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**Safeguarding Against the Hazards
of Static Electricity** **PAGE 15**

10-14

News & Products

24-26

Pumps & Valves

31-33

Fumes, Dust & Extraction

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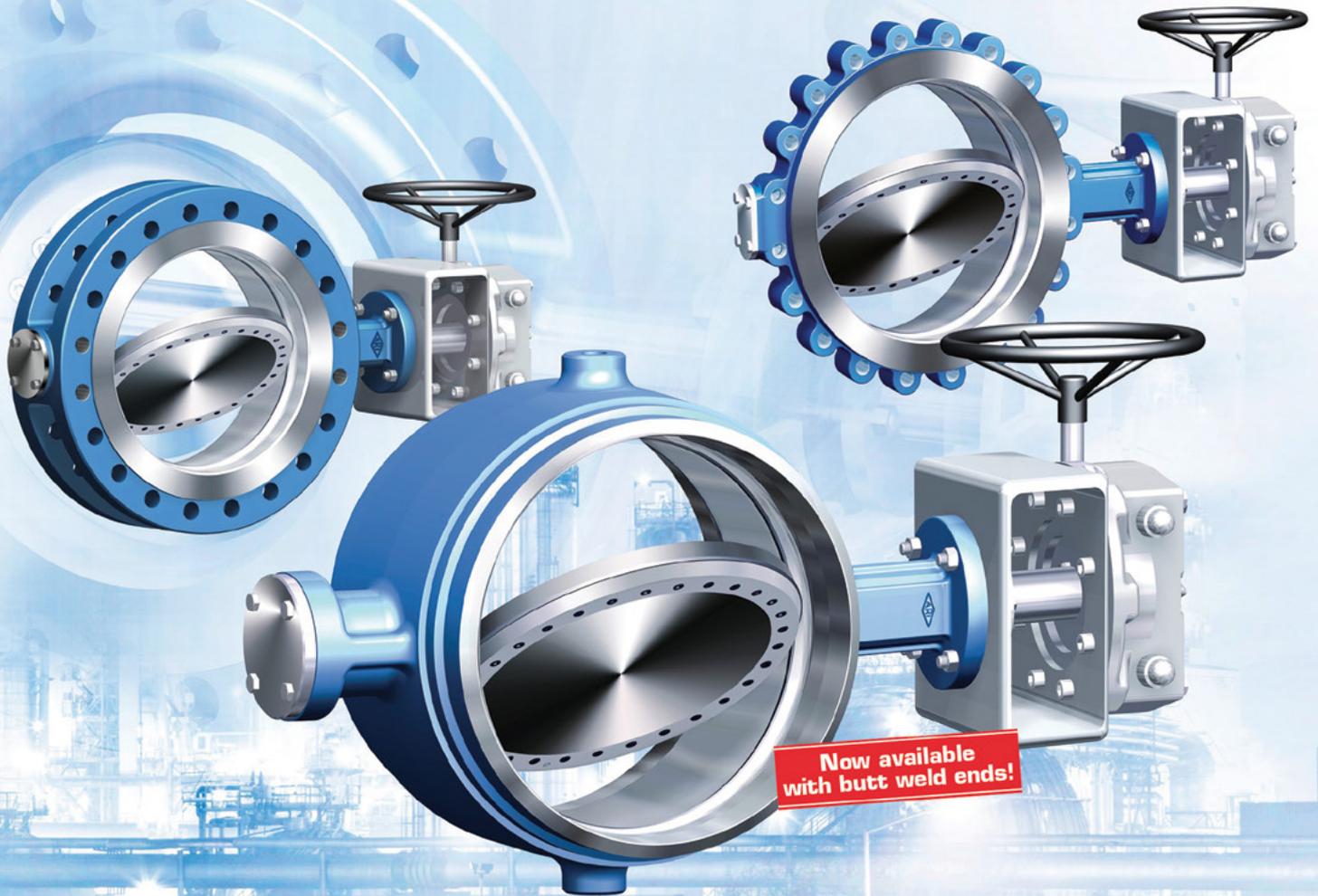
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Contacts



Publisher

Michael Dominguez



Advertising

Steve Pheasant

stevep@engineeringmaintenance.info

Email

Info@engineeringmaintenance.info

Website

www.engineeringmaintenance.info

Phone

Tel: +44(0)203 575 1170

P:4 Introduction

P:6-9 Compressed Air

P:10-14 News & Products

P:16-19 CMMS

P:20-23 News & Products

P:24-26 Pumps & Valves

P:27-30 Seals, Bearings & Lubrication

P:31-33 Fumes, Dust & Extraction

P:34-37 Training & News

P:38-39 Product Spotlight

P:40-43 Buyers Guide

In the next Issue: Aug/Sept 2019

- Northern Manufacturing Preview
- Boilers & Burners
- Condition Monitoring
- Industrial Cooling
- Materials Handling
- Environmental Management
- Latest News
- Product Spotlight
- Plant and Machinery Live
- Northern Manufacturing Show Issue
- CBM Conference Manchester



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Bearing Up!

Preventative maintenance techniques are employed to ensure that a pump bearing is operating properly. This is accomplished by examining changes in noise, vibration, temperature, and lubrication.

These characteristics are dependent on the application conditions, including speed, loading, lubrication, and environment. Detecting a change from the baseline conditions will indicate possible deterioration of the bearing and suggest an immediate maintenance action.

Noise is audible sound heard by equipment technicians. It is important to be able to distinguish normal sounds from the pump system during operation and abnormal sounds when the system is not operating correctly. Typical causes of bearing noise are insufficient operating clearance, excessive clearance, damaged contact areas, contamination, and unsuitable lubricant.

Many common problems in machines, such as imbalance, play, misalignment, can best be evaluated by measuring vibration displacement or velocity. Vibration is measured using accelerometers mounted on the equipment. There are standards for evaluating machine performance based on vibration.

The vibration of rolling bearings can be evaluated in several ways. In cases where vibration data is recorded and the vibration of each new mounted bearing is known, then the vibration acceleration should be compared with the original level to evaluate performance. As a bearing wears or becomes damaged, the magnitude of vibration will increase.

It is possible to attribute certain vibration frequencies to damage on specific bearing components. Software tools are available that can evaluate vibration or a sound recording and compare it to known bearing frequencies to aid in fault determination.

Bearing temperatures can be estimated from housing temperatures, oil sump temperature, or oil circulation system outlet temperatures. However, using thermocouples to measure the bearing outer ring temperature directly is more accurate. Temperature rise in bearings is a result of friction. Deviation from the steady state temperature can be caused by lubrication starvation, excessive lubrication, incorrect

lubricant, contamination, preloading, abnormal loading, coupling misalignment or bearing failure.

Maintaining the proper amount of oil or fresh grease is vital to bearing life. Oil sumps should have a sight glass to help maintain the level of the oil to the centre of the bearing's bottom rolling element. Oil circulation or oil mist systems should supply oil at the correct rate to provide an adequate oil film layer and control bearing cooling.

Housings for greased bearings should have space for old grease to exit. Equally as important to the amount of lubricant is the quality of the lubricant. Oil sampling is a popular method to periodically check the machine's lubrication for impurities and foreign particles. High chrome (from bearing rings) or copper (from brass cages) concentrations indicate possible bearing wear. Sample analysis can also indicate water content and the degree of oil deterioration. Similarly, purged grease after re-greasing can be analysed for contamination, oxidation, degradation of additives, ageing, or moisture content.

The procedure for removing and inspecting a bearing will be similar for regular preventative maintenance as it is for addressing a bearing issue. The following are recommended steps to perform:

- Collect and evaluate any data from bearing monitoring devices.
- Before disassembling the bearing housing, measure the axial movement of the shaft. Take lubrication samples for analysis.
- Look for water intrusion or grease leakage in the bearing housing as a sign of seal failure.
- Check other areas of the bearing housing for damage.
- Examine the bearing condition as mounted. Mark the bearing to indicate mounted positioning.
- Remove the bearings from the housing or shaft. Use care to remove properly. Note any marks created during dismounting so that this damage is not confused with damage created during operation.

- Check the bearing seats and contact surfaces on the shaft and housing.
- Inspect bearing
- Important evidence of a failure can be altered or destroyed if careless dismantling practices are used. Photographs of the inspection process can aid in process improvement or in the event that a bearing manufacturer supports the failure analysis.

When inspecting the bearing, check for the following:

- Cracks or chips on any component
- Measurable wear on the bearing bore and outer diameter
- Discoloration
- Noticeable wear or damage on the rolling elements or raceway surfaces
- Wear or damage to the cage
- Bent or damaged seals or shields
- Rust or corrosion on any component

If any of these conditions are present, the bearing should be replaced with a new one. In a case where the problem cannot be easily ascertained, it is a good idea to contact the bearing manufacturer. When sending a failed bearing to its manufacturer, there are three steps.

First, do not dismantle or clean the bearing. This will avoid damage from disassembly and keep lubrication evidence intact. Second, place the bearing by itself in heavy, sealable plastic bags to avoid contamination during shipping. Rags and paper wrap should be avoided because they can absorb oils and do not keep out moisture. Finally, use adequate packaging so that damage does not occur during transport.

In addition to the bearing, send any historical maintenance records of problems with the machine or bearing. Send any photographs from the bearing removal and inspection process. Send data from bearing monitoring devices. Lastly, send all known application data for the bearing in question. Application data includes speed, load, lubrication, shaft and housing fits, sealing, arrangement, and environmental conditions.



Michael Dominguez, Publisher.

Primary Crusher Foundations Saved by Polymeric Concrete Solutions

It isn't uncommon to have various problems that could be associated with machinery and equipment in the mining industry. The environments in which they operate can be incredibly harsh often leading to the need for repair and maintenance.



The initial damage of the foundation

The most common issues associated with the mining industry can range from Abrasion, Chemical Attack, Corrosion, Impact and Wear. These can all have a major impact on processing and productivity. Ultimately leading to a shutdown and costly downtime.

A common cause of wear can be vibration. This can cause eventual fatigue, resulting in cracks and a loss of material. Inherent vibration from the operational equipment can cause premature failures in areas such as concrete foundations and their anchoring systems. Generally speaking, concrete can be considered too brittle and weak to absorb such constant impact and vibration transferred from the equipment. Once the concrete has failed, anchor bolts in the foundations can loosen, further aggravating the effects of the vibration on the foundation.

A copper mine in Marabá, Brazil, found this to be the case with their primary crusher. The base of the primary crusher needed to be rebuilt due to being weakened by vibration. The primary crusher weighs 336 tonnes and is 9.5 metres high and 5.6 metres wide, contributing further to the amount of stress being put on the foundations. The crusher

processes over 3 thousand tonnes of copper ore per hour. Being one of the biggest copper crushers in South America, and with copper being traded at around 6 thousand dollars per tonne, every hour of shutdown can result in a loss of almost 20 million dollars.

Continuing under such damaged conditions would have eventually led to serious consequences, including a significant financial loss. A solution was required that could rebuild the foundation and bases of the primary crusher, whilst being able to withstand high dynamic and impact loads without shattering and breaking. Excellent mechanical properties and a fast curing time were also critical in ensuring the primary crusher would return



The repair still performing after time in service

back to service in as little time as possible. The solution used was Belzona 4111 (Magma Quartz), a high-performance concrete repair and rebuild composite.

Using an impact hammer drill, the first two layers of concrete were removed to reach the steel reinforcement structure. Particularly with



Slurry mix of Belzona 4111 being applied

concrete repairs, surface preparation is critical in its success. The substrate needs to be free from contamination, free from excess moisture and any loose material needs to be removed. The area was therefore cleaned and degreased with solvent and compressed air was used to remove the entire repair area of loose debris and dust. A conditioner was then applied to ensure an optimum bond between the substrate and repair materials. The perimeter of the repair area was initially built up, later acting as a mould for a slurry mix of Belzona 4111. The material was able to level evenly to recreate a foundation at the base of the primary crusher. The implemented solution offered resistance to high vibrations and dynamic loads due to its high mechanical strength. The system adhered to both metal and old concrete allowing for a homogeneous load distribution, without weak spots during the anchoring/grouting procedure and service.

