

EMS

ENGINEERING MAINTENANCE SOLUTIONS

The International Magazine For Maintenance & Engineering Professionals

April/May 2016

\$6.80

£4.16

€5.00



If it's good enough for bats...

New ultrasonic sensors from ifm electronic Ltd

Read Full Article On Page 20



4-19

News & Products

22-31

Boilers & Burners

36-38

Maintenance Repair

Visit Us Online

engineeringmaintenance.info



Implementing a calibration system?



Our calibration and IT expertise helps you face calibration process improvement projects that are typically complex and consume a lot of time and resources. Only 20% to 30% of a calibration system upgrade is tools and technology, the rest is business culture and process. Therefore, the success of a new calibration system depends especially on the implementation of the system and the ability to define and adopt a new calibration process. We are the experts in both technology and implementation, so you can focus on the opportunities, while we support and guide you in the evolution of your calibration system and successful implementation of the calibration process change. Learn more at: beamex.com/CalibrationProcessImprovements

beamex
WORLD-CLASS CALIBRATION SOLUTIONS



www.beamex.com
info@beamex.com



If it's good enough for bats...

New ultrasonic sensors from ifm electronic Ltd

Read Full Article On Page 20



4-19 News & Products

22-31 Boilers & Burners

36-38 Maintenance Repair

Visit Us Online
engineeringmaintenance.info



Contents

In This Months Issue



Contacts

Publisher

Michael Dominguez

Editorial

editors/contributing: Jon Barret, Christer Idhammar

Advertising

Steve Aslett
Paul Miles
Brian Simpson

Production

Tom Britten

Email

Info@engineeringmaintenance.info

Website

www.engineeringmaintenance.info

Phone

tel: +44(0)1634 731646
Fax: +44(0)1634 731644

Address

MSL Media LTD, Cobalt House, Centre Court,
Sir Thomas Longley Road, Rochester, Kent,
ME2 4BQ



BCAS Official Media Partners



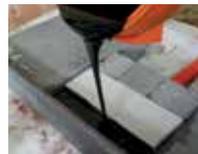
P:4-19 News & Products



P:22-31 Boilers & Burners



P:32-35 Product News



P:36-38 Maintenance Repair



P:39-43 Buyers Guide

In the next Issue: June/July

- Compressed Air
- Condition Monitoring

Fluke power quality resources can help identify potential electrical problems and their impact in three easy steps

Fluke has introduced a comprehensive collection of free online resources to help industrial engineers, electricians and power quality/energy specialists identify potential power quality issues, understand their impact, and choose the best tools to resolve the problem - all in three easy steps. To access the Fluke Power Quality resources, visit: www.fluke.co.uk/3steps.

Often power quality issues present themselves in ways where the root causes are not obvious. Fluke's new power quality resources lead users through the process of identifying the pain points they are experiencing, pinpointing the cause, and understanding whether it is causing energy waste, equipment failures or unplanned downtime that affect the bottom line.



Visit Fluke's Web site at <http://www.fluke.co.uk>

Composite Inspection System Added To Rental Fleet

Ashtead Technology has been appointed by JR Technology as their Preferred Rental Partner for the DolphiCam; an ultrasonic array inspection system for detecting flaws in carbon composite materials.

"This innovative technology is popular in the aircraft, defence and automotive industries," says Steve Drake, Ashtead's NDT Market Manager.

"Connected to a PC, tablet or laptop via USB, the DolphiCam creates a high-resolution colour image of any defect in seconds;

providing a variable angle 3D representation of the inspection area. The system has Boeing approval for use on the 787 Dreamliner and is therefore a valuable addition to our rental fleet."



Ashtead Technology Ltd, Campus Five, Letchworth Business Park
Letchworth, Hertfordshire, SG6 2JF
Tel. 0845 270 2707 | Email europe@ashtead-technology.com
www.ashtead-technology.com

Dialight Unveils World's Most Durable End-to-End LED Linear Fixtures

Fully Sealed Wiring Compartment, Single-Extrusion Aluminum Housing & Advanced Corrosion Protection Provide Maximum Resistance against Water, Dust & Salt Spray

Dialight (LSE: DIA.L), the global innovation leader in LED lighting technology, today announced the launch of its new End-to-End Linear series providing the most durable and salt-resistant LED lighting solution on the market to replace conventional HID and fluorescent fixtures in a wide range of industrial applications, from petrochemical and heavy industrial manufacturing to food production.

Featuring a fully gasketed enclosure made from an extruded 6063 aluminum housing, the End-to-End linear series, which allows wiring on each end of the fixture, offers the most ruggedized housing for long life durability against water, salt, dust and vibration. The IP66/67-rated fixture ensures resistance to dust and water ingress with the added assurance of

UL1598/A rating that guarantees excellent corrosion resistance in marine and offshore environments. Sealed, integrated wiring compartments on each end provide easy access for installation in low-profile applications and through-wiring capability supports multiple fixture installation on a universal 120-277V AC circuit.

"Virtually every conventional linear fixture has some weak link—an access cutout in the housing or a wiring port—that is an invitation for corrosion and decay. And, once it starts, there's no stopping it. The entire fixture begins to fall apart quickly," said Michael Sutsko, Dialight's Group Chief Executive. "We've solved that problem through our world-class material science development, a seamless extruded



design and our signature high-durability LEDs and power supply to give our customers the most reliable, long-lasting LED linear on the market."

The End-to-End linear series light fixtures are available in 2-foot or 4-foot lengths to suit a wide range of illumination and mounting requirements, each with a minimum CRI of 80 for superior color fidelity. Lumen output ranges from 3,500 to 7,500 and up to 125 lumens per watt for outstanding energy efficiency and low-cost operation.

To learn more about the Dialight's complete line of factory-sealed LED linear products for industrial applications, visit: www.dialight.com.

J D Neuhaus Shines Spotlight On Stainless Steel Air Hoist Concept At CeMAT 2016

Materials handling specialists J D Neuhaus (JDN) are set to present their concept study of a new stainless steel air hoist at the CeMAT 2016 international exhibition.



This is the world's leading trade fair for supply chain management and intralogistics, which takes place in Hannover, Germany on 31 May to 3 June. Exhibiting as part of the Cranes Pavilion in Hall 27 (Stand D68), the company will also be promoting its class-leading service capabilities, giving visitors the opportunity to learn about JDN's industry-proven project planning and maintenance expertise.

Manufactured under the company's mantra 'engineered for extremes', thousands of JDN pneumatic and hydraulic hoists and crane systems are in service worldwide, with many operating in harsh conditions such as those found on oil and gas platforms, or in mines or foundries. Underwater environments and extreme temperatures (as low as -45°C) are also familiar territories for JDN products, which are renowned for their operational reliability under even the most adverse conditions.

Of course, some indoor applications can be just as testing as external ones, particularly when it comes to equipment that needs to operate in extremely clean and hygienic environments. Indeed, growing demand in this area is what prompted JDN to undertake its conceptual study of a stainless steel air hoist, the results of which will be presented to visitors at CeMAT 2016.

There are clear target markets for stainless steel air hoists, such as the food and beverage sector, for example, as well applications in the chemical, pharmaceutical, medical and aerospace industries. Visitors to the stand at CeMAT 2016 will see that JDN's detailed study assesses the benefits of using compressed air as a method of operation in combination with stainless steel as the hoist's construction material. Resistance to corrosion and high levels of humidity will therefore be assured, while the products will also be

easy to clean and disinfect, even using high-pressure cleaning equipment.

Cleanroom-based users in the optical and semiconductor industries would also benefit from the use of a stainless steel air hoist. This is because expelled air is extracted, while a bellows is deployed to protect the chain.

The hoists could also be put to work in environments at risk of explosion. The fact that the hoist uses compressed air as the driving media means it is explosion-protected (ATEX), making it suitable for dangerous atmospheres and even where organically flammable chemicals are in use.

Stand visitors will also see JDN Service present its extensive capabilities in project planning for maintenance and overhaul work. Among the initiatives are special spare parts kits and general overhaul kits that have been purpose-designed by the JDN Service team to provide customers with a simplified process for ordering spares. Further aspects of the JDN Service Programme include training courses and hoist rental options. Rental is a popular choice if there is a short term demand for hoists of any capacity.

Further highlights of the JDN display at CeMAT 2016 will include examples of the company's standard air hoists, such as the best-selling Profi and Mini ranges. The Profi series is designed for heavy-duty industrial applications up to 100 tonnes load capacity. Offering 4 or 6 bar air pressure, various explosion protection classifications are available. Profi hoists feature sensitive, infinitely variable speed control for the precise positioning of loads, as well as easy operation, low maintenance requirements and sound absorption.

In contrast, the JDN Mini range widens the range of application in the light duty sector as a handy, flexible and universally deployable air hoist. The ideal tool for most light engineering workshops, the Mini series offers a selection of load capacities between 125 and 980 kg. Designed as a cost effective alternative to hoists that use other driving media, lifting heights of 3, 5 and 8m are available.

JDN's friendly team of experts will be on hand throughout CeMAT 2016 ready to discuss any specific applications, regardless of the complexities, and provide an overview of the optimum solutions available.

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

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

The wide portfolio of services provided by J.D. Neuhaus includes equipment assembly, inspection, maintenance and general overhaul, along with the supply of customer training courses.

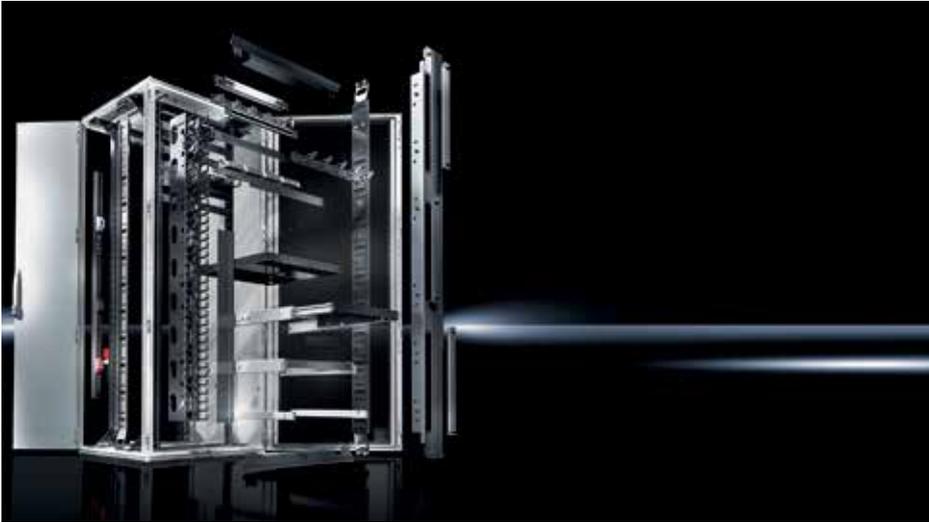
Over 80% of production from the Witten plant is exported, which is why the company has long-established subsidiary companies in France, Great Britain, Singapore and the USA, all of which have helped create a tight-knit global network in collaboration with international partners.

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

Further information is available on request to:
J D Neuhaus GmbH & Co. KG, 58449, Witten-Heven, Germany
Telephone: +49 2302 208-219
Fax: +49 2302 208-286
e-mail: info@jdnngroup.com
www.jdnngroup.com

Effective IT rack components and cable management

There are probably five main areas for IT/data centre managers to consider when it comes to planning future rack developments.



One of the most critical is deciding the precise configuration of the internal components. This critical step typically underpins the success of the whole project, especially when IT racks are not installed in a standardised data centre environment.

Meanwhile, choosing the right rack to install requires an understanding of the rack's purpose, the routing of cabling for power supply and networks, and the ideal cooling solution.

Rittal has summarised some of the key questions to ask to help ensure the success of any future installation and commissioning of racks.

What will the rack be used for?

The number and type of components will impact the size of the rack. If it will simply be used to house servers, then an IT rack 600mm wide will suffice.

However, if it is primarily for network components, the rack should be 800mm wide to accommodate the cabling.

But, increasingly, enterprises are combining server and network components within individual IT racks.

As IT takes on an increasingly significant role within organisations, more and more components are packed in to make best possible use of existing infrastructure. This means the largest available racks should be selected – in line with space constraints. An IT rack that is 42 units high, 800 mm wide, and 1,200 mm deep provides ample room for custom configurations, and allows for future expansion.

What form of climate control is needed?

Will the rack be installed in a room that does not have an integrated cooling system? If so, then a suitable cooling system needs to be considered from the outset.

If just a single IT rack is needed, then a cooling unit can simply be attached to it externally.

Additionally, the rack should have a door with an air-tight seal. If entire room or row cooling is to be installed – arrangements that are typical in data centres – then a perforated door will be needed to allow a continuous airflow.

Sealed up?

There are various options for cooling IT rack interiors depending on their use.

For example, inside server enclosures, the cool air should flow from front to back while in network enclosures it should move along the parts that need to be cooled.

In both scenarios, it is important to seal off the 19" shelves to ensure cool air does not flow away from the targeted components. All open rack units should be closed off to separate warm and cool air. To this end, there is a range of accessories available to enhance cool-air routing, enable horizontal airflow, and more.

Effective seals and climate control solutions tailored to the IT rack's specific purpose will translate into improved energy efficiency. A little bit of planning goes a long way when it comes to cutting electricity costs for IT operations.

Where do you want your cables?

A detailed plan for interior and exterior cable routing should be in place before a server enclosure is purchased and configured. The power supply, in particular, has to be considered. Many active IT components require a redundant power supply which means are two power distribution units (PDUs) making cable management more complex. Moreover, power and copper data cables must be kept apart to avoid interference. And special attention must be paid to the minimum bend radius of the fibre-optic cables to prevent signal attenuation.

If the racks are to be placed on a raised floor, then power and network cabling can simply be laid underneath. You can also mount cables under the ceiling and route them through the top of the rack. In this scenario, the roof plate needs to be configured correctly – openings should be closed off with brush strips creating a tight seal, simplifying cable management, and improving energy efficiency. It also means that even after cables have been installed, accessories (including roof plates with multiple parts) can be easily removed for simpler maintenance and retrofits.

