



ENGINEERING MAINTENANCE SOLUTIONS

The International Magazine For Maintenance & Engineering Professionals

Feb/March 2018

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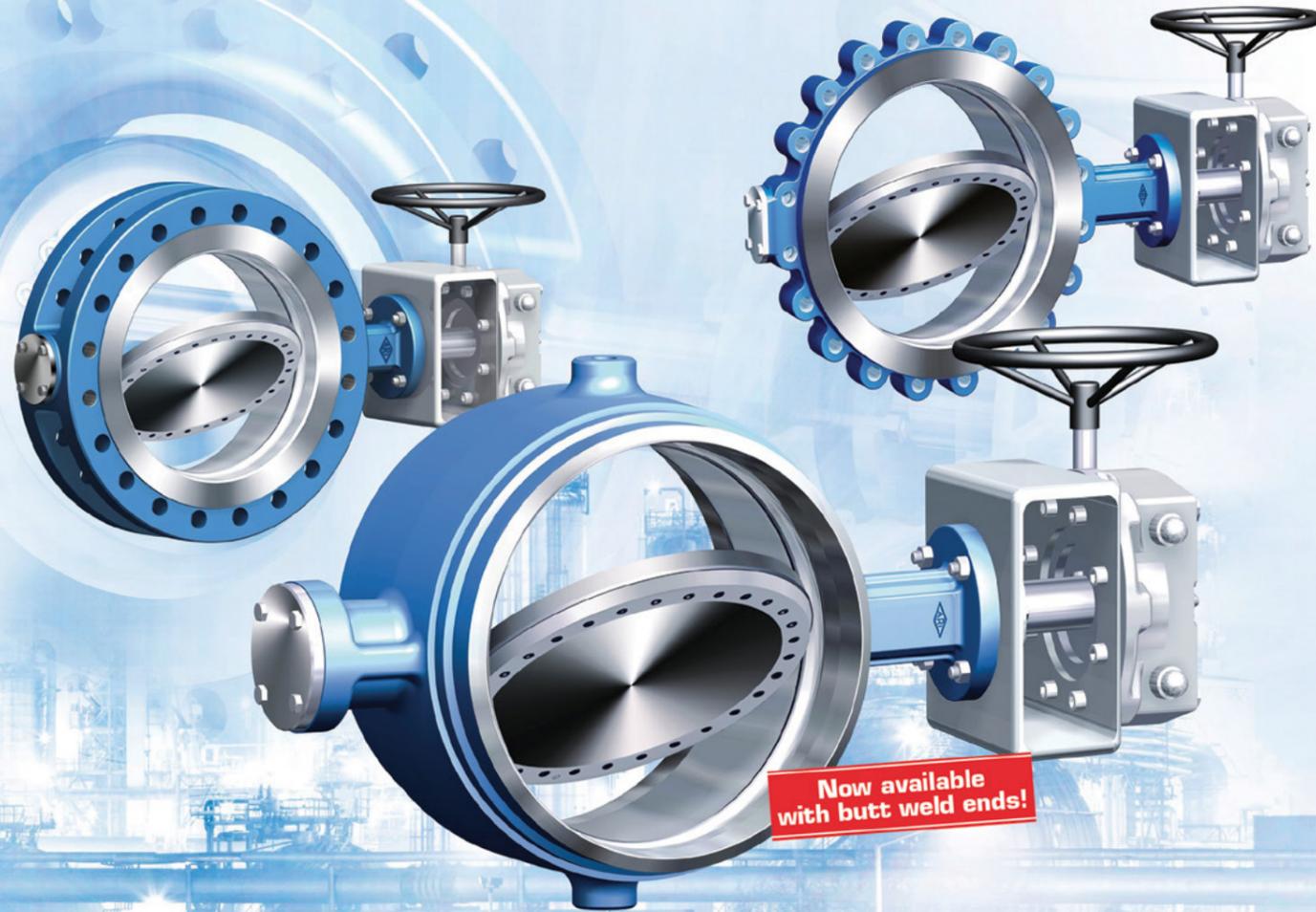
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The Importance Of Training!

Appropriate training leads to the release of creativity and ethical implementation.

Essentially, it is important to understand that engineers don't just work with machines, designs or circuit boards, and engineering doesn't only require a good understanding of science and mathematics.

Engineering needs to be understood in the context of its role in society, and your role as an engineer has to be understood in the context of your work within a company, and ultimately within society. As an engineer, you may be involved in negotiations; you may become a manager, supervising the work of a team of engineers; you may have special responsibilities to ensure that work is safe, or to ensure it is not damaging the environment.

You may have a lot of responsibility and be required to make financial decisions and ethical judgements, as well as mathematical calculations.

Creativity in Engineering

Engineering is a profoundly creative activity. Thomas Edison created electric light. Alexander Graham Bell created telephony. Ove Arup created the Sydney Opera House. Tim Berners-Lee created the world wide web. Engineers bring ideas to life.

Engineers are creative both as initiators and implementers of new ideas. Engineers invent new technologies, such as the telephone or the silicon chip, and they help to make other people's ideas work, such as structural and geotechnical engineers creating technical solutions to make an architect's design for a building stand up. The creative work of engineers is often hidden in the details of everyday life, invisible precisely because it works. Car braking systems, water treatment, gas turbines and mobile data networking, are just a few examples of continuous, creative innovation and improvement by engineers that keep us safe, drive the economy and support our modern lifestyles.

Engineers are creative problem solvers. This can come as a surprise to those who imagine engineering to be formulaic problem solving – analysing a problem to come to a known, single solution. Many of the problems facing society and engineering today are new and complex. As a society we have never before faced a problem like human-induced climate change. Never before have we had the capacity to produce and share so much data about our world, our lives and our finances. Never before have had we had a human population of 7 billion people, all needing food, water, shelter, education, employment and healthcare. In a competitive global market, engineers must constantly innovate to create new solutions and invent new ways of

solving problems. Engineers who expect to provide the same, standard answers in an ever changing, complex world, will soon be out of work.

Engineers have been highly successful in creating the complex technical systems that make modern life possible. Unfortunately, we have been less successful in anticipating and addressing the negative consequences of our creations. Creativity comes with responsibility. Engineers have devised ever more efficient ways of extracting fossil fuels from the Earth and burning them for human benefit, and so must take central responsibility for addressing the urgent problems of climate change through energy efficiency and renewable energy. Engineers have designed and built cars, roads and motorways, and so must face up to the social and environmental problems of congestion, urban sprawl, emissions and rising fuel costs. We have built water systems that provide endless supply to homes despite fresh water being a scarce resource in many places, and now engineers must help people find ways to reduce water wastage. Engineers have created technical systems that have transformed society and the environment. Whilst we should celebrate our achievements we must also acknowledge our failures.

Engineering creativity emerges within the constraints of physical laws, commercial considerations, the needs of the client or employer, society, the law and ethics. Constraints provide boundaries within which to explore problems and propose engineering solutions. Ethical considerations in relation to safety and the environment can provide opportunities and inspiration for engineers to devise innovative solutions, directing their creativity to improve the performance of engineering technologies and systems. Ethical concerns about climate change drive engineers to devise creative solutions to the problem of providing reliable, cheap renewable energy. Ethical concerns about global poverty lead engineers to work with local communities to develop new technologies for water supply and sanitation in the developing world. Engineering ethics is a constraint to bad practice and an inspiration to innovation and creativity.

When working to devise creative solutions to complex social, economic and environmental problems, it is vital that engineers have a good understanding of the context of the problems they are trying to solve. This requires engineers to work with clients, users, communities and other stakeholders to establish a clear understanding of needs, constraints and potential impacts of any proposed solutions. Understanding the needs and requirements of users, communities,

society and the environment, is as important to ethical engineering as meeting the needs of clients or employers. Working with a range of stakeholders can provide additional constraints and inspiration for creative design, leading to solutions that are more likely to have positive outcomes.

When the needs of the wider community and environment are in conflict with the requirements of employers or clients, engineers are faced with creative and ethical dilemmas. In some circumstances it may be possible to devise creative solutions that address seemingly conflicting requirements. For instance, specifying energy efficient lighting or building materials can save money for the building owner and reduce carbon emissions. In other situations, the engineer may need to bring the ethical implications of harmful systems and technologies to the attention of their client or employer. Professional engineers can raise their concerns with their employers or clients and demonstrate the value in ethical practice, they can raise concerns with external organisations such as regulators or professional associations, and they can choose to work only with ethically sound clients or organisations.

Engineering creativity is often understated and unrecognised, including by engineers themselves. Engineers depend on established science and methods for analysis to ensure their designs are safe and reliable. Creativity is usually associated with risk taking, while engineers are required to reduce risks to the public, environment and the commercial success of their clients and employers. However, finding innovative solutions within the boundaries of safety, reliability and efficiency requires considerable creativity. Working with communities and clients to deliver sustainable solutions to complex social, economic and environmental problems requires a diverse set of engineering skills. Creativity is the key to finding inspiration for new engineering designs and solutions within the constraints of ethical engineering practice grounded in science and engineering methods and standards that have evolved over generations.

Training is the key to implementing your creativity and ethical judgements.

Employers should recognise that without offering employees appropriate training they are essentially limiting the tools and skills that can and will be given by their workforce.



Michael Dominguez,
Publisher.

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HS2 awarded first BREEAM Infrastructure certificate

HS2 has become the UK's first infrastructure project to be awarded a BREEAM Infrastructure (pilot) Scheme Certificate for its ambitious sustainability strategy on Phase 1 of the project.

The assessment demonstrates that HS2 is committed to going beyond enhancement and protection of the environment, to address the key social and economic impacts of the development. It includes features such as working in harmony with communities, being a great neighbour, putting safety and wellbeing at the heart of the project, and building sustainable economic benefits for the whole of the UK, such as better skills and career opportunities for a new generation.

HS2 Environment Director, Peter Miller, said, 'We are very pleased to receive this BREEAM Infrastructure certificate. Our goal with HS2 is to design and build

the most sustainable high-speed railway of its kind in the world, working in partnership with our supply chain and local communities to leave a positive legacy for future infrastructure projects both in the UK and beyond. This certificate is a testament to our sustainability commitments and to the lasting benefits of the HS2 project.'

BREEAM Infrastructure* is part of the international BREEAM family of sustainability standards for buildings and infrastructure. Later this year the best of BREEAM Infrastructure will be brought together with market leading sustainable infrastructure scheme CEEQUAL* to provide a new world class

international scheme for the future called CEEQUAL (2018). The CEEQUAL (2018) development process includes significant valuable feedback and learning from the application of the BREEAM Infrastructure pilot to HS2.

BRE Director of Infrastructure Chris Broadbent said 'From 2014 HS2 was the first project to engage with BRE in the development of BREEAM Infrastructure working with us to pioneer a new approach to a sustainability strategy which applies right across the entire HS2 project. This is a first for the UK and it will set the standards for future infrastructure projects around the world'

For further information, visit:
www.breeam.com

Rittal Hygienic Design Fire Extinguisher Enclosure

Rittal has been developing its Hygienic Design range over many years. Its customers have benefitted from better protection of their electrical and electronic equipment, as well as less time spent washing down, and cleaner manufacturing environments.

Fire extinguishers are an absolute necessity on any manufacturing site, but they can be a haven for dirt and bacteria.

A new addition to the range, the Hygienic Design fire extinguisher enclosure, is a simple solution that not only reduces the risk of contamination from these essential devices, it also protects them, helping you to ensure that they are fully functional whenever they're needed.



Incorporating many of the features of the Hygienic Design compact enclosure, the fire extinguisher housing solves the same issues relating to cleanliness and hygiene.

Its sloped roof, blue silicone seal, internal hinges and locking mechanism, welded stainless steel construction, viewing window and T-handle all result in fewer dirt traps and quick and easy cleaning. These also provide ingress protection to IP 59K, and allow for inventory checks at a glance as well as, crucially, swift and effortless single-handed access.

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

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Apex Unveils State-of-the-Art European HQ in Response to Increasing Demand for Self-Serve Automation

New Facility Enhances Customer Support Capabilities

Apex Supply Chain Technologies Ltd. has expanded its presence to better serve its growing European customer base. An official opening ceremony was held at Apex House, the company's new facility in Hartlebury, Worcestershire, on Wednesday 7th February 2018 for customers, area dignitaries, industry partners and employees.



More than double the size of its previous UK footprint, Apex House is a 46,000 square-foot facility bringing together employees from assembly, sales, operations, customer support and administration across multiple locations into a single, customer-focused facility.

Central to this facility is a purpose-built, 3,750 square-foot Technology Centre, featuring the latest Apex solutions for demonstrations and ample meeting space for customer training. It also promotes collaboration across employees, customers and partners.

"By investing in a larger footprint at a single location for our European operations, Apex is positioned to deliver even greater value to our customers," says Julian Adams, CEO of Apex Supply Chain Technologies, Ltd. "As our customers and prospects see the positive impact self-serve automation has on



operational processes, Apex can more easily meet their changing needs."

Apex established a UK presence in 2011. Since then, it has expanded the application of self-serve, automation technology to a set of industry sectors as diverse as retail, restaurants, foodservice, warehousing, logistics, and industrial manufacturing.

For further information, visit: <https://www.apexsupplychain.com/gb/>

L&M SURVEY INVESTS £1.2M IN SPHERON-VR SCENECAM 'NIGHT TO DAY' CAMERAS

L&M Survey Services has announced a £1.2m investment in 22 SceneCam Cameras and SceneCenter 2.0 content management software.



The investment in SceneCam spherical HDR (High Dynamic Range) imagery will provide L&M Survey's clients with game changing 'night to day' Visual Mapping services.

SceneCam will be used for a wide variety of roles including dilapidation and inspection services, VR content capturing, 3D from photogrammetry, site familiarisation and documentation.

The technology will also transform health and safety on site by enabling L&M Survey, its clients' personnel and their partners to familiarise themselves with the site access points and track conditions from the safety of their desks, before they try to find, park and access in the middle of the night.

L&M Survey Services Ltd is a leading UK professional surveying business offering services for

consulting engineers, rail, government agencies & utility companies.

The 22 SceneCam Cameras were acquired from L&M Survey's new partner Spheron-VR AG, known globally as pioneers in High Dynamic Range (HDR) camera technology and experts in visual content management software.

L&M Survey Services Commercial Director Alasdair Kirkwood said: "Our initial decision to invest in SpheronVR technology came largely from the benefits we immediately saw in reducing risk for our own staff on site. We today view this technology, particularly in our primary area of expertise, rail surveying, as the biggest single contribution to rail staff safety since the invention of Hi-Vis: it allows our survey teams, our clients and their partners to visit the sites, familiarise themselves with the site access

points and track conditions from their desks, before they try to find, park and access in the middle of the night."

Alasdair added: "Our clients are constantly asking for more site information as this just saves time and money at every stage of the project. We now add the spherical HDR imagery to the normal topographic survey deliverables, 2D, 3D drawings and Revit Models, adding complete site full colour 360 tour with the ability to take dimensions from anyone's desktop.

Any documentation can be attached to the spherical images, from survey data and drawings, as-built information, reports, safety notes or handover documentation. All in a simple to use interface that anyone can use without having a cad licence or specialist software from wherever they sit."

The technology offers the capability of virtual onsite scene documentation. SceneWorks have tailored solutions for areas such as Rail, Nuclear, Oil and Gas, Utilities, Construction, BIM, and other Visual Asset Mapping applications.



To find out more about this latest investment by L&M Survey Services, visit: www.lmsurveyservices.com or call: 01563 533368.

Student And Apprentice Engineers Gear Up For Railway Engineering Competition

Competition run by the Institution of Mechanical Engineers requires teams of up-and-coming engineers to build, design and run a locomotive



Eleven student and apprentice teams from the UK, Germany and Egypt are preparing to take part in the Institution of Mechanical Engineers' Railway Challenge in Stapleford Miniature Railway in Leicestershire in June.