The assembly of the machine to commenced in as little as 4-6 hours after application and a full return to service was possible in approximately 16 hours. The fast turnaround time allowed the copper mine to continue its processes without a majorly disruptive or costly downtime.

For more information visit:
www.belzona.com

Activated Carbon Towers Now Available From Hi-Line

Hi-line Industries, a leading UK supplier to the compressed air sector, has unveiled a range of Activated Carbon Towers to suit a number of diverse applications, including those involving breathing air equipment or food production, for example.

result, oil levels within the compressed air can be reduced sufficiently for use in sectors where high purity levels are required, like oxygen/nitrogen generation, food and beverage, pharmaceuticals, electronics and healthcare. Such performance levels exceed those possible using desiccant air dryers together with associated filtration.

In the new units, compressed air flows through the activated carbon bed, adsorbing oil vapours and odours. Flow distributors are deployed to ensure uniform air distribution. Some 15 models are available in the range, extending from the smallest at a capacity of 80 Scfm, 136 Nm³/h, up to the largest, at 2000 Scfm, 3400 Nm³/h. The units come with stainless steel gas distributors and are PED compliant to 2016/68 EU, while R55 long-life hybrid activated carbon is used to ensure reliable performance, day-in, day-out. A five-year warranty is offered as standard on parts and labour.

Vessels are held in stock at Hi-line Industries to ensure short lead-times. Both the vessels and the robust box section frame are powder-coat finished in RAL 5015, although they can be manufactured in any colour at no extra charge.



The new carbon towers are manufactured from the same high-quality vessels used for Hi-line's dryers, and filled with either zeolite minerals or carbon to suit the suit the specific application.

Activated Carbon Towers are an increasingly popular addition to compressed air circuits, thanks largely to their ability to adsorb contaminants such as oil vapour and odour. As a

Further information is available from:

Hi-line Industries Ltd, Green Street,
Burton on Trent, Staffordshire DE14
3RT

Telephone: 01283 533377

Fax: 01283 533367

e-mail: enquiries@hilineindustries.com

www.hilineindustries.com

NEW PRODUCT: Heavy Duty HEPA Vacuum For 30 Gallon Drums

EXAIR's new 30 Gallon Heavy Duty HEPA Vac is a powerful, HEPA quality, industrial vacuum cleaner. This smaller volume drum means that it will fit in tighter spaces and is suited well for less frequent or lower volume applications.

The Heavy Duty HEPA Vac is designed to move more material with less wear. It has been engineered to filter contaminants to HEPA requirements in dusty environments requiring frequent cleaning.

It is extremely quiet at 82 dBA (half the noise of electric vacs), making it suitable for a wide variety of environments. An economical, easily maintained pre-filter stops larger particles, while the HEPA filter handles the smaller matter. All

filters are tested for minimum 99.97% filtration at the 0.3 micron level to meet HEPA standards in strict accordance to IEST-RP-CC-007.

EXAIR's Industrial Housekeeping product line offers wet or dry vacuums from 5 gallons up to 110 gallons of capacity. They are available to outfit your existing drum or can be purchased with the complete drum assembly. Plastic or heavy duty aluminum vacuum tools are available. All EXAIR vacuums are CE compliant and carry a 5 year

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"Built to Last" warranty. Heavy Duty HEPA vacuum prices start at \$1570.

For more information visit:
www.exair.com/hepa30.htm

BOGE S-4 - A technological milestone

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BOGE AIR. THE AIR TO WORK.

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Champion unveils its newest 30 to 75 kW rotary screw compressors

Champion has launched its next generation rotary screw compressors, offering reliable, economical and efficient performance in a completely new package.



Available in both fixed and variable speeds, the new 30-75 kW rotary screw compressor series delivers the highest levels of reliability and performance with low operating costs throughout the compressor's life. The range's high-efficiency integrated airend is designed and made in-house, with compression elements manufactured using the latest CNC rotor grinding machinery, coupled with laser technology to maintain precise manufacturing tolerances. The airend's integrated design also makes it a very compact solution.

The compressor's service life and durability are further maximised by replacing elastomer and thermostatic piping and tubing in the system's pressure lines, with corrosion-resistant, stainless-steel tubing and passive zinc-coated, carbon steel

piping. For ease of maintenance, the connection is completed with viton-sealed, grooved couplings and self-sealing high-pressure compression fittings.

With direct or gear drive coupling, the belt-free FM 30-75 kW series not only reduces transmission losses, it improves efficiency and reduces noise. Most importantly, it delivers greater reliability and reduced maintenance costs.

The right variable speed compressor in the right application delivers significant energy savings and a stable, consistent air supply. The new range's variable speed technology allows for substantial energy savings of at least 25 per cent. The units are fitted with a C-PRO 2.0 controller, which

automatically adjusts compressor performance to meet changing air demands. In addition, the C-PRO 2.0 features extra functions, such as drive status display and flexible PID setting, according to the application. Changing the discharge pressure is as easy as pressing a button.

Designed to be simple to service, access to the unit is quick and straight-forward, with all doors removed in just seconds. Serviceable components, including filters, are easily accessible and no piping needs to be disconnected to work on the separator. Also, thanks to its optimum cooling system, the compressor can work in high ambient temperatures of up to 46 degrees.

Vince Blower, Sales Director at Champion, explains: "Capable of delivering pressure ranges from 5 to 13 bar and volume flow between 1.19 to 13.5m³/min, Champion's latest rotary screw compressor solutions can be relied on to provide consistent, cost-effective and high-quality compressed air. High efficiency TEFC IE3 electric motors are fitted as standard to the entire 30-75 kW range, reducing power consumption and CO₂ emissions.

"The series also has the ability to connect to our Industry 4.0 solution, iConn, via the C-PRO 2.0 controller. A digital air management platform, iConn provides historic, real-time, predictive and cognitive analytics, to help users optimise and improve compressor performance. In addition, it can help ensure users to stay one step ahead of any potential issues that may require maintenance, helping to save precious time and money."

For more information on the new Champion range, please visit www.championairtech.com.

BCAS appoints Atlas Copco's Mark Ranger as its new Vice President

The British Compressed Air Society (BCAS) has appointed Mark Ranger, Business Line Manager, Oil-Free Air at Atlas Copco as its new Vice President.



Mark will join Jason Morgan, BCAS President in ensuring the Society continues to evolve to meet the needs of its members and compressed air end-users, with a particular focus on providing quality training and development.

A BCAS Board member for the past two years and chair of the Compressor Committee for over six years, Mark brings a wealth of experience

to the role, gained over more than 35 years in the compressed air industry, working for both distribution and manufacturer organisations.

Commenting on the new appointment, Mark added, "An important part of BCAS' role is to ensure that standards are upheld and to promote the safe and efficient use of compressed air and vacuum products and systems.

"I will therefore be supporting Jason to further enhance our training and development offer, for both our members and industry users, particularly in the areas of legislation and standards.

"The Society already offers a wealth of training on important regulations such as the Pressure Systems' Safety Regulations (PSSR) and competent examiner courses, supported by impartial advice on areas including compressed air efficiency, air treatment and air quality best practice to name a few.

"I look forward to working with the Board to ensure that BCAS continues to act as an important source of impartial information to the industry as a whole, including our own members and end-users.

Vanda Jones, Executive Director for BCAS said, "Mark has already played a vital role as a Board member for the past two years. I am delighted to welcome him to his new position and look forward to working closely with him.

"At this time of Brexit uncertainty, the Society plays an even more important role in helping advise both members and end-users on legislation. We have an active input into proposed UK and European legislation and standards, which means we can help customers to understand their obligations and be compliant, however large or small their operation. Mark's extensive industry experience will help us to shape the Society for the future and to support our members further still."

Mark will transition to the position of BCAS President in November 2020 at the annual BCAS ball, following Jason Morgan's two-year term in the role.

For further information about the British Compressed Air Society, please visit www.bcas.org.uk.

Metal Rebuilding Window Profiles on a \$58 Million Catamaran Yacht

It comes as no surprise that there are common problems associated with the harsh natures of conditions in the marine industry. For the most part, issues are caused by corrosion or erosion after years of operation.



Usually, types of marine maintenance can fall into two categories. The first being at sea, typically with a small-scale repair or an emergency repair such as a leak. The other category being in dry dock. The characteristics of dry dock maintenance tend to be larger applications, in areas that can't be accessed whilst out at sea, such as the propulsion system. On rare occasions however, we can also find problems occurring during the manufacturing stages.

This was the case when the structure of a luxury yacht (designed by a top sports car manufacturer) had already been built, with a sudden change in the type of glass chosen for the windows. The window profiles were not compatible with the glass thickness. Lower thickness of glass required greater thickness of the metal window profile. A material would need to be able to be applied at a thickness of 1 – 1.5 cm (0.39 – 0.59 in) on to vertical frames.

This type of failure would clearly not be acceptable to such a prestigious design. It was therefore highly important that the problem could be solved with precision and taking as little time as possible in order to avoid any delay in the delivery.

The application needed to take place inside the 135ft/41.1m catamaran design. The \$58 million craft features 472 square meters of interior space, accommodating 10 passengers and 10 crew members. There were 2 major affected zones in need of a solution. One of which was 148 linear metres long with a width of 5cm. The other being 68 metres long with a width of 10cm.

A solution was needed that would be capable of building up vertical surfaces to the required thickness without sagging. Traditional welding repair methods were considered but had a potential of damaging wood furnishings and interiors near the windows, as well as being very expensive. Other work on the yacht was also

taking place at the same time, meaning lack of space had to be considered. Therefore, the nature of welding would not have been suitable.

The customer turned to cold-applied metal rebuilding options. Materials from several manufacturers were considered and the decision was made based on slump resistance, as some vertical surfaces needed to be built up to 2.5cm.

Belzona 1121 (Super XL-Metal), a multi-purpose durable repair composite, was selected for the metal rebuilding. This would offer the use of moulds being a 100% solids epoxy material. The surface of the window profiles were initially prepared using a hand tool. As mentioned before, precisely measured formers needed to be created for the alignment of the windows. Wooden formers were cut out, with Belzona 9411 (Release Agent) being applied for later removal once the material had cured. The material was worked into the surface of the former for a smooth finish. The material was then built up to achieve the correct thickness. The former with the material was then applied directly to the surface of the window profiles and pressed with clamps to ensure the best possible finish. Once cured, the formers were then removed and lightly abraded for an optimum finish.

The exact dimensions and geometry of the window profiles needed were able to be achieved, which was the fundamental part of the application, allowing the window glass to be fitted. The application was also able to be completed within the given deadline.

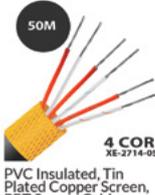
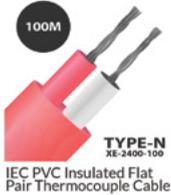
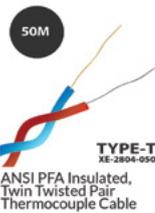
This unique example illustrates a very common problem in a wide range of industries. Cold curing epoxy composites for metal rebuilding solutions are easy to apply, require no hot work and dramatically reduce downtime.

For more information visit:
belzona.com



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Dublin's New Central Plaza Conversion Uses Denso Protection

The old Central Bank Building in Dame Street, Dublin, is currently being redeveloped and will reopen as the Central Plaza consisting of offices, shops and restaurants.

Winn & Coales (Denso) Ltd are supplying corrosion prevention coatings for major structural sections and also an outer wrap prior to fire protection.



The building was originally constructed in the 1970's and the design was based on suspending each floor from two large concrete cores. Each floor level was then constructed at ground level and hoisted into place and then supported by Macalloy tension bars.

DBFL Consulting Engineers in discussion with Winn & Coales decided to remove the existing wrap and apply Denso Tape™ to 2500m of 40mm Macalloy bars, thus providing long term corrosion prevention. Denso Self Adhesive PVC Tape™ was then used as an outer wrap before fire protection and cladding was applied.

For further information visit: denso.net

Empteezy and Dyce Carriers: A Partnership Worth Promoting

With a focus on quality customer experience from start to finish, Empteezy Ltd recognised the need for a delivery partner of esteemed reputation which they found in Dyce Carriers. A variety of large steel units are manufactured at the Empteezy factory in Livingston and access to the Dyce Carrier range of vehicles guarantees each product the very safest of journeys.