Rittal offers a choice of elements for effective cable management, enabling customised component configurations. Both open and closed cable duct systems are available – for horizontal and vertical cabling, and cabling between thermal zones.

Typically, air-tightness and a defined air pressure must be maintained to prevent warm air and cool air from mixing. This important consideration was built into the design of Rittal's TS IT server enclosure. The enclosure supports the need for air circulation in conjunction with the corresponding cable installation components.

And external cable management?

Crowded IT racks have little available space to squeeze in new components. One answer is to route cables outside of the racks such that cable ducts pass through the side of the rack, routing cabling over the top so that it re-enters the rack from the opposite side. Although this approach can save a great deal of space, it may make identifying individual cables more difficult, and maintenance work more complicated.

Wherever easy maintenance is a priority, cables should be routed inside the racks. Pinpointing and replacing a single cable is then far simpler if there is a failure or if a reconfiguration is required.

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

Proven Long-Life for Winn & Coales Steelcoat System

In 2005 Advanced Engineering Solutions of Cramlington applied Denso Steelcoat 100/400 system to the outside of the pipebridge at Maltby Beck for Northumbrian Water.

During a further application of the same system to an adjacent pipebridge this year (2016), Winn & Coales (Denso) Ltd took the opportunity to inspect the system which was applied previously.

The company reports that apart from some dirt and moss on the pipe, as expected the system is still functioning extremely well and will continue to protect the structure for many years to come.

Prior to the latest application of the Steelcoat system to the adjacent pipebridge the residue of the previous coating was removed by hand surface preparation carried out to St2 standard.

The Denso Steelcoat system consists of application of Hi-Tack Primer followed by Denso Profiling Mastic on required surface areas. This is followed by Hi-Tack Tape, Ultraseal Tape and a Denso Acrylic top coat.



Winn & Coales (Denso) Ltd, Chapel Road, London SE27 0TR
 Tel: 020 8670 7511. Fax: 020 8761 2456
 e-mail: mail@denso.net web: www.denso.net

**“FAR MORE THAN A THERMAL FLUID FIRM”
 TFS HITS 20 AND SHARES SECRETS OF SUCCESS**

Pioneering technology and a service predicated on risk-management lie at the heart of the success of the first company to bring thermal fluid reconditioning to process industries worldwide, according to UK system support and maintenance provider, Thermal Fluid Solutions Ltd, in its 20th anniversary year.



TFS was the first firm to offer thermal fluid reconditioning, facilitating the maintenance of vital fluid safety parameters such as minimum flashpoints. A quick, cost-effective, environmentally sustainable alternative to replacement, HTfluidfit extends fluid life by a factor of at least 10, saving customers up to 70% of their thermal fluid costs.

Web: www.thermalfluidsolutions.com
 Tel: 01298 815 862

**There is an easier way
 to detect oil in your food.**



METPOINT OCV measures remaining oil vapour content down to 0.001 mg/m3 which is better than ISO8573-1 Class 1. Monitor and control the risk of contamination of your compressed air supply.



BEKO Technologies Ltd, Unit 11-12 Moons Park, Burnt Meadow Road, North Moons Moat, Redditch, Worcs, B98 9PA, Fax: 01527 575779 email: info@beko-technologies.co.uk website: www.beko-technologies.co.uk

Toshiba's SMMS-e VRF achieves unique hat-trick in air conditioning industry awards

Toshiba's ground-breaking VRF system, SMMS-e, has achieved a unique triple success, winning the top accolade for air conditioning innovation in three of the industry's major awards.



The judges said: "Toshiba's SMMS-e achieves best-in-class energy efficiency by combining a vast number of innovative and proven technologies in one product." It is the only VRF in the market with all outdoor units exceeding 7 ESEER (European Seasonally Adjusted Energy Efficiency Rating).

Tel: 0870 843 0333 | Email: marketing.uk@toshiba-ac.com

Renold Couplings have launched two new ranges and announced a further range is coming soon.

Designed for industrial applications, the Hi-Tec RBI uses a new block profile to increase torque throughput by 50% on the existing RB range.

The new Hydrastart comes complete with Renoldflex, to minimise machining and improve delivery times.

The new Hi-Tec UBI will follow later in the year.

Commercial Director Tom Hattersley, commented "The UBI brings the advantages of a Hi-Tec rubber in compression coupling into the price point of our standard range, allowing us to offer more torque capability at a smaller size, with lower costs".



For further information email couplings@cc.renold.com.

New uvex phynomic pro Safety Gloves – Versatile Protection and Total Comfort

Part of the renowned uvex phynomic family, the new uvex phynomic pro safety gloves provide great grip in areas of mechanical risk, including precision assembly work requiring a high level of dexterity in damp, oily or dry areas.

The flexible phynomic pro gloves are also well suited to all-round or heavy-duty uses such as general maintenance, while supplying outstanding comfort all day long.

uvex phynomic gloves are well-known for their perfect fit, supreme comfort, optimum functionality and kindness to the skin, guaranteed by the uvex pure standard which is dermatologically tested and approved by the independent proDERM Institute for Applied Dermatological Research GmbH and certified in accordance with Oeko-Tex Standard 100. The uvex phynomic pro continues this tradition.

Large amounts of dirt or moisture are no problem to the phynomic pro. The new aqua-polymer-pro ¾

length coating has exceptional dirt and moisture-repelling properties, as well as giving excellent slip resistance.

The highly-breathable phynomic pro gloves can be worn during a huge number of diverse activities, so there is no need for the worker to change gloves when switching to a different task.

uvex's ground-breaking Bamboo TwinFlex® Technology natural bamboo and polyamide/elastane liner feels soft and silky on the skin, as well as offering excellent moisture-wicking properties. A stable, comfortable temperature inside the gloves is always ensured.



The uvex phynomic pro glove and all uvex products can be quickly located via uvex's new Product Finder App, available free from the Apple App Store.

To find your local distributor and for more information on all uvex products visit: www.uvex-safety.co.uk or contact uvex customer services on: +44 (0)1252 731200.

To view the full uvex PPE catalogue, visit: www.uvex-safety.co.uk/en/services/downloads

T CARDS ONLINE A HIT WITH MEGGITT

Meggitt PLC is a global engineering group specialising in extreme environment components and smart sub-systems for aerospace, defence and energy applications.



It employs around 12,000 people at manufacturing facilities around the world. Operational excellence is a key focus for Meggitt with the aim of continually improving customer care and efficiency across every part of its business.

Keeping track of work and improving the workflow through its factories is critical and using visual displays to communicate the status of jobs is regarded as vital in the high-technology environment. A Meggitt facility in Coventry was one of the first to invest in the innovative T CARDS ONLINE PLANNING SYSTEM which has subsequently been taken up in other areas of the business, including its American corporate hub in North Hollywood, California.

Meggitt had previously used a manual card-based system in some areas of this business and were looking to digitise the process, displaying information throughout the factory. The T Cards Online system was introduced in the MRO (Maintenance Repair and Overhaul) facility to manage the administration and processing of customer enquiries and orders. This is a key interface between Meggitt and its customers and a function handled by a dedicated team accountable for initial customer perception

of company performance, with a goal to exceed customer expectations at all times.

The T Cards Online system displays the status of jobs and allows multiple users in different locations to log-on and access the same information.

Every action is logged ensuring accountability for each stage of a task, enabling instant access to the reasons for any job falling behind schedule. Meggitt Customer Service Co-Ordinator Kathy Kelly commented: "Having the status of all the repair orders displayed in the office and on the shop floor has been a real bonus.

It's easy to update and edit. As co-ordinator and company face to our clients, getting information quicker on the whereabouts of units has made a big difference to the service we provide".

Following the success of T Card Online within the MRO department, it has been implemented in Goods Inwards where it helps to ensure that items are allocated with speed and efficiency. Brett Withington, Quality Manager realised that the system could be easily adapted to manage and communicate status to key personnel. After

consulting with T Cards Online about these requirements, a bespoke system was designed and rolled out within days.

Brett explains: "As a first class engineering business we pride ourselves on quality. This is maintained through quality systems and audits. With many inputs, keeping everyone informed of status is vital. T Cards Online helps us ensure audits are completed on time and to manage any actions required after that more efficiently." Operational Excellence Manager, Simon Dixon took the system further. He wanted to utilise it to keep track of the stages of new and reviewed contracts. Whilst this was a relatively simple development and quickly rolled out, it has provided key information across various departments and bridged gaps.

All interested parties now have access to the information they need, although limited to their specific responsibilities. Simon has since initiated the system to incorporate Customer Returns, Control of Sub-Contractors and the Quality Clinic. The visual nature of the system has helped with the speedy processing and rectification of returns, whilst the Sub-Contractor board ensures that all the work allocated is managed and tracked with efficiency and clarity.

Simon confirmed, "The big advantage of the T Cards system is that it has made our process far more visible and accountable. Our old process was paper driven and documents tended to get lost and mislaid, so there was a lot of chasing around looking for documents. Now we can see them via the T Cards dashboard instantly."

Meggitt's experience in using the T Cards Online system is another example of the benefits of a simple yet highly effective online management tool which helps companies large and small to streamline management processes and improve productivity.

More information from: T Cards Online, Addington, West Malling, Kent, ME19 5BP, UK.
Tel: +44 (0) 1732 871417
email: philip@tcardsdirect.com
www.tcardsonline.com

New motor technology brings lower energy, maintenance and noise to extruder

Constant torque application benefits from synchronous reluctance motor technology

Up to 15 percent lower energy use, a significant reduction in motor maintenance costs and a drop in audible noise are achieved with the installation of an ABB synchronous reluctance motor and drive (SynRM) package on a twin extruder application.

Radius Systems' plant in Derbyshire, UK, houses 14 extrusion lines, each of which produces polyethylene pipes from 16 mm to 1200 mm, together with an injection moulding facility making associated fittings for use by utilities companies for gas and water transfer.

Eight lines are powered by DC motors, many of which are over 20 years old. However, Line 12 had a high utilisation rate and yet the 182 kW DC motor was regularly failing, leading to an increase in downtime and rising maintenance costs. The company estimates that the annual static and dynamic checks, brush changes and outsourced labor costs alone are about £2,000 per motor.

Before and after monitoring

ABB's authorised value provider for the Derbyshire area, Inverter Drive Systems (IDS), was asked to carry out before and after monitoring of the DC motor on Line 12. This determines the energy savings while confirming that an investment in an AC motor and drive would meet Radius Systems' three year capital payback policy.

"Monitoring of the application is critical to the success of any installation," explains Phil Nightingale, Sales Engineer, IDS. "It allows us to accurately determine the real energy saving potential which means we can size the AC motor and drive correctly. We are often able to reduce the size of the motor and drive package required while exceeding the production targets."

It was through monitoring that IDS was able to determine the speed range of the line's DC motor which revealed that it was over-sized for the application and hence consuming more energy than

necessary. Also, despite the motor having been regularly maintained, it was 20 years old and nowhere near the efficiency for which it was originally designed.

Energy saving bandwidth

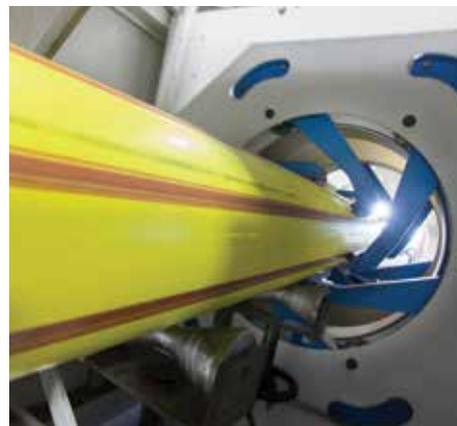
It was estimated that potential energy savings from a SynRM package for Line 12 would be in the range from 8 to 15 percent, with a return on investment within two years. In addition, in excess of £2,000 cost avoidance is estimated with the removal of DC motor maintenance.

"To pick an exact production run that can give an accurate energy measurement is very difficult to quantify, hence the range from 8 to 15 percent," explains Rob Betts, Engineering Manager at Radius Systems. "The actual energy saving is dependent upon several process variables such as raw material type, different product ranges and profiles, the temperature at the die and the barrel and the general ambient environmental conditions. For instance, energy consumption is higher on a cold day as more energy is needed to warm up the process."

Advanced technology

The SynRM is a 200 kW, 1500 rpm, IE4 solution and together with the ABB industrial drive, ACS880, it offers a much higher efficiency than standard AC induction motors and drives. It is also a far quieter package than the existing DC motor. "SynRM has given us a reduction in noise in the production hall which is a benefit we had not expected," says Betts. "While we have not measured the noise levels, everyone has noticed a definite reduction across the plant, which in itself is a motivational measure."

A challenge was presented by the physical footprint of the existing DC motor. "DC motors tend to be long and thin," explains Betts, "whereas AC motors tend to be shorter but bigger in diameter." However, SynRM can be up to two frame sizes smaller than a conventional induction motor which is a benefit in the direct replacements of DC motors.



Challenges of constant torque

While SynRM is well tested on quadratic torque applications, like pumps, fans and compressors, there are fewer constant torque references, such as extruders. Despite the shortage of constant torque references Betts was confident in the solution: "At no time did we feel that we were taking a risk with this new technology. It had been widely tested and we had every faith in the blue-chip ABB brand. As such we did not consider it to be a risk at all. We were able to meticulously plan the changeover of the DC drives to SynRM so that the entire installation and commissioning was carried out in just five days."

On time, on budget

Betts concludes: "Would we consider a SynRM package again? Most definitely; IE4 and higher efficiencies are the way forward, so provided the price is competitive, the return on investment can be justified and the technology can be delivered to our time frames, then we would have no qualms about using SynRM."

"We have some 300 motors on site, of which about 20 percent are variable-speed. Following the success of this installation and the support that we get from IDS, we have decided to standardise exclusively on ABB drives across the plant. The partner network that ABB has with IDS is very important to us as it gives us local support here on the ground."

For more information please contact:
Tel: 01925 741111
www.abb.co.uk/energy
ABB Limited, Daresbury Park, Daresbury,
Warrington, WA4 4BT

Vibration Protection For Smaller Critical Plant

Improving efficiencies, reducing energy consumption and eliminating downtime has never been more important than in today's highly competitive industrial environment.



