Hazardous Engineering Solutions



The International Magazine For Hazardous Area Professionals

## Nov/Dec 2015 | Issue 26

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## Wyndham Page launches new shutdown valves and joins forces with ATEX approved spark arrestor manufacturer Western Tyden

Wyndham Page, the diesel engine protection equipment manufacturer, has launched new ranges of mechanically actuated automatic overspeed air intake shutdown valves and solenoid actuated butterfly shutdown valves for the diesel engine safety market.

These new products are available in a wide range of sizes and are both lightweight and compact. Engineered to the highest standards the valves are designed for fitting to engines operating in environments where it is critical to close down the engine intake to ensure a rapid and guaranteed way of engine shut down to prevent run away or other hazardous situations occurring.

The E-series, mechanical automatic shut down valves are designed and manufactured to facilitate rapid dispatch with most sizes available for next day delivery. In operation no external speed signal input is required and the method of setting the trip speed is straightforward and easily checked in the field.

The new FS-series energized to close butterfly valves are engineered with a fully enclosed solenoid, precision low friction butterfly disc and a high shock resistant release mechanism. The valves have the option of 12v or 24v operation and can be supplied with an internal micro switch for valve status monitoring.

Wyndham Page have also announced a close collaboration with diesel engine exhaust component manufacturers Western Tydens Ltd. This enables both companies to supply safety packages



comprising of shutdown valves and exhaust spark arrestors. In addition to their unrivaled range of spark arrestors meeting ATEX standards, Western Tydens also market the latest in Catalyst and Diesel Particulate technology.

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#### ATEX Approved, Manual Control Dosing Pumps

Wanner International has introduced a range of Hydra-Cell, ATEX approved Dosing Performance Pumps with precise mechanical variator control, all mounted on a substantial stainless steel base plate.

These seal-less pumps are designed for use in ATEX classified environments, coupled to compatible, explosion proof motors, completely removing the need for complex and costly external VFD ATEX control.



Because Hydra-Cell pumps are true positive displacement pumps, flow rate is directly proportionate to input shaft speed and virtually independent of system discharge pressures. Very precise and repeatable, infinite adjustment of shaft speed is achieved from almost zero rpm, through a simple manual adjust hand wheel on the variator.

Flow rate is adjustable in operation and at rest and exhibits linear setting characteristics. Once set, the wheel can be locked to prevent the flow being changed, either by accident or deliberately.

Meeting or exceeding API 675 performance requirements in terms of repeatability, linearity and steady state accuracy, Hydra-Cell Dosing Performance pumps are the low maintenance, highly efficient, low lifecycle cost option.

Wanner International Telephone : 01252 781234 | Web : www.hydra-cell.eu

## Dialight SafeSite<sup>®</sup> LED Area Light Now IECEx/ATEX Zone 2, 22 Certified for Hazardous Locations

New SafeSite for EU Market Delivers 105 lumens per Watt in Industry's Most Efficient, Zero-Maintenance, Lightweight Fixture

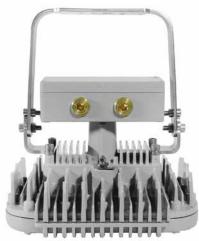
Dialight (LSE: DIA.L), the innovative global leader in LED lighting technology, today announced its SafeSite® LED Area Light is now IECEx /ATEX Zone 2, 22 certified for use in hazardous locations, namely chemical, petrochemical, power generation and mining applications.

Delivering up to 105 lumens per watt, the new Zone 2, 22 SafeSite Area Light consumes half the electricity of traditional HID fittings, making it the most efficient LED fixture of its kind, all backed by Dialight's exclusive 5-year full-performance warranty. Weighing less than 10kg, the fitting is available in 21W, 38W, 48W, 58W and 68W options to replace up to 400W conventional HID fittings.

Dialight's signature proprietary optics deliver precise light placement in either a 180° forward throw or 360° pattern for optimum visibility without any wasted light. With a CRI of 70, the SafeSite LED provides superior colour rendering compared to high- and low-pressure sodium and mercury vapor fittings.

"Dialight's SafeSite brand has set the standard in hazardous location lighting around the world, providing the most efficient and maintenance-free fittings that can stand up to the harshest conditions," said Michael Sutsko, Dialight's Group Chief Executive. "This product rounds out our Area Light line, enabling us to now offer customers both Zone 1, 21 and Zone 2, 22 versions to suit their specific needs."

Designed for mounting heights below 3.5 meters, the Area Light is ideal for use in catwalks, conveyor belts and process areas and features Dialight's exclusive temperature compensation technology for reliable performance across a wide operating range from -40°C to +65°C. The factory-sealed system is IP66 rated, highly resistant to shock and vibration and features a hardened glass lens with a polyester/epoxy powder coated aluminium housing for superior corrosion resistance.



All SafeSite Area Lights come standard with a stirrup mounting bracket. Junction box models are also available, allowing through-wire of the fitting to connect multiple luminaires on a single circuit. SafeSite fittings operate on a universal 110-277V AC 50/60 Hz input.

For information about Dialight please visit www.dialight.com Or Call:+44 (0)1638 665161





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# Protect Your Business from Frost This Winter

Winter is nearly upon us. Have you performed your annual check to ensure your existing business processes, production equipment and manufacturing facilities do not suffer as a result of icy weather and freezing temperatures?

Winter weather can lead to equipment failure, frozen tanks and ruptured pipes. Our below checklist contains five key areas we advise clients to review before the winter weather sets in.

#### Our Top 5 Frost Protection Checklist:

- Do cabinets, enclosures, control housing units, panels and junction boxes have frost protection and temperature control in place? Your production process can be interrupted by freezing condensation.
- Does low-temperature equipment such as compressors and pumps have adequate air heating to ensure operation is not interrupted?
- Does the business have suitably certified radiators, air warmers and space heaters available? Are your existing heaters capable of warming up large premises? Ensure you check heating requirements in the coldest part of the building.
- Do tanks with liquids and fluids need additional heat to stop frost forming?
- Does any of the equipment require selfregulating properties? For instance if your machinery is located within a Zone 1 or Zone 2 Hazardous Area.



If you would like to discuss how you can further protect your business from frost please do not hesitate to contact us. We have 25 years' experience in providing electric heaters and controls to the industrial sector. A vast selection of our preengineered electrical heating solutions are available with Next Day Delivery.

> For full details on our product range visit www.exheat-industrial.com or phone us on +44 (0)1953 886210.

#### XHR300/301 series recertified and introduces IECEx Prime Certification

Building their current product certification, Pressure Tech is pleased to announce that we have recertified our XHR300/XHR301 pressure regulators against the latest revisions of the relevant EN 60079 and EN 13463 series of standards and achieved IECEx prime certification.

For regulators used in analyser systems, especially on hydrocarbon gases that require large pressure reductions, temperature drops due to the Joule-Thompson effect can create a problem with condensation and moisture drop out. Using a heated regulator helps maintain the gas in a dry state ready for analysis. Pressure Tech's XHR regulator series boasts a unique dual heating



design to combat any issues caused by the Joule-Thomson effect.

In achieving ATEX/IECEx certification on the XHR300/301 product series, Pressure Tech can assure its customers that they are choosing quality and reliability. Certification ensures that our regulators are fit for their intended purpose and that adequate information is supplied to ensure that they can be used safely.

Certification can be downloaded from our website: www.pressure-tech.com

## Fast, efficient & effective Industrial Drum & IBC Heaters



## National Oceanography Centre Waves Goodbye To Potential Exposure To Volatile Organic Compounds

Leading oceanographic research facility chooses Ion Science Cub personal PID detectors to reduce risk of exposure to chemicals used in a fume containment cabinet



Southampton's National Oceanography Centre (NOC) is using two lon Science (www.ionscience. com) Cub personal photoionisation detectors (PIDs) in a move to reduce employees' risk of exposure to essential chemicals used in a fume containment cabinet. The leading research facility chose the advanced instruments due to their ease of use and unobtrusive design while providing a quick response to the presence of hazardous volatile organic compounds (VOCs).

