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Densoclad Protection for Frankley Water Treatment Pipe Joints

Engineering solutions provider Costain is nearing completion of a £20 million contract to update the Severn Trent Frankley Water Treatment Works.

This is part of several projects being carried out by Severn Trent Water to maintain the quality of its customers' water supply. The major part of the Costain Group project was the new contact tank, which has the capacity of several Olympic-sized swimming pools. The treated water is held here before being pumped to some of Severn Trent's 1.4 million customers in and around Birmingham.



A key protection role was supplied by Winn & Coales (Denso) Ltd's Densoclad system and profiling mastic, which has been applied to bolted flanged joints on all 1.1 and 1.6 metre diameter water mains and associated pipework related to the new contact tank.

Densoclad is available as a medium to heavy-duty tape, designed for anti-corrosion protection of medium and large diameter pipes, welded joints, bends and fittings and is applied over Denso primer. Where required profiling mastic is also first applied to obtain a smooth surface. Densoclad's extremely tough PVC backing combined with polymer bitumen adhesive ensures complete protection and exceptional resistance to damage by impact or aggressive ground conditions.

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

Rittal's RiLine busbar system for AC and DC applications

Efficient drive systems, idle power loss reductions and the renewable energy sector all require safe, reliable DC solutions and while they cannot replace AC applications across the board, they are definitely growing in importance.

Rittal is the world's first manufacturer to offer an approved busbar system with standard components, optimised for both AC and DC applications. No other products are required.



DC busbar systems are increasingly deployed in converter buses, DC power backup systems, photovoltaics, galvanics, energy storage systems and in shipbuilding. The system has a current carrying capacity of up to 1600A, a nominal voltage of up to 1500V DC and a short-circuit rating of up to 40kA. Rittal's RiLine is approved to IEC 61439 and UL 845 in conjunction with UL 508, making it suitable for a wide range of industries.

Depending on requirements, busbar systems can be made of copper, aluminium or cuponal, a copper-clad aluminium busbar from Rittal. RiLine's assembly parts, such as connection adapters up to 800A, OM component adaptors with tension spring clamps and CB Series compact circuit breaker adaptors up to 250A, are suitable for DC applications. The following fuse components can be deployed: size 00-3 NH bus-mounting fuse bases up to 630A and size 00 NH slimline fuse-switch disconnectors up to 160A, with corresponding DC fuses.

Rittal Limited, Braithwell Way, Hellaby Industrial Estate
Hellaby, Rotherham, S66 8QY Visit: www.rittal.co.uk

New AUMA Solutions For Oil And Gas Applications

AUMA has developed new actuation solutions for a range of specialised oil and gas applications, including an innovative approach for lift plug valves.

These shut-off valves are widely adopted in high temperature, high pressure applications and for the conduction of media containing solids.

Within the lift plug valve, different movements have to be coordinated during operation from one end position to the other: the closing element must first be lifted from its seat, then rotated by 90° from CLOSE to OPEN or vice versa, and finally lowered back into the valve seat.

AUMA's new approach, which simplifies operation and significantly reduces wear, uses two actuators, one designated to be responsible for lifting/lowering while the other controls part-turn movement. The entire procedure is coordinated by the integral

controls of the two actuators. Communication with the distributed control system is simplified as just two commands "Running OPEN" or "Running CLOSE" need to be sent to the master actuator.

Successful installations, including a BPO tank farm in Belgium and a Tatneft refinery in Russia, confirm the high reliability of AUMA's lift plug solution.

The established supplier of electric actuators recognises that, even for exceptional applications, standardised devices are appreciated by plant operators. AUMA's product portfolio is therefore based on a modular design concept for both device construction and software, this enables easy mechanical adaptation of actuators and straightforward extension of software functionality.



Further examples of new AUMA actuation solutions for oil and gas applications include multiport valve control and coker valve automation in delayed coking systems.

For More Information Visit:
www.auma.com

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The Interchangeable Probe Handle

ETI have introduced a new thermocouple temperature probe that allows the user to replace the stainless measuring tip, rather than replacing the whole probe, saving both time and money.

Each handle incorporates a miniature thermocouple socket, allowing a variety of thermocouple probes to be quickly connected to a single thermometer. The benefits are both flexibility of use and reduced cost of purchasing a complete new temperature probe. Being most often in use, the stainless steel tip of the probe is exposed to excess heat, physical abuse or as is often the case, the probe simply wears out. It is therefore now possible to achieve a significant in cost, typically 50% by replacing only the working end (the tip) of the temperature probe.

Each handle incorporates a one metre retractable, coiled thermocouple lead and miniature connector suitable for use with any type K thermocouple based thermometer irrespective of the manufacturer. ETI offers a wide range of plug mounted thermocouple probes suitable for use with the interchangeable probe handle, including probes ideal for measuring air/gas, liquids, semi-solids or surface temperatures.

The interchangeable probe handle (order code 323-950) is competitively priced at £18 each, exclusive of VAT and available direct from Electronic Temperature Instruments Ltd.

For further information contact
Electronic Temperature Instruments Ltd
Easting Close, Worthing, West Sussex BN14 8HQ
Tel: 01903 202151 Email sales@etiltd.com website: www.etiltd.com

Densoband Protects Onshore Wind Turbine Foundation

Atlantic Wind Services (MCR) Ltd of Manchester have recently completed the base foundation, infrastructure and other civil works for a new on-shore wind turbine at Darrington, Yorkshire.

In order to increase anti-corrosion protection of the wind turbine's base plinth they have applied Winn & Coales Densoband between the steel casing and the surrounding concrete foundation. In the photo the black Densoband strip can be seen just above the concrete reinforcement cage.



Densoband is a polymer-modified bitumen strip for sealing joints and preventing the ingress of water. Providing a uniform flexible seal, it is ideal for base and wearing course joints that can withstand thermal changes and movement from traffic load.

Densoband is particularly useful on both concrete-to-asphalt joints and asphalt-to-asphalt road joints. It fully complies with the Highways Agency Specification for Highways Works.

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Hart Launches New Speedor Variant

Hart Door Systems, the creator of the Speedor high-speed industrial door brand now found on over 6,000 sites across some 20 countries, has launched Speedor Storm which incorporates a unique guide system which delivers exceptional wind resistance up to Class 5, over 90 mph.

Nick Hart, Hart's technical director, says the door has been designed for specific applications where large external openings up to 8m, x 8m are vulnerable to wind. "Class 5 matches 12 on the Beaufort Windscale, the highest rating. Two Speedor Storms have been operational in an exposed site in Aberdeen for the last 12 months. This amounted to rigorous testing in a difficult and challenging environment without an issues arising. We achieve this with a reliable and clean in-line drive system complete with integral safety brake. It has variable speed operation and an optional break-away bottom rail with auto reset feature," explains Mr. Hart.

Speedor Storm conforms with ISO9002/3 and the Machinery Directive for power operated doors, PREN 12453 and 12444. Operation is flexible through induction floor loops, photo cells, radar, vehicle mounted radio transmitters, pull cords, press button or hand held activation.

"We have a healthy order book for Storms largely for exposed warehouse and distribution facilities, factories and refuse and waste plants which are often edge of communities where noise and odour can be real issues. The fast open/close cycle delivered by Storm is therefore an important benefit for operators," adds Mr Hart.



Hart's Speedor Storm being installed

Storm use a multi-layered PVC and textile door fabric to ensure strength. It is tear resistant and incorporates braces with locking wheel assemblies for added strength. If required a vision panel can be provided.

Hart Door Systems.
Freephone 0800 783 0404
sales@hartdoors.com
www.hartdoors.com

Spirax Sarco helps Blackpool Victoria Hospital save more than £274,000 annually to heat water

Spirax Sarco is helping Blackpool Victoria Hospital to substantially reduce its energy and maintenance costs and lower its carbon emissions.



The acute hospital has upgraded the heating and hot water supply in ten plant rooms to Spirax Sarco's EasiHeat™ steam-to-hot-water solutions. It has also installed a Spirax Sarco Reverse Osmosis (RO) system and has modernised the site's steam trap population.

The EasiHeat systems alone are forecast to save Blackpool Victoria Hospital more than £240,000 per annum (p.a.) in energy costs plus an additional £34,000 p.a. in maintenance costs.

The EasiHeats replaced shell and tube calorifiers, some of which had been in operation for almost 40 years. "The system was simply no longer efficient when compared to modern equivalents," explains the hospital's energy manager Carla Wilson. "Previously, we had to store water at 60°C to eliminate the risk of Legionella. That water could be sitting there quite a while if there was no demand for it in parts of the hospital, and all that time it would be losing energy."

EasiHeat is a ready-to-install system that uses steam in a compact, plate-and-frame heat exchanger to provide instant hot water for space heating and domestic hot water. As the hot water is supplied on-demand, there is no need to store it, avoiding the associated energy losses and significantly reducing the risk of Legionella.

Calorifiers are pressure vessels that must be stripped down regularly for insurance inspections, a task that typically takes several days. EasiHeats do not need to meet this requirement, saving substantial maintenance costs.

The Spirax Sarco RO system will bring further savings by reducing water use and energy losses. The RO system treats water before it reaches the boiler feedtank and removes more than 98% of contamination to produce high-quality, low-conductivity boiler feedwater. This allows the amount of boiler blowdown to be reduced, saving energy and water while still preventing dissolved solids from accumulating in the boiler to avoid problems such as foaming.

Although it's early days, Mrs Wilson says there has been a noticeable drop in steam use at the hospital. Conditions in the plant rooms have also improved. EasiHeat's compact design and superior heat exchange technology meant just 18 units were needed to replace 25 calorifiers. This increased the available space in the plant rooms and reduced the air temperature, making the rooms much more pleasant for staff.

In total, these energy-saving measures are forecast to reduce Blackpool Victoria's carbon emissions by more than 1,400 tonnes p.a. This will enable the hospital to make further savings as a result of reduced payments under the CRC Energy Efficiency Scheme (formerly the Carbon Reduction Commitment).

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Clever Thinking Helps Tata Steel Solve Tricky Temperature Device Upgrade

ABB solution helps customer replace 30 year old devices with minimal time and disruption.



ABB's latest generation of head mounted smart temperature transmitters have helped to provide a clever solution to a tricky upgrade project at Tata Steel in Port Talbot. ABB's solution involved thirty TTH300 temperature transmitters being used to replace Hartmann and Braun field mounted units installed in 1981 without the need for extensive retrofitting work.

With Hartmann and Braun now part of ABB, ABB was originally called to the site to quote for directly replacing the Hartmann and Braun TEU702 field-mounted transmitters with their modern day equivalent.

Despite still being operational even after 30 years of service, the TEU702 transmitters needed to be replaced as they could no longer be supported.

"Even though they were still in good working order,

the TEU702's relied on old technology that had been discontinued some time ago, such that no direct replacement was available," says Steve Gorvett, Temperature Product Specialist for ABB's UK Measurement Products business.

Developments in the design of ABB's technology over the past 30 years initially posed a major challenge to replacing the old units with their nearest modern equivalent.

"Obviously a lot has changed in temperature technology since the old TEU702 units were installed. Fitting the nearest ABB equivalent product into the existing cabinets would have required a lot of work to change the fixing holes and mounting arrangements, which are completely different to those of the TEU702."

To help overcome this problem, ABB took an

alternative approach, which saw the existing field mount enclosures being reused to house its latest generation of head mounted TTH300 smart temperature transmitters.

"Part of the fun of engineering is to find new ways of solving problems, and this project was a perfect example," says Steve. "Even though a head mounted transmitter is not the immediately obvious solution to a field mount installation, it fitted the bill perfectly, saving a lot of time and disruption for the customer."

A specialised mounting bracket was also developed which allowed the site to use its existing fixtures and fittings rather than incurring disruption by creating new ones.

