you need to make, all using the same fittings as Piab’s traditional piGRIP® suction cups.

An optional stainless-steel fitting is also available, offering washdown provisions to assist with stringent cleaning processes. It’s intuitive and user-friendly design makes piSOFTGRIP® easy to integrate into your automated procedures, where it aids in maintaining the quality of your products and increasing your overall productivity.

The food seal of approval

Manufactured from detectable silicone approved for direct contact with food, in accordance with FDA 21 CFR and EU 1935/2004 regulations, the piSFOTGRIP® food-compliant gripper facilitates the food and chocolate industries with the ability to further extend their automated food handling capacity. Delicate food items such as chocolate pralines can now be handled without risk of being spoiled due to crushing, maintaining their integrity.

“ Items can now be handled without risk of being spoiled due to crushing ”

“ Gripping force can be easily adjusted and controlled ”

The combination of washdown fitting options and sealed vacuum cavity make the piSOFTGRIP® effortless to clean and highly functional in a wide variety of challenging environments.

So, we’ll leave you with some food for thought, “if you want to view paradise simply look around and view it. Want to change the world? (or improve your key processes), there’s nothing to it.”



Improved uptime and guaranteed food safety

What more could you wish for?



Gareth Pollard
Product Manager, Bearings
ERIKS

With the importance of food safety practices continuing to grow, and food standards constantly changing, selecting the right products for your applications is becoming even more essential. And given the risks posed with public consumption the end of the line, food producers are having to make more conscious decisions about their processes to ensure that regulations are adhered to and quality is maintained.

Taking on these challenges is Timken, who have recently launched the new Poly-Round® Plain Bearing Housed Units, that have been specifically engineered with food safety at the core.

Designed to effectively safeguard against the harsh conditions often found in the food and beverage industry, these unique lubrication-free, hygienic bearings are USDA-accepted and meet NSF/ANSI/3-A SSI-141569-1-2014 requirements.

Detect and reduce

Available in both stainless steel and blue thermoset housing variations, the optically detectable blue thermoset option makes its easy for producers to identify any foreign objects that may enter food production.

The unique blueprint features a solid base, smooth surfaces, and laser markings, not only improving cleanability, but also helping to lower contamination risks by effectively utilising fewer components.

“ Specifically engineered with food safety at the core ”

Smart and hygienic

Compatible with a range of common food and beverage processing applications such as modular belt conveyors, horizontal mixtures, chillers, freezers and bottling machinery, Timken Poly-Round® are manufactured from corrosion-resistant materials, removing concerns associated with harsh washdown procedures.

Thanks to the optional QuiKlean® housing



“ Compatible with a range of common food and beverage processing applications ”

design, dead volume between the housing base and machinery is avoided, allowing thorough washdown for all angles. The smooth housing surfaces are laser marked, facilitating the effective removal of residue, reducing washdown time and water volume.

Adapt and improve

Offering a wide variety of polymer bearing materials and housing styles to fit your individual specification, Poly-Round® bearing housing units are dimensionally interchangeable with most industry-standard bearings. This level of interchangeability is a positive for food producers, instilling confidence and reducing concerns during the switching process.

Improved productivity is also part of the Poly-Round® package. Eliminating the need for bearings to be regreased, downtime is minimised, freeing up engineer's time to focus on more vital tasks.

Getting out of a pickle

Pickle processing is probably the last thing you'd associate with posing challenges to bearing performance. But it's quite the opposite due to the constant and excessive exposure to corrosive brine.

Experiencing constant bearing failures and lubrication issues in its modular conveyor system, a major pickle processor was frequently replacing their bearings, leading to heightened costs. Aiming to reduce spend and maintenance time, the company's operators were looking to explore other avenues.

Following an investigation, Timken Service Engineers identified Poly-Round® bearings as an ideal replacement.



Effectively combatting the corrosion problems and lubrication requirements, the highly corrosion-resistant Poly-Round® incorporates lubrication into its composition, assisting the pickle processor in eliminating downtime by minimising replacement and maintenance. To date, the customer has saved \$40,000 and rising.

Clucking for a resolution

To the annoyance of one major chicken processor, regular bearing replacement in its transfer conveyor was continuously grinding production to a halt. The heavy use of sanitising washdown cycles, which were necessary, meant that weekly regreasing and water purging was required.

But even with such a frequent maintenance programme, the current bearings only provided 2-3 months of life before total replacement was required. A new solution was needed to avoid rising costs.

Again, Timken Poly-Round® to the rescue. Designed to combat water ingress and eliminating the need for regreasing, installing Poly-Round® bearings extended lifecycles from 3 months to three years. Now that's a

serious improvement.

“ Eliminating downtime by minimising replacement and maintenance ”

In addition, the minimal requirement for replacement and reduced maintenance procedures has saved the customer in excess of \$130,000.

Maintaining high standards of cleanliness and productivity are becoming harder to achieve, particularly in the food and beverage industry. But if you're looking to improve both of these, with very little disruption to production, Timken's Poly-Round® could well be the answer you've long been searching for.

Making food hygiene automatic

Perfect-tasting food and drink, efficiently produced, is what every operator in the food and beverage sector wants to serve up. Automation technology is one of the key ingredients in achieving that goal.



Andy Macpherson
Food & Beverage Industry Manager
FESTO

Like every aspect of food and beverage production, automation technology needs to conform to strict hygiene standards and directives. Failing to live up to the requirements could be a recipe for ruin.

At the very least, contaminated product is wasted product. At the very worst, it could be a major public health issue, and a public relations disaster for the brand. So automation technology must do more than simply optimise efficiency and maximise productivity. It also has to protect the consumer and the manufacturer's brand.

The first step is to identify the risks. The second is to find products designed to prevent them.

A clean sweep

There are three significant hazards in food and beverage production to be recognised and addressed: biological factors, chemical factors, and foreign particles.

Firstly, biological factors. Decaying food is a source of micro-organisms and their toxins - which can be harmful to humans if ingested. An automated production line with nooks and crannies where food particles can hide and decay is a breeding ground for problems.

“Protect the consumer and the manufacturer's brand”

Secondly, chemical factors. Deep cleaning of equipment is essential, but cleaning agents and disinfectants can contaminate products. Lubricants used in maintenance can also cause contamination.

Thirdly, foreign particles. Friction between components, wear and tear, corrosion and abrasion can all produce particles which could find their way into products.

Selecting automation technology equipment carefully designed to mitigate all these hazards will greatly reduce the risk of product contamination.

Setting the standard

Designing and manufacturing automation technology for optimum hygiene isn't a matter of guesswork. The European Commission Machinery Directive 2006/42/EC establishes the hygiene requirements for machinery used for preparing and handling food.

There's also a European standard (EN 1672-2) which sets out the requirements for food processing machinery parts and components.

This standard divides food production lines into three zones: Food, Splash and Non-Food.

In the Food Zone, components are mounted directly in the food flow and come into contact with foodstuffs, so contaminated food could be returned to the product flow. Parts and components in this zone must be easy to clean and disinfect, corrosion resistant, non-toxic and non-absorbent.

In the Splash Zone, parts and components come into direct contact with foodstuffs

“Reduce the risk of product contamination”

which do not return to the product flow. Design and build criteria are the same as for the Food Zone.

Finally, in the Non-Food Zone, there is no contact between parts and components and the product. Even so, they need to be made from corrosion-resistant materials, and be easy to clean and disinfect.