The NOC is one of the leading oceanographic research centres in the world. It is operated jointly between the Natural Environment Research Council and the University of Southampton and enjoys the freedom to conduct academic research while maintaining strong industry ties which enables greater reach for its work. The centre has developed highly integrated and rugged microfabricated sensors to measure parameters crucial to understanding the oceans and other waterways and their role in climate change.

Gregory Slavik, Microfabrication Engineer at NOC comments: "We needed a secondary control to monitor the possibility of employee exposure to chemicals used in a fume containment cabinet. An online search showed the Ion Science Cub personal PID monitors as being an ideal solution plus the UK distributor, Shawcity, was already set up as a supplier on our procurement system.

"The ease of use and unobtrusiveness to the user while still providing quick response to hazards are the main reasons we chose the Cub instrument. In our opinion, this is a winning combination and made it stand out from competitor devices."

Extremely comfortable to wear, Cub is the smallest and lightest personal PID monitor available and has helped set a new benchmark in personal gas monitoring. It offers a dynamic range of 1 ppb (parts per billion) to 5000 ppm (parts per million) sensitivity - giving an early warning of exposure to hazardous gases, including benzene.

Attached to NOC employees' lab coats, the Cubs are used once a day while chemicals are being used. The data is collected and stored for reference purposes, particularly for internal H&S audits to demonstrate that exposure is below short term and daily limits. Gregory continues: "There are no substitutes for the potentially harmful substances used in our process so it is vital that all possible safety measures are taken to ensure employees are protected. The lon Science Cub PID personal monitors are highly sensitive to the other marker chemicals we often use to assess whether the containment in our safety cabinet is effective."

When worker exposure exceeds pre-set limits the Cub's audible, vibrating and flashing LED alarms provides an alert to the gases present. Readings are displayed on a bright, back-lit LCD display with selectable data logging time.

"The Cubs provide an independent alarm to the employee if the cabinet is not functioning properly but also records a quantifiable measure of exposure to VOCs," Gregory adds.

The Cub is available as a standard instrument with 10.6 eV lamp for accurately detecting a wide range of VOCs to ppm levels. The CubTAC ppm variant with 10.0 eV lamp accurately detects total aromatic compounds (TACs), including benzene. Both models can be upgraded to ppb sensitivity quickly and easily via lon Science's micro website.

Ion Science's PID sensor technology has been independently verified as best performing for speed, accuracy and humidity resistant operation. Innovative anti-contamination and patented fence electrode technology provide extended run time in the most challenging environments.

"The support from Ion Science has been excellent. After initial set up and once we fully understood its capabilities, we have found the Cubs to be of very high quality with flawless operation. I would not hesitate to recommend both Ion Science and its products," Gregory concludes.

For product information please contact: Alex Wadey-LeBlond, Ion Science, The Way, FowImere, SG8 7UJ, UK tel: + 44 (0) 1763 208503 email: marketing@ionscience.com

## Exloc Instruments Expand the PSX1200 Series Power Supplies by GM International

Earlier in the year, Exloc and GM International introduced the PSX1200 Series power supplies to the market.

The original PSX1200 series are housed in stainless steel (AISI 304) and can be supplied in Wall, DIN-Rail, or rack mounting versions, each providing 24Vdc, 50 A output.

Their stand alone or modular configuration make them extremely versatile and ideal for a wide range of applications on site.

The range is now being expanded to include the PSW1230, also a stainless steel AISI 304 unit but providing a 24Vdc, 30A output to facilitate a more scalable overall solution.

The units can be paralleled, with load sharing circuits, which distribute current load equally to each power supply to increase reliability and reduce internal power dissipation.

The Supplies all accepts AC power sources from 100 to 264Vac.

Each PSU has been designed to provide the greatest levels of availability and safety for high integrity and safety critical applications.

#### Safety

- The PSX1200 series provides three independent overvoltage protections: 1 voltage limiting loop at 30Vdc and 1+1 crowbars at 31 Vdc.
- The power supply has under and over voltage alarm monitoring as standard and has high load fuse breaking capacity to ensure that in the event that one load attached to the power supply fails, others are not affected.
- Units are SIL2/SIL3 according to IEC61508:2010 Ed. 2.



The PSX1200 range have been specifically designed for installation in Zone 2 / Div. 2 hazardous locations and carry ATEX and IECEx Certifications.

#### Availability

 Each power supply has two universal AC input lines and fully redundant options, all available with load sharing.

#### Features

- The supplies also benefit from Active Ideal Diode circuitry to provide lower internal power dissipation and greater operating efficiency.
- Tropicalisation of components offers higher resistance to heat and humidity.
- Operating temperature limits: -40 to +70°C derated linearly 65-70% load above 50°C.

#### Performance

- Each PSX1200 power supply can provide up to 1200 W per single unit or up to 6 units can provide 3600 W (fully redundant) if mounted within the PPS1250 19" rack system.
- The PSX1200 has better than 87% efficiency with 0.98 Power Factor Correction.
- The PSX1200 series is designed for fast output dynamic response.

#### The PPS1250 Rack Mounting System

#### Hot Swap Plug-ins:

When using racks configured for Hot Swapping, each PS series power supply module can be placed in Zone 2/Div. 2 Hazardous Locations without having to monitor the hazardous gas present and without disturbing Power Supply operations.



#### Diagnostic:

A plugin module (PSO1250) dedicated to monitoring all diagnostic functions of each power supply can be installed in the last rack slot and operated through a front panel touch screen LCD colour display which indicates input/output voltage, current and power, input line frequency, output current sharing percentage, internal temperature, alarm status.

RS485 Modbus output provides full diagnostic and status conditions.

PSO1250 presence or fault does not affect PSS1250 operation and functional safety application.

EMC:

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# **Protecting Turbines**

Hima-Sella to represent HIMA's FlexSILon integrated protection and control solution for turbomachinery in the United Kingdom and Ireland

Stockport, United Kingdom – Specialist safety instrumentation systems provider Hima-Sella is to represent HIMA Paul Hildebrandt's innovative turbomachinery control solution, FlexSILon, in the United Kingdom and Ireland. Developed in response to growing concerns over the safety of turbomachinery – such as gas and steam turbines – FlexSILon provides protection through features that include an integrated Overspeed Trip (OST) and vibration, axial shift, temperature and pressure monitoring. Control features include speed control, load sharing and steam distribution. Director, comments: "Our relationship with HIMA Paul Hildebrandt dates back to 1983 since when we have been designing the company's safety instrumented systems - such as HIMax, HIMatrix, HIQuad and Planar4 - into a variety of functional safety solutions both home and abroad. It is therefore a great pleasure to be representing FlexSILon too."

The safety of rotating equipment is under increased scrutiny within the power generation sector and within several industrial applications where gas and steam turbines are employed. Safety standards such as IEC 61511, IEC 61508 and ISA84.00.01-2004



(and with which Hima-Sella is well-versed) are now being used to assist with reducing the risk of injury and damage to equipment.

Turnock concludes: "Meeting the safety standards also delivers the significant added bonus of greater up-time, higher plant productivity and, ultimately, improved profitability."

Hima-Sella Ltd, Carrington Field St, Stockport, Cheshire. SK1 3JN. UK. Tel: +44 (0) 161 429 4500 www.hima-sella.co.uk

Eddy Turnock, Hima-Sella's Sales & Marketing





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## Nederman is Stand-Alone Benchmark for Filtration

At-source capture of dust and fume should always be the primary control mechanism for protection of a workforce and to ensure a clean working environment, but despite best intentions at-source capture is not always possible or sufficient.



