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**Thermal compressed air meter
with integrated pressure and
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Automating condition monitoring and the benefits for manufacturers

By Dr Simon Kampa, CEO of Senseye



The introduction of machine-learning and Industry 4.0 technologies has increased the scalability and accessibility of condition monitoring, accelerating adoption across the manufacturing sector. The potential savings of both time and money through reducing downtime and making maintenance more efficient have made condition monitoring an attractive, feasible and almost obligatory aspect of industry.

The origin of data-driven condition monitoring

Data-driven condition monitoring is by no means a new concept in the manufacturing world. For 25 years or more it has been mandatory in the aerospace and defence industries, due to heavy regulation and the high safety standards expected of them. However, gathering and analysing sufficient data to drive meaningful results has been an expensive, time-consuming and laborious task. This has limited investment from other manufacturing sectors.

The Industry 4.0 movement, and the introduction of the cloud and machine-learning technologies is now changing the game. Smart sensors and machines that can read their own vital statistics

have automated the collection of machine data, while software such as Senseye is able to identify patterns and anomalies in machine health by analysing this data.

By reading machine data outputs around aspects such as vibration, temperature and the amount of electrical current drawn, it is now possible to assess the health of machines meticulously using a computer, spot emerging problems up to six months before they might affect production, and put in place more precise, more appropriate maintenance schedules.

A key factor in performing this analysis is the use of machine learning algorithms that are sufficiently generic to be used on any instrumented machine from any manufacturer, enabling the assessment of machine condition to begin immediately. The accuracy of this analysis improves exponentially over time as we discover more from the data about each machine's unique quirks and characteristics.

This automated, predictive approach to assessing machine condition and organising maintenance scheduling is proving transformative for manufacturers. Engineers can look at a simple dashboard each morning to see where their

efforts would be best applied and when, enabling them to minimise downtime by ensuring machines are scheduled for maintenance weeks before a predicted failure.

Benefits of automated analysis

Unplanned downtime is one of the biggest costs for any manufacturing environment. In the automotive sector, for instance, every minute that critical machinery carries a cost amounting to tens of thousands of pounds.

Being able to predict if and when a machine will fail in the future allows engineers to make repairs weeks or even months before a predicted failure might affect production. Senseye customers have halved their levels of machine downtime and cut their maintenance costs by up to 40 percent using this automated approach.

While traditional approaches to condition monitoring required organisations to recruit data scientists, automation means manufacturers can achieve the benefits of condition monitoring without having to find these increasingly scarce and expensive skills. Those that already employ data scientists can now leave mundane day-to-day monitoring to the computer and allow the human experts to focus their attention on the most complex issues that require more creativity and lateral thinking.

While an automated approach to prognostics and condition monitoring represents a new way of working for many, the benefits more than justify the change. Given the financial and operational benefits of introducing predictive maintenance at scale are now so much greater than the cost of implementing and managing such programmes, it is hard to conceive any large scale manufacturer not using them in the decades to come.

VERTICAL AIR RECEIVERS NOW IN STOCK AT HI-LINE INDUSTRIES

As a company that listens carefully to changes in market demands and industry trends, Hi-line Industries now holds a range of class-leading Vertical Air Receivers in stock. The top-quality vessels are available immediately at highly competitive prices.

All four models of Vertical Air Receiver being stocked by Hi-line Industries offer 11 bar working pressure and come with a 10-year warranty. The vessels can be supplied with or without fitting kits to suit individual preferences. Safety valves, gauges and drains are also available as options.

Currently, four sizes of Vertical Air Receivers are being stocked at Hi-line: 300, 500, 1000 and 2000 litre variants. The vessels are manufactured at Hi-line's new factory, centrally located in Burton-upon-Trent where the company has a storage facility populated with the vessels ready for immediate shipping or collection.

Receivers provide valuable temporary storage for compressed air, particularly at facilities with high air consumption. The vessels also serve to stabilise pressure peaks and provide steady air flow. Not having one as part of a compressed air

system can increase the load/unload cycles on the compressor, making it work harder.

All of the Vertical Air Receivers stocked by Hi-line are powder-coat finished in compressed air blue (RAL 5015) and are PED compliant to 2014/68/EU. Indeed, quality is the primary attribute of the vessels, which are built by robots to ensure perfect and consistent welding quality. In addition, high-quality 5mm plate and fittings are used throughout. As a result of this build quality, the Vertical Air Receivers are twice the weight (pro rata) of standard catalogue vessels.

As a member of the British Compressed Air Society, Hi-line is proud to be part of the 'Made in Britain' campaign that promotes the best of British manufacturing.

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



Kalrez® LS390 Sanitary Seals Excel In Food And Pharmaceutical Applications

The DuPont™ Kalrez® LS390 series of perfluoroelastomer sanitary seals have been designed specifically for use in sectors that include life science, food and beverage, and pharmaceutical.



LS390 because of its improved chemical resistance and low stiction performance.

Problems had been experienced previously with the company's existing material (silicone rubber seals), which had issues with steam resistance and high stiction, resulting in a short maintenance period of six months. However, after switching to Kalrez® LS390, the performance improvements have been substantial; the sanitary seals provide excellent resistance to chemicals and pure steam SIP, lasting a year without any damage on the contacting surface. These performance attributes have helped to increase productivity, lower maintenance costs and minimise unscheduled downtime, resulting in lower TCO (total cost of ownership).

As a result of their unique grey colour, LS390 sanitary seals offer easy identification for correct material selection and application. The perfluoroelastomer can also be used in applications other than sanitary seals. To discuss this possibility, please in the first instance contact Dichtomatik Ltd.

Class-leading Kalrez® LS390 provides longer seal life and tighter sealing, which improves productivity and process optimisation. Moreover, the new seals create a safer environment in the day-to-day running of process plants and manufacturing facilities. Kalrez® LS390 seals are available in the UK from authorised distributor Dichtomatik Ltd.

There are a number of problems that can be experienced in sanitary seal applications, many of which are related to thermal and chemical resistance challenges, compression set (permanent deformation), and high static friction (stiction). Such issues can lead to intrusion in the production line or dead space, which in turn

elevates the risk of contamination or leakage.

Kalrez® LS390 has been purpose-designed to overcome these common challenges by providing high hardness properties (Shore A3 88), low stiction, temperature resistance up to 220°C and outstanding chemical resistance to process chemicals, WFI (water for injection), and SIP and/or CIP processes. For users, these properties facilitate greater MTBR (mean time between repair), delivering bottom-line cost savings. Among early adopters of the parts is a major pharmaceutical plant in Japan. Here, Kalrez® LS390 has successfully been deployed in an infusion-drop product operation that uses pure steam SIP. The manufacturer chose Kalrez®

Further information is available from:
www.dichtomatik-kalrez.co.uk

Aberdeen Marine Choose SeaShield 2000FD™

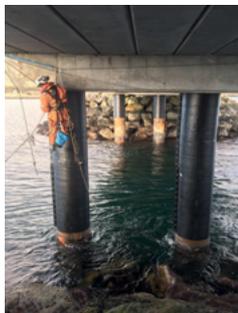
When Aberdeen Marine Ltd were awarded the contract to protect six piles on the Eriskay

Causeway Bridge in the Western Isles they suggested the use of the Winn & Coales (Denso) Ltd SeaShield 2000FD™ System as an alternative to the original specified system.

They submitted details of the technical merits of the SeaShield 2000FD™ system and the benefits in using this tried and tested system to the Western Isles Council, who agreed to the change in the specification.

Despite the challenges of the remote location and inclement weather conditions, Aberdeen Marine Ltd completed the application during the winter months.

Seashield 2000FD™ is a heavy duty robust system which provides protection against corrosion on Marine piles. It consists of Denso S105 Paste™, Denso Marine Piling Tape™ and a HDPE Jacket which is applied by pneumatic tensioning equipment and secures with stainless steel bolts.



For more information visit: denso.net

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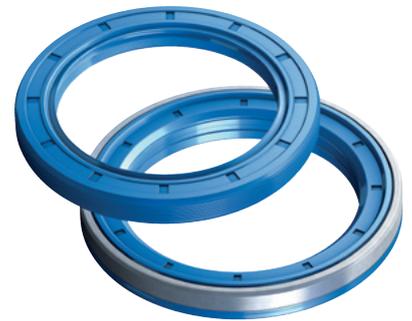


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Freudenberg publishes online marketplace for industrial components

Freudenberg Sealing Technologies is creating a turning point in the purchasing of B2B seals and components with their “Industrial Supply and Services” online platform exclusively starting in United Kingdom as first local market.



seals. However, Freudenberg will expand rapidly in terms of entering other regions and extending its product and service offering.

A big advantage of the integration of trading partners is the possible integration of their broad product portfolio, because the success of industrial dealers is mainly due to their enormous range, flexibility and speed. In the future, ISS will exploit this potential to create the first “B2B One-Stop-Shop” for seals and related industrial components. Everything on one platform – and guaranteed by certified, trustworthy trading partners.

With just one click to the high-quality seal and more

The Industrial Supply and Services (ISS) platform is the first online marketplace for high-quality B2B sealing solutions and components, setting new standards in the procurement of industrial parts. Constant time pressure and waiting for offers are now a thing of the past. 24/7 availability and local order processing enable unrivalled speed for deliveries within the UK.

More than just an anonymous marketplace

Industrial Supply and Services platform is much more than a simple online shop or anonymous marketplace with thousands of offers from daily changing merchants and from completely different needs segments – ISS is an industry-focused marketplace for the UK that includes the offerings of trusted local vendors. To make this possible, Freudenberg has worked with its long-

standing local trading partners and integrated them as platform vendors in the project. The advantages are obvious: for the customers, this means a larger selection of products as well as comparisons regarding price, availability and additional services. The local order processing also ensures the fastest possible shipping.

Freudenberg is the operator of the online marketplace in the background. Only selected, trustworthy merchants are facing the customers on the platform.

Step by step to success in the digital business

The range of products in 2018 for UK is limited to seals of the Freudenberg and Dichtomatik brands, but already includes more than 40,000 items – from O-rings to pneumatic seals and rod

Several tens of thousands of Freudenberg and Dichtomatik products are already available on the platform. Premium Freudenberg seals are always used when highly demanding applications exist. Dichtomatik’s industry-standard seals include tested merchandise for applications which are not safety-critical. This way, all requirements can be covered.

The online platform makes it possible to get to the desired product with just a few clicks. Payment is easily made by credit card or invoice.

The aim is to digitize and streamline the industrial business to meet the evolving customer needs in the future.

More information is available at uk.iss.fst.com.

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WWW.SDPRODUCTS.CO.UK

Eco-friendly solution for ergonomic workplaces

A new Ketterer crank lifting system 3053 is now available from SD Products – the “green” solution for vertical adjustable work surfaces. It allows for stepless adjustment of working heights from of 590 mm to 1,250 mm in less than no time with minimal required installation space, all without electricity.

The new, purely mechanical crank lifting system from Ketterer allows a maximum lift of 660 mm. Tables can be adjusted quickly, because each crank rotation creates 40 mm of height difference. Thus any table height between 590 and 1,250 mm can quickly and easily be set with just a few turns. The new crank lifting system meets the European sit-stand norm DIN EN 527-1 for ergonomic workstations and even provides an individually ideal working height for taller people. The Ketterer lifting system runs extremely smoothly even under loads: Working surfaces can be easily and effortlessly adjusted up to a recommended load of a maximum of 40 kg. The lifting system is self-braking and holds a table in its fixed position up to a maximum table load of 120 kg.

Installation and adjustment of the table height takes place without electricity, only manpower is required. Here too, the smoothly running crank lifting system from Ketterer is extremely economical, because it can be easily operated without much effort.

Ketterer meets the individual requirements of its customers during construction and assembly. The Ketterer system is faster and easier to install than comparable products on the market. In addition, it is modular. An advantage of this design: The vertical adjustable tables can be sent with minimum packing dimensions.