Hygiene built in

Festo automation technology products are designed from the start to meet all the requirements for safe and hygienic food and beverage production – and to be a cost-effective choice.

So, for example, Festo components for use in Food and Splash Zones use austenitic stainless steel for optimum cleanliness. But components for Non-Food Zones are manufactured with a high finish anodised surface that provides similar standards of hygiene at less cost.

In the same way, system components are designed with smoother lines and rounded edges, to eliminate corners where contaminants can be missed during cleaning. And corrosion-resistant materials are used to reduce the risk of foreign particles.



“ A cost-effective choice ”

Even the smallest parts are designed by Festo with consideration for hygiene, cost and efficiency.

For example, the CRDSNU cylinder has a self-adjusting end position cushioning system – eliminating the need for adjusting screws

which are susceptible to contamination. Dry-running seals are often used, so that machines can still function reliably even if the lubricating grease has been washed out during cleaning. And where threads can't be avoided, they are closed off with covers and seals.

Ingredients for success

Consumers expect the food and beverages they buy to be safe to eat and drink, as well as tasty. For the producer, that's a huge responsibility.

Choosing automation technology which can be relied on for hygienic performance and efficient operation is an important step in meeting customer expectations – and satisfying their appetites.

Testing the water with WRAS-approved adhesives



Bob Orme
Senior Technology Expert

LOCTITE

There are strict rules and regulations surrounding the use of adhesives such as threadlockers and sealants for products that are likely to convey or regulate public drinking water. Failure to check that an adhesive complies with the necessary standards can lead to disastrous consequences. Health, costs, and brand reputation are on the line. So, our advice to you is, check carefully before making your purchase.

The Water Regulations Advisory Scheme (WRAS) is a conformance mark which demonstrates that an item complies with the high standards outlined by UK water regulations. In short, no material or substance which causes, or is likely to cause, the contamination of water shall be used in the construction, installation, renewal, repair or replacement of any water fitting that conveys or received water supplied for domestic purposes. To make that clear, that includes drinking, bathing, washing or cooking.

“ High standards outlined by UK water regulations ”

Only materials which have satisfied the requirements of BS 692:2000 Parts 1 and 2 shall receive WRAS Material Approval, with

anything from pipes, fittings, valves, pumps, taps, showers, washing machines and dishwasher, to coffee machines, boilers and toilets, must comply.

The challenge

Non-metallic materials such as threadlocking adhesives and sealants are today commonplace in a variety of different products and assemblies for domestic water supplies. However, some non-metallic materials can affect the odour, flavour or

“ Designed with patented cure chemistry ”

colour of water, with further potential issues such as the release of soluble organic chemicals or the promotion of micro-organisms a cause for concern.

BS 6920:2000 – ‘Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of water’ – outlines the test methods and criteria observed by WRAS when assessing non-metallic materials. The tests in BS 6920 reproduce the typical conditions that a material might meet during its service life in contact with wholesome water.

Receiving WRAS approval declares that the product is of a suitable quality and standard to avoid water contamination and minimise waste, but only if applied correctly.

Testing, testing, testing

So, now we’re guessing you want to know what the tests involve? Well, odour and flavour testing are fairly self-explanatory. A panel of experts assess the taste and smell against a control of tap water. Colour is examined using a colour spectrum, while turbidity (a measure of the degree to which the water loses its transparency) is tested using a turbidimeter, with pre-determined pass/fail criteria applying to both instances.

Microbial testing reveals if a product will promote any significant growth of aerobic micro-organisms. MDOD (mean dissolved oxygen difference) then determines the pass or fail criteria over the duration of the test, which typically takes 7-10 weeks.



The removal of oxygen from the test system occurs as aerobic-organisms increase, with comparisons drawn between this loss and the control system. MDOD is the mean value from samples taken at different stages of the testing process, with final evaluation concluding in a pass or fail.

“ Not all products brandish the logo ”

Cytotoxicity testing is also required, with a typical duration of seven days. Throughout this period, the analysis team will look for a cytotoxic response or, in other words, determine whether a product shows any toxicity levels to humans.

Don't let quality corrode away

When it comes to drinking water, protection against corrosion over a products lifecycle is the prerequisite for avoiding contamination. Taking this stance, many of the latest WRAS-approved threadlocking adhesives are designed with patented cure chemistry that optimises performance on anti-corrosion, zinc-flake coated fasteners, and passive substrates such as stainless steel and zinc dichromate.

Zinc-flake coated fasteners are today becoming a common choice over zinc-plated and chromed-based alternatives, as they are more resistant to corrosion, safer to manufacture, and do not carry the risk of

hydrogen embrittlement. The newest WRAS-approved adhesives can also lock and seal brass fittings in drinking water applications.

Quality is key here. It's that simple. Inferior adhesives can become brittle after the curing process, resulting in the seal breaking or fracturing if the plumber accidentally drops the fitting or throws it into a storage box. In addition to WRAS approval, a successful adhesive for this particular application will absorb shock after curing, providing a durable resultant bond, and be supplied hazard label free.

Stamp of approval

Once approved, selected adhesives and sealants can carry the 'WRAS Approved' logo on their packaging. But we should make you aware that, not all products brandish the logo as it is not a requirement. To be certain, we advised to check the approval directory on the WRAS website, or even ask the manufacturer, merchant, or retailer. Remember, you can never be too sure.

In conclusion, there should be no compromise on safety when it comes to drinking water applications. That really is the bottom line. But by choosing the LOCTITE® range of WRAS-approved threadlockers and sealants, you can rest assured that optimum safety has been considered for both plumbers and consumers.

When 'right first time' is the only option



Derek Ashburn
Application Engineer Pump Services
ERIKS

Hindsight is a wonderful thing. If only we had the ability to foresee issues before we encounter them. Having a better understanding of a challenge from the beginning would be a bonus, but we all know, that's often not an option we are afforded with.

Many large-scale projects leave very little room for error. Not only is the customer looking for a speedy resolution as downtime can cause serious issues, but your reputation is also at risk. As an engineering services provider, people are placing their trust in you to deliver. So, 'right first time' is the only option.

ERIKS were recently involved in a project with a water company that was experiencing issues with one of its river abstraction pumps. A series of condition checks were carried out resulting in ERIKS Specialist Engineering Services being enlisted to support the full-scale overhaul programme of both the pump and motor.

The water company had a history of working alongside other service providers, with one of the sister pumps having been out for repair for over a year. This and relatively short MTBF was worryingly short for these types of units. As is often the case there was very little in the way of repair history, original drawings, or parts lists to support the repair process, so much of the procedure and assessment was going to rely on experience and sound engineering best practice. As you can appreciate, this was a significant challenge – but one ERIKS did not hesitate to accept.

The challenges were building up

The pump in question dated back to the early '70s, and as we know, ageing assets come with their own risks, particularly, those that operate in arduous conditions. Exposure to silt and foreign objects in the water stream was a constant issue, with poor suction conditions also causing cavitation damage along with erosion problems.

With the initial inspection and scoping of the task complete, a quality plan was drawn up; it was now time for removal which was a huge operation in its own right.

Removing the pump-set involved partial dismantling of the unit into sub-sections. In these cases, you are relying on key skills within your team, fundamentally - experience, meticulous engineering know-how, and safe systems of work.

Understanding all the health and safety risks with electrical and mechanical disconnection was essential. Up front, detailed risks assessments and methods statements were required, so that the team knew exactly what to expect, how to execute the work, and how to mobilise for operation.