The competition, which was launched in 2012, requires participants to design and manufacture a miniature, 10 1/4" gauge, railway locomotive in accordance with a number of precise rules.

The students' locomotives are then tested at the competition weekend, on 28 June – 1 July 2018, in a series of track based and presentation challenges. These challenges include a design report and business presentation, as well as track-based challenges on the locomotive's traction, ride comfort, noise, maintainability and ability to store energy.

Last year's winners, SNC Lavalin and Transit, will be defending their title.

Professor Simon Iwnicki, Chairman of Railway Challenge, said:

"The Institution's Railway Challenge is not simply a locomotive building contest, but a competition that centres on emerging technology and is specifically focused on the application of innovation to key issues such as efficiency and energy recovery. The

railway industry is entering a period of rapid changes due to the global demand for producing efficient high speed transport systems, taking freight on to rail and off road, and driving down carbon emissions from transport. These challenges must be met by the next generation of railway engineers and the Railway Challenge is providing teams of young engineers with experience of designing and manufacturing a prototype vehicle to meet these demands."

Luke Foy, a past Team Leader of the Transport for London team, said of the competition:

"Taking part in the competition helped the whole team gain a first hand experience of the whole process of developing a locomotive. It allowed us to produce a design from a blank sheet of paper and construct an entire vehicle from scratch, both of which are hard to get at graduate and apprentice level. It put us in control of our own finances and time management, expanding our experience beyond what regular engineering placements can provide. The only deadline was the competition day; it was down to us to manage the whole project throughout the year.

"The experience gained working on the project was invaluable. Not only did it align perfectly to the UK-SPEC to help towards my Chartership, but it also allowed everyone to get involved in many

areas they may not of had the opportunity to in their day to day roles. In addition to vast increase in technical knowledge, the larger benefit to me was the soft skills the project provides: leading people, collaborating with a team of peers, meeting personal deadlines, reporting to Directors and corresponding with external media, all of which has made me a more rounded and confident engineer.

"I would thoroughly recommend the Railway Challenge to every engineer not only for the benefits it provides but also because it was one of the most enjoyable experiences throughout my graduate years!"

Confirmed teams taking part in the Railway Challenge 2018 are:

1. University of Warwick
2. University of Sheffield
3. FH Aachen and Reuschling University, Germany
4. Siemens and University of Southampton
5. SNC-Lavalin Rail and Transit
6. University of Huddersfield
7. Ricardo Rail
8. University of Birmingham
9. TFL
10. Bombardier Transportation and The University of Derby
11. Helwan University from Egypt

Journalists and photographers are invited to attend the Railway Challenge competition weekend

WHEN: 29 June – 1 July 2018: 9.00am – 5.30pm

(The best days to attend to see locomotives on the track are Saturday 30 June and Sunday 1 July.)

WHERE: Stapleford Miniature Railway, The Old Forge, Stapleford LE14 2SF

To register attendance or for more information, call Aurelie Hulse on 020 7973 1261 or email media@imeche.org

Slimline Motor Controllers Create Space In Enclosures

Small drives for machines and equipment are typically powered up to 9.0 A, and are protected by conventional motor circuit breakers. However, when space in the enclosure is limited, it is very difficult to find room for significant numbers of protective components.

Rittal's new motor controllers for its RiLine Compact power distribution system offers a sophisticated solution.

To assist the engineer Rittal has also produced a 3D configurator that reduces the time required to generate Compact RiLine busbar systems.

Following the successful launch of the busbar system "RiLine Compact" at the beginning of the year, Rittal is now expanding the product range.

Until now, the small 125-A-max busbar system consisted entirely of shock-hazard-protected boards, which form the basis of the system, along with assembly components such as connection adapters for busbar infeed and component adapters for the easy set-up of switchgear and protection devices produced by other manufacturers.

Rittal will shortly be launching new motor controllers into the range. These can be fitted directly and easily onto the board in a one-step installation, to minimise the time and effort spent on wiring.

A compact solution for small spaces

Rittal offers motor controllers in three staggered current ranges: 8 A/2.4 A/8 A. These combine the functions of direct starter and reversing starter within one single device.

Its slimline profile - just 22.5 mm wide - is particularly impressive and frees up around 50 percent more space compared to the standard 45 mm-wide switching device in the range, and as much as 75 percent more space compared to the 90 mm-wide reversing combinations.

Hybrid technology to impress

The three-phase motor controller is a high-performance hybrid switching device with a current monitoring function, offering a longer lifespan and low-loss operation.

The principle behind it is simple: first, the electronics are switched on using the input signal, and then the mechanical contacts takeover for the duration.

The motor controller also provides diagnostics, which to detect internal and external errors. The operating statuses and error messages can then be evaluated through the four different illuminated LEDs.

3D Configurator

To assist the engineer Rittal has also produced a 3 D configurator that reduces the time required to generate Compact RiLine busbar systems. A series of easy to follow steps produces detailed



drawings, the ability to select component adaptors, and a bill of materials https://www.rittal.com/com_en/riLine/konfigurator/#/6.

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

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Double awards delight for Manufacturer of the Year Weir Minerals Europe

Weir Minerals Europe has been named Manufacturer of the Year by the EFF (formerly Engineering Employers' Federation) at the annual national award ceremony.

The Todmorden-based company competed against other leading manufacturers such as Jaguar Land Rover, Airbus and BAE Systems to claim the title at the EFF Future Manufacturing Awards in London. It also triumphed in the Health and Safety award.

The panel of judges, made up of business leaders, industry experts and academics, was impressed with Weir Minerals' continued commitment to investing in technology and efficiency, in addition to its 'zero harm' workplace policy.

While the company has a strong focus on health and safety, it has invested specifically in addressing ergonomic and musculoskeletal risks, driving home the message across every service centre and office in its region which covers Europe, North Africa, Turkey and Central Asia.

Jan Peter van Leeuwen, Weir Minerals Europe's Managing Director, said the award highlighted both his team's dedication to health and safety

excellence, and the company's culture of innovation.

"This is an incredible team effort," he said. "We are proud to have secured this ahead of so many leading companies and it is an acknowledgement of our exceptional people, who make these milestones possible. We must continue to work closely together to deliver outstanding solutions for our customers."

Stephen Phipson, CEO at the EFF, said: "Weir Minerals Europe is a fantastic example of a company that has moved health and safety from simply 'compliance' to true 'innovation' – reaping the rewards for their efforts. This award is justly deserved, but their real award is the greater employee wellbeing and operational efficiency that high levels of health and safety engagement and standards brings."

Weir Minerals was named as the regional winner for the north east, Yorkshire and the Humber in the Health and Safety category in November last year.



Representatives travelled to London for the national ceremony, on January 25, where the company was named Health and Safety winner before being awarded the overall title of Manufacturer of the Year.

The company manufactures wear-resistant, highly engineered processing equipment sold to a diverse range of sectors including mining and minerals processing, aggregates, water and industry in general.

The EFF was founded 120 years ago to support and champion manufacturing in the United Kingdom.

For more information visit: www.weirminerals.com

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UAE Oil & Gas Storage Chooses Denso Steelcoat Tank Base Protection

BPGIC is a prominent tank storage operator whose activities in Fujairah, United Arab Emirates, include the storing of crude oil, fuel oil, and all types of oil products and gas.

Denso Steelcoat Tank Base Protection System was recently applied on all BPGIC's tanks in their new Fujairah storage facilities terminal. The approval was based on the successful record of this Denso system used by other tank farm operators in the UAE.

After hand power tool cleaning and the application of Denso Hi-Tack Primer, Densyl Mastic was used to fill all voids before the areas were wrapped with a layer of Denso Hi-Tack Tape. Denso Primer D was then applied to a masked

area before a layer of Denso Ultraseal RT Tape was applied. Finally the surface was over-coated with Denso Acrylic topcoat to form a lasting waterproof and flexible seal.

The external base area of steel storage tanks are susceptible to corrosion problems. The Steelcoat Tank Base Protection System seals the vulnerable area while remaining flexible enough to move with the tank when it gets filled and emptied, while also providing a tough, highly weather-resistant outer armouring.



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New Rittal Hygienic Design Brochure

Rittal's latest Hygienic Design (HD) brochure 'Extra Cleanliness Guaranteed' has just been published.

It features a range of easy-to-clean enclosures, cooling products and accessories that offer outstanding protection for electrical and electronic equipment, while minimising risks of contamination in hygienic environments.

Users can browse Rittal's HD portfolio including terminal boxes, compact enclosures, the fire extinguisher housing, the command panel, the printer enclosure, modular system enclosures, air/water heat exchangers and accessories. All have been developed with hygiene, cleanliness and component protection in mind.

Its HD enclosures satisfy an ingress protection

category of IP 69K. They are dust-tight and can withstand high pressure jets of hot water, ensuring they protect installed equipment at all times - even in washdown areas - thus minimising unscheduled downtime.

Furthermore, they are engineered to be quick and simple to clean. Features such as blue silicone seals, sloped roofs, internal hinges and welded stainless steel construction reduce the risk of cross-contamination and speed up cleaning, maximising manufacturing time.

Products from Rittal's Hygienic Design range will be on show along with other solutions from Rittal



– The System, at Drives and Controls (the NEC Birmingham, 10-12 April 2018), on Stand D720.

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

The Ultimate Light-Weight Military Vehicle

The sheer variety of military vehicles currently out for tender demonstrates the lack of consensus on military vehicle design at present. However, it does also highlight the willingness of original equipment manufacturers (OEMs) to push the envelope, contributing to the development of high-tech, well-armoured and incredibly agile military vehicles. It is because of this that, steering system specialist, Pailton Engineering was determined to meet an unusually difficult specification of a particular military vehicle OEM.



Established nearly 50 years ago, Pailton Engineering designs, manufactures and tests bespoke steering systems for large vehicles, including military, haulage and construction vehicles. Over the last two decades, the Pailton team has developed a long-standing relationship with various military vehicle OEMs, providing the likes of ball joints, drag links and steering columns.

The team at Pailton Engineering received a new project request, regarding a tender for a military-grade drag link assembly. This specification was unlike any they had designed and manufactured before.

Downsizing

A drag link is made up of two ball joints with an intermediate tube. The military vehicle OEM was looking for a steering specialist to design and create a small, lightweight drag link assembly that would allow the vehicle to remain light and nimble, but also have the strength to handle the maximum load

values the vehicle could face during its extreme application.

"The vehicle in question was a light weight personnel carrier, with speed being the key feature of its design," said Eric Sonahee, design and development engineer at Pailton Engineering. "Designed to have a top speed of 70mph, it has the potential to be one of the most agile and nimble military vehicles in the industry.

"This is why every gram of weight counted. So, the drag link needed to be able to withstand maximum usage loads in one small, light and compact part. This was no easy task, especially considering that this vehicle could be used all over the world and, therefore, needed to be tested against temperatures as low as -40 degrees Celsius."

Competition

Pailton's team of designers analysed the loading information, selected the right joints by carrying

out theoretical calculations on all aspects of the assembly. However, this standard way of working wasn't sufficient for such a non-standard request.

"As the customer wanted such a small, light joint, just carrying out a theoretical calculation wasn't enough," said Sonahee. "So, we also undertook a variety of physical testing to find a small enough part to fit the brief — which was incredibly challenging. We then took a different path to get around this problem, keeping the same geometry of the drag link but changing the material to a lightweight, yet strong, alternative."

Testing matters

Pailton continually carried out testing of this non-standard drag link throughout the design process to very accurate loads, in order to generate detailed findings. This was especially important as the military vehicle OEM wanted to put their vehicles straight into an intensive test program, and was expecting the components to perform to the highest level.

Winners

The OEM had multiple test vehicles set up at its site to test different parts from a range of potential suppliers. These vehicles were intensively trialled on an assault course, simulating driving thousands of miles over the duration of a just a week. This gruelling process proved that Pailton Engineering's components, as well as the team's attention to detail, was unbeatable. This led to them eventually winning the contract

While this customer may have thrown a curve ball with this unique brief, Pailton Engineering proved that anything is possible with bespoke design and rigorous testing.

For further details visit: www.pailton.com

Innovation is a key theme at the Three Counties Defence and Security Expo 2018 (3CDSE) 31st May 2018

Following the success of the first Hereford Defence and Security Expo in 2017, Harrison Clark Rickerbys, one of the UK's Top 100 law firms, is organising a second major defence and security expo, the Three Counties Defence and Security Expo (3CDSE) 2018, which will be held at the Three Counties Showground, Malvern on 31st May 2018.



The event, which will be of interest to those serving in the army, navy and air forces as well as to the defence and security industry, is the inspiration of Richard Morgan, partner and head of the Defence, Security and the Forces team at Harrison Clark Rickerbys.

Richard said; "The first event at The Courtyard Theatre, Hereford, was over-subscribed, reaching the venue capacity of 30 exhibitors (with an unfulfilled waiting list of interested businesses) and 400 delegates, who attended from across the UK. Building on this success the event has been scaled up, and we're delighted that the Three Counties Showground in Malvern will be this year's venue, with capacity for up to 150 exhibitors and 2,000 delegates."

He continued; "The regional dynamic and still relatively intimate scale of the event offers business to business networking opportunities between contributors to the Defence and Security sector in the Three Counties area as well as with Prime contractors and the military. This means that unlike larger Expos, delegates have the opportunity to meet with decision makers."

businesses and experts based in the Three Counties, including Qinetiq. The exhibition space will be zoned, to include cyber security, hardware and vehicles, IT and communications (C4ITS) and unmanned aerial vehicles.

Dr Alex Tarter, head of Cyber Consulting at Thales, has been working in the field of critical national infrastructure cyber security for over 10 years, and will be one of the presenters at the event. Dr. Tarter said; "Thales believes in the strength and diversity of the defence and security supply chain which is why we're happy to support the Three Counties Defence and Security Expo. Given the recent significant changes to our industry through the introduction of DEFCON 658, GDPR and the NIS Directive, we see the value in our sector coming together, sharing valuable lessons learned and contributing to the creation of a vibrant and secure environment for UK PLC to continue to blossom on the world-stage."

In addition to the presentation programme, there will be a networking breakfast with a keynote speaker, as well as a full day of workshops and presentations covering international trade, grants and finance and practical information about doing business with the MoD.

Outside the exhibition hall there will a military display; inside, alongside the main defence and security exhibition, there will be a professional village presenting organisations such as banks and recruitment businesses who provide professional advice and specialist services to the defence industry. Members of the West Midlands Reserve Forces' and Cadets' Association will also be on hand to answer employer queries about the MoD's Employer Covenant.

Richard Morgan concluded; "3CDSE will appeal to those operating in the defence and security industry, those seeking products and services from the industry and those seeking to engage with the industry for joint ventures, employment, education or other initiatives."

Further information about the event, including information about exhibiting and attending can be found at www.3cdse.co.uk

3CDSE will be run in partnership with The Manufacturers' Organisation (EEF) and its dedicated defence sub-group, National Defence Industries (NDI).

Local business groups and government bodies, including the Herefordshire & Worcestershire Chamber of Commerce, Worcestershire Local Enterprise Partnership, Worcestershire Business Central, Hereford Enterprise Zone/Skylon Park, Gloucestershire Local Enterprise Partnership have also partnered with Harrison Clark Rickerbys to support the event.

With a theme of innovation, commitments of support and participation have been received from a number of senior military speakers including Brigadier Robin Sergeant, Head of Future Force Development of the British Army; Danny Wootton, Head of Innovation, MoD and Colonel Jani Marok RMR, Head of the Royal Marine Reserves.