That is why Nederman has introduced its impressive new MCP-16RC Air Purification Tower.

This innovative new stand-alone unit is the ideal complimentary solution for eliminating airborne particulate and welding fumes that at times evades even the most effective at-source capture. Utilising state of the art computer simulation packages and years of experience on mainland Europe installing similar room cleaning equipment, Nederman has created the industry's most innovative and efficient system for removing secondary airborne welding fumes from the workplace.

The MCP-16RC Air Purification Tower is ideal for production facilities where ducting cannot be installed, where very large fabrications are being welded or where capture at-source isn't practical. Additionally, for employers conscious of the overall working environment, the MCP-16RC can be installed to complement at-source capture systems.

In terms of operation, contaminated air is first drawn into the unit at low level. It then passes through the high efficiency filtration section containing sixteen patented Uni-Clean filter cartridges, before clean air is blown back into the workshop via sixty adjustable nozzles in the upper outlet plenum. By blowing air directly into the 'fume blanket' that sits at a height of 4-5m above the workshop, the MCP-16RC disrupts the natural resting point of welding fumes above the workplace floor and re-circulates them through the unit. The sixty high-speed ejection nozzles at the top of the unit allows Nederman's Air Purification Tower to achieve unmatched reach, allowing the user to install few units to cover a large area. Not only that but because the air is blown at a height of approximately 5m, annoying drafts at low level are minimised.

With a built in fan the MCP-16RC only requires power and a compressed air supply to operate. Filter cartridges are cleaned automatically by an energy efficient compressed air pulse-jet system, activated by an integral electronic controller.

The MCP-16RC filter is maintenance friendly thanks to its front access point. It is easy to inspect and service the cleaning valves, compressed air tank and filter cartridges. Similarly the controller and electrical cabinet are also easily accessible. This also applies to the 37 or 50L capacity bins that are equipped with wheels for efficient removal of waste.

Dimensionally the MCP-16RC is 1.4m wide, 1.6m deep and 5m high. As previously mentioned this height is important as it allows the air to be blown at the level where it can be most effective. The unit has a maximum air flow of 10,000m3/hr that delivers a throw length of 21m. The integral fan is driven by a powerful 15kW fan motor, although for most of its operating cycle only a fraction of this power is utilised. This fan also has a special dual silencer to reduce the noise from the motor and airflow to a comfortable 72dB.

Nederman Ltd 91 Seedlee Road Preston PR5 8AE Tel : 08452 743434 Email: info@nederman.co.uk Web: www.nederman.co.uk

## Prepare for the Spring Clean With a Nederman Industrial Vacuum Cleaner

Whilst buying a Vacuum Cleaner for your partner at Christmas can be construed as a dangerous act, buying one for your business is a great idea.

If you want to get your business ready for the Spring clean or your next visit from customers, auditors or even potential surprise visits from the HSE, your first port of call this season should be the Winter discount offer that Nederman has on some of its wide range of Industrial Vacuum Cleaners.

The Nederman line of Industrial Vacuum Cleaners are a versatile range of products that can handle everything from dust and fume to granulate, grit, swarf, hazardous and even combustible materials, including contaminants that may be airborne, on the floor or even laying on your plant and equipment. Whether you are using on-tool extraction, on-torch fume extraction, extraction via nozzles or just need to clean up your shop-floor, there is always a Nederman vacuum cleaner designed to fit your needs.

As part of the Winter promotion, Nederman is offering a heavily discounted price on three of its vacuum extraction systems. The smallest of the three machines is the Nederman 160E, which is suitable for dust, granulate and fume extraction and cleaning. As Nederman's smallest dust collector, this compact vacuum unit is ideal for on-torch welding extraction, on-tool extraction for small grinders & sanders and for industrial floor cleaning. With a maximum air flow of 160m3/hr, a weight of 19kg and a motor power of 1200W; the 160E is light-weight, easy to handle and it also offers low operating and maintenance costs.

For more robust applications, the mid-range 300E model is available. The 300E is a robust and very manageable vacuum unit for extracting welding fumes, grinding dust and for general cleaning on construction sites, industrial and automotive workshops. With a maximum airflow of 300m3/hr and a maximum vacuum of 22kPa, the unit has a very powerful 2400W motor. At just 36kg, the 300E is lightweight and easy to manoeuvre with its four wheels and a width of just 600mm. The versatility of the 300E is highlighted by the wide selection of ancillary tools available such as brushes, nozzles and hose couplers that can all fit into the accessory box on the 300E model. The largest machine in the Nederman Winter offer, is the 216E. The 216E is a very powerful dust collector for most extraction needs, regardless of whether its dry or hazardous materials. The 216E vacuum cleaner has cyclonic pre-separation and the filter system is enhanced with a cartridge separated by a protective plate. With a maximum air flow rate of 460m3/hr and



a motor power of 2400W, the robust 69kg 216E is the vacuum cleaning unit for all your workshop needs. So, if you want to benefit from improved working conditions, improved quality and efficiency whilst enhancing the cleanliness and appearance of your business; please contact your local Nederman dealer before May 2016 when this seasonal promotional offer ends.

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# Swedish biorefinery to invest in SPM HD for its production of cellulose

Swedish biorefinery Domsjö Fabriker are in a phase of rapid development, driven by the world's increasing demand for sustainable products.

The company is investing to ramp up its production of specialty cellulose in order to meet the escalating demand for textile fibers.

Domsjö Fabriker is now investing in the multifunctional online system Intellinova Compact with the patented SPM HD measuring technique to ensure the production of cellulose. Initially, a Valmet wash press is equipped with a system to monitor the mechanical condition of the four low-speed roller bearings, operating at 4-7 RPM.

Domsjö has already equipped parts of its drying machines TM1 and TM3 with Intellinova Compact. The maintenance department also uses the portable instrument Leonova Diamond IS for route-based measurements in explosive environments. Peter Moström, Technical administrator/Preventive Maintenance, says in a comment to the investment: "It feels great that we now have a tool to measure and monitor our low-speed wash presses. The possibility to identify trends of developing faults and plan maintenance before equipment failure will save big money."

The biorefinery in Domsjö near Örnsköldsvik by the Gulf of Bothnia started in 1903 with a production capacity of 6,000 tons of cellulose. Since the millennium, Domsjö Fabriker has evolved from a traditional pulp mill to an advanced biorefinery that refines the renewable raw materials from the forest into products with a clear environmental profile. In a unique process, Domsjö manufactures specialty cellulose, mainly used for the textile material viscose.



It also produces a modified lignin, which is used as an additive in concrete, and bioethanol. Domsjö is part of the Indian group Aditya Birla Group.

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CorDEX has launched its new Product Catalogue which features the company's full range of Intrinsically Safe tools, including its new GENESIS lighting range and Toughpix ii Trident edition.

CorDEX

In addition to all the product information and technical specifications, the catalogue features useful hazardous industry resources, insight content and links to FREE ebooks and ToughTEST videos.

#### Featured items: GENESIS Lighting Products

Power, longevity and flexibility at your fingertips with GENESIS Intrinsically Safe lighting solutions from CorDEX. Using the Zone 1 Hot Swappable interchangeable, EXIS smart battery pack, GENESIS can remain in the hazardous location as long as you require, providing 400 lumens of light for a virtually indefinite period, ATEX and IECEx certified, GENESIS lighting products are rigorously tested to ensure maximum reliability.

#### **GENESIS** Worklight

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#### **GENESIS** Lantern

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Thames Water is investing in ensuring its sites and assets located in classified hazardous areas are inspected and maintained to the highest standards - This will help provide and also keep to BS EN 60079, incorporating the DSEAR and ATEX regulations.



Thames Water is the largest water company in the UK, and as such, its asset lists are vast. This particular Framework includes some 1,300 sites from 2015-2016 and some 8,300 assets. The inspections will be a combination of Visual, Close and Detailed and will also give scope for rectification work across the whole estate.