On top, it was pivotal to understand and adhere to relevant legislation, internal health

and safety rule, and those of the customers, including testing and proving for dead/ LOTO regulations and PTW (Permit to Work) compliance.

Working in an unfamiliar environment poses its own risks, and itself an ever-changing landscape, therefore must also be constantly assessed and re-appraised via POWRA (Power of Work Risk Assessments).

Say what you see

With removal and transportation completed, our Chesterfield Engineers were all set to inspect and produce the condition report.

The findings of the initial examination discovered that the OEM had used different impellers to achieve the duty requirement while boosting suction performance, even so there was evidence suggesting that the pump had been running with very low NPSHa, resulting in serious cavitation damage on the first stage impeller and bowl vanes.

The second impeller was also showing excessive amounts of residual weld on one of the vanes, this had been left over from a previous repair. More seriously however, the upper drive shaft had snapped through fatigue due to an incorrect machined taper angle from a previous repair within the coupling.

Recommend. Overhaul. Repair

Due to the age and history of this type of equipment, it is likely that these units will have been repaired several times during their lifecycle, often without any records or history surrounding the work that has been carried



out. As in all cases, it is vitally important that the design, components used, and material selection is not taken as found, there are many pitfalls in "copy repairs" and unproven modifications. You will also find that many of the materials used in the original design may not comply with current guidelines or legislation. Indeed, there are many new materials that can be utilised to increase reliability, improve efficiency, and extend service life!

For example, many of these pumps contained asbestos based composites or alloys with very high lead content, both of which are no longer compliant with the latest regulations. As expected with obsolete equipment there are no off-the-shelf spares available, so several major components needed to be reverse engineered and manufactured from scratch.

A 3D scan of the pump was completed facilitating the re-manufacture of the spare parts and assisting in building a 3D computer model, this method can be utilised to assess the components fits and tolerances and serves the purpose to create new drawings and establish electronic records that can be sourced for future use.

To improve pump efficiency, and reduce erosion/corrosion, all the column pipes, pump bowl and flare, transmission bearing carrier, discharge bend and head gear were coated with Belzona 1341 which is also DWI compliant.

The full scope of parts manufacturing included: special transmission bearing sleeve, transmission bearing bushes, stage casing

bushes, bearing sleeves, impeller wear rings, threaded gland sleeve nut, drive shafts and tapered couplings.

In terms of repair, the Chesterfield team addressed the impeller issues by NDT, checking for any flaws, perforations, and fatigue cracks as well as repairing the previous weld. Cavitation on the vane tips was also dressed and repaired, before manufacturing a mandrel and balancing.

To finish, condition monitoring apparatus was installed so that the customer had a clear view of the applications performance upon reinstallation. This provides the benefit of "bench marking" performance on commissioning allowing the customer to monitor any future performance degradation against the "as repaired" readings, allowing them to foresee any potential problems as they occur rather than when it's too late.

Delivered with savings. Bonus

A thorough overhaul and refurbishment can often provide the performance, reliability, and efficiency benefits that new plant provides at a fraction of the cost, significant populations of legacy equipment are very well engineered and certainly built to last.

By restoring manufacturers design clearances and utilising modern materials and compounds, pump efficiency can be restored and marginally enhanced with significant reductions in life cycle costs. We would expect an efficiency improvement for this type of repair to be in the region of 12 to 15% and given the size of drive unit that becomes very important as utilisation increases.

In addition, reverse engineering the components means that this asset remains viable even though it would have been classed as officially obsolete. Some manufacturers will offer support for such equipment, but this can be very costly and involve un-realistic delivery times. The process that ERIKS offer saves significant time and money while providing the opportunity to uprate the materials utilised.

From initial inspection to re-installation, the project took around seven months to completion. And given the government restrictions imposed for the second national COVID lockdown, it's an even more impressive feat.



Bringing better value to valves



Damien Moran
Field Segment Manager Hygienic, Pharmaceutical

burkert
FLUID CONTROL

Most valves simply control the flow of fluids or gases. But valves supplied recently for a major manufacturing facility did much more. They simplified ordering and installation, enhanced the efficiency of the plant expansion project, and saved the customer around £80,000.

“ The ideal supplier for all the process valves required ”

A leading Life Sciences company produces resins for the purification of monoclonal antibodies. Their expansion required a new hygienic production facility, incorporating eleven new reactor vessels located across nine production areas.

As these areas were in environments ranging from outdoors to ATEX Zone 1, the valves and related components had to meet some specific requirements: not only robustness and weather-resistance, but also certification for use in potentially explosive atmospheres.

For a project of this scale and complexity, the main contractor – Briggs of Burton plc – realised the need for a process equipment supplier with comprehensive capabilities

In addition to providing the valves, they would need to offer experience, expertise, relevant product certification, and 3D CAD drawings.

Bürkert fitted the bill.

Increasing the valve flow

Briggs of Burton plc initially chose Bürkert to supply only diaphragm valves for the new facility. But discussions between the two companies soon revealed that Bürkert would be the ideal supplier for all the process valves required – including butterfly, quarter turn and manual.

Then, as the project developed, Bürkert proved their value even further by going beyond the supply of standard process valves.

Using their valve expertise and engineering experience, they also designed and manufactured bespoke solutions for tank bottom valves, and manufactured multi-seat valve blocks which helped reduce the installation's footprint. And all the project's 1,400-plus valves were delivered together with the correct control gear and seals, for quicker and easier installation.

Supporting every valve with individual certification documents and drawings could have been an information and logistics nightmare. But Bürkert simplified the whole process by establishing an online resource for Briggs' engineers. Accessing the information was then simply a matter of logging-in to find everything conveniently in one place.

“ Establishing an online resource ”



“ Saving the customer around £80,000 ”

The simpler, the cheaper

Few hygienic process control systems are ever simple. Especially not on this scale. However Bürkert's experience and flexibility helped to not only simplify the system design, but also reduce its cost.

By supplying automated valves incorporating pilot solenoid valves, Bürkert made it possible to eliminate several external valve islands and the ATEX-rated pneumatic control panels associated with them.

Firstly, this reduced complexity. Secondly, it reduced costs: saving the customer around £80,000.

As Briggs' Engineering Director George Crombie commented: 'The whole process has been much simpler than we envisaged, and Bürkert's ability to make changes to individual valves quickly, plus their ability to manufacture bespoke valve manifolds, has really helped in the delivery of this project.'

Packed with experience

Bürkert's expertise isn't limited to valve design and manufacture. Knowing how projects take shape on the ground, Bürkert use their experience to save customers time, through customised logistics.

Rather than packaging and delivering valves on random pallets for installers to search through, Bürkert pack together and clearly label all the valves for a specific area.

Each pallet also comes with a list of the valves it contains, to match with the list on the installer's drawings. This reduces the chance of errors, saves time, and increases efficiency.

Your safety valve

Simply by being able to offer a complete service under one roof, Bürkert can help customers to reduce administrative complexity and costs.

Rather than buying one type of valve from one supplier, and another type from another, the customer can purchase complete valve packages of all types from Bürkert – significantly reducing the number of purchase orders.

For a typical project requiring 1,500 or more valves, the number of purchase orders can be reduced from as many as 40 to around a dozen – saving time, effort and money, and reducing the potential for time-consuming and costly errors.

Whatever the size of your project, with Bürkert's comprehensive range and service, your project's safe, your budget's safe, and you're in safe hands. If they're the kind of things you value, then you need to choose Bürkert for valves.

A red graphic element consisting of two parallel lines forming a right-pointing arrow shape, positioned to the left of the main headline.