Whether generating power, pumping essential fluids or driving process equipment, it is vital to monitor machinery dynamic behaviour and protect processes from the disruption and expense of unscheduled downtime.

As a consequence continuous protection and monitoring is an essential requirement for critical rotating plant across every industry sector. However, the cost of sophisticated protection systems can be difficult to justify for smaller machinery operating on less critical applications, although the requirement for monitoring still needs to be addressed.

The solution is cost-effective and compact machinery protection monitoring devices such as those developed by condition monitoring specialist SENSONICS. A good example is their DN26 G3 protection monitor which provides practical and

affordable protection for smaller plant and equipment such as, pumps, fans, motors, centrifuges, turbines, or any item of small to medium industrial machinery.

A recent project success for the DN26G3 is the Boasteel Zhanjing Steel plant in China where over 90 modules are utilised with Sensonics sensors to monitor critical plant. These include the main exhaust fans in the blast furnace, the vaporising fans in the continuous casting line and de-dusting fans in the steel making and sintering unit; providing vibration protection to over 30 fans in total. The Zhanjing plant has a first phase capacity of 9MT per annum and is one of the most advanced steel plants in China with low emissions and high energy efficiency. The high-performance Din Rail mountable DN26 G3 unit is capable of monitoring two channels of bearing vibration, shaft vibration, or shaft position and offers fully programmable signal conditioning

with a range of measurement algorithms and sensor options.

In addition the DN26 G3 offers a dedicated speed monitor channel which can also be utilised as a phase reference for harmonic analysis of the vibration signals. The unit is designed for optimum flexibility; as a universal module (single hardware platform) it is field upgradable and can be programmed for any of the measurement options detailed above. It is available with mains voltage or +24Vdc power supply options.

The sensor interface is programmable to accept IEPE type accelerometers / velometers, proximity probes (API 670 standard), and active / passive speed probes. All sensor signals are available via a buffered interface which provides the option of further detailed analysis if required. Three alarm relays are available as standard (expandable to up to seven relays via a digital interface), one dedicated to indicate module and sensor integrity, the other two relays are fully programmable across the alarm criteria selected. All three input channels measured values are available via a 4-20mA interface.

The unit is available with Ethernet communications as standard, permitting configuration either locally or remotely through the inbuilt web server and offering Modbus over TCP/IP for connecting measured data to other plant wide systems. The DN26 G3 features a built-in intuitive colour LCD display and menu drive facility providing various display modes including an alarm historian with real time logging capability.

Further details from: Sensonics Ltd,
Berkhamsted, Hertfordshire, UK.
Tel: +44 (0) 1442 876833.
Email: sales@sensonics.co.uk
www.sensonics.co.uk

Cirrus Research to unveil new doseBadge® Mark V 20 years of evolutionary success

Noise monitoring specialists Cirrus Research have today unveiled the eagerly-awaited doseBadge® Mark V with a host of new features added to the market leading product.

The latest new-look doseBadge has been developed by the in-house R&D team, following on from the doseBadge IV that was introduced in 2007. Its compact size, belies the wealth of future-proof technology that has been included in this latest Cirrus offering.



The new doseBadge arrives in the year that Cirrus Research celebrates 20 years since it brought the very first doseBadge to market – having sold an incredible 20,000 units worldwide since 1996.

As well as all the features that help make the doseBadge the market leader it is today, the Fifth Generation promises to include new enhancements to simplify workplace noise monitoring.

For more details:
Acoustic House, Bridlington Road, Hunmanby,
North Yorkshire YO15 0PH
sales@cirrusresearch.com
01723 891655

Denso Void Filler Protects Anchor Head Caps on New Belfast Footbridge

Graham Construction of Hillsborough, Northern Ireland, used Winn & Coales Denso Tape and Denso Void Filler during the construction of the new £5million Lagan Weir 120m pedestrian and cycle bridge.

Replacing the old footbridge, it improves the links between Belfast City Centre to the Queens Quay Development and the Titanic Quarter.



The new footbridge consists of a cantilevered deck, built from structural steel enveloped in aluminium cladding. Denso Tape was used to protect anchoring bolt threads, with Denso Void Filler used to fill the anchor head protective caps on the rear tension support frame.

Denso Void Filler is based on a microcrystalline petrolatum containing corrosion inhibitors and moisture repellents. It forms a permanently flexible medium for the encapsulation and protection of bearings, tendons, stay cables, among many other applications. It has been used on a variety of major civil engineering projects, including both Severn Bridges.

Winn & Coales (Denso) Ltd, Chapel Road, London SE27 0TR
Tel: 020 8670 7511. Fax: 020 8761 2456
e-mail: mail@denso.net web: www.denso.net

Senceive Making Waves in Wireless Monitoring

Senceive CEO, Graham Smith, confirmed that Senceive is truly leading the way in the wide scale deployment of cost effective and precise automated Wireless Remote Condition Monitoring Solutions.

With over 2000 sensors deployed in the past 6 months alone, Senceive have had another record half year for supply and commissioning of its unrivalled monitoring systems across the UK and overseas.

This firmly re-enforces the trend by Surveyors and Civil Engineers alike who wish to have “hassle free” and totally reliable monitoring equipment that improves safety whilst being ultra-easy to deploy.

Senceive has recently been featured in both Tunnelling Journal and Ground Engineering. Both these are leading industry publications and this is what they are saying about our product.

They are making headlines with many new awards being won in the past 4 months alone.

Senceive are delighted to announce the launch of our new fully responsive website. We have made sure it showcases all of our products and services in a clear and concise light and includes much insightful geotechnical information.



Read the full article www.senceive.com

Latest Tundra Air Dryers Offer High Energy Efficiency

Hi-line Industries is unveiling the 2016 model of its best-selling Tundra refrigeration air dryer.



The new models offer an energy-saving controller as standard, thus helping to deliver lower TCO (total cost of ownership) for customers, as well as increased reliability thanks to a redesigned refrigerant system. Further enhancements include design simplifications that have seen Hi-line remove pressure switches on smaller models and adopt more reliable temperature probes for control purposes.

The 2016 Tundra range is expected to be even more appealing to potential users throughout industry, including workshop air and machine air in general manufacturing, as well as sectors such as packaging, textile, food, beverage, medical, dairy and automotive, to list but a few.

The display of the multi-functional energy-saving controller provides information such as the dryer running dewpoint. Should the dryer go to light duty (i.e. reduced airflow) the refrigerant gas pressure

is monitored and adjusted accordingly. The dryer has a built in energy-saving device which will stop the compressor and wait for the refrigerant gas pressure to rise to a pre-set value before restarting. This direct expansion technology not only reduces energy consumption but ensures at least +3°C PDP (pressure dewpoint) is maintained at all times. In contrast, some competitors of Hi-line are importing chilled mass refrigeration dryers that can be as high as +10°C in their thermal cycle, which is not suitable for drying air in northern European countries such as the UK.

Further energy consumption advantages of the latest Tundra range are delivered as a result of the low pressure drop afforded by the modular, single cell aluminium heat exchanger, which gives the most efficient transfer of heat at the lowest energy cost. Additionally, the solenoid condensate drain is controlled from the dryer control panel to ensure efficient and reliable removal of water/condensate from the air.



Tundra air dryers offer a 40-bar pressure range and can be provided with a range of high performance oil and particulate filters to suit dryer inlet and outlet ports. These filters are available in compressed air blue (RAL 5015) to match the dryers.

Hi-line Industries currently holds around 700 Tundra air dryers in stock at its Midlands factory ready for next-day delivery. Models ranging from 21 to 1605 cfm capacity are stocked, although larger models up to 10,000 cfm are available to order. The company also stocks 60 Hz dryers for marine and offshore applications.

The latest Tundra refrigeration air dryers are sold through a nationwide distribution chain of air houses, compressor sales and service companies. Hi-line has a UK-wide team of service engineers providing industry-leading support to the company's dryers, as well as other brands.

Further information is available from: Hi-line Industries Ltd,
5 Crown Industrial Estate, Oxford Street,
Burton on Trent, Staffordshire DE14 3PG
Telephone: 01283 533377
Fax: 01283 533367
e-mail: enquiries@hilineindustries.com
www.hilineindustries.com

Chiller On Standby

By Carl Webb - UK Sales Director Specialist Hire Divisions



The availability of chiller hire to industry and commerce is often the only practical short-term solution for preventing total plant failure when processing temperatures rise or alleviating unbearable working condition as air conditioning struggles to cope.

For many emergency situations it is that last minute call-out to a chiller hire company that is expected to save the situation, it can provide the perfect and best financial solution.

Within an industrial plant, chiller failure can be catastrophic, production slows or at worst stops and, unnoticed it could result in an increase in rejected parts. In commercial buildings, sensitive electronic equipment as well as staff underperform when temperature rise. Whatever the cause, the remedy lays with maintenance engineers, production managers or facilities managers in making the vital decision of chiller hire.

Emergency Call Out

However bad the situation, there will always be a time-lag between contacting a chiller hire company and their ability to supply the best and most practical

solution, although this can be shortened by pre-site surveys (see Planning for Failure below).

Choosing the right hire company can certainly pay dividends – quicker response to cooling problems, competent engineers, and faster delivery – and above all a temporary installation of the right chiller that achieves the best possible outcomes.

Ask questions:

1. How quickly can they respond?
2. How many depots, are there sufficient to provide a 'local' service?
3. What experience do they have?
4. Do they operate with sufficient fleet to respond quickly to an emergency situation?
5. Do they have the experience to provide expert advice on the type of chiller best suited for their plant
6. Do they offer true 24 hours a day, 7 days a week call-out.

Whatever the problem a site-survey is essential, it gives engineers the opportunity to:

1. Understand and appreciate the cooling capacity requirements
2. Reach a decision on chiller capacity that takes into account 'heat gains' and 'cooling losses' from lengthy pipe runs
3. Identify very best position to site a skid-mounted chiller with easy access to power and away from closed spaces to ensure optimum performance with the smallest possible unit
4. Is the solution to bolster the effectiveness of existing plant or operate as a stand-alone system even with required power generation plant?

With survey over and system planned, arrangements can be made to deliver and install the most appropriate size chiller and any support equipment, thus return the status quo.

Planning for Failure

To help plan for failure some of the larger chiller hire companies will pre-survey a site and hold equipment in reserve. Although this incurs a charge, this is often outweighed by the immediacy of having the hired chillers on site, preventing plant shut-down or, in the case of commercial sites, such as data-centres, prevent loss or corruption of data.

By establishing a working relationship with a chiller hire specialist now, expensive downtime and loss of reputation could be avoided. It could turn out to be one of the wisest decisions a FM or plant manager makes, chiller hire plant can be ready and waiting, matched to specific and unique requirements.

Choosing the right chiller hire organisation could save many thousands of pounds and save a reputation.

Andrews Sykes Hire Limited, Chiller Division, Unit 54 Gravelly Industrial Park, Tyburn Road, Birmingham B24 8TQ
Tel: 0800 211 611
E: s.salescentre@andrews-sykes.com
Web: www.andrews-sykes.com

Anglian Water cuts aerator energy use in half with variable-speed drive

A sewage treatment works operated by Anglian Water has halved its aerator energy costs, reduced maintenance and cut ammonia to almost zero levels following the installation of an ABB variable-speed drive.

The drive was installed on a 4 kW sewage aerator at the Swallow unmanned treatment works in Lincolnshire.

Wayne Barley, Northern Energy and Efficiency Engineer for Anglian Water, says: "The vertical rotor of the aerator was set on a duty cycle of 20 minutes off, 20 minutes on. Working in this way, there were frequent sudden stops and starts that caused shock loads on the motor and gearbox, as well as needing frequent operation of the contactor to switch the motor on and off.

"This sometimes led to electrical and mechanical failure of the aerator, causing interruptions to sewage treatment and a possible subsequent failure to consent." This sewage treatment works has descriptive consent which specifies that all plant must be working but does not specify an ammonia limit.

"The middle of the aerator has a tube to pull effluent from the bottom of the tank to the top of the tank, similar to an aquarium air lift, which ensures all the content is treated. The old 20 minute duty cycle allowed detritus to settle at the bottom of the tank during the off phase, causing the tube to block over time. We needed a solution that would solve these problems and hopefully also produce energy savings by matching sewage treatment more closely to demand."

Barley approached ABB, Anglian Water's framework partner for variable-speed drives. Following a site survey by ABB's Authorised Value Provider, Inverter Drive Systems, an ABB machinery drive, ACS355, was recommended. The drive's internal timer outputs signals to switch the motor on and off and to alter the frequency to achieve different speeds at different times.

"We experimented with the timings and speeds so we could find the minimum that would still draw the effluent and aerate the sewage," says Barley. "We settled on four different time periods, during which the motor would be constantly on but working at different speeds to match the demand at those times.

"Midnight to seven am, we operate at 40 Hz, seven to 10 am at 45 Hz, 10am to five pm at 43 Hz and five pm to midnight 45 Hz. Any lower than 40 Hz and we found that we got no updraw into aeration or enough surface oxygenation.

"These changes mean the aerator motor achieved a minimum of 10 percent reduction in speed even at peak times, while the ramping and soft start capability means we avoid shock loading to the motor and gearbox." A ramped start feature reduces the high load and torque placed on the motor gearbox and power train during start up, and also prevents constant switching of the contactor and motor which can lead to failure of equipment over time.

The original energy cost of the application was £762 per annum, but this fell to only £374 following the introduction of the ABB drive, a reduction of nearly 50 percent.

Because there is now no 20 minute off period, there is no settling of the effluent, removing the threat of blockages and settlement.

"Since the introduction of the ABB drive, we have found the application to be very reliable and there have been no maintenance issues with the assets on the aeration system," says Wayne. "Although there is no consent governing ammonia levels, we have also reduced the ammonia discharge to almost zero,



an indication that we have exactly the right amount of oxygen getting into the effluent." Ammonia is an inherent part of sewage treatment and is toxic to animal life, so keeping levels to a minimum by aeration means that pollution of local watercourses at the point of discharge can be avoided.

Anglian Water is now planning to introduce the ABB drive solution to three other small sewage treatment works.