The latest project saw a three-part Empteezy compound being delivered to the North of England; with dimensions of around 11 x 8 x 5 metres, the teams worked to create a successful logistical solution.

It is not simply the quality of the fleet that cements the strong relationship however; for Empteezy, it is important to work with an organisation that has reflected values. Both hold ISO 9001 and 14001 accreditations, work to improve on air quality and maintain the highest of environmental standards.

Most importantly, the relationship fostered by both companies allows for a productive partnership. From Depot Manager to Driver, Dyce Carriers provide a customer facing solution Empteezy can be proud of.

Commenting on the successful relationship with Dyce Carriers, MD of Empteezy Bruce Wishart said, "It is important to us that we work with a company we are proud to be represented by. This is very much what we experience from Dyce Carriers and look forward to working together for a long time."

This was echoed by Dyce Carriers MD Jason Moir who reiterated, "Being a family run business, our values and principles are very important to us. We have such a fantastic working relationship with Empteezy because they have such a strong set of core values, that are very much in-line with our own."

For further information visit:
www.empteezy.co.uk

Empowered edge computing for intelligent industrial IT infrastructure

Edge and cloud computing are converging to create intelligent infrastructure.

Rittal and Innovo Cloud have created digital twins as well as the necessary infrastructure ecosystem for connected Industry 4.0 scenarios.

Intelligent computer power is increasingly moving to the edge of networks. According to analysts at IDC, one in four end-points will, within three years, not just capture data at the edge, but also execute AI algorithms.

Enterprises looking to expand their decentralised infrastructure for their digitalized plant and equipment in the context of the Industrial Internet of Things (IIoT) require the edge computing solutions to match.

Rittal and Innovo Cloud have a joint offering comprising ready-to-go edge infrastructure, cloud-native platform services and direct high-speed cloud connections to tier-3 data centres in Frankfurt.

Infrastructures tailor-made for digital twins

Empowered edge computing, will, according to research specialists at Gartner, be the next stage in the evolution of data processing within networks.

By 2020, there will be around 20 billion connected sensors and end-points. These deliver the data needed to create digital twins of physical equipment and systems. High-performance, decentralised infrastructure comprising automated edge applications, in conjunction with cloud-native platform services from Innovo Cloud, enable industrial players to model and manage their digital twins across the entire value chain –

supported by the ultralow latency needed for real-time processing in manufacturing use cases.

Industrial analytics showcase

The industrial analytics platform is a prerequisite for digital twins.

Within the scope of the manufacturing edge platform showcase, Innovo Cloud can model the entire lifecycle of a physical asset in the age of Industry 4.0. Its basis is a connected edge cloud infrastructure from Innovo. The data captured at the edge is subsequently transmitted reliably and securely for further analysis to data centres operated by the Frankfurt-based company by means of end-to-end encrypted connections.

Quick-and-easy entrée into the world of empowered edge computing

The shared Rittal and Innovo Cloud ecosystem gives industrial players access to a ready-to-go edge data centre within a matter of weeks – with the corresponding, customer-specific platform and service modules, guaranteeing reliable IT operations. Customers can therefore be sure of a one-stop solution to their individual needs (including OT, IT and platform), with all the necessary components for empowered edge computing as a basis for Industry 4.0 applications.

“It is no longer a question of whether edge computing is coming or not. Today, it is about applying greater intelligence to distributed data, and about making them available for downstream analytics. That is the only way to make a viable digital twin. And this is exactly what Innovo makes possible. We provide industrial players with a future-proof, distributed and robust platform. At the same time, end-to-end industrial



intelligence requires more than that,” states Stefan Sickenberger, CIO and co-founder of Innovo Cloud.

“It is about more than just the infrastructure. Which is why we have joined forces with partners to deliver cloud platforms for smart factories that are geared to the imperatives of analytics und AI.”

Extensive experience of operating solutions for hybrid IT scenarios

Innovo Cloud has a long and successful track record when it comes to helping businesses find a balanced blend of new technologies, made-to-measure IT platforms and standardised, open-source IaaS architectures.

A key role is played by hybrid scenarios across multiple sites, supported by portable container data centres. Against this backdrop, Innovo offerings can be combined to create a complete solution geared precisely to the customer’s needs and industry-specific compliance imperatives. The proven experience and expertise of the German provider has therefore attracted multiple reference customers in financial services and healthcare.

Further information at www.rittal.co.uk and www.friedhelm-loh-group.com or on twitter @rittal_ltd.

New Testo 340 analyser kits

New to market are three Testo 340 analyser kits for commercial and industrial flue gas analysis.

The kits make it easier to buy a Testo 340 for a particular application. Whether it's standard combustion analysis, true NOX measurement, or SO2 and NO measurement, these preconfigured kits are available through all Testo flue gas analyser distributors. Each kit includes a hard carry case, mains charger and analyser carry strap. Probes can be chosen from a comprehensive set ranging from standard probe with thermocouple, to engine probes with built in particulate filters and ceramic probes for high temperature applications. There's even a heated probe option. Test 340 analysers also come with a built-in dilution feature to enable measurement range extension, which is essential when there are high emission concentrations. For recording measurements there's an optional IR printer or EasyEmission PC software. The analysers all have Bluetooth with connection to the Testo Combustion App allowing the display of measurements on Android devices. Testo 340 is an advanced industrial analyser, approved to EN50379, and can be used for service jobs or emissions spot checks.



For further information visit: www.testo.com

Hart's Speedor Storm

Working for a haulage company specialising in waste disposal, Hart Door Systems has completed the installation of two Speedor Storms at a Midlands facility.

The two fast-action Speedors were installed to minimise the escape of dust and smells as well as keeping out birds and rodents. "The fast action allows for a quick arrival and tipping of waste within a closed harsh environment so reducing the chance of smells leaving the building," says a Hart spokesman.

"Both Storms were supplied with heated motor hoods and IP66 electrical control panels to combat moisture and the largest door was 8m high and 6m wide. It is our reputation for our capability of delivering reliable, very large, high-speed automatic doors for the waste industry that leads to contracts such as this."



www.hartdoors.com t: 0191 214 0404

Acclaimed industrialist Sir John Parker joins SOE as new Patron

The Society of Operations Engineers (SOE) has appointed former Royal Academy of Engineering President Sir John Parker as its new Patron. Sir John will replace outgoing Patron Beverley Bell CBE, the former Traffic Commissioner, at the Society's AGM in July.

Sir John is currently Chairman of the Pennon Group plc and the Laing O'Rourke Group, and is a Director of Carnival Corporation. He has chaired five FTSE 100 Companies including Anglo American and National Grid and is considered as one of Britain's most senior industrialists. He chaired the Court of the Bank of England 2004-2009.

Born in County Down, Northern Ireland, Sir John studied Naval Architecture and Mechanical Engineering at the College of Technologies and Queen's University Belfast. He is the recipient of a number of Honorary degrees including a DSc (Engineering) from Queen's University.

SOE Chief Executive Bruce McGill, said: "We are

absolutely delighted that Sir John has agreed to be our new Patron. His considerable knowledge of engineering in all its forms will be incredibly valuable to the Society going forward. He will bring a wealth of experience having worked across a range of industries and has taken up positions of seniority in many countries.

"Beverley has supported the Society through a period of significant change and has helped strengthen SOE as an engineering institution. On behalf of the board of trustees, volunteers, employees and everyone associated with SOE, I would like to thank Beverley for her support and contribution."

Sir John has been an advocate of campaigns for

increased diversity in engineering and, in 2018, conducted The Parker Review – a report showing a lack of gender and ethnic minority representation at FTSE 100 companies - to draw attention to the matter.

Sir John said: "Engineering in all its forms adds significant value to the economic well-being of our country. Operations engineers are also in the front line of delivering critical services that keeps the economy moving. I am honoured to become the Patron of the Society of Operations Engineers and am particularly supportive of the encouragement the Society provides for the careers of young people."



For more information visit: soe.org.uk

SPM Instrument introduces the Airius™ wireless vibration sensors

SPM Instrument AB, leading worldwide provider of condition monitoring technology and products, announces the release of Airius™, a range of wireless vibration sensors for remote monitoring of industrial equipment.



Providing warning of vibration-related problems as well as gear and bearing faults, Airius is a wireless, battery-powered sensor ideal for remote condition monitoring of standard production equipment such as pumps and fans. Designed and manufactured by SPM Instrument, the sensors build on fifty years of experience in developing reliable and industry-leading solutions for condition monitoring.

Wireless technology for cost-effectiveness, safety, and convenience Remote condition monitoring of machinery enables maintenance departments to cut down on maintenance routes, leaving time to work on improvements in other areas of the plant. It also saves costs in terms of cabling and other hardware associated with

wired sensors. Airius is ideal for monitoring remote or inaccessible machines, or machines in hostile or risky environments – anywhere the wireless transfer of vibration data is practical, or even a matter of safety. The Airius sensors are a logical first step into online condition monitoring. It is easy to start small with the cloud-based application Condmaster®.NET (hosted in SPM Cloud), providing easy access to measurement data through a user-friendly graphical interface, then expand with the sophisticated analysis and diagnostic software Condmaster® Ruby.

Industry-leading measurement technology Airius is a MEMS type sensor with digital output, measuring triaxial vibration and temperature. The sensor currently comes in two versions; one

measuring in the 10- 1000 Hz frequency range, the other between 2- 1000 Hz and 10-5000 Hz with envelope measurement capabilities. Airius supports several different vibration measurement assignments per sensor, with a user-defined number of time-based daily measurements. The signal processing algorithms and calculation routines used are the same as in the high-end Intellinova® online system and the sophisticated portable Leonova® Diamond and Leonova® Emerald instruments.

Easy integration and trouble-free use The Airius sensors have a compact design, with an energy-saving communication protocol. The careful design and optimal choice of battery technology ensure years of troublefree use and stable monitoring. In idle state, sensor power consumption is extremely low. Using the well-established and stable WiFi data transfer technology, Airius is an easy-to-implement solution that works well within existing IT environments. The IP69 rating makes Airius SPM's most durable sensor, suitable for even the most demanding environments.

Straightforward installation and effortless setup Airius does not require any supplementary equipment besides WiFi routers. The sensors have the shortest response times in the segment, making installation and commissioning straightforward and fast. The SPM Connect app, downloadable for Android and iOS devices, is used to configure the necessary communication parameters to connect to the database. REST API support allows other devices or process control systems to retrieve vibration data from the sensor.

The Airius sensors and SPM Connect app will be available for delivery and download from June 2019. Ex versions for potentially explosive environments will be released in the fall of 2019.

www.spminstrument.com

Safeguarding Against the Hazards of Static Electricity

For any person responsible for the safety of employees, colleagues, plant equipment and plant property, one of the most potentially confusing aspects of providing a safe operating environment is trying to determine if that site's manufacturing or handling processes have the potential to discharge static sparks into flammable or combustible atmospheres.

Because static ignition hazards occur at the "nuclear level", it is naturally difficult to visualise how and why static electricity is a hazard in industries where flammable and combustible products are regularly processed. There are so many variables that have a role to play, it is almost impossible to predict the net effects of these parameters, in a hazardous prevention context, without feeling the need to conduct controlled laboratory testing to determine if a specific process could produce incendive electrostatic discharges.

If you consider that walking across a carpet can generate 35,000 volts (35 KV) on a person, it is easy to see how normal everyday processes can generate potentials well in excess of 10,000 volts (10 KV). For a small object like a metal bucket, which has a typical capacitance of 20 pico-farads, the total energy available for discharge at 10 KV is 1mJ. This is higher than most flammable vapour Minimum Ignition Energies (MIE's). In powder conveying operations voltages of the order of 1000 KV can easily be generated on parts of the conveying system. Road tankers undergoing loading can carry as much as 2000 mJ of ignition energy.

Which standards should I follow to control static electricity in ignitable atmospheres?

Fortunately, there are several internationally recognised standards that provide guidance on ways to limit electrostatic hazards enabling those responsible for worker health and safety minimise the risk of incendive static discharges.

Hazardous area operators who can demonstrate compliance with these standards will go a long way to providing a safe working environment and preventing the ignition of ignitable atmospheres. The most comprehensive standards are:

NFPA 77: Recommended Practice on Static Electricity (2007).