Z-Tech Control Systems is one of only three contractors allocated to this work, with specific geographic responsibility for the North and Central assets, and scope for whole-estate remedial works.

As an NICEIC Hazardous Approved Company, Z-Tech designs, installs, inspects, tests and maintains all hazardous area electrical installations, an expanding area of business.

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#### Maintenance & Repair

# Hydro International Launches Watertight Pollution Containment Valve

The industry's only completely watertight pollution containment valve, the Hydro-Isolator<sup>®</sup>, is now available from Hydro International, supported by a full design, commissioning and maintenance service.

Nationwide, there are already more than 150 installations of this valve design installed in the UK, helping facility owners prevent damaging surface water pollution incidents. The Hydro-Isolator® valve was invented by David Cole, Hydro International's water pollution manager. He states:

"The Hydro-Isolator® is a watertight and failsafe valve for pollution, flood water or spill containment and the only valve we would recommend for organisations obliged to comply with UK environmental protection regulations, according to the CIRIA 736 industry standard guidance.

Pollution containment is critical for sites operating under the Control of Major Accidents and Hazards (COMAH) 2015 or Environmental Permitting (England and Wales) Regulations (EPR) 2010. It should also be integral to any compliant Environmental Management System (EMS) – or for those companies working to ISO 14001.

"Often penstock valves are wrongly considered as an acceptable containment solution, but it's important for any organisation at risk of a pollution, flood or fire water incident to understand that a penstock is first and foremost a flow control device and therefore is not designed to be 100% leak proof and watertight when containing low pressure gravity flows," explains David Cole.

"To be sure to avoid a pollution incident, and potential prosecution, it's advisable to fit a watertight valve, as well to ensure the correct sizing and location of the valve in the drainage system, fitted and maintained by a specialist. Hydro International offers the complete package." The Hydro-Isolator® drop seal valve can be retrofitted or installed on new developments. It protects receiving watercourses by blocking the release of flood water, polluted or fire fighting water from a site's storm drains. The Hydro-Isolator® valve's mechanically-locking failsafe design ensures the valve remains fully closed and sealed once activated until it is safely unlocked by an operator. Manufactured from stainless steel, it is factory pressure tested to ensure zero leakage to up to 0.5 bar pressure.

The valve can be closed remotely by means of bi-directional radio control or cloud-based communications systems. It can also be activated automatically via a site's fire alarm or Building Management System. Operated by a pneumatic power source, the valve is safe to use in a confined space or explosive atmosphere.

The Hydro-Isolator® is available either gulley or chamber-mounted to fit a range of standard pipe sizes and a site's existing stormwater drainage systems. It is normally positioned close to the drainage outlet to a watercourse, but can also be fitted at the inlet to the site to help protect against flooding of the on-site drainage network.

Hydro International can advise on the correct location and sizing, installation on site and



commissioning. Regular servicing ensures systems stay operational at all times. Hydro International's hydraulic modelling and flood risk service is also available to demonstrate the full performance of a site's overall water pollution management provision.

"By working with Hydro International to specify and install a Hydro-Isolator®, companies have the reassurance of a value for money solution that is engineered, delivered and maintained by water pollution experts," adds David Cole.

For more information, please contact David Cole on 01275 878371 or email dcole@hydro-int.com. www.hydro-int.com

## Proven Strategies And Best Practices For Efficient Asset Management And Maintenance

An aligned approach to IT systems, asset strategy, and people and productivity has the power to profoundly impact operational and commercial success.

The T.A. Cook event "Maintenance Days Europe" is designed to reflect the latest challenges facing the global asset management community, with a user focused agenda that has been comprehensively researched with maintenance and asset management professionals.

Maintenance Days Europe will allow to explore global asset management strategies and best practices in implementing ISO 55000. Attendees will hear practical case studies on the optimisation and life extension of ageing assets as many global operators are working with (and trying to prolong the life of) ageing plants and equipment. With IT innovation offering increased asset visibility and efficiency, they will also learn about the latest IT trends, mobile condition assessment, data management, analytics, and more.

Over two information packed days, this event will feature case studies covering the strategically important areas

of asset strategy and asset intelligence management. Experts from a diverse range of process industry organisations like BASF, ENGIE E&P, GE Power, MOL, SABIC UK Petrochemicals, Tarmac and many more who will share best practice, challenges and lessons learned. For example. Sitech will explain how they use predictive analytics to improve plant performance. Transport for London will show how they have implemented an effective asset management strategy. GlaxoSmithKline will share their experience on successfully implementing a Reliability Based Maintenance Program. Abu Dhabi Oil Refinery will discuss how to use obsolescence as an opportunity to optimise and modernise assets through timely and in depth due diligence. Nowhere else will you have access to this level of experience and expertise, all in one place at one time.

This event is a unique platform to gain practical advice, ideas, and processes that organizations can implement



in their own working environment. Nowhere else will such a diverse range of strategic and technical topics be covered by practitioners. This is a great chance to network and share experiences with maintenance and asset management professionals from a diverse range of industries.

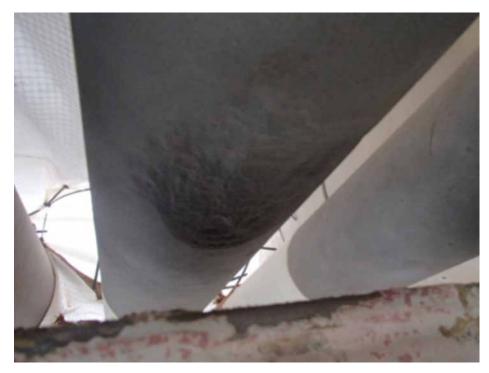
Maintenance Days Europe will take place 1-2 March, 2016 in Birmingham, UK.

Find out more at the event website: www.tacook.com/maindayseurope



## Corroded Bends, Straights and Tees Get Wrapped Up

In April 2015, a Norwegian Floating Production, Storage and Offloading vessel (FPSO) requested a solution to rebuild, strengthen and protect corroded gas pipes.



A series of pipes on board the North Sea FPSO were displaying signs of corrosion between both the pipe and support, in some areas registering thin wall defects with up to 35% wall loss. Not only did this represent a severe containment issue, but it also threatened the vessel's operation.

Impressively, FPSOs combine facilities for production, processing and storage all in the same place. Often viewed as a safer and more economical solution, with the ability to relocate to another development, these vessels have become the foremost system for offshore oil and gas production. Receiving material from subsea reservoirs, it is then processed before being stored on board, until it is possible to offload elsewhere via tanker or through pipelines. These pipes often suffer severe corrosion at support point due to abrasion and/or galvanic corrosion. This can have destructive effects on the

#### Above: Thin-wall corrosion up to 35%

wall's integrity, quickly developing into thin and even through-wall defects.

In this situation, the customer highlighted how the 6" gas pipe system was suffering from corrosion between the pipe and support. Significantly, the hazardous part of the project was lifting the pipes because of internal pressures; therefore, in order to eliminate the associated risks, the project needed to be executed offline. In order to limit the downtime of the FPSO, the asset owner assigned a limited shutdown period, totalling 7 days.

Because welding was not an option, the application required a unique cold applied solution due to the total number of irregular pipe geometries, incorporating a well-engineered design, for both Tee junctions and sharp bends. Consequently, the customer selected Belzona SuperWrap II, because of the composite wrap's versatility and ability to conform to complex geometries. Having previously worked with the Belzona Distributorship in Norway, CAN AS, the customer received a precise timeline for the applications, overall guaranteeing an efficient and structured process. Within this time, five of the days were specified for the design and installation of all six repairs, whilst the remainder allowed for curing and demobilisation of all equipment and personnel.