The high-quality production and material selection

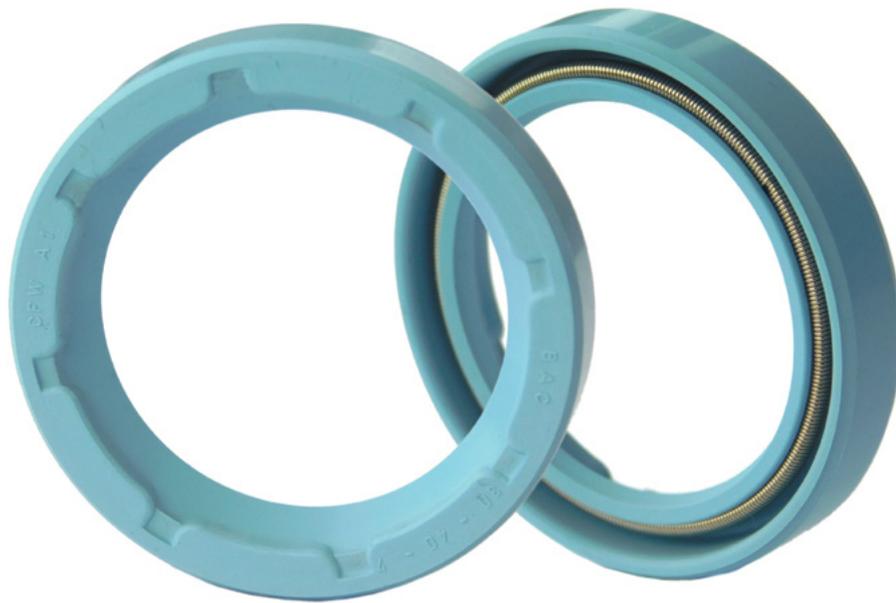


makes the Ketterer crank lifting system extremely durable and suitable for everyday use. Gear ratio, spindle pitch, and gas spring force are perfectly matched: Spring assemblies or counterbalances, as used in comparable systems, are unnecessary. This is how Ketterer creates the sleek design and hence small packaging units of the fast crank lifting system.

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

Freudenberg Simmerring now available in food-grade materials

Freudenberg Sealing Technologies, a leading global specialist in sealing products and their application, has made its proven and successful Simmerring seals available in two new materials to suit food industry applications.



Availability for the new products is via Dichtomatik UK Ltd, the exclusive provider for Freudenberg's food and beverage related products in the UK.

The Freudenberg Simmerring has been proving itself as a successful sealing product for the past 85 years. Designed for the reliable sealing of rotating shafts, Simmerring can today be found in millions of applications and machines across a myriad of different sectors. Importantly, the product is flexible, highly loadable and very dependable. Based on this portfolio of attributes, Freudenberg Sealing Technologies has now further developed Simmerring for use in the process industry, by making it available in food-grade materials.

Conventional PTFE shaft seal rings soon reach their limits at high rotational speeds and pressures, which typically leads to leaks and

other seal failure modes. In addition, to date it has not been possible to use Simmerring in the food industry as its PTFE materials have not been approved for food-related applications. With this challenge in mind, experts at Freudenberg Sealing Technologies set about developing two new Simmerring materials especially to meet the requirements of process industries such as food and beverage, and pharmaceuticals.

Simmerring products in the B2PT design are now produced from a newly developed material, Quantum® PTFE F18245, and a housing manufactured from 1.4571 (V4a) stainless steel. Here, the PTFE deployed has been created specifically for direct food contact. Approvals are anticipated shortly under FDA 21 CFR 177.1550 und EC 10/2011. The B2PT design, which is suitable for applications up to 10 bar, can also be adapted to suit specific customer requirements.

A further innovation from Freudenberg Sealing Technologies is the Hygienic BlueSeal, which is the first dead-space-free version of the Simmerring. Ideal for food and beverage industry applications, this hygienic shaft seal ring has a forward-mounted lip featuring geometry that allows no hard-to-clean areas, thus preventing any bacteria build-up and subsequent process contamination. As a point of note, the Hygienic BlueSeal can be used in low-friction and low-pressure (<1 bar) applications. The latter is made possible thanks to targeted adjustments in geometry. Hygienic BlueSeal also makes use of the newly announced Quantum® PTFE F18245 material.

The second new material development for Simmerring is 75 Fluoroprene® XP 45, which aids secure attachment to metal. This highly fluorinated material already has the required approvals and certificates under EC 1935/2004, EC 2023/2006 and FDA 21 CFR 177.2600.

Any seals manufactured from Fluoroprene® XP stand out for their excellent, broad resistance. The material combines the outstanding performance characteristics of FKM and VMQ in non-polar media (greases, oils and hydrocarbons), with the qualities of EPDM materials in polar media (water, acids and lye). Thanks to the complete encasement of the Simmerring with 75 Fluoroprene® XP 45, complemented by a stainless steel spring, the product is ideal for use in a wide range of food and beverage applications.

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

HSE Safety Alert For Mild Steel Welding Fume

The UK HSE have recently released an alert warning that exposure to mild steel welding fume can cause lung cancer; and potentially also kidney cancer. This is based on recent research by the International Agency for Research on Cancer. Mild steel welding fume has now been reclassified as a human carcinogen.



What does this mean for employers?

The immediate outcome is that HSE will have a higher expectation of employers. All employers who have staff welding mild steel will be expected to introduce a significantly higher standard of protection and to be able to demonstrate the effectiveness of this protection. We understand that insurers will also be looking for improved protection and in some cases have already refused to cover welding processes without significant improvements being put in place.

Key points to note are:

- LEV will ALWAYS be required when working inside.
- RPE will always be required where LEV does not effectively control fume.
- Welding without LEV or RPE in place will not be accepted, even if working outdoors.

- HSE will not accept any duration of welding activity where fume is not adequately controlled.
- Is my existing weld fume extraction system sufficient?

If your existing system is fully effective, you may not need to make any changes. However, you should review the effectiveness of the system to be sure you are working safely. If you have an AirBench, talk to us and we will provide recommendations. If you have a system provided by another supplier, contact them. Your system may need upgrading or recommissioning.

It is unlikely that welding hoods or extraction arms will be considered adequate to control weld fume in future given the unreliable nature of these systems and their tendency to expose operators to high levels of fume when incorrectly used.

What action are AirBench taking to respond to this?

AirBench Ltd aim to help customers comply with these enhanced expectations.

Firstly, we have developed upgraded filtration for our FPW range of welding benches. This filtration is to H13 grade; which has a minimum efficiency of 99.95%. This has necessitated design changes to the FPW range. These have now been fully tested and the upgraded systems are now available to purchase.

For existing customers, in most cases this upgraded filtration system can be retrofitted. For new customers, we will be recommending the new H13 grade final filter as standard for welding operations.

For more information visit:
www.airbench.com

Cloud-based Cooling

By Karl Lycett, Rittal's Product Manager for Climate Control

Cooling units are playing an increasingly important role in Industry 4.0. Seamless communication between cooling units and associated cloud-based systems is opening up opportunities for new applications.

Essential to these applications are IoT-capable devices such as the cooling units and chillers in the Rittal Blue e+ range.

During the lifetime of an enclosure cooling unit, the costs incurred for energy, maintenance and service are usually much higher than the initial investment in the unit itself.

Optimisations carried out during maintenance can help reduce workload and thus lower costs, for example through predictive or needs-based maintenance. Needs-based maintenance, however, always requires information about the individual cooling units and the surrounding conditions. A typical example is replacing a fan before a fault occurs, which otherwise – in the worst-case scenario – could cause not just the cooling unit, but the entire system to fail. If there is historic information available to plant operators about the fan's running time, the difference between its expected and actual speeds, and its power consumption, then it's possible to identify a gradually developing fault or an impending

failure. This means that vital components can be replaced early on, increasing the overall system's availability.

Other information, such as energy consumption, the condition of individual components, ambient conditions, or even the level of soiling on the filter mat, can also provide useful data, and practical opportunities to optimise maintenance and energy efficiency.

It's not surprising, therefore, that seamless communication of information between systems is growing in importance. In a state-of-the-art factory, where data is easily available as and when required, the sight of maintenance technicians walking from one cooling unit to another, jotting down information with a clipboard and pen, is a thing of the past.

Networking is possible now

Rittal equips its climate control solutions with a comprehensive range of communication options.

Using the new IoT Interface, Rittal units can communicate directly with superordinate systems and network with customers' in-house monitoring and energy management systems. As a result, data such as the internal/external temperature of enclosures, and the temperature of condensers and evaporators, can be continuously evaluated.



Added to which, the run times of compressors and fans is easily accessible, as is information on capacity utilisation, messages and unit settings. Plant operators can therefore identify potential malfunctions early on, improving the reliability and availability of their systems.

Numerous industrial protocols are supported, allowing climate control solutions to be integrated into IoT applications, which paves the way for smart service solutions. Additionally, information from the units can be used in cloud-based systems for a wide range of analyses.

Predictive maintenance and data analytics

At last year's Hannover Messe, Rittal demonstrated the future of Industry 4.0 applications such as predictive maintenance and data analytics together with Siemens MindSphere and IBM Watson IoT.

Industry 4.0-capable Rittal units were integrated into Siemens MindSphere. This cloud-based, open IoT operating system enables users to develop their own Industry 4.0 applications. Using Siemens MindSphere, the platform is scalable and can capture and analyse huge volumes of data – paving the way for smart-factory applications, for example, in predictive maintenance, energy data management and resource optimisation.



As I indicated at the beginning, needs-based maintenance is cheaper than carrying out maintenance work at fixed intervals, and raises system availability. Our solution also calculates the shortest routes between calls for service engineers, which eliminates wasted journeys at facilities with a large number of machines. And live data on each unit means staff can bring the right spare part with them straight away!

Rittal products also interoperate with the cloud-based data analytics system IBM Watson IoT. Watson's architecture is designed to process information rapidly, and employs machine-learning algorithms to analyse ever-growing data volumes. Data analytics applications are used to make maintenance more efficient and achieve a high standard of operational reliability.

Again, customer benefits include improved machine availability and optimised maintenance costs. The solution's new technologies also make new business models - such as smart maintenance contracts - possible.



Visualised data in the cockpit

With the introduction of the Blue e+ cooling unit series, Rittal has set new standards for the energy efficiency of electrical enclosures.

Thanks to diagnostic software, users can go a step further, and save more energy through the optimum operation of their cooling units. Comprehensive information is essential of course, and all the relevant data is provided by the new data cockpit in RiDiag III. All the information collected from the cooling unit's numerous

sensors is clearly displayed and evaluated, including temperatures, the input voltages and currents at the compressor.

The EER (Energy Efficiency Ratio) display is particularly useful, allowing users to track how energy efficient the cooling unit is under specific environmental conditions and with specific settings. By analysing the data, users can optimise parameters, achieve additional efficiency improvements and hence lower costs.

What we've wanted to show in this article is how the IoT Interface can be used, providing an insight into future Industry 4.0 applications and their potential benefits. All this stems from the seamless transmission of data from sensors inside the cooling units and chillers to the cloud.

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

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Fieldbus Modules With Io-Link Master Functionality For Today's Automation And It's Systems

The new range of Fieldbus modules with IO-Link master functionality from ifm electronic, are designed to meet the demands for ever-increasing levels of intelligent sensing and control to facilitate the drive toward increasingly sophisticated automation and IT.



These robust, decentralised modules are Industry 4.0 ready and enable connectivity of sensors to PLC's via the fieldbus and securely to the IT infrastructure via a separate IoT port.

These modules serve as a gateway between intelligent IO-Link sensors and the field bus as well as allowing important information from intelligent sensors to be sent simultaneously into the IT world. With a separate IoT Ethernet socket the IT

network can be set-up completely separate from the automation network. Sensor information is transferred into the IT world via the established TCP/IP JSON interface.

Thanks to their robust design, use of proven materials and high ingress resistance (IP67 or IP69K) these modules can be used in coolant applications or directly in wet areas in the food industry. Furthermore, their ecolink technology

guarantees reliable, permanently ingress-resistant M12 connections.

Among the key advantages and benefits to end-users is the separation between automation systems and the IT network. For example, as machine uptime is a high priority, the automation network must not be interrupted by external factors which is why the modules feature a separate IT and automation network. This means that business critical, non-real time data from intelligent sensors can be sent safely to the IT and ERP system without any effect to the real time control signals. Also, the ability to configure sensors with an LR device is important and this is possible as the integral intuitive software finds all the ifm electronic IO-Link masters in the network and creates an overview of the whole plant.

In addition, all connected sensors are displayed with the respective parameters making it possible to set the parameters of all the sensors in the system from one central point.

The sensors and actuators are connected via standard M12 connection cables without the need for screening and depending on the device type, up to 4 or 8 IO-Link sensors can be connected and supplied with up to 3.6 A. In combination with a wide range of IO-Link digital input / output devices it is possible to connect a high density of intelligent and digital sensors to a single fieldbus address.