CENELEC CLC/TR 60079-32-1: "Explosive atmospheres - Part 32-1: Electrostatic hazards, guidance" (2015).

API RP 2003: Protection against Ignitions Arising out of Static, Lightning and Stray Currents (2008).

API RP 2219: Safe Operation of Vacuum Trucks in Petroleum Service (2005).

The standards, particularly NFPA 77 and CLC/TR: 60079-32-1, describe a range of processes where static charges can be generated including flow in pipes and hoses; loading & unloading of road tankers; railcar loading & unloading; filling and dispensing portable tanks, drums and containers; storage tank filling and cleaning; mixing, blending and agitation operations; the conveying of powders and other operations.

The API RP 2003 standard focuses on road tanker loading and railcar filling operations, storage tank filling and general operations involving petroleum products. API RP 2219 provides detailed guidance on protecting vacuum trucks from electrostatic hazards.

The earth has an infinite capacity to absorb charges and "earthing" (grounding) is the act of connecting a body to an electrode (or other buried



structure) that has a verified contact resistance to the ground, typically less than 25 ohms.

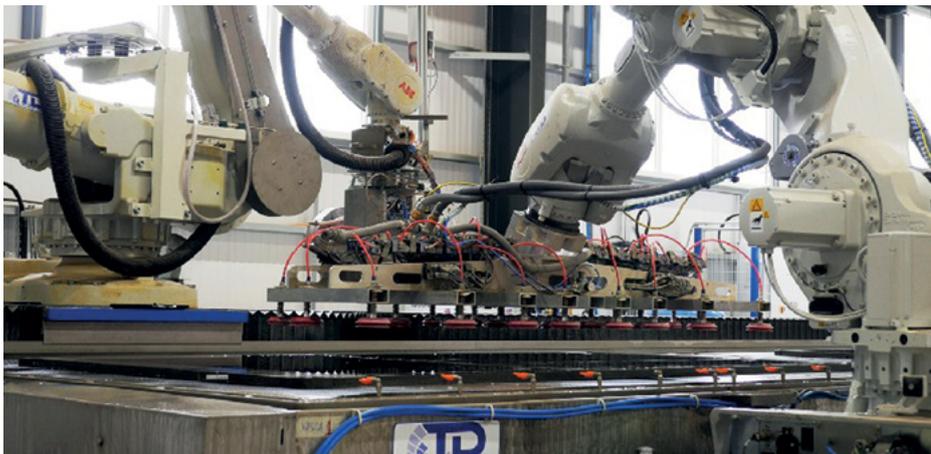
Earthing provides a path for static charges to rapidly flow to earth, reducing the voltage of the object to zero and thereby eliminating the presence of an ignition source. "Bonding" connects objects so that they are at the same electrical potential preventing discharges when they are positioned in close proximity to each other. If bonding is carried out, it is important to ensure that one of the bonded objects is connected to earth, thereby ensuring all parts of the bonded system are at zero potential.

Newson Gale's Earth-Rite®, Bond-Rite® and Cen-Stat™ static safety solutions can provide you with the necessary monitoring and control to protect your people, plant and processes.

For more information visit:
www.newson-gale.co.uk

Luxury kitchen manufacturer selects Mainsaver CMMS

Spidex Software has announced that J Rotherham Masonry Ltd, one of the UK's leading manufacturers of architectural stonework, has selected Mainsaver CMMS.



At its 17-acre production facility in East Yorkshire, J Rotherham Masonry creates a stunning range of stonework, from luxury kitchen worktops and fireplace surrounds right through to ornate column capitals and statues.

The requirement for CMMS (computerised maintenance management software) was rooted in a desire to exercise greater control and improve visibility of maintenance works carried out in the production area. The availability of more detailed maintenance data is expected to enable better

measurement of asset lifecycle costs and thereby more effective task prioritisation.

Significant expansion in recent years has required the commissioning of additional machinery and vastly increased procurement of associated spares and consumables. The plant assets on the huge site vary in scale and complexity – as well as the many hand power tools and CNC machines, there are giant gantry cranes which lift and move the colossal tonnage of stone and marble blocks.

In 2017, the company installed the world's first fully-automated robotic stone cutting line (see picture.)

The implementation of Mainsaver CMMS will initially concentrate on the core work order management functions, particularly critical PMs, which will be mapped out using Mainsaver's Job Plan functionality. Operations staff will be able to raise work requests directly from the production office, using web-based schematic layouts to locate plant assets more easily.

The CMMS will be implemented in a hosted environment to minimise the requirement for onsite IT resource. Following the installation of Mainsaver, J Rotherham will be adding Spidex's EPRAIS Permit-to-Work module for improved management of external contractors.

Spidex Managing Director Jonathan Starling said: "It is always a pleasure for us to work with an undisputed leader in its sector. We warmly welcome J Rotherham Masonry as a customer and look forward to a long and successful working relationship."

For further information visit:
www.spidexsoftware.co.uk



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Elecosoft releases new version of ShireSystem Maintenance and Facilities Management software

The latest release of ShireSystem Maintenance and Facilities Management software brings enhanced functionality and system improvements to the market leading software solution.

As part of Elecosoft's continuous software development and in conjunction with user feedback the newly released version includes a refreshed user interface for improved navigation, a new 'Work Requester' for use on the popular mobile app, enhanced system security and improved reporting. Additionally, a new iOS version of the in-demand ShireSystem Mobile Pro android app is planned for release in late August. The software is available hosted, on-premise and mobile to suit each customer's needs, with training courses offered across the UK throughout the year. Elecosoft is currently running a free trial of the software available via the website as well as free webinars and UK roadshows.

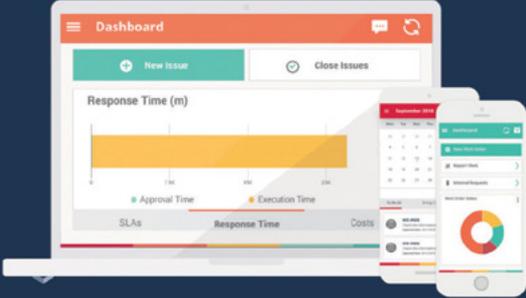


Visit elecosoft.com to find out more or see the software in action at Digital Construction Week, London and Maintec, Birmingham in October.



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Know more
www.valuekeep.com/mobile-cmms

Arnlea successfully renews ISO 9001:2015; reveals proof of innovation

Arnlea Systems Ltd, global leader in industrial mobile software for tracking, inspection and maintenance for the oil & gas industry, has successfully renewed its ISO 9001:2015 certification, the international standard for Quality Management Systems, for an additional three years, further underpinning its commitment to continuous improvement and innovation.

The ISO certification audit was performed by global standards organisation LRQA. They say that the ISO 9001 certification has been achieved by more than 1 million organisations worldwide, making the standard arguably the most important piece of business literature ever written.

Jeremy Lai, Arnlea's Finance Director, said: "Arnlea is committed to the ISO 9001 standard and is a further demonstration of our ambition, aspirations and innovative ethos, to continuously meet our customers' requirements and exceed their expectations."

ISO 9001: 2015 is specifically a quality management standard that affects the delivery of products and services. It provides Arnlea's customers with the assurance that the business can consistently provide its products and services to meet their requirements and applicable statutory and regulatory requirements.

Lai adds, "By and large our customers expect ISO 9001 as a matter of course. When we receive a request to bid for a piece of work or to provide a solution, the prequalification questionnaires usually request evidence of a QMS and whether it complies with a recognised standard. It's part and parcel of



the bidding process, and something we're able to demonstrate easily through compliance with ISO 9001."

It is a standard that prevents complacency; with ISO 9001:2015 as the backdrop, Arnlea has embedded a mindset of continuous improvement and innovation as an integral part of the company's ethos, which helps Arnlea stay ahead of the competition.

For further information visit:
www.arnlea.com

Valuekeep conquers the Spanish market

Valuekeep launched its business in Spain about 3 years ago and is currently operating in practically all the country, including the autonomous communities of the Balearic and Canary Islands.



The company has reached an important and leading position in the Spanish territory, registering a strong growth of its client portfolio, due to a strategy based on the quality and innovation of the cloud maintenance management solution, available for web and mobile devices.

For Luís Cadillon, Managing Director of Valuekeep, “the company’s significant growth is the result of an effective strategy that Valuekeep has been implementing for our international expansion, particularly in Spain”. This solid increase in the number of clients is also due to the flexibility of Valuekeep’s solutions, which allows the cloud-based system to adapt to specific companies’ requirements across different industries, no matter their size or location.

Valuekeep’s strategy is also based on technological innovation, but also in the introduction of an ecosystem of quality support services accessible to each client. In addition to the customer success strategy, there is also a marketing and sales plan focused on Spanish territory.

Over the course of around three years of activity, these were the main business drivers that led to the acquisition of many new customers, most of them being medium and large sized companies. Regarding the sectors, we highlight the retail (General Optica), restaurants (Goiko Grill), hospitality (Spring Hotels), metal industry (Hydracorte), agri-food industry (Copese Group), sports management (Algalia Sport), building management (Fundación María Masaveu Peterson), waste management (Biogastur),

energy production & renewables (Eliantus), water treatment (SACYR Water), services (Tragsa), food production (Cafosa), amongst many others.

The versatility of the Valuekeep CMMS software allows companies of any sector to adapt the system to their needs. In the hospitality sector, for example, the possibility of inventorying assets through RFID or NFC tags with Valuekeep Mobile APP is worth mentioning. The APP feature simplifies the inventory of each asset

the management of technical teams and their work. All this on a single cloud platform, available everywhere.

Valuekeep also participates in various events in the country, such as the Maintenance Bilbao event, which will take place in Bilbao on 4, 5 and 6

“The company’s significant growth is the result of an effective strategy that Valuekeep has been implementing for our international expansion, particularly in Spain”

Luís Cadillon, Managing Director of Valuekeep

at the location level and allows users to quickly report incidents or access work scheduled for the asset or location. In the industrial sector, the maintenance management software is very useful for monitoring and controlling all the maintenance operations - without the use of paper - which results in greater efficiency in production by easy inserting and access information and work, contributing that way for a smaller number of breakdowns.

On the other hand, in the Services Providers sector, Valuekeep offers a wide range of functionalities that improves the management of large facilities located in different geographical locations, with the possibility of viewing technicians and assets on a map view, improving

June, with the aim of showcasing the company’s solutions and services portfolio, which enable all maintenance processes to be digitized and data from different sources of information to be consolidated into a single solution, providing useful indicators by turning data into insights.

For the future, finally, the company has the ambition to continue to grow and expand into other markets, with the same success that it has experienced in Spain.

Visit the Valuekeep website today to find out more – www.valuekeep.com

Mechan Transforms Turntable Design

Rail maintenance equipment specialist, Mechan, has reinvented one of its most enduring products, saving depot operators time and money during installation.

The Sheffield-based manufacturer has launched a new turntable design, following 18 months' research and development into ways to overcome common problems with pit construction.

Turntables sit in a pit at track level and are used to transfer rail bogies between roads or turn wheelsets around. They connect with the track so complete trains and other vehicles can roll over them at low speeds, keeping the area open for other maintenance when they are not in use.

David Blagg, Mechan's service engineer, said: "As turntable pits need to be round, they are difficult to cast and don't always end up level. This made installing our previous equipment very time

consuming, as it had wheels attached to a separate frame that was fitted after the table itself."

Mechan has now developed a turntable with integrated wheels affixed to the bottom of the structure. This allows the height of the table to be adjusted to counteract any discrepancies in the level of the pit, resulting in significant time and cost savings.

David added: "On the face of it, our new turntables look much the same as the old ones, however, the changes we have made ensure they are not only quicker to install, but also easier to use. This means we can now offer manual versions with a higher capacity than before, again saving some users the expense of adding power."



The first depot to benefit from Mechan's new turntables is in Panama City, where four units were installed in January. The new build facility is part of a major project to construct a second metro line.

For more information about Mechan's new generation turntables, telephone (0114) 257 0563, visit: www.mechan.co.uk or follow the firm on Twitter, @mechanuk.

AESSEAL appoints Carolyn Griffiths, to its board as a Non-Executive Director.