The application was carried out in accordance with ISO/TS 24817 and ASME PCC-2 Article 4.1., certifying the composite wrap system in line with equipment and piping repair regulations, for petroleum, petrochemical and natural gas industries. Prior to the installation, heavy equipment was rigged into place, necessary for lifting the large sections of pipe, consistent with engineering designs. Notably, some areas needed the use of rope access techniques, requiring an overall team of five operators, including riggers, inspectors and product specialists.

In order to determine the extent of the defect, ultrasound equipment was used to inspect the status of the damaged pipework. Eventually this



Above: Belzona SuperWrap II tackles complex geometries

#### Maintenance & Repair

revealed areas where more than a third of the substrate had succumbed to thin wall corrosion. thus demanding reconstruction of the pipeline surface before the application of Belzona SuperWrap II. As a part of the designated plan, the installation team assembled tarpaulin housing around the specific pipe defect, for grit blasting and climate control purposes. Each wrap application followed the same procedures, by initially grit blasting in accordance with Standard SA2.5, removing any foreign corrosive matter. Ultimately this provided an optimum substrate surface profile of 75µm, ideal for successful application. Once achieved, corrosion resistant Belzona 1111 (Super Metal) was used to rebuild the metal substrate. The versatile adhesive properties of the resurfacing epoxy-based composite, particularly on carbon steel substrates, created a level surface for the next stage of repair.

As highlighted, the complex pipe geometries included bends, straights and tees, necessitating a tailored design for the Belzona SuperWrap II application. The two-part, fluid grade resin system works in conjunction with a bespoke hybrid reinforcement sheet based on fibre glass and carbon fibre. The fibre glass offers flexibility, in addition to serving as a wet-out indicator, which ensures effective application of the reinforcement sheet. Interwoven with carbon fibres, the reinforcement sheet provides the composite wrap with the strength it needs to retain high pressures and loads. Belzona were able to cut the reinforcement sheets to match the unique pipe dimensions in the form of a reinforcement jackets for the tees, whilst utilising specifically measured strips for the bends. Before each application, the substrate was wetted with the fluid grade resin system, maximising the bond between the carbon steel and Belzona SuperWrap II. Covering lengths of 690mm, applicators used seven spirals of reinforcement around each defect, creating a tapered profile of 14mm at the densest section. Finally, this was consolidated by tightly wrapping release film around the composite wrap, which was



#### Above: Ceramic shim plates take the load off

later removed after the cure process was complete, allowing the repair to securely adhere.

Following completion of the Belzona SuperWrap II installation, a new solution was implemented to place the pipes into position, fit for purpose. Belzona 1311 (Ceramic R-Metal) was adapted by applicators to create irregular loading bearing shims between the pipeline and support. Often used for metal repair and protection against the effects of erosion and corrosion, these reinforced plates were installed to transfer the load of the pipe, demonstrating the material's excellent compressive strength.

Inclusive of grit blasting the defected areas, each Belzona SuperWrap II installation was finished within 6 hours, leaving sufficient cure time for each application. Once the entirety of the repair was completed, it was necessary for pressure testing to be carried out. After successful assessment indicated that the pipe pressure had been restored to its original levels, without any irregularities, the pipe system was set back into production. Due to the initial planning, combined with the correct equipment and application management, there were no issues during the timeline of the project, consistent with the customer's specified shutdown period.

Primarily, all phases of the project were handled by one contractor, allowing for a consistent approach that ensured the application was successfully achieved within the allotted schedule. Furthermore, this was significantly aided by the ease and speed in which Belzona's versatile composite wrap system could be applied. Since installation, the customer has indicated that the application is functioning well and is set for periodic inspection, in line with the specified design life of 20 years. Between 2010 and 2015, a total of 48 Belzona SuperWrap applications have been commissioned by the customer, across various offshore oil and gas platforms. This figure has subsequently risen, after three repairs executed in August 2015 were completed, serving as an indication of the product's strength and the customer relationship developed.

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

#### Honeywell Introduces Hline High-Performance Workwear For Tough Working Environments

Honeywell (NYSE: HON), has launched, HLine, a new range of professional workwear that combines style, comfort and high technical performance.

Inspired by the growing popularity of outdoor sports clothing, HLine is designed for workers in construction, maintenance and professional trades such as plumbing, carpentry and roofing.

"Workers in these industries want to be protected, they also want to feel free and have work clothes that are on trend," said David Guiho, product manager at Honeywell Industrial Safety. "We therefore challenged our R&D team to develop a new range that included parkas, softshell, stretch jackets, fleeces and trousers that combine high street style with rugged performance. HLine is durable, comfortable and innovative, and incorporates the latest technical materials to protect against abrasion, tearing and to endure repetitive twisting and turning."

Key products in the new range include the HLine 3-in-1 parka, a 100 percent water and wind proof jacket for maximum weather protection. Consisting of two layers, both of which can be separated and worn individually, the parka's exterior layer is highly tear resistant, thanks to a specialist rip-stop Polyamide Nylon weave. Underneath, the lightweight abrasion and water resistant padded jacket provides extra warmth in cold weather. The innovative new hood design greatly increases the wearer's field of vision in wet weather due to the transparent side panels.

Lightweight jackets from the HLine range include a hiking-inspired softshell and the stretch jacket – both providing comfort and flexibility. The waterproof softshell reflects high street popularity for this style of jacket, and has three layers of breathable fabric that protect users against the wind.

There are three pairs of new trousers in the HLine range all of which include Honeywell's patented easy-to-insert kneepad compartment system. This provides wearers smart protection against penetration from gravel and other dirt, and comfort when kneeling on hard surfaces.

The premium H301 trousers feature multiple pockets including one offering dust-free protection for mobile phones and an easy access cutter/ruler pocket. A range of holsters enable tools to be quickly and easily stored when not being used.

Durability comes from high abrasion and tear resistant fabrics including Ripstop and Cordura® which are



machine washable with double seams to provide added reinforcement. The H301 (with holster pockets) and H302 trousers include an elastic waist that is higher at the back and a special crotch design. Also, the waist of the H303 trousers is made with high stretch fabric that provides greater comfort and freedom of movement when flexing, twisting and bending and prevents the risk of tearing.

Other products in the new range include another parka for protection against cold, rain and wind and a breathable technical polo shirt. All of the products are available in small to 3XL and are in a stylish red and grey/black colourway.

For more information about Honeywell Industrial Safety, its products and services, visit the website at http://www.honeywellsafety.com.

## Eurosafe Launches Innovative Hearing Protection Training

With hearing loss still accounting for about 75% of all work-related injury claims in key industrial sectors such as food and drink,1 noise induced hearing loss (NIHL) remains one of the most common occupational health problems in the UK.

With this in mind, Eurosafe, a leading association of independent PPE distributors, has launched a new 2-day training course to help its members' sales teams gain better understanding of key issues surrounding hearing protection and enhance their technical knowledge of PPE solutions. Developed in partnership with Honeywell Safety Products, the course is designed to enable Eurosafe's members to add value to their business and help their customers find the best hearing protection solutions.

"Hearing protection is a key safety issue for a wide range of our members' customers, in sectors as diverse as oil and gas and heavy industry through to food production," said Eurosafe's Chairman Stuart Boyd. "We're grateful for the support from Honeywell Safety Products, which is internationally renowned for its expertise in hearing protection. The team could really see the benefits of the new approach and their support in helping deliver it has been valuable."

Representatives from all of Eurosafe's 21 member branches, from the Outer Hebrides to Bristol, have attended the training sessions, the next one of which will take place on November 30th at J&K Ross in Warrington. By focusing on issues, products and solutions, supplemented by specific sales techniques and post-event coaching, Eurosafe aims to elevate training to something that can have tangible, measurable results long after the courses have finished. Having received extremely positive feedback from the participants, the association is now planning to launch an incentive programme in the first quarter of 2016 aligned to hearing protection.