Further savings on time and disruption were also achieved by ABB supplying every transmitter pre-configured and tagged, enabling the old units to be removed and new ones fitted within a very short period. Set-up time was also greatly reduced by the TTH300's easy to use HMI module. Using the HMI, operators can quickly reprogram the transmitters or check any details in-situ without taking them off-line.

"Installations such as these help to underline ABB's ability to provide temperature measurement solutions perfectly suited to our customers' requirements," says Steve. "By combining our extensive product portfolio with our extensive experience in the design, supply and installation of temperature solutions, we are confident that an ABB solution can be found to almost any temperature measurement problem."

For more information about ABB's temperature measurement products, visit www.abb.com/temperature.

Alternatively, email: moreinstrumentation@gb.abb.com or call: 0870 600 6122 ref. 'Temperature'.

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Timken Expands Housed Unit Line With New UC-Series Ball Bearing Housed Unit Line

New line of Timken® U-C Series Ball Bearing Housed Units offers a range of metric and imperial sizes from 12mm to 90mm



CANTON, Ohio: February 16, 2015 — The Timken Company (NYSE: TKR; www.timken.com) today introduced its new line of Timken® UC-Series Ball Bearing Housed Units. This product line addresses global demand for standard duty metric and imperial ball bearing housed units and further expands the offering of Timken housed units.

“With the new UC-series ball bearing housed units, Timken offers industrial customers a wide range of ready-to-mount units with five housing designs,” said Amanda Montgomery, Timken director of marketing and product management. “The addition of the UC-Series line to our current ball and roller bearing housed unit offering means we now offer

About The Timken Company

The Timken Company (NYSE: TKR; www.timken.com) engineers, manufactures and markets Timken® bearings, transmissions, gearboxes, chain, and related products, and offers a spectrum of power system rebuild and repair services around the world. The leading authority on tapered roller bearings, Timken today applies its deep knowledge of metallurgy, tribology and power transmission across the broad spectrum of bearings and related systems to improve the reliability and efficiency of machinery and equipment all around the world. Known for its quality products and collaborative technical sales model, Timken posted \$3.1 billion in sales in 2014. With approximately 16,000 people operating from 28 countries, Timken makes the world more productive and keeps industry in motion.

one of the broadest lines of housed units in the world.”

Timken offers the UC-series ball bearing housed units in an extensive range of sizes for shafts from 12 mm to 90 mm, with the most common sizes in stock for immediate delivery. The units are manufactured to precise quality standards and rigorous requirements. Their performance is validated by extensive in-house testing and backed by decades of product performance testing experience. In addition, the Timken team of service engineers is dedicated to helping customers extend equipment maintenance cycles and maximize uptime.

Log on to www.timken.com for more information about Timken UC-series ball bearing housed units and the company's full line of housed units.

Reman' or retrofit

Reliable operation of automation equipment nearing the end of its operational life is a very high risk strategy.

Reducing productivity and increasing production costs are classic symptoms of this mode of operation for the end-user. What are the answers? Paul Hickman of Bosch Rexroth offers a solution.

There are three distinct phases in the product life cycle of automation equipment, early-life phase, useful-life phase and wear-out phase. Each phase has unique qualities requiring different support strategies. However, for equipment operating in the "wear-out" phase it is possible to "push" the device back into useful-life phase – thus extending the overall length of operational benefits to the end-user.

In the useful-life phase the unit, be it a drive, motor, control equipment or HMI screen for example, is in standard production and spares are freely available. During this phase operators can expect a fairly low but constant failure rate and a high level of machine availability.

The useful-life phase is characterised by lower production costs, due to reduced machine failures. When supported with planned maintenance schedules, no unexpected costs are incurred. Spares usage can be accurately calculated, maintained and budgeted for. Manufacturers need only carry the spares they need, which in turn reduces lower inventory costs.

Typically, the wear-out phase for a product begins circa 8-10 years after launch. Drives and motors, for example, will go into the service-phase 10 years after launch while HMIs will go into service within five years.

In the wear-out phase, we begin to see the characteristics of increasing failure rate, which in turn leads to increasing downtime and production costs. Spares usage is likely to increase as will costs. Repair

of equipment becomes increasingly risky and less cost-effective (see figure 1).

The increased risk comes from the repair of individual components within a unit in order to return it to operation. Other components within the unit will have similar operational hours to the failed component. Therefore, a high probability exists that another component will subsequently fail. Continuing to repair a unit during its wear-out phase will result in "multiple repeat" failures of that unit. This is a well-known effect of ageing systems and simply results in higher operational costs.

During the wear-out phase, end-users are faced with the possibility of significant capital investment to return production machines to their previous levels of availability. One major end-user for example was recently facing a capital cost of circa £20 million for the replacement of more than 1,500 drives, motors, HMI controls and power supply equipment in one plant.

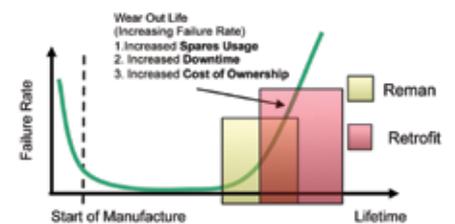
Faced with this sort of capital investment many end-users of automation equipment are turning to an alternative solution for ageing equipment nearing the end of its serviceable life, namely remanufacture. Remanufacture can effectively extend the useful life of a product. Critically, this option involves the easy exchange of the unit with machine wiring and software systems unaffected. For the user, this means lower risk with no system disturbance.

What's more "REMAN" can offer fast exchange time with the process being carried out by the end-user during planned shutdown which means no loss of production. Large scale unit exchange can be planned and staggered to meet customer schedules. For example, a bank of 4-5 drives can be exchanged in an hour.

Reman' involves the stripdown and cleaning of units, with wearable parts being replaced with original Rexroth specified components. Units are updated to the latest levels to achieve optimum performance and reliability characteristic. Once

this process is completed, a functional operation test is carried out in accordance with company quality procedures. An extended warranty of two years is offered on all remanufactured parts which can be increased to five years if required, subject to conditions.

For the end user the benefits can include no re-engineering costs, due to like-for-like product replacement and no re-training of operators to use or maintain new equipment. What's more, end users should benefit from reduced manufacturing costs and improved equipment uptime with no increase



Above: Figure 2: Optimum time for reman'

in spares, which should put a ceiling on capital expenditure.

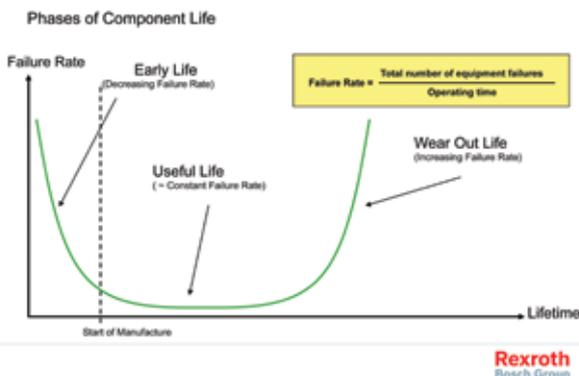
A further option is called Reman' +5 which offers end-users a further five years through the unit's service life. This option not only extends the product lifetime, but also guarantees component parts.

However, an optimum point exists where reman' is possible (see figure 2). Beyond this point, typically when replacement spares products are no longer available, retrofit is the only answer.

The key issue for end-users however is clearly cost. Whilst investing in new product may offer a cheaper option from a unit cost view, it is important to take into account associated costs. New products will often mean a re-engineered solution, new wiring, production downtime, replacement of all spares and retraining, with the added risks associated with the debugging of new software.

Reman' on the other hand takes out a unit and replaces with a like-for-like unit with all cabling and software being the same, ultimately offering a quicker more effective solution.

To learn more, please visit: www.boschrexroth.com



Left: Figure 1: Phases of a Component Life

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Greencore slashes gas bill by £30,000 with a Spirax Sarco heat exchanger system

Upgrading its domestic hot water system from two shell-and-tube calorifiers to a compact Spirax EasiHeat™ solution has enabled Greencore Food to Go to reduce its annual gas bill by £30,000.



The EasiHeat steam-to-hot-water system provides crucial hot water for staff at the company's production facility at Manton Wood in Worksop, Nottinghamshire. The site employs up to 2,000 people, who produce 3.5 million packs of handmade sandwiches, baguettes and wraps each week. Staff must adhere to a rigorous daily hand-washing regime, before they start work, after every break and every time they change from using one type of filling to another due to the risk cross-contamination poses to allergy sufferers.

EasiHeat is based around a compact plate heat exchanger and provides instantaneous hot water at constant temperatures. Because it does not store water like a traditional shell-and-tube storage calorifier, which must store water at 60°C or higher to aid the prevention of Legionella growth, less energy is needed to heat the water. This enabled the Manton Wood site to reduce its annual gas bill by £30,000.

Further savings will be achieved by reduced maintenance costs. Greencore's two calorifiers

needed to be stripped down regularly for insurance inspections, a task that typically took several days. The EasiHeat system does not need dismantling for insurance inspections, saving substantial time and maintenance costs.

Greencore Food to Go has included the EasiHeat in its 24-7 priority response Service Contract with Spirax Sarco. This guarantees the company access to Spirax Sarco's experienced engineers 24 hours a day, 365 days a year via a dedicated helpline. In the event a problem cannot be resolved over the telephone, a Spirax Sarco engineer will visit the site within 24 hours.

"Hand washing is crucial in a food factory and we have to ensure that hot water is available 24 hours a day, seven days a week," explains Chris Bassett, Services Engineering Manager at Greencore Food to Go. "For this reason we also hold critical spare parts at the site, so if there is a problem we can get the hot water system operational again as soon as possible," he adds.

Having worked with Spirax Sarco before, Mr Bassett says the company was the obvious choice for this project. "Spirax Sarco is the world leader in steam technology and its products always deliver. From conception through to installation, the technical support and advice we have received from Spirax Sarco on this project, and the interaction between Spirax Sarco, ourselves and the third party contractor used for the installation, has been second to none. I can't fault a thing and would always recommend and use them for any steam project."

For More Information:
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Telephone: 01242 521361

Implementing A Calibration System – How To Overcome The Common Pitfalls

Why talk about calibration system implementation? Isn't it enough to focus on comparing equipment and software feature lists?

The reason is that a calibration system implementation is only about 20 to 30% technology, the rest is business culture and process. Calibration system implementation is also very time- and resource-consuming – the risk of failure is high. Typically, a calibration system implementation involves many different functions and departments within an organization and takes a long time to complete.

Why implement a new calibration system

An efficient, modern, automated, computer-based calibration system, and related processes, have many benefits, this kind of system will save money by reducing the costs of calibrations. The most significant savings are accrued when getting rid of the paper-based calibration system; electronic record keeping is more effective and it's possible to get rid of manual recording of calibration results in the field by using documenting calibrators. Calibrate less, because the system can help to concentrate on the most critical calibrations and avoid unnecessary calibrations.

Using electric record-keeping and documenting calibrators, the errors common in manual entries can be avoided. This will help to ensure compliance with quality system and regulatory requirements.

Why focus on the implementation process instead of product features

Often the components of the calibration system (software and calibrators) are selected and compared based on their features and functions only. However, even the components with the best features will not automatically change the way of working.

The implementation is a very time- and resource-consuming operation, and the risk of failure is therefore high. These facts need to be taken into account when implementing a new system.

Many companies have experience with ERP, accounting and other system implementations, but most often it is the first time the company/people implement a calibration system. This will increase the risk of failure.

Typical failures in IT project implementations include overruns of costs and schedule. Also, the expected benefits are not always obtained. Often, dissatisfaction is caused by the incapability of the system vendor/supplier to support the implementation process with required services and documentation.

1. Features – functions - price arms race

It is good to remember that the software that has the longest list of features and functions is not necessarily the best. Also, the cheapest software may become the most expensive in the end. It is important to analyze the weaknesses in the current calibration process as well as the goals for the new process. It is important to find the most suitable system and the best vendor as a partner to guide the company through the implementation process.