For more details visit:

<https://www.ifm.com/gb/en/shared/product-news/2017/sps/io-link-master-connection-of-sensors-to-the-plc-and-to-the-it-world>

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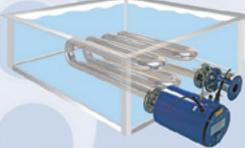
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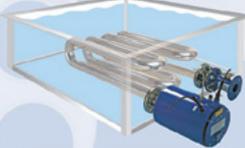
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TX high efficiency small diameter immersion tube tank heating systems.



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Midco DB Series Air Replacement or "Make-Up" Air Heating Burners

Lanemark gas burner systems offer users reliable, high efficiency, process heating solutions.

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Midco DB Series Air Replacement or "Make-Up" Air Heating Burners

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- Supplied either as Midco burner heads for OEM system integration or as complete packaged systems including modulating gas valve trains and controls
- Wide range of firing rates to suit alternative temperature rise and air velocity system requirements
- DbCalc system design software

Lanemark Combustion Engineering Limited
 Lanemark House, Whitacre Road, Nuneaton, Warwickshire CV11 6BW United Kingdom
 Tel: +44 (0) 24 7635 2000 Fax: +44 (0) 24 7634 1166 E-mail: info@lanemark.com
 www.lanemark.com



Fulton Achieves CPD Certification For Its New VSRT Training Course

Fulton is delighted to confirm that its VSRT Steam Boiler Operation & Maintenance course has been certified by the CPD Certification Service as conforming to the continuing professional development principles.



The news follows the company's announcement in late-2018 that it had achieved similar CPD Certification status, but for its Vertical Steam Boiler Operation & Maintenance course.

Commenting for Fulton, aftercare and business development manager Jeff Byrne says: "You could be forgiven for thinking that achieving certified status for the VSRT course was easy as we had recently achieved similar for our vertical steam boiler course. However, given the radical design of our double-award-winning VSRT steam boiler and the fact that it was only launched in early-2018,

it took months of extra assessments to achieve. We are therefore delighted to have gained certification for the training course so quickly."

Designed for boiler operators, the one-day VSRT Steam Boiler Operation & Maintenance course covers basic monitoring and day-to-day operation of steam boilers to provide employees with the knowledge required to ensure boilers are running safely and efficiently. It also focuses on the VSRT's use of state-of-the-art controls and technology, looks in-depth at its patented spiral heat exchanger and includes training in operational

procedures, daily blowdowns and the checking of water levels, alarms, etc. Finally, it examines the importance of correctly treated feedwater and what boiler inspectors will look for during routine insurance inspections.

Further information on Fulton's training courses can be found on their website, by calling +44 (0) 117 972 3322 or emailing training@fulton.co.uk.

New Lanemark Burner Design Opens Up New Opportunities

The selection of the most effective temperature and process burner control system is one of the key factors that impacts on the overall efficiency of a gas-fired industrial recirculating oven or dryer, particularly in terms of energy usage.



That is the proven view of Lanemark Combustion Engineering Ltd. who have designed, manufactured and installed a wide range of process gas burner systems worldwide – many in facilities that are at the heart of the surface treatment and finishing sector.

Significantly, it is a view that underpins the company's highly acclaimed FDGA burner design which sees both the gas and combustion airflows modulate in response to the process oven temperature requirements. Moreover, it is now the principal behind the latest addition to the Lanemark FD range – the FDB packaged or semi-packaged burner – which offers additional advantages in terms of both location and, importantly, flame profile.

"As with the FDGA design, FDB burners offer flexible, high turndown control of both gas and air with benefits seen particularly across a range of oven, dryer and spray-booth applications," says Adrian Langford, General Manager at Lanemark Combustion Engineering. "This is clearly relevant in the surface treatment sector in areas such as paint spray-booth air heating – for both spray and

bake cycles – and with paint drying and curing ovens."

Adrian Langford points out that a key characteristic of the FDB design is its ability to be mounted either internally within an enclosure or directly onto the wall of a dryer, oven or process air heating duct. It can therefore operate in line with, or at 90° to, the process airflow.

"In this context, the flame shape is of particular significance as it can deliver either a square or rectangular profile – rather than a conventional circular configuration," continues Adrian Langford. "Flame length is both short and consistent irrespective of the FDB rating specified, optimising its suitability for mounting inside an enclosure." He adds that the system is also designed to reduce emissions to minimal levels.

The Lanemark FDB design also makes full use of the latest electronic variable speed drives whereby temperature control signals are received from the heated process air which then modulates the output of the combustion air fan. When the required operating temperature has been

reached, the temperature control signal falls, the combustion air fan speed slows down and the pressure generated by the fan reduces. This change in combustion fan air pressure is transmitted to the latest generation of gas/air modulating control valves, such as the VAV series produced by Kromschroder, so that the gas flow is reduced proportionately.

These are clear-cut gains when compared to gas and air modulation via a linked gas butterfly valve and combustion air damper where the combustion air fan runs continuously at maximum speed with the linkage arrangement between the gas and air supplies being both inflexible and, potentially, prone to sticking.

As with all Lanemark TX (tank heating) and FD (forced draught heating) burner systems, the FDB is available in a choice of sizes and configurations to match application needs, with heat input options, for example, ranging from 9 to 1400 kW. In all cases, installations can include a compact, pre-piped modulating gas valve train and control panel which includes a burner controller, ignition transformer, differential air pressure switch and two three-way air valves as standard. The company points out that additional control components, including temperature controllers, can also be included where requested and that the burners can be specified for use with either natural or propane gas.

"The operational and environmental benefits of our FD range have been demonstrated in a long and growing list of installations in many different industrial sectors, and we are delighted that the surface treatment and finishing sector has long been one of our key UK and international market places," adds Adrian Langford. "The addition of the FDB unit not only extends application and performance options but also acts as a further demonstration of our ongoing commitment to research, innovation and product development."

For more information visit:
www.lanemark.com

Riello's premix burners now up to 3MW

Riello RX premix packaged burners are now available in outputs up to 3MW, offering NOx levels of less than 40mg/kWh, with high turndown ratios of up to 8:1, across a wide range of models.

The main differences between traditional pressure jet burners and premix burners relate to the ways in which the air and gas is mixed and in the technology of the combustion head.

In traditional pressure jet burners, the gas and the combustion air are mixed at the point of ignition on the end of the combustion head in the space

Gas and combustion air are mixed upstream of the combustion head and then pass through precision-located ports and the gauze 'sock' to ignite on the external surface of the combustion head. This arrangement enables a very compact flame with a diameter directly related to the burner firing rate, ensuring precise heat control and optimum efficiency at all loads.



available in the combustion chamber (diffusive flame). This is the most familiar arrangement.

Riello RX burners feature an exclusive design that includes a patented woven wire gauze 'sock' covering the combustion head cylinder.

The high turndown makes RX burners ideal for systems with variable heat loads where low NOx levels are also required. These range from condensing boilers through to process applications such as spray booths and industrial ovens.

The geometry of the gas ports has been designed specifically to ensure that throughout the modulation range the speed of the air/gas mixture is sufficient to avoid burn-back. Premix technology also offers a much lower risk of flame impingement, due to the reduced likelihood of contact of the flame with the combustion chamber walls.

Also, the high combustion intensity developed on the premix burner head means that a greater heat output is achieved over a much smaller combustion head dimension, when compared to other burner technologies. In certain applications this enables the combustion chamber dimensions to be greatly reduced, resulting in lower manufacturing costs.

RX burners can be used in conjunction with variable speed drive motors to reduce electricity consumption and lower noise levels even further than the typical 30% noise reduction compared to many other combustion applications. Control options include progressive two-stage operation and fully modulating via 0-10V or 4-20 mA. Full electronic control with operational and diagnostic display is also available.

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Institution of Mechanical Engineers comments on National Education Union's survey

Peter Finegold, Head of Educations & Skills at the Institution of Mechanical Engineers, comments on the National Education Union's survey which highlighted the problem of teacher retention

"The problem of teacher retention is especially challenging for engineering related subjects such as science and maths. Analysis by the National Foundation for Educational Research shows how those qualified in physics or engineering were 87% more likely to leave teaching within five years than their non-STEM colleagues.

We believe that offering financial incentives through rewarding early career teachers at key pinch-points will help increase numbers of these vital STEM teachers.

But it isn't all about salary incentives. There needs to be greater acknowledgement that teaching in an environment where subject CPD is seen as an intrinsic part of the job – and not a luxury – boosts professional self-esteem and resilience.

While we welcome the Government's Early Careers framework, which will give new teachers an additional year of the kind of professional support they currently only receive in their first year, we should encourage this approach throughout a teacher's career."

For more information visit: www.imeche.org



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Don't let overheating disrupt you this summer.

Plan ahead with EcoCooling's direct fresh air and evaporative cooling technologies

Last year's unusually hot summer caused disruption for many factories and industrial facilities where heat-fatigued staff and customers resulted in drops in production and sales. While refrigeration systems are considered too expensive and uneconomical for large space cooling, evaporative cooling offers a cost effective and reliable alternative.

The Solution

EcoCooling fresh air and adiabatic/evaporative cooling systems are installed in over 2000 facilities across the UK, providing fresh cool air to people and processes without the need for refrigeration. Clients have seen productivity in sites improve by up to 30% after the installation of EcoCooling equipment.

It's Science not Magic

During colder weather the EcoCooling system works in ventilation mode, outside air is used to cool the building while hot air is extracted out. On hotter days, the natural process of evaporation is used in EcoCoolers to cool incoming air. By evaporating water into the air, temperatures are reduced without the need for mechanical

refrigeration, making evaporative cooling an economically viable and green option for large building and process cooling. Temperatures below 21°C guaranteed all year round, on the hottest days EcoCooling systems can often outperform their refrigeration based alternatives.

Energy Consumption: Running costs for a single unit ECP external EcoCooler Small based on an average airflow of 12,000 m³/hr are (see table 1).

Spot cooling: One ECP EcoCooler can provide cooling for 15m diameter circle of floor space, doors and windows being open will not affect performance.

Mobile coolers: Mobile coolers offer a flexible alternative to a fixed installation and can be used as trials. Contact us for more details. 01284 810586

Where does the energy usage come from?

99% of the energy used in an evaporative cooling system is on the fans, which move air throughout the building. The energy usage of the system does not increase when the evaporative cooling is

Case Study: LM Wind Power keep carbon neutral using EcoCooling

LM Wind Power are an international designer and manufacturer of wind turbine blades. At their Hampshire facility, manufacturing staff are protected against the chemicals involved in the manufacturing process, however there was a requirement to provide fresher air for the team working nearby in offices that were hot in summer and cold in winter.

Air conditioning units had proved expensive and inefficient, so the company turned to EcoCooling for the only solution that would ensure they remained completely carbon neutral. Approved installers, Vent-Tech, installed an evaporative cooling unit around the people working onsite with minimal disruption, at a fraction of the cost of a traditional AC system.

The EcoCooler unit was adjacently positioned and ducted into a heat recovery unit on the roof to keep the offices at a steady 21°C all year round while using very little energy/carbon.

turned on, so rising bills in summer should not be a worry.

How do I get a free quote for supply and install?

EcoCooling has a UK wide network of installers and maintenance providers. Give us a call today to organise a free site visit and quote. : 01284 810586

Gain reliable and efficient cooling guided by an application engineer. Just call: 01284 810586 sales@ecocooling.co.uk www.ecocooling.co.uk

Below: Table 1 -performance of a single EcoCooling at 12,00m³/hr

Utility	Usage and Cost per Hour
Electrical Consumption	£0.120
Water Consumption (average)	£0.012
Total Cost per Hour	£0.132
Total cost per 168-hour continuous working week	£22.18

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EcoCooling: the established leaders in evaporative cooling

UK-based with over 3500 installations worldwide; with clients including **BT, Marks & Spencer, Herman Miller, Cummins Diesel, Premier Foods, Net-a-Porter and Cambridge University**. Case studies online!

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Densostrip™ Protection at Bridlington Omnia Bridge

One of the earlier Omnia Bridge Deck Units in use is that forming part of the Bridlington Integrated Transport Plan. PBS Construction Ltd from Hull were awarded the contract to construct the road bridge now in use over the Gypsy Race at Beck Hill.

Omnia Bridge Deck Units were used in the design of the bridge deck and Winn & Coales (Denso) Ltd supplied Densostrip™ and Densostrip Primer™ to seal between the supporting steel beams and the Omnia Bridge deck planks. Denso Primer DTM and Denso-pol 60TM Tape were then used to seal the joints between the precast concrete planks.