"NIHL can cause life-changing damage and is



an issue that Honeywell has been proactively addressing for many years," comments Stuart Turnbull, Regional Safety Manager, UK, Ireland and Sub Saharan Africa, Honeywell Safety Products. "We are delighted that Eurosafe has decided to tackle this issue and glad to support its members in their new approach to training, which will add genuine value to the end users' hearing protection programmes and help prevent NIHL."

> For head-to-toe personal protective equipment (PPE) solutions from all of the trusted names in safety, visit http://www.safetydepot.co.uk.



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## Truck And Tanker Earthing – Not A Bad Idea Really!

Not a bad idea? That really is an understatement.



As an example, take a vigorous walk along a non-conductive floor covering; the charge can be as high as 20,000 volts. Then touch something. The total energy discharge will be in the region of 10 mJ. That is more than enough energy to ignite most flammable gases.

So for a road tanker carrying flammable powders or liquids it isn't difficult to imagine how the energy discharge can easily exceed 100 mJ.

## The correct grounding of a road tanker is absolutely vital but what are the guidelines regarding the correct grounding?

Needless to say, there are guidelines and standards available which can be downloaded – at a price - from the internet but here they are anyway. The available standards, particularly IEC/TS 60079-32-1 (Electrostatic hazards, guidance), describe the processes where static charges can be raised as in the handling of trucks and railway wagons, the loading and unloading of mobile containers and vessels and the mixing and transport of materials. Further relevant standards: NFPA 77 (Recommended Practice for Static Electricity) and the API RP 2003 (Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents) describe, amongst other things, the specific loading of trucks, railway wagons, storage tanks and general work with petroleum products.

According to the standards, 'Effective grounding is the primary preventative means to avoid dangerous electrostatic discharge and is the most simple, safe and cost-effective way to ensure that static hazards are properly controlled.' For a truck grounding unit, there is IEC/TS 60079-32-1. This implies that a simple grounding cable, in theory, will suffice. This is quite risky really because how can the tanker driver be absolutely sure that the object that he /she has attached his grounding cable to will provide a good earth?

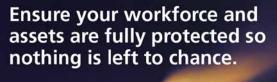
The most effective way to ensure that a road tanker is correctly earthed is to install an earth monitor. StuvEx manufactures Safe-Ground. This competitively priced and easily installed earthing monitor can be attached to an interlock so if

there isn't a good earth, the truck can't be discharged. But to make the system still simpler, the unit has a green and red light; if the green light shows, the operator knows that the vehicle is correctly earthed. However, with a red light showing the vehicle isn't earthed the interlock can be automatically engaged thereby stopping the driver from unloading until the vehicle is correctly earthed.

The possible consequences of not having proper earthing facilities in place are greater than most companies are prepared to contemplate and a good example of this can be found at the Port of Antwerp – Europe's second largest port - where a new tank park has just been opened. StuvEx won the order to deliver sixty TES01/Ex earthing systems; one for each of the huge storage silos. The silos are used for storing oil additives, intermediates and chemicals. The park receives daily deliveries from bulk tankers and is designated a gas explosion zoned area.

Static electricity is a problem so in addition to the capacitive system that StuvEx has for road tankers, a resistive system is available for use with barrels and other metal objects and a conductive version is available for use with type C FIBC's.

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# The latest innovations and trends in PPE, work wear and corporate clothing set to take centre stage at Safety & Health Expo 2016

London, 25th November 2015: The Professional Clothing Show, which will run as part of Safety & Health Expo in 2016, is delighted to announce that a host of leading industry names will participate in the 2016 show.



Hunter Apparel, Sugdens, Keela International and Badgemaster, along with many others will join the likes of ARCO, Tranemo, Portwest and CKL who all return to Safety & Health Expo next June at London's ExCeL.

Paul Gibbons, Executive Director, from William Sugden & Sons Ltd says:

"We are delighted to see the Professional Clothing Show in partnership with SHE in 2016. As a long standing exhibitor of the Professional Clothing Show we have watched the success of the exhibition and the Professional Clothing Awards witnessing the positive effects it has on our industry."

The two shows will complement each other and provide the most comprehensive offering for PPE, workwear and corporate clothing within the UK, alongside the only truly national event for safety and health professionals. In 2015 Safety & Health Expo celebrated a hugely successful show that saw a 43% increase in visitors to the show from the previous year and more than 13,000 visitors through the doors. A major highlight of Safety & Health Expo 2015 was SHE Live! a dedicated catwalk showcasing the latest in PPE equipment.

In 2016 the SHE Live! platform will be expanded with 4 daily alternating fashion shows, one will focus on the latest fashions within corporate workwear the second will highlight all the latest innovations in PPE. SHE Live! will also include a conference programme covering some of the hottest topics within the sector, with speakers already confirmed from Sedex Europe, INVISTA Textiles (UK) LTD and Lenzing Fibres (FR), the programme will add relevant insight into the latest innovations and discuss key talking points from across the professional clothing industry. In addition to The Professional Clothing Show the prestigious Professional Clothing Awards will also run at London's ExCeL as part of Safety & Health



Expo, recognising companies and individuals that are bringing the latest innovations and achievements to the professional clothing industry with a glittering black tie gala evening event on Wednesday 22nd June, continuing the week-long celebrations of health and safety.

"The Professional Clothing Show and the Awards have always been successful for us, last year we won three incredible awards and are looking forward to 2016 which I'm sure will be an extraordinary event.

Joining with Safety & Health Expo, I believe, will put the Professional Clothing Show on the wider map, helping our industry to grow internationally," added Simon Hunter, CEO of Hunter Apparel Solutions Ltd. Safety & Health Expo will be presented once again as part of UBM EMEA's Protection & Management Series, the UK's largest event dedicated to protecting and managing property, people and information. The series incorporates major events including Safety & Health Expo along with the annual IOSH Conference, Facilities Show, IFSEC International, FIREX International and Service Management Expo. The series of events annually attract more than 40,000 attendees over three days to ExCeL London, in 2016 they will run from 21st -23rd June.

> For further information please visit: www.safety-health-expo.co.uk

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## New Trojan<sup>®</sup> Range Adds Style And Colour To Traditonal Safety Footwear

Arco, the UK's leading safety company puts style on a par with safety as it introduces a new range of colourful safety boots and shoes to the ever popular TROJAN\* brand.

UK wearers are noticeably more demanding of their boots' appearance and with the range now available in a choice of colours, there is no compromise between being safe and looking good.

Designed to meet exacting standards, Arco is putting its toughest and brightest foot forward with the new coloured footwear. The range incorporates comfort, contemporary style and reliable safety features that buyers expect from a trusted brand. The boots and shoes have been extensively tested in Arco's own laboratories to ensure they meet safety standards and protect those working in heavy industrial environments.

Putting together a package of safety workwear starts at the feet and The Safety Hiker boot (£64.99) is the perfect place to begin. The TROJAN<sup>®</sup> branded nonmetallic and slip-resistant boot, is available in yellow, red or blue. Either boot can be purchased to match a company's corporate colours and are ideal for those working in manufacturing, construction, transport and distribution, food (non prep) and service industries. The Safety Hiker boot is designed to be lightweight, breathable and ensures wearer comfort. Available in three vibrant colours, the boot is fixed with a composite toecap and midsole, which guarantees safety and style.

Designed and manufactured to the highest standards, The Safety Trainer (£62.99) by TROJAN® is available in an eye-catching green. The trainer is comfortable yet incredibly stylish, making it ideal for the modern workplace. It features a breathable mesh upper, a composite toecap and is 100% non-metallic, making it ideal for metal free environments. This shoe is a great alternative for those wanting a more contemporary and casual choice of footwear with the assurance of meeting all technical and safety standards.