2. Unclear goal and purpose

First of all, it's essential to remember to specify a clear goal for the new calibration system. Without a target it is very easy to fall straight into the discussion of details and features. This causes a high risk for the failure of the process.

3. Modelling old legacy system into a new system

Sometimes there is a tendency to use the existing, old, paper-based legacy calibration process and force the new computer-based system to conform to the old one. This approach most often results in failure. When the technology and tools are updated, the calibration process should be updated, too. Also, this approach most often does not utilize the

benefits and possibilities of the modern automated calibration system.

4. Failing to gain early user and stakeholder adoption

The users and stakeholders must be involved at an early stage and remain throughout the whole implementation process. The bigger the process changes are, the more important to involve the users. The stakeholders include, for example, calibration process owners, IT, compliance and quality.

5. The "Big Bang" implementation

For large, multi-site implementations, the "Big Bang" implementation style has proven unsuccessful and will more often result in failure. Instead, the successful calibration process implementation projects have been gradual roll-outs of the sites instead of one big launch. It is recommended to have a Proof-of-Concept approach where the solution is successfully implemented on one site before the roll-out to other sites starts.

6. Under-resourcing and lack of project organization

It is good to remember that a calibration system implementation is a joint-effort of the customer and the vendor. Often, three quarters of the resource requirements are the customer's responsibility and one quarter the vendor's.

As regards the customer, there must always be a well-defined project organization with a dedicated project manager. As mentioned earlier, other resources typically needed are application and process experts, IT resources. Legal council is needed in the contract phase.

BEAMEX is a leading, worldwide provider of calibration solutions that meet even the most demanding requirements of process instrumentation. For more information, visit www.beamex.com.

Implementing a calibration system?



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HI-LINE 'BLUE-BAG' TECHNOLOGY SETS INDUSTRY STANDARDS

A new concept in the treatment of compressor condensate discharge has been introduced by the air handling specialists Hi-line Industries Ltd.



Their latest ConSEP products provide a 10% higher volumetric capacity than their previous Gen 2 range, enabling the utilisation of greater oleophilic as well as superior activated carbon filtration media. The increased service life provided by these products is backed-up with a lifetime warranty against leaks or malfunction provided by this established midlands manufacturer.

The ConSEP range exceeds all relevant UK and European consent levels, and is compatible with all current condensate drains as well as many types of oils. By eliminating moving parts, together with both static water and oil containers, the larger and stronger ConSEP ensures a simple, reliable and

friendly environmental solution for the economical treatment of compressor condensate. The whole process is both easy and clean to use, ensuring a low carbon footprint with the provision of a 6 – 12 month service period between sediment collections and 'blue-bag' replacements.

Four models are available in the ConSEP condensate cleaner range, covering flow capacities of 100/300/750 and 1500 cfm respectively. The condensate, comprising residual air, water, oil and other process contaminants is fed into a diffusing lid on the individual ConSEP products. Where the condensate air content is de-pressurised and the discharge contents subject to primary filtration.



The next stage of the process is an oleophilic filter chamber to collect entrained oil, followed by a separator body of activated carbon to filter out and remove any compression process contaminants and debris.

Clean water is collected at the bottom of the ConSEP vessel, with a water drain and test point also provided. Midpoint connectors are also provided to facilitate a multiple or modular grouping of up to five vessels to handle even large condensate output flows.

As an added incentive, a free ConSEP condensate cleaner will be provided with every Tundra Refrigerant Air Dryer ordered from Hi-line Industries Ltd during March 2015.

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

Thorite to host City & Guilds Courses in Mechatronics & Hydraulics

Bradford-based Thorite, the UK's biggest independent distributor of fluid power products and process systems, is to hold a series of 3 day City & Guilds Certificated customer training courses on Mechatronics and Hydraulics throughout 2015, in its state of the art training facility the Thorite Academy.

The Mechatronics courses, available in April and September, build on knowledge gained from the highly successful "Foundation in Pneumatics" courses that the Thorite Academy already offers its customers. The new courses are designed to provide a wider practical understanding of pneumatic system signalling and control, incorporating electrical devices and PLCs. They are specifically targeted at personnel involved in the design, installation, maintenance and servicing of automation systems containing pneumatic, electro-pneumatic and PLC equipment. On completion of the course each delegate will gain the City & Guilds certified 2262-01 Introduction to Mechatronics Qualification Full.

The Foundation in Modern Industrial Hydraulics courses will take place in May and October and are aimed at personnel involved with the design, assembly, maintenance, operation and servicing of hydraulic systems. The courses investigate the construction

and operation of a range of hydraulic equipment, from fundamental principles to detailed examination of items including pressure valves, pumps, accumulators, pressure regulators, power packs and flow rates. On completion delegates will gain the City & Guilds certified 2283-01 Introduction to Hydraulics Qualification Full.

Both the Mechatronics and Hydraulics courses will place a strong emphasis on safety and appropriate working practices, especially during the practical sessions.

Speaking of the courses Alan Donkersley, Thorite's Sales Director said: "I'm confident that providing the City & Guilds certificated Mechatronics and Hydraulics training will be very popular with our customers, and moves the qualifications offered by the Thorite Academy up to a new level. We already spend a lot of time analysing feedback from delegates on our existing pneumatics



courses and we consistently enjoy a 90% overall assessment rating them as excellent. Thorite is proud to deliver "practical training for practical people" and the new courses will also provide underpinning knowledge which is very useful for personnel studying for NVQ qualifications."

Lunch and refreshments are provided during each of the three days that the courses are held on.

Further information and full details of dates and content of the courses are available by contacting Thorite Academy
Tel: 01274 663471
Email: training@thorite.co.uk
www.thorite.co.uk



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Book Onto One Of Training Days With Beko Technologies

BEKO TECHNOLOGIES are offering training days to give people an opportunity to increase their knowledge on a variety of topics including oil-free air, measurement technology, air treatment, condensate management and up and coming new products from BEKO TECHNOLOGIES.

BEKO TECHNOLOGIES offer a basic compressed air training course and an advanced course for people who already have an extensive background working with compressed air.

We have live demonstrations which provide an opportunity to test and see how our products work. We also have our BEKOKAT catalytic converter which can be ran together with our METPOINT OCV, METPOINT OCV is the first TÜV-certified* online system for the detection of the oil vapour content in compressed air. The measuring system can be used to protect the production processes or manufactured products.

Another option is our e-learning interactive course "The Basics of Compressed Air Technology". This innovative course is available to all customers, giving you the chance to share and benefit from BEKO's vast experience in compressed air.

The course "Basics of Compressed Air Technology" gives an insight into compressed air from the end users point of view. It provides information about applications and their quality requirements as well as how compressed air is produced and distributed. It explains how the quality is influenced by the components and layout of a compressed air system. Throughout the whole course emphasis is placed upon the need to balance quality and energy efficiency. The course is aimed at people new to the industry or at support staff within distributors who need an overview. It is also the first step on a more detailed learning program for those who require it.

BEKO TECHNOLOGIES also offer the facility for companies who wish to come in and hold their sales meeting at our offices in Bromsgrove and the BEKO team can join for part to make a small presentation on its product and solutions.



Comments from past training days include Martin Chitty from Mattei Compressors "I thought it was a well-structured, well planned and organised day, run by friendly very helpful people. The opportunity to see some of the products in use rather than looking at a screen or piece of literature makes a big difference.

The training days can be tailored to specific areas for example 'oil free' or in-depth training on the large dryers EVERDRY. For more information, please contact us on 01527 575778 or email ruth.goodison@beko-technologies.co.uk. Our team are always available for expert advice. www.beko-technologies.co.uk

*METPOINT OCV certified by TÜV Nord in accordance with the requirements of ISO 8573-1, classes 1-4.

Data Logger Specifically For Compressed-Air Plants

With a data logger which was specifically developed for the employment in compressed-air plants BEKO Technologies extends its METPOINT® measurement equipment family.

The new device boasts a multitude of application-specific capabilities, stretching from the number of connectable transducers to software specifically for the analysis of compressed-air processing.

The METPOINT® BDL data logger allows for the connection of up to eight or even 12 transducers or sensors, depending on the model. With this capacity the new device distances itself from standard data loggers which, in most cases, do not allow for such an option.

Sensors combined in a user-defined manner can be assigned to the numerous connections of the METPOINT® BDL. With pressure transducers, for example, or with pressure dew point transmitters, volume-flow sensors, temperature sensors, clip-on ammeters, etc. 32 limit values on the whole can be freely defined and assigned to four different alarm relays. An automatic early warning guarantees the utmost precision and process safety. At the device, the measured values are indicated on a 7" colour display with a zoomable touch panel.

It allows for tabular, graphic, and combined presentations. Saving potentials become transparent via daily, weekly, and monthly reports. Any exceeded limits are highlighted in red. The number and moments of alarm messages are also indicated. The breakdown into minimum and maximum values completes the extensive reporting.

Although the METPOINT® BDL already guarantees a considerable volume of information as a stand-alone unit, it really shows its entire functionality through networking with the other systems of the company. Equipped with all the common types of connections and a web server, the device ensures the utmost flexibility regarding the data transmission to a PC and the World Wide Web. Measured data can be read via the Internet, directly evaluated on the PC and further processed in the user's own systems, for example in a MySQL data base.



For this diversity of functions, BEKO Technologies provides two software variants that are specifically tailored to the METPOINT® BDL.

The METPOINT® READER SW201 program addresses the comprehensive graphic and tabular data evaluation and analysis at the stationary PC workplace. The readout of the measured data from the data logger is implemented via USB or Ethernet.

BEKO Technologies Limited Tel: 01527 575778.
E-mail: info@beko-technologies.co.uk Website: www.beko-technologies.co.uk

Elmo Rietschle Kicks Downtime Into Touch With Industry-First Six-Year Warranty

Vacuum and pressure manufacturer Elmo Rietschle, part of the Gardner Denver Group, has launched a free, industry-first, six-year warranty, available on all new and existing rotary vane vacuum pumps.



Called 'Assure', the new scheme offers improved reliability and performance for customers keen to maximise their return on investment by reducing the likelihood of equipment downtime.

To qualify for the full, six-year warranty, customers must take out an Assure service agreement and register the machine with their local Elmo Rietschle authorised distributor upon purchasing the pump.

The warranty also covers existing machines already in the field. Any machines manufactured before January 2012 can still qualify for the extended warranty, but firstly, the pump must be booked into the company's UK service centre before arranging Assure cover.

The agreement is tailored to suit customer's needs, ranging from two to six years' cover and includes simple fault finding and repairs to a full preventative maintenance programme.

Elmo Rietschle has a network of over 100 qualified engineers, UK-wide, that specialise in a range of on-site repair and maintenance services for vacuum products and applications. In addition, the company operates a professional service centre, should a pump require a more comprehensive overhaul during the warranty period.

This is supported with an extensive hire fleet of machines that can be loaned to site during any repair or remedial work.

Commenting on the launch, Gareth Topping, UK and Ireland sales manager for Elmo Rietschle, said:

"Our new Assure warranty programme provides customers with improved reliability and better cost of ownership as their Elmo Rietschle vacuum system will be protected for longer than the typical, industry-standard, twelve month warranty.

"The warranty also ensures that if there are service issues, the machine will be repaired and returned to the customer in a like-new condition, at no extra cost to the customer, for complete peace of mind.

"Our UK professional service centre only uses genuine spare parts when repairing machines, which gives optimal performance throughout the vacuum pump's life.

"We want to help the industry 'kick downtime in to touch' so every customer that takes out an Assure service agreement with one of our partnered distributors will also receive a free rugby ball."

For More Information:

Phone: +44 1527 838 265

E-Mail: blowers.red@gardnerdenver.com

Web: www.gd-elmorietschle.com

Maintec 2015 Packs a Punch

Last year's Maintec broke all records, attracting over 3,670 visitors, making it the most successful show in its history.