The use of these materials prevented any grout loss when the in-situ concrete was poured to form the bridge deck.

For more information visit: denso.net

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Are temporary chillers the solution to UK stockpiling crisis?

Following news of further stockpiling in both the food and pharmaceutical industry, companies across the supply chain are facing the challenge of finding additional storage and cooling solutions (Chillers) to cope with demand.

One viable solution, according to Aggreko, is for manufacturers, retailers and warehousing sector to consider temporary cooling systems / chillers. As food and medicine continue to be stockpiled following the uncertainty surrounding Brexit, chillers and chilled air distribution systems allow ambient temperature warehousing to be transformed into chilled/cold storage to meet increased demand.

Chillers, which modularly range from 50kW to 1500kW and be maintained as low as (minus) -40°C, provide companies that are either considering or have already taken action to stockpile, with convenient, effective cooling for all applications, ensuring warehouses meet the required temperatures for the stored materials. And with the uncertainty surrounding both food

and medicine set to continue, Aggreko is urging the supply chain to re-think any permanent changes to chilled storage, as Matt Watson, Sales Manager at Aggreko, explains:

“The trends of stockpiling materials don’t appear to be reducing and food, storage, distribution and pharmaceutical companies need more efficient and trustworthy storage quickly. As we await more clarity on the impact Brexit will have on industry, the utilisation of temporary chillers allows storage to be increased where extra capacity is required.

“Aggreko’s chilled and cold storage solutions are available immediately and, importantly, work within existing facilities without impacting production. We hope that this solution to industry will ease concerns manufacturers, retailers and



warehousing sector continue to face, allowing them to store unexpected stock in units that meet industry standards.”

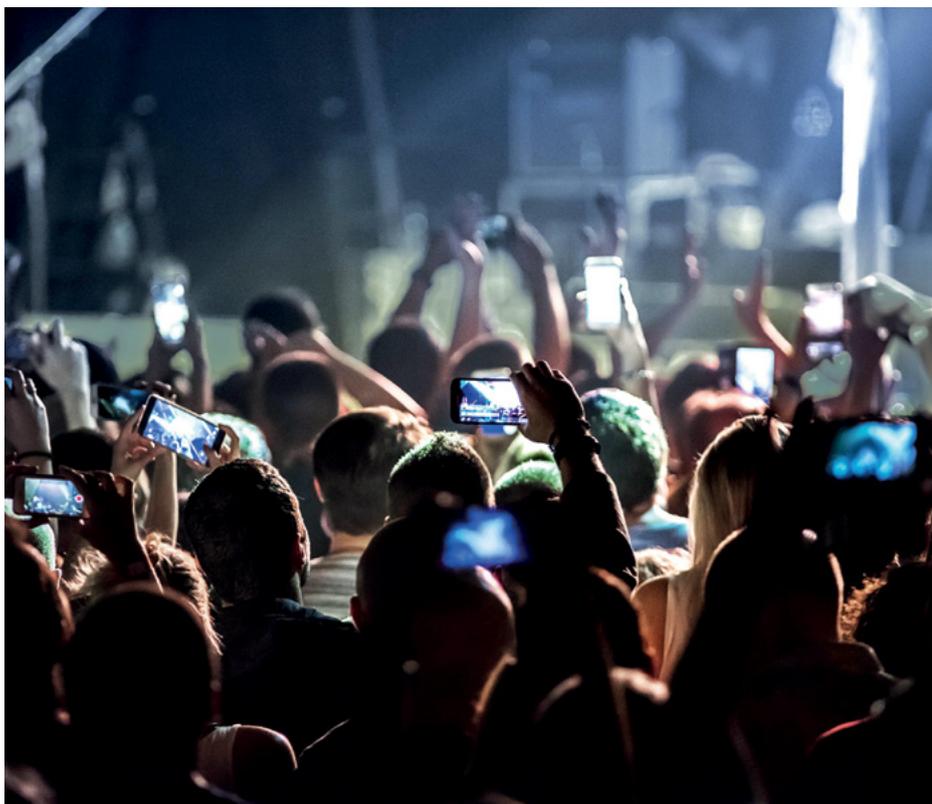
Aggreko’s rapid response team means equipment can be delivered and set-up within hours. Additionally, the company’s experienced engineering team can visit locations and design a bespoke package – and install it – with minimum disruption.

For more information on Aggreko’s temporary chilled storage solutions, please visit www.aggreko.com.

5G Rollout and the Data Centre Sector

By Clive Partridge, Rittal's Technical Manager, IT Infrastructure

The imminent rollout of the 5G mobile communications network and the significant increase in data that will need to be processed, stored and distributed is likely to have a significant impact on the data centre sector



So what should data centre operators be doing to prepare for it?

The 5G mobile communications network is shortly going to be rolled out and it is expected to revolutionise the mobile experience for us all by matching and surpassing the wireless network currently on offer.

5G combines faster upload speeds and increased mobile capacity with considerably lower latency, reducing page loading times to a just one millisecond.

5G will also help support the expansion of IoT-enabled devices, facilitating the use of wireless

sensors in the home, and in factories and warehouses. It will direct industrial robots and enable machine-to-machine communication, not to mention autonomous vehicles, even if these are still on the horizon.

Coverage won't be universal to begin with. The roll-out will probably start in main conurbations, followed by rural areas. But data centre operators still need to be prepared for what's likely to be a tidal wave of data that will now be processed/stored in the cloud. Added to which, data centres also have to support the low latency delivered by 5G to maximise the potential of this very agile service and provide users with instant access to a constant data stream.

Some of these pressures can be eased by decentralising IT infrastructure through the expansion of local edge data centres. The advance of edge computing, which essentially provides computing resources at the perimeter of a given network, allows data to be processed at source, taking advantage of low latency while supporting the real-time applications required to run systems.

Edge data centres remain connected to the cloud, however, and it is cloud which then takes care of any less time-dependent data analyses. Rittal, for example, offers a complete one-stop solution, in the iNNOVO Cloud and its own Edge Data Centre; a combination which is aimed at enterprises of all sizes.

Not surprisingly, many data centre owners have already anticipated the arrival of 5G. Those that haven't may need hardware refreshes or upgrades to deliver the low latency and bandwidth needed for both 5G and edge computing processing within the cloud.

It's worth noting that the general trend towards standardisation is helpful in this regard, and should help deliver both the fast deployment time and scalability which the market is now demanding from data centres.

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

InterContinental Hotel deploys ABB technology to cut energy usage by 40 percent

A landmark hotel in Madrid is saving energy and meeting its environmental goals after equipping its heating, ventilation and air conditioning (HVAC) systems with ABB drives and high efficiency motors. Energy usage has been reduced by 445,000 kWh a year – enough to boil two million kettles of water.



Through its 'Green Engage' sustainability program, IHG (InterContinental Hotels Group) enabled its hotels and resorts to reduce energy consumption by up to 25 percent between 2013 and 2017. A key area of focus in energy reduction is the HVAC systems that can use between 60 to 80 percent of all the energy consumed by a hotel.

With a global footprint of more than 5,500 in nearly 100 countries around the world, IHG wants to ensure it plays its part to protect the planet and have a positive impact on all of those who interact with it.

The IHG Green Engage system is a business-wide, online sustainability program helping its hotels manage and report their use of energy, carbon, water and waste, thereby minimising

overall environmental impact and utility costs. Participation in the IHG Green Engage system is a global standard for all IHG hotels and it recognises their progress through four levels.

The program recommends more than 200 green solutions, implementation plans and support systems to help hotels achieve their action plans and targets. InterContinental Madrid has already achieved all levels – the first one to achieve the highest savings in Europe – and it won an internal award in recognition of this.

A landmark hotel committed to sustainability

The InterContinental Madrid is an important success in IHG's Green Engage program. Located

on the Paseo de la Castellana, the Five-Star hotel has stood as a landmark in Spain's hospitality industry throughout its 65-year history. It welcomes around 100,000 guests a year including presidents, royalty, celebrities and business leaders.

The hotel recognises that sustainability is important for its guests and aims to make it easy for them to stay at a hotel that shares their values.

"Through the IHG Green Engage program, every hotel has to achieve defined environmental goals. But there can never be any compromise on comfort or convenience for our guests," explains Esteban Rodriguez, Chief Engineer of the InterContinental Hotel Madrid.

Energy survey identifies areas of low efficiency

The hotel has eight pump groups that serve its HVAC systems as well as hot water supply for guest rooms, kitchens and other facilities. Although these systems were well maintained and in good condition, the hotel management was concerned that their energy efficiency levels were below current best practice. Therefore, the hotel called in ABB's official value provider in Madrid, Exel Industrial, to carry out a detailed energy survey. The survey revealed that the hotel's energy use was high, particularly in the existing baseplate pumps, where both the motors and the pumps were inefficient. "The study showed that 40 percent of energy could be saved by decreasing the frequency of the motor by 10 percent," states Enrique Bernad Lillo, Quality and Financial Manager at Exel Industrial.

Improved process stability and energy savings

ABB recommended that the pumping systems should be upgraded with variable speed drives (VSDs) and electric motors with the IE3 energy

efficiency classification that is now mandatory for compliance with EC regulations. In 2016, a total of 13 ABB HVAC drives and 16 IE3 motors were installed in new baseplate pump groups and integrated into building management systems. Using VSDs to regulate the pumps provides the system with greater stability and considerable energy savings, as the motor speeds are now adjusted to match the precise demand at any given time.

The drives and motors also offer operational benefits that go beyond energy savings as they help to lower running noise while offering smooth starting. This reduces the stress on the pumping systems, helping to extend maintenance intervals. Overall maintenance needs are also being decreased by a longer pump life span, especially as the VSDs can eliminate the potentially harmful effects of pump cavitation, which refers to voids in liquids that implode near a metal surface and trigger intense shockwaves inside the pump.

Payback in less than two years

“Our ABB intelligent motion solutions enable energy savings of around 40 percent, helping IHG not only to meet, but exceed its Green Engage goals. Over a year that adds up to 445,000



kilowatt hours (kWh), cutting the hotel's annual energy bill by more than £28,000 to deliver a projected return on investment in less than two years,” said Morton Wierod, President of ABB's Motion business. “This is a great example of how our variable speed drives, combined with our high efficiency motors are providing the most affordable, effective and sustainable means of saving energy and optimising operations for our customers.”

IHG has always been built on doing the right thing. Its purpose of True Hospitality for Everyone is embodied in its approach to responsible business. It looks to ensure it is protecting the world in which it operates and using its skills, knowledge and the power of its people to have a positive impact on its communities. Its 2018-2020 targets help guide its ambitions and include a target to reduce the carbon footprint per occupied room by six to seven percent over this period. IHG works in partnership with its hotels to help them achieve carbon reductions and, in 2019, InterContinental Madrid will continue to work towards further reductions and share best practices to help inspire other hotels in the group.

As a result of IHG's Green Engage program, the hotel's carbon footprint has been cut by 253 tons of carbon dioxide (CO₂) a year. If similar energy savings could be replicated at just one in four of the world's estimated 187,000 hotels (according to STR Global), global CO₂ emissions could be reduced by nearly 12 million tons a year – similar to shutting down three coal-fired power plants.

Research published by the International Tourism Partnership (ITP) shows that the hotel industry currently accounts for one percent of all global emissions. This figure will increase as tourism continues to boom, with the total number of hotel rooms worldwide set to grow from 17.5 million to over 25 million by 2050. The hotel industry regards sustainability as one of its main challenges, especially as an increasing proportion of guests are millennials who rate green credentials as a critical factor when booking travel.

ABB (ABBN: SIX Swiss Ex) is a pioneering technology leader in electrification products, robotics and motion, industrial automation and power grids, serving customers in utilities, industry and transport & infrastructure globally. Continuing a history of innovation spanning more than 130 years, ABB today is writing the future of industrial digitalization with two clear value propositions: bringing electricity from any power plant to any plug and automating industries from natural resources to finished products. As title partner of Formula E, the fully electric international FIA motorsport class, ABB is pushing the boundaries of e-mobility to contribute to a sustainable future. ABB operates in more than 100 countries with about 135,000 employees. www.abb.com.

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We listened to your feedback and have added more reliability training, certification opportunities, and more interactive and hands-on sessions, and we have clearly identified the level of each session (beginner, intermediate, advanced). The conference is growing, and we expect this year's to be bigger and better than ever!