When it comes to hygienic design, **Rexnord is the preferred choice**

Whether moving raw food ingredients, containerized food or boxed packaging, Rexnord's solutions will handle your product safely and efficiently. Our broad portfolio includes products that are compliant with EC and FDA contact legislation. With a reinforced edge design, our Rexnord KleanTop Series eliminates product contamination issues and can be easily and effectively cleaned thanks to the open hinge design.

Please contact Rexnord to request a technical survey of your production line to identify the opportunities for sustainable improvements.

www.rexnord.com



Producers, it's in your hands



Martin Gingles
Industrial Sealing Manager
ERIKS

Under the REACH Regulation, as a consumer, you have the 'right to know' what is in the products that you purchase. Changes in legislation have now put this in the hands of producers who now, by law, must provide consumers with the full picture.

By law, companies are obliged to answer any consumer inquiry about the presence of a substance of very high concern (SVHC) within 45 days. But here is where the problem lies. Currently, with such a wide window, consumers are being denied the opportunity to make quick, informed decisions on their purchases.

“ Consumers are being denied the opportunity to make quick, informed decisions ”

Introducing SCIP

As of the 5th January 2021 on the EU market, any company supplying products containing substances of very high concern on the Candidate List in a concentration over 0.1% weight by weight are obligated by legislation to submit information surrounding these articles to ECHA.

Established under the Waste Framework Directive (WFD), SCIP, or Substances of Concern In articles as such or in complex object [Products] is a new database of information designed to detail to consumers of any hazardous chemicals that may appear

in the products that they purchase.

Recently updated in October 2020, all information is made readily available throughout the entire lifecycle of products and materials, inclusive of the waste stage, and is viewable by all waste operators and consumers.

SCIP format

The data model of SCIP integrates the legal elements of Article 9(1)(i) of the Waste Framework Directive, REACH Article 33(1), the Commission's "Non-paper on the implementation of Articles 9(1)(i) and 9(2) of the revised Waste Framework Directive 2008/98/EC" and ECHA's guidance.

The XML-based database is compatible with IUCLID, a tool developed by ECHA in collaboration with the OECD, to enable the recording, storage, maintenance, and exchange of data on the hazardous properties of chemical substances.

But for companies that don't have access to the IUCLID tool, don't worry, support materials can be found at <https://echa.europa.eu/scip-format> enabling consumers to connect to the database to view relevant and essential product information.

Producers, don't fall foul of the new legislation

As a producer, it is your responsibility to provide adequate information surrounding the contents of the products that you manufacture. So, don't fall foul of this new

“ Enable the recording, storage, maintenance, and exchange of data ”

legislation.

Failing to comply with the latest regulation could result in substantial fines and legal action, whilst also damaging the integrity of your business.

But for consumers, we say, use your right to ask! If you suspect that a product contains harmful chemicals, you must exercise your right to request information. Let's face it, you have nothing to lose.

The aim of SCIP is to encourage the substitution of harmful substances where possible, and by increasing transparency on such dangerous chemicals, purchasers are armed with the ability to make more informed decisions when buying items, as well as how to best use and dispose of once end of life is reached.

If you would like more information, please visit <https://echa.europa.eu/scip>

Brexit: predictable uncertainty

How we're working with customers to manage the challenges of Brexit



Rebecca Darroch
Ethics and Compliance Officer
ERIKS

After four years of uncertainty, we have now moved to a position where the terms of the future relationship with our largest trading partner are becoming clearer. However, the devil, as the saying goes, is in the detail; much of this still remains to be worked out if we're to return to anything close to the seamless and business-friendly model that we've enjoyed for the last 40 years.

All of which, as we move into a new phase in our trading relationships with the rest of Europe and nations around the world, continues to present businesses with a significant degree of uncertainty, especially in the short-term. For example, at a national level, there have long been concerns about the dramatically increased volume of customs paperwork that is now going to be required, together with questions about the ability of IT technology such as the Goods Vehicle Movement System to cope, with the risk of

extensive delays at ports, across both the English Channel and the Irish Sea. Longer-term, uncertainties over regulations and compliance with the manufacture and sale of goods on each side of our new trading frontiers will almost certainly create fresh problems and added costs for many companies.

Back in 2018, in anticipation that the Brexit process was only ever going to become increasingly complex and disjointed, we established a Brexit Committee.

“ The goal of helping customers negotiate their way through the maze of often contradictory ”





This is made up of specialists from within the ERIKS organisation, with the goal of helping customers negotiate their way through the maze of often contradictory recommendations and messages coming from the UK Government departments and their EU counterparts.

Ever since, we've been working closely with customers and supply chain partners to identify potential areas of risk and then to develop strategies that address the different challenges presented by the anticipated Brexit scenarios, from tariff-free to WTO trading arrangements. This collaboration has been with all our customers, from major automotive manufacturers to independent industrial SMEs. In each case, we've been able to provide advice and practical assistance; for example, we've provided smaller companies with guidance to help them prepare appropriate administrative processes, and have worked with larger organisations to develop effective strategies that minimise Brexit impacts across multiple production facilities.

Among the issues of particular concern

“ Develop effective strategies that minimise Brexit impacts across multiple production facilities ”

“ Over 50 years of experience in managing import and export arrangements ”

have been potential increases in lead-times for vital products, especially for OEM parts, plus extra administrative requirements and possible price rises due to tariffs or shortages of supply. We've consulted with a range of customers and industry experts to assess the risks that might arise from any disruption to supply chains; as a result, we've implemented a programme to build buffer stocks of critical components and products to ensure continuity of supply and short-term price-stability regardless of the impact of Brexit.

Our commercial team has over 50 years of experience in managing import and export arrangements. So, among all the uncertainty, there's one thing our customers can be sure of: whatever the future trading relationships with the rest of Europe may look like, we've the experience, knowledge and processes to enable us to react and adapt quickly and effectively. Although it may not be quite business as usual, you can be certain of the same outstanding level of service, product choice and continuity of supply that you've always received from ERIKS.



How *not* to lubricate chain



David Moore
Product Engineering Manager

RENOLD
Syno Chain Technology

Lubricating roller chain can be time-consuming, costly and – for food and beverage applications in particular – can cause a host of unwanted problems. So why do it? Instead, choose a chain which lets you lose the lubrication.

Chain which needs lubrication needs maintenance – even if that’s only a lubrication regime. An automatic lubrication system can do the job in place of a maintenance engineer, but the equipment can be costly. Remove the need for lubricant and you not only remove the cost of the engineer or the system, you also remove the cost of the lubricant itself, which for a food grade option can be expensive.

Where a lubricant is present, drip guards are required for protection: representing an additional component cost. And even so, there is the ever-present risk of product contamination.

Renold introduced lubrication-free chains during the 1950s, and have been refining and improving them ever since. Now the latest generation offers a range of options,

designed for cost and efficiency in a range of applications.

False economy

All good quality lubricant-free roller chain should be directly interchangeable with the same size standard chain, with no need to invest in new sprockets.

“ Chain which needs lubrication needs maintenance ”

Yet some customers still believe changing to a lubrication-free chain is costly or difficult.

In fact, persevering with a roller chain requiring lubrication can prove even more expensive.

One large beverage company found the ‘premium’ roller chain they used required replacing every three months, at a high cost in terms of chain, downtime, and lost production.

Investigation revealed the cause was simple. In an attempt to reduce the risk of lubricant contamination of product and packaging on the line, maintenance engineers had lubricated inadequately.