AESSEAL®, the Rotherham-based global mechanical seal manufacturer, has announced the appointment of former Institution of Mechanical Engineers President (IMEchE), Carolyn Griffiths, to its board as a Non-Executive Director.

Carolyn, a senior professional from the rail industry, who established and was the first Chief Inspector of the UK's Rail Accident Investigation Branch, is vocal in her support for change within the engineering profession.

As President of the Institution of Mechanical Engineers in 2017, she used the platform to focus on the need to attract more young people into engineering and, particularly, to make engineering more attractive to women. She is also committed to further developing professional standards in engineering and serves as a Board member for the Engineering Council.

The announcement of Carolyn's appointment comes as International Women in Engineering Day, on June 23rd, focuses attention on the career opportunities in engineering available to girls and celebrates the outstanding achievements of women engineers throughout the world.

Carolyn says: "I did not join the industry to overtly campaign for women. Instead, my contribution to the gender agenda has been to make sure I succeeded in challenging roles, to leave a positive mark in the hope that my work might make it easier for other female engineers. Several decades later it's very clear that more needs to be done now to enable and encourage more women to join and to progress in engineering.



"With the current exciting changes in technology there is an ever-increasing opportunity for engineers to improve, in some way, the way in which we live our lives. It is a particularly great time to be an engineer.

"AESSEAL is a really exceptional company for its superb products and services, its investment in people and more generally its promotion of engineering. I am extremely happy to join the Board."

For more information visit: www.aesseal.co.uk

Optimum combination of drag chains and cables

Ready-to-install drag chain systems for coolant filling systems

In automotive manufacturing, drag chain systems for coolant filling systems are subject to very special requirements.



KABELSCHLEPP Metool supplies these drag chains as ready-to-install assemblies – including all cable, hoses and connectors. The complete systems are based on drag chains of MC1250 type, which are robust plastic drag chains with aluminium stays. In this application, they are used in a gliding arrangement; the cable carriers are equipped with glide shoes. The end customer from the automotive industry made precise specifications for the cables and connectors, which were accurately implemented by KABELSCHLEPP Metool. In addition, the hydraulic package was integrated into the TOTALTRAX complete system. Beside the customer-specific requirements, a special focus during the development of the system was on a high level of reliability. An availability of 99.9 percent had to be ensured for the SAT STERLING systems, which also applied to the drag chains.

On one hand, they have to transport a variety of flexibles, while on the other hand, the drag chains have to be extremely robust and very reliable. Ready-to-install TOTALTRAX complete systems from KABELSCHLEPP Metool have proven successful in modern filling systems by SAT STERLING.

SAT STERLING developed special systems for automatic coolant filling for a renowned customer from the automotive industry. The systems consist of two modules: The base unit – which does not necessarily have to be positioned at the production line – is responsible for temperature-dependent mixing of the coolant. This is then

transported to the mobile unit, which follows the vehicle on the right or left of the assembly track and fills it with the corresponding fluids while moving.

The mobile units usually move along gantry systems which are mounted on the ceiling of the production line, at a height of up to six meters. Drag chains from KABELSCHLEPP Metool are their “lifelines”, supplying them with power. The drag chains also contain other cables and hoses for vacuum, compressed air, signal and, last but not least, coolant. In total, these special cable carriers can transport up to five media at the same time.

For further information visit:

<https://tsubaki-kabelschlepp.com/en-gb/products/ready-to-connect-cable-carrier-systems/>

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ABB appoints Betech as UK provider for NEMA motors

UK-based OEMs, machine builders and end-users requiring NEMA motors now have access to a single source of products and expertise from a dedicated ABB provider.

Betech is appointed the first UK ABB authorised value provider for low voltage motors covering the North American NEMA standard.

The Yorkshire based company has over 20 years' experience in sales, support and application know how for the NEMA product portfolio, having previously worked with Baldor motors before that company was acquired by ABB.

Richard Gee, ABB's UK Channel Manager for low voltage motors, says: "With its history, expertise and contacts, Betech is ideally placed to become the first UK official NEMA motor partner. As a US standard, NEMA motors are particularly in demand from OEMs exporting machinery to or from the US, or to territories that specify North American standards, such as Saudi Arabia."

As a fully certified ABB authorised value provider, Betech can access ABB's extensive NEMA stock held in Germany and the USA, as well its own local stocks.

It offers a wide range of NEMA motors to suit many applications, including severe duty, explosion proof, washdown, pump, fan, HVAC and cooling tower. Betech has also invested in systems and training in order to provide industry-leading service levels and enquiry response times.

"This is the ideal time to become the ABB authorised value provider for NEMA motors as our knowledge and sales of this product range continues to grow," says Chris Benson, Managing Director of Betech.

"Becoming an ABB authorised value provider confirms that we have the full confidence of ABB and that it recognises us as the UK specialist for its NEMA product range."

The ABB authorised value provider programme offers UK customers access to ABB motors, variable speed drives and mechanical power transmission products together with a wide range

of services, technical advice, training and bespoke contracts. Although each ABB authorised value provider is an established and successful engineering company, all members of the network must undertake regular training to ensure its product, industry and technical knowledge is of the standard required to deliver accredited sales, support and service in close cooperation with ABB.



For further information visit:
abb.co.uk/energy

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New Manifold Valve Design For Pressure Transmitters Improves Ergonomics And Reliability

Pressure-Lock™ Valve featured on the new Rosemount™ R305 and R306 manifold product family provides easier operation while enhancing reliability and safety



Emerson today introduced a new manifold product family for its Rosemount™ pressure transmitters.

Manifolds shut off or equalise pressure at the transmitter and provide the critical mounting mechanisms required in many installations.

The Rosemount R305 Integral Manifolds and Rosemount R306 In-line Manifolds have been designed to offer significant user improvements on these basic functions.

The most important improvement for both manifolds is the new Pressure-Lock™ Valve design which simplifies high-pressure operation, increases safety and enhances reliability. New features include:

- Two-piece stem does not rotate in the seat, providing solid closure with minimal wear.
- Easy to turn while delivering positive shut-off.
- Adjustable packing nut simplifies valve maintenance.
- Back seating prevents blowouts for increased user safety.
- Stem and bonnet threads are fully isolated from the process fluid to minimise potential corrosion.
- Modular packing ensures only the stem and body are exposed to the process fluid.
- Larger internal passages to enhance reliability.

The Rosemount R305 is designed for both differential or gauge pressure applications and mounts directly to any Rosemount Coplanar™ Transmitter for a complete solution. This reduces the number of potential leak points by 50 percent compared to traditional biplanar transmitter set-ups. Two-, three- and five-valve configurations are available.

The Rosemount R306 is designed for in-line pressure transmitters for gauge or absolute pressure applications. When a Rosemount R305 or R306 is selected with a transmitter, the components are fully assembled, and high-pressure leak-tested at the factory. This allows the transmitter to be installed right out of the box, saving time and money.

“Pressure transmitter manifolds often don't get much attention, but users understand how vital they are for effective operation,” said Scott Nelson, vice president and general manager for Emerson's Rosemount pressure products. “Emerson takes all these elements seriously and introduced this improved offering to make this critical operation easier and safer for technicians who work with these products every day.”

For more information, please go to www.Emerson.com/RosemountR305 and www.Emerson.com/RosemountR306.

CIRCOR | SCHROEDAHL Announces All-in-One Pump Protection TDL Automatic Recirculation Valves in Cast Material

High-efficiency self-modulating pump protection valves offer reliability and cost savings.

SCHROEDAHL, a CIRCOR International brand and an international leader in pump protection and flow control technology, announces that new, self-modulating TDL Automatic Recirculation Valves (ARVs) are now available in more than 35% lighter cast material. These reliable all-in-one pump protection solutions are designed to keep pumping systems in process, firefighting, refinery, power and chemical applications modulating and running smoothly, without cavitation or overheating.

Without minimum flow, a pump can quickly suffer grave damage, causing downtime and costly repairs—but control valves for recirculation require continuous control of complex equipment, a flow measurement device, control unit, and energy supply. Unlike control valve packages, the self-operated flow-sensitive SCHROEDAHL TDL Automatic Recirculation Valves operate without a separate power supply or any

control system—and begin protection immediately once installed.

SCHROEDAHL TDL Automatic Recirculation Valves combine a high-quality main line check valve and the automatic bypass control system in an innovative and durable design—developed by the inventor of automatic pump protection. The valves' self-actuated integrated bypass control function ensures minimum flow rate, guarding pumps against overheating and cavitation. The systems provide high pump stability—with less vibration and fewer coupling or gear problems—for less downtime and lower maintenance costs. TDL ARVs' modulation bypass function also offers savings for operators with reduced energy consumption for frequent partial load operation.

Additionally, the bypass check valve prevents reverse pump flow, and allows for parallel pump installations.

With extremely low valve hysteresis, TDL ARVs promote increased and reliable pump performance.



These valves are designed and built with high bypass trims size flexibility and with a wide variety of materials.

TDL ARVs' high bypass flow offers maximum flexibility in bypass trim sizes for pumping systems from 10- to 20-inch nominal pipe size (NPS). Available in EN/ DIN and ASTM materials, TDL ARVs also feature a compact cast housing design for lightweight installation.

For more information about SCHROEDAHL Automatic Recirculation Valves, visit www.circor.com/products/valves/pump-protection.



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A decade of excellence and innovation

Sulzer celebrates 10th anniversary in Allschwil

Sulzer Chemtech's center of excellence in Allschwil, Basel-Landschaft, Switzerland, was established in 2009 following the acquisition and integration of Kühni. Since then, the facility has grown into an expert hub for the delivery of state-of-the-art process plants. Sulzer, the leader in separation and mixing technology, celebrated this success by holding a 10th anniversary event this May.



During the celebrations, Philipp Süess, Senior Vice President of Separation Technology, Region Europe, Russia, Africa at Sulzer Chemtech and Miguel Peña, Head of Process Plants and Site Manager at the Allschwil site for Sulzer, explored the past, present and future of Sulzer's center of excellence in Allschwil and the company's capabilities in process plant creation.



Both speakers emphasized how, over the last ten years, Sulzer's process technology center in Allschwil has grown to support and strengthen the company's leading role in separation and mixing technology. The facility is now a provider of complete turnkey plants, offering valuable support to a broad range of process industries worldwide. In addition, Sulzer is now able to support process plant development projects with local points of contact in the U.S.A., India, China and South East Asia.

"It has been ten very fruitful years since Sulzer's acquisition of Kühni, during which we have been continuously improving the excellence of our products and services, encouraging partnerships between Sulzer centers worldwide, rewarding innovation and maintaining a leadership role in the processing technology sector." Highlighted Philipp Süess.

"In this time, the facility has continued to grow and expand, creating new jobs," explained



Miguel Peña. The center currently employs nearly 80 permanent workers whilst hosting Sulzer's employees from other locations and centers worldwide. With the introduction of an employee exchange program, Sulzer has been supporting the development of its staff, which can share and learn new skills and competencies. Philip Süess added: "This program has been particularly successful and is proven by the positive feedback we are receiving."

"This project is one of the reasons why the staff at Allschwil are extremely delighted to celebrate the center turning ten. Sulzer values its team and recognizes their importance as a key asset. The drive, ambition, knowledge and expertise of Sulzer's employees truly helped to make Allschwil a center of excellence."

Miguel Peña concluded: "I immediately recognized the huge potential of the Process Plant unit when I joined Sulzer and I believe the entire staff is moving in the right direction to fully unleash their capabilities. The future is certainly bright for our center of excellence in Allschwil."

For more information visit:
www.sulzer.com

Clamp seals provide secure, hygienic tube connections

Freudenberg Sealing Technologies has unveiled a series of newly developed clamp seals that ensure rapid and extremely secure tube connections in food and beverage production machines that are required to operate on a continuous basis.



Using the new seals allows customers to eliminate the expense of converting connections to a 'hygiene flange' in accordance with DIN 11864, while undesirable over-compression into the interior of the tube connection is averted. In addition, the seals are especially easy to install and re-separate as, by the defined compression, any 'sticking' on the flange is contained. The new clamp seals are available from authorised distributor Dichtomatik Ltd, the exclusive provider for Freudenberg's food and beverage related products in the UK.