Coming up, THE CBM CONFERENCE will be in Antwerp, Belgium (3-6 June 2019) and Manchester, UK (7-9 October 2019), where Jason Tranter, the CEO & Founder of Mobius Institute, will deliver the Asset Reliability Practitioner (ARP) 3-day course with optional certification exam

and a dedicated stream of interactive sessions. Paul Dufresne, Advisor at Mobius Institute, will deliver a keynote address (seriously, don't miss it), and Dennis Swanepoel, Lead Technician at WearCheck, will deliver an interactive vibration analysis session, but that is just the beginning of the great hands-on sessions and workshops that you can experience!

In addition to Europe and the United Kingdom, THE CBM CONFERENCE tour will also be coming to the USA (September 10-13), Australia (November 11-14) and Mexico (December 3-5), in 2019.

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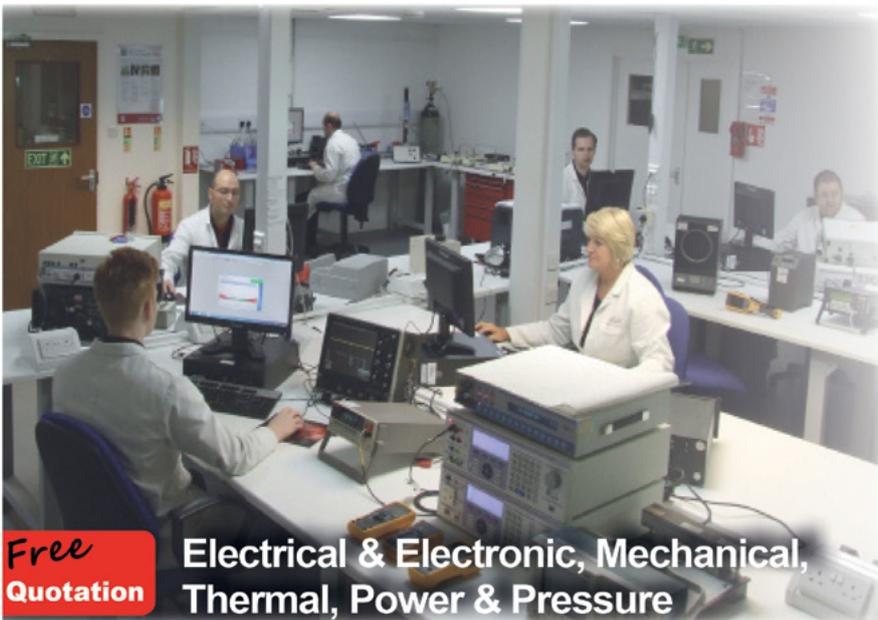
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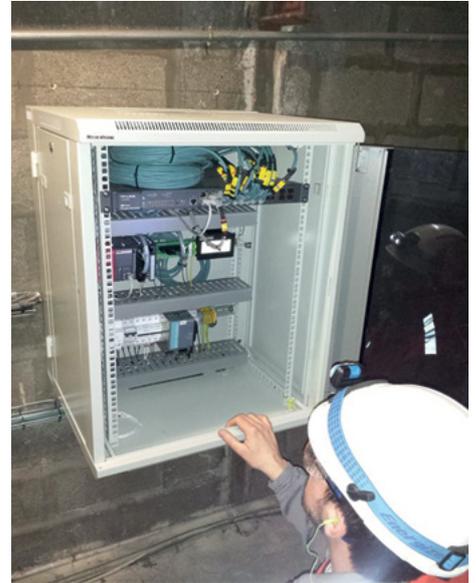
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Steel Producer Installs Condition Monitoring Solution From Schaeffler

Helping prevent unscheduled stoppages to critical furnace deflection rolls



By installing Schaeffler SmartCheck condition monitoring devices on its furnace deflection rolls, steel producer ArcelorMittal has avoided any unplanned stoppages to the furnace and has improved its maintenance planning. Estimated annual savings (with a furnace stoppage) are 179,000 euros.

The ArcelorMittal plant in Mouzon (Ardennes, France) is part of the Group's Flat Products division. From here, the steel producer supplies not only all the major automotive manufacturers, but also customers in the construction and household appliances industries. In Mouzon, an aluminium-based coating is applied to the steel coils supplied by the Group. Two coating units are in operation that make over 348,000 tonnes of finished coated steel product.

Challenge for Schaeffler

Continuous furnace LM1 has seven deflection rolls that support the running of the steel belt and its

tensioning. Factors such as imbalance, excessive clearance or the fracture of a feather key can cause these rolls to fail. Damaged bearings or housings can lead to an immediate stoppage of the continuous furnace, resulting in a significant loss of production. In order to avoid such undesirable events, ArcelorMittal's maintenance department was looking for a suitable solution that would enable it to switch from a corrective (reactive) maintenance regime to a predictive maintenance regime with condition monitoring.

Schaeffler solution

Schaeffler developed an innovative service concept for the condition monitoring of all critical components on the continuous furnace. The solution comprises 14 Schaeffler SmartCheck condition monitoring systems that permanently monitor oscillation of the rolls, including bearing housings, bearings, alignment and roll imbalance. The SmartCheck sensors monitor bearing vibration, bearing temperature, rolling bearing

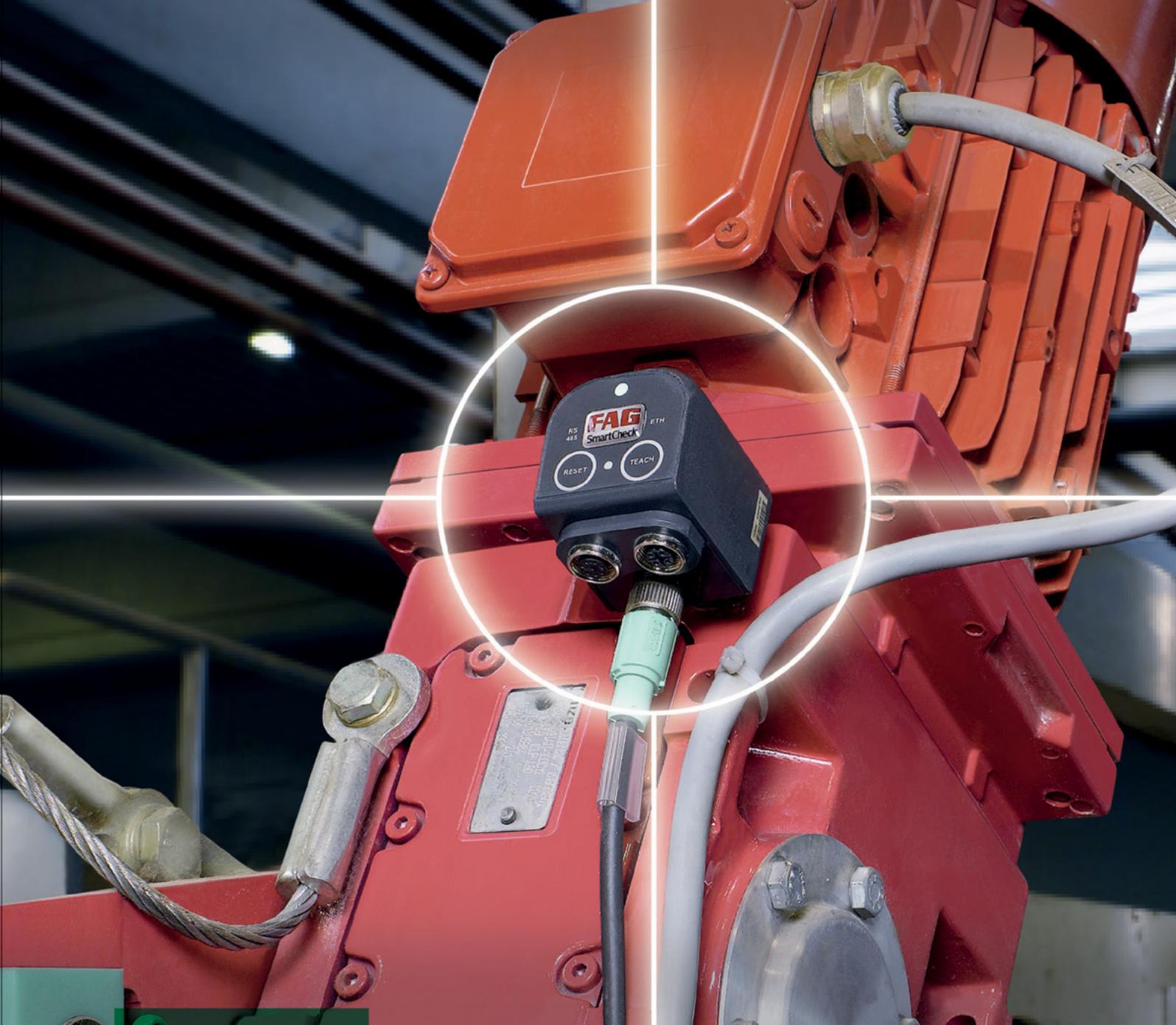
components, lubrication, condition of the roll surface, imbalance and misalignment.

Installed in a control cabinet is a Schaeffler SmartController that acts as a bi-directional gateway between the customer's control system and the SmartCheck sensors. The use of Power-over-Ethernet (PoE), which not only supplies power to the system but also ensures communication with the ArcelorMittal monitoring station, has minimised the amount of cabling.

Customer benefits

The SmartCheck condition monitoring solution enables ArcelorMittal to avoid unscheduled shutdowns of the furnace and to better plan any maintenance work. Any impending damage to bearings or adjacent mechanical components is detected at a very early stage and corresponding countermeasures are taken. Condition monitoring helps to effectively prevent costly loss of production and the bearing status is continuously tracked without having to stop the machine.

For more information please visit:
www.schaeffler.co.uk



FAG SmartCheck Reducing Maintenance Costs

FAG

High Process Security

FAG SmartCheck is a cost-effective, innovative online measuring system for the continuous monitoring of machine and process parameters on a decentralised basis. It offers the performance features of expensive systems but is compact in design, easy to fit and simple to use.

The system can be expanded on a modular basis at any time. Where requirements change, retrofitting can also be carried out at any time.

For more details please visit: www.fag-smartcheck.co.uk



SCHAEFFLER



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Improving Asset Reliability
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Ex

www.machinesentry.com

Introducing the new intelligent and wireless tri-axial vibration sensor with integrated temperature measurement, MSF-1.

AVT Reliability® introduces advanced, user friendly, wireless condition monitoring sensor

Plant reliability specialist AVT Reliability® has launched the latest in its new suite of intelligent condition-based monitoring and maintenance (CBM) products – the wireless Machine Sentry® MSF-1 tri-axial vibration and temperature sensor.

The MSF-1 constitutes another significant advancement in the field of digital CBM, offering improved visibility, safety, speed of data transfer and environmental sustainability.

The sensor incorporates full tri-axial vibration measurement and automatic fault diagnosis assistance (ADA) to identify potential problems and enable pre-emptive action. It offers continuous monitoring, which reduces the chance of fault conditions being missed.

The MSF-1 can be paired to any Android tablet or smartphone, connecting to ground-breaking Machine Sentry® software using standard Bluetooth® communications.

Data can be collected from up to 50m away, allowing the safe and efficient monitoring of assets which would be difficult to monitor using a traditional wired accelerometer, such as collection points behind guards and large or rotating assets like gearboxes on agitators.

A unique combination of low energy Bluetooth® and classic Bluetooth® protocols optimise battery life and increase data transfer speed, while intelligent data compression utilities optimise the amount of data that can be stored internally.

The time waveform is stored in a high definition raw format, giving maximum flexibility for post-processing.

Lee McFarlane, Technical Director at AVT Reliability®, said: "The MSF-1 offers unparalleled real time insight into, and analysis of, the condition of business-critical assets and plant safety.



"It constitutes another significant step forward in the AVT Reliability® drive to make condition monitoring and asset management not only faster and more efficient, but also cheaper and user friendly.

"These factors have made Machine Sentry® the reliability tool of choice for blue chip organisations around the globe."

For more information visit:
www.avtreliability.com

Fluke makes predictive maintenance simple, safe and fast through wireless condition monitoring solutions

By using the capacity of cloud-based software to combine the real-time and historical data from Fluke Connect™-enabled tools and sensors, Fluke now enables maintenance engineers and managers to monitor a comprehensive picture of equipment health throughout the facility.



sensors and connectivity gateways - a versatile system that a team can easily move around a plant. This technology enables teams to continuously monitor assets, so they can log vibration, electrical and temperature data from anywhere in a facility. The measurements can be monitored via real-time alarms sent to a phone or other mobile device. By correlating historical trends and tracking current conditions, faults can be detected, and equipment uptime increased.