By replacing the chain with a Renold Syno chain, the customer realised immediate benefits.



“ Annualised saving to the customer of over £30,000 ”

Lubrication was eliminated, as the sintered bushing contains food industry approved lubricant, and the roller has a food industry approved coating. The chain was continually operated at optimum lubrication. And the replacement chain lasted five times longer than the original 'premium' chain. The result was an annualised saving to the customer of over £30,000.

One, two, lubrication-free

The Renold Syno range comprises three different lubrication-free solutions.



These have been designed specifically for particular applications, from food manufacture to car assembly plants, and from steel mills and textiles to electronics, saw mills, paper manufacture and more.

Syno NP is Renold's innovative version of the most common type of lubrication-free chain. Made from carbon alloy steel with an oil impregnated sintered bush, this type of chain releases lubricant from the bush onto the bearing surfaces during operation, but the lubricant always remains inside the chain.

Where *Syno NP* improves on basic lubrication-free chain is in its custom nickel plating process. As well as providing excellent anti-corrosion properties, this incorporates a food grade lubricant within the sintered bush. In addition, an innovative food industry approved treatment process is applied to its roller surfaces, for greater performance and durability.

Dimensionally interchangeable with standard chain, *Syno NP* is designed with ISO standard pin diameters, and can be supplied with standard attachments on the outer links.

Renold *Syno NP* usually needs little or no maintenance during normal service life.

Syno PC and *Syno PB* are Renold's lubrication- and lubricant-free chains.

Syno PC is made from poly-steel, with polymer inner links and high grade stainless steel pins and outer plates. With metal completely eliminated from the bush and

roller components, absolutely no lubrication is required. This allows a wider range of lower power applications to benefit from a lubrication-free chain solution. It can even be run under water!

Lightweight and corrosion resistant, *Syno PC* accepts all standard attachments on its outer plates.

Designed for heavier duty applications, *Syno PB* is a polymer bush chain, providing greater wear and fatigue resistance. There is no metal-on-metal contact in the critical area between the pin and bush. Instead, Renold's polymer sleeve – constructed from a specially developed material – protects the interface of the two surfaces. A corrosion resistant surface treatment is also available.

So now you know how not to lubricate roller chain. Simply choose Renold roller chain that doesn't need lubricating.



“ Lubricant always remains inside the chain ”

Industrial gearboxes: unsung heroes

SKF Certified Gearbox Rebuilder



Gareth Lenton
Commercial Manager Rotating Equipment & Services
ERIKS



Heavy duty helical, bevel, worm and planetary gearboxes are among the most common pieces of equipment used in many different industrial applications, from food and beverage, pharmaceutical and quarrying, to mining, power generation and the manufacture of metals and chemicals.

Despite their widespread use and, in many applications, their critical role in power delivery and control mechanisms, they are often overlooked; until such time, that is, when they develop a fault or fail unexpectedly. An expected failure can, at best be inconvenient, and at worst result in considerable loss of production and unplanned costs, often running to many thousands of pounds.

Gearbox faults generally stem from factors such as incorrect lubrication, poor installation or alignment, overloading and inappropriate maintenance practices. Industrial gearboxes are often subject to high levels of shock loading, vibration and extreme environmental conditions, so harsh operating conditions will rapidly exacerbate the effects caused by imbalance or wear.

An inherent feature of power transmission components has been material degradation, which leads to failure and is often exacerbated by the local environment in which the components operate. Failure of components will lead to downtime, which can be extremely costly for many industrial processes.

“Wear is not the only factor that limits the lifetime of power transmission components”

Wear is not the only factor that limits the lifetime of power transmission components. The best manufacturers will advise customers to consider all the factors involved in the mechanics of each application. It's all too easy to specify components based on breaking load, but this does not necessarily ensure that the best solution is found in terms of total service life.

The most common components that fail are bearings, seals and gears. Around 50% of all gearbox faults are caused by bearing failures due to excessive axial and radial loads on, for example, output shafts; similarly, over or under lubrication of bearings, or using the wrong lubricants, can cause overheating or metal-on-metal contact within each bearing.

Gearbox seals generally fail due to high levels of contamination such as dirt and other debris that accumulate around shafts; as each shaft rotates the dirt and grit is ground into the seal causing it to abrade. Damage can also occur if shafts are misaligned or if the gearbox is exposed to temperatures outside its operating specification, with the risk that seals will warp.

Gears typically fail due to contaminants mixing with the gearbox lubricants. Contaminants can enter through damaged seals or be produced from within the gearbox itself, for example from particles generated by metal-on-metal wear. In each case, particles can become trapped between gear teeth, causing heat, wear and potential failure. Problems can also arise if gears have been incorrectly assembled or installed, or if they become misaligned during operation due to excessive loads on rotating shafts.

Gearbox repair: the options

Gearboxes either fail catastrophically, causing an immediate loss of power, or gradually exhibit a decline in performance due to component wear; this typically manifests itself as vibration, leading to excessive heat and noise, which should be detectable using standard condition monitoring instruments. Ultimately, even the best maintained gearbox will eventually reach the stage where refurbishment will be required.

Although there are many gearbox repair companies, few have the skills, knowledge or resources to analyse and understand the root causes of gearbox failures. Consequently, they will replace parts on a like for like basis, or fit low cost but often sub-standard components, with the inevitable result that the customer is condemned to an endless cycle of breakdown, downtime and repair.

At ERIKS, as a SKF Certified Gearbox Rebuilder, we take a different approach. Our teams have undergone specialised training with the emphasis on root cause failure analysis, bearing installation, lubrication, sealing and condition monitoring. Our objective is simple: to prevent recurring failures and extend gearbox service life.

The repair or refurbishment process begins with a full analysis of the condition of the gearbox, including all component parts, to determine the cause of failure or unexpected wear; this is generally referred to as root cause analysis. Only after a complete check of those components that could have a negative impact on bearing and gearbox service life, do we carry out the necessary repairs to return each gearbox to optimum reliability.

“We've been repairing industrial gearboxes since 1982 and have developed an unrivalled level of experience and knowledge”



Our engineering teams work to exacting standards and specifications, using only high-quality components from the original equipment manufacturer, including the most advanced SKF bearings and seals. We are also regularly audited to ensure we comply with all the latest technical and quality requirements.

Our gearbox services extend beyond repair and refurbishment. We can, for example, remove and re-install each gearbox, and can upgrade older gearboxes with the latest components and lubricants to improve capability and lifetime reliability. Just as importantly, all work is fully guaranteed, with each gearbox being supplied with a detailed inspection report that acts as a benchmark for future maintenance and condition monitoring inspections.

We've been repairing industrial gearboxes since 1982 and have developed an unrivalled level of experience and knowledge. We now provide nationwide coverage from our custom-built engineering facilities, working to the highest quality standards to provide a timely and cost-effective service that helps customers maximise their productivity and profitability.

SKF Certified Gearbox Rebuilder

As a certified SKF Gearbox Rebuilder we must meet exacting standards and specifications. We use only high quality SKF components and are regularly audited to make sure we comply with all requirements. That means repairs are done right, every time.