Development of the clamp seals has been prompted by the lack of pre-defined compression provided by conventional alternatives. This



deficiency results in a portion of the clamp seal protruding into the internal tube connection space once a flange connection is sealed.

To exacerbate the situation, the industry's lack of guidelines for torque and force application during mounting mean it can be challenging to achieve the optimum amount of sealing element compression. Any part of the seal protruding into the product space not only reduces the internal tube diameter, but prevents effective cleaning, a critical factor in the food and process industries.

In short, the formation of difficult-to-clean dead spaces make it easy for bacteria to accumulate. The potential outcome is problematic for food and beverage plants as product contamination becomes a real possibility. Further negative implications include seal damage from the flow of media, and the potential for protruding parts of the seal to be torn off and enter the product.

Overcoming all of these issues, the new clamp

seal from Freudenberg has been developed to suit tube connections in accordance with DIN 32676, ASME BPE or ISO 2852. The seal's structure features many obvious contrasts to those of conventional seals. For example, due to the incorporation of a special plastic component, a defined stop is created that prevents over-compression and unwanted extrusion into the line's interior.

Ultimately, when it comes to hygiene, the latest clamp seal from Freudenberg is a major advance as the risk of contaminating entire product batches is reduced thanks to its flush closure. As a result, the internal diameter of the seal precisely matches the dimension of the tube's internal diameter, eliminating any mounting mistakes. A further benefit is that the use of plastic as the clamp seal stop means that the additional binding agent necessary with metal is unrequired.

For more information visit:
food-beverage-seals-uk.fst.com



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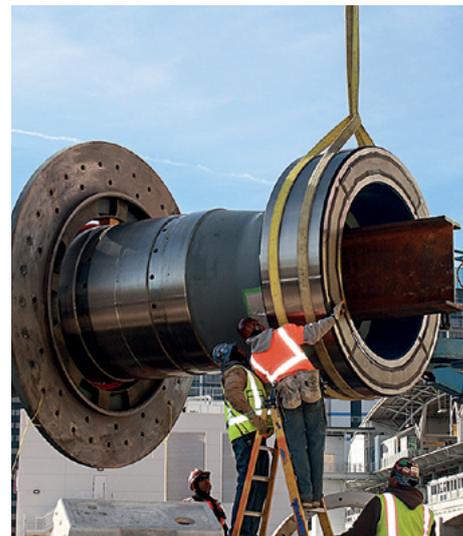
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www.engineeringmaintenance.info

Celebrating 100 years of the spherical roller bearing

The spherical roller bearing, that helps engineers accommodate heavy radial and axial loads in applications prone to misalignment or shaft deflections, celebrates its 100th birthday this year thanks to SKF.



Originally developed in 1919 by an SKF engineer, Arvid Palmgren, the spherical roller bearing (SRB) has since made its mark worldwide.

Created to complement the self-aligning ball bearing, due to its ability to accommodate misalignment under heavy loads, the initial SKF design has now become part of the largest family of products in the industry.

On the fabled Las Vegas Strip in the US, the High Roller ferris wheel contains two of the largest SRBs ever produced by SKF, each weighing in at 8.8 tonnes! SKF spherical roller bearings can be found in many applications, including some where you might not expect them. A good example is

the Bahrain World Trade Center, where three tower wind turbines, each 29 metres in diameter, are architecturally installed between the two 240-metre-high (50-storey) towers and generate 1,300 MWh per year.

The main shafts of the turbines were equipped with SKF spherical roller bearings. The turbines went online in March 2008 and are operational 50 percent of the time, depending on wind conditions. Another alluring application fitted with SRBs is the rebirth of the Zeppelin after 60 years of absence following the Hindenburg disaster. SKF was brought in by ZF, the gearbox manufacturer for the Zeppelin NT, to help the new and improved airships to propel forward.

SKF's extensive SRB range delivers a range of benefits for specific operating conditions. For example, operators in contaminated environments in heavy industrial applications have increased their bearing rating life by up to four times with sealed SKF spherical roller bearings. Those working in the harshest of environments have benefitted from SKF's Three-Barrier Solution that delivers cost-effective, optimised rating life, minimal maintenance spherical roller bearings. New dimension gearbox design has even become possible thanks to SKF Explorer SRB's long service life and high performance.

Petra Öberg Gustafsson, Product Line Manager Self Aligning Bearings at SKF comments: "From the very start, SKF has taken the lead in the development of self-aligning bearings. We introduced spherical roller bearings in 1919 and have been consistently improving them ever since. Building on Arvid Palmgren's original design, we now offer engineers the widest range of both open and sealed spherical roller bearings in the industry. With the continued push for high performance in ever more challenging environments, it will be interesting to see what the next 100 years of development generates!"

For more information visit:
www.skf.com

For longer chain service life: relubricate – and prevent wear

Valuable tips on the correct use of lubricants – from iwis, your specialist supplier of precision chain systems



For a chain to have a long service life without wear-related loss of performance, it needs to be serviced and lubricated regularly.

Maintenance and lubrication intervals should be strictly adhered to: about two thirds of all chain failures can be prevented by suitable relubrication, so selecting the right (re)lubricant is the most important factor in guaranteeing a long service for the chain, since the individual links of a chain act as bearings while the constantly oscillating chain is in operation. Inadequate lubrication and additional contamination can cause a reduction of chain performance to as little as 20% of its full potential, thereby reducing service life more than any other influencing factors.

iwis antriebssysteme produces precision roller and conveyor chains for industrial applications in the field of general machine engineering, plant engineering, the packaging, printing and food industries and conveyor technology. In recent years, the recognised chain specialist has conducted intensive research into solutions that

prolong chain service life, as well as developing its own range of lubricants. On the solid basis of countless trials on specially designed test apparatus and close cooperation with reputable lubricant manufacturers, iwis is a reliable expert partner for all aspects of chain lubrication. A combination of a suitable lubricant and the appropriate lubrication process ensures a measurable reduction of wear and additional corrosion protection.

iwis antriebssysteme and its engineers are at your service with help and advice on chain maintenance and lubrication. Now important information on the correct use of lubricants is also available for download in the iwis flyer "Lubrication solutions" (<https://www.iwis.com/as-flyer/lubrication/iwis-lubrication-solutions.pdf>), which contains checklists with possible warning signs, tips on optimum lubricant dosage, preparing chains for lubrication, applying lubricants and selecting the ideal lubrication point, and recommendations for the right lubricant – depending on the respective application and

chain type used. The choice of initial lubricant is equally important and is taken into consideration accordingly. The iwis flyer also gives maintenance staff, for example, valuable hints for their day-to-day work – in a compact, well-organised form.

By the way, iwis also offers solutions for applications that do not permit relubrication.

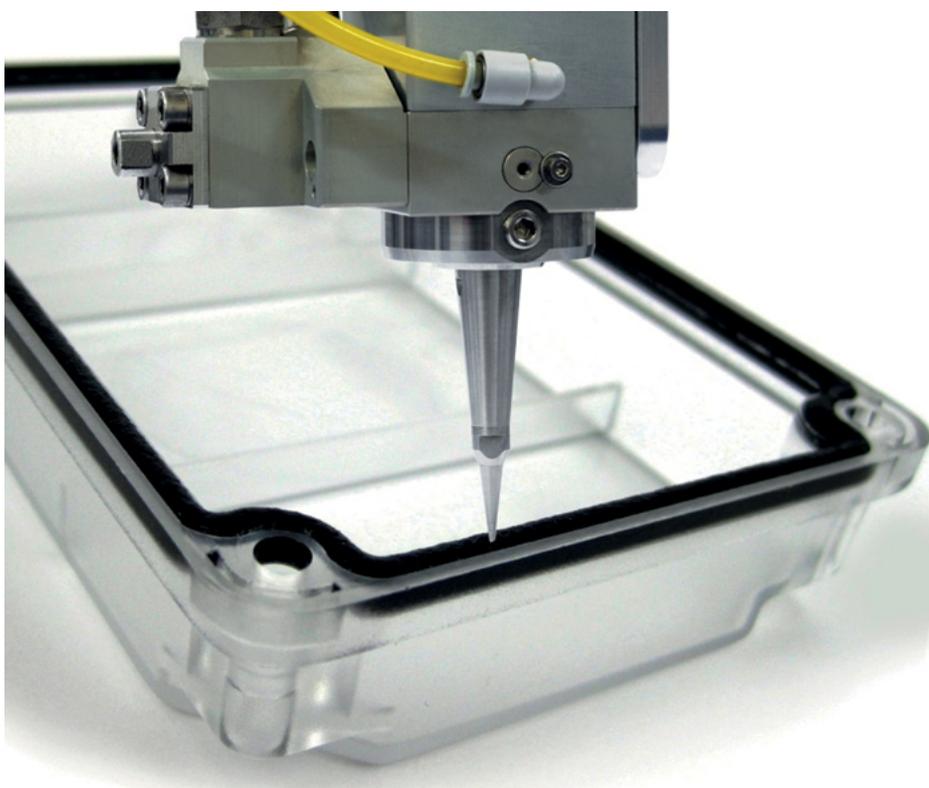
The bushes of maintenance-free JWIS MEGAlife chains are made from sintered material, so the lubricant is retained in the chain joint long-term. Chains stay dry on the outside, but the joint is always well lubricated – and JWIS b.dry stainless steel chains require no lubricant whatsoever. For more information on intelligent chain solutions from iwis, visit us at www.iwis.com.

The Munich-based chain manufacturer iwis offers a wide range of products for all drive and conveyor technology applications. The comprehensive product portfolio includes precision and high-performance roller chains, conveyor chains, maintenance-free and corrosion-proof chains, accumulation chains, conveyor chains for special applications, leaf chains, flat-top chains and modular belts for industrial applications, chains and accessories for agricultural machinery, and timing chain drive systems for the automotive industry.

For more information visit:
www.iwis.com

Techsil's Form-in-Place Foam Gasket Service Expands Capacity by 25%

To meet the growing demand for their contract Form-in-Place Foam Gasketing (FIPFG) service, Techsil are pleased to announce a 25% increase in production capacity. This has been achieved at the UK manufacturing site with the addition of a 4th production cell.



Using an innovative single-component liquid polyurethane foam sealing system and machine technology Techsil's bespoke FIPFG contracting service is the economical and reliable solution for replacing labour intensive peel and stick gasket applications.

The foam gasketing systems mean that customers can introduce high specification seals, without the need to invest. The 6 axis robot systems apply foam beads to a wide range of substrates, including plastics, metals and glass. From simple flat parts to complex 3D profiles and double

face applications. Short cycle times save time and money. If a manufacturer produces small volumes or has intermittent production, then subcontracting their FIPFG system will be very cost effective.

The robot automation creates a highly repeatable and high performance foam gasket. Productivity improves by the robotic process and operator errors such as misplaced or damaged seals are removed. The foam gasket material cures in seconds to allow speedy packing and return to the customer.

Foam FIPG's are used on parts in a growing number of applications in a wide range of industries such as: Automotive, Lighting, White goods, Boilers, Marine, Electrical enclosures, Medical devices, Caravans and Motorhomes, Aerospace, Packaging, Filters, HVAC, Photovoltaic and Wind Energy.

Another exciting addition is the creation of a day lab facility. This is now available for customers wanting to develop prototypes, produce low volume production and small scale sample runs.

Steve Green, Business Development Manager, comments, "Design considerations are numerous for compression foam seals as there can be a range of different performance requirements. These include differing "Ingress Protection" levels (IP Ratings), fluid resistance and thermal demands. This foam sealing technology can be adjusted in its applied size and also in its hardness to give the Component Design Engineer increased flexibility in achieving the functionality of their part. The new day lab facility will enable different design specifications to be trialled and is something customers have been asking us for."

For further information on Techsil's FIPFG contracting service please contact our technical specialists on technical@techsil.co.uk or go to <https://www.techsil.co.uk/resource-centre/form-in-place-foam-gasket-service/>

Wastewater Treatment Ventilation: Polypropylene vs. Stainless Steel and GRP

Wastewater treatment plants face a number of challenges in terms of ensuring safe and effective ventilation.