The Zeus Boa®/Vibram® (£84.99) is a TROJAN® branded black leather boot with a Vibram® outsole. This sleek boot is ideal for those working in heavy industrial and hazardous environments such as factories, building sites and heavy goods deliveries. It is designed to overcome known problems with traditional lace fastenings, which lead to inconsistent support, high replacement rates and inability to wear slip-resistant boots in normal conditions. The innovative Boa® lace system means no tying laces, consistent ankle support



and quick release for easy removal. This boot ensures perfect fit with even closure and is also completely nonmetallic with a composite toecap.

Nick McLaren, Category Manager of footwear at Arco said, "We are extremely excited to be introducing the new range to the ever popular TROJAN® brand. We really wanted to take the opportunity to lift the look of our products, especially for the modern tradesman and I really believe that this new range has done that."

For more information, and to see the new The TROJAN® colour range, visit www.arco.co.uk. Alternatively pick up a copy of the new Big Book 2015/16.

## Don't Be In The Dark About High Visibility Clothing

WITH the dark nights drawing in, high visibility clothing becomes more important than ever and leading workplace equipment supplier Slingsby is reminding both employers and employees across all industries to ensure their safety clothing is clean, in good condition and fit for purpose.

As part of The Personal Protective Equipment at Work Regulations 1992, high visibility clothing is a legal requirement across a huge range of industries and job roles where workers could be put at risk due to limited or poor visibility.

Any high visibility that is worn at work must conform to BS EN 471 and this is then divided into three different classes, depending on where and how the clothing will be worn, with Class 3 clothing offering maximum protection and Class 1 offering the lowest level of protection. In addition, high visibility clothing has two different levels of retroreflection performance with Level 2 being more visible than Level 1.

Slingsby supplies more than 35,000 workplace products across all industries, including a wide range of high visibility products. Lee Wright, Group Sales and Marketing Director at Slingsby, explains: "High visibility clothing plays a key role when it comes to safety and making people stand-out in all types of environments and regardless of the weather or lighting. This is especially true at this time of year, when it's often dark during the working day.

"High visibility clothing that's old and dirty can quickly lose a lot of its brightness and become ineffective so it's vital that it's washed regularly and kept in good condition. Likewise, it's also important to check the labels on this type of clothing to make sure it's up to the job and complies with BS EN 471. Any clothing that lists BS EN 1150 is likely to be for leisure or sporting purposes and definitely has no place in a work environment."

Lee adds: "It's also worth remembering that the responsibility for making sure high visibility clothing is clean and in good condition lies with the employer,



rather than the employee. Whenever this type of clothing is required, employers must supply it free of charge and also provide adequate storage facilities and ensure employees understand how and where to use it."

For further information about Slingsby, which continually strives to offer the UK's lowest prices across its range of 35,000 products, call 0800 2944440 or visit www.slingsby.com

# SICK Safety-Certified Encoder Protects Operators with Safe Motion Control

SICK UK has announced the launch of the PLd / SIL2-certified DFS60S Pro incremental encoder, enabling motion to be safely controlled in automated guided vehicles or machinery requiring frequent operator interaction.



The DFS60S Pro enables safe operator interaction at slow speeds without the need to stop the machine.

Especially when teamed with the Flexi Soft FX3-MOC Drive Monitor, the DFS60S Pro permits safe working without loss of productivity during routine operations, such as piece part loading, magazine replacement, adjustment on machining centres or splicing of material on reel-fed machinery. Using a single DFS60S Pro, the rotating shaft speed is monitored and output to a safe motion monitor, providing data which can allow PLd / SIL2 safety for the equipment, PLe / SIL3 if two encoders are used.

"DFS60S Pro delivers easily-verified safety for controlled slow operations where production efficiency is key," explains Darren Pratt, SICK (UK) encoder specialist. "Using non-certified encoders requires substantial investment in validation and verification of the safety function to ensure compliance with the Machinery Directive.

"The DFS60S can be fitted to rotating machinery and connected with any suitable safety drive monitor or retrofitted to equipment where the SICK Flexi Soft safety systems have been already installed to operate other safety sensors and switches." "The DFS60S Pro continually communicates shaft rotation but comes to the fore after a slow speed phase is signalled, for example when personnel are detected entering the designated safe zone. The drive monitor determines the shaft speed using the DFS60S Pro data, and monitors pre-configured motion characteristics until the appropriate clearance signal is received.

"When designing a safe motion solution it is easy to overlook the importance of the mechanical connection. It was a key factor during the development process that both mechanical and electrical elements be considered in the design of the DFS60S Pro to ensure the ultimate machine user receives the protection they need."

The SICK DFS60S Pro is fitted directly to the machine's rotating shaft. The drive shaft connection consists of specially-engineered components with the added security of a keyed drive; the use of the key is recommended for all shaft diameters but is essential for shaft diameters below 10mm.





The IP65 rated encoder has a temperature range of -30oC to +95oC, is flange mounted and can be specified with M23, M12 connectors or a cable outlet.

"For many machine types, safely-controlled motion is essential for personnel safety, but it is also increasingly important for machine builders seeking to improve the productivity of machinery they build," adds Darren Pratt. "Shutting off the whole machine when someone needs to interact with the machine or if someone gets a little too near, can be very wasteful of energy and production time, especially if the machinery has to be totally re-initialised.

"SICK not only leads in encoder technology, we have extensive expertise in cutting-edge machine safety control installations, so the engineer receives the benefit of our expertise in both aspects. Using a safety encoder and safety motion monitor ensures peace of mind and production efficiency, as well as simplifying and saving valuable time verifying the safety system."

> For more information on the SICK DFS60S Pro safety incremental encoder and other SICK encoder and safety systems, please contact: Andrea Hornby on 01727 831121 or email andrea.hornby@sick.co.uk.

#### Health & Safety

# PROCESS TECHNOLOGIES BOOSTED WITH BIG-BAG HANDLING

Processing procedures involving powdered, granulated or other free-flowing materials require regular, high volume product top-ups to maintain adequate production through-puts.



The specialised big-bag, air operated hoists manufactured by J D Neuhaus are suitable for operating with single or twin bag loads. These handling products also provide safe, speedy and accurate positioning, even where limited headroom conditions exist.

Typical applications include food products (salt, sugars, flour, starches etc), chemical and construction/building markets (limes-hydrate, plastics, minerals, cement), together with specialist markets including pharmaceuticals, granulate/ GGBS, energy, environment/recycling/sewage etc.

Individual bag loads of 1100 or 2200kg can be accommodated, with precision handling facilities incorporated for discharge at storage sites or process line delivery chutes etc. The hoist systems are also designed for reliable and safe operation

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within dust laden atmospheres, including areas at risk of explosion. Their operating medium is compressed air (6 bar pressure), with additional spark protection also being available, ensuring explosion protection classifications according to Directive 94/9/EG (Equipment and Protection Systems Intended for use in Potentially Explosive Areas [ATEX]). The explosion potential of dust laden atmospheres can be high where handling powdered chemicals, but with more innocuous food based components or metallic powders all being susceptible to ignition where critical air/dust content conditions are reached.

The JDN big-bag handling hoists are purpose designed and feature twin overhead trolleys connected with rigid spacer beams, and the whole unit running on an overhead support beam. The hoists are dust-proof and explosion protected, designed for full 24/7 operation within extreme low headroom conditions. Individual handling capacities 1100 and 2200kg are available in two configurations of either single or twin lift/load hooks. The single hook unit is designed for operation with a standard cruciform lifting beam. The twin load hook models operate with more complex beam designs, or for standard lifting beams featuring twin suspension points. They can also be operated with synchronised lifting operation. Each hoist is fitted with a chain box, which is sited to eliminate the risk of collisions between loads and the chain box. The hoist lowheadroom designs are also compatible with the handling of a wide variety of bulky or unusual loads. These big-bag hoists have 100% duty ratings, so eliminating downtimes. They can also be supplied with a wide variety of beam sizes and profiles, with optional hook centres located as required. The compact, modern design incorporates many JDN standard components to guarantee reliable operation combined with cost effective manufacture. No additional motor lubrication is required and only a small number of wear-free moving parts are incorporated for minimum maintenance. The hoists can be supplied with optional explosion protection ratings of: EX II 2 GD IIA T4 / II 3 GD IIB T4 and EX II 2 GD IIB T4 or II 2 GD IIC T4.