Leading defence and security experts from prime industry contractors such as Vodafone, BAE Systems and Thales will also be presenting and exhibiting, alongside leading defence and security

Mobius Institute Becomes the Top Vibration Analysis Training Organization As It Surpasses 25,000 Students

Mobius Institute Has Trained More Than 25,000 Vibration Analysts from 173 Countries Since Its ISO 18436 Category I - IV Classroom Training and Certification Commenced in 2005.



Mobius Institute, the premier provider of vibration analysis and machine reliability training courses and products, today announced that it has reached another significant milestone; having now trained more than 25,000 vibration analysts since it began classroom vibration analysis courses in 2005. Mobius Institute is accredited to ISO 17024 and ISO 18436-1 and provides training and accredited certification according to ISO 18436-1 and ISO 18436-2 through its training centers in over 50 countries. With nearly 3,800 students trained in the previous twelve months, Mobius continues its significant growth that it has experienced consistently since launching its classroom and online vibration training courses and accredited certification.

Mobius Institute began delivering vibration analysis training in 1999 with the launch of its flagship

computer-based training product; iLearnVibration™. In 2005, Mobius moved its vibration analysis training to the classroom. In 2012, Mobius Institute became accredited, being one of only three organizations that offer accredited certification worldwide.

The 25,000-student achievement only considers ISO 18436 Category I-IV vibration analyst training. It does not include the thousands of students successfully trained in reliability improvement, precision maintenance techniques and condition monitoring courses, non-certified vibration/balancing/alignment courses, or individuals trained through Mobius computer-based training products.

"We are proud of the fact that we've taken the leadership role in vibration analysis training & certification, but most proud that we have helped so many people master the important field of vibration

analysis" said Jason Tranter, founder and CEO, Mobius Institute. "In the US and around the world, vibration analysts see the benefit of our training style which incorporates modern animations and software simulations, as they learn to understand these complex subjects."

About Mobius Institute

Mobius Institute is a worldwide provider of reliability improvement, condition monitoring and precision maintenance education to industrial plant managers, reliability engineers and condition monitoring specialists, allowing plants to be successful in implementing reliability improvement and condition monitoring programs. Mobius delivers training via public, in-plant and online education programs. Mobius' key advantage is its unique training style that uses innovative 3D animations and software simulations, making complex topics easier to understand. More than 25,000 vibration analysts from 173 countries have been classroom-trained since 2005, and thousands more through its e-Learning products. Mobius Institute Board of Certification is ISO 9001 certified and is an ISO/IEC 17024 and ISO 18436-1 accredited certification body that provides globally recognized certification to Category I-IV vibration analysts in accordance with ISO 18436-1 and 18436-2. Mobius Institute has offices in Australia, Belgium and the United States, and authorized training centers in 50 countries.

To learn more about Mobius Institute, visit www.mobiusinstitute.com.

The Future Is Bright For UK Manufacturing, Says ADI Group

A recent report by Santander and EEF has highlighted the growth potential of the UK manufacturing sector. A welcome change from the doom and gloom of recent years, the report found that the sector generates 10 per cent of the UK's total economic output and produces a staggering 44 per cent of the goods and services we export to international markets.



ADI Group welcomes the findings and believes that 2018 will be another productive year for UK manufacturing if manufacturers embrace new technologies. Ian Millington, managing director of adi Automation, part of the adi Group of companies, comments:

1. Industry 4.0

"This is undoubtedly the flavour of the month. Not only would companies reap significant rewards from investing the time and money into the Fourth Industrial Revolution, it's vital to maintaining the continuous growth of UK manufacturing.

"Industry 4.0 creates new, digitally-enabled opportunities to enhance operational efficiency via

the automation of industrial processes, connectivity between industrial equipment, and ongoing data capture and visualisation. As part of this digital shift, manufacturers will be required to broaden their horizons and upgrade what they already have, in both staff skill and in manufacturing processes, in order to make the most of our increasingly connected world."

2. Cybersecurity

"If businesses want to ensure that they benefit from the increasingly digital manufacturing landscape, they must be prepared to overcome some significant challenges. Though cybersecurity is important, with more than 200,000 malware programs launching per day, companies should not be afraid of it as there are a multitude of avenues to help mitigate the risk. This includes separation of IT (information technology) and OT (operational technology) systems, as well as setting up robust security protocols and access permissions to certain persons, who can only access data that is necessary for their job role.

"That said, as highlighted by the EEF/Santander report, highly skilled employees will be crucial if UK manufacturers are to work towards the country's ambitions for growth."

3. Skills

"The manufacturing industry is currently facing a skills crisis. The 2017 Engineering UK: The State of Engineering report indicates an annual shortfall of at least 20,000 skilled employees, and forecasts that 186,000 people with engineering skills will be required each year from now until 2024 in order to meet the country's manufacturing needs.²

"As the industry becomes increasingly reliant on digital methods such as factory automation, the reality is that the UK is not currently producing enough young people equipped with the right skills fast enough.

"In light of this and in an effort to promote the skills the industry needs, adi has made a concerted effort to grow its apprenticeship programmes, and we encourage other businesses to do the same.

"Going into 2018, manufacturers must fully embrace change to achieve the operational excellence required to remain relevant with customers, business partners and the industry as a whole. With research also highlighting the positive performance of the sector this past year, manufacturers are perfectly justified in feeling ambitious."

For further information on adi Automation, please visit: www.adiautomation.com.

EFFICIENT MATERIAL HANDLING WITH BNL PLASTIC CONVEYOR BEARINGS

Maximise Performance & Minimise Downtime with Plastic Bearings



Material handling can be a fundamental part of a business's success in manufacturing, processing and shipping products to market. To do this efficiently, a business needs systems that can maintain performance over time. Production must keep moving and to ensure this, conveyor systems and components need to do so too.

BNL have over 40 years' experience designing and manufacturing plastic bearings for material handling, food processing and industrial machinery systems. Our conveyor system range includes end cap bearings, sealed end cap bearings, skate wheel bearings and wheels and rollers in speciality materials that can withstand harsh chemicals and extreme temperatures.

We also design and manufacture custom bearings for proprietary systems - to extend load capability, for bespoke belts, or to include features such as gear teeth, sprockets or pulley profiles.



Our products are used in material handling and processing lines for Food, Pharma, Packaging, Airports

and Cargo, Warehousing, Parcel Distribution, Electronics, Consumer Goods and Supermarkets.

Our plastic conveyor bearings meet the performance challenges faced by our customers in these industries, such as frequent maintenance and wash downs, no lubrication, ingress of debris and product contamination.

Our bearings are made of primarily POM/Acetal



material and stainless steel balls and are resistant to the types of corrosion suffered by low grade materials and metal bearings when exposed to cleaning products during frequent wash downs, for example in food processing.

The products being handled or transported can themselves cause performance issues. Acids, alkalis, abrasive powders or dusts; these are all possible by-products in a material handling operation, contaminating the mechanical systems and bearings so that they wear faster or seize up. BNL introduced sealed end cap bearings to the market to solve just this problem - preventing the ingress of debris from affecting performance of the bearings and rollers for our conveyor customers.



POM/Acetal is a naturally lubricated material, so BNL's conveyor bearings do not need constant

maintenance to replace lubrication. Systems can perform without experiencing the drive and system overload issues from lack of lubrication that is often encountered by metal bearings - and without halting operations to replace it.

Our products are available in different material configurations to match application requirements. Additionally, our speciality material bearings are made of PEEK and UHMWPE with glass, PE or ZO balls, for when the conveyor system needs to withstand harsh chemicals and extreme temperatures, such as in glass and electronics production.

BNL use manufacturing techniques, specifically developed for plastic bearing design and production, to produce bearings that have excellent wear rates in comparison to other bearings on the market. By reducing the requirement for maintenance and lessening bearing wear in conveyor systems, BNL bearings ensure continual product supply at optimum performance whilst avoiding costly downtime.

View our range of plastic conveyor system bearings and our other standard products:
<http://bnl-bearings.com/bnl-standard-products/>

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ATS Electro-Lube (UK) Ltd Have Added Another Product To Their Well Proven Range Of Self Contained Automatic Lubricators.

The new Jack-Luber is a fully self-contained battery powered lubricator available with either a 125cc or 250cc replaceable grease cartridge.

Grease cartridges can be supplied filled with the specific brand & type of grease type required for the application & can be changed in seconds by the user.

As the Jack-Luber is a motor-driven lubricator, it can generate up to 250psi operating pressure, meaning that it can be used with long feed lines or in cases

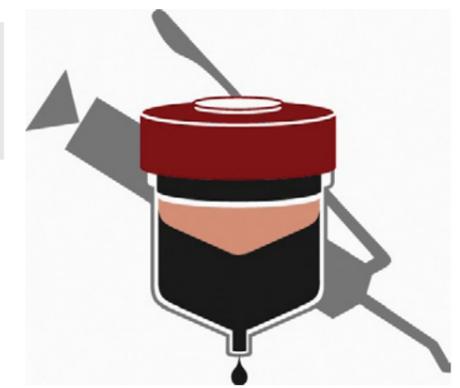


a Jackscrew mechanism which reduces wear & therefore prolongs the operational life of the unit.

Once activated, the Jack-Luber runs intermittently to supply grease on the optimum "Little and Often" principle. Integral switches allow users to set the required feed rate, allowing up to 2 years operation between cartridge/battery change.

The Jack-Luber is suitable for indoor or outdoor use and is not affected by changes in temperature. In addition, the Jack-Luber is certified intrinsically safe for use in hazardous areas.

This new addition fills the gap in the ATS Electro-Lube product range, fitting between the low pressure (50 psi) Electro-Luber Gas Series and the



higher pressure (900 psi) Ultimate-Luber Motor Drive Series.

Detailed information, including demonstration videos for the entire ATS Electro-Lube product range can be found at their new website:
www.atselectrolube.co.uk.

Grasping The Next Generation Of Robotics

The Amazon Picking Challenge, set by global online retailer Amazon, challenged roboticists to create a robot that can pick and stow twelve products from a shelf, into a bag. The Shadow Robot Company, designer and manufacturer of state-of-the-art anthropomorphic robot hands, addressed the challenge with the help of precision bearing specialist, SMB Bearings.



Sounds simple right? Well Amazon set this challenge because this is the only area of their warehousing process that isn't currently mechanised, due to the sheer variety of objects to be packed. This presents a gap in robotics for a smart grasper that is able to recognise and pick different objects effectively.

Grasping is a problem for many industries, not just picking up an object — but grasping it well and ensuring that each grasp is correct for the object that's being picked.

"More and more I've had people come up to me asking how we can improve robotic grasping," said Rich Walker, managing director at The Shadow Robot Company. "The market is pushing us to improve the technology."

Standard industrial grippers are built to pick up one thing, move it and put it down. If you have two

different sets of objects, you'll need two different grippers to perform the task. Modern manufacturers are increasingly diverse, producing reams of different products, often with custom finishes. Single use tooling is no longer sufficient to keep up with demand. There is a need for tooling that is easily adaptable to pick up many different types of objects.

The robot engineers at the Shadow Robot Company have had plenty of experience manufacturing dextrous robotic hands for academia and nimble work, but this type of robot isn't suitable for industrial applications. Instead, they looked to create a robust and reliable Smart Grasping System™, with the intelligence to recognise many different objects and select the appropriate grasp.

As part of the design process, the Shadow Robot Company needed specific bearings with very tight tolerances in dimensional accuracy. This is important

for ease of installation and accuracy of the smart grasper's movements. So, the team contacted SMB Bearings as the business is well known for consistency and vast supply of non-standard bearings.

Based on the requirements of this unique project, SMB Bearings recommended and supplied EZO thin-type precision bearings.

"The EZO thin-type precision bearings we provide have such accuracy as a result of EZO's advanced manufacturing techniques and quality control," explained Chris Johnson, managing director at SMB Bearings. "If every bearing that comes off the production line is not the same shape and size every time, then the accuracy of the robot joint positions and overall behaviour would be compromised."

With the support of SMB Bearings and using a small sample of the EZO thin-type precision bearings, the research and development team at the Shadow Robot Company trialled different grease levels to find the optimal grease fill. As robotic movements need predictable and accurate some friction is essential to ensure this control. A process of testing and trial and error demonstrated the correct friction coefficient and its corresponding percentage grease fill for optimum performance.

SMB bearings then supplied the full amount of bearings required to this exact specification.

"These bearings were very easy to install in our Smart Grasping System™," said Luke Moss, robot engineer at the Shadow Robot Company. "This is a direct result of the quality, tolerance and consistency of these bearings, something that is essential for repeated assembly and high precision across multiple robots. Additionally, as the essential core to the lifespan of any robot, we expect these bearings to outlive most other parts of the Smart Grasping System™."

Created to stand-out from standard graspers on the market, the Smart Grasping System is still in development, but ultimately will have built-in "smart" intelligence, allowing it to pick up many types of objects, reducing the need for numerous hands in a factory. Additionally, torque sensing on each joint will ensure the Hand can make the most accurate and



reliable grasp of whatever object it picks up.

"Industry 4.0 is on everyone's lips at the minute, but we can't forget the basics," said Chris Johnson, managing director at SMB Bearings. "Bearings may not be considered smart, but if they enable the reliability and robustness of smart systems such as this Smart Grasping System™, then I guess that is as close to being smart as a bearing can get."

"I'm calling it transformative, because I know it will transform the manufacturing industry," added Rich Walker, managing director at the Shadow Robot Company. "When companies have deployed robots in the past, they've used grippers that were designed to perform one function, so you get a robot that performs one function. The modern manufacturing industry needs more flexibility than

this, and the Smart Grasping System™ will address this need."

The Smart Grasping System™ will reduce the need for manufacturers to keep investing new grippers for different tasks. Changing machinery incurs huge costs, and takes up a lot of time. Equally, having many robots performing one single task is wasteful in terms of both capital costs and floor space. Together, SMB Bearings and the Shadow Robot Company are working to solve this real-world manufacturing problem, freeing up floor space for a more efficient production line.

Remember the Amazon Picking Challenge we mentioned? The Shadow Robot Company set its own picking challenge, using objects from Amazon's challenge as well as others, to put the Smart Grasping System™ to the test. The Smart Grasper recognised and grasped these objects with ease, demonstrating the success of smart engineering and high precision bearings, to give the manufacturing industry what it desperately needs.

For further information visit:
www.smbbearings.com

High spec, low maintenance electromechanical actuator range enhanced

The new Diakont DA78 series electromechanical actuator is now available from INMOCO and compliments the existing Diakont range.



The DA78 uses the same roller screw technology as the DA67, DA99 and DA140 actuators and offers size and performance levels between the DA67 and DA99 units. All DA actuators have an integrated motor and roller screw to provide superior performance in a compact space envelope.

The roller screw design provides a large contact surface for converting rotary torque to linear motion with minimal backlash. This makes the DA actuators best in class in terms of reliability, lifetime, load capacity, tolerance to shock loads, absence of vibrations and output efficiency.

The permanent magnet synchronous motors used in the Das are designed to provide precision accuracy

in highly dynamic force and motion applications, while also delivering exceptional reliability. Patented lubrication ports mean the actuators can be re-lubricated without having to be disassembled or removed from their host machines.

The DA series provides performance in the ranges of: continuous force (stall rating) up to 22,300 N (5,013 lbf); nominal backlash 0.1 mm (0.004 in); lead accuracy 0.025 mm/300mm (0.001 in/ft) and speeds up to 833 mm/s (32.8 in/sec).

The DA78 is available in three formats, the DA78-22, DA78-25 and DA78-35. These provide peak forces of 9000N to 13,000N; dynamic load rating from 20,700N to 33,500N; stall ratings of 3,500N to

6,250N; maximum speeds of 150mm/se or 300mm/sec; a thread lead of 2.5mm or 5mm and minimum strokes of 75mm or 150mm.