For more information please contact:
Tel: 01925 741111
www.abb.co.uk/energy
ABB Limited, Daresbury Park, Daresbury,
Warrington, WA4 4BT

BEKO TECHNOLOGIES can measure to ISO standards 8573-1 class 1

BEKO TECHNOLOGIES can now measure compressed air to ISO 8573-1 class 1 of the ISO standards.

This is extremely important for industries such as food & beverage, pharmaceutical, medical, automotive and many more. BEKO TECHNOLOGIES have a portable test rig which comprises of the following four components:-

- METPOINT OCV system for the measurement of hydrocarbon levels down to 0.003 mg/m³, which allows for accurate measurement well below the class 1 standard of less than 0.01 mg/m³.
- The METPOINT dewpoint sensor capable of reading down to -100c pdp which is also well below the class 1 for Moisture of -70c.
- METPOINT BDL an innovative graphic display for the recording of the parameters for compressed air and gas applications.

- Lastly we have a laser particle counter. This measures at 0.1, 0.5, and 1 micron particle sizes as per the ISO 8573 requirement, which allows the compressed air particulate contamination to be measured and classified as low as class 1 particulate.

How it works:

The Portable Tester is connected into the customers compressed air supply. The level of filtration and drying is then checked and confirmed that it has been sized to achieve a minimum of class 3 for particulate, class 4 for moisture and class 2 for hydrocarbons. This is done to ensure the unit is not contaminated. We then run the portable tester for a minimum of 1 hour, at a flow rate of a minimum of 1 m³/min, this allows the METPOINT OCV to get up to temperature, the dewpoint sensor to dry down, and the particle counter to purge itself and the pipework.



Once the readings are stabilised, they are fed into the METPOINT BDL data logger then are recorded on a comprehensive test data sheet with classification findings. The results are then given to the customer with recommendations.

Alternatively for more information, please contact our service team on 01527 575778 or email us at: info@beko-technologies.co.uk.

Top Safety Accreditation For BEKO TECHNOLOGIES

BEKO TECHNOLOGIES has been awarded accreditation from Safecontractor for its commitment to achieving excellence in health and safety.

Safecontractor is a leading third party accreditation scheme which recognises very high standards in health and safety management amongst UK contractors.

The company's application for Safecontractor accreditation was driven by the need for a uniform standard across the business.

Safecontractor is applicable to most sectors although it is particularly relevant to food manufacture, property, facilities management, retail and leisure sectors, all of which are big users of contracted services.

John Kinge, technical director of Safecontractor said, "Major organisations simply cannot afford to run the risk of employing contractors who are not able to prove that they have sound health and safety policies in place."

"More companies need to understand the importance of adopting good risk management in

the way that BEKO TECHNOLOGIES has done. The firm's high standard has set an example which hopefully will be followed by other companies within the sector.

Safecontractor plays a vital role in supporting our clients in meeting their compliance needs, whilst working with their contractors as they progress through the accreditation process."

Under the Safecontractor scheme, businesses undergo a vetting process which examines health and safety procedures and their track record for safe practice. Those companies meeting the high standard are included on a database, which is accessible to registered users only via a website.

Client-organisations who sign up to the scheme can access the database, enabling them to vet potential contractors before they even set foot on site. These clients agree that, as users of the scheme, they will engage only those who have received accreditation.



Over 210 major, nation-wide businesses, from several key sectors, have signed up to use the scheme when selecting contractors for services such as building, cleaning, maintenance, refurbishment or electrical and mechanical work.

Alternatively for more information, please contact our service team on 01527 575778 or email us at: info@beko-technologies.co.uk.

Reduce accidents, increase productivity



Print lean & safety signs on-site

Brady offers durable visual workplace labels, including amongst others lean and 5S labels, floor marking, storage area labels, level indicators, gauge labels, equipment identification labels and logistics labelling. These labels can be printed on-site when needed with a Brady printer.

Discover the advantages of visual workplace signs with our complete range of sign & label printers.

[▶ Download the free 5S Plus Guide](#)



BRADY UK
Wildmere Industrial Estate,
Banbury, Oxon OX16 3JU

www.bradyeurope.com/diy
T: +44 (0) 1295 228 288
F: +44 (0) 1295 228 219
E: csuk@bradycorp.com



NEW



ATEX LED INSPECTION LEADLAMP (SP-600)

FOR HANDHELD INSPECTION AND WORK ACTIVITIES IN HAZARDOUS AREAS.

ATEX and IECEx approved for Zone 1 and 21 explosive gas and dust atmospheres

470 lumen high power 'fitted for life' LED

Flexible integrated hook for suspension in the work area

High quality, even, ultra-wide angle light

Robust and highly durable enclosure for heavy industrial use

Lightweight and compact for handheld use

Wide voltage range models and fitted with 10m cable

IP67 rated for use in the harshest environments

Group I mining approval

Mounting and protection accessories available



T: +44 (0) 114 255 1051
E: info@wolf-safety.co.uk
www.wolf-safety.co.uk

WORLD'S LEADING MANUFACTURER OF HAZARDOUS AREA PORTABLE AND TEMPORARY LIGHTING

New Wolf Safety ATEX LED Inspection Leadlamp Cable-Powered, Versatile, Lightweight, Handheld, Impressive Light

Wolf Safety, the world's leading manufacturer of hazardous area portable and temporary lighting, announces the launch of the ATEX LED Inspection Leadlamp SP-600, an ATEX and IECEx certified cable-powered, versatile and lightweight handheld light with impressive LED light output, ideal for inspection and work activities in potentially explosive gas and dust atmospheres.



Providing optimum illumination for localised, close proximity work by hazardous area workers, the SP-600's high power LED 'fitted for life' light source produces a forward facing high efficiency output of up to 470 lumens by emitting an exceptional, even, ultra-wide angle light; minimising shadows and enhancing visibility. The large diffused light source also minimises eye discomfort when viewed directly by a hazardous area worker.

Lightweight, compact and ergonomically friendly, the ATEX LED Inspection Leadlamp is designed for handheld use, with an "easy-grip" handle for user comfort. With a flexible 360° swivel hook, the SP-600 can be suspended for hands-free use, and using a magnet securely positioned on a ferrous metal surface; putting the ATEX LED Inspection Leadlamp exactly where it is needed.

Alex Jackson, Managing Director, Wolf Safety comments "Wolf never underestimate the rigours of heavy industrial equipment use and the extreme conditions encountered by end users in hazardous areas and our new SP-600 is built for longevity and

to maximise worker uptime and efficiencies. The new ATEX LED Inspection Leadlamp is extremely durable and tough, built to withstand knocks and drops as continually moved around and fully impact tested beyond certification requirement; with impact resistant anti-static enclosure, IP67 rating, and scratch and chemical resistant polycarbonate hardcoat lens."

Further protection is possible by fitting a stainless steel cage guard for enhanced mechanical protection to ensure the ATEX LED Inspection Leadlamp's longevity in harsh working conditions. When used regularly in coating and painting applications, a disposable protective sleeve is available to minimise residue build-up in dirty or paint-filled atmospheres, ensuring the SP-600 is always clean and delivering maximum light output without obstructions from dirt and debris on the lens.

The cable-powered ATEX LED Inspection Leadlamp is fitted with 10m HOFR cable as standard and available in three voltage input ranges: high voltage



90-264VAC for general applications, and low 18-54VAC/20-54VDC and extra low 9-16VAC/DC voltages for use in confined space applications, such as metal tanks.

All ATEX LED Inspection Leadlamps are CE marked to the ATEX Directive and IECEx certified safe for use in Zone 1 potentially explosive gas atmospheres, where a T4 temperature class permits, and Zone 21 potentially explosive dust atmospheres, with a maximum surface temperature of 95°C, as well as Group I mining applications.

Please visit www.wolf-safety.co.uk for detailed technical information.

Premier Coatings Investing in New Technology

The demand for high quality anti-corrosion products continues to grow.

Premier Coatings Ltd has just finished installing a brand new production plant for its anti-corrosion and sealing products.

With confidence in the future of the market, and order levels at an all-time high, the company decided that the time had come to invest in an additional production line utilising the latest technology at its facility based in Smarden, Kent. The new plant, now fully functional, has already proved itself to have significantly increased the company's manufacturing capabilities.



Premier's Managing Director, Terry Capps, said: "The new plant has contributed to improved efficiency and has reduced waste, with both financial and environmental benefits. This investment has raised our overall capacity, which in turn has helped us to improve turnaround times. This enables us to continue to delight our existing customers, whilst also securing new business in emerging markets and elsewhere."

Premier's anti-corrosion tapes are used to wrap steel pipeline before it is buried in the ground. The Premier anti-corrosion tapes can be applied by hand or by wrapping machines. For over 25 years the company has been providing easy to apply, convenient and reliable anti-corrosion solutions to the oil, gas and utilities sectors.

Premier Coatings Ltd,
Headcorn Road, Smarden, Ashford, Kent TN27 8PJ
Tel:01233 770663. E-mail: enquiries@premiercoatings.com

NEW FD-Series Vacuum Dehydration Units

Our NEW FD-Series Vacuum Dehydration Units are engineered and designed to maximize water extraction rates from lubricating oils.

By minimizing the effects of particulate and moisture contamination in hydraulic and lubrication oils, users can increase the life of critical wear components, while minimizing downtime and maximizing profitability. Having clean, dry oil will allow lubricating systems to perform more efficiently and, in most cases, can result in significant financial gains and improved operational efficiency. All our Vacuum Dehydration Units are designed to achieve overall water content as low as 20 PPM by removing free, emulsified and dissolved water from hydraulic and lubrication oils. They can also remove 100% free gases and up to 90% of dissolved gases.



Typical Applications:

- Filtering Pulp and Paper lube systems
- Filtering steam turbine lube systems
- Filtering hydraulic reservoirs
- Filtering rolling mill lube tanks
- And many other industrial applications containing oil

Y2K Fluid Power, 3620 N. Lewis Ave. Sioux Falls, SD 57104
Phone: 888-925-8882
Email: sales@y2kfluidpower.com

Print Lean & Safety Signs On-Site

Reduce workplace accidents and increase productivity with well placed visual workplace signage. Brady's complete sign & label printer range offers the potential to print every visual workplace sign on-site when needed.

Discover printers and get the 5S Plus Guide!

Increase productivity

Productivity increases of up to 40% have been connected to visual workplace implementations that follow the lean 5S methodology. 5S achieves productivity increases by reducing the workplace to its essence, through standardisation and by clearly communicating procedures, available tools and information in places where these have the most impact.

Reduce accidents

Brady has built on 5S, creating 5S PLUS to include more safety in the visual workplace. The reason for this is that safety signage can also increase productivity, by reducing accidents, production interruptions and the number of co-workers in sick leave.

On-site printing power

Brady's complete range of on-site Sign & Label Printers is well equipped to help implement and support a 5S Plus workplace. Every printer meets a different set of customer requirements. They print in colour or monocolour, on various maximum label widths, with or without plotter to create any shape. Every printer in the range offers hassle-free printing, fast material changeovers and automatic label setup.

Able to create signs and labels on demand in a great number of shapes, colours and sizes, these printers enable you to create every lean and safety sign your facility needs to reduce accidents and increase productivity whenever the need arises!



Best practices for a leaner and safer workplace
Get up-to-speed on how you can reduce waste, improve productivity & improve employee knowledge. See examples of just what you can do with the power of 5S Plus.

BRADY Corporation
Wildmere Industrial Estate
Banbury, Oxon OX16 3JU, UK
Tel: +44 (0) 1295 228 288
csuk@bradycorp.com
www.bradyeurope.com/diy

If it's good enough for bats...

New ultrasonic sensors from ifm electronic Ltd

As market leader in industrial sensors ifm electronic Ltd is committed to delivering the best in sensing technologies to detect just about anything.

It comes as no surprise then that ifm electronic also offers a new family of sensors using the ultrasonic principle.

Sensing ranges up to 2200mm can be achieved with the UG range of sensors.

For both space saving and ease of installation the UG range from ifm electronic consists of M18 housings. Some are standard barrel types while others are in a combination rectangular housing with an M18 section, for more flexibility.

ifm electronic is naturally concerned that the UG range are not only reliable object sensors, but are provided at affordable prices. Users won't be disappointed.

Setting switchpoints is simply done via pushbuttons

or over IO-Link. IO-Link also presents an ideal way of transmitting distance data.

In addition to housing options, ifm also offers two sensing principles using sound. Diffuse reflection devices, like their optical counterparts, send out pulses which are reflected by the surface of an object. Alternatively, there are retroreflective sensors that transmit to a solid surface behind the position of the target, and the object breaks the beam. This is particularly useful when the position and angle of the target object cannot be predetermined.

For many industries handling objects that optical sensors struggle with, ultrasonic is a very useful addition. Tricky surfaces for photocells include basket-type structures, uneven or dark surfaces, or even very shiny ones.



ifm is committed to working closely with its customers to develop products which precisely match their needs, and the company provides expert, readily accessible technical support to help users maximise the benefits they gain from ifm products.

For More Information:
ifm electronic Ltd.
www.ifm.com/uk

VIEW FULL MAGAZINE ONLINE

- + Extra Articles and features
- + Full Business Directory
- + Much More...

EMSOnline

www.engineeringmaintenance.info

All of our articles are available to read online today!
Scan the QR code to go directly to the site



Visit Us Online

www.engineeringmaintenance.info





ifm electronic



Ultrasonic Sensors

for reliable detection



Ultrasonic sensors from ifm electronic.
Sensing ranges up to 2200mm

M18 thread with length options and
choice of plastic or stainless steel.

Digital and analogue outputs with easy
setting.



ifm electronic – *close to you!*

www.ifm.com/uk/ultrasonic
(020) 8213 2222

LONG TERM BOILER HIRE PAYS DIVIDENDS FOR SPECIALIST FEED MILL

Mars Horsecare Uk Ltd is based at Milton Keynes on a site that has been producing high quality feeds for the equine industry for over 55 years, and has developed both its products and the plant to meet ever changing demands.



One part of their process that has been a constant throughout is their demand for steam, and with an aging boiler running on heavy fuel oil the need to consider a replacement had been a key concern.