Performance advantages

- Lower total cost of ownership from:
 - Increased productivity
 - Decreased downtime
 - Lower maintenance costs
- Extended mean time between failure
- Enhanced reliability

SKF certification advantages

- Conformance to exacting SKF specifications and standards
- Reliable, high-quality rebuilds
- Root cause failure analysis
- Ongoing training
- Access to SKF technology
- Use of quality SKF components
- Auditing and re-certification mandatory

A shout-out for hearing protection



Chris Raynor
Hearing and Communications Specialist

3M Science. Applied to Life.™



If there's one thing hearing protection is good at, it's blocking-out noise. If there's one thing it's bad at, it's telling the difference between dangerous noise and useful sounds: like colleagues' voices, spoken instructions, and even alarms. So now that shouting from a close distance [under two metres] is no longer a safe option, how can employers protect their employees' hearing, and still keep them safe in general?

With a real risk of hearing loss or tinnitus, noise is a health and safety issue. So under the Control of Noise at Work Regulations 2005, employers must provide hearing protection where there's exposure to a daily or weekly average noise level of 85 decibels or above.

But hearing protection can cause problems as well as prevent them.

'Did you say "on" or "off"?'

There are countless scenarios on any production line where giving clear instructions is essential. And where hearing them clearly is more essential still.

An engineer about to start work on machinery wants to be sure the operator hears 'switch it off' at the right moment, and doesn't mishear 'switch it on' at the wrong one. Or if there's an accident and, for example, someone is trapped in machinery, they'll be reassured to know their call for help



“ Noise is a health and safety issue ”



“ Standard ear protection makes communication difficult ”

can be heard – especially if there’s no line-of-sight to their closest colleague.

In those situations, hearing protection which blocks all noise would do more harm than good. But health and safety are not the only issues. Efficiency and productivity can also be affected.

A nose for trouble, an ear for efficiency

The longer the production line and the more involved the process, the greater the opportunity for upstream adjustments to affect downstream operations.

However, making changes ‘on the fly’ is difficult if they can’t be easily communicated. ‘Downstream’ won’t know they’re happening. ‘Upstream’ won’t know the result.

In these cases, standard ear protection makes communication difficult, or time-consuming, or both. And if something more urgent arises, then time is one thing you don’t have.

Speed is the key to action to prevent an issue becoming a problem, becoming a catastrophic failure. Shouting from a distance

or running up the line are slow, inefficient and all too often ineffective.

But what if your hearing protection could also be your means of communication?

A word in your ear

The 3M™ PELTOR™ Litecom range are ear defenders with built in two-way radio, incorporating speakers and a microphone. They not only protect the wearer against dangerously loud noise, they also allow them to communicate with colleagues anywhere on site, without shouting or removing the defenders.

And even in the noisiest environments, the noise-cancelling microphone can differentiate speech from loud extraneous noise. Two-way conversation can be heard loud and clear, and the listener isn’t subjected to environmental noise from the caller’s end of the line.

The top-of-the-range option, 3M™ PELTOR WS™ Litecom Plus Headset also offers Bluetooth connectivity, making it simple to connect with bluetooth mobile telephones, or a handheld digital tablet. Which means the wearer can even conduct Skype calls or Zoom meetings on-site, without removing their ear defenders.

In fact, the automatic electronic volume control built into the defenders means there’s no need to remove them from clocking-on to knocking-off time. They constantly adjust to the level of ambient noise: blocking out noise in a noisy environment and allowing sounds to be heard in quieter surroundings.

Going the (social) distance

Basic ear defenders do a good job of blocking out noise. So when colleagues need to communicate, the fall-back option has been to get close and shout. Now that’s no longer an acceptable solution.

Ear defenders with a built-in two-way radio – with up to 16 channels on the 3M™ PELTOR™ Litecom model – provide protection and allow safe communication. A major cereal manufacturer and a leading producer of glass packaging are already seeing these benefits.

After purchasing a small number of 3M™ PELTOR™ Litecom ear defenders in early 2020, they were highly impressed by the results. So when on-site socially-distanced communication became essential, they massively increased their order, and equipped many more employees.

“ Provide protection and allow safe communication ”

When you're in a hole, stop digging...



David Hammersley
Projects & OEM Manager Flow Control

ERIKS

...and start pumping. It's a situation any engineer will relate to. A failed asset. A constantly evolving situation. The costs of downtime rapidly racking-up. You're in it up to your neck. But imagine if what you're in is seawater, and you're in it up to 18m deep. That was the problem for an oil and gas producer at their newly-acquired offshore production site off the Humber Estuary.

“ A complete engineering solutions provider ”

The site includes a 559mm diameter subsea caisson, measuring 37m from seabed to top, of which most is underwater. To keep it operational, seawater has to be continually pumped out, but after 20 years of duty the pump had finally failed.

Wanting to extract the maximum value and service life from the aging asset, the customer's first instinct was to call on ERIKS' MRO expertise, to effect a relatively short-term repair. However, the more ERIKS discovered about the complexity of the application, the more it became clear that a new pump to an upgraded spec., and a comprehensive rethink of the pumping operation, was the most cost-effective option.

As ERIKS pointed out to the customer, this wasn't the kind of project for an MRO organisation to undertake. And a pump OEM would inevitably engineer a solution which shoehorned-in one of their own narrow choice of pumps – severely limiting the options.

So the most effective answer would be to use a complete engineering solutions provider, with extensive pump expertise, access to a broad range of pumps from a wide selection of OEMs, and with the necessary engineering know-how to handle every aspect of the application – including ancillary and peripheral equipment.

Who, the customer wondered, could that be?

A presentation from ERIKS provided the answer – and the answer was ERIKS' Flow Equipment and Services business unit.

All at sea

When your site is in the North Sea, a site visit can be tricky to arrange. When there's a global pandemic and a Work From Home instruction in place as well, your entire way of working has to change. ERIKS were more than up to the challenge.

So began a steady stream of emails and video calls between ERIKS Business Development Manager John Dunkley, ERIKS and the customer, to thrash out the pumping solution.

ERIKS took on a project management role,



“ Entirely bespoke solution ”

advising on the optimum pump choice as well as on the associated hose, non-return valve, couplings and other associated components that the application demanded.

The result is an entirely bespoke solution. It includes a pump from ERIKS Accredited Pump Supplier, Tapflow of Southampton, designed for a flow rate of 80-100m³/hr. The impeller of the original pump – manufactured from standard stainless steel – had almost entirely corroded away. So the new pump incorporates a Super Duplex stainless steel impeller to cope with the corrosive operating environment.

An electrolytic copper/aluminium anti-fouling unit was also designed, engineered and supplied, together with a Super Duplex strainer to prevent blockage of the pump inlet.

Fast forward, not straightforward

Even a 'straightforward' MRO project to repair the original twenty year-old pump would normally be expected to take around three months to complete. And it would still be a twenty year-old pump, which could only be expected to have a limited service life.

The alternative – to engineer a replica pump to replace the original – would typically take at least one year, and possibly two. But with water levels rising as fast as the cost of downtime, ERIKS pulled out all the stops.

Expert engineers from ERIKS not only advised the customer on re-engineering the entire application, but also specified, sourced and replaced the pump – and project-managed the whole operation. The ERIKS solution incorporates a smaller, lighter and more efficient pump than the original, with a predicted service life when properly maintained of around ten years. And the entire project was completed in just three months from initial customer contact to delivery.

The speed is all the more impressive considering the solution was, as John Dunkley describes it, 'engineered on the hoof' as the customer's requirements changed and developed throughout the design and engineering process.

ERIKS' ability to get the customer out of a hole – even one that was underwater – has led to them being considered for two more of the customer's projects. They clearly realise ERIKS is far more than an MRO provider – and the proof is in the pumping.