All Diakont DA Series actuators are constructed from ruggedised components designed to operate reliably in harsh conditions. Aside from operating in temperature extremes, Diakont units are also built to withstand the shock and vibration associated with the most demanding applications. Units rated at IP66 protection levels are also available.

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

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Selwood's plant experts provide green-friendly solution in coastal flood defence project

Selwood's plant specialists provided a robust and environmentally-friendly solution for major coastal flood defence works in Devon.



The £1.3m scheme in Teignmouth involved the repair, renewal and strengthening of the sea defence structure at The Point to provide protection for up to 400 homes and businesses in the town.

Given the site's proximity to protected coastline, any equipment supplied for the project had to be compliant with strict Environment Agency regulations to avoid contamination. The client Teignmouth Maritime Services (TMS) required a solution that met the stringent environmental requirements of the location as well as the demands of working in a confined area.

Working closely with Selwood's expert plant hire team, the 5T Yanmar zero tail excavators were selected for the application. The use of bio oil, which is biodegradable and hence more environmentally sound in the unlikely event of a spill, was the ideal solution for the site's specific needs. The zero tail feature met the site's access demands, without sacrificing stability and performance.

Two excavators were supplied and were used for the duration of the project from March to September last year. The project involved the installation of 72

steel sheet piles and filling large areas with structural concrete.

Terry Clark, branch manager at Selwood's branch in Bittern Road, Exeter, said: "We were pleased to be able to provide our client with high-performance plant equipment that gave them 100% reassurance with regards to the environmental sensitivities of the site.

"We pride ourselves on our depth of technical expertise and offering the complete plant package, so the fact we had a branch locally was a major positive to our client for follow-up queries and any parts or repairs needed throughout the duration of the project.

"We are delighted to have played our part in a scheme that will protect so many homes and businesses from flooding."

Selwood has over 70 years of experience in the plant industry. The company has an extensive fleet of plant available for hire or sale from its network of regional branches across England and Wales. Its teams pride themselves on an unrivalled depth of technical expertise, exceptional customer service and product knowledge.

For more on Selwood's plant offering, see www.selwood.co.uk/plant-hire-and-sales

Checklists within a CMMS

Checklists are an invaluable feature to have within a Computerized Maintenance Management System (CMMS).

This feature enables workers to be more organized and keep more complete records on repairs. Checklists can be tied to a variety of items within a CMMS, such as a piece of equipment, a location, a preventive maintenance task, or a work order.

What makes checklists such a beneficial feature?

Planning.

Setting up a checklist requires administrators to think critically and plan. It forces them to consider what needs to be inspected on each piece of equipment or location. Planning and detailing exactly what needs to be done can help ensure that regular maintenance is a priority, which then leads to a savings of both time and money.

Different types.

Not all CMMS providers offer checklists, but the ones that do typically have two different types – simple and advanced (though they may be called something different). In order to understand how checklists can be beneficial, it's important to know the difference between the two types.

A simple checklist is essentially a 'to-do list', meaning there are a few tasks listed with a check box next to each item that users check upon completion. If desired, tasks can be listed in a specific order based on routine or importance.

Advanced checklists are far more in-depth. Generally, these types of checklists will allow CMMS administrators to choose from a variety of different response types, rather than being limited to just having a check box next to each task. Response

types on advanced checklists may include things like numbers, decimals, short answer, multiple choice, and dates. This allows users to gather more specific and precise information than a simple checklist does. For example, a task or question on an advanced checklist might require a temperature reading and require a numeric answer.

Reporting.

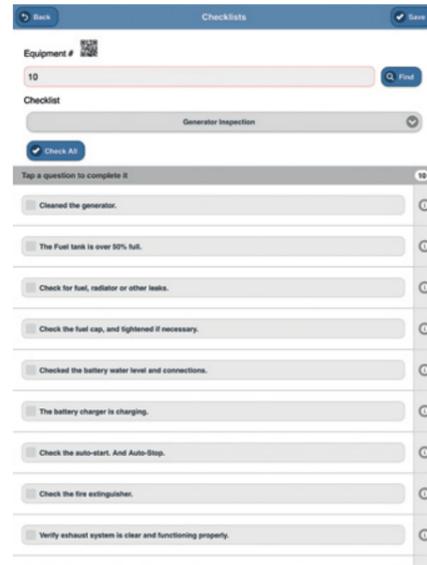
Many systems allow users to run reports against checklists. These reports can display important information, such as which tasks were completed, when they were done, and which employee completed them.

History.

Once completed, checklists are generally stored in the history of a work order or preventive maintenance task. Being able to easily see historical checklists can help users identify trends based on what was fixed, which can help with important business intelligence decisions.

Mobile Integration.

For users constantly on the go, the ability to access and complete digital checklists can be invaluable within a CMMS with mobile functionality. Checklists within a mobile CMMS allow users to complete tasks on the spot, without having to trek back to a desktop computer to input vital information. Entering the data immediately can also help reduce human error since the checklist responses don't have to be entered at a later time.



Barcode Integration.

Barcode integration within a CMMS makes completing checklists even faster. A barcode can be attached to an asset, which means users can simply scan the barcode to immediately bring up any associated checklists, which can be an immense timesaver to users. Barcode integration tends to pair best with a mobile CMMS.

Audits.

Checklists can be particularly beneficial when it comes to audits. When an organization needs to give details on repairs and preventive maintenance, users can easily access past checklists to prove exactly what has been done, when, and by whom. Advanced checklists can also display additional comments which can be useful for record keeping.

A good CMMS will include many useful features, but a great CMMS will include a variety of features designed to save a company both time and money in various ways. Checklists in particular go a long way towards increasing a company's productivity and improving their bottom line.

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Saras Selects Aspen Mtell® Prescriptive Maintenance Software to Improve Business Performance and Drive Operational Excellence

Aspen Technology, Inc. (NASDAQ: AZPN), the asset optimization software company, today announced that Saras S.p.A. (BIT: SRS), owner of the most complex refinery in the Mediterranean, with 300,000 barrels per day of refining capacity, has selected Aspen Mtell® software to drive reliability in its capital- and asset-intensive refinery operations.

"Improving reliability positively impacts a wide range of issues, from reducing current maintenance costs to planning for abnormal process conditions, avoiding emergency or unplanned shutdowns and successfully managing unpredictable feed and demands. Saras expects to achieve savings from this initiative, which is part of an important digitalization project." Alessandro Zucca, Digital Platform Manager, Operations and Assets, Saras

Aspen Mtell is part of the aspenONE® Asset Performance Management (APM) software suite combining big data, machine learning and process knowledge expertise to maximize performance across the design, operations and maintenance asset lifecycle. Aspen Mtell mines historical and real-time operational and maintenance data to discover the precise failure signatures that precede asset degradation and breakdowns, predict future failures and prescribe detailed actions to mitigate or solve problems.

The company's selection of Aspen Mtell was based on a competitive "proof of concept" vendor selection process which initially focused on critical refinery equipment, such as large compressors and pumps. Aspen Mtell was able to execute this proof of concept within weeks, winning the Saras business due to speed of deployment, accurate early detection of asset failures, avoidance of false alarms and ability to scale the solution system-wide. Saras plans to use its sister engineering company, industrial automation specialist Sartec, to roll out Aspen Mtell refinery-wide.

Through asset performance management — enabled by a blend of historical and real-time process, asset and enterprise data, alongside proven advanced technology — organizations can transform asset maintenance into optimum reliability, extending the life of assets and maximizing the return on capital employed.

For more information:
www.aspentech.com

New Filtermist acquisitions make MACH debuts

Telford based industrial air extraction and filtration specialist Filtermist will be showcasing the wide range of products and services available through its newly acquired divisions Multi Fan Systems and Dustcheck Ltd, on Stand H17-430 at MACH 2018.

Filtermist's own brand of oil mist filters are well-known amongst UK manufacturers, but perhaps less well-known are the company's additional capabilities, as Managing Director James Stansfield, explains, "At the last MACH show we focused on highlighting our ability to offer a full turn-key service for centralised extraction systems for a range of contaminants including smoke, fume and dust.

"We've taken huge strides since then, mainly by acquiring other companies, and we are now in a position to offer comprehensive, effective removal for almost any type of airborne contaminant. This includes solvents, odours, VOCs – basically anything that pollutes workshop air."

Whilst Filtermist has exhibited at MACH for many years, 2018 will be the first time Multi Fan Systems and Dustcheck will have taken part in this particular show. "Having Dustcheck and Multi Fan on board means we are able to target a wide range of new markets, but MACH is very much focused on Filtermist's core market – engineering and manufacturing firms that use machine tools," continues James. "Both companies offer a range of products and services to this sector and people that 'know' Filtermist may be surprised to find out exactly what we now offer.

"We're looking forward to showing customers how we can help them make sure their people are protected from a wide range of hazardous airborne substances."

Whilst the 2018 stand is designed to highlight Filtermist's wide-ranging capabilities, the ambitious company won't be throwing the baby out with the bath-water, as Stuart Plimmer, Filtermist Director of Sales, testifies, "The UK oil mist filtration market is incredibly important for Filtermist. We recorded another record-breaking year in terms of sales last year and we're confident that this trend will continue.

"As well as ensuring we're the go-to supplier for any oil mist extraction related requirements, we're also pushing our after-sales support extremely hard. We've employed six new engineers since the last MACH and will be recruiting at least another three this year. Our skilled engineers offer responsive and reactive maintenance throughout the whole of the UK, and we also provide CoSHH compliant LEV Testing to ensure systems are extracting as intended."

Multi Fan Systems

Multi Fan Systems designs and installs air movement and air pollution control systems for a range of customers including a number of well-known automotive manufacturers. The company, which was established in 2001, prides itself on developing long-term relationships with clients by adding value wherever possible.

Multi Fan Director of Sales Kevin Hood, elaborates, "We work on an ongoing basis with lots of our clients. They come to us with an initial specific requirement and then once we've shown what we are capable of and they realise the breadth of services we offer, they will then ask us to assist with other industrial air projects."

Fume extraction, VOC Abatement and Ventilation and Cooling, are just some of

the services offered by Multi Fan - visit www.multifansystems.co.uk to find out more.

Dustcheck Ltd

Dustcheck designs and builds a range of dust filters to meet the needs of all aspects of the metal production and manufacturing industries – and all filters come with ATEX options, meaning volatile products can be handled safely.

Dustcheck Director of Sales Pete Dawson comments, "Dust can cause all manner of problems in the workplace and depending on the product being handled, can cause some significant health hazards for operators, COPD being one of them. Sometimes, the high value of the material being processed means that there can be a need to reclaim the filtered product. As well as protecting workers and dust reclamation – reducing housekeeping and preventing costly breakdowns can also be a consideration.

"2018 is a major milestone for Dustcheck as it celebrates its 40th anniversary in manufacturing and supplying effective dust control for manufacturers of all sizes, and we're looking forward to meeting MACH visitors to discuss their dust control needs."

Visit stand H17-430 to find out more about the wide range of products and services offered by Filtermist in the UK, or call the team on 01952 290500 to discuss your specific requirements.

Go to www.dustcheck.com & www.multifansystems.co.uk

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Advanced Personal Sampling Pump Added To Rental Fleet

Casella's latest air quality sampling pumps have been added to the Ashtead Technology fleet of instruments for measuring occupational exposure to airborne contaminants.



- For COSHH assessment, to help select the right controls
- Where there is a serious risk to health from inhalation
- To check that exposure limits are not exceeded
- To check the performance of exposure controls
- To help select the right respiratory protection equipment
- To check exposure following a change in a process
- To show any need for health surveillance; or
- When an inspector issues an 'Improvement Notice' requiring monitoring

The Apex2 Pro is fully compliant with ISO 13137:2013 Workplace Atmospheres, which provides independent assurance that the pump complies with the relevant performance requirements. In addition, all models of the Apex2 are certified Intrinsically Safe (IECEx), which means that they can be used in potentially explosive areas such as the oil and gas industry and in confined spaces.

The Apex2 Pro personal air sampling pump controls the flow of air very carefully to ensure that a known volume of air is sampled. Importantly, when monitoring for dusts, where the back pressure increases as dust is collected, the pump automatically maintains flow at the correct level, and the built-in motion sensor provides confirmation that the pump has been worn throughout the test; thereby increasing the reliability of results.

"The Apex2 Pro is the most advanced sampling pump that we offer," says Ashtead's Josh Thomas. "Compact and lightweight, the Apex2 Pro is unobtrusive and offers extremely reliable flow through a variety of filters. The major new feature of this new instrument is its Bluetooth capability, which means that it can be monitored remotely with the Airwave App without disturbing the wearer, and with a built-in motion sensor, the accuracy and validity of results are significantly improved."

Under the Workplace (Health Safety and Welfare) Regulations 1992, employers have a legal duty to ensure, so far as is reasonably practicable,

the health, safety and welfare of employees. Furthermore, the Management of Health and Safety at Work Regulations 1999 require employers to assess and control risks to protect their employees. A key element of this is the requirement to comply with the Control of Substances Hazardous to Health (COSHH). Under the COSHH Regulations 2002, employers need to either prevent or reduce workers' exposure, so monitoring is essential for the determination of risk and the assessment of controls. Summarising, the Health and Safety Executive says that exposure measurement is required:

Dust monitoring is usually achieved by sampling air onto a filter, which is then weighed and the dust concentration calculated. Monitoring for gases and vapours uses the same air sampling pump, but generally at lower flow rates and using sorbent tubes or other media.

Further information on the Casella Apex2 Pro, and the full range of other occupational safety monitoring instruments, is available at www.ashtead-technology.com.

Pump And Valve Innovator Finds A Test Rig Technology That Talks The Torque

To analyse the long term performance and reliability of hard working valves and pumps, serial innovators Manchester-based Bifold Group has adopted radio frequency based torque transducers from Sensor Technology Ltd for two of its specialist test rigs.



An inter-generational commitment to advancing science and engineering has seen Bifold transform from a 19th century mining lamp maker into a leading manufacturer of instrument valves and accessories, piping valves and pumps for the oil, gas and wider industrial markets. It has particular expertise in subsea and wellhead control systems and has also developed market leading technology in areas such as solenoid valves with ultra-low power requirements.

Its corporate development is just as impressive as its technical advancements. Over the last 10-15 years it has consistently grown profits by 50% a year, and is on course to clear £33m this year. During this period it has moved into bespoke premises, created about 250 high value jobs, developed new products and technologies and entered high tech markets around the world. Today 95% of its output is exported.

By using the power of computer aided design many of Bifold's products are built to custom designs, yet they are produced to very short lead times thanks to the efficiency of internet communications.

To maintain this standard, sample products and components are comprehensively tested so that their reliability and capabilities are never in doubt.

Bifold is as innovative in developing its test regimes as it is in advancing its product technologies and business systems. So when it wanted to assess the effects of wear on its long-life valves it set about designing a special test rig. Engineer Andrew Laverick recalls: "We wanted to measure the power required to operate the valve to see how it changed over time and with long term use. It was clear that the best way to do this was to measure the torque input over an extended period."

"We were open to any design concept for the test rig, but soon found ourselves gravitating towards a TorqSense solution because the Sensor Technology engineers were so helpful and really knowledgeable about test rigs."

TorqSense transducers lend themselves to test rig uses because they are non-contact measuring devices. Attached to the surface of the transducer

shaft are two Surface Acoustic Wave (SAW) devices, when torque is applied to the shaft the SAWs react to the applied strain and change their output. The SAW devices are interrogated wirelessly using an RF couple, which passes the SAW data to and from the electronics inside the body of the transducer.

Sensor Technology's Mark Ingham explains: "All you have to do is set up a TorqSense transducer in the test rig and fire it up. The SAW frequencies reflected back are distorted in proportion to the twist in the test piece, which in turn is proportional to the level of torque. We have some clever electronics to analyse the returning wave and feed out torque values to a computer screen.