The chemicals used during the wastewater treatment process pass through metering equipment in a dosing system. In the system, the solution is at its strongest and the chemicals and their gases are often corrosive and can be flammable. Such chemicals and gases include methane, ammonia, phosphorous, pesticides and carbon dioxide. Consequently, wastewater treatment plants are, by nature, one of the harshest engineering environments.

To ventilate wastewater treatment plants, engineers have a choice of materials for the fans and systems. Typically, these materials are stainless steel, glass reinforced plastic and polypropylene. The range of corrosive gases present in the plants is so vast that it is essential to select ventilation equipment resistant to the largest array of chemicals possible. The benefits and drawbacks of each material is discussed below.

Stainless Steel Fans

Benefits:

Stainless steel is a highly durable material that can withstand some harsh environments.

Drawbacks:

Often, a special finish, for example, marine grade powder coating is required to make stainless steel

corrosion resistant in environments where highly corrosive chemicals and vapours are present. Therefore, there is an added cost implication to what can be a relatively expensive material. Stainless steel is also the heaviest of the three options, meaning there is an extra challenge when designing the ventilation system.

Glass Reinforced Plastic (GRP) Fans

Benefits:

GRP, as the name suggests, is plastic reinforced with fibreglass. It can be manufactured in a way that makes it more resistant to corrosion and lighter than stainless steel.

Drawbacks:

The cost of making GRP corrosion resistant can cause it to have a considerably greater manufacturing cost that material counterparts like polypropylene. Furthermore, the corrosion resistance achieved with GRP is often not as effective as stainless steel or polypropylene according to the HVAC and Chemical Resistance Handbook for the Engineer and Architect: 'GRP equipment resisted only 29% of 109 chemicals in a satisfactory manner, thus affecting its durability. That same rating was higher for stainless steel (52%), and even higher for Polypropylene (79%).'

Moreover, GRP can be subject to fibre shedding due to the nature of the material. This can cause problems with longevity and overall durability.

Polypropylene Fans

Benefits:

Polypropylene is thermoplastic and many of its properties are similar to polyethylene. However, it offers several additional benefits over GRP and stainless steel. Firstly, it can be up to 30% less expensive than other materials used for ventilation in environment with harsh gases and chemicals. As previously mentioned, it usually offers more durability than most other materials used in wastewater treatment plants and resists the largest number of chemicals. It is also the lightest of the three options, making polypropylene ideal in terms of ease of installation.

In certain circumstances, there may be other variables to consider when selecting the material of the ventilation system but the polypropylene option is ideally suited to the wastewater treatment environment due to its lightweight, durable, affordable, corrosion resistant properties.

Axair fan's range of polypropylene fans have scrolls which are moulded into a single piece, meaning that there are no welding joints. This improves the durability of the fan as it eliminates the risk of welded joints parting and needing to be repaired.

For more information, contact our team by calling 01782 349 430, emailing sales@axair-fans.co.uk or visiting www.axair-fans.co.uk.

The entire hall air in its sights: KEMPER is extending the CleanAirTower series

Clean production air for all employees, even in small companies: KEMPER is expanding its CleanAirTower series especially for air pollution control for sporadic welding. With the two CleanAirTower SF 5000 and SF 9000 models, the manufacturer of extraction units and filter systems is launching two general ventilation systems with storage filters onto the market. Thanks to Cloud connectivity on the KEMPER Connect portal, all parameters can be monitored from anywhere at any time. KEMPER recommends the systems as a supplement to source extraction.

"Clean hall air for all staff in the entire production area is a real benefit for employers in the context of the shortage of skilled workers", says Björn Kemper, CEO of KEMPER GmbH. "General ventilation systems as a supplement to source extraction protect not just the welders themselves. They are therefore an important component for effective air pollution control". With the extension of the CleanAirTower series, KEMPER now also offers a room ventilation solution for low fine dust loads.

Extraction solution for sporadic welding

KEMPER is expanding its filter tower series with two variants. Both variants are particularly suitable for air pollution control in small welding companies with sporadic welding and low levels of welding fumes. Whereas the CleanAirTower SF 5000 has an extraction capacity of 5,000 m³/h, the CleanAirTower SF 9000 is capable of cleaning 9,000 m³ of air per hour. Thanks to their comparatively low height, they can also be installed in plants with low ceiling heights.

The use of replaceable storage filters results in lower investment costs for businesses than cleanable filters. Because different filter media can be integrated in the systems, the new CleanAirTowers from KEMPER are also suitable for production environments beyond metal processing, such as those in the logistics sector.

Greater extraction capacity for higher welding fume levels

Both room ventilation systems function according to the layer ventilation principle recommended by the trade association. They capture welding fumes in a 360-degree radius at a height of 2.70 or 3.40 metres respectively and separate even ultra-fine dust particles to more than 99.9 percent.

Employees can switch on a new TurboBoost mode if the concentration of hazardous substances is extremely high at times. This temporarily increases the extraction capacity by around 30 percent, which allows the towers to capture more contaminated air for a limited period of time and reduce welding fume ceilings more quickly. Even at the highest power level, the noise level is only 76 dB(A).

IoT capability simplifies processes

Thanks to the simple connection to the KEMPER Connect portal, the manufacturer realises energy- and process-efficient operation. The general ventilation systems network with the Cloud in just a few moments via a mobile wireless-based connection. All relevant data flows into the Cloud in real time. Users can intuitively put together individual dashboards and user interfaces.



The portal is able to control the CleanAirTower automatically – for example, when the AirWatch air monitoring system from KEMPER measures high concentrations of hazardous substances that threaten to exceed legally prescribed limit values. The permanent recording and evaluation of relevant process parameters also enables predictive maintenance – and even paves the way for Smart Maintenance. In the web-based IoT solution, service employees have full control over their general ventilation systems anywhere and at any time.

The CleanAirTowers are suitable as a supplement to source extraction during welding. They protect welders and employees at nearby workplaces – especially in cases where welding fumes are not completely captured or source extraction is practically impossible. The general ventilation systems also help ensure that companies act in accordance with the law within the framework of increasingly stringent legal regulations.

Further information at:
www.kemper.eu

Boom for extraction systems in the UK: Welding companies trust in KEMPER

KEMPER records extraordinarily high growth in Great Britain. The demand for effective extraction systems has increased significantly since the introduction of stricter health and safety regulations in February.

The background is the reclassification of welding fumes: According to this, the Health and Safety Executive (HSE) no longer only assesses hazardous substances from stainless steel welding, but also from mild steel welding as carcinogenic. The occupational health and safety organisation therefore even prescribes that an air fed welding helmet must be worn when welding outdoors. Due to the new requirements, many welding companies rely on high-quality extraction technology. "KEMPER has the world's broadest

portfolio of extraction systems for protection against carcinogenic welding smoke," says Björn Kemper, Chairman of the KEMPER Management Board. All KEMPER mobile systems, from the basic to the high-end extraction unit, have W3 approval. With certification by the German Institute for Occupational Safety, these extraction systems are also suitable for capturing carcinogenic welding fumes. "In the context of constantly tightening occupational safety regulations, companies worldwide are gaining legal certainty



through the use of KEMPER technology". Even the cleaned air can be returned to production with such systems. Central extraction systems from KEMPER are also W3-certified.

Additional information can be found at: www.kemper.eu

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New Course: NEBOSH HSE Introduction to Incident Investigation

RRC is at the forefront of Health & Safety training, and have been providing organisations and individuals with internationally recognised qualifications for over 90 years. We are one of the first training providers accredited to offer the new collaborative course from NEBOSH and the UK's Health and Safety regulator - the Health and Safety Executive.



Gary Fallaize, RRC Managing Director comments: "This is an exciting collaboration; the course will allow companies to drive down incidents in the work-place. And we are proud that RRC's associate tutor Lizzie Kenyon was involved in the development of the materials for this qualification – again, showing the high quality of the trainers working with RRC."

The NEBOSH HSE Introduction to Incident Investigation is designed to enable learners to be able to carry out solo accident investigations, produce risk control plans and contribute to team accident/incident investigations for large-scale investigations. The course aims to aid individuals in positively impacting the safety culture in their organisations.

This will be a 1 day course plus an assessment in which learners will analyse a case study, establishing poor and good practices in interviewing techniques. The course is available as an In-Company course worldwide, with Online and classroom courses coming soon at our London venue.

For further information visit:
www.rrc.co.uk

ABB wins national award for diverse training course portfolio

Award recognises contribution training has made to tackling crucial issues such as energy reduction and leakage prevention.

ABB has won "Contribution to Skills and Training" at the annual Motion Control Industry (MCI) awards, held in Birmingham in May. The prize recognises ABB's commitment to helping industries to tackle their biggest challenges – from cutting energy consumption and CO2 emissions to reducing the millions of litres of clean drinking water lost through leakage.

ABB offers more than 30 courses, several of which are CPD (continuous professional development) accredited. Targeting end users, contractors,

consultants, machine builders and OEMs, the courses aim to improve engineering expertise, tackle technical challenges and improve operational knowledge of applying variable speed drives and motors.

ABB's courses have upskilled thousands of engineers, managers and apprentices from a diverse range of industries. Trainees can choose between eLearning, sessions at a site of their choice, or courses at ABB's bespoke training school in Coalville, Leicestershire. Courses



are also delivered by the ABB authorised value provider network – a group of independent companies authorised by ABB and located throughout the UK and Ireland.

For more information on ABB training courses, or to book, visit:
www.abb.co.uk/energy

Quality fall protection training: why it should be taken seriously

For those working at height, providing suitable fall protection equipment is just the start. Operatives must be fully conversant with the risks present, be able to help ensure safe working practices, and understand the performance of the system, its intended use and any limitations. Roger Boulter, Training Manager for HCL, explains how creating competent end users starts with quality training.

Falls: still a real danger

Almost all falls from height can be prevented, but they still remain the leading cause of workplace fatalities.

A fall of 3.05 m (10 ft.) takes only 0.8 seconds. There's virtually no time to react. The velocity reached on impact with the ground is 7.74m/s (17.3 mph).

The most recent Health and Safety Executive (HSE) statistics show that in 2017 alone, falls accounted for 35 (28%) of all UK fatalities in the workplace. Fatalities are only part of the picture. Falls from height also contributed to 43,000 non-fatal accidents. Over 60% of deaths when working at height involve falls from ladders, scaffolds, working platforms and roof edges and through fragile roofs.

It goes without saying that both competency and safety awareness are inextricably linked to these figures. Under health and safety legislation (Health & Safety at Work Act 1974) employers have a duty to provide suitable and sufficient information, instruction and training for their employees. Users of fall protection equipment who are well-trained and confident will be far less likely to inadvertently place themselves, or their colleagues, at risk.

Clear protocols

Since 2005, mandatory working at height regulations (including BS 8437:2005 and BS 8454:2006) have set out clear protocols for organisations to help ensure competency when working at height. The standards cover provisioning appropriate best-practice training, keeping a register, user assessment and evaluation. It is no

coincidence that, in the event of an investigation following any accident, the first documents to be scrutinised will be the record of competency training, and the risk assessments in place.

Confidently safer

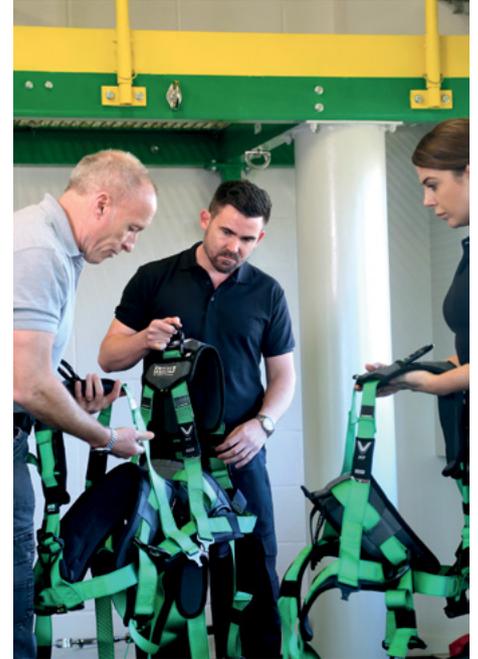
The more prepared users are to deal with a potentially dangerous environment, the less likely they are to make poor judgements and increase the likelihood of injury. Just as manufacturers have clear expectations about how their systems should be used and maintained over time, employers have a responsibility to ensure operatives have the necessary safety awareness and training to use systems correctly. But quality training isn't just about using the system; it must also cover safety awareness in the widest sense. As well as exploring the theory and practice behind safely working at height, training should also highlight the applicable legislation and the legal ramifications of non-compliance.