“ A project management role ”

The Changing Market for Single-Use Gloves



Jemma Potter
Key Account Specialist
[Ansell](#)

The demand for single-use gloves has increased in the past few months. It is undeniable that the spread of the global pandemic has changed the dynamic between the supply and the demand for single-use PPE. The prices of raw materials have gone up, manufacturing facilities have been shut down (temporarily or partially) and more people are choosing to use gloves every day to protect themselves.

It is time to find a solution before the problems are dire. Opting to use reusable gloves will allow workers to be protected without the hassle and increased concern about purchasing more single-use gloves regularly.

High Demand and the Shortage of Supply; A Dilemma for All

The forecast for 2021 estimates that 585 billion single-use gloves will be needed but even the most optimistic prediction shows that only 370 billion gloves can be manufactured

this year. This leaves us 215 billion gloves short. Considering that many countries can still go into lockdown and disrupt the manufacturing process we might end up producing even fewer single-use gloves in 2021.

Substituting Single Use Gloves

Choosing reusable gloves is an option for both chemical and mechanical applications. Opting for reusable gloves will ensure that the workers are protected and that there will be minimal issues in keeping them protected.

“ It is time to find a solution before the problems are dire ”

“ EN ISO 374-5 Virus standard protection ”

Reusable nitrile and latex gloves can be used as alternative solutions to non-medical grade disposable PPE which are running low or becoming unavailable. Mechanical gloves that provide a barrier protection against oil and liquid should be selected as substitutes to single use gloves.

Choosing the best protection: EN ISO 374-5 Virus standard

Gloves are a part of the battle against COVID-19. Choosing gloves that have been certified under the EN ISO 374-5 Virus standard will ensure that the wearer is protected against viruses. The EN ISO 374-5 Virus standard measures the ability of gloves to protect users against bacteria, fungi and viruses. Gloves with EN 374-5 Virus marking have been proven to not leak when tested according to EN 374-2:2014.

Understanding the difference between Reusable, Limited or Single-Use PPE

Before you embark on choosing an alternative during these unprecedented times it is vital that choices are being made with caution. Understanding the needs for protection, for effective work and worker comfort will ensure that the switch from single-use gloves will be successful and accepted by the workers. Reusable gloves are designed to withstand cleaning and repeated exposure to hazards. Limited or single-use gloves however need to be discarded once they have been

“ Protecting those at the highest risk ”

contaminated.

Single-use and reusable gloves also differ in their feel and protection capacities. Single-use gloves are thinner providing high dexterity and excellent touch sensitivity, while reusable gloves are often designed to offer much higher levels of protection especially against harsher and more hazardous chemicals. Evaluating these factors are important when you are considering making the switch.

Cleaning and disinfecting reusable gloves

Proper care and cleaning methods that



Reusable	Limited or Single Use
PPE that is constructed from materials which allow it to be cleaned after repeated exposure to a hazard, such that it remains suitable for continued use.	PPE for limited duration of use. To be worn until hygienic cleaning becomes necessary or contamination of a hazard has occurred, and disposal is required.

Single Use Glove DEMAND

~585 BILLION

More needed by healthcare providers for treatment of COVID-19 patients

More purchased by businesses to protect employees against exposure at work

More being used for everyday tasks by general population when shopping or cleaning

Single Use Glove SUPPLY

~215 BILLION

Estimated number of gloves needed that will not be supplied

~370 BILLION

Estimated amount that can be supplied by global manufacturers at 100% capacity

CY 2020 Ansell Estimates

are recommended by experts will ensure that the glove life and protection offered is maximised. Ensure that you follow the manufacturer's guidelines to preserve the fabrics and coatings on the mechanical gloves. Download a guide provided by Ansell for the best cleaning methods based on your needs and the type of glove. [Scan the QR code]

Using reusable gloves as opposed to single-use gloves will change how PPE is distributed

and handled within an organisation. It is important to note that choosing to use reusable gloves allows the workers to clean and reuse their gloves multiple times which would mean fewer gloves are purchased hence need to be manufactured. Making the switch will ease the strain on the single-use



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The new P-Series Torches and H-Series Headlamp - Light Redefined

For many years, people in need of the perfect handheld torch for a multitude of applications have trusted our legendary P-series. If they needed to combine free hands with perfect illumination, they trusted our H-series headlamps.

The latest reincarnation of our most important lights is far more than a revision; it is a revolution in lighting. With class leading new features and technologies, significantly more power and the new **CORE > WORK > SIGNATURE** concept, we are future proofing our portfolio and increasing its appeal to a wider audience of users.



The torches and headlamps in the CORE line form the heart of the new P-series and H-series

They follow the great legacy of the famous P- and H-series and in doing so, combine a proven and tested history with new technology. CORE lights deliver outstanding illumination and are indispensable for everyday or on-the-job use.



The WORK line torches and headlamps are specifically developed for flawless illumination in challenging work environments

Built on a CORE line foundation with enhanced features that are particularly useful in a workplace setting - e.g. increased protection against blows, drops and chemicals, optimised light with natural colour reproduction. Useful accessories are included as standard with many of these lights.



Our SIGNATURE models represent the premium line of the new P-series and H-series

These high-end torches and headlamps combine all the functions of the CORE models yet offer enhanced brightness levels compared to their CORE or WORK counterparts. Additionally, these lights offer a larger range of integrated features, as well as even wider range of accessories included as standard.

Some Standout Highlights of the New P & H Series Lights



TIGHT-SEAL TECHNOLOGY

WATERPROOF (IP Rated)

The new flex seal technology means that your light is dust and watertight, even when adjusting the focus. This gives you the certainty that your light will keep working no matter what conditions you encounter on your adventures or in the workplace.



SMART LIGHT TECHNOLOGY

SMART LIGHT TECHNOLOGY REINVENTED

Customise your light just the way you desire it. We have improved this technology so you can choose precisely how you want your light to be set up.



ADVANCED FOCUS SYSTEM

ADVANCED FOCUS SYSTEM

Technologies that have existed since the first P-series and H-series, such as our world renowned patented Advanced Focus System, are still used and leave no doubt that the new series are genuine Ledlenser products. Many have tried to emulate this patented technology, and many have failed.



WARRANTY WITH REGISTRATION

7-YEAR WARRANTY

As a guarantee of quality, all the new lights of the P & H Series are backed by Ledlenser's industry-leading 7-year warranty. Comprised of a 2-year standard warranty, which is extendable by a further 5 years by registering your product online.



MAGNETIC CHARGE SYSTEM

MAGNETIC CONTACT CHARGING

With this innovation the charging cable can be quickly and easily attached to the light. The connection for charging the battery is made via magnetic contacts. When the contacts approach, the charging cable automatically pairs with the light. Eliminates the need to remove batteries from the housing.

Costly leaking pipework – a problem no more!

Erosion. Corrosion. Cavitation. Abrasion. Chemical Attacks. For a lot of industries, these words are oh-so familiar. But it's protecting against these problems that's a whole different matter. Until now.

Unique Polymer Systems (UPS) is a globally recognised supplier of high-performance polymer repair composite materials and specialist protective coatings for equipment, machinery, buildings and structures.

Dedicated to providing unique solutions that cater for the demands of every client in every industry imaginable, UPS' products are the result of years of experience and knowledge, combined to ensure a remarkable standard of long-term protection through cost-effective solutions that ultimately minimise downtime.

Offering a range of solutions such as fluid flow equipment linings, rubber repair protections for conveyor belt repairs, chemical protection for bunds, tanks and secondary containment and high build concrete repair systems, Unique Polymer Systems are also the proud manufacturers and suppliers of ThistleBond Pipe Repair Kits.