The old boiler was a coal fired unit that had been converted to heavy oil, and had definitely served it's time. For efficiency and environmental reasons management was also keen to get away from heavy fuel oil and had established that it would now be possible to install a gas supply to the site. It was known that the de-rated boiler was well on top of its job and a steam meter was installed to establish actual site load.

Once the site load was known, options for the future were considered including purchase, lease and hire. Byworth Boilers was able to offer all three options, and after some deliberation a long term hire boiler was selected as the preferred option.

The final specification was a purpose built containerised boiler house complete with a

Above: The Byworth Boilers Yorkshireman2 Hire Boiler

Yorkshireman 2 3000kg/hr boiler and their latest option for a Unity boiler house control system to enable remote monitoring of the boiler. This new control system has been developed by the specialist Byworth Boilers research and development team to improve customers' ability to operate steam plant more efficiently and provides unprecedented level of visibility for everything in the boiler house.

The Unity hire option is a bespoke version of the full package and enables site engineers to view boiler operating condition remotely as well as to share this information with Byworth. Unity is a DCS based control system which logs faults and control parameters which facilitate early diagnosis of potential failure within the system.

The goal was to have the new plant installed prior to the NTD inspection of the old boiler. The old boiler

was switched off as planned and a trailerised hire boiler was supplied to cover the short changeover prior to the installation and commissioning of the newly built containerised boiler.

In the first nine months Mars Horsecare Uk Ltd has established fuel savings of over 47% in steam production cost.

Eddie Lear the Site Engineer said: "The accepted criteria for this project were to provide a cost effective, reliable, efficient and environmentally compliant system to ensure continuous supply to meet our every changing customer requirements. Having looked at various options to replace the aging boiler asset, the leased option offered by Byworth boilers met with all the requirements.

Byworth Boilers was able to provide expert knowledge during the design phase of the project to ensure the correct sized unit was recommended and then followed this through to build, installation and commissioning ensuring the Mars Horsecare was able to continue production at all times."

He added: "The new containerised boiler has proven to be very cost effective. It complies with environmental regulations and provides a great deal of flexibility in line with operational demands."

Byworth Boilers is the country's leading independent provider of steam and hot water boiler services and was the first company in the UK to recognise the potential need for a mobile boiler hire service. All boilers are built in the company's Yorkshire factory combining the very latest manufacturing techniques with time-honoured boiler making skills to produce unrivalled build quality and precision control capability.

Today Byworth has a fleet of over 100 hire boilers ready, at a moments notice, to be delivered and hooked up to existing services.

Form more information:
Visit: www.byworth.co.uk
email: hire@byworth.co.uk
Call: 01535 662599



Raise a glass to heating and hot water solutions

Complete solutions for breweries and bottling plants from Bosch Commercial and Industrial Heating with boiler outputs from 50kW to 38,000kW and steam boiler outputs from 175kg/h to 55,000kg/h.



As a global provider, and thanks to our world renowned high quality standards and after sales support, we can ensure a long lasting and cost-effective solution for any project.

We offer a broad portfolio that covers almost all heating requirements:

- High-efficiency gas, oil, steam and heat recovery boilers
- Combined heat and power (CHP) modules with outputs up to 2,000kW
- Heat interface units (HIU) for enhanced control in each property or area
- Compact multi-water heater cascade systems up to 600kW
- Gas absorption heat pumps and solar thermal panels.

Place your trust in custom solutions from Europe's market leader in heating and hot water systems. For more information, visit www.bosch-industrial.co.uk or call **0330 123 3004**.



BOSCH

Invented for life

FOOD PROCESSOR IMPROVES EFFICIENCY WITH BABCOCK WANSON

Babcock Wanson has completed a project for delicatessen meat producer Puredrive Fine Foods which includes integration of the heating systems for two of Puredrive's production lines at its processing facility in Corby as part of an expansion programme that has seen a major new Frying and Oven cooking line installed.



In order to build greater flexibility into Puredrive's plant and reduce downtime for scheduled maintenance, Babcock Wanson integrated the new processing line with an existing one to ensure the TPC 600B Thermal Fluid Heaters already installed can feed both lines with the heat they need. A contingency measure, it ensures the smooth running of the processing facility without the need to add costly 'back-up' measures that would also take up a lot of space in a relatively tight compact plant and it helps keep capital costs under tight control.

A long standing customer of almost 30 years, Puredrive operates two Babcock Wanson coil type steam generators and seven thermal fluid heaters in total. Ian McQuarrie, Engineering Manager at Puredrive, is impressed with both the equipment and service supplied by Babcock Wanson: "During my three years here, the Steam Generators and Thermal Fluid Heaters have worked flawlessly. Babcock Wanson carries a good name in the business for both quality and equipment longevity. Their knowledge, company wide, is exceptional and the

whole package from installation through to service is managed professionally."

Puredrive has also recently signed up to Babcock Wanson's Water Treatment Service which provides customers with exceptional Water Treatment programmes for Steam Boilers through its specialist partner Deep Water Blue. As well as employing highly qualified and professional chemists to ensure the treatment and testing regime is accurate, Babcock Wanson backs up the service with a five year corrosion warranty on the Steam Generator coil. In the unlikely event of feed water deficiencies causing the coil to corrode within the first five years, Babcock Wanson will replace it under warranty.

Ian McQuarrie comments on this decision: "we were disappointed with the incumbent water treatment company, whose actions led us to replace the coils in our Steam Generators at substantial cost and inconvenience. Babcock Wanson introduced us to Deep Water Blue who are a walking encyclopaedia of water! The value for money is phenomenal; the service may be more than we were paying previously but we will actually save money over the longer term. I particularly like the web based system that allows us to enter readings daily and they respond quickly if they see any issues forming either by calling or visiting the site."

Babcock Wanson offers a complete range of products and services for boiler houses and other process heating needs, from steam boilers, thermal fluid heaters, rapid steam generators and hot water boilers to VOC and odour treatment by thermal oxidation, water treatment or process air heating solutions. The company aims to help optimise customer's energy production with high quality products and efficient service.

For more information, please contact Babcock Wanson on 020 8953 7111 or info@babcock-wanson.co.uk or go to www.babcock-wanson.co.uk

KING'S HIRE BOILERS JOIN THE NAVY

When facilities management specialists Interserve Defence needed temporary boilerplant for their major CHP project at HMS Drake in Plymouth dockyard, they contacted the UK's leading experts, King's Boiler Hire Ltd.

Interserve's project management team outlined their requirements of hiring a large MTHW boiler to supply heating and hot water whilst their new Energy from Waste Combined Heat and Power Facility was being



commissioned at the Royal Navy's prestigious HMS Drake site.

Following technical discussions, King's Boiler Hire promptly delivered an 8MW MTHW boiler to the Plymouth site mid-September, ready for installation and commissioning.

Having a wide range of temporary boilers available and being able to react promptly and efficiently to any situation is what sets King's Boiler Hire apart and developed excellent long-term working relationships with companies such as Interserve.

Due to the high profile of this project, a documentary film crew followed the progress of King's temporary



boiler unit from their Mildenhall, Suffolk base through to delivery and installation at H.M.S Drake. The documentary, which will be of interest to engineers and naval personnel alike, is expected to be broadcast early 2016.

For more information
Kings boiler Hire
+44(0)1992 451629
www.kingsboilerhire.com

SOLUTIONS THAT FIT

Think of heat transfer and most people will think of a steam, hot water or thermal fluid boiler, but either one of these will be just one part of a well designed solution. But many process applications are unique and require dedicated accessories, engineered to work together to provide a solution that fits a customer's specific requirements.

Our solutions are manufactured for purpose. Ancillary items such as condensate return tanks, blowdown vessels and water treatment, all ensure that Fulton designed systems perform impeccably for you.



TO BUY BRITISH, CALL +44 (0)117 972 3322
EMAIL SALES@FULTON.CO.UK OR VISIT FULTON.CO.UK



FIVE WAYS TO BOOST BOILER HOUSE EFFICIENCY

With budget constraints and an ever increasing pressure to reduce carbon emissions, the need to enhance productivity, cut maintenance workloads and improve system safety have become high on the agenda for energy centre operators. Chris Coleman, Marketing Product Manager – Condensate Handling at Spirax Sarco offers five ways to boost boiler house efficiency right from the heart of the steam system.

The boiler house is the engine room that powers the whole steam system, making it the ideal place for identifying efficiencies. By targeting the centre of the steam system we can find the best investments to reduce fuel consumption, carbon emissions, water use, and overall running costs. For operators, there are numerous ways this can be achieved.

1. Reverse Osmosis

Reverse osmosis (RO) is a water purification technology used to remove minerals and eliminate boiler scaling, and is one of the simplest techniques to maximise operational savings. It works by using semi-permeable membranes with pores so fine 98 per cent of all salts are removed from the incoming supply, allowing water to pass through with minimal

impurities. This diminishes the need for boiler treatment chemicals, reduces ongoing maintenance costs, fuel consumption and water and energy losses, and makes RO a cost-effective way to maximise savings with payback achieved in as little as 12-18 months.

2. Automatic Total Dissolved Solids (TDS) Control

The TDS blowdown process is essential to ensuring a clean, dry steam supply and can be accomplished either manually or automatically. During boiler operation, TDS levels will increase and may rise above accepted levels if not monitored. This will cause a foaming condition which will contaminate the steam and may cause priming to take place. It

can also cause fouling and water hammer issues for control valves, heat exchangers and steam traps. Automatic control systems measure the conductivity of the boiler water, compare it with a set point, and automatically open a blowdown control valve if the TDS level is too high. This maintains a constant TDS level and minimises the loss of water from the boiler, as well as associated energy losses.

3. Flash Steam Recovery

Flash steam is formed when high pressure condensate is exposed to a large pressure drop, often created during the blowdown process. Venting flash steam with no form of heat recovery wastes energy but, by recovering flash steam and feeding it back into the feed tank via a deaerator head,



4. Exhaust Gas Heat Recovery

Recovering heat from the exhaust gases of heavy fuel oil or biomass boilers can be difficult because dirt can block and damage conventional heat exchangers. Energy recovery from exhaust gases, however, can provide valuable savings and significant reductions in carbon emissions. Exhaust gas heat recovery systems work by making use of the heat that would otherwise have left the system in the form of waste flue gasses. This recovered heat can be used to preheat the water entering the boiler thereby reducing the amount of additional energy required to boil the water.

The development of heat pipe technology can be used as the core heat exchange component for exhaust gas energy recovery. By using heat pipe technology, fuel costs and carbon emissions are lowered. This means the pipes become easy to maintain and ultimately prove to be an extremely effective way to cut operational costs.

companies can make economic and environmental savings.

A flash vessel is just one method that can be used to recover energy by separating flash steam from condensate. As condensate enters the flash vessel, flash steam is produced and can be piped from the top of the vessel to the feed tank via the deaerator.

Float traps can be fitted to the outlet of the flash vessel where residual blowdown water will be drained. The water will still be hot at this point and is allowed to pass into the plated heat exchanger where it gives up its heat to the circulating cold make-up water. In other words, by using the hot water from the flash vessel, heat energy is recovered.

The use of both a flash vessel and plated heat exchanger pack, will allow you to recover up to 80 per cent of the energy from the rejected TDS water, which can also result in fuel savings, a reduction in carbon dioxide emissions, and the elimination of unsightly plumes of steam.

is only one part of this, and water conditioning can be a hugely effective way to maximise energy efficiency. The feed water storage system is vital to the whole steam system, as it not only stores the energy in returned condensate for re-use in the boiler, but balances and deaerates returned condensate, flash steam and raw water supplies. Steam system conditioning can reduce chemical use, the risk of corrosion and maintenance costs, while increasing the reliability of the steam system. This results in greater productivity.

As outgoing costs and productivity levels have become a major priority for energy centre operators, these relatively simple but extremely effective measures can improve efficiency significantly. An efficient boiler house is crucial to the overall steam system and by implementing these techniques we hope that operators can see benefits both environmentally and economically.

5. Steam System Conditioning

Steam system conditioning is based on the principle of water and condensate treatment optimising the efficiency of the entire steam system. A clean boiler

For more information, email:
uk.enquiries@uk.spiraxsarco.com.



INSTALLATION MADE EASY WITH NEW EVOMAX ACCESSORIES

Ideal Commercial Boilers has launched two new flue accessories for the best-selling Evomax wall hung condensing boiler range.



The Evomax offers one of the widest output ranges of any commercial wall hung condensing boiler on the market, and now comes with a 5 year warranty* (terms & conditions apply) as testament to its reliability. The new Plume Kit and the Multiline Flue Cascade build on the Evomax's strong reputation for being easy to install by allowing even more siting options.

The Ideal Commercial Boilers Plume Kit is specially designed for Evomax boilers being installed in awkward locations, as it allows the flue terminal to be easily relocated up to 10m from the boiler. Compatible with Evomax models up to 120kW, the kit includes standard appliance connector, horizontal flue kit, special rain collar, external plume kit 1m and terminal. It is available for both 80/125 and 100/150 flue applications.

Ideal Commercial Boilers' Multiline Flue Cascade is designed to simplify installation of multiple Evomax boilers up to 600kW. Available as both a starter kit and an extension pack, this accessory enables those Evomax boilers that are installed as an open

flue system to be connected via a common flue header, greatly simplifying system design and installation by creating just a single flue connection point. The basic kit includes appliance connection, non-return flue damper, condensate tee and trap and all clips to secure the flue. Commissioning is also exceptionally quick and easy, as the engineer simply has to select 'Multiline Flue' from the installer set up menu on each Evomax boiler.

The Multiline Flue Cascade enhances the many advantages already offered by Ideal Commercial Boilers' Frame and Header Kits. Consisting of prefabricated modules, each Frame and Header kit includes individual boiler shunt pumps, a low loss header, safety and isolating valves, flow & return header, gas manifold and a drain point, allowing the Evomax to be installed quickly and easily in either back-to-back or in-line cascade formation. A combined top capacity of 600kW extends the options for commercial or multi-residential buildings. As well as simplifying installation for more straightforward projects, Frame and Header Kits also offer an effective solution where there is not enough

wall space or where space around the boilers is restricted. Low Height Frame and Header Kits are also available, providing the perfect solution for installations that may be restricted by low or sloping ceilings.