Theory and practice

While interactive training is fundamental, it's important to understand the theory behind working at height. The best training puts both safety and fall protection in context and focuses on small groups of people at a time - giving the opportunity to share learnings and get a full experience. Ultimately, a classroom session followed by practical training is what will give the best results.

Wider benefits

The benefits of adopting a rigorous approach quickly permeate across the workforce. Employees who are properly trained and prepared to apply



the appropriate control measures to safe working at height are more likely to be engaged, diligent, efficient and ultimately loyal to their employer. If operatives feel at risk on a roof, they will inevitably become more stressed. By provisioning detailed training that equips workers with the skills and knowledge to deal confidently with any situation, companies can improve workforce wellbeing and build esprit de corps.

The confidence has a further benefit. Operatives become empowered to raise potential issues they encounter and propose solutions to improve safety and working practices on-site.

Knowledge is power. By choosing quality training to deliver a good competency level, operatives become aware of their own limitations and can avert situations that may place themselves or their colleagues at risk. Historic complacency and ignorance is eradicated, and workers can operate safely with a heightened sense of awareness.

For more information visit:
www.hclsafety.com

VP Academy: our new online learning platform, making product instructions and information easy and effortless!

VPInstruments, manufacturer of leading flow metering equipment for easy insight into energy flows, is proud to announce the new online learning platform: VP Academy. This platform will cover all instructions and information about our products. It shows how, when and where VPInstruments' products can be used.

VP Academy enables you to learn at your own time and pace. Both fundamental steps and in-depth knowledge of the VPInstruments' products are provided on the platform. This new online learning environment is especially designed to make instructions and information as easy and as effortless as possible. Therefore, information and instructions are provided in text, visuals and video's.

The VP Academy is a work in progress and will be extended over time with more products. Today it provides all the information about our VPFlowScope M and VPStudio 2 software. More products will follow soon.

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VA CAT I at The Stoke by Nayland Hotel, Essex 9th to 12th September 2019

VA CAT II at The Stoke by Nayland Hotel, Essex 14th to 18th October 2019

VA CAT III at The Stoke by Nayland Hotel, Essex 18th to 22nd November 2019

VA CAT I at The Stoke by Nayland Hotel, Essex 2nd to 5th December 2019

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 Phone/Fax: +44 (0)1206 791917

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 Email: info@rms-training.com
 Phone/Fax: +44 (0)1206 791917

Webinars Added To ITC Training Programme For 2019

To make it as easy as possible for would-be thermographers to deepen their understanding of the science behind infrared inspection and apply it successfully in their working lives, FLIR Systems' Infrared Training Centre (ITC) has extended its training options.

As well as its BINDT-accredited Category I, II and III courses and application-specific taster sessions, ITC has introduced a programme of webinars. These online tutorials are running throughout the year, cover a variety of subjects and are designed to prepare delegates for further in-depth study and qualification.

Each webinar starts at 10:00 hrs, occupies 30 minutes and is hosted by Jon Willis, the ITC Training Manager, who also conducts the post-tutorial question and answer session.

Friday 6th September 2019

IR for Building Applications



Friday 4th October 2019

IR for Building Applications

Friday 8th November 2019

IR Thermography Basics

To register for any of the follow go to www.irtraining.eu



NOT KNOWING IS NOT AN OPTION

INDUSTRY RECOGNISED COURSES FROM THE BFPA

The BFPA have for many years been passionate about raising standards within the fluid power market and industry as a whole, with this objective in mind we have created a suite of valuable training courses now available.

FOUNDATION SAFETY COURSE

This course has been developed to provide an introduction into hose, connectors and the safe assembly of these components for industry use. During the day the attendee will gain a knowledge and understanding of safe hose assembly and if applied will only enhance the safety within the hydraulic industry and the attendee.

HOSE ASSEMBLY SKILLS COURSE

The skills course will take the candidate through the many techniques and considerations essential for the safe production of a quality hose assembly and ultimately leading to installation. This two day course involves both the theoretical and practical elements in working with hose and connectors.

SMALL BORE TUBING INTEGRITY COURSE

Delegates are offered a valuable understanding of the complexity surrounding small bore tubing and compression fittings. The course covers generic manufacturers twin ferrule compression fittings, thread awareness, tube and pipe differences and the preparation process, tube manipulation (bending) principles, common installation and routing techniques.

HOSE INTEGRITY, INSPECTION & MANAGEMENT

The key themes covered during the one-day course include: hose life expectancy; risk analysis; competence by way of a robust competence assurance system; identify, inspect & record; hose register – recording of a hose assembly prior to it going into service; and visual hose assembly (installation) inspection check list.

HYDROSTATIC PROOF PRESSURE TESTING

The course will help give the delegate a greater understanding of the dangers associated with pressure testing. During the one day course the delegate will learn how to safely test hose and connector assemblies by taking into account a safe system of work best practice procedure (HSE GS4 document) along with relevant pressure test standards commonly used within industry.



For more information about any of our courses or to check availability please visit:

www.bfpatrainingacademy.co.uk

Please call 01608 647900 or email info@bfpatrainingacademy.co.uk



BFPA Training Academy website has been revamped

The BFPA are pleased to announce that its training academy website has been upgraded with a new, modern look to help our members and the wider fluid power industry access information on approved BFPA training courses.

The website is dedicated, in the main, to the training courses delivered either directly by the BFPA or our many approved training partners. Aiming to make the site more user friendly the different types of available training have been broken down to show which companies deliver BFPA courses, which their own in-house training courses and which organisations deliver CETOP courses.

Details about training courses can be viewed along with some samples of the course material. The course overviews are all freely downloadable and you can click on the Open Course Training calendar to see what dates are available.

Within the 'Client Hub' those students who have received their BFPA Training Card are able to log in and view their training records held by the BFPA which includes copies of their current certificates. Our Approved Trainers delivering BFPA hose related courses can also use this secure personal log in

area to access training information for the particular courses they deliver.

Take a look at the new website www.bfpatrainingacademy.co.uk and if you have any further questions about training please don't hesitate to contact us at the BFPA on 01608 647900.

New BFPA Academy Flexible Hose Training Course Brochure available

Details of the five training courses currently offered by the BFPA and its training partners are now all available in one brochure. This informative and easy to read document outlines the contents of each course highlighting what delegates will be able to learn through attending any of these one or two day courses.

All courses are delivered once a month through our Open Course Programme or alternatively companies



can book training to be delivered on site at their own facility providing they have a suitable room for the theory elements of their chosen course and access to a workshop with relevant hose equipment and materials where practical assessments are required.

The training brochure is freely downloadable from the BFPA training academy website: www.bfpatrainingacademy.co.uk and if you have any further questions about training please don't hesitate to contact us here at the BFPA on 01608 647900.

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Leading the way in hazardous area static control

Advanced elbow scanner added to rental fleet

Ashtead Technology has added the Olympus FlexoFORM™ pipe elbow scanner to its rental fleet of Non Destructive Testing equipment. “This is part of a major investment in our NDT fleet,” says NDT Market Manager Steve Drake. “The FlexoFORM is an extremely important addition because it complements our other pipe inspection equipment and provides a solution for many particularly challenging applications.



images of the elbow's condition and make data interpretation faster and easier.

“Pipe elbows are susceptible to damage from issues such as flow-accelerated corrosion (FAC), but they can be difficult to inspect because their shape changes from convex to concave, and of course pipe diameters vary widely.”

To address these challenges, FlexoFORM integrates flexible phased array probe technology in a scanner. When combined with a water column, this solution can be used to collect easy-to-interpret data on elbows with diameters

ranging from 4.5" OD upwards. The instrument also provides 100% elbow coverage, intuitive 2D C-scan imaging, high-resolution data (1 mm × 1 mm) and fast elbow wall thickness measurement.

The scanner can be used with an OmniScan® MX2 or SX instrument to measure remaining wall thickness, and detect corrosion pitting and mid-wall laminations or inclusions. High-density data combined with the multiple views available on the flaw detector or OmniPC™ software, provide clear

For pipes that are smaller than 4.5 inches, the FlexoFORM can be rented with the small-diameter wedge series, which allows users to manually scan the curves or elbows of pipes from 1.3" to 4" OD, and can be fitted with a Mini-Wheel™ encoder to create an encoded one line scan.

For more information visit:
www.ashtead-technology.com

Oil Spill Eater II (OSE II) Hydrocarbon Bioremediation Product

What Is It?

Oil Spill Eater II (OSE II), is the world's most environmentally safe and cost-effective bioremediation product, for the mitigation of hazardous waste, spills and contamination.

OSE II is an environmentally safe clean-up method because it uses nature's own bioremediation process to effectively eliminate hazardous materials.

OSE II is not a bacteria (bug), fertilizer or dispersant product. It is a biological enzyme that converts the waste into a natural food source for the native bacteria found in the environment. The end result is only CO₂ and water.

OSE II will reduce clean-up costs and permanently eliminate the hazardous waste problem with no secondary clean-up required.

OSE II & NATURAL BIOREMEDIATION PROCESS

- When OSE II is applied to an oil spill, the oil's molecular structure begins to breakdown immediately and in a short time, visually disappears.
- Bio surfactants help by connecting with the oil molecules and breaking down the covalent and ionic bonds, creating small micelles (oil droplets).
- The process rapidly reduces the toxicity of the oil, making more bioavailable it to indigenous bacteria that then utilize the oil as a food source.
- OSE II contains nutrients which attract indigenous bacteria that rapidly colonise/grow in numbers, speeding up spill remediation.
- OSE II does NOT contain any foreign bacteria or non-indigenous organisms.
- The bacteria rapidly consume the oil with the help of OSE II nutrients and enzymes until all is converted to CO₂ and water, permanently removing the oil from the environment.

User Benefits?

- Final result is simply: CO₂ and water
- A one step cleaning procedure; usually there

is no need for additional cleaning processes, such as having to collect and dispose of effluent.

- Oil spill quickly visibly disappears.
- OSE II is a fire retardant: Mixture flammability is greatly reduced or completely diminished.
- OSE II can treat underground spills.
- OSE II can treat all kind of hydrocarbon spills from jet fuel, lubricants and heavy fuel oils, including crude oil.



Physical State	Liquid with the same density as water
Colour	Amber to Brown
Odour	Some smell of ferment
Density	Same as water
Vapour Density	Same as water
Dropping Point	Same as water
PH	7.1
Shelf Life	OSE II has a recommended shelf life of 5 years. After 5 years at optimum storage temperature, there is an approximate 10% decrease per year in product capability

Application Methods?

- OSE II can be applied by surface spray apparatus, such as a small hand held tank, back pack, large mixing tanks with mechanical pumping devices, vessels with booms for spraying wide paths or spray devices on airplanes or helicopters. OSE II can be applied by educator systems from vessels, fire trucks etc.
- Usual mixing ratio is 1:50 (1 litre of OSE II mixed with 50 litre of non-chlorinated water).
- Denser concentrations can be used for older or heavier spills to accelerate process.
- Process cleaning time duration varies from a few hours to several weeks, depending on the kind of hydrocarbon and type of spill.

Main Approvals & Listing:

- US Environmental Protection Agency, National Contingency Plan (EPA NCP List)

- Australia Oil Spill Control Agent (OSCA registered)
- UK Marine Management Organisation Approval (MMO Approval)

Typical Applications?

- Oil Spills on open water such as sea, lakes, rivers etc.
- Asphalt and Concrete Spills
- Fuel Tank Cleaning
- Underground Spills
- Ship Deck Cleaning
- Ballast Water Tank Cleaning
- Bilge Tank Cleaning
- OWS Cleaning
- Airport Tarmac Cleaning
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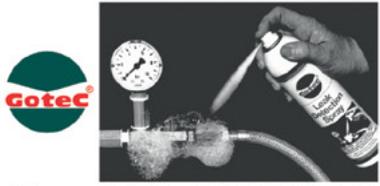
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