Monitor asset health anytime, anywhere

Fluke has introduced two new condition monitoring products that alert maintenance team members to abnormalities before they cause equipment failures. The new Fluke™ 3561 FC Vibration Sensor is quick and easy to install and allows maintenance teams to improve uptime by adding remote, continuous vibration monitoring to virtually any rotating equipment. Vibration data from the 3561 FC is wirelessly transmitted via a Fluke 3502 FC Gateway to Fluke Connect™ Condition Monitoring (FCCM) software allowing maintenance teams to remotely monitor asset health anytime and virtually anywhere, whether on the desktop or a smart device. The new Fluke 3540 FC Three-Phase Power Monitor is a portable device offering a scalable, remote power monitoring solution. Current, voltage, frequency, and energy consumption fluctuate when machinery experiences excess load. The Fluke 3540 FC monitors equipment for changes in key electrical variables, thus assets can be screened for performance, premature wear, or power cleanliness.

The introduction of condition monitoring products that wirelessly transmit data from the field, combined with Fluke Connect Condition Monitoring (FCCM) software, has enabled safe, cost-effective maintenance programs. Maintenance teams can remotely detect potential equipment failures and remedy them before they cause costly downtime. Predictive maintenance is now not only simplified, but it is safer and faster.

Monitoring to prevent downtime

Monitoring all plant equipment can be difficult, especially when working with shrinking budgets and limited personnel. Quite often, critical equipment in commercial and industrial settings may display symptoms that indicate a future failure, but those indications go undetected. While

many critical pieces of equipment may have fixed monitoring systems, many other important assets, such as pumps, heat exchangers, compressors, motors and blowers, may not be monitored and can require an extra level of monitoring to identify intermittent events. For this less critical, but still essential equipment, it isn't always possible to catch events before they result in failure or downtime. This is where condition monitoring can help.

Wireless sensors for new maintenance programs

Fluke's latest condition monitoring systems are easy to install and move around. They are changing the way the industrial world performs maintenance activities with portable, wireless

Information about all Fluke products can be obtained via the Fluke web site at www.fluke.co.uk.

SICK Opens Up Industry 4.0 with its First IO-Link Encoder

With the launch of the SICK AHS36 (singleturn) and AHM36 (multiturn) IO-Link absolute encoders, SICK has opened up wide-ranging new possibilities to integrate rotary motion sensing into the 'smart' sensor configurations of automated machinery.

The SICK AHS36 and AHM36 36mm IO-Link encoders are SICK's first range of absolute encoders with IO-Link. The SICK AHS/AHM36 IO-Link encoders achieve quick, easy and economical higher-level fieldbus integration via an IO-Link Master. Developments to advanced IO-Link versions of the encoder will also enable processing of Smart Tasks within the encoder itself.

"The AHS36 and AHM36 encoders are major step forward for the industry, and a vital building block on the transition to unlocking the benefits of Industry 4.0 in automated machinery," explains Darren Pratt, SICK's UK Product Manager for encoders and industrial instrumentation.

"IO-Link has already made it possible for many devices, such as presence detection and process sensors, to be economically connected into an IO field gateway and at the same time provide transparent access to the intelligence contained within the sensor. Sensors with integrated Smart Tasks, offer the potential for reducing the processing load on the PLC. Now, adding motion sensing into the IO-Link mix offers countless new possibilities for machine builders and engineers to develop smart solutions for both new and existing plant and machinery."

Cost-Saving Machine Integration

Adding IO-Link compatibility to the SICK AHS/AHM36 family of absolute encoders delivers a host of new benefits, starting with an extremely compact 36mm diameter design: With the IO-Link Master performing the higher-level Ethernet interface, the IO-Link encoder can be manufactured in a much smaller package.

By eliminating the need to use a dedicated interface card on the PLC rack, solutions using the SICK AHS/AHM36 IO-Link absolute encoder can save time, cost and complexity in connection to higher-level control systems.

Connecting encoders to the control system usually requires costly shielded cabling and could involve wiring many devices individually to the PLC rack. With IO-Link, the SICK AHS/AHM36 enables standard unshielded cabling to be used between the encoders and the IO-Link master, so wiring costs can be dramatically reduced.

Programming and Diagnostics

Via the IO-Link gateway, the AHS/AHM36 IO-Link encoders offer new levels of diagnostic transparency and easy set-up with 'plug and play' device replacement. They still offer all the benefits of programming through the PLC, or with a PC using SICK's engineering tool SOPAS. Now, in addition, there is an ability to store and download the encoder parameters from the IO-Link Master. As a result, device replacement is simply 'plug and play'.

The SICK AHS/AHM 36 IO-Link absolute encoders provide exceptional diagnostic information. Even on the basic models, error warnings can be provided on a range of both application-specific and encoder-health parameters such as position, speed or temperature out of range. In the Advanced IO-Link versions, expected to be available in mid-2019, even more comprehensive provision and storage of diagnostic data such as temperature values, and operating times will be enabled.

The SICK AHS/AHM36 Advanced IO-Link



encoders will also add a configurable output and input pin to enable a direct interface with another device, so it will be possible to process 'Smart Tasks' in the encoder itself.

Compact and rugged, the magnetic AHS36 12-bit singleturn and AHM36 24-bit multiturn IO-Link are everything customers expect from a SICK family of rotary motion sensors with class-leading robustness, operating resilience and with a wide-range of versatile mechanical connection options.

The SICK AHS/AHM36 IO-link encoders offer a versatile choice of mechanical connection options. The encoders feature a 270° rotatable electrical connection for either M12 connector or cable termination. Replacing existing encoders in machines is ensured by a wide choice of hollow or solid shaft models, various mounting hole patterns, together with face and servo mount flanges.

The IP65-rated SICK AHS/AHM 36 IO-Link Basic encoders can be operated at ambient temperatures between -20 °C and +70 °C while, with IP66 and IP67 ratings, AHS/AHM IO-Link Advanced are suitable for even tougher ambient conditions with an operating temperature range of -40 °C to +85 °C. An AHS36/AHM36 IO-Link Inox is also available with stainless steel IP69K rating for process environments with stringent chemical washdown regimes.

For more information please visit:
www.sick.co.uk

Rotamec delivers 24/7 service for motors and drivelines

Modern industry relies on a wide variety of electric motors, drives, gearboxes and pumps to work around the clock to deliver goods and services for the customer. Keeping all this machinery operational is vital for productivity and Rotamec Engineering Solutions aims to deliver a complete engineering and repair service that is available every hour of every day.



Founded in 2000, Rotamec has steadily grown from a rewind and repair company to incorporate gearboxes, pumps and drives. Over the years, the company has increased its experienced workforce and can help with onsite maintenance and diagnosis as well as reverse engineering of parts that are no longer available.

Simon Brooks, Managing Director of Rotamec, explains: "We pride ourselves on the quality of service we deliver to a wide range of demanding industry sectors. This is made possible by our in-house machining facilities and workshops that can rewind motors, repair gearboxes as well as refurbish pumps and fans. Coupled with our extensive stock-holding of electric motors and drives, we offer round-the-clock support that keeps downtime to a minimum."

Rotamec's field service teams are multi-skilled and equipped with test and diagnostic equipment to help customers carry out fault-finding tasks. Their electrical and mechanical skills are supported by other competencies such as PASMA, confined space training and slinger banksman qualifications to ensure all work is completed quickly and safely.

The experienced engineers also have the support of the in-house CAD office, which can quickly produce drawings for reverse engineering projects amongst others. This is especially important when replacing legacy equipment with more efficient, modern machinery, ensuring that the new equipment is properly aligned and connected to the rest of the plant.

Rotamec's ability to deliver a complete service is

achieved through engineering knowledge and a large stock-holding of transmission components, electric motors and drives, which can be purchased off-the-shelf. In this way, customers receive the most cost-effective and time efficient resolution according to their specific application.

Simon concludes: "We aim to provide comprehensive engineering solutions that minimise downtime. If our customers are working through the night, they expect us to do the same. Some cannot wait until Monday morning to get their motor repaired or replaced, so we go the extra mile and make sure that the equipment is back up and running as quickly as possible."

For more information visit:
rotamec.com



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www.engineeringmaintenance.info

Speedor acts to reduce vermin access

Working for an international food, agriculture, financial and industrial products and services business, Hart is installing a number of its Speedor high speed door range at a major UK production facility.

With 19 Hart doors across six production facilities already operational, the current contract is to replace existing roller shutters, which remain open all day, with seven Speedor Storms, one Speedor Super and one fast action roller shutter.

Peter Cairns, Hart's area salesman, says "the emphasis is on speed of open/close cycles to significantly reduce vermin access mainly from pigeons, seagulls and geese attracted by

the feed/agricultural nature of the production process".

Hart is also delighted to be part of a drive to improve energy efficiency by 5% by 2020 and to maintain a better working environment and temperatures within the building as well as preventing unauthorised access to different areas of the plant.



For more information:

www.hartdoors.com

Tel: 0191 214 0404

New couplings take centre stage at BAUMA 2019

The new steel spring coupling from Stromag, which takes the shock loading out of drive transmission, will be on show at BAUMA 2019. The latest product development from Stromag, which is part of Altra Industrial Motion Corp., offers a robust solution that can be tailored to suit any application in the off-highway and construction sectors.

For earth-moving and road construction equipment, there are considerable challenges for the power transmission and braking components on vehicles operating in these harsh environments. Providing compact and effective power transmission between the engine and the drive train is crucial to the reliable operation of this equipment.

Stromag has a long and successful history of delivering reliable power transmission products for industrial applications and this latest development builds on this. Designed to minimise shock-loading in the drivetrain, the new spring-loaded coupling can improve the service life of

transmission components and improve vehicle reliability.

This latest product development complements the extensive driveline coupling portfolio that is offered by Stromag. Designed to dampen torsional vibrations and to absorb high shock loads, the coupling delivers optimum power efficiency without being affected by heat or the surrounding environment. In addition, the coupling can compensate slightly for shaft misalignment. Stromag couplings can be specified for a wide variety of applications.

Of course, downtime in any machinery needs to



be kept to an absolute minimum, so reliability must be at the foundation of every component. Stromag has the design expertise and manufacturing facilities to ensure that every product is optimised for its application. In this way, the company ensures that it delivers another component that will continue to extend productivity and reliability.

From the 8th – 14th April, Stromag will be exhibiting at BAUMA 2019 in Messe München, Munich. Along with many premier brands from Altra Industrial Motion Corp., Stromag will be displaying a range of solutions for the construction and off-highway sectors.

For more information visit:

www.stromag.com

The Advantages Of Pneumatic Versus Electric Hoists

Why Air Hoists Are Beyond Compare For Safe, Reliable, Cost-Effective Lifting

When considering a new investment in hoist technology, a full comparison between pneumatic and electric hoists can pay real dividends. In short, pneumatic hoists from J D Neuhaus (JDN) offer numerous advantages over their electric counterparts.



In areas such as duty cycle, variable speed control, weatherproofing, installation and operation, maintenance, robustness, investment costs, lifetime costs and of course safety, a JDN pneumatic hoist really makes a difference.

Duty cycle is amongst others an important area of focus. Electric drives can only be used for intermittent operations (S2 duty), so are not suitable for continuous use. Conversely, JDN's pneumatic hoists have no downtime and a 100% duty cycle rating. In addition, JDN pneumatic hoists can work constantly without causing excessive temperatures thanks to the patented design self cooling gearbox, where decompressed air flows through channels within the gearbox to cool the gear train. This of course offers a great benefit to end users as hoists can be in uninterrupted use over multiple shifts.

With regard to variable speed, a pneumatically operated hoist is able to offer easy, accurate and

wide-ranging speed control at low cost, enabling simple, sensitive and accurate positioning of loads in all environmental conditions. In comparison, an electric hoist will require a frequency converter (also known as a VFD) and shielded wires to prevent radio interference, while the motor will need thermo-elements to avoid increased heating at the windings.

Clearly, safety becomes a major issue for electric hoists in potentially explosive environments such as oil rigs, mines and paint shops. Moreover, it is challenging to configure electric drives for use in such areas, at least not without considerable cost. In contrast, there are no such issues when using air-operated hoists from JDN. By using compressed air as the driving media, they are suitable for use within dust laden atmospheres, including areas at risk of explosion and even where organically flammable chemicals are in use.