Expanding the options for commercial applications, Evomax boilers have been designed and developed at Ideal Commercial Boilers' UK manufacturing facility in Hull to deliver optimum ease of installation, commissioning and servicing. Available outputs range from 30kW to 150kW and, in addition to its lightweight design, siting is made easy with a selection of room-sealed and open flue system choices. In addition to flexible installation options, Evomax is Ideal Commercial Boilers' highest efficiency boiler to date with seasonal efficiencies of up to 97.2%, exceeding those stipulated in Part L2 of the Building Regulations. Each boiler is capable of wider output modulation of 5:1, which ensures the load is matched closely to the building's requirements to maximise system efficiency. This market-leading performance combines with low NOx emissions of less than 40mg/kWh to offer a boiler solution that qualifies for maximum BREEAM points. In addition, the high efficiency of the Evomax range still exceeds the stringent assessment criteria required for inclusion on the Energy Technology List (ETL), making these boilers eligible for the Government's Enhanced Capital Allowance scheme.

Specifiers can obtain a free quote for any Ideal Commercial Boilers products by calling the Quotes Line on 01482 492251. Alternatively, they can submit a query via the website at idealcommercialboilers.com and a customised quotation will be sent by email within 24 hours.

For more information please email commercial@idealboilers.com or call 01482 492251.

You can also receive regular updates on Twitter by following @idealboilers

**Subject to terms & conditions, contact Ideal Commercial Boilers for more information*

BOSCH COMMERCIAL AND INDUSTRIAL LAUNCHES NEW YOUTUBE CHANNEL

Bosch Commercial and Industrial has launched a new YouTube channel to showcase its industry leading expertise and vast portfolio of energy efficient heating, cooling, and hot water technologies.

The new channel will be regularly updated with a variety of video content including projects in action, company developments, and technical advice on industry-related topics.

Early subscribers to the channel will be able to see how businesses and public sector organisations are reaping the benefits of small-scale Combined Heat and Power (CHP), as well as how the sixth oldest school in the world enhanced its energy efficiency with a brand new heating solution.

Shaun Mansbridge, Business Development Director at Bosch Commercial and Industrial, commented: "Given the growth in popularity of video content, we expect our YouTube channel to be an extremely useful resource for the industry's professionals.

We want to give our customers as many ways as possible to engage with the Bosch brand and the more frequent use of video will dovetail perfectly with our already popular social media channels."



For more information on Bosch Commercial and Industrial and its range of heating, cooling and hot water technologies, visit www.bosch-industrial.co.uk or call 0330 123 3004. Visit the new YouTube channel by searching 'Bosch Industrial UK' at www.youtube.com.

Bosch Joins Environment 2020 Awards To Recognise Commercial And Industrial Excellence

Bosch Commercial and Industrial has unveiled a brand new award, aimed at recognising the nation's best large-scale heating and hot water projects.

In conjunction with sister company, Worcester, Bosch Group, Bosch has added a 'Commercial and Industrial Installation of the Year' category to Worcester's longstanding Environment 2020 Awards.

Now in their 16th year, the Environment 2020 awards provide an opportunity for installers and contractors to be recognised and rewarded for their commitment to tackling climate change through the use of high-efficiency heating technologies.

When considering an entry for this particular award, the installation must have a focus on energy savings, innovative features, and installation best practice. Each project must be completed and commissioned, no earlier than the 1st June 2015.

The closing date will be at the end of May, with any entries after this point going towards the 2017 awards.

Shaun Mansbridge, Business Development Director at Bosch Commercial and Industrial, commented: "We are very excited for the introduction of the 'Commercial and Industrial Installation of the Year Award' and urge installers and contractors to put themselves forward or to nominate those who they would like to be recognised and rewarded. It is a great opportunity for us to recognise large scale installations where energy-efficient and renewable technologies are being implemented as we make significant strides towards meeting the Government's challenging emissions targets."



To find out more about Worcester, Bosch Group's Environment 2020 Awards and to download an entry form, visit www.worcester-bosch.co.uk. For more information on Bosch Commercial and Industrial and its range of heating, cooling and hot water technologies, visit: www.bosch-industrial.co.uk or call 0330 123 3004.

Brewery Rebels As Fulton's Thermal Fluid Installation Is One Of Only A Handful In The UK

Steam is often seen as a traditional source of indirect heat for brewing and distilling processes but, with the recent explosion in micro-breweries and resurgence in craft brewing, the regulations and additional ongoing investment required for running a pressure-based system often adds too much cost when considering steam as a heat transfer solution. So when Rebellion Beer Company was looking to replace its ageing steam boiler system, they turned to two of the UK's major thermal fluid specialists for help.



Established in 1993 by two school friends from Marlow, Rebellion Beer Company is a medium-sized micro-brewery that uses traditional brewing methods and natural ingredients to produce four million pints of beer from its Chiltern Hills-based brewery every year.

Having secured a new 20-year lease on its premises, and as part of a three-stage development plan for the business, Rebellion's Mark Gloyens decided that an upgrade to some of the company's original brewing equipment was required and, with its steam boiler reaching the end of its operational life, he started looking at options for new heat transfer equipment.

"This was the first time we had approached thermal fluid system specialists for a project of this sort and, having met with two of the UK's main suppliers to discuss the project, we were impressed with Fulton's enthusiasm and interest in getting involved with what turns out to be one of only a handful of brewery-based thermal fluid heat transfer projects in the UK," says Mark.

Explaining the potential energy savings, Mark says that Fulton's new FT-C 240 vertical coil thermal system should save money on the company's energy bills as it is possible to easily turn the heater on and off as required, and with minimal heat-up time. In contrast, the old steam-based system needed to be turned on at the beginning of the day and left running regardless of the demand for steam.

The new system also provided value-for-money, as thermal fluid heaters are non-pressurised systems and therefore not subject to the costs of running a system under the pressure regulations. For example, thermal fluid heaters use specialist oils as heat carriers and operate, at atmospheric pressures, up to 300°C. To gain a similar operating temperature from traditional water- or steam-based systems would require a pressure of 85 bar. And while Rebellion Beer Company prefers to operate its thermal system at lower temperatures of around 135°C to ensure a quality product, for many processes where high process temperatures are required, thermal fluid heaters are an ideal source of heat.

For Rebellion, the system is also much simpler than a steam solution and was therefore less expensive to set-up and maintain. Additionally, Fulton's FT-C thermal fluid system is more compact than the original steam-based system, which has freed up much needed space for other valuable process equipment.

Commenting for Fulton, Doug Howarth explains that unlike steam, thermal systems provide useable temperature with very little pressure and a variety of cost savings should therefore be expected. The additional control provided by thermal systems also allows multiple, easy and accurate temperatures throughout a single system that can also include cooling. There are also no freezing hazards, they provide rapid start up

and shutdown with minimal heat losses and there's no requirement for blow down or condensate losses.

"The whole life costs for thermal systems can also be cheaper because they require fewer insurance inspections, which minimises production downtime and shut down periods. There's also no requirement for water treatment or chemical dosing, which leads to zero waste disposal and minimal maintenance costs," says Doug.

Fulton's thermal fluid heat transfer solution is now used throughout Rebellion's brewing process. From the brewhouse, where liquor (water) is heated to 66 degrees for the mashing-in process and wort is boiled with hops for 90 minutes; to heating the brewhouse and fermentation tank CIP system.

Fulton's highly-efficient FT-C thermal fluid boiler offers a compact, fuel-fired, 4-pass heater design capable of operating at temperatures up to 345°C. The system is designed to provide high-fluid velocities and low-film temperatures for improved longevity. The system's compact footprint also means it could be skid-mounted, accommodating ancillaries such as circulating pump, expansion tank and related pipework, to minimise the floor space required for installation.

Summarising, Doug Howarth says that whilst the company is known as a reliable source of multi-fuel-fired steam boilers, Fulton is also synonymous with heat transfer solutions and produces an unrivalled range of thermal oil and hot water solutions. And because Fulton offers a complete range, they are well placed to offer customers an unbiased review of their heat transfer requirements.



For further information on its thermal fluid systems, including the FT-C vertical coil, FT-N vertical electric and FT-HC horizontal coil heaters, call Fulton on 0117 972 3322, email sales@fulton.co.uk or visit Fulton's new-look website at: www.fulton.co.uk.



EMSOnline

www.engineeringmaintenance.info

Visit Us Online

All of our articles are available to read online today!
Scan the QR code to go directly to the site



www.engineeringmaintenance.info



KING INDUSTRIAL BOILER SPECIALISTS

Europe's largest stockist of affordable, quality, fully reconditioned steam and hot water boilers to suit all applications



- Steam boilers 150-15,880kg/hr
- Hot water boilers 30-8,000kW/hr
- Pressures from 7-17 bar
- Oil, gas or dual fuel
- In-house delivery and commissioning
- Specialists in AD boiler plant
- Finance available




SALES • HIRE • EXPORT

+44 (0)1992 451629
www.kingsboilerhire.com



QUICK CONNECT MODULAR PIPEWORK



QUICK CONNECT
FOOD GRADE

NUMBER ONE FOR PIPEWORK SYSTEMS

Easy to fit Quick Connect modular pipework with easily connected bends, segments and pipe sections - manufactured in 1-3mm thickness stainless steel, galvanised or powder coated, all with pressure tight connections.

JACOB (UK) LTD
T +44 1694 722841 E sales@jacob-uk.com
jacob-uk.com



Built for the future. Ready now.



- Leading burner technology for over 90 years.
- Meeting the climate challenges of today and tomorrow.
- Maximising Efficiency and Minimising Emissions.
- The perfect choice for all process applications.
- Full product support from concept to completion and beyond.
- An extensive range to cover 10kW to 30,000kW.

Visit rielloburners.co.uk to find out more or phone on 01480 432144




VIEW FULL MAGAZINE ONLINE

- + Extra Articles and features
- + Full Business Directory
- + Much More...

EMSOnline

www.engineeringmaintenance.info

All of our articles are available to read online today!
Scan the QR code to go directly to the site





Visit Us Online

www.engineeringmaintenance.info



Chopper Pumps Meet The Challenge Of Corrosives

The variety of waste handling applications which present specific challenges to pumps and pumping systems are many and varied although the aims and objectives (however tough the challenges) are usually the same; safe and reliable pumping 24/7 with minimal maintenance.

Aggressive fluids, such as corrosives occur in many applications and a good example of where these have been pumped safely and efficiently with impressive reliability over many years is at a APHA (Animal & Plant Health Agency) research laboratory facility in Surrey, now sponsored by DEFRA.

Vaughan Chopper Pumps were first supplied and installed at the research laboratory in 1997 by the Huntingdon based UK distributor, P&M Pumps. The pumps were CD4 Duplex (hardened) stainless steel pumps, fitted with special double mechanical seals in Hastelloy C and Kalrez construction. They also featured an external fluid barrier system due to the highly corrosive nature of the chemicals being handled,

for example Sodium Hypochlorite with a concentration ranging from 15 to 20%. The pumps are typically handling flow rates of 18 M3/hr at heads up to 5 metres and are powered by 7.5 Kw motors running at 1450 RPM.

Other than routine maintenance the pumps have proven to be extremely reliable over a long period. Furthermore, with the APHA research facility having invested in modifications and upgrades, P&M Pumps are delighted to have recently supplied additional Vaughan Chopper pumps at the laboratory.

Through their experiences at numerous UK waste water treatment and a wide range of manufacturing



and processing sites, P&M Pumps have been able to demonstrate that Vaughan Chopper Pumps are an extremely effective option on the most challenging and varied solids pumping applications

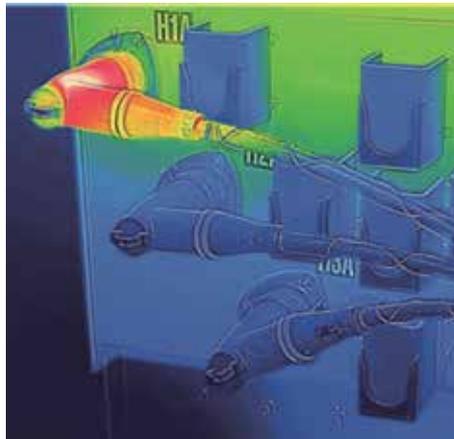
Further information on Vaughan Chopper Pumps is available from P&M Pumps:
matt@pumpmix.co.uk
www.pumpmix.co.uk
Tel: 01487 830123.

Spring And Summer Course Programme Confirmed

In recent years the thermal imaging camera has revolutionised how we discover electro-mechanical and building faults.

The technology has become significantly more flexible and easily affordable resulting in applications for thermal imaging inspection growing substantially.

The time and cost saving potential of this technology is huge but a thorough understanding of the subject is crucial to its success. This is why the Infrared Training Centre, the training arm of technology leader FLIR Systems, is introducing more regional Level 1 and Level 2 training courses, aimed at those who want to deepen their knowledge and gain a formal qualification.



To book a place contact Jon Willis, ITC Manager North EMEA,
email: jon.willis@flir.uk.com
Tel: 01732 220011

Or Charlie Reed, Booking and Administration
email: charlie.reed@flir.uk.com
Tel: 01732 221285.

Details on the entire ITC programme for 2016 are published on a dedicated website www.irtraining.eu

Courses have now been confirmed for the following towns and cities in the coming months:

6th June	Aberdeen	Level 1
27th June	Manchester	Level 2
4th July	ITC, West Malling, Kent	Level 1

AxFlow Launches Range Of Elastomer Coated Rotary Lobe Pumps

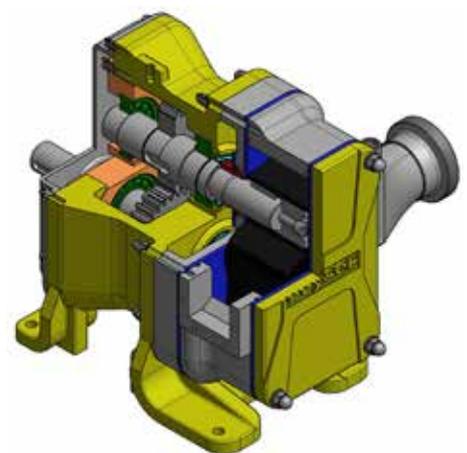
AxFlow has extended its range of positive displacement pumps with the introduction of the Boyser LB suite of elastomer coated rotary lobe pumps for flows of between 5m³/hr and 130m³/hr.