When Maintec 2015 returns to the NEC, Birmingham to celebrate its fortieth year on 24-26 March 2015 it will be bigger still thanks to the launch of a clever new co-location.

Maintec 2015 will be co-located with a brand new show - the Cleaning Expo 2015, which will include the Healthcare Expo and Street Cleaning Expo. This is in addition to two other complementary shows, Facilities Management and The Health and Safety Event, which already run alongside Maintec. This focus on co-locations is designed to give yet more content to maintenance professionals, production managers and engineers who increasingly see their remits expanding and who often need to collaborate with facilities managers and health and safety professionals.

Katie Morhen, Maintec Event Manager, comments: "We were very proud of last year's show and the feedback was fantastic from both exhibitors and visitors alike. Industry roles are changing and we want to ensure we are reflecting that change by giving visitors more to see when they walk the show. This approach delivered record results last year and we've just taken things up yet another gear.

So companies wanting to exhibit should not let this moment pass."

The market has already reacted warmly to the announcement that there will be four shows under one roof, with Hörmann UK, , Thermaflue, Grundon Waste Management, Idhammar, AV Technology and Keytracker, just some of the major names signed up to exhibit at Maintec.

Ryan Slaney, Business Development at Keytracker is one who rates the co-location strategy: "We are excited to be exhibiting at Maintec once again.

The incorporation of the Health & Safety Event and Facilities Management last year proved to be a resounding success, so much that we've decided to upgrade our stand for 2015."

Mark Moore, Service Manager at Hörmann UK agrees: "Maintec proved to be the perfect place to launch our multi-brand service offer. As it was co-located with the Facilities Management show and the Health and Safety Event it really did bring in the right mix of professionals and has led to new business. The show is now a fixture on our events calendar."

The three day event, which attracts senior decision makers and buyers within the UK's maintenance, plant and asset management community, also offers free-to-attend educational seminars, inspirational industry experts, masses of show floor entertainment and a wealth of exhibitors looking to launch new technologies and concepts to the UK market.

For those interested in keeping up with latest industry hot topics and trends, there will be a special programme of content rich seminars called The Exchange, hosted by a who's who of leading speakers. These free talks will be packed with advice, new innovations and case studies for delegates to learn from.

Running alongside The Exchange will be the returning Business Strategy Forum which will feature free seminars and panel debates delivered by experts from major organisations within the industry. Last year's big names included Sellafeld, Gatwick Airport, Network Rail and Rolls Royce Group.

Show favourite, Lions' Lair, also returns, showcasing a selection of brave exhibitors pitching their latest innovations and concepts to a panel of experts, hoping to win best in show.

Stand bookings for Maintec 2015 which takes place on 24-26 March at the NEC, Birmingham, can be made by contacting:
Jerry Dawson
+44 (0)20 8843 8823
or email jerry.dawson@easyfairs.com

Maintec 2015 Welcomes More Exhibitors Than Ever

Maintec 2015, the leading UK event for the maintenance, plant and asset management industry, which returns to Birmingham's NEC on 24-26 March 2015, has experienced an unprecedented level of exhibitors signing up for the show.



Many are using Maintec, which is celebrating its 40th edition, to launch new technologies and concepts.

RMS Reliability will present its new web-based learning series, iLearnReliability. It is designed to help industrial plants establish sustainable reliability improvement programs, via four training modules aimed at upper management, reliability and engineering managers, condition monitoring technicians and mechanics, and plant floor operators and craftspeople.

eMaint will be showcasing its new eMaint MX Mobile, a wireless version of its computerised maintenance management software. It provides an easy-to-use, cost-effective solution for maintenance personnel in the field. Designed to run on smart phones, tablets, or any browser-based device, eMaint MX reduces the need for paperwork and frees technicians from their desktop computer.

Acutest will be displaying its HT MacroTest G3 Multifunction Meter, an innovative instrument capable of carrying out safety tests on domestic

and industrial electric systems. The Cable Detection EZITEX t100 Signal Transmitter and the FLIR E8 Thermal Imaging Camera will also be exhibited.

For all those looking for the latest in CMMS systems, the Ashcom Technology stand is a must see.

The company will be showcasing its MaintiMizer BlackBox, which is an all-in-one CMMS/EAM solution created for businesses with small or non-existent IT departments. It contains everything needed to be successful wrapped up in a self-contained network appliance. Also on display will be its flagship product, the MaintiMizer Web Edition and its Software as a Service, MaintiMizer.com.

CEJN, the quick connect specialist, will be exhibiting its MultiFLOW Air & Fluid Gun, which effectively cleans surfaces with air or water, using an unparalleled blowing force. Also on display will be CEJN's coupling series eSafe and its full range of hose and cable reels.

Crimson Industrial Vision will be using Maintec 2015 to highlight its range of remote visual inspection systems and thermal imaging cameras. On show will be its VISIO PRIME Inspector, which is a portable

6mm robust industrial endoscope system, with full 4-way articulation and light output, capable of taking both video (mpeg) and still (jpeg) images. Crimson Industrial Vision will also be presenting its INVIZ VUMAN Ra-Y, a premium video endoscope system with the unique Remote Focus capability, enabling the user to adjust the focus for optimum image quality while the probe is deployed.

SGS Baseefa will be using the show to present its certification services and training materials, whilst also offering trained experts to answer any questions visitors might have about certification of explosion protected equipment. Whilst returning exhibitor, KeyTracker will be presenting its key and tool tracking systems, which allow organisations to secure, control, track, and maximise the usage of important equipment.

First time exhibitor, IndySoft will also be using the show to promote its IndySoft Software and its Motion Tablet Computer. The Motion F5v has an integrated 1D and 2D barcode scanner built into the carry handle as well as an option for RFID tracking. It also comes with Gorilla® Glass, which offers up to four times the strength in breakage resistance, perfect for real-world mobile work environments.

In addition to a full exhibition, Maintec 2015 will also feature a practical seminar programme called The Business Exchange and The Business Strategy Forum which tackles the hot topics and challenges within the industry. There will also be additional show floor entertainment in the form of favourite, Lions' Lair, which will see the event's newest technologies, innovations and concepts pitched to an expert panel in a bid to find the best in show.

If you are interested in exhibiting, please contact Chris Collins on:
+44 (0)20 8843 8825
chris.collins@easyFairs.com

for more information and to register for free entry visit www.maintecuk.com.

New Safer Logistics focus at The Health & Safety Event 2015

Reflecting current business trends a new Safer Logistics Seminar Theatre and Feature Area has been added to The Health and Safety Event, taking place 24-26 March 2015 at the NEC.

The aim of Safer Logistics is to encourage those in the supply chain sector to take a proactive approach to safety. Throughout the event the new theatre will feature a host of seminars providing visitors with a wealth of education and advice tackling safety hot spots in warehousing and logistics.

Safer Logistics is officially sponsored by Alcumus, Toyota Material Handling UK and A-Safe; as well as supported by partners such as the Fork Lift Truck Association (FLTA), the United Kingdom Warehousing Association (UKWA), and the Food Storage and Distribution Federation (FSDF). Together they bring an unwavering commitment to workplace safety and a great breadth of expertise. Examples of content taking place at Safer Logistics are: a panel discussion around the use of sprinklers in the warehouse; a seminar looking at a two-pronged approach to the management of health and safety in the road haulage sector and an exhibition area with a cross-section of product and service providers.

Chris Sturman, CEO of the FSDF said: "Having followed the Safer Logistics campaign in the media, we are very excited to see it extended into The Health & Safety Event. This is a growing exhibition, in the heartland of the UK manufacturing industry and the logistics sector and offers companies a great opportunity to become more proactive in relation to their safety practices. The exhibition dovetails well with our own initiatives such as the flagship Health and Safety Leadership Programme and the Health & Safety Awards, both of which we launched last year."

Additionally, Peter Harvey, CEO of the FLTA, added: "Fork lift trucks are the most dangerous type of workplace transport – seriously injuring as many as 800 workers each year. Engaging staff at all levels is key to reducing risk on site, so we are proud to support Safer Logistics, which shares our long-standing commitment to safety and track record for instigating change."

The Health & Safety Event is joined by three co-located exhibitions – Maintec 2015, Facilities Management 2015, and Cleaning 2015. This co-location of events ensures that any visitor will maximise the time they spend attending the NEC.



The Health & Safety Event Director Tim Else said: "Four complementary exhibitions and educational events under one roof at the NEC creates the central UK hub that health and safety professionals really want - in the centre of the country. Safety, facilities, maintenance and cleaning and hygiene suppliers will serve to provide a beneficial visiting experience."

The full Safer Logistics seminar programme for the three day event can be viewed online at www.healthandsafetyevents.co.uk.

To register online visit: www.healthandsafetyevents.co.uk or call the event hotline on: 0870 4866816.

SPM Instrument launches Intellinova® Compact online system for Ex environments

SPM Instrument, leading worldwide provider of condition monitoring technology and products, now announces the introduction of Intellinova® Compact Ex, the latest addition to the successful Intellinova product line for online condition monitoring of rotating machinery.

An Ex approved version now joins the Intellinova family of online systems. Intellinova Compact Ex is a high performance online condition monitoring system, well suited for safe remote monitoring of industrial environments with measuring points in hazardous areas. The oil and gas, offshore, petrochemical, mining and sugar industries are a few examples where Intellinova Compact Ex is the ideal solution for condition monitoring.

This leading-edge system for Ex environments offers the strongest combination of measuring techniques available. Vibration measurement (DC to 40 kHz) with HD Order Tracking and sophisticated analysis, and the SPM HD® technique for condition monitoring of rolling element bearings in the 0.1-

20,000 RPM range provides maximum flexibility for detection of machine problems. The system also handles user defined measurements via analog inputs and OPC, e.g. pressure, flow, load, etc.

Intellinova Compact Ex is fully compatible with all other Intellinova versions. It can be run as standalone units or in an integrated system where the individual units communicate with a single shared database in a standard Ethernet network

Intellinova Compact Ex is available in four versions, each with a fixed channel configuration for shock pulse and/ or vibration measurement. All versions come with multiple rpm and analog inputs as well as status outputs.



The Intellinova Compact Ex system versions will be available for delivery in Q1, 2015.

SPM Instrument UK Ltd.
Tel +44 1706 835 331
info@spminstrument.co.uk
www.spminstrument.co.uk
See us at Maintec 2015

Dickies To Exhibit At Facilities Management 2015

Dickies, the internationally renowned workwear brand, will be exhibiting some of its core health and safety and PPE ranges at Facilities Management 2015 held at the NEC 24th-26th March.

Dickies are a world-renowned brand for safety clothing, protective workwear and personal protective equipment (PPE). The PPE range includes: Showa gloves, gel knee pads, goggles, safety helmets, bump caps, a range of safety spectacles, ear defenders and ear plugs, visor kits, respirators and the safety footwear range.

In addition, Dickies also provide a range of workwear to suit workers' needs, for example hardwearing trousers such as the Pro Redhawk trouser, which is

a great value contract trouser delivering a big saving over the more technical Eisenhower version and ideal for larger work forces where the overall cost would prohibit going for a garment that has many more features and overall benefits that are gained by using a more engineered product.

Dickies, has also introduced 14 new styles of safety footwear and improved a further six styles. New lines in PU/Rubber Sole have excellent shock absorption and are heat resistant to 300 degrees; they are

high slip resistant and have non clogging sole patterns; extra comfort is offered with moisture wicking lining and a removable footbed.

Safety footwear standard EN345 has been superseded by EN ISO 20345 and the whole Dickies footwear range has been re-certified to the new standard EN ISO 20345:2011.



For more information on all safety workwear from Dickies, visit: www.dickiesworkwear.com.

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MCP awarded Centre-of-Excellence Status by the IET

MCP has been awarded Centre-of-Excellence status by the Institution of Engineering and Technology (IET) for providing high quality training courses for electrical installers and contractors.