"TorqSense has been used on many test rigs over the years and I was delighted to hear the Bifold engineers say how easy it is to use and how robust the software is."

Laverick again: "As a test engineer you are almost resigned to long set up procedures and software that falls over at the drop of a hat. But Sensor Technology has designed these problems out of their TorqSense equipment, with the result that we were able to complete our long term test procedures with the minimum amount of fuss and heartache and well within the allotted time schedule."

In fact Bifold has since bought a second TorqSense which is being fitted to a new test rig used to assess the performance of mission critical chemical injection pumps, as used at oil and gas wellheads and on process pipelines.

"This project is proceeding well," says Laverick, "and is allowing us to further develop our abilities to quickly provide bespoke equipment for ultra demanding applications, safe in the knowledge that it will perform faultlessly over a long working life."

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

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We are very pleased to announce that NERO have been appointed the official UK distributor for FD-Lok.

FD-Lok is a leading manufacturer of twin ferrule compression, pipe fittings, high pressure ball valves, instrumentation fittings and various high and low pressure instrumentation valves.

Their products are widely used in many fluid system for industries which include oil and gas, chemical, petrochemical, power, shipbuilding, machinery and analytical instrumentation.

NERO are committed to quality, service and price and felt that by working with FD-Lok as a distributor within the UK would benefit both NERO and our customers. The appointment as the official distributors enables NERO to better serve their customers with the range of products available and also the confidence in knowing NERO has the support and backing of FD-Lok.

Currently we are stocking the FD-Lok Twin Ferrule Compression fittings, ball valves, needle valves and check valves and will look at enhancing our range further with other products from FD-Lok.

for more information visit:
www.nero.co.uk



Drives Floor Energy Costs For High Rise

A 17-storey office complex has dramatically reduced energy costs by using variable speed drive controlled pumps and fans

A London office complex has saved £15,000 on electricity costs in six months following the installation of 18 ABB variable speed drives (VSDs). The drives, ranging from 5.5 kW to 37 kW, are used on hot water and chilled water pumps as well as air extraction systems. The £48,000 project is expected to pay for itself within 18 months.

Harbour Exchange Tower is a 46,500 square metre office development near Canary Wharf in London. Consisting of two linked towers, the 17 floors of the building house a number of financial and Internet service providers.

The building's maintenance contractor, CBRE, also has responsibility for running the building efficiently. When the building was completed, in 1989, only the most energy intensive applications were speed controlled. CBRE was keen to improve energy use on other applications. It asked ABB authorised value provider, Inverter Drive Systems (IDS), to investigate which applications offered the greatest energy-saving potential. IDS performed an energy assessment together with engineers from ABB.

CBRE's technical supervisor for the site, Patrick Phatty, says: "Some of the pumps on site were almost 20 years old so we were keen to maximise their efficiency. IDS was recommended to us by colleagues at other sites."

IDS undertook an energy assessment at the site concentrating on applications that were not speed controlled, but were switched on and off via a star/delta arrangement.

Andrew White of IDS, says: "The applications we looked at included hot water and chilled water pumps along with air extraction systems, with

our energy assessment determining the payback period of each one. Several energy cost rises had taken place, with the unit cost per kWh increasing from 11p to 15p, which would help to shorten the payback period and increase savings."

The assessment revealed that installing 18 VSDs would produce savings of around £2,500 a month, with a payback in only eight months for the larger drives.

IDS demonstrated the savings by installing one of the larger drives in a trial application. The ABB HVAC drive, ACH580, features a built-in energy calculator which measures energy use in kWh, CO2 reduction and money saved, to help users monitor and fine-tune processes to ensure optimal energy use. This information is displayed on the drive's keypad screen in real time, enabling the user to see exactly how much energy the drive is saving compared to running the same application direct-on-line.

Says Phatty: "The fact the drives display CO2 savings was particularly important to us. At the same time the compact size of the drives made installation very easy."

The installation of the 18 VSDs was spread over three applications - hot water pumps, chilled water pumps and toilet supply and extraction fans. The pumps and fans are controlled by a building management system (BMS), which switches them on and off according to pre-selected timings.

The biggest savings have come from the chilled water system. This has eight drives running eight pumps. Six of the drives are 30 kW and two are 37 kW. The drives reduce the speed of the pump motors by 20 percent. In the first six months of



operation, this has saved 55,000 kWh and £8,000 in energy costs.

Four 22 kW drives were installed on four hot water pumps. The pumps operate in pairs in standby/duty mode, with each set supplying hot water for one of the two towers in the development. Again, the drives cut motor speed by 20 percent. Over six months, this has resulted in a saving of 48,000 kWh, cutting energy costs by £6,000.

Each building has one supply and two extract fans for the toilets. Previously run at full speed constantly, the supply fans are now run by two 5.5 kW drives, while the extract fans are run by four 7.5 kW drives. CBRE opted to use the drives to reduce the speed of the fan motors by 10 percent. This has saved 7,900 kWh and £1,100 in energy costs in the first six months of operation. However, these savings could increase if CBRE decides to slow the speed of the fan motors by a further 10 percent.

For further information visit: www.abb.com

DENSO Thermal range expands with new part numbers for 2018

Leading OE supplier boosts coverage for workshops and distributors with added A/C part numbers for its leading aftermarket thermal range

DENSO has expanded its range of A/C part numbers for workshops to help them better serve motorists throughout the remaining winter months.

In total 23 new OE-quality part numbers have been added, consisting of 2 drier cartridges, 3 pressure switches and 18 expansion valves.

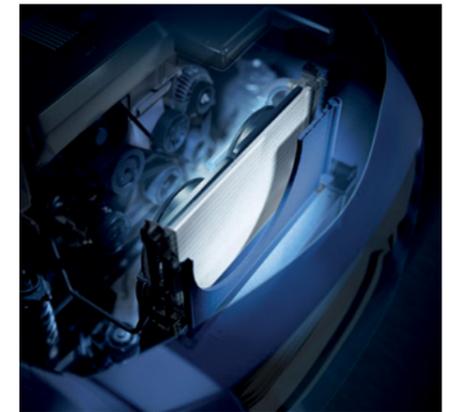
The range expansion covers a variety of applications from major manufacturers such as Audi, Fiat, Ford and Jeep.

The new offering will extend the range to provide 1,302 additional applications, linked to 36 OE part numbers, and provide independent aftermarket

distributors and workshops a comprehensive and premium selection of parts to meet growing demand.

Jan Splinter, Product Leader, Thermal at DENSO Aftermarket & Industrial Solutions, said: "This extensive expansion to our thermal range demonstrates our commitment to providing the highest quality DENSO products to as many aftermarket customers as possible."

The new A/C parts were made available in December 2017 and can be found in the DENSO E-catalogue and TecDoc.



Further details of DENSO's thermal range are available online, on TecDoc or from your local DENSO Aftermarket sales contact. For more information about DENSO's range of aftermarket products and to find your nearest DENSO distributor or stockist please visit www.denso-am.co.uk

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Rittal Improves Cooling Communications in the Cloud

Industry 4.0 scenarios, such as predictive maintenance, are based on the provision of data, as well as integrated, networked communication.

But for this to happen, IoT-compatible devices obviously have to be equipped with the necessary technology interfaces.

Rittal is driving this capability forward for its cooling units and chillers in Industry 4.0 applications. The company's new IoT interface now means there can be continuous communication from the sensor to the cloud, plus the interface also supports connections to super-ordinate monitoring or energy management systems.

A great deal of information is generated by modern enclosure climate control solutions. But up to now, it has only been practical to record operating hours and the current temperature inside the enclosure.

However, modern devices like the new cooling units and chillers in the Rittal Blue e+ range, mean a multitude of values and other information can be measured and recorded. This includes the temperatures inside and outside the enclosure, the evaporator and condenser temperatures and, where appropriate, measurements from additional sensors located inside the enclosure. In

addition, instead of a simple operating hours meter, the run-times of the compressor and internal and external fan can be recorded separately. It also provides system messages, data for capacity utilisation and the current parametrisation information.

Creating added value from data

In order to realise the value from access to all this data, the information must be made available to superordinate systems. So, to this end, Rittal has developed a new IoT interface, which turns the cooling units and chillers in the Blue e+ range into IoT-compatible devices.

The IoT interface can be mounted either on a top hat rail, or directly on the cooling unit, or chiller. The protocols supported are OPC-UA, Profinet, SNMP, Modbus and CANopen. The number of protocols supported makes it possible to connect to superordinate monitoring or energy management systems in virtually every case.

The data from the cooling units and chillers can then be accessed within these systems at all times, and it is also possible to set parameters and configure settings via the IoT interface.



Cloud connectivity

The new IoT interfaces make it possible to integrate the climate control solutions into IoT applications, paving the way for new applications and smart service solutions. One example would be optimising the maintenance and servicing of climate control units, which in turn lowers operating costs.

Another important application is energy data management. With all this data available at all times, energy efficiency levels are increased, helping to reduce costs.

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

Variable Speed Drive Eliminates Grinder Stoppages

Regular stoppages of a grinder used in the production of animal feed have been eliminated with the installation of an ABB variable speed drive (VSD) to control the input of ingredients.

The VSD regulates the speed of a screw conveyor to ensure the grinding mill is not overloaded with raw material. The system has also increased the amount of soft ingredients the grinder is able to process, improving productivity.

Burniston Mill in Scarborough, UK produces animal feed by grinding grains such as wheat and barley. These are then pelletized to form the finished product.

The original installation employed a vibrating table which fed the grain into the grinding mill. However, because of its age the table was unreliable and often over-fed the mill. The motor had to work harder, resulting in current overloads that tripped the motor and stopped production. This was happening every

two weeks on average. On each occasion the grain had to be dug out by hand, stopping production for at least an hour each time.

Steve Barker, mill manager at Burniston Mill, asked electrical systems specialist MP Electric to provide an alternative method for feeding the grinder. Working with ABB authorised value provider Halcyon Drives, a solution was developed using a 2.2 kW ABB machinery drive to control the speed of the motor driving a screw conveyor. The new system monitors the current drawn by the grinding mill motor and adjusts the speed of the screw conveyor to ensure the mill motor is not overloaded.

This ensures that hard grains are not fed into the grinder too quickly, whereas soft grains can be fed



in at a higher rate. This has improved productivity by increasing the amount of soft ingredients the process is able to handle in any given time period.

Ian Robinson, director of MP Electric, says: "Burniston Mill is now making better use of its capacity, as the grinder is not idling at a low speed when grinding soft products."

For further information visit: www.abb.com

Energy Companies Must Invest In Training To Adapt

With potentially leaner times ahead, gas distribution networks (GDNs) should invest more heavily in training to improve the quality of their operations.

That message comes from Develop Training Ltd (DTL) amid calls for the industry to respond to stronger price controls by becoming more cost effective, reliable and innovative.

Chris Wood, chief executive at DTL, whose clients include SGN, Northern Gas Networks, Cadent and Wales & West, said: "As GDNs and others in the industry look to adapt for the future, they should see this as an opportunity to review and re-energise their training programmes. Greater priority on the right kind of training now could be beneficial in delivering increased cost effectiveness, reliability and

innovation in years ahead."

The energy regulator Ofgem's new RII0-2 regime is widely expected to squeeze margins when it comes into force in 2021. In preparation consultation with industry bodies will start as early as the summer of 2018.

Mr Wood said: "This review comes at a time of intense political and media scrutiny on the energy companies and the new deal is likely to be significantly more demanding than the current arrangements. Energy prices are already a political

hot potato, attracting scrutiny of boardroom salaries and even calls for nationalisation. Upcoming environmental legislation is also likely to add pressure with the publication of the government's energy and industrial strategy.

"I welcome calls for the industry to respond by demonstrating its effectiveness, innovation and contribution to UK skilled jobs. Achieving all of that will require more investment in learning and development. I firmly believe that companies which invest more in training over the next three years will have a competitive advantage in the years ahead."

Electricity distributors will face similar challenges when their current price control mechanisms lapse in March 2023.

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

GMB Demands On Government To Intervene To Protect Carillion Workers Rather Than Prop Up Failing Company Bosses

Tragic example of failures of privatisation and outsourcing requires Government to intervene to protect public sector work, says GMB

GMB, the UK's general union, demands the Government intervene and protect Carillion workers' jobs and pensions – rather than focussing on bailing out a failing private company.

Carillion, one of the government's biggest contractors, is struggling under £1.5bn of debt, including a pension shortfall of £587m. [1]

The government is meeting Carillion and the Pensions Regulator today (Friday) to discuss the services and construction company's deficit.

GMB repeatedly asked Government to stop spending public money on Carillion when they emerged as key players in the blacklisting scandal which resulted in a compensation pay out of £75 million through legal action taken by GMB.

GMB says the governments focus must be protecting jobs in vital public sector infrastructure projects, rather than bailing out a private company with a track record of treating workers badly.

Rehana Azam, GMB National Secretary, said:

"First and foremost, workers' jobs must be protected. It's not right that GMB members working for Carillion should face uncertainty and insecurity through no fault of their own.

"Handing Carillion bosses a blank cheque bail out is completely unacceptable – company bosses should not be rewarded for failure with public money.

"This is a company with an abysmal track record when it comes to protecting workers.

"This is yet one more lesson that the failures of privatisation and outsourcing and ministers should be protecting people's jobs rather than bailing out the company.

"We need an urgent task force, including employers and trade unions, to rescue this vital work from the inadequate grip of Carillion management.

"We seek transparency about the scale and nature of jobs and contracts which Carillion outsource to other subcontractors to evaluate how the collapse of the company could impact on infrastructure projects, the public sector and the wider economy.

"Government needs to urgently consider a public sector vehicle for taking on this vital work, just as it has when private rail companies have walked away and failed the taxpayer."

For further information visit: www.gmb.org.uk



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 hydraulic 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.

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.

SMALL BORE TUBING INTEGRITY COURSE

Candidates 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.



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 courses break the 6000 barrier

BFPA's Membership and Training Director Martin Kingsbury reflects on the continuing success of BFPA's training courses.

In 2009, BFPA launched two brand new training courses: the one-day Foundation Course in Working Safely with Hydraulic Hose and Connectors, and the two-day Hose Assembly Skills Training Programme in response to market demand. Numbers have grown each year since then, with 2014 seeing the introduction of the Hose Integrity, Inspection and Management Course and the Small Bore Tubing Course and in 2017 a one-day refresher course for Hose Assembly Skills Training Programme was also introduced.

BFPA's series of short fluid power (hydraulic and pneumatic) training courses are designed to increase

skills and improve safety for people working with fluid power systems, from system designers to field engineers, to machine operators and hose-makers and are all helping to raise standards in the industry. BFPA and BFPA's Approved Training Partners have now trained over 6,000 people from a wide range of industries, with numbers growing year on year reflecting demand and over 1,000 people trained in 2017 alone.

Martin Kingsbury commented: "The growth in demand for the BFPA training courses over the past few years is really encouraging – it shows that our

short courses are meeting the needs of industry and helping to raise standards and improve safety in the fluid power industry in UK engineering".

The BFPA Training Academy has its own dedicated website with details of course content, dates and locations of BFPA's courses www.bfpatrainingacademy.co.uk

For enquiries about BFPA's training courses, please contact Martin Kingsbury on martin@bfpa.co.uk or Karen Gordon-Brander on karen@bfpa.co.uk

C&P Engineering Services partners with Gower College to open new CompEx Training Centre in Swansea

CompEx Training is the recognised global scheme for providing candidates with the essential knowledge and practical skills to enable safe working in potentially explosive atmospheres, whether due to flammable gas, combustible dust or other hazards.



The CompEx curriculum includes specific knowledge and practical assessments based upon the IEC 60079 set of standards, including parts 14 & 17.