The LB pump has been designed from the ground up following an assessment of products currently on the market with a view to producing an economical process quality pump with the best combination of design features.

The LB range offers a combination of innovative features. Ergonomic rotors designed in conjunction with Universitat Autònoma in Barcelona, maximise the sealing face while allowing the passage of particles up to 50mm in size. The rotors can be coated in NBR (FDA), EPDM and Viton or supplied in AISI-410 and 316 stainless steel. Also to be noted

is the unique intermediate chamber that isolates the pump head from the gear box, therefore avoiding any kind of cross contamination. The pumps utilise robust, high precision gears with self-aligned roller bearings that ensure that the rotary lobes deliver exceptionally high levels of accuracy and efficiency and use a range of process quality mechanical seals.

Lastly, stainless steel axial liners incorporated in the pump chamber protect the pump casing, help to maintain the pump's performance and are easy to replace, thereby significantly increasing pump life.



AxFlow believes that the LB benefits from having the optimum design features that make it suitable for all but the most demanding process duties.

AxFlow Ltd, Orion Park, Northfield Avenue, London W13 9SJ
Tel: 020 8579 2111
Email: info@axflow.co.uk
www.axflow.co.uk

ROTALIGN touch receives Best Overall Solution Award 2016

At the Reliability Conference 2016 in Las Vegas, Terrence O'Hanlon, CEO and Publisher of Uptime Magazine officially conferred the Best Overall Solution Award 2016 on PRUFTECHNIK for their ROTALIGN touch shaft alignment system.

Uptime Magazine's Solution Awards Program recognizes innovative products, software, training and services for maintenance reliability and asset management.

In his speech, CEO at PRUFTECHNIK North America Florian Buder declared: "I would like to thank the community for the ongoing trust in PRUFTECHNIK's solutions. Laser shaft alignment has entered a new dimension and has never been easier. For the first time it is possible to embed alignment results wirelessly in your asset management system with ROTALIGN touch, the fourth edition of the ROTALIGN series."

The recently launched ROTALIGN touch is the first laser alignment tool that can track an asset's shaft alignment condition over time. The alignment trend provides useful information to help diagnose machine condition more specifically. Cornerstone

of the new solution is the unique sensALIGN sensor technology delivering the leading precision that the industry has now come to expect from PRUFTECHNIK.

The cloud-enabled mobile ROTALIGN touch device wirelessly receives alignment tasks from the ALIGNMENT RELIABILITY CENTER 4.0 software, and sends alignment results back via the cloud from any location. The asset-specific tasks, paired with the integrated RFID reader makes machine identification fully automatic and error-free. The built-in camera allows adding pictures to the alignment report for a more visual documentation.

ROTALIGN touch offers a more modern experience of alignment: just tap, swipe and drag, just like a smartphone or tablet. The interactive 3D user interface and the wizard-like user guidance provide a fully transparent, visual and intuitive workflow. When



the job really gets hands-on, use voice control for hands free operation. With its strengthened glass screen, capacitive glove-enabled touchscreen and tough housing, ROTALIGN touch is built for rough industrial conditions.

PRUFTECHNIK LTD
Tel: +(0)1543 417763, email:-
info@pruftechnik.co.uk or
visit www.pruftechnik.com

Landskrona Kraft expands online monitoring of critical assets

In the fall of 2012, the new CHP plant 'Energiknuten' in Landskrona in southern Sweden was put into operation.

In the plant, public utility company Landskrona Kraft produces electricity and district heating for large parts of Landskrona's urban area. In conjunction with the construction of the power plant, the Intellinova Compact online system was installed and the company has now decided to expand the system to monitor additional equipment.

Intellinova Compact is used for condition monitoring of critical equipment in the combined heat and power plant. The first system installation included heat pumps, feed water pumps, primary and secondary air fans and exhaust fan in the online monitoring system. In the upcoming expansion of the system, five additional pumps - two transfer pumps and three return pumps - will be monitored online. These pumps are connected to the

common piping system used to distribute district heat between the cities of Landskrona, Lund and Helsingborg.

In the new installation, the recently developed DuoTech accelerometer is used. DuoTech makes it possible to monitor operating condition with both vibration and shock pulse measurement on a single sensor. Thanks to the combination of the patented measuring techniques HD ENV and SPM HD, bearing and lubrication condition, unbalance, misalignment, loose parts, and other machine problems can be very efficiently monitored and identified with maximum forewarning time.

The new CHP plant Energiknuten has been built to reduce the use of fossil fuels. The power plant burns



85% paper, wood and plastic (PTP), and 15% wood chips. In addition to district heating, Landskrona Kraft also offers locally produced electricity from the CHP plant.

SPM Instrument UK Ltd.
Tel +44 1706 835 331
info@spminstrument.co.uk
www.spminstrument.co.uk

SEEKING AN AFFORDABLE COMPUTERISED MAINTENANCE MANAGEMENT SYSTEM?

Key features:

- ✓ Asset Management
- ✓ Mobile Work Order Management
- ✓ In-depth KPI Indicators
- ✓ Planned Maintenance Scheduling
- ✓ Help Desk Functionality
- ✓ Inventory/Stores Control
- ✓ Drag & Drop Task Scheduling
- ✓ Cloud or Local Installation



Request a FREE CMMS Review Pack

T +44 (0)1689 892 127
 E solution@realassetmgt.co.uk
 W www.realassetmgt.co.uk

Real Asset Management 



SIMPLE, POWERFUL AND AFFORDABLE

WHAT MORE DO YOU NEED FROM YOUR MAINTENANCE SOFTWARE?

How about flexibility, easy configuration and integration into existing business systems?

With Agility you get all these benefits and more, delivering value right across your organisation.

Choose Agility and you're choosing to put yourself in control.

WANT TO KNOW MORE?

VISIT OUR WEBSITE OR CALL 01924 200344 TO ARRANGE YOUR FREE SYSTEM REVIEW AND AGILITY DEMONSTRATION TODAY.



www.softsolsgroup.com



INTELLINOVA

parallel MB

Stand-alone or Modbus integration

Intellinova Parallel MB is an excellent candidate for first-line condition monitoring. Run as an offline unit, Intellinova Parallel MB can be connected for example to an alarm light, siren, circuit breaker or other external device, alerting for fault symptoms such as gear and bearing faults, unbalance, poor lubrication etc. In case of high readings, follow-up and further analysis can be done using a portable instrument on the unit's isolated signal output.

Measurement techniques:

- Shock Pulse SPM HD®
- FFT analysis HD ENV®

Intellinova Parallel MB is also easily integrated into existing industrial automation systems via the widely supported Modbus RTU protocol, thus enabling troublefree communication of measuring results to PLCs, SCADA or other process control systems.

Do you have questions and want to know more? Please call
 +44 1706 835 331 | info@spminstrument.co.uk | www.spminstrument.co.uk



SPM
 condition monitoring solutions

World's Most Valuable Company Cut Costs with Cutting-Edge Polymer Repair Systems

Damaged concrete floor and expansion joints at airport repaired with minimal disruption



400 metric tonnes (450 US tons) of aluminium, steel and carbon fibre repeatedly driving across floor areas, approximately 270 times a day, had left 150m (492ft) of concrete floor and expansion joints at a Saudi Aramco Airport in urgent need of repair.

The deteriorated areas, situated in 40 different locations including aircraft taxiways and ramps, were exhibiting severe signs of wear and damage. The concrete had become cracked and spalled and the previous expansion joint sealant had peeled away from the edges of the joint. Due to the high turnover of aircraft, it was imperative that the repair solution incurred as minimal downtime and disruption as possible, ensuring it would not impact on the day-to-day running of the airport.

Field trial confirms flexibility and durability of polymer systems

Following an inspection by Belzona representatives, Bobby Satheesh, QA/QC Manager at Hajjan Trading & Industrial Services Co. Ltd. (Belzona authorised Distributor in Saudi Arabia) specified a solution. He said, "In order to give the airport complete confidence in the Belzona materials, we conducted a sample application to demonstrate the flexible and robust properties of the Belzona systems.

Above Left: Cracked and spalled concrete
Above Right: Deteriorated expansion joint

"A number of concrete areas were rebuilt with Belzona 4111 (Magma Quartz) and the expansion joints were repaired with Belzona 2221 (MP Fluid Elastomer). The two component epoxy resin system, Belzona 4111, contains selected quartz particles to create an extremely durable rebuilding material with a compressive strength (when tested in

accordance with ASTM D695) of 92.7 MPa (13,450 psi). As the material is stronger than concrete, the substrate is able to withstand heavy loading without fear of degradation. Prior to the application of this material, surfaces were firstly coated with Belzona 4911 (Magma TX Conditioner) to ensure maximum adhesion was achieved.

"For the expansion joints, Belzona 2221, a tough polyurethane resin with outstanding flexible properties was applied. This material will accommodate high levels of movement and enable the expansion joints to successfully absorb any shock or impact and return to their original shape undamaged. Belzona 2921 (Elastomer GP Conditioner) was applied prior to this system in order to ensure an effective molecular bond with the concrete substrate. The sample application took 18

Below: Pouring of flexible elastomer into sample piece





than 4cm with no support below, filler boards were placed to control the application depth. The Belzona 2221 was applied using a simple pouring technique at a nominal thickness of 1 cm (0.4 in), and the system was left to cure.

Quick application procedure keeps airport running smoothly

The extensive repair work was completed over a period of 126 days. The extremely quick cure time of the Belzona systems, (just 2-3 days instead of the 28 days required had the repairs been carried out using concrete) enabled over 40 areas suffering from various degrees of damage to be fixed with no hindrance to the airport operations. Furthermore, as the simple, cold-curing application procedure required minimal equipment during the installation, this meant that the application could be easily rescheduled to the night time, when the day time

Above: Conditioning of concrete surface

labour hours to complete and was left to cure for three days. In order to assess its performance, fork-lift trucks were then driven over the repaired areas. As the combination of epoxy and polyurethane systems successfully withstood these loads, the airport decided to continue with the application to the complete 150 linear meters (492ft) of damaged area."

Cold and fast curing systems enable rapid, simple and safe application procedure

Firstly, the concrete was prepared to reveal a sound substrate. Any old coating or previous patch repairs were fully removed. Loose contamination was brushed away and the substrate was then cleaned using Belzona 9111 (Cleaner Degreaser).The surface was then conditioned using two coats of Belzona

4911. Where the concrete edges or nosings were damaged, timber battens wrapped in polyethylene sheets were installed before direct application of Belzona 4111 using a trowel. The material was then tamped down firmly so as to ensure maximum contact with the surface.

For the expansion joints, any loose contamination was brushed away and the substrate was cleaned using Belzona 9111 to remove any dirt, oil and grease. Where the elastomer was to be applied directly onto Belzona 4111, the Belzona 4111 was slightly abraded using emery paper. Belzona 2921 was then applied in two coats to condition the surface. A foam backer rod with a diameter of approximately 20% greater than the width of the joint was installed. Where the depth was greater

Below: Application of rebuilding material



Above: Concrete rebuilt and expansion joints installed

temperatures reached a scorching 55°C (131°F). Thoroughly satisfied with the material's performance and the simple application procedure, the airport commissioned an additional 50 linear meters of damaged area to also be repaired by the Belzona systems.

Belzona Polymerics Limited
 belzona@belzona.co.uk
 www.belzona.com

Innovative Polymeric Solution Repairs and Protects Large Chemical Bund

Deteriorated bund area protected with impermeable, chemically resistant materials



At a major spirit supplier in Glasgow, UK, extensive repair and protection work was required on a large bund area, which was providing secondary containment to 15 spirit tanks. 1,173m² (12,626ft²) of floor and wall areas were in a severely deteriorated condition due to corrosion caused by the chemicals used in the spirit storage process.

The containment area comprises of an inner section with concrete floor with render on the walls. Wooden panels were in place between the tank supports and the outer section was comprised of tiles. While many localised areas required extensive rebuilding work, the entire bund needed an impermeable and robust coating system that would provide an exceptional level of chemical protection for the long term.

One potential solution would involve the use of drip trays. Once a leak has been identified, these can be placed in the location of the leak to capture the liquid. However, they only provide a temporary, short-term solution and many drip trays fall short in their ability to store aggressive and corrosive chemicals. Also, this method of secondary containment can be highly impractical as they only allow limited access to the bund area whereas the spirit company required full access at all times.

Above: Bund protected for the long term

Specification of corrosion resistant system

Following a site survey by Belzona representatives, a combination of Belzona systems was selected to repair and protect the bund. Belzona Engineer, Douglas Potts said, "Due to its lightweight properties, the polymeric mortar Belzona 4141 (Magma-Build) was specified to repair the vertical surfaces. As no shuttering is required during the cure of this material, this will help to keep the application procedure quick and simple. Specially designed for resurfacing large areas of concrete, Belzona 4131 (Magma-Screed) was chosen to rebuild the horizontal surfaces. This solvent-free epoxy material will fortify the bund with excellent abrasion resistance and will also provide impact protection. Prior to the application of the rebuilding materials, a Belzona conditioner will be applied to prepare surface in order to ensure optimal adhesion. In order to fortify the bund area with a further layer of protection, the 2-part epoxy coating, Belzona 5811DW2 (DW Immersion Grade), was specified. This coating, certified to NSF/ANSI 61 and WRAS for contact

with potable water, will provide the outstanding level of chemical protection required within the highly corrosive environment."

Quick and simple application procedure

Firstly, the wooden panels were removed and the substrates were power washed and ground to achieve a sound substrate. The Belzona conditioner was then applied to all the deteriorated areas. Once the rebuilding materials were mixed using a forced action mixer, a trowel was used to rebuild and level the damaged areas. 410 linear metres of horizontal and 18 linear metres of vertical edges were filleted with the Belzona 4141 and Belzona 4131, respectively, before the system was left to cure. The first coat of Belzona 5811 DW2 was then mixed and applied to the prepared surface of the bund area, followed by the second coat once the first coat had cured.