The Institution recognises training providers that consistently achieve high standards of training delivery for electrical installers and contractors on a range of courses at craft and technician levels. One of the many benefits for customers is that this means MCP's courses will develop and deliver skills and knowledge that can be efficiently transferred to the workplace.



The IET:

For many years the IET has built a reputation for Electrical Excellence, the 'IET Centre of Excellence' programme is a natural extension of this work. This presents an exciting opportunity, for high quality training providers, to be recognised by the IET as a 'Centre of Excellence'.

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Further Information from:

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See us at Maintec, stand M9D

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SKF to champion best asset care at Maintec 2015

SKF will champion asset care and predictive maintenance, alongside presenting a range of industry leading innovations, at Maintec 2015

Luton, 5th February 2015: SKF will showcase a range of solutions that deliver improved asset efficiency and reliability for operators across industry at Maintec 2015, which takes place on 24th-26th March 2015 in Birmingham, England.



SKF experts will be on hand to provide valuable information on the equipment and methodology available to efficiently and cost-effectively monitor and maintain plant assets to extend product life and maximise machine uptime. At the SKF exhibition stand there will also be a selection of SKF's advanced predictive maintenance tools and services, as well as information on current SKF promotions, such as the SKF Microlog trade-in and reliability and maintenance training courses organised and led by SKF specialists.

"To successfully extend the life of plant assets it is important to avoid operating a fixed interval approach and instead run a condition based maintenance (CBM) regime to prevent asset failure," said Andy Mynett, Platform Deployment Manager at SKF. "At Maintec 2015, we'll be focusing on the importance of basic, better and best asset care to show customers how to identify hidden faults and potential failures, so that assets can be managed in the most efficient and cost-effective manner."

Visitors to the stand will find the new SKF Shaft Alignment Tool TKSA 11, which is an ideal entry-level tool for maintenance or production engineers to carry out shaft alignment quickly, simply and accurately for motor, fan, pump and compressor applications. Also on show will be the SKF Microlog series, a range of portable, handheld data collectors and analysers, the SKF Wireless MicroVibe, and a selection of other maintenance products.

Visitors to the event will find SKF on Stand M4K.

JSP's New Fall Arrest Range – Bringing JSP Flair to Work at Height

JSP is proud to introduce a brand new complete range of stylish fall protection equipment designed with the user in mind.

Every detail of the range, which includes top-quality harnesses, lanyards, restraint systems, lifelines, retractable fall limiters, rescue equipment, full specialist kits and accessories, has been meticulously thought through from start to finish. Quality, comfort, style and affordability are its hallmarks.



JSP's new collection of harnesses and lanyards covers everything needed for working safely at height, from the Spartan™ economy range, ideal for occasional and short term use, through to the Pioneer™ mid-range, and then through to the premium K2™ collection, which conforms to the highest standards of technology, comfort, safety and ergonomic design.

Mark Felstead, Height Safety Product Manager at JSP, said: "Falls from height are sadly still the most common cause of fatalities and serious injury in the workplace. JSP are confident that our new height safety range of products and ROSPA-accredited training courses will help reduce that toll."

More information is available from www.jsp.co.uk, by emailing uksales@jsp.co.uk, or calling +44 (0)1993 826050.

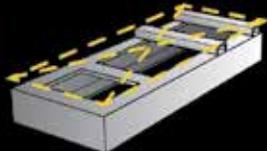
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PATENTS PENDING







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Molten sulfur is present in an ever widening range of industries and liquid sulfur storage tanks are used worldwide in crude oil refineries and natural gas plants to store liquid sulfur in very large volumes.



Sulfur storage tanks are most commonly utilised as part of the Gas Treating System in sour crude oil refineries and gas sweetening facilities to temporarily store liquid sulfur produced in the sulfur recovery plant. These tanks are usually field erected and most commonly constructed of carbon steel.

Even though in recent years there has been significant progress with regards to the mechanical design of sulfur storage tanks, they are still plagued with corrosion issues and internal corrosion is considered to be the main cause of longevity and safety issues. Unlike external corrosion that can be easily identified, internal corrosion is out of sight and can therefore go unnoticed, causing catastrophic consequences. As a result of internal corrosion, sulfur storage tank service life has been reported to be as low as 5 years, although general storage tanks demonstrate a life of 30 years.

Sulfur storage tank failures cannot not only lead to loss of revenue and increased costs through downtime and replacement, but can also have a critical human health and environmental impact. Due to the combustible and toxic nature of sulfur, leaking sulfur tanks can be a significant source of environmental pollution to soil, groundwater, streams and lakes, resulting in contamination of drinking water. In addition, fire, explosion and inhalation of dangerous vapors present further critical concerns. Such scenarios may result in asset owners facing strict financial penalties from environmental regulatory institutions and as a result, damage their reputation on a local and international level.

Hyper Corrosive Environment

The corrosion mechanisms vary according to the design and service conditions, but the most common cause for internal corrosion is the deposition of solid sulfur on the interior surfaces of the tank together with the presence of liquid water. The combination of these two components creates the phenomenon of wet sulfur corrosion that can cause severe attack to the carbon steel, especially when the hydrogen sulfide (H₂S) concentration levels are high.

In order to keep the sulfur in a liquid state, the storage tanks are heated at a temperature between 257°F (125°C) and 293°F (145°C). Insufficient heating and external climatic conditions, in combination with missing insulation will cause temperature variations within the tank. Failure to maintain the desired temperature at the steel surfaces in the vapor space



Above: Sulfur Storage Tank

of the tank will lead to the solidification of the sulfur fog. The concentration of solid sulfur at the interior side walls, the roof and the vent nozzles will then cause severe corrosion that will propagate in depth and length.

After solidifying on the surface, the sulfur will act as an insulator contributing to further cooling of the surfaces. As the temperature continues to fall, traces of condensed water, formed by oxidation of hydrogen sulfide, will react with the solid sulfur and the iron from the tank walls, creating the ideal environment for the formation of iron oxide (Fe₂O₃) and iron sulfide (FeS) that further accelerate corrosion.

When the tank is in an anaerobic condition, the iron sulfide will not cause any hazards. However, when the tanks are opened to the atmosphere for inspection, cleanout and maintenance the iron sulfide, being a pyrophoric material, can spontaneously combust in the presence of oxygen, igniting a sulfur fire or an explosion.

Despite the fact that there are fabrication codes for the construction of this type of tank, these codes do not include sufficient mitigation for corrosion formation. Therefore, sulfur tank corrosion problems remain unsolved and corrosion control and mitigation measures are left with the operator of the tank.

High Temperature Protective Linings

Field experience has shown that the corrosion mechanisms and conditions can be minimised or eliminated by employing protective internal linings. To ensure a successful outcome, the protective materials should demonstrate outstanding chemical resistance against direct exposure to acidic conditions at high temperatures.

The first step of Belzonia's high temperature lining research project was the introduction of hand applied Belzonia 1591 (Ceramic XHT) in 1998, and spray applied Belzonia 1521 (HTS1) in 1999, following a successful field trial program. Over the following 16 years, Belzonia's R&D department analysed data from the field and researched innovative technologies and filler systems that could enhance material characteristics and in-service performance that would allow for the coating to resist elevated temperatures, but at the same time, remain flexible to sufficiently minimise the risk of cracking. This research has culminated in the introduction of next generation high temperature

vessel linings in March 2014, hand applied Belzona 1593 and spray applied Belzona 1523.

According to Belzona's Chief R&D Chemist, Richard Collett, "Belzona 1523 and Belzona 1593 are the result of 20 years experience in formulating high temperature linings, starting in 1994. These linings are based on a combination of several 'state of the art' technologies and I believe they are our best high temperature linings yet."

Enhanced Chemical Performance – Increased Flexibility

Belzona 1523 and Belzona 1593 epoxy linings are designed to provide long-term corrosion and chemical resistance to equipment operating in continuous immersion at temperatures up to 140°C and 160°C, respectively. These two-part materials consist of an epoxy novolac base and a polyamine solidifier that, when mixed and cured, produce a very tightly cross-linked density.

The lining's network is additionally supplemented by a novel secondary cross-linking mechanism initiated at temperatures above 90°C that further increases the cross-link density of the polymer matrix, making it even more difficult for the attacking reactive molecules to permeate through the film. Consequently, the materials demonstrate excellent resistance to liquid sulfur, sulfur dioxide (SO₂) and hydrogen sulfide (H₂S), as well as to the small amount of sulfuric acid (H₂SO₄) that may be present in a sulfur storage tank.



Above: Crack propagation on conventional lining materials

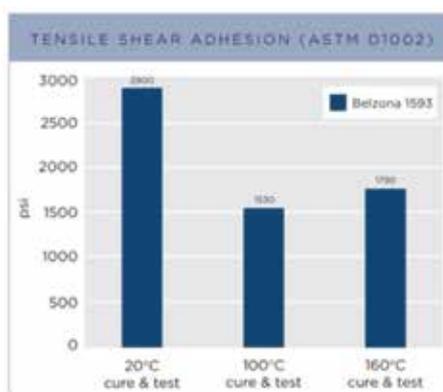
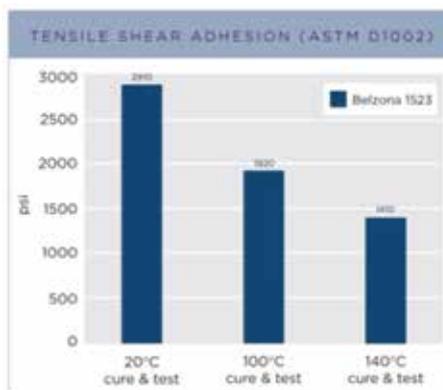


Above: The rubbery domains incorporated to Belzona 1523 and Belzona 1593 inhibit crack propagation

The high cross-link density required for coatings to achieve their high temperature immersion resistance can make conventional materials rigid and susceptible to cracking during thermal cycling and substrate flexing. Belzona 1523 and Belzona 1593 overcome this by the incorporation of rubbery domains that offer flexibility and inhibit crack propagation.

Excellent Adhesion – No Failure Caused by Solvent Retention

Belzona 1523 and Belzona 1593 demonstrate excellent adhesion. Belzona 1523 exhibits a tensile strength of 13.7 MPa and elongation rate of 0.54% when cured and tested at 100°C, whilst Belzona 1593 exhibits a tensile strength of 11.2 MPa and elongation rate of 0.31% when cured and tested at 160°C. Since the materials can be deformed when under radial, circumferential and longitudinal stress, they preserve their integrity, move in sympathy with the substrate, reducing material ruptures, breaks and fissures.



It has been proven that during the application of solvent-based coatings, issues can arise due to solvent retention within the film. In this case, solvent can be trapped within the applied linings and eventually evaporate leaving behind a void, which can then be filled by the system fluids causing bubbling and blistering. This is not the case with Belzona 1523 and Belzona 1593 since they are solvent free and thus also environmentally friendly.



Above: Belzona 1523 sprayed applied

These next generation linings address an application issue previously experienced when applying a two coat system of high temperature linings - bypass the need for grit blasting between coats, provided the second coat is applied within a 24-hour overcoat window. In addition, the unique curing mechanism of Belzona 1523 and Belzona 1593 activated at ambient temperatures eliminates the need for separate post curing processes as the lining will post cure in service ensuring a faster turnaround.

High viscosity coatings are often over applied in an attempt to make the application easier and to improve the flow out, which can lead to over-thickness, and have large impacts on costs and, more importantly, on performance. Improved rheology in this case allows for a more uniform thickness to be achieved.

An important consideration for lining manufacturers is visual inspection during application. Dark coloured linings can make it very challenging due to poor lighting inside the vessel. Next generation linings have been formulated in light contrasting colours enabling quicker and more precise identification of potential problems at the application stage. They are also spark testable and with minimal bloom formation on the surface, eliminating false alarms due to surface tracking.