Of course, if the hoist is intended for outdoor use,

the whole issue of weatherproofing arises. Using an electric hoist for such an application means careful selection based on its IP protection class rating, which denotes its ability to resist the ingress of solids and moisture. Needless to say, there are no such issues with JDN's pneumatic hoists which, as non-electric equipment, are not subject to the IP rating system. Any contaminants such as dirt or water are simply blown out by air without any compromise to functionality. This is also crucial in areas where hoists need to be cleaned at regular intervals or within humid environments, such as the food industry.

Pneumatic hoists are low in weight compared with their electric counterparts, making them more mobile and far easier to handle. Not that this factor compromises operational strength, as air hoists are ideal for performing large lifting heights, providing true vertical lift without any limitation in the number of starts/stops per hour. The simplicity of pneumatic hoist technology also lends itself to easier installation compared to electric hoists which require qualified personnel.

Pneumatic hoists contain relatively few mechanical components compared to electric hoists and fewer components means less to go wrong. JDN's modular design also provides simple access to all parts making maintenance easy. This results in less downtime and faster, more affordable repairs.

Finally, when comparing the cost of pneumatic and electric hoists, many factors must be considered beyond the price tag, including installation, operation, inspection and maintenance costs. Upon performing this TCO (Total Cost of Ownership) calculation, the economic advantages of pneumatic hoists quickly become apparent.

For more information visit:
www.jdngroup.com

Thermal Imaging Ensures High Quality Climate Control

Climate control ceilings are becoming increasingly popular in modern building design for many reasons. From an architectural standpoint they allow the climate control of the indoor environment to be invisibly integrated into the structure of the building, providing considerable flexibility in layout and design. The building's inhabitants benefit from uniform temperature, high acoustic comfort and low air speeds resulting in minimal draught and dust displacement.



Most systems have a long life-span of more than 20 years and are generally maintenance-free and exceptionally energy efficient. But, in order to deliver these advantages, climate control ceiling elements must be properly installed and this is where the diagnostic ability of FLIR thermal imaging is proving essential.

Inteco BV is a specialist in the design and implementation of climate control ceiling and ceiling induction units and was recently commissioned to incorporate this technology into a new building at the Bernhoven Hospital in The Netherlands. A total of 1200 square metres of climate-controlled ceiling were installed and in order to ensure all the elements had been correctly fitted and were working optimally, Inteco called on an independent thermal imaging consultancy to provide that verification.

Bas Coolen, a senior thermographer from Thermografisch & Adviesbureau undertook the work with a FLIR T440bx thermal imaging camera which has several features that make it especially suitable for building inspection.

The climate control ceiling in the Bernhoven Hospital is the MeandRo system developed and patented by Inteco. This is a radiant ceiling for cooling and heating, using the passage of both hot and cold water and consists of perforated sheet steel ceiling panels in a sandwich construction, factory-equipped with a MeandRo element.

Elements are attached to each other using quick links and it is here where mistakes can be made during installation. Poor connection means the desired interior climate cannot be achieved but with the safeguard of a thermal imaging check, such errors can be quickly rectified. Another

problem that can arise during installation is insufficient supply of hot or cold water, causing improper functioning of the ceiling, but this too can be detected by the infrared camera.

"Temperature differences in the ceiling can be seen quickly with thermal imaging and with the new MSX, multi-spectral imaging function, on the FLIR T440bx, it's easy to orient yourself to see exactly which elements you are inspecting," Bas Coolen explains.

Detailed images

The MSX development is a completely different technology. It embosses digital camera detail on the video and stills, providing much better visible results without diluting the thermal image. Orientation of the target is easy, reports are clutter-free and all of these elements contribute to faster and more efficient inspection.

Bas Coolen continues: "With a thermal imaging camera, a significant surface area of the climate control ceiling can be inspected in a very short time and it is clear to see whether the elements are working as they should be."

The FLIR T400bx combines good ergonomics with high quality imaging at 320 x 240 pixels. As is characteristic of the FLIR T-Series, it is equipped with a tiltable optical unit that allows imaging at any angle.

"Thermal imaging technology has already proven itself in many different applications," Bas Coolen concludes. "But its use for climate control ceiling inspection highlights its ability to identify problems quickly and clearly so they can be resolved without delay. In this particular application, the technology has helped to minimise any post-installation problems at the hospital that would not only interrupt its smooth running and inconvenience staff and patients but also incur additional costs."

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

ENGIE Fabricom Unveils Ambitious Plans to Grow the Multi-Million Pound Business

One of the UK's leading engineering and construction companies – ENGIE Fabricom – has introduced a new organisational structure that will drive the business to reach its ambitious target of achieving a turnover of £150m by 2022.

Operating from five sites across the UK – including Grimsby, Immingham, Lowestoft, Stokesley and Middlesbrough – the business has restructured its management team and made three senior appointments as it strives to modernise operations and adopt a more holistic approach throughout the full organisation.

And the new approach forms part of ENGIE Fabricom's plans to grow in the decarbonisation of energy space, raising its client base in sectors including the offshore wind and energy from waste sectors.

This comes on the back of the business having already worked on major offshore wind projects including SSE and Npower's Greater Gabbard, Lynn and Inner Dowsing, the Humber Gateway and Ørsted's Burbo Bank.

Speaking about this new team-based approach, Richard Webster, CEO at ENGIE Fabricom said: "Now is absolutely the right time to adopt this more circular approach as we make the shift from our workforce historically delivering on oil and gas Engineering, Procurement and Construction (EPC) projects to capitalising on market opportunities – like the renewables sector – where there is a huge demand for the skills of our workforce.

"This is very much focused around working as one team with a simple, well organised and robust structure to ensure that our greatest asset – our people – is at the heart of everything we do. We are committed to forging a culture whereby we continue to learn, develop and attract and retain great talent.

"With a track record for delivering high levels of customer service, we believe this approach will help us strengthen the existing relationships we already have, as well as attract new clients who are keen to take advantage of our capabilities in the increasingly competitive green sector."

Heading up the new initiative alongside Richard is Paul Carvill, newly appointed COO and the Company's Managing Director, Craig Welford, who

both have extensive experience in engineering, construction and project management, along with Finance Director, Claire Bateman and HSEQ Director, Kevin Copley.

As part of the restructure the business has seen four senior figures appointed into new roles including Clive Rounce, who is now Head of Continuous Improvement, Nick Maynard, Head of Procurement, as well as Jo Fox, Head of Finance, and Andrew Stephens, Head of Business Development.

To bolster the team, new appointments have also included an Interim Commercial Director, Mark Bryant, who has over 35 years' global experience in the power industries and a new Proposal Manager, David Livingstone, who has a strong commercial background in risk management.

Richard said: "With already a very healthy orderbook for 2019 and an ambitious pipeline, we are extremely confident that we have the right people in place to deliver and secure all our contracts as we strive to grow to a £150m business by 2022.

"To do this we will be working as one team to maximise delivery and continue to bring to the market the complete turnkey solutions we have become known for. By putting our people first and focusing on our future, we can make the best use of our resources to continuously improve and achieve a secure and sustainable future for our business."

ENGIE Fabricom is part of the global energy group ENGIE, a 150-year-old energy and services provider with 150,000 employees operating across the world. The business provides a complete turnkey solution from project concept to completion across sectors including renewables, oil and gas, power, chemical and energy from waste. With over 43 years' experience in high level engineering and construction the business employs 1000 highly skilled employees.

For more information visit:
engie-fabricom.co.uk



Paul Carvill
Chief Operating Officer



Craig Welford
Managing Director



Richard Webster
Chief Executive Officer UK



Kevin Copley
HSEQ Director



Claire Bateman
Finance Director

Larger Low Cost 316SS Air Conveyors for Food, Pharma and Chemical

EXAIR's new 2-1/2" (64mm) and 3" (76mm) 316 stainless steel Line Vacs™ are powerful in-line conveyors that transport high volumes of material through ordinary hose or tube.

Designed for areas like food and pharmaceutical processing which require the benefits of 316SS including excellent chemical and corrosion resistance, performance in high or low temperatures, long service life and low maintenance. These two new sizes make it possible to convey more material over long vertical and horizontal lengths.

Commonly used to fill hoppers, move trim and waste or transfer parts, the 316SS Line Vac conveyors eject a small amount of compressed air through directed nozzles into the throat to produce a vacuum on one end and high output flows on the other. Response is instantaneous. The material

conveying rate is easily controlled with a pressure regulator. An optional bracket permits easy mounting. No moving parts or electricity assures maintenance free operation.

Nine sizes from 3/8" (10mm) up to 3" (76mm) are available that fit popular hose and tube diameters. Threaded Line Vacs are available for use with common pipe. Heavy Duty Line Vacs resist wear from abrasive materials and convey more product faster and over longer distances. Materials of construction include aluminum, 303SS and 316SS. All EXAIR Line Vacs are CE compliant, meet OSHA pressure requirements, and are ready to ship from stock. 316SS Line Vac prices start at \$461.



For more information visit:
www.exair.com/lg316ssslv.htm

ABB launches IEC Food Safe motors designed for easy cleaning and long life

ABB's new Food Safe stainless steel motors for food and beverage plants can withstand high pressure cleaning, helping to maintain hygiene standards while reducing downtime.

ABB has launched a full range of IEC Food Safe motors designed for applications in the food and beverage industry that need frequent sanitation. The new IEC Food Safe motors are part of ABB's Food Safe family that includes stainless steel NEMA motors, mounted ball bearings and gearing.

IEC Food Safe motors feature smooth stainless steel enclosures that are easy to clean and sanitise so customers can meet increasingly stringent hygiene standards. The motors' enclosures have an IP69 water protection rating, while encapsulated winding enable the motors to last much longer than general purpose products in tough washdown conditions.

The external surfaces of the motors are self-draining, with no crevices where particles can collect. The markings are laser etched onto the frame, avoiding channels and ridges where contaminants could accumulate. The motors can withstand high pressure sprays and are fully compatible with clean-in-place (CIP) methods. Food Safe motors also eliminate the need for motor shrouds, which can harbour food particles and allow bacteria to breed.

ABB (ABBN: SIX Swiss Ex) is a pioneering technology leader in electrification products, robotics and motion, industrial automation and power grids, serving customers in utilities, industry and transport & infrastructure globally. Continuing a history of



innovation spanning more than 130 years, ABB today is writing the future of industrial digitalization with two clear value propositions: bringing electricity from any power plant to any plug and automating industries from natural resources to finished products. As title partner of Formula E, the fully electric international FIA motorsport class, ABB is pushing the boundaries of e-mobility to contribute to a sustainable future. ABB operates in more than 100 countries with about 135,000 employees. www.abb.com.

For more information visit:
www.abb.co.uk/energy

Safety First - C.K's Solution for the Best in Cable Routing

Every tradesman is familiar with cable routing and the risks of splinters with some cable rods. That became a painful reality for Jason Price of Jason Price Electrical Services, whose hand was badly injured last year when a cable rod by another supplier splintered during use.

Three Steps to Safe Cable Routing

Working with professional tradesmen helps C.K find solutions to end user needs and enables C.K Tools to develop the most advanced cable routing products. The C.K MightyRods PRO are specifically designed to combat the issues of painful splintering and snapping, thanks to an innovative SplinterShield™ coating - Europe's first splinter-proof material - that protects the rods and allows both safe efficient working conditions.

C.K realised that flexibility is also key to successful cable routing and introduced its super-flexible SPIRA-FLEX rod, perfect for accessing tight corners, bends and other obstacles. The SpiraFLEX draw tapes offer fantastic benefits when it comes to hassle-free cable routing. The super flexible and immensely tough 4mm Ø SpiraFLEX draw tape, offers a major improvement on standard nylon and steel draw tapes, which are often prone to twisting and kinking.

The latest introduction – the C.K Glowworm Cable Router – adds another dimension to the range and is perfectly designed for running cables around tight corners, through insulation filled walls, underneath flooring and across ceilings. Glowworm's clever glow in the dark phosphorescent polymer construction, aids routing in low light conditions and easier navigation towards exit points. When charged under natural light, Glowworm provides an effective glow for up to 30 minutes.



Thanks to C.K, Jason became the proud owner of a C.K MightyRods PRO Cable Rod Set, which offers total protection against splinters due to a unique SplinterShield™ coating.

Will Sheridan from C.K originally heard Jason's story during a visit to wholesaler, Seryn Electrical and, by chance, recently met him again during another visit. Jason is still suffering intense pain in his injured hand and an operation to remove the splinter has proved unsuccessful, leaving the splinter embedded and resulting in ongoing

pain. On a lighter note, Will took the opportunity to present a delighted Jason with C.K's SPIRA-FLEX rod, to help make his work that much easier.