Solvent free, rapid cure system facilitates safe application

Each section took around 24-36 hours to fully cure, allowing a fast application procedure with minimal disruption and downtime. As the work was carried out in stages, Belzona Technosol, Belzona's application service division, was also able to coat an area under a large sprinkler tank in the opposite room while the project was proceeding. As the Belzona systems are solvent-free, this facilitated a safe application environment which was essential due to the small space and lack of ventilation in the room.

With years of experience and materials specifically designed for the repair and protection of chemical containment areas, Belzona was able to deliver a full solution package, from product specification to application inspection, ensuring the smooth running of the project and long term results.

Belzona Polymeric Limited
belzona@belzona.co.uk
www.belzona.com

Asset Management / CMMS

Visit our website www.getagility.com for the latest Agility news

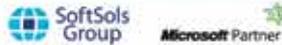
**AFFORDABLE & EASY
TO USE MAINTENANCE
MANAGEMENT
SOFTWARE**

- Uniquely Configurable
- Completely web enabled
- Affordable hosted option
- Mobile, tablet and smart phone solutions
- Integrates with Corporate Systems

To arrange your free system review and Agility demonstration visit our website today or call 01924 200344



www.getagility.com



from **qfm Service Works**

Industry Leading Maintenance Software

- Improves efficiency of assets & services
- Optimises service delivery
- Delivers cost savings of up to 15%

T: 0208 877 4080
E: info@swg.com
W: www.swg.com

CVL Workmate VM

Maintenance software just got easier

- Delivering maintenance software benefits since 1990
- Proven by hundreds of customers in a wide range of industries
- Flexible system to meet your needs
- Now even simpler to buy, implement and use.
- Fully feature systems start at £1490

Don't take our word for it. Call us now, and find out for yourself.

Tel: 0191 2963816 email: sales@cayman.co.uk
Web: www.cayman.co.uk

shire Maintenance Software

Free up time, reduce cost, meet compliance, minimise downtime

Asset & Meter Register
Work Order Scheduling
Stock & Purchasing
Detailed Reports & KPIs

- Easiest to use
- Best value
- Hosted Option
- Mobile Deployment
- FREE TRIAL

shiresystems.com
023 8022 4111

CMMS

- ✓ Asset Management
- ✓ Work Order Management
- ✓ Service Contract Administration
- ✓ Inventory & Stores Control
- ✓ Procurement Management
- ✓ Graphical Dashboards
- ✓ Local Installation or Cloud

30 DAY FREE TRIAL

www.realassetmgt.co.uk
Tel: 01689 892 127

flexmaint™
works the way you want

Flexible CMMS

flexmaint™ Provides you with ultimate flexibility in your CMMS maintenance software, because you design the menus, screens and wizards.

www.flexmaint.com

Idhammar

Increase efficiency with our leading

OVERALL EQUIPMENT EFFECTIVENESS (OEE)

and

COMPUTERISED MAINTENANCE MANAGEMENT SYSTEMS

+44 (0) 1179 209 400

www.idhammarsystems.com

IDHAMMAR SYSTEMS - KEEPING INDUSTRY MOVING AND IMPROVING

BVC Products

**EXHAUSTERS
BLOWERS
AIR KNIVES
VACUUM PUMPS**

BVC
A Quirepace Ltd Company

Tel: 0870 010 7666
e-mail: admin@bvc.co.uk
www.bvc.co.uk

Boiler Brokers

T-I
Twin Industries International
 Leading
BOILER BROKERS
 for all
INDUSTRIAL BOILERS
 Steam • Hot Water • Thermal Fluid
 New • Reconditioned • Hire
JUST ONE PHONE CALL!
 For FREE independent advice, linking you with the most appropriate suppliers to meet your needs
 Tel. 01252 845521
 sales@twin-industries.co.uk
 www.boilerbrokers.com

Boilers & Burners


Babcock Wanson UK
 ENIM Group
Energy made to Measure
Steam Boilers
Coil or Firetube
100Kg/h to
25,000Kg/h
 Babcock-Wanson UK Ltd
 Tel: 020 8953 7111
 Fax: 020 8207 5177
 e-mail: info@babcock-wanson.co.uk
 www.babcock-wanson.co.uk

Boilers & Burners

BYWORTH
BOILERS LTD

- **Steam/Hot Water**
- **High Efficiency**
- **Biomass**
- **Heat Recovery**
- **Service & Spares**



Tel: +44 (0)1535 665225
 www.byworth.co.uk

CERTUSS
 Steam Generators
New TC Model



Ranges from 8kg/hr - 2000kg/hr

CERTUSS (UK) Ltd
 Unit 45 Gravelley Ind Park
 Tyburn Road
 Birmingham
 B24 8TG

Tel: 0121 327 5362
 Fax: 0121 328 2934
 sales@certuss.co.uk
 www.certuss.co.uk

CFB BOILERS^{LTD}
The Green Steam Company

CFB (Boilers) Ltd.
 Brunel Road, Gorse Lane Ind.
 Estate, Clacton, Essex C015 4LU

A complete range of Steam Boilers from 10kg/hr. to 55,000 kg/hr. vertical, horizontal, atmospheric, electrical, oil, gas and propane. All ancillary boiler house equipment supplied. Plant rooms and skid assemblies built to any criteria.

Manufactured in the UK

Contact: Derek Parish, Jeff Ross.
Tel: 01255 224500
Fax: 01255 224555
www.steamboilers.co.uk

SOLUTIONS THAT FIT

Fulton specialises in bespoke, ready-to-ship skid-mounted and fully-packaged steam, hot water and thermal fluid heat transfer solutions for hospital, food and beverage processing, petrochemical and other applications.



Fulton

TO BUY BRITISH, CALL +44 (0)117 972 3322
 EMAIL SALES@FULTON.CO.UK OR VISIT FULTON.CO.UK

Boilers & Burners



COCHRAN
BUILT IN BRITAIN

PRODUCTS

- > Industrial Steam, Hot Water & Biomass Boilers
- > Burner & Control Systems
- > Ancillary Equipment

PRODUCT SUPPORT

- > Operational Support
- > Training
- > Spare Parts
- > Pressure Parts Repairs & Boiler Hire
- > Boiler House Upgrades
- > Energy Efficiency Upgrades

COCHRAN LTD
Tel: +44 (0) 1461 202111
Fax: +44 (0) 1461 205511
email: enquiries@cochran.co.uk

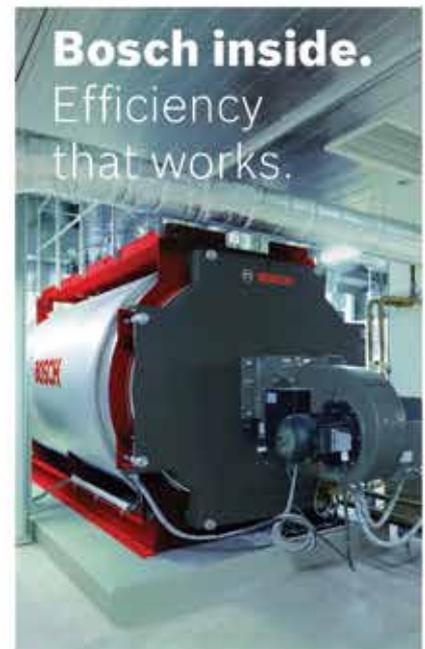


EUROMAX
OIL, BIO-LIQUID OR GAS
3 PASS HOT WATER BOILER

Range 1170kW to 5000kW
Max Operating Temp: 150°C
Operating Pressure: 3BARS to 8BARS

ATLANTIC BOILERS
HIGH EFFICIENCY CONDENSING BOILER-PLANT

TEL: 0161 621 5960
See full industrial/commercial range at
WEB: WWW.ATLANTICBOILERS.COM
PO BOX 11, ASHTON UNDER LYNE, OL6 7TR



Bosch inside.
Efficiency that works.

Industrial heating technology solutions up to 38,000kW

- ▶ Hot water boilers
- ▶ Steam boilers
- ▶ 4-pass boilers
- ▶ Combined Heat and Power modules

For more information:
call 0330 123 3004 or email
commercial.enquiry@uk.bosch.com
Visit our website at
www.bosch-industrial.co.uk



BOSCH
Invented for life



Boilers designed for Low NOx and High Efficiency



Hot Water & Steam
Biomass & -fuels
Exhaust-Gas
Direct-Fired

Tel.: 07966 099124
ac@danstoker.com
www.danstoker.com

A TERNIX GROUP COMPANY



INDUSTRIAL BOILER HIRE

WORKING HARD FOR YOU...



- Modern boiler fleet, nationwide delivery
- Competitive long or short-term rates
- Steam boilers up to 16,000 kg/hr
- Hot water boilers up to 7,500 Kw
- Trailerised, containerised or static

Visit our new website
Tel: 01992 451629
www.kingsboilerhire.com

Condition Monitoring



CONDITION MONITORING AS YOU HAVE NEVER SEEN IT



Leonova^{TS}
INTRINSICALLY SAFE



Tel. 01706 835331
leonovabyspm.com
spminstrument.co.uk



Compressed Air

RapidMAIN



**ALUMINIUM
COMPRESSED AIR
DISTRIBUTION SYSTEMS**

- High Flow Rates
- Easy to install
- Competitively priced
- Six sizes: 20 to 63 OD
- Complete Range Ex-Stock
- Call or order 24/7 On-Line
- Free Installation Advice

ACC Ltd

Widnes, Cheshire

Tel: 0151 423 1750

Fax: 0151 495 2079

www.accltd.com

Email: sales@accltd.com

Cooling Equipment

**PROCESS
CHILLERS**

- Process Chillers, Machine Chillers, Computer Room Chillers
- Local Support & Global Service
- 1 to 480kw Chillers



T: 01709 704000
E: info@rittal.co.uk
W: www.rittal.co.uk



TESEO
Aluminium Pipework

**HBS and AP Modular
Aluminium Pipework**

- COMPRESSED AIR
- NITROGEN
- FLUIDS
- OILS
- INERT GASES
- RATED TO 15 BAR

Available in the following sizes:- 20, 25, 32, 40, 50, 63, 80 and 110mm

TESEO UK

Tel: 08701 672150

Fax: 08701 672151

E-mail:

uk@teseoair.com

Web:

www.teseoair.com

Drum Heaters

**Fast, Efficient & Safe
Drum & IBC Heaters**



Tel: +44 (0)1440 707141
www.drumheating.com

Infrared Training

Infrared Training Limited

- BINDT Approved Training Organisation
- Highly Qualified Instructors
- State of the art equipment
- ASNT and PCN Certifications
- Global Training Locations

Courses Available

- Level 1 Thermography
- Level 2 Thermography
- Air Tightness Testing
- 1-Day Introduction
- 1 & 2 Day Camera Operator

Visit our website for course dates and online registration!
www.irtraining.com

info@infraredinstitute.co.uk
debbie@infraredinstitute.co.uk

Tel : +44 (0) 151 486 5120

Infrared Training Ltd. Training & Conference Centre South Road, Liverpool, L24 9PZ.



Industrial Doors

**From the home of
innovation and
British engineering:**

- High-speed doors
- Security & Fire doors and shutters
- Bespoke door products
- Service & maintenance excellence



0191 214 0404
sales@hartdoors.com
www.hartdoors.com

M&E

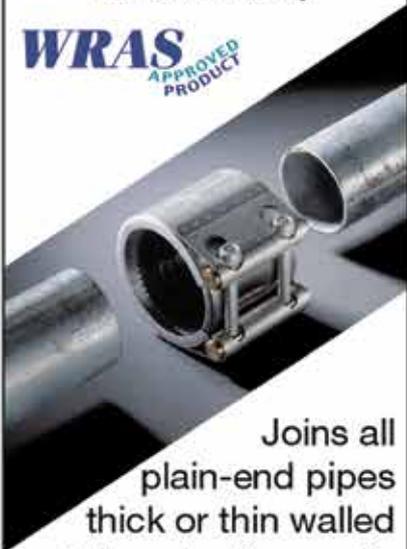
Pipework & Ducting

straub 

The Pipe Joint

"With STRAUB, pipe joining and repairs are carried out quickly and economically with total reliability"

WRAS
APPROVED
PRODUCT



Joins all plain-end pipes thick or thin walled metal or plastic equally

+ *the original Swiss Innovation*

Tel: 0118 9503 707
Fax: 0118 950 4066

www.straub.co.uk

Instruments

KIMO[®]
INSTRUMENTS



www.kimouk.com
01732 865 635

Testing & Certification

NEED SOLUTIONS TO ASSURE ASSET INTEGRITY?

WE ARE YOUR RELIABLE PARTNER FOR INTEGRATED NON-DESTRUCTIVE TESTING SERVICES

SGS IS THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

www.sgs.com/ndt

SGS

Test Instrument Centres

alpha-electronics.com

Alpha
ELECTRONICS

SALES
Training
CALIBRATION
HIRE

TEST INSTRUMENT CENTRES

SOUTH: 01622 690 187
NORTH: 01942 886993
WALES: 01633 853803

Thermal Fluid

THERMAL FLUID NO LOSS CLOSED CIRCUIT SYSTEM

UP TO 350°C FLUID FLOW

- Substantial Energy Savings
- Reduced Emission Levels
- Low Operational Costs
- Maximum Plant Efficiency
- Atmospheric Pressure Operation
- Very Long Plant Life
- Reduced Maintenance Cost
- Heat & Cool In Same System
- Unattended Safe Operation
- For High & Low Temperatures

Babcock Wanson UK
ENIM Group

info@babcock-wanson.co.uk
www.babcock-wanson.co.uk
Tel: 020 8953 7111

Visit EMS Online



EMSOnline

www.engineeringmaintenance.info

Visit Us Online



All of our articles are available to read online today!
Scan the QR code to go directly to the site

www.engineeringmaintenance.info

ifm electronic



New benchmark in thermal flow measurement

The latest SA flow meter from ifm electronic for liquids and gases also measures temperature. Fast response. Easily readable LED display can be set to change between red and green and the whole unit can be rotated. Calibrated for water, oils and air. A clever solution from ifm



www.ifm.com/uk/sa
ifm Telephone 020 8213 2222