Looking Into The Future

As a response to the existing needs and anticipating the future demands of the sulphur storage tanks market, Belzona has introduced its new technologically advanced high temperature linings to minimise corrosion failures and ensure personnel protection. Having recognised the fact that linings can be a controlling factor in the sulfur tank's service life, Belzona has contributed to their protection by basing the development of Belzona 1523 and Belzona 1593, on clever polymer technology that is also ideal for other oil and gas production equipment vessels such as separators, flare knock-out drums and evaporators operating at high temperatures.

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

New Fluke 805 FC Vibration Meter is the latest addition to Fluke Connect – the world’s largest wireless system of test and measurement tools

The 805 FC delivers best-in-class repeatability, accuracy for checking the overall health of motors and other rotating equipment, and shares measurements with team members in real time



Fluke has introduced the handheld Fluke® 805 FC Vibration Meter, a portable multifunction vibration screening tool that provides quantifiable information on the bearings and overall health of motors and other rotating equipment, and shares that data in real time via Fluke Connect™. The Fluke 805 FC is ideal for frontline mechanical troubleshooting teams that need reliable and repeatable measurements of rotating equipment to make imperative go/no-go maintenance decisions.

Vibration screening is a critical part of motor maintenance, and trending measurement data over time provides invaluable insight into long-term

motor health. The Fluke 805 FC automatically saves vibration data wirelessly to Fluke Connect cloud storage so authorised team members can view all of the measurement data for each asset with the Fluke Connect app on their mobile devices before they leave the inspection site.

Using EquipmentLog™, technicians and managers can get all their measurement data in one place to get the complete asset story. EquipmentLog history allows technicians to assign measurements to specific equipment, creating a cloud-based history of all test measurement data (e.g. vibration, electrical, infrared images) for easy access during

both troubleshooting and reliability maintenance.

Technicians can also share measurements with other team members in real time with ShareLive™ video calls to get approvals for repairs or get questions answered without leaving the field.

The Fluke 805 FC measures overall vibration from 10Hz to 1,000Hz and provides a four-level severity assessment for overall vibration and bearing condition. It detects peaks in the vibration signal readings of roller bearings from 4,000Hz to 20,000Hz, and uses a proprietary algorithm to interpret severity to determine if the bearing is going bad. And it features an infrared sensor that automatically measures surface temperature and displays it along with the vibration reading for a broader understanding of machine health.

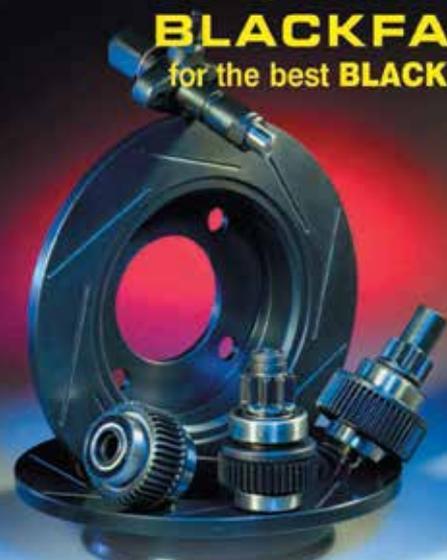
The 805 FC has a unique sensor tip design that minimises measurement variations caused by device angle or contact pressure. This reduces operator error and improves the accuracy and repeatability of quick vibration screening. The meter also provides a severity scale for both overall vibration and bearing condition readings, delivering more information than typical vibration pens.

Fluke Connect System

The Fluke 805 FC, along with more than 20 other Fluke tools, are part of the Fluke Connect system — the world’s largest portfolio of connected tools. It allows technicians to make better and faster decisions by having access to maintenance records wherever they are working. The Fluke Connect app can be downloaded for free from the Apple App Store and the Google Play Store.

For more information on all Fluke products, please visit: www.fluke.co.uk

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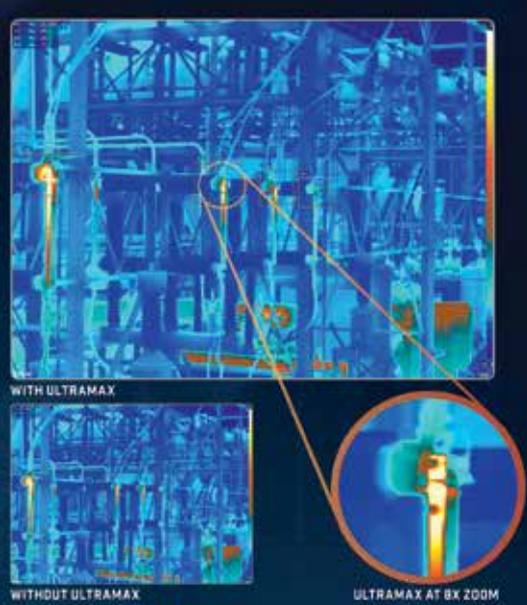
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Renewed Fluke Solution Center introduces three major Fluke thermal imager ranges

Web pages detail how to choose and use a thermal imager, include latest Expert Series

Fluke, the global leader in handheld electronic test and measurement equipment, has renewed and extended its Solution Center web pages. Now there is even more information on choosing and using thermal imagers, as well as full details of Fluke's Performance, Professional and Expert Series thermal imagers. The all-new Solution Center at www.fluke.co.uk/ti-solution-center introduces several new models, and has an interactive screen to show the best camera for a particular application.

Introducing new Fluke thermal imagers

For engineers, researchers, designers and advanced thermographers, Fluke's latest top-of-the-range Expert Series shows stunning images up to 640x480 pixels. The cameras have an extra-large 14.5cm articulating colour TFT LCD display with daylight operation. They are for advanced applications like R&D, quality control and predictive maintenance, and particularly for demanding sectors like industrial, oil & gas, utilities, medical and biological/ sciences. Field swappable lenses extend applications.

For professional, in-house, contract and service thermographers, the Professional Series gives you crisp, detailed images for more in-depth studies like reliability inspections. These models show high quality images and advanced features like LaserSharp™ Auto Focus. They have a one-handed easy-to-use touch screen interface.

For routine maintenance by technicians and contractors, the affordable Performance Series models show images up to 160 x 120 pixels. The cameras feature easy operation for quick scans and/or intermittent inspections.

All models have Fluke's IR-OptiFlex™, IR-Fusion® with AutoBlend™, Fluke Connect™, and SmartView® software.

Choosing and using thermal imagers

The Center outlines eight reasons for choosing Fluke thermal imagers, lets you work out ROI with a useful

calculator, gives advice on where to buy, and provides a link to request a demo.



There are short videos on how to prevent downtime, how to predict equipment faults, and how

to ensure equipment is energy efficient. Webinars summarise how to perform a qualitative electrical inspection, how to detect electrical energy losses, and how to inspect electromechanical equipment. There are links to detailed data sheets and application notes to help you get the best from your thermal imager.

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

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Plant Condition Monitoring, From Anywhere

IFM electronic's VSE100 allows anyone to monitor machine condition at any time, from anywhere.



There are as many reasons why vibration monitoring with the VSE100 is useful to any industry as there are reasons to look at condition monitoring. It allows better deployment of personnel and better maintenance because it can be planned. It stops assets failing badly, improves life cost of assets and cuts downtime. Having that predictive edge makes for a competitive edge.

The VSE system design specification can offer permanent monitoring at a low cost and can be used by any technician or engineer – you don't need specialist knowledge. The VSE can be networked with standard off the shelf products while the actual vibration data is processed close to the point of measurement. One single VSE100 can monitor multiple points with one unit and offers integrated history to provide trending analysis.

The VSE100 will integrate into any control system or automation set-up or connect to telemetry at a cost in the region of hundreds of pounds per asset rather than thousands or even tens of thousands. And the software is free of charge.

What can the VSE100 do in more detail? Vibration monitoring to ISO 10816. Using the VSA or VSP accelerometers attached to the asset, the VSE detects rolling element bearing damage by looking for a number of symptoms, from progressive bearing damage to simple misalignment, overload or imbalance, insufficient lubrication or incorrect assembly through to shock damage in handling or even simple material defects.

If it's a shaft that needs monitoring the VSE will provide data or alarms for shaft imbalance resulting

from damage to pump impellers or deposits on fan impellers, or incorrect assembly resulting in misalignment.

Essentially the VSE100 is a rail-mount monitoring module for use with up to four vibration sensors offering multiple digital alarm outputs, 4...20mA analogue output, history trend storage and counter functions, operating on 24V DC.

The VSE100 requires the VES003 software (freely downloadable) which facilitates monitoring by displaying each object as simple-to-understand bar graphs. This means there is no need for an expert to interpret the data. Several views are available including a damage level screen showing each object being monitored.

Each VSE100 card can store 600,000 data values, saving date and time stamp for each parameter being monitored. This file can be downloaded and saved.

The VSE100 is not restricted to use as a stand-alone system (connect to a laptop and download data it's convenient) it can be used hard-wired to the plc for alarms, or that can extend to hard-wired alarms plus network connection for managers to monitor. Equally, and useful for many industries is the use of VSE for completely remote access via a router to the internet and access data from anywhere.

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.

ifm electronic Ltd.,
www.ifm.com/uk

Five Top Tips on Maintenance Management

Along with your employees, your assets are the most valuable part of your business. It is therefore important that they are correctly and regularly maintained.



Real Asset Management has used its extensive experience of implementing Computerised Maintenance Management Systems (CMMS), to draft you a list of maintenance top tips. A company can not only increase the operational life of its assets by managing its maintenance well but it can also reduce maintenance costs, resulting in improved efficiency across the organisation.

From our experience, here are five top tips on how best to manage your maintenance:

1. Don't overspend on Maintenance – It's important that you look at every aspect of an asset, from the price it was bought at, what the replacement cost would be, as well as the manufacturer's lifespan for it. This allows you to calculate what your maintenance budget will be for each year, depending on how far forward you want to plan, and produce a report from your CMMS that details how much you need to consider spending on each asset over a set time period.

- 2. Carefully research your timescales for Planned Maintenance** - Be clear on the planned schedules and how they should be generated. If they are too frequent or unnecessary, engineers can get tied up with planned maintenance schedules and any reactive work can lead to overloading. It is important to remember that scheduled services should not be missed. If a scheduled service appears optional, chances are it won't be completed.
- 3. Go Paperless!** – The ability to create, amend and share maintenance task lists via a mobile device and in real-time allows maintenance managers to prioritise the allocation of work and improve the visibility on the status of all jobs and engineers' workloads. It also allows any tasks being managed via a mobile device to be automatically available and up to date on the central system; meaning greater visibility for the wider team. In addition, mobile capability enables engineers to react more quickly to any urgent maintenance work that may be needed.
- 4. Avoid information overload!** - It will only be ignored. Keep descriptions of faults and types of work concise and to the point. Too much information can lead to uncertainty amongst engineers and a lack of clarity in reporting. It is also essential that you are clear on the level of detail that needs to be captured on a type



of work order. Do you need to track individual item costs for all work orders? Or can some items or types of work be grouped, to save time and data entry?

- 5. Keep compliance top of the list** – We know that clear, good, accurate and detailed asset information is at the heart of successful ISO 55000 accreditation. By efficiently inputting this type of up to date information, you can quickly collate the data required. For example, how many jobs occur each day/week or month? What is the fix time? Which skills – and subcontractors – are required to complete the job? What items were requested from stores? Was there a delay in attaining spare parts? And what are the associated costs in terms of business performance? Being able to answer these types of questions will lead to effective compliance and greater business performance.

RAM offers computerised maintenance management software (CMMS) that is ISO 55000 compliant and for more information about how we can help your organisation, please visit our solutions page www.realassetmgt.co.uk/fix-ed-asset-management-software.html, email solution@realassetmgt.co.uk or give our friendly team a call on +44 (0)1689 892 137.