C&P Engineering Services has partnered with Gower College Swansea (GCS) to provide their global experience and extensive Ex knowledge of installing and inspecting hazardous area electrical equipment. The new CompEx training facility in Tycloch, Swansea provides delegates with a state-of-the-art learning experience in a safe and comfortable environment. Equipped with purpose built training booths, workshops and classrooms, the centre offers full practical and theoretical training and assessment.

The main objective of the CompEx Training Centre is to improve the knowledge and practical skills set of employees and provide a pathway for local

and national companies that wish to demonstrate compliance with regards to the ATEX 137 European Directive, IEC set of standards and DSEAR regulations. It will also assist companies that wish to ensure they have a sustainable, competent electrical workforce to maintain and install electrical equipment within potentially explosive atmospheres. Vocational training is also a key element for the electrical labour market to function correctly, to create employment and to promote workers competency and professionalism.

We will be offering the following course from the 19th February 2018:

- CompEx Ex01-Ex04 Gas & Vapour
- CompEx Ex01-Ex04 Refresher
- CompEx Foundation Ex F (Available on-site at your premises)

Additional courses are in the process of being developed and will be available at the training centre. Future courses will include:

- CompEx Dust Ex05-Ex06
- CompEx Responsible Person Ex14
- CompEx Design & Project Engineers Ex12A & Ex12B
- CompEx Mechanical Ex11

C&P Engineering Services is an EC&I engineering solutions provider and operates IEC inspection and installation services on a world-wide basis to companies within the oil, gas, chemical, petrochemical, pharmaceutical, power generation, steel and nuclear industries.

To find out more details or to book a course, please contact the Swansea CompEx Training Centre by calling +44(0)1792 897002 or email: info@cpengineering.co.uk

For more information on how we can help with your hazardous area ATEX inspection requirements, please visit www.hazardousareainspection.com

For more information about C&P Engineering Services' EC&I full turnkey services, please visit www.cpengineering.co.uk

Sky's The Limit For Health & Safety Inspection As Bureau Veritas And Sky-Futures Join Forces

Against the backdrop of an increased focus on health and safety in all commercial disciplines, Bureau Veritas and Sky-Futures have joined forces in a pioneering new partnership designed to take inspection strategy to, quite literally, a whole new level.



Bureau Veritas

Drawing on Bureau Veritas' vast repertoire as a world-leading inspection company and Sky-Futures' cutting-edge, drone-based approach to industrial inspection, the new partnership offers customers with a blended inspection capability combining drones, experienced inspectors and Sky-Futures Expanse data platform and data analytics tools.

This new approach, which is now available in the UK and Europe, can drastically aid quality control, reducing the time taken on inspections by allowing hard to access areas to be inspected safely, quickly and cost effectively. The end product is a total inspection solution that delivers a complete overview of a building's infrastructure whilst meeting all relevant regulatory requirements.

Already proving a resounding success, the partnership recently came as a big benefit to a multinational customer operating a large manufacturing site in the UK whereby the key areas for inspection included the manufacturing line and the roof. While traditionally this would have involved the slow and costly process of setting up scaffolding, using drones meant the roof could be examined quickly and hassle-free whilst the inspections were taking place inside.

The result was that an inspection that would have typically taken many days and required production to shut down took less than one day of work and was completed in normal running conditions –

meaning significantly reduced time and cost for the happy customer.

Chris Blackford, co-founder and Chief Operating Officer at Sky-Futures, comments: "The adoption of drone technology and data analysis software by companies like Bureau Veritas is driving a safer, more efficient and more valuable inspection capability. Combining hand-held and drone based data collection presented through a 3D world, the partnership provides a true one-stop shop for businesses seeking to enter into this new age of inspection."

Kyle Veitch, Technical, Quality & Risk Director for North West Europe at Bureau Veritas, adds: "This really is a game-changer for the inspection industry. Inherently, industrial and commercial production and manufacturing sites are vast and demanding environments, which can make the inspection task a complex and expensive one – that is until now.

"Drawing on both of our company's core strengths, ours as a global leader in safety, and Sky-Futures' as an innovator in drone technology-based inspection, we are able to offer customers with the most robust, efficient and cost-effective approach to inspection on the market. The response to the partnership has already been fantastic and we look forward to working with many more customers in this new approach in the months to come."

For further information, call 0345 600 1828 or visit www.bureauveritas.co.uk.

Breathe Safe International Launch Sentry 4 Life Support Respiratory System to Meet New PPE Regulation

Respiratory protective equipment (RPE) specialists Breathe Safe International has launched the Sentry 4 Inert Entry Life Support System after a rigorous 3 year redevelopment and testing programme, to meet the most up to date and current PPE directives and regulations.

The Sentry 4 System has been certified and approved in line with the new Personal Protective Equipment (PPE) Regulation becoming legislation in 2019 and has been EU Type Approved under the supervision of the notified body, British Standards Institute (BSI), CE 0086.

The Sentry 4 is designed for on land industrial use within hazardous atmospheres immediately dangerous to life and health including oxygen deficient atmospheres for up to 4 wearers simultaneously. This Category 3 Complex Respiratory Protective Equipment (RPE) provides the highest grade of protection from the most harmful environments.

Its purpose is to protect workers in a wide range of specialist applications and industries internationally, from refineries to petrochemical industries, emergency rescue services to industrial cleaning.

The 4 man life support breathing system includes:

- Two piece locking anti panic helmet design
- 4 independent air supplies with "fail open" design
- Built in lifeline retrieval system
- Full duplex, expandable, integrated and internationally approved ATEX communications
- Universal, one size, flame retardant face seal
- Over 20 years of excellence in safety

The anti panic, light weight breathing helmet with its universal size, flame retardant face seal offers the ultimate in safety and comfort while providing hands free, full duplex, ATEX approved communications.

Additional safety features incorporated include, duplicated air channels with fail safe automatic changing between channels, light weight emergency cylinder and EEL, fully independent emergency escape line air system.

Air management has never been easier, with each wearer having colour coded air channels

throughout the system and a simple on off Control Module allowing air flow to be easily identified and monitored.

The Control Module receives air from storage cylinders via independent supply manifolds and reduces the breathing air pressure to supply the helmets. A simple pneumatic, non electrical warning system is used to warn the operator when the cylinder contents are low.

The unique Manifold configuration allows the storage cylinders to be interchanged live without interrupting air supply to the wearer, allowing for long duration use while reducing the risks associated with entry and egress of hazardous areas.

The sheathed, colour coded Umbilical delivers independent air channels to each helmet, alongside an integrated, hard line communication cable and a stainless steel life line retrieval cable.

The umbilical weight is distributed through the helmet yoke harness and onto the Sentry 4 body harness via the rapid link points, relieving the strain on the wearer. Other linkage points offer fall protection to the wearer allowing for vertical descent or recovery. The emergency egress cylinder can be attached to the harness via the pouch at multiple points and can be adjusted to the wearer's preference.

The Sentry 4 Breathing Apparatus Helmet has a unique universal fit, flame retardant, neoprene face seal which moulds to fit all face shapes and sizes and incorporates an adjustable head harness which the wearer can adjust for comfort and fit. The locking two piece clam shell helmet incorporates, twin, automatic demand valves which operate independently. The light weight, Kevlar reinforced helmet shell is fully flame retardant and is available in block colours to suit your preferences.

The integrated Communication headset within the helmet offers clear uninterrupted communication with all other users, while the embedded microphone located in the top of the face seal,



suppresses unnecessary breathing noise ensuring crystal clear speech.

The intrinsically safe, ATEX approved, long duration communication module is powered solely via batteries and as such the whole Sentry 4 System requires no external electrical power source. This ensures the system stands fully independent during times of rapid deployment or shut down situations where electrical sources are unreliable or unavailable.

In the extremely unlikely event of catastrophic air loss to a helmet, the wearer can independently deploy the egress cylinder whilst engaging the EEL system, allowing for the wearer to escape the hazardous area.

The Sentry 4 Inert Entry Life Support System is manufactured using approved manufacturing and monitoring processes to ensure all equipment conforms to the current legislation and our own quality system, certified to ISO 9001 2015.

For more information on The Sentry 4 Inert Entry Life Support System please visit <http://sentry4.com/>

Complete Reliability And Lowest Running Costs With 2018 Tundra Air Dryers

Hi-line Industries, an established and reputable UK manufacturer of high-quality compressed air purification equipment, has made a number of enhancements to its already class-leading Tundra range of refrigeration dryers.



Thanks to an impeccable reliability rate, with zero failures from hundreds of models already sold, the 2018 series is offered with a new two-year warranty. Moreover, the latest dryers provide the lowest possible running costs and increased flow via a new Hi-Flo heat exchanger with larger ports.

Already long-established as the UK's market-leading refrigerant air dryer, the 2018 Tundra range is Hi-line's most energy efficient to date, with a robust and high quality build standard. Minimal energy consumption is crucial in today's competitive environment and the new Tundra dryer from Hi-line will help drive down energy costs by minimising pressure drop and lowering absorbed power.

Among many proprietary innovations, Hi-line's integral Direct Expansion technology offers a constant +3°C dewpoint at all times, unlike chilled mass dryers, which can be as high as +10°C during their thermal cycle. Furthermore, the new and

improved single-cell, all-aluminium heat exchanger module gives the most efficient transfer of heat at the lowest energy cost.

Another important energy-saving features of the latest Tundra dryers is the variable-speed fan, which ensures only the required amount of energy is consumed. Moreover, by controlling the fan speed on the refrigerant circuit, Hi-line has been able to eliminate components such as fan-pressure switches, which can often become defective in this type of dryer. The fewer moving parts, the more reliable the product.

Continuing the low-energy, high-reliability theme, 2018 Tundra dryers are built with Scroll refrigerant Freon compressors, which offer the lowest possible power consumption and deliver a cost-effective, long-life performance. With reliability at the forefront, Tundra 2018 models offer multiple new design features to ensure constant dewpoint at all load

levels and deliver continuous dry-air performance that satisfies ISO 7183 industry standards.

Another benefit of Tundra refrigeration dryers sees the microprocessor-based multifunctional controller linked to the condensate removal valve, thus minimising any loss of compressed air as the condensate is discharged. Full programmability ensures settings can be adjusted to suit climatic conditions. The 2018 Tundra also has the option of Hi-line's ZLD zero-loss auto drain, which is designed to eliminate accumulated contaminants from pressurised air systems. ZLD drains incorporate a level control that ensures zero air loss during the condensate discharge process.

Tundra refrigeration air dryers are proven in applications such as workshop air and machine air in general manufacturing, as well as further uses in sectors that include packaging, textile, food, beverage, medical, dairy and automotive. Dryer selection is based on factors such as maximum compressed air flow, lowest operating pressure, maximum ambient air temperature and maximum air inlet temperature. Hi-line's applications team can help apply a corrected capacity formula to ensure the optimum dryer is selected.

The 2018 Tundra series comprises 16 models spanning compressed air flows from 22 to 1700 cfm (37 to 2888 m³/hr) and operating pressure from 4 to 16 barg. Maximum inlet air temperature is +60°C, with ambient air temperature up to +50°C. High pressure (up to 50 barg) and thermal mass versions can be ordered. Hi-line's standard range is available ex-stock at from the company's Burton factory for next-day delivery, with larger dryers up to 9988 cfm available on short lead-times.

Further information is available from: Hi-line Industries Ltd, www.hilineindustries.com

New Anti-Static Super Air Knife with 34% Better Performance is CE, UL and RoHS Certified

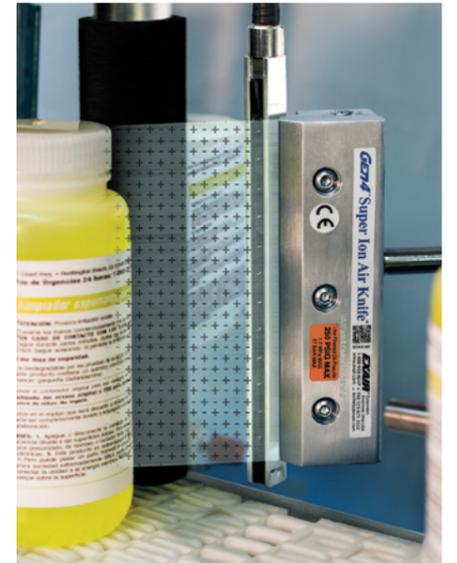
EXAIR's new Gen4 Super Ion Air Knife eliminates static electricity 34% better at low inlet pressures which saves compressed air and money.

Production speeds, product quality and surface cleanliness can improve dramatically. It eliminates static on plastics, webs, sheet stock and other product surfaces where tearing, jamming or hazardous shocks are a problem. Gen4 products have undergone independent laboratory tests to certify they meet the rigorous safety, health and environmental standards of the USA, European Union and Canada that are required to attain the CE and UL marks. They are also RoHS compliant. New design features include a metal armored high voltage cable to protect against abrasion and cuts, integrated ground connection and electromagnetic shielding.

The Gen4 Super Ion Air Knife incorporates EXAIR's Super Air Knife that minimizes compressed air use

by inducing surrounding airflow at a ratio of 40:1. The unique amplified airflow carries the ions to the target, making it possible to eliminate static charges in less than a half second. Air volume and velocity are infinitely controllable from a "breeze" to a "blast" to gently wipe or forcefully blow away debris.

EXAIR's Gen4 Super Ion Air Knife product line is available from stock in 3" to 108" long. The electrical ion source is shockless and there is no radioactive element. A new selectable voltage power supply has been designed to operate Gen4 products. Visit EXAIR.com to see the entire Gen4 static elimination product line. Applications include surface cleaning, neutralizing plastics, bag opening, printing machinery, packaging operations and elimination of painful static electricity shocks. Price starts at \$399.



For further information visit: www.exair.com/g4siak.htm

Air Gun with Variable Flow from the Squeeze of a Trigger

EXAIR's new VariBlast® Compact Safety Air Guns are a small and lightweight cast aluminum air gun capable of handling tough jobs.

Because of the engineered variable flow trigger they are able to produce light, medium or heavy force upon a target simply by pulling the trigger. This comfortable and ergonomic air gun has two 1/4 NPT air inlets and a storage hanger for convenience. Air consumption of the VariBlast Compact air gun is only 10-17.5 SCFM, depending on the nozzle installed, which is among EXAIR's most efficient air guns. It is capable of producing up to one pound of force, making it a great choice for light to medium duty applications.

These CE compliant air guns can use EXAIR's

extensions up to 72" long for extended reach and can be purchased with a chip shield. This product line of VariBlast Compact Safety Air Guns utilize EXAIR's 1/8 NPT engineered air nozzles which reduce compressed air use and meet OSHA requirements for dead-end pressure and noise exposure.

All of EXAIR's Safety Air Gun product lines use engineered air nozzles for high performance and safety – designed to maximize safety and minimize air consumption. The Heavy Duty and Soft Grip Safety Air Guns provide higher force for tougher



applications. All are available with extension pipes and Chip Shields. VariBlast Compact Safety Air Gun Prices start at \$58.

For further information visit: www.exair.com/vcsag.htm

Chassis Plans Announces Military Grade CLX 1U Layflat LCD Keyboard

Rugged LCD and Keyboard Solutions for Test and Simulation, Telemetry, Persistent Surveillance, UAV Ground Control, etc., Applications



Designed and built in the USA, Chassis Plans' new 1U CLX military grade rackmount display is designed to perform and engineered to last. Meeting military standards such as 901E and 810G for ruggedization, its 5052-H32 aluminum construction and locking stainless steel hardware make the display inherently rugged and reliable for both military and industrial harsh environment applications.