"As you can imagine, I lost complete faith in cable rods and had stopped using them" said Jason, "as did other electricians when word got around. But now the C.K MightyRods PRO with their splinter-proof coating have given me the confidence and reassurance that I can work safely and won't find myself in a similar situation again."

For more information visit:
www.carlkammerling.com

Easy Access with C.K tools MightyRods Toolbox Set

Following on from the success of its pioneering range of next generation MightyRods PRO Cable Rods, C.K has launched the new C.K MightyRods PRO Toolbox Set 3.3m (T5419).



A compact handy toolbag size, offering efficient cable installation in confined spaces, the new MightyRods PRO Toolbox Set also has the added benefit of 100% splinterproof rods, thanks to their unique SplinterShield™ coating.

Supplied in a storage tube sized to fit most tool boxes and bags, the set is easily transported and includes: 10 x 3cm rods, which, when combined, creates a total length of 3.3m, offering a convenient and robust alternative to carrying full length rods.

The 6mm rods feature SplinterSHIELD, a significant advancement in cable rod technology and a European first, the durable, 100 per cent splinterproof coating fully encases the inner fibreglass rod to prevent

harmful and painful splintering.

'Mighty-Fix' zinc plated steel connectors feature a slimline design and are glued, indented and crimped, making them able to withstand up to 275kg of tensile pull strength.

For extra functionality the set also includes a 5mm thread adapter and cable hook, a 190mm coiled steel flexi lead and a mini eye ring, providing all the solutions needed for even the most difficult of cable routing tasks faced by electricians.

Graham Godfrey, Brand Manager at C.K tools, commented: "We are always looking to make an electrician's job easier and safer. With this in mind,

the new MightyRods PRO Tool Box Cable Rod set encompasses all of the fantastic features of our full length MightyRods PRO kits in a scaled down size. With an easy-to-transport design and the ability to store this set in your existing tool box, they'll always be close at hand when out on a job."

For further information please visit www.cktools.com or call 01758 704704

HazLoc Cabinet Coolers Approved for Class I Div 1

EXAIR's new Hazardous Location Cabinet Cooler® Systems have been set apart from the competition by achieving the UL classified designation for Div1 environments.

They have been tested by UL and passed their stringent requirements for use upon classified purged and pressurized electrical enclosures within Class I Div 1, Groups A, B, C and D; Class II Div 1, Groups E, F and G – and Class III environments.

The cooling capacity of up to 5,600 Btu/hr. is ideal for electrical enclosures with problematic overheating. They are CE compliant and available for NEMA 4 and 4X enclosures.

EXAIR HazLoc Cabinet Coolers circulate 20°F

(-7°C) air inside the enclosure to prevent high temperature faults. They mount in a standard electrical knockout while keeping the NEMA 4 or 4X rating of the enclosure. Cabinet Cooler Systems include an auto drain filter separator to ensure no moisture passes to the inside of the electrical enclosure. An optional thermostat control minimizes compressed air use and keeps the enclosure at ± 2°F of the setting.

EXAIR's full line of Cabinet Cooler Systems are available for NEMA 12, 4 and 4X enclosures from 275-5,600 Btu/Hr and are UL listed and



CE compliant with no moving parts to wear out. Applications include cooling control panels, PLC's, microprocessors, fractional Hp variable frequency drives and robotics. HazLoc prices start at \$795.00.

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

C.K dextro VDE Screwdriver Range

– Making tough jobs easier!

Always looking to introduce exciting new and innovative products, C.K offers a fantastic range of screwdrivers and has developed its most comprehensive range yet, designed to meet every requirement.

phosphorescent screwdrivers emit an effective glow in low light conditions, so you need never lose your screwdriver again, a costly and time consuming exercise. Their slim shafts also allow easy access to recessed screws and fixings without the need to remove insulation or compromise safety.



When it comes to genuine quality, the C.K dextroVDE (T49183D) is hard to beat. These premium quality safety screwdrivers are available as a set of 5 slotted/PZ and offer some great features and benefits, including: Tip type marking for easy identification; long fine neck for precise fingertip control; handle injection moulded directly to blade giving the ultimate bond for increased reliability and durability.

If value is high on your agenda, then the TritonXLS insulated set (T4729) more than ticks that box, combining versatility with exceptional value. This screwdriver set – insulated 5 piece slotted/PZD – provides that all important electrical safety during use and a voltage rating of 1000V.

Regularly working with tradesmen gives C.K valuable insight into what works best, with constant innovation and products that can be relied upon to do the job quickly, safely and effectively.

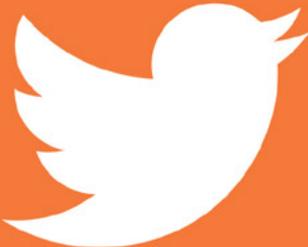
electricians, the screwdrivers have ergonomically shaped handles for increased comfort, control and safety and long-lasting, premium quality, Molybdenum-Vanadium-Steel blades for exceptional strength and durability.

One of the main product areas available is the C.K dextroVDE screwdrivers, a superb range which successfully combines innovation, quality and excellent value for money, with something to suit everyone's needs. Specifically designed for

If it's true innovation you're looking for, then the dextroVDE Slim Glo screwdriver set (49283PD) is ideal. Designed for Electricians working in domestic, commercial and industrial environments, these clever glow in the dark

So whatever your requirements, C.K has it covered with its fantastic range of dextroVDE and TritonXLS screwdrivers - and don't forget the superb offers on all products available through retailers.

For more information visit:
www.carlkammerling.com



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Ashtead adds Gekko advanced phased array to rental fleet

In response to growing customer demand, Ashtead Technology has added several advanced phased array flaw detectors to its range of non-destructive testing equipment. The new GEKKO instruments are manufactured by M2M, an Eddyfi Technologies company, and complement existing Eddyfi brands within Ashtead's rental fleet, including Silverwing, TSC and Eddyfi.

"A key feature of the GEKKO is the real-time Total Focusing Method or 'TFM' imaging," comments Steve Drake, Ashtead Technology NDT Market Manager. "TFM is a powerful technique that focuses at each point of a user-specified zone in real-time at up to 30 frames per second, delivering high-resolution imaging and accurate defect characterisation."

In addition to TFM, the GEKKO also offers conventional UT, standard PAUT and TOFD, and A-B-S-C Scans + 3D views are available for standard PA.

With a focus on simplicity, the Gekko user-interface has been designed for operators ranging from Level-1 operators to experts. Using simple but powerful wizards, users are able to customise field-ready applications, and with visual libraries and dedicated apps, potential errors are minimised whilst inspection becomes easier and faster. Users are provided with step-by-step guidance throughout the inspection process, including equipment definition, calibration and acquisition. Furthermore, 3-click calibration tools enable probe balancing, material calibration, wedge calibration, TCG and TOFD, for quicker and



easier code-compliant inspections.

Summarising, Steve says: "This is a significant investment, which demonstrates our steadfast commitment to offer the latest NDT technology to our rental customers."

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

Flir Completes Strategic Investment

FLIR Systems and DroneBase, Inc. recently announced that FLIR has made a strategic investment in DroneBase, a global drone operations company that provides businesses access to one of the largest Unmanned Aerial Surveillance (UAS) pilot networks.

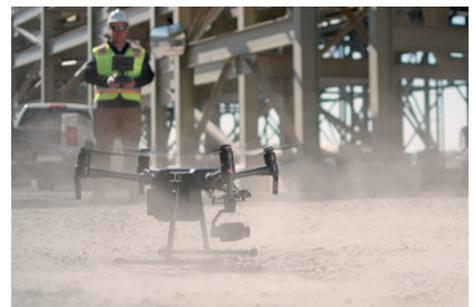
The investment establishes FLIR as the exclusive provider of thermal product solutions and as the official small UAS thermal imaging training provider for the DroneBase enterprise pilot network through the FLIR Infrared Training Center (ITC).

"Our investment in DroneBase helps expand the adoption of FLIR thermal imaging technology by putting it in the hands of more pilots who fly drones every day," said Jim Cannon, President and CEO of FLIR. "DroneBase's enterprise pilot network will receive training by professional thermographers, enabling DroneBase to offer specialized thermal inspection services for customers on a wider scale, and creating an opportunity for FLIR to

incorporate additional service offerings through DroneBase in the future."

DroneBase and its pilots have completed over 100,000 commercial missions in more than 70 countries providing services across multiple industries, such as residential and commercial real estate, insurance, telecommunications, construction, and media. FLIR and DroneBase will collaborate to develop specialized training for DroneBase pilots through the FLIR ITC, creating an exclusive pilot network through a DroneBase certification process.

"Through FLIR's strategic investment in DroneBase, we are now able to offer scalable



thermal solutions to enterprises of any size," said Dan Burton, CEO and Founder of DroneBase. "This access to valuable data will allow stakeholders to make better decisions about their most critical assets. Like myself, many DroneBase pilots relied on FLIR products when they served in the military. This integration will offer military veterans a chance to work with FLIR again and leverage their training in their civilian lives."

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

Introducing Hydrotechnik UK's HTUK Watchlog - A Truly Wireless Pressure & Temperature Sensor System

Up to 1.6Km transmission distances, 100 sensors per system and up to 2 years battery life

Hydrotechnik are proud to announce their new Wireless Data Monitoring and Acquisition system, designed for continuous measurement and monitoring of critical machinery, processes and systems. Rapid deployment, long transmission distances and stability of signals make this system easy to install and specify when wired options present problems.

The HTUK Watchlog wireless send and receive system is designed for continuous monitoring and logging of multiple pressure and temperature sensors over distances of 800m and/or 1.6Km.

HTUK Watchlog represents a huge step in the provision of a secure point to point wireless transmission of sensor signals. Hydrotechnik pressure transducers and/or temperature sensors fitted with HTUK sender boxes are powered by two standard AA batteries giving up to 2 years of life, even when used continuously. A huge range of pressure sensors are available from 0 - 60 Bar up to 0 - 600 Bar and -50°C - +200°C temperature probes (more sensor ranges are also available). Up to 100 sensors can sit on the same system.

Sensor signals are beamed to a single receiver box, plugged into a PC via a USB cable. Sensors and receivers can be up to 800m away. If longer distances are required we offer a repeater/booster box that can increase wireless transmission distances up to 1.6Km. Distances are suitable for industrial building/site applications. The booster box can be solar powered to give continuous service if mains power is not available.

Each set up can handle up to 100 sensors per system. All sensors talk to a single wireless receiver and Watchlog software. Data is displayed numerically or graphically. Alarm levels can also

be set for each channel individually, both a pre-warning and critical alarm. Alarms can also be set to start logging data numerically or graphically to record events.

The software can be used to wake and sleep each sensor or all sensors at the same time.

All sensors are individually calibrated and set up via an easy to use software. The software sets up the sampling and transmission frequency to adjust the accuracy/stability of readings as well as optimising battery life.

Cloud integration will follow shortly which will give engineers alerts via text message and the ability to login remotely to check on the status of their equipment.

Components of a system:

1. Pressure & Temperature Sensors

Sensors connected to the HTUK Watchlog technology wirelessly beam readings to the receiver with a 5ms up to 1 minute sample time. Each system is capable of handling up to 100 sensors simultaneously.

2. Receiver Box & PC Software

The receiver decodes the sensor data and displays it on a PC screen up to 800m away. Display and log data, set alarms, cloud integration

3. Booster Box

An intermediate booster box can extend the range of the wireless signal by an additional 800m, totalling 1.6km distance. The booster box can be solar powered if mains supply is not available.



HTUK Watchlog features at a glance

- Wide range of pressure sensors: 0-60, 0-250 and 0-600bar (more on request)
- Temperature Sensors: -50°C to +200°C
- Truly wireless sensing system with no need for any external power or cables
- View and log sensor data using user friendly Windows "Watchlog" software
- Configure graphical backgrounds for unique display of sensor data
- Settable alarms (two levels)
- 100 sensors can run simultaneously
- Battery life up to 2 years
- Data logging can start on trigger events
- Wake, sleep and interrogate sensors

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Chris Banks, Commercial Director:
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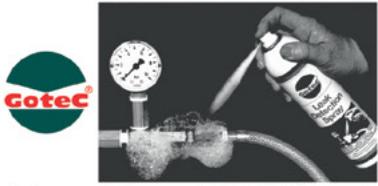
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