NEW GUIDE TO BUYING CMMS SOFTWARE



Now available from Service Works Group

The guide provides:

- Guidance for writing a compelling business case
- Operational considerations prior to system selection
- Recommendations for building a successful project team
- Advice for managing the software supplier
- Key considerations to be addressed before the contract is signed

To request a complimentary copy
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Shire Systems To Show New Products At Maintec And 2015 Roadshows.

Throughout 2015 the Shire Team will be on hand at various UK venues to demonstrate the latest release of Pirana CMMS maintenance software and the ever popular Pirana Mobile suite of products.

Whether you attend Maintec, one of the roadshows, or both, you will be able to experience any Shire product for yourself, with guidance from the Shire experts.

Pirana CMMS products are affordable and scalable. Available on-premise or on-demand (cloud).

Shire FREE Roadshows

The UK No 1 producer of maintenance software has published the full 2015 roadshow schedule. Shire roadshows are FREE and a fantastic way of experiencing the popular solutions first hand. Whether you are an existing user looking for a refresher or wondering about the benefits of switching to a browser-based system, you'll be able to experience the benefits.

Some of the topics covered:

- How to setup & implement your CMMS (including live demo)
- Tour of the new, easy Pirana CMMS interface
- New and upcoming products and productivity aids
- How to move from FrontLine to Pirana
- A full range of Mobile solutions

Roadshow days are split into two sessions:

Morning Session – Overview of Pirana CMMS including New / Advanced features.

Afternoon Session - PIRANA MOBILE Solutions, Method & Setup.

Demand is high so be sure to register early at shiresystems.com/roadshows or call 023 8022 4111

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Shire also offers a FREE, no-obligation, fully functional trial.

Maintec 2015

The Shire Team will be at stand M16H for Maintec 2015 at The NEC Birmingham 24 – 26 March. Maintec celebrates its 40th year and will be even bigger than ever, combined with Cleaning 2015, Facilities Management 2015 and The Health & Safety Event.

About Pirana CMMS

Pirana CMMS software is affordable and scalable. The interface is incredibly easy to pick up; it's possible to get started in minutes! The layout is effortlessly navigated via the quick access icons and it's possible to boost usability even further by setting customisable components.

Besides being supremely easy to use and deploy, Pirana CMMS delivers a full suite of products providing the rich functionality that maintenance managers would expect from a market leader:

- Fully featured Asset Register
- Meter Register



- Preventive Maintenance – Scheduling based on custom triggers, such as meter readings
- Predictive Maintenance – Fault and breakdown logging
- Materials – Full inventory of parts, tools and other materials
- Purchasing control
- Task Register
- Request logging – for work orders, purchase orders and quotations
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- Management KPIs
- Powerful reporting

Pirana CMMS can help you meet your SUSTAINABILITY goals

- Optimise Equipment Lifecycle – Efficiently schedule and track PM tasks on your critical assets.
- Minimise Energy Usage - Collect data and track usage.
- Community Relations - Collect data and promote your organisation's efforts.
- Outsourcing Analysis – Collect data on team tasks to help you determine when it pays to outsource.

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CMMS: an investment in the future

A new guide from Service Works aids Maintenance Managers in selecting CMMS software and preparing a comprehensive and compelling business case.



complexities of selecting and putting together a business case for CMMS, and to guide maintenance managers through important questions such as:

- How does this solution align with current and future core business needs?
- What are the current costs and costs of potential system changes?
- What is the best vendor sourcing strategy?
- What are the expected outcomes of this investment?
- How will the software solution be impacted by future external factors, such as increased workforce mobility and developments in technology?

The guide provides insight into selecting CMMS software, considers the end-to-end process, from selection to implementation through to post-sales support, and gives detailed advice and guidance for each stage of the software lifecycle.

When it is carefully chosen, through a structured product and vendor selection process and successfully implemented, CMMS software can provide significant financial savings, as well as efficiency improvements and measurable customer-service benefits. To achieve this, the scope and goals of the project must be clear from the outset to both internal staff and to the supplier in order to secure the initial and future success of the maintenance management solution.

To receive a complimentary copy of Service Works' 'Guide to Buying CMMS Software', please email info@swg.com or call +44 (0)208 877 4080.



The demand for an increasingly effective routine and planned maintenance service requires a constant evolution of new methods, processes, and techniques. These are continually developed, tested and implemented to enable maintenance managers to meet the challenge of being more productive and efficient at the lowest cost, while achieving the optimum lifespan for assets. There is also a need for a constant flow of quality data, which is immediately available and which can be analysed and shared with other business areas, to deliver company-wide benefits.

Maintenance management is increasingly challenged to contribute to the organisation's strategic goals, creating value and increasing growth potential. Spurred on by the UK Government's efficiency and energy saving targets for BIM, technology is a key area for maintenance managers looking to provide meaningful information for intelligent decision making as part of an enterprise-wide solution.

Over the years, maintenance managers have expanded their use of CMMS (computerised

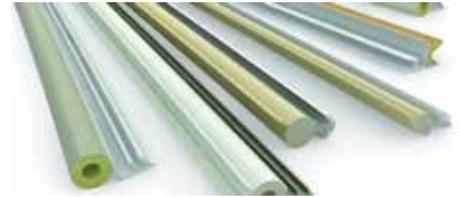
maintenance management software) far beyond asset management and planned maintenance to a variety of tasks, including work order management, predictive maintenance and energy management. However, maintenance managers, without a procurement background or the support of procurement expertise, when faced with selecting the most appropriate software solution from the best supplier, may find it difficult to navigate the vast maze of systems and suppliers. They may even struggle to understand the industry's plethora of jargon and confusing terminology.

In the current economy, maintenance managers need to have a solid justification for investing in a software solution. They must be able to ask the right questions at the right time to enable them to, not only choose the system which is right for their business, but to achieve the best return on investment from both the system and their software partner.

With this in mind, Service Works Group has published a new guide to help to remove the

Schlegel UK seals Mainsaver CMMS deal

Schlegel UK, leading European manufacturer of door and window sealing systems, has selected Mainsaver CMMS for its manufacturing facility in Bedfordshire, Spidex Software has announced.



Mainsaver is expected to support the establishment of a new preventative maintenance (PM) regime at the site, whose top-quality ISO-accredited range of architectural hardware products is distributed across four continents.

Gary Williams, the company's Divisional SHE Compliance Manager, led the evaluation of competing CMMS products.

"We started our CMMS assessment solely with planning and scheduling of preventative maintenance in mind" he says "but when we saw Mainsaver, it really opened our eyes to a number of other ways we could improve. That made Mainsaver a front-running contender pretty much from the outset."

After an extensive pan-European comparison exercise, carried out over a number of months and which examined the comparative features in a number of CMMS solutions, Schlegel finally decided on Mainsaver.

Gary Williams: "The whole look and feel of Mainsaver suited our requirements best. It has all the features we needed straight away, while enabling us to add further modules later to support future planned strategies."

"We were particularly impressed with the range of reporting functions Mainsaver offers. These will enable us to easily identify maintenance issues which may require extra attention and to carry out root-cause analysis to remediate them effectively." "Overall, Mainsaver simply represented the best

value for money. In future, we expect that the data held in Mainsaver will contribute invaluable supporting evidence to high-level decision-making on future capital investment here."

Spidex Managing Director Jonathan Starling commented "It is a terrific pleasure to be working with an important specialist manufacturer such as Schlegel, whose selection of Mainsaver is further evidence of our software's ability to operate effectively across the full spectrum of operating environments. We look forward to a long and happy association."

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Leading Fresh Prepared Foods Provider Switch To The Next Generation Maintenance Management Solution From SoftSols

Background

Bakkavor Group is the UK's leading provider of fresh prepared foods employing nearly 19,000 people across 52 operating facilities. There are 32 operations in the UK, from Edinburgh in Scotland to Dover in Kent.

Bakkavor supplies over 5000 products across 18 different product categories including; ready meals, pizzas, desserts, leafy salads and soups. Its primary business is private label food for the major grocery retailers in the UK including; Tesco, M&S, Waitrose and Sainsbury.

In 1997 Bakkavor first implemented Impact XP, a CMMS solution historically provided by SoftSols Group, which was rolled out across the majority of Bakkavor sites over a ten-year period. In 2007 Bakkavor began an extensive search for the best next generation CMMS solution from all major system providers

The business need

Bakkavor required a system that could efficiently manage its reactive and proactive maintenance schedules whilst allowing the Engineering department to manage its own inventory and purchase orders.

The system also needed to interface with Bakkavor's core ERP (Enterprise Resource Planning) systems, Protean and Great Plains. The chosen solution was Agility, the next generation Maintenance Management Solution from SoftSols.

The solution

The first site to implement Agility was the Cucina Sano operation in Lincolnshire. Implementation commenced in 2010 and through the implementation process the business was able to review its current data and processes and dedicate time and resource to improving these. It also gave Cucina Sano the opportunity to ensure each of its assets was identified and included in Agility.

Since implementation Agility has enabled all reactive and proactive maintenance activity to be managed together in a single system, also giving visibility of historical data allowing job trends to be monitored.

Engineering inventory and purchase orders are also being managed through Agility and Agility Mobile Stores.

The benefits

Since 2010, Agility has been implemented in 13 Bakkavor sites with each one having the opportunity to review its processes and assets and make improvements. Using Agility across multiple sites has given the business the significant benefit of a standard system, with reports and KPI's that can be generated and used by the engineers and each individual operation.

"Through using Agility the engineers have embraced ownership of the data in Agility and each team has worked hard to improve the quality of data captured, benefitting the Engineering teams and the whole business", explains Gary Smyth, Business Analyst at Bakkavor.

The planned maintenance schedule generated in Agility has also enabled greater collaboration between the Engineering and Planning departments, ensuring the required equipment is available for planned maintenance, resulting in less interruption for the Production departments and increased uptime.

Through using Agility to manage inventory and purchase orders, stock values and levels are being constantly reviewed and optimised whilst ensuring that critical parts are available at all times using Min/Max levels, regular stock checks and running the system stock replenishment functions. Using Agility Mobile Stores, the engineering team complete stock transactions in real time ensuring immediate and accurate visibility of stock levels.

Through using Agility across the current sites approximately 2,300 work orders are now generated per week and Bakkavor has seen a significant



improvement on its reactive versus planned maintenance from 80/20 to a 50/50 split. Gary Smyth explains, "Since rolling out Agility across Bakkavor, and with help from SoftSols configuring the system, we have seen a definite improvement in system utilisation, recorded jobs (both reactive and proactive), and been able to successfully interrogate repetitive maintenance. Based on this, we are now seeing an increase in product throughput within the manufacturing environment."

Next steps

Agility will continue to be rolled out across Bakkavor sites and by the end of 2014, 16 Bakkavor sites will be using Agility with approx. 350 users. By the end of 2015 Agility will be used on 20 sites with over 500+ users.

Agility will continue to be used to improve the reactive versus planned maintenance split and also be used with other production systems to review and improve NME (Net Machine Efficiency) and OEE (Overall Equipment Effectiveness) for Bakkavor.

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Chiller Hire a Practical Solution for Machine Trials

Andrews Chiller Hire offered the perfect solution for a specialist machine builder when they needed to test-run bespoke built machinery that required a supply of chilled water, whether to cool the actual manufactured components or keep the machining heads at a constant temperature.

Reasons behind selection of Andrews Chiller are that it has the largest hire fleet of any chiller hire company with air-cooled fluid air chillers with capacities from 6kW to more than 750kW and operates out of an extensive nationwide network of depots which means customers receive prompt delivery.

On a continuous, automatic rotary extrusion machine developed by the specialist machine builder there is a cooling trough positioned immediately after the actual extrusion processing head to quench the finished components.