"If customers have a rugged computer requirement, they will also need a rugged LCD," says Mike McCormack, CEO of Chassis Plans. "We have mounted these types of products in a wide range of shipboard, land based and aircraft types of applications. These products are generally purchased by defense prime contractors (Lockheed, Northrop, Raytheon) and integrated into their products which ultimately end up in products sold

directly to the military. Applications include test and simulation, telemetry, persistent surveillance, UAV ground control, etc."

The CLX offers two LCD screen sizes: the standard 19" display offering a native 1280 x 1024 resolution or a 17.3" wide screen display offering a 1920 x 1080 native resolution. Both the 19" and 17.3" panels offer high bright options for daylight readability applications. Both panel sizes provide have options for optically bonded EMI shield as well as protective cover glass.

The CLX offers three extended temperature, conformal coated high MTBF video controller options. The C1 controller option offers VGA, DVI-D video input options, the J1 controller offers VGA, DVI-D, S-Video and composite video. Both controllers are recommended for the 19" panel. The

H1 controller offers VGA, DVI-D and HDMI inputs and is perfect for the 17.3" panel driving the HD resolutions.

The unit offers two keyboard choices, an 83-key full travel keyboard with integrated USB optical trackball or touchpad or a "splash-proof" 82-key full travel keyboard with red LED backlit keys and optional USB 38mm sealed trackball or Multi-Gesture trackpad.

The CLX has (5) power input options, the standard AC power input, 12VDC, 28VDC (MIL-STD-704/1275), 12VDC to Chassis Plans workstation or 48VDC (MIL-STD-704/1275). All power options come with a locking power cable assembly.

For more details and data sheet regarding the new 1U CLX military grade rackmount display, please visit <http://www.chassis-plans.com/military-monitors-lcd-displays/clx-17319-rackmount-lcd-keyboard/>

More about Chassis Plans

Chassis Plans is a manufacturer of computers, LCD displays, storage arrays that are designed and assembled in the USA for Military and Industrial applications. Chassis Plans was founded in 1997 and has been at the forefront of Rugged and Custom Computer and LCD technology serving the DoD and Industrial markets.

For further information, visit the Chassis Plans website at: www.chassis-plans.com

ILLUMRA Fixture Controllers Certified for Use with Cortet Lighting Control System

Cortet by CEL Announces Partnership with ILLUMRA

Cortet™ by CEL announced today the availability of Cortet Certified 5 amp and 20 amp Dimming Fixture Controllers from ILLUMRA. These new Dimming Fixture Controllers work within the Cortet Lighting Control System to operate a variety of lighting fixtures, including LED, fluorescent and HID.

"Interoperability is one of the greatest challenges of designing and implementing smart lighting systems for commercial and industrial applications," says Erik Davidson, the Cortet Director of Marketing and Product Management. "Lighting devices that have been pre-tested to work together will enable facility managers, integrators, and system installers to reduce the cost and the hassle of trying to configure devices from various manufacturers. Cortet Certified devices are essentially plug-and-play."

The Cortet Lighting Control System is a powerful and intelligent IoT-enabled wireless control platform providing reliable, automated, and secure lighting

control for the modern smart building, and the Cortet Certified program represents a comprehensive offering of tested and certified lighting products and accessories from leading suppliers like ILLUMRA.

Cortet Lighting Control System components are designed to communicate with each other in a mesh network via a 2.4GHz Radio Frequency (RF) using the zigbee® wireless standard. Devices undergo a rigorous testing and certification program in the Cortet Test & Integration Lab to ensure that the hardware and software is completely reliable in a large scale wireless system.

From Jan Finlinson, President of ILLUMRA, "Cortet is providing a system which enhances the capability of the proven ILLUMRA load controller. The Cortet ecosystem features mobile app configuration and integration with other devices for a complete wireless lighting control solution."



At the center of the system is an intelligent lighting control gateway that processes sensor data and programmed schedules to optimize the environment, while also enabling user control via mobile applications.

The complete ecosystem features Cortet technology embedded into products from lighting OEMs as well as third-party control devices (the Cortet Certified program). This partnership ecosystem enables lighting OEMs to offer controls with a turnkey smart lighting control system.

See Cortet Certified devices online at <https://www.cortet.com/partners>.

Gratnells Engineering invests further in state of the art laser technology

Gratnells Engineering has recently invested in a new state-of-the-art BLM LT Fiber machine, allowing the Harlow-based company to expand their capabilities in 2018 and ensure clients benefit from even faster turnaround times.

This brand-new machine sits next to the existing LT5, a Laser tube cutting machine designed to cut from small to medium diameters and thicknesses of metal tubular sections. The LT Fiber allows tubes of any shape to be cut, process of special sections and even open shapes without any additional special equipment required.

The laser cutting range boasts an automated unloading and support system for pre-cut lengths up to 6100mm, automatic weld seam detection, and a module that maintains the cleanliness of the internal tube surface whilst machining.

Anti-crush technology makes the machine capable of processing even the lightest of tubes without deforming the walls. This high-tech equipment is also great for scrap reduction by setting the sequence of parts to be cut and minimising end of bar scrap; meaning less overall waste, which is good for the company and for the environment too.

The additional BLM LT Fiber machine is already helping to increase factory efficiency by allowing unloading to various positions, with finished parts from one machine being unloaded whilst production continues uninterrupted on the other. The need to manually separate parts from different orders has also now been eliminated.

Tube laser cutting continues to grow in popularity as it offers a quick route to a precise finish, eliminating conventional, time-consuming stages such as marking out, sawing and finishing whilst delivering significant cost savings.

Loic Jones, Operations Director, says "Gratnells Engineering decided to invest in state-of-the-art laser technology to enable us to offer fast production runs with the best quality finish, to our customer base. This substantial investment will allow us to continually support the ever-demanding needs of modern manufacturing clients".

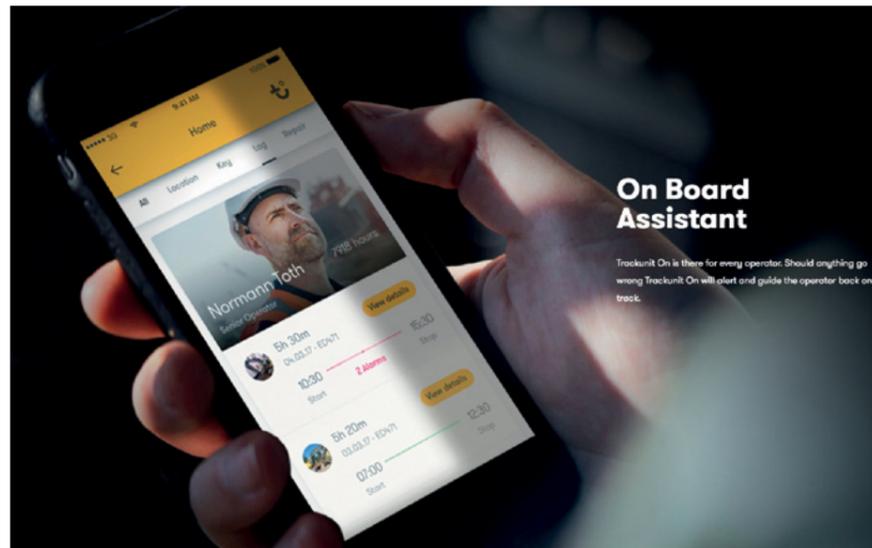


The Gratnells Engineering factory can turn around tube laser cutting jobs within 3-5 days from receipt of order and, using sophisticated software, can process parts from a variety of media including 3D models, xt files and solid works. This is particularly beneficial for bespoke automotive and point-of-sale components where the minimum quantities can start at one.

Gratnells Engineering has also recently updated www.gratnellslaser.com, a website that outlines some of the key benefits of the technology and streamlines the decision-making process for customers even further.

Trackunit's New Smartphone App Links Operators And Equipment

Trackunit, a leader in the design, development and deployment of fleet management systems, has introduced an advanced version of its Trackunit On smartphone app, enabling equipment rental companies and fleet owners to stay right on top of machine and operator health.



On Board Assistant

Trackunit On is there for every operator. Should anything go wrong Trackunit On will alert and guide the operator back on track.

Maintaining construction machinery is clear and simple with Trackunit's new smartphone app that links operators and equipment

Trackunit, a leader in the design, development and deployment of fleet management systems, has introduced an advanced version of its Trackunit On smartphone app, enabling equipment rental companies and fleet owners to stay right on top of machine and operator health.

The new Trackunit app provides a smart solution to log and track start-up routines together with service and maintenance requirements. Trackunit On provides a smartphone-driven checklist so operators

can ensure equipment passes all pre-checks, service requirements are up to date, and submit reports of any visual damage - including providing photographic evidence. For rental companies Trackunit On can be a tool for making pre-checks before rented equipment is handed over and final checks when equipment is returned.

On-site safety is a major concern, and Trackunit On will help protect equipment operators by reducing the chance of faulty and unsafe equipment being used. By connecting man and machine in a single app, Trackunit On keeps track of hours worked and equipment operated.

Using Trackunit On to highlight faults and damage enables the repair process to be streamlined so service technicians can bring machines to full operational condition quickly and conveniently. In turn, this will cut costs associated with downtime, delayed servicing and repair.

An intelligent management dashboard service provides rental companies, fleet supervisors and managers with key equipment metrics and utilization, customisable using dynamic widgets. Used proactively, monitoring the condition and use of machines can have a beneficial effect on lifecycle, cost of ownership and residual value.

Trackunit CEO, Joergen Raguse said; "Trackunit On shows how telematics can help the digitization of the construction industry in a convenient and intelligent way, using the smartphones in everyone's pockets. Our technology links equipment rental companies and fleet owners to operators and equipment to increase safety and productivity while reducing downtime and costs."

Available as a subscription service, Trackunit On provides the machine owner and rental company increased operational control of every piece of equipment, together with an instantly available digital record of use, repair and service. Used together with Trackunit Raw and Trackunit's industry-leading cloud environment - Iris - Trackunit provides a complete and comprehensive fleet management system for the construction industry.

For more details please click here , or visit www.trackunit.com/services/on

Rittal Cooling Units Now With New Output Class

Rittal's Blue e+ cooling units are acknowledged as the most efficient of their kind on the market. Independent tests have shown they are - incredibly - 75 per cent more energy efficient than previous cooling solutions

On the back of this success, the company is now extending the Blue e+ range. The new unit to be launched in the first quarter of 2018 will provide an output class as low as 1.6 kW, extending the existing range of between 2 to 6kW.

Blue e+ units will be on the Rittal stand (D720) at Drives and Controls 2018.



"This new unit is an important milestone for the Blue e+ cooling unit range and is designed to increase the flexibility of our offering and meet a growing need for compact cooling units for efficient enclosure climate control," explains Karl Lycett, Rittal's product manager for climate.

The Blue e+ cooling units feature inbuilt, innovative, patented hybrid technology. This combines an inverter driven cooling circuit with an independent heat pipe to provide passive cooling. This has a significant role in delivering the unit's exceptionally high efficiency ratings.

The inverter driven cooling circuit of the new Blue e+ range is also rated as highly energy efficient. Frequency converters precisely adjust the speed of the DC motors controlling the fans and compressor via voltage control, which allows the cooling output to be tailored to the current environmental requirements and deliver demand based cooling. This results in a significant reduction of energy consumption over conventional solutions.

Precise, demand based cooling ensures minimal thermal stress for components within enclosures, so constant temperature fluctuations (such as in the conventional two-point control systems) can be considered as a thing of the past. This not only increases the service life of the cooling units and enclosure components, it also means higher process reliability.

All the units in the new range can be operated in all standard grids worldwide thanks to the innovative multi-voltage capability. Permissible input voltage ranges from 110 V (single-phase) to 480 V (three-phase) in conjunction with a mains frequency of 50 Hz or 60 Hz.

Blue e+ units also excel in terms of connectivity, safety and handling. The units feature a graphical touchscreen control panel which displays all key information at a glance. System messages appear as plain text and are multi-lingual while standardised communication interfaces ensure easy integration into a production plant's control systems.

Meanwhile, the newly released IoT interface means Blue e+ units can link to customer-owned monitoring, energy management and/or superordinate systems via OPC-UA, Profinet, SNMP, Modbus TCP and CANopen, enabling predictive maintenance, data analytics and more.

In addition to the CULUS listing, Rittal cooling units and fan-and-filter units also now have a UL listing in the new "FTTA" (Environmental-rated Accessories for Enclosures) category. "The FTTA approval, means the type rating/IP protection class of the climate-controlled enclosure is certified by UL. It's a common question on user groups, and I'm delighted we can offer an authoritative response," says Karl.

Blue e+ units will be on show along with other solutions from Rittal - The System, at Drives and Controls (the NEC Birmingham, 10-12 April 2018), on Stand D720.

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

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New Mini Series Air Hoists From J D Neuhaus, The New Benchmark In Hoisting Technology

J D Neuhaus, leading supplier of hoists and crane systems have been working in close collaboration with end users to develop the new Mini series of air hoists.

This has resulted in an extraordinarily compact and innovative lifting device with an integrated NFC (Near Field Communication) sensor and service app that makes it truly unique in the industry. With various innovations incorporated in the concept, a multitude of improvements and new developments ensure maximum productivity, occupational safety and efficiency.

Special emphasis was placed on reducing the end-user's total cost of ownership (TCO) of the hoist. Reliable processes in the working sequence contribute to increased efficiency, achieved for 100% of the active operation time, by extending the service life significantly. Not only is the hoist optimised for outstanding overall efficiency, but the new Mini is also available around the clock (365/24/7). Unrivalled simple and fast maintenance further enhances efficiency, while also enhanced is highly sensitive, continuous control of hoisting and lowering speeds for which the Mini is known worldwide.

Innovation details

JDN has been able to increase the maximum speed at full load, with the Mini 500 achieving a 20% increase over speeds achieved by the previous model. Additionally, the maximum speed can also be adjusted without losing power at a given load capacity, meaning loads are even better protected when necessary, without compromising speed control. J D Neuhaus has therefore succeeded in combining the advantages of direct and indirect controlling, so that the operator can lift and lower loads smoothly.

New control lines bundled in one hose provide more operating comfort by keeping the lines from twisting during operation.

The new Mini from J D Neuhaus even has something to offer when it comes to maintenance, since work can be performed directly on the lifting device without removing it from the beam, drastically reducing downtime during operation. And thanks to the NFC chip, the operator can access device-specific information and documentation on their smartphone as long as they have downloaded the JDN service app. This saves time and ensures that the necessary documents are available digitally.

The number of operating hours until the legally required general overhaul of the Mini has been doubled, allowing the new Mini to stay in operation for 800 hours. Such a development dramatically increases the device's efficiency compared to the previous model, constituting an important contribution to the reduction of total cost of ownership. The developers at JDN also had some things up their sleeves when it came to flexibility: A standardised "interface" for using various types of hooks, now available in steel and stainless steel. A load jacket and chain made of stainless steel and a motor casing of uncoated cast aluminium make the Mini perfect for use in fields such as the food industry.

The Mini offers safety features that are unique the world over including, upon customer request, optional fall supports for both the lifting and lowering phases, capable of holding the maximum capacity



of a hoist should it come free of the supporting structure. In addition, the new limit stop offers another safety feature, switching off the hoist and lowering movement as soon as the bumper touches the stop valve. This slows the movement and keeps the chain from getting overloaded. These and other new safety features enhance occupational safety significantly and minimise safety hazards and wear risks.

All in all, the new JDN Mini is a true all-rounder and is available in four carrying capacities, 125kg, 250kg, 500kg and 980kg. In collaboration with customers from a wide variety of industries, J D Neuhaus has developed a product designed for the most varied fields of use: it can be operated in wet

and dry environments, when it's hot and cold, in dust-free rooms or under extremely dirty conditions and in areas where an explosive atmosphere (Zone 2) is present. For the first time ever, JDN has also used high-tech synthetic materials in order to replace high-energy materials while also fulfilling the requirements set and reducing the overall weight of the hoisting device.