For further information contact:

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# Major new additions to the FibreGrid range

Since the year 2000, FibreGrid has been leading the way in GRP safety flooring products: stair tread covers, step nosings, flat sheets, grating and more. FibreGrid also manufactures FibreRail – the bestselling 'warm to touch' handrail.

Now, to provide the ultimate one-stop shop, FibreGrid has expanded its range to include anti slip paints and coatings for floors and decking, safety tapes, anti slip sheets, rolls and treads. All are available now.

FibreGrid's general manager, Sonya Pilgrim, commented: 'We have branded the new product range SlipGrip®, which is also the name for our flagship stair tread covers. Our lines are premium quality and while they aren't necessarily the cheapest on the market, in life, you get what you pay for and we are confident our products will outlast the competition.' As ever, everything FibreGrid manufactures is – where applicable – compliant with the demands of the DDA (Disability Discrimination Act) and current Building Regulations.

Free samples are available on old and new products so customers can assess the outstanding quality for themselves.

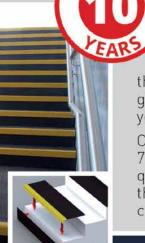
Not only has FibreGrid added to the family, it is also has a new website to complement the range. The URL is still www.fibregrid.com. Check it out for some very special launch offers.



However, customers shouldn't be shy about contacting FibreGrid directly. The company prides itself on its personal service, and is always happy to hear from customers old and new on 01440 712722 or info@fibregrid.com

For more information, or a free sample, please contact Mark Stockton, on: 01440 712722 or e-mail him on: Mark.Stockton@fibregrid.com

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## The Latest in Noise, Sound and Vibration Monitoring

Shawcity has been a market leader in supplying instrumentation to the occupational health and safety industry for over forty years, and specialists in noise dosimetry since the early 1990s. While the basic concept is familiar to many, evolving technology means protection for workers is constantly developing and improving.



## There are three methods for calculating hearing protection:

- Simplified Noise Reduction (SNR) which works over the entire perceptible frequency range i.e. reducing all noise by 10dB using Type 2 sound level meters or basic noise dosimetry.
- High, Medium and Low Frequency Attenuation (HML) gives you a general attenuation across the frequency bands using newer dosimeters with a standard (C-A weighting) calculation.
- Octave Band Analysis filters out problem frequencies while retaining the majority of the frequencies in the speaking zone (around 1-2kHz). This data is available in stand-alone sound level meters, which allows a level of protection on short term area surveys but not a true experience over long periods of time.

Type 2 Personal Noise Dosimeters have recently come to the market and they offer unparalleled qualities in instruments of this size for individual use. Intrinsically Safe with capabilities for full octave band analysis, they enable users to tailor hearing protection to real day-to-day working environments.

Employees can utilize functions such as audio event recording and interrogation of real time data with app-based reporting. So you no longer need to wait until the end of a shift before downloading data to analyse it.

Cable-free, this type of instrument is typically attached close to the ear on the user's shoulder and offer microphones with a dynamic range of 90 dB to measure noise from 60-140 dBA. Other advantages include TEDS memory and autocalibration, using commonly available acoustic calibrators. Docking stations handle battery charging while supporting PC data transfer through an IR interface. Rechargeable batteries can power devices for 50 hours.

The benefits of this new approach to personalised dosimeters underpin the simple fact that as an individual, the more effective and personalised your hearing protection is, the more likely you are to wear it which ultimately means better protection for the workforce.

Vibration management can also be a major issue for employers and employees as regular exposure to hand-arm vibration can cause a range of conditions known as Hand-Arm Vibration Syndrome (HAVS), which includes white finger and carpal tunnel syndrome. Similarly, whole body vibration can cause or aggravate back and other muscular pain.

This long-recognized potential hazard was legislated for in the Control of Vibration at Work Act 2005. Employers were given until 2010 to put together a management system to prevent and limit employee exposure, but the dominant issue became how to accurately and safely manage that exposure.

There are several opinions on how best to tackle the issue and prevent potentially life-altering - and highly litigious - conditions. The average claim for vibration-induced white finger is around £75,000, which reflects the severity of the condition for the employee and highlights the need for employers to find effective management solutions.

Initial assessment is sometimes a "smooth tool" policy. This uses the lowest vibration level tools

available for the particular task, regardless of their capability to do the task. For example, you can purchase a tool with half the exposure level of your existing equipment but if it takes three times as long to complete the task you are potentially making the issue worse.

Using manufacturer data for vibration can often also be unreliable because there is no requirement to measure a tool in operation. If exposure is below the current Exposure Action Value (EAV) of 2.5m/ s<sup>2</sup> there is no requirement for declaration. For an employer it is almost impossible to use this information to monitor exposure management.

Databases of measured vibration levels for tools are available. These provide some good data with "real world" measurements of tools being used in common tasks of the correct model for your tool. This can be good for some initial management goals, but it also has some major drawbacks as it doesn't take into account the conditions of the specific application or tool. The vibration magnitude of a tool can be greatly affected by its overall condition, for example the bearing or disc quality, or the particular task for which it's being used.

This leads on to arguably the only realistic way of understanding tool exposure levels; measurement. Vibration meters provide extremely accurate personalised data for specific tools used by individual employees in the specific application. The only true way of gauging and managing vibration exposure is to gain solid, measurable, repeatable data.

Over the last ten years vibration measurement has become standard practice across many industries and significant improvements have made in measurement technology, as well as affordability. Consequently most employers now have a clearer understanding of their tool vibration risk and use this data in conjunction with a system such as the HSE Points guidelines to manage occupational exposure. New instruments can now specifically focus on personal vibration measurement via a unit worn on the hand. These monitors measure real time vibration data logged over the course of an entire day. They are true vibration meters which accurately measure an individual's exposure from each tool and through each task.

Managing noise, sound and vibration exposure has now become an accurate and relatively straightforward task and effective worker protection against these hazards has finally become an affordable reality for every organisation.

> Author: Alex Graft, Product Specialist Manager, Shawcity Ltd

Shawcity Ltd www.shawcity.co.uk

# NO LEAKAGE IN 10 YEARS WITH KALREZ® PERFLUOROELASTOMER SEALS

Dramatic increases in instrument performance and reliability have been achieved where original PTFE gasket seals have been replaced with Kalrez<sup>\*</sup> custom gaskets from the DuPont<sup>™</sup> Performance Polymers range of products, available in the UK from Dichtomatik Ltd.

A Finnish manufacturer of process refractometers was utilising process media at temperatures ranging from -20° to +220°C and pressures from 0.7 bar to 25 bar. These aggressive operating conditions resulted with the PTFE seals needing to be regularly replaced on a 6-12 months operating cycle. However, after the seals were replaced by Kalrez® custom gaskets, there was no experience of fluid leakage over a 10 year period, even though the sealing products were subject to permanent in-line fluids immersion during this period.

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from vastly reduced disruptive interruptions to their manufacturing and production processes.

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Further information is available from: Dichtomatik Ltd, Donington House, Riverside Road, Pride Park, Derby DE24 8HX Telephone: 01332 524401 Fax: 01332 524425 e-mail: kalrez@dichtomatik.co.uk www.dichtomatik-kalrez.co.uk

## **Buyers** Guide





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