After pre-preparation non-ferrous feed stock enters the extrusion chamber entrance and is carried to an abutment, the forced forward motion creating friction and subsequent heat. The increase in metal temperature creates a plastic state ready for forcing through a pattern die. The extruded tube or profile ejected from the die can be at temperatures in excess of 500°C.

The long quench trough provides staged cooling to achieve correct metallurgical properties of the finished non-ferrous products such as copper and aluminium conductors, copper bus bars, lightning and earthing strips, etc. then need to be cooled.

All sectors of the cooling trough have recirculating water pipes connected directly to the Andrews 50kW chiller where heated water is continuously drawn out to the chiller, circulates through its chilling process, chilled water continuous entering the trough to lower temperature. This cyclic process has to take into account that in the first cooling section there is a more significant rise on water temperature due to the extremely high component temperature.

The cooling application on the extrusion machine is one of the many industrial applications for which Andrews Chillers Hire equipment is used. Due to the nature and diversity of build program the machine builder hires as and when required and for only short periods to enable machine trials before despatch to their customers. "Hire is the most practical and most economical solution for our needs" quoted a spokesperson for the company.

This versatile 50kW fluid chiller is part of the Andrews Sykes Chiller Hire complete range of temperature control equipment and ancillaries to satisfy

all industrial cooling requirements providing cooling water to production processes or to bypass/assist permanently installed chillers. Within the confines of the compact frame of the 50kW model it encompasses all that is required of a modern, highly effective chiller such as a heat exchanger, condenser, control system, compressor and circulating pumps. It comes mounted on a robust base plate complete with lifting facility for easy on-site positioning.



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

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

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

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

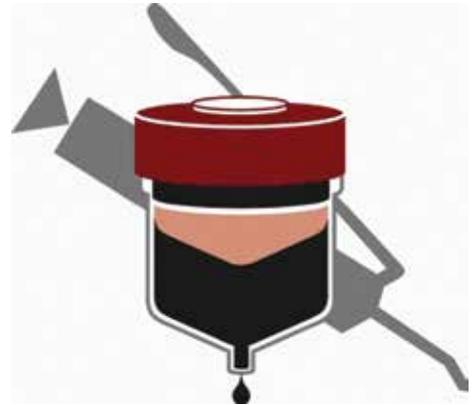


Jack-Luber Model 125 & Replacement Cartridge

The innovative new Jack-Luber incorporates a Jackscrew mechanism which reduces wear & therefore prolongs the operational life of the unit. Once activated, the Jack-Luber runs intermittently to supply grease on the optimum "Little and Often" principle. Integral switches allow users to set the required feed rate, allowing up to 2 years operation between cartridge/battery change.

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

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



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

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

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New Self-Adhesive P/TAG Labels to be introduced by Silver Fox

Industry leading labelling solutions manufacturer Silver Fox are introducing a new extensive range of ProLab® P/TAG Self-adhesive labels.

Available in 6 new colours, Clear, Yellow, Red, Green, Blue, Purple as well as the original White*. In addition to 18 stick sizes, customers can order specific size labels to meet unique requirements.

Not only can Silver Fox offer more colours, but they can supply minimum orders to meet the customers individual requests, just contact sales@silverfox.co.uk. Stock items can be delivered within 24 hours and up to 4 days for special orders.

P/TAG labels are suitable for use across all industries, in particular Data and Telecoms, Power, Energy and Oil & Gas.

To print P/TAG labels using the Labacus Innovator® software and pre-loaded templates, simply type in or copy and paste your information from any Windows application, and print using an ordinary laser printer. The labels are pre-cut for rapid removal.

"P/TAG labels can be used in a variety of applications. We have expanded this range to meet the high demands of our customers. We offer 6 standard colours, and more on request." Commented Nick Michaelson, CEO of Silver Fox.

Quality and Durability is paramount and to this end Silver Fox has invested in the extreme independent testing of all its label solutions. Tests include High/Low temperature, Salt Mist Spray, H2S, Moisture Resistance, and 3000 hours accelerated UV ageing.

*All colours are to the TIA/EIA-606-A standard.

P/TAG Labels and all Silver Fox UK BRAND UK MADE products available from: www.silverfox.co.uk or contact sales@silverfox.co.uk or call +44 (0) 1707 373727



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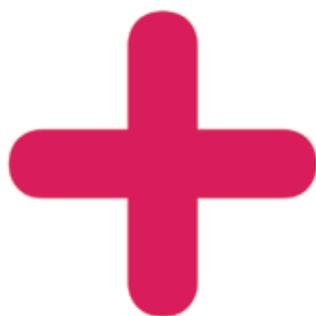


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Whitelegg Appointed as UK and Ireland Agents for Schleich Motor Test Equipment

Following a long association with Schleich GmbH, Whitelegg Machines is now delighted to advise that they have been appointed sole agents for this well respected German company covering the UK, Ireland and Middle East

Schleich, working with Whitelegg in the UK, has many years' experience in the design and manufacture of coil and motor testing equipment for the electrical engineering and motor manufacturing and repair industries.



Whitelegg, established before WW2, have built themselves a worldwide reputation for manufacturing and supplying winding machines and an extensive range of electric motor manufacturing accessories.

The Schleich range incorporates testers for motor test and repair in both bench top and portable styles as well as for production line electrical function tests, typically for luminaries and white goods. The instruments offer greater functionality and enhanced features with prices 20 - 25% below competitor products.

Managing director, Glyn Dawson comments 'We have worked in association with Schleich for many years now and have had great success in the UK with the versatile Motatest range of portable testers. Now with the sole agency we have access to the full range of arguably, the finest motor health analysers and testers in the World'

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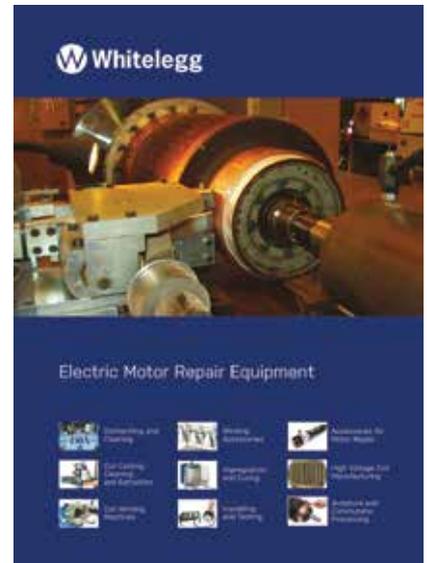
Whitelegg's New Equipment Brochure Covers All Aspect Of Motor Repair

This new 20 page brochure from Whitelegg Machines of Crawley comprehensively covers all instruments, tools and accessories for the repair and servicing of motors, coils and armatures.

Including their existing range and with new additions in the testing category, the brochure covers all operations from dismantling and cleaning through coil winding, impregnation curing and finally testing.

The brochure is available as hard copy and as a web download/turning page book.

Established over 60 years Whitelegg have built up strong worldwide as well as UK markets specialising in electric motor equipment. Sales engineers are always on hand for advice.



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CSA Group Announces Operations in the United Kingdom are Merging to Form CSA Group Testing UK Limited and Upcoming New Hazardous Locations Testing Laboratory in North Wales

CSA Group, a leading global provider of testing and certification services and a standards development organization, announced its UK acquired operations, SIRA Test & Certification and mi Technology Group, will be merged under the new name CSA Group Testing UK Limited.

"CSA Group is committed to delivering exceptional testing and certification and conformity assessment solutions that help our customers ensure their products meet global standards and requirements," said Ralf Schunk, CSA Group Vice President, Europe. "Combining our UK operations under the CSA Group brand will allow us to effectively promote our global service offerings and provide our clients with more efficient, consistent and unified service throughout all regions in which we operate. Our clients will see a seamless transition and projects will continue as usual. In addition, as a part of our European and global strategic hazardous locations testing service expansions and to meet the growing needs of our clients, we will be opening a new office and a premium new hazardous locations testing laboratory at Hawarden in North Wales on May 14th."

SIRA was acquired by CSA Group in 2009 and is a world leader in hazardous locations testing. SIRA is a Notified Body specializing in testing and certification of equipment for use in potentially explosive atmospheres. SIRA also provides training, personnel certification and instrument calibration related to water effluent and air emissions. Under the new company name, the SIRA mark will continue to be used and promoted as part of CSA Group's global service offerings.

CSA Group acquired mi Technology in 2013 as part of its strategic growth plan in the automotive and transportation sector. mi Technology's mission is to provide innovative testing services and engineering solutions to the transportation industry, and premium passenger and commercial vehicle manufacturers, to enable them to meet or exceed their market and customer expectations. mi Technology's test and

development centre provides vehicle testing in the areas of environmental impact, engine performance and emissions, powertrain, structural integrity, and durability, including for lightweight structures.

In 2011, CSA Group expanded into mainland Europe with the establishment of its European headquarters in Frankfurt (Germany) and since then has accelerated its growth and will continue to expand. CSA Group's operations in Europe include laboratories in Frankfurt and Switzerland which offer testing for medical and laboratory equipment, laboratories in Strasskirchen and Leyland which conduct testing and certification of automotive components, and will be opening a new hazardous locations testing laboratory in North Wales. CSA Group also has branch offices in The Netherlands and Italy, and testing facilities in Turkey, and employs more than 400 experts across Europe. CSA Group is planning to expand its operations in Germany and the UK over the next several years in order to meet the growing

For more information on CSA Group, visit www.csagroup.org.

Camfil receives European certification for CITY M Air Cleaner

Camfil, the world leader in providing air filtration solutions for maintaining healthy and comfortable indoor environments, has received certification for CITY M Air Cleaner from the European Centre for Allergy Research Foundation (ECARF).



Camfil has been awarded the ECARF 'Quality Seal for Allergy-Friendly Products and Services' for its CITY-M Air Cleaner product.

The ECARF certification is a seal of approval for Camfil's CITY M which confirms its suitability for use by allergic consumers. The non-profit European Centre for Allergy Research Foundation (ECARF) has awarded certification to products that meet detailed quality requirements in keeping with the needs of allergy sufferers since 2006.

The ECARF Seal of Quality certifies air purifiers as allergy friendly that are able to demonstrate that they achieve a significant reduction in the level of pollen, bacteria and mould spores in the air.

The Camfil CITY-M was rigorously tested to ensure that it complies with the ECARF criteria for allergy-friendly air purifiers.

Criteria met by the CamCleaner CITY-M air cleaner:

- 1) They achieve a significant reduction in the level of pollen, bacteria and mould spores in the air:
 - a) Collection efficiency for fine, respirable dust (particle size $\leq 7 \mu\text{m}$) in tests with indoor air dust $\geq 90\%$
 - b) Collection efficiency for bacteria in tests with house dust: $\geq 95\%$
 - c) Allergen level of purified air in tests with house dust: $< 1 \text{ ng}/\text{m}^3$
 - d) Collect ion efficiency for mould spores: $\geq 85\%$



2. Ozone is not released during operation: Ozone concentration in accordance with DIN EN ISO 16000-9: $< 15 \mu\text{g}/\text{m}^3$. Proof is only required if the system contains components that may emit ozone;
3. They do not alter the room temperature;
4. The exhaust air has a neutral odour

Bill Wilkinson Camfil UK Managing Director said: "We are extremely proud to have received ECARF certification for the CITY-M air cleaner. Receiving European approval truly demonstrates the quality and integrity of the product to new and existing customers – both in the UK and across Europe".

CamCleaner is a range of patented air cleaners with the most efficient HEPA filters on the market. They are designed to work as a supplement to existing ventilation system and deliver reduced energy costs, more efficient production and a healthier work environment with less dust and fewer harmful particles.

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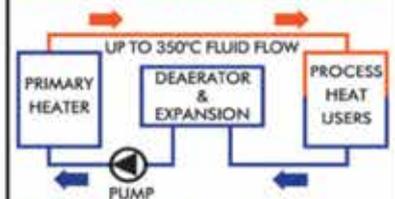
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