For managing partner Wilfried Neuhaus-Galladé, it was especially important to constantly align development with users and their requirements in order to achieve 100% market relevance and to incorporate the demands of the market into the new series.

The new Mini hoist will be premiered at LogiMAT 2018, taking place on 13-15 March in Stuttgart, Germany. Visit JDN in hall 7, stand no. C61 or for further information and to learn more about the new Mini series, please visit www.newgreatmini.com.

Company information

At its location in Witten, Germany, J D Neuhaus, employ over 200 staff companywide, producing pneumatically and hydraulically operated hoisting devices and crane systems. Its internationally unique specialisation means that J D Neuhaus not only sets the benchmark for quality in their field, but with customers in over 90 countries is also the world market leader. The products are characterised by their ability to steadily and reliably move loads of up to 115 tonnes even under the most extreme conditions of use and with protection against explosion. For gas and oil movement, for example, under Arctic temperatures as low as -45°C, under water for ship repairs, in mining, in the chemicals industry, in heavy machinery construction, and in many areas of logistics. J D Neuhaus supplies a total of around 70 industries.

Production takes place exclusively at the Witten location and the wide selection of products is

complemented by services such as installation, inspection, maintenance, and general overhauling of the systems as well as training for customers. In collaboration with international partners, JDN affiliate companies in France, Great Britain, Singapore, and the United States form a close-knit distribution network that spans the globe. The export portion is over 80%.

Founded in 1745 as a family company, the business is now a seventh generation family-owned company. The hoisting device museum at the Witten location showcases this history as a lively part of corporate culture.

Further information is available on request to:
J D Neuhaus GmbH & Co. KG, 58449, Witten-Heven, Germany
Telephone: +49 2302 208-219
e-mail: info@jdnngroup.com
www.jdnngroup.com

FMAB NEO with overvoltage protection

SCHURTER expands the successful range of built-in filters for single-stage systems FMAB NEO with optionally available overvoltage protection (varistors). This is increasingly in demand, especially in regions with many thunderstorms. The single-stage filter series has a compact design with high performance at the same time.

Overvoltage pulses (e. g. lightning) often have a devastating effect on electronic circuits. This can range from malfunctions to complete destruction. In response to special customer requests, SCHURTER has therefore extended its popular and successful FMAB NEO filter family with varistor variants for surge protection. These variants are available on request. They have ENEC approvals for the entire current range as well as UL/CSA approvals from 1 A to 20 A.

The FMAB NEO filter family offers maximum flexibility with three different filter designs (N, P and Q). Design

N has two large X-capacitors for particularly high symmetrical attenuation in the lower frequency range; Design P has two standard X-capacitors for high symmetrical attenuation, while Design Q with a single X-capacitor provides good symmetrical attenuation. The entire filter family has an extended temperature range from -40 °C to +100 °C.

The single-stage filter series has steel housings with a closed bottom. This effectively shields the filter, no matter how it is installed. The series is suitable for applications with high symmetric interferences – such as devices with semiconductors that control

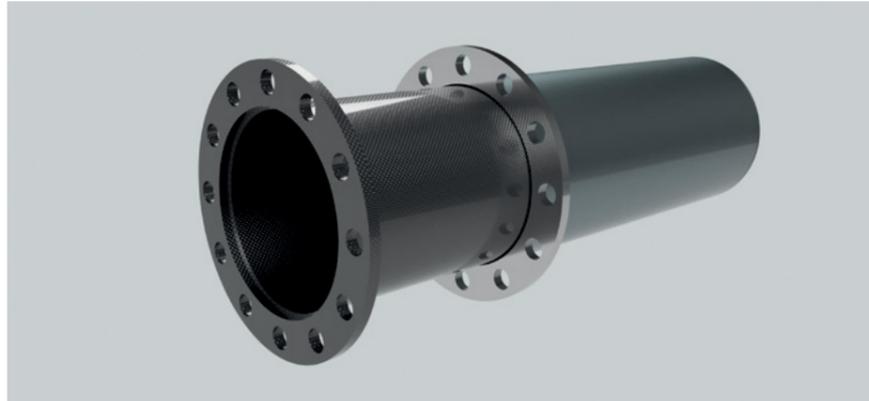


large outputs (e.g. professional coffee machines, devices with hot water supply, industrial electronics). The particularly compact filters are also ideally suited for medical and household appliances.

For further information, visit:
schurter.com

Creative Solution for a Complex Problem

Composite repairs and wrap systems are not necessarily a hot topic anymore, with many standards, procedures and case studies available on the subject.



However, every so often we still come across a story of a simple wrap being used as an ingredient for an unorthodox, well-engineered repair solution.

Above: Composite insert bonded into the pipe



Above: Composite insert

Extensive pipe and flange corrosion

In 2017, a nuclear power station in France identified a problem at the bottom of a sump pit of their cooling water system. The 200mm ID suction pipe protruding from a concrete wall was experiencing severe corrosion. An externally applied repair was not feasible as corrosion extended well beyond the area encapsulated in concrete. To make matters worse, the flange connecting the pipe to the drain pump was also badly corroded.

degradation called for more than a protective lining. For minimum downtime and fast return to service, a repair had to be completed from the inside of the pipe. A durable 500mm long 'composite insert' was created using the Belzona SuperWrap II system and a plastic former.

A familiar application procedure

The procedure followed some of the steps taken for a regular pipe wrap:

1. Wetting out the reinforcement sheet with resin
2. Applying the sheet onto the former with 50% overlap
3. Consolidating the wrap using the release film provided

Belzona's Distributor in western France, Alliatech, used their 35-year experience and expertise serving the French market to come up with a unique solution. This solution would solve the problem and prevent any further corrosion for the long term.

When external repair is not an option

A cut and weld technique would have caused needless downtime and the extent of metal



Above: Creating and consolidating composite insert

The composite insert was created complete with a new flange, 70mm wide and 10mm thick. Once the sleeve was cured and former removed, it was sanded with holes drilled to match those of the original flange.

The next step was to bond the insert into the pipe. After grit blasting, Belzona 1161, a surface-tolerant paste-grade material, was used as an adhesive between the sleeve and the pipe, at a maximum thickness of 10mm.

Finally, to ensure lasting erosion-corrosion protection, Belzona 1321 (Ceramic S-Metal), a

100% solids ceramic protective coating was applied on the inside, outside and around the pipe to prevent any issues from reoccurring.

The future of composite repairs

It is amazing how many problems can be solved with tried-and-tested repair materials. Particularly these days, with a focus on restoring rather than replacing,



Above: Before and after

reducing downtime to a minimum and optimising operating efficiency. Solutions that can adapt to the everchanging challenges are the future of industrial maintenance.

For further information please visit: www.belzona.com

Hoists Deliver 'Elevated' Performance In The Process Industry

The versatility and performance of the latest Profi TI series air hoists, from J D Neuhaus (JDN), ensures their suitability for a wide range of applications in the process industry, from food, beverage and packaged goods, to chemical, pharmaceutical and biotech.

JDN's range of Profi TI air hoists is extensive (up to 100 tonne carrying capacity), but models in the 0.25 to 2 tonne lift capacity range are proving increasingly popular for process industry applications. A number of infinitely variable speed-control systems (including remote control) help users achieve accurate load positioning. Various different trolleys can also be offered to meet customer demands.

tempered steels with a breaking strength of five times the nominal load. These design features highlight JDN's commitment to safety, which is the company's top priority.

Ultimately, process industry users get to enjoy robust, quick, silent, oil-free hoist operation. Furthermore, the hoists are purpose-designed to offer the process industry's most efficient air-consumption rates per metre lift (as low as 0.7m³/min in some applications), helping to reduce TCO (total cost of ownership).

Of particular note is the low-headroom design. When only low headroom is available and standard trolleys do not meet the application's requirements, JDN low-headroom trolleys are recommended. There are many advantages of using JDN low-headroom trolleys, such as a low-wear patented motor-brake system thanks to fewer components and no additional motor lubrication is required. Users can enjoy a two-step travelling speed and changeable track width options. The trolleys are able to negotiate curves, while longer crossbeams further improve the minimum headroom.

Numerous benefits are provided by Profi TI hoists. For example, these easy-to-operate, lightweight hoists are suitable for use in hazardous areas and are insensitive to dust, vapour, humidity and temperatures ranging from -20 to +70°C. Profi TI hoists can also perform continuous work, extended duty cycles, provide fail-safe starting conditions and overload protection. Fast lifting and lowering speeds can be achieved, even at full load. Additional benefits include minimal maintenance. For example, Profi TI hoists house a low-maintenance vane motor, and the chain sprocket in the mid-section runs in dustproof, maintenance-free ball bearings. The planetary gearbox utilises long-life grease lubrication and all teeth are made of tempered or hardened high-grade steel, while the chain and hook are also made from high-quality

Company Information

With over 200 employees across the group, J D Neuhaus manufactures pneumatically and hydraulically-operated hoists and crane systems up to 115 tonne capacity from its state-of-the-art facility in Witten, Germany. This globally unique specialisation means that J D Neuhaus has set the quality standard for the market, a move that has seen the company become the established global leader in its technology field with customers in more than 90 countries worldwide.

Resilience and reliability are the key product differentiators, thanks largely to their explosive protection rating which makes them ideal for use even in the most challenging of operating environments. Extreme applications include oil and gas exploration in arctic temperatures as low as 45°C, along with underwater tasks such as ship hull repairs, and plenty of others in demanding sectors like mining, the chemical industry, heavy plant construction and many areas of logistics.

The wide portfolio of services provided by J D Neuhaus includes equipment assembly, inspection,



maintenance and general overhaul, along with the supply of customer training courses.

Over 80% of production from the Witten plant is exported, which is why the company has long-established subsidiary companies in France, Great Britain, Singapore and the USA, all of which have helped create a tight-knit global network in collaboration with international partners.

J D Neuhaus has history that can be traced back to 1745, and is now in its seventh generation of family ownership. Visitors to the Hebezeug-Museum (Hoist Museum) in Witten, are able to see for themselves the remarkable history of this progressive company.

Further information is available on request to:
 J D Neuhaus GmbH & Co. KG, 58449, Witten-Heven, Germany
 Telephone: +49 2302 208-219
 e-mail: info@jdnngroup.com
www.jdnngroup.com

NEW HOSE CATALOGUE

Dixon Group Europe Ltd, leading provider of hose and coupling solutions, are pleased to launch their new Hose Catalogue.

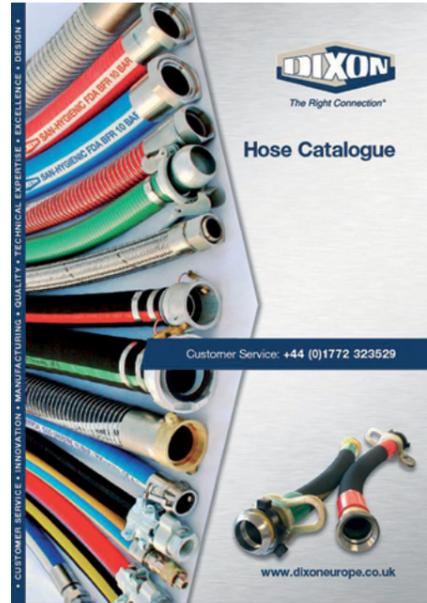
As a specialist supplier of industrial hose and hose assemblies, Dixon are amongst a handful of companies certified to the Pressure Equipment Directive 2014/68/EU to manufacture flexible hose assemblies.

The new catalogue serves to promote the basic hose offer but Dixon are driven to providing 'the Right Connection' in meeting specific hose requirements across all industries.

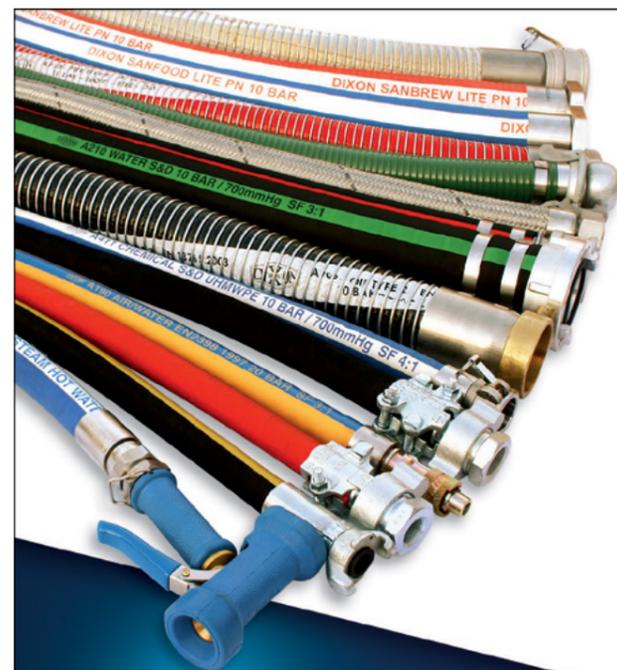
Dixon's extensive hose range now includes Heat Traced, Hot Water Thermal and Duplex hose assemblies as part of the standard range along with

a range of metallic, rubber, composite, silicone, PVC and PTFE hose assemblies which can be custom made to exact requirements with a range of accessories.

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Freudenberg's Fluoroprene® XP now available in the UK

Fluoroprene® XP, a universal all round sealing material specifically designed for process industry applications is now available in the UK via Dichtomatik UK Ltd, the exclusive provider for Freudenberg Sealing Technologies food and beverage related products in the UK.



Fluoroprene XP displays very good media resistance (in both water-based and fatty media) in all critical areas of the food and beverage industry, as well as broad sections of the pharmaceutical and chemical sectors. The material's stability in a wide range of temperatures (from -15 to +200°C) is also impressive.

Beyond the material's versatility, another of Fluoroprene XP's advantages is its low capacity to absorb flavours and the corresponding prevention of flow back into the product media. This ensures that the material is perfect for applications in breweries that process and bottle a variety of differently flavoured beverages on the same production line. Put simply, seals made of Fluoroprene XP significantly reduce the transfer of flavours from one product type to the next.

Fluoroprene XP's unique media resistance ensures complete process protection while maintaining high economic efficiency. Storage tests performed with 75 Fluoroprene XP 40 over 168 hours are a good example, showing that it is extraordinarily well suited to applications involving concentrated acids and bases, high temperatures, and water and steam.

The Fluoroprene XP product family also includes 70 Fluoroprene XP 41 and 85 Fluoroprene XP 43, which have been optimised for injection moulding processes, and 75 Fluoroprene XP 45, which is ideal for the production of metal composite parts, especially hygienic usit rings. All of the materials meet approvals and standards relevant to the food, beverage and pharmaceutical industries, such as FDA, EC Regulation 1935/2004, 3-A® Sanitary Standards and USP Class VI.

Ultimately, Fluoroprene XP offers high sealing performance for a broad array of applications, making it a cost-effective alternative for all process industry sealing requirements.

Extreme temperature conditions, aggressive media, high hygienic standards and safety requirements – the demands on the food and beverage, chemical and pharmaceutical industries are unique in many dimensions. Freudenberg Sealing Technologies, one of the world's leading specialists in high-quality sealing solutions, provides not only seals but also exceptional materials to help its customers meeting these challenges. One of these materials is Fluoroprene XP, a highly fluorinated premium material with outstanding resistance in both water-based and fatty media.

With Fluoroprene XP, process industry applications only need one material instead of the use of different sealing materials, typically made from EPDM, VMQ or FKM. Selection would be based on factors such as the working environment during the CIP/SIP or steam sterilisation processes, and the type of media coming into contact with the seal, such as fats, flavours and acid concentrations. Today, however, there is a universal material to suit all applications, Fluoroprene XP, which has been specifically designed to combine the positive attributes of the aforementioned materials.

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

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