Rapid activation. Rapid protection

Ever been surprised by a leaking pipe? Has one ever stopped production, costing you thousands? Chances are you probably have, but now, thanks to UPS 19601/3/4/5 PR ThistleBond Pipe Repair Bandage, instant protection is only seconds away.

Suitable for all industry types from marine and mining to oil and gas, pulp and paper, and agriculture, Bureau Veritas-approved ThistleBond Pipe Repair kits provide high-performance, ultra-strength, rapid curing properties. This moisture activated kit has been specifically engineered to seal leaking pipework instantly, with very limited surface

preparation. In fact, the rapid curing moisture activation kicks in within five seconds. Now that is rapid!

“No specialist training or tools, adding further to its advantages and ease of use”

The single-component knitted fibreglass bandage (24-26 stitches per cm²) is impregnated with a unique polyurethane resin – over 52% resin content – and requires no specialist training or tools, adding further to its advantages and ease of use.

Available in convenient kit packs containing everything you need to seal a leaking pipe in minutes, it's effective on pipes operating at low pressures up to 450psi., designed for repairs up to 500mm in diameter, and can be used on a wide variety of surfaces including all metals, PVC, concrete and steel.

Problem. What problem?

One customer was experiencing issues after detecting a rupture in the duct that supplies industrial water from the neutralising tanks to the grinding plant.

Welding or replacing were out of the question as this would have meant turning off the flow from the main water supply. Therefore, the company decided that using the UPS ThistleBond Pipe Repair Bandage was the most viable solution.

Correct surface preparation was carried out, in this case, mechanical grinding. The leak was then plugged using UPS 19060 SG ThistleBond Stick Grade Metal (NSF 61 Approved) then immediately wrapped using the ThistleBond Emergency Repair Bandage.

From start to finish, the application took only 30 minutes, controlling the water flow immediately without water supply to the plant having to be cut off. The water pressure was lowered for only three minutes and the leak was completely stopped, not only saving the customer money, but also offering huge savings in reduced loss of production.



What has Donald Trump taught us?

DEMOCRACY

Joe Biden, the 46th President of America, has taken the reins of power. The hope in many countries around the world is that this marks the end of the Trump era – that the mismanagement, lies and assaults on democracy, international institutions, US-allies and trade agreements will end.

The likelihood, however, is that many people are going to be disappointed.

In their book, *How Democracies Die*, co-authors Steven Levitski and Daniel Ziblatt explain that autocrats such as Donald Trump subvert the democratic processes in a number of ways. They demonise political opponents and independent media outlets – through constant claims of ‘fake news’ and conspiracy claims, while issuing a barrage of ‘alternative facts’; they undermine established institutions such as the judiciary, security and ethics agencies by limiting their power, purging bodies that act independently and through the widespread use of patronage – often on a scale that would put medieval monarchs to shame; and they rewrite the rules to slant the playing field in their favour – for example, through gerrymandering or disenfranchising groups of electors.

Donald Trump and his cronies managed to achieve all of this and more while in office.

In just four years they successfully managed to change political and social norms, leading to even greater polarisation and entrenchment of radical views that are becoming increasingly difficult to reconcile. Indeed, despite the obvious failings and instability of the Trump regime some 74 million people still voted for him, with the majority of Republican politicians either endorsing his increasingly frenzied calls to overturn the election result, or at best maintaining a conspiratorial silence in the

face of all the evidence to the contrary.

His legacy will be felt in other ways. On the world stage, the damage he inflicted on international trade, health and security bodies and agreements will take some time to repair – if it is repairable at all. Trump’s ‘America First’, his belligerent actions on tariffs and withdrawal from key agreements such as the Paris Climate Agreement and the Iran Nuclear Deal have changed the international perception of America as a world power. This has taken place against the backdrop of huge socio-economic global disruption caused by the Covid pandemic, an increasingly expansionist stance taken by China and Russia, and of course Brexit.

The reality is that there will be no return to

“ Societal norms of stability, tolerance and moderation can easily be shattered ”

normality – to business as usual. Too many things have changed at a local, national and international level. We have all become used to business conducted by Teams or Zoom, to limited travel and the absence of face-to-face exhibitions and events, while governments across the world have either become

increasingly isolationist or protectionist as they seek to maintain their power and influence.

Ultimately, although Donald Trump has had a destabilising influence on American politics and international relations, he is no more than a symbol of the social and political changes that have been going on for some time. In America, for example, there has long been a drift towards increasingly polarised views, aligned with systemic manipulation of the democratic process to promote the interests of one party or another at a cost to the wider majority. On the global stage, the rapid growth of China as a political, economic and military power has been accelerating since the country implemented free-market reforms in 1979, while the defence of the European project in the face of growing nationalism in countries ranging from the UK to Hungary and Poland has constrained the Brexit negotiations on both sides of the table for the last four years.

Perhaps what Trumpism has shown us is that societal norms of stability, tolerance and moderation can easily be shattered, and that extreme views and actions can quickly be deemed acceptable by large sections of the populace when they are prepared to believe the views of an autocratic leader. When this coincides with the other major events, natural, political or social, then we have a perfect storm that drives rapid change to the world in which we live.

One thing is for sure: we can’t avoid change. But we can develop better methods of recognising change, predicting its impact and responding with positive and imaginative measures that protect us, our families, business and societies.



Can your gearbox go the distance?

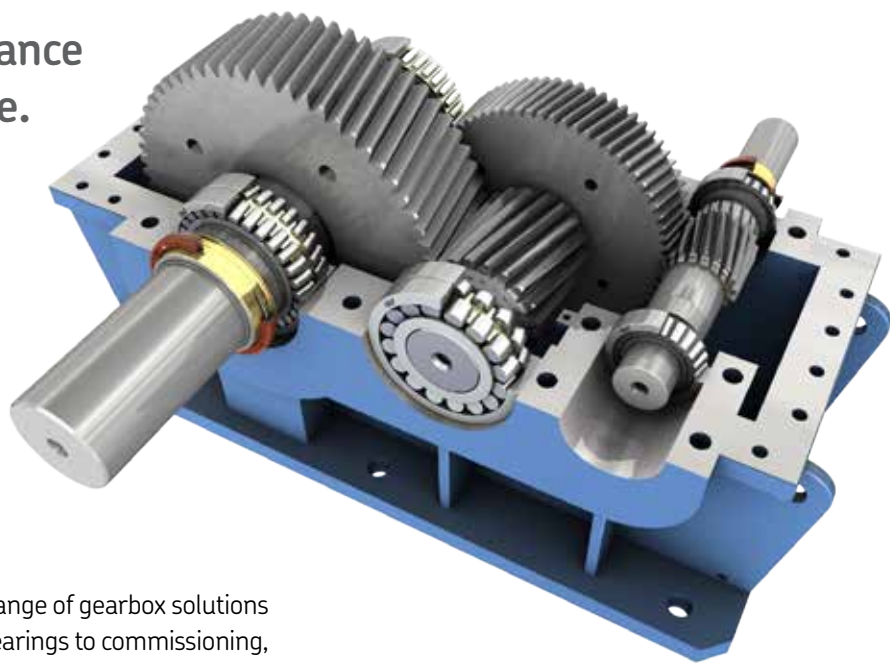
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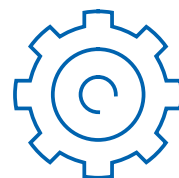
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