



Making Your Hazardous Area a Safer Place

Straightpoint Wireless Load Cells for zones 0,1 & 2 Explosive Environments

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High Pressure Charging Compressor - BAHP300EX

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- Galvanised steel frame, stainless steel panels c/w forklift channels and 4 anti static hard tyred wheels

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Incorporating Health & Safety

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Elfab launch first range of products for the Tank Protection Market; Flame Arresters & Breather Valves

With over 80 years manufacturing experience, Elfab can now offer customers a higher service level by enabling customers to source a wider range of products from one supplier.

Specifically designed for the tank protection market, both Flame Arresters and Breather Valves offer additional safety relief protection joint with significant cost and performance benefits.

Elfab's latest generation of Flame Arresters and Breather Valves combine the latest patented technology and superior performance characteristics to eliminate problems associated with traditional solutions.

Dependent on the design brief, Elfab have a flame arrester to best suit specific requirements. Tested to the highest quality standards, our technically superior range is designed to stop a flame in its tracks. Elfab's Flame Arresters are used in a

wide range of applications where tank and vessel protection is critical.

Our breather valves have developed from a new valve philosophy, introducing superior, modular designs; a first for the tank protection market.

Leading the industry with technically superior innovations, Elfab are thrilled to supply a comprehensive range of flame arresters and breather valves to its customer base. Vast market knowledge enables Elfab to provide the most advanced solution for tank protection needs by launching the latest breakthrough in flame arresting and breather valve technology.

With the combination of offering both technologies,



Elfab will continue to offer the same superior service and industry best lead-times to a wider range of markets of applications.

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Infrared Cameras for Monitoring Manufacturing Operations

FLIR Systems GF-Series infrared cameras are being used by chemical, petrochemical, pharmaceutical and many other manufacturing industries worldwide to ensure that existing air quality or internal systems for removing chemicals are functioning properly.

Regulations exist in most industrialized countries that specify thousands of inspection points around a manufacturing operation and how often they must be monitored. A comprehensive system for testing and repairing those leaks can yield competitive advantage by reducing maintenance and inspection costs while increasing worker safety, improving environmental quality inside the facility and outside as well.

Using proprietary FLIR optical gas imaging (OGI) technology - users can detect dozens of volatile organic compounds that might otherwise go

unnoticed. FLIR GF series cameras are beneficially able to remotely scan large areas to detect in real-time particular gas emissions which are displayed on-screen as a plume of vapor or smoke.

The FLIR GF series includes a range of application optimized cameras. The FLIR GF306 OGI camera detects and visualizes Sulfur Hexafluoride (SF6) and 25 other harmful gases quickly from a safe distance and without the need to interrupt your plant's production process. The FLIR GF320 is a preventative maintenance OGI camera used worldwide to spot leaks in piping, flanges and



connections in chemical and petrochemical operations. The FLIR GF309 is the OGI camera of choice for monitoring all types of furnaces, heaters and boilers in manufacturing operations in a wide range of industries.

For further information please visit <http://www.flir.eu/ogi/display/?id=49560> or contact FLIR Systems at: research@flir.com or +32-3665-5100.



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Parker Releases New Air Driven Liquid Pump

Parker Autoclave Engineers, part of Parker Hannifin – the global leader in motion and control technologies, has released an innovative new air driven liquid pump, the AHL118.

A high volume, double-ended, double acting high pressure pump, the AHL118 is designed for use in oil and gas, chemical, industrial and research applications.

The pump operates to a pressure range of 23,000 psi and at 5.6 gallons per minute (25.5 litres).

The AHL118 is designed to be extremely robust, featuring a carbon-based prioritised coating to the plunger, which is three times harder than Stellite. This makes the plunger unscratchable, extending the lifespan of the seals and reducing downtime, repairs and servicing, delivering major savings to the customer.

All AHL118's hydraulic parts are manufactured from stainless steel, making them very durable with extended Mean Time Between Maintenance (MTBM) and increasing safety. All AHL118's pump hardware is manufactured from stainless steel, which is

anodized to the bottom and top caps for superior corrosion resistance.

Shawn P. Landry, IPD Product Manager - Pumps/ Systems for Parker Autoclave Engineers, said: "This air driven liquid pump offers unrivalled performance and reliability, bringing huge benefits to customers. When developing the product, we analysed what the issues were in the market and so designed a pump that would last significantly longer, lowering downtime and maximizing efficiency."

Parker Autoclave Engineers has over 70 years' experience in manufacturing air driven high pressure liquid pumps, valves and fittings for a wide range of markets. The company offers a comprehensive range of products, with a wide choice of sizes, flow capabilities, output pressures and additional features. The company's products are used in a variety of different industries and applications,

including hydrostatic/ burst/leak, chemical injection, valve/gauge/ hose testing, bolt tensioning, hydraulic control systems, laboratory research and autofrettage systems.



Parker Autoclave Engineers combines high pressure industry knowledge, manufacturing expertise, and technological innovation to offer a broad range of products and services to customers across a wide range of industries. This includes low pressure instrumentation products from 15,000 psi to air driven liquid pumps and packaged systems up to 60,000 psi.

For more information, visit the company's website at www.parker.com

Unique DSEAR Area Classification & Explosion Risk Reduction Course - 6th-8th Sept 2016, Wrexham, UK

This 3-day course is designed to provide personnel with the skills to conduct or manage area classification and explosion risk assessment, ascertain plant explosion safety and compliance with ATEX 137 (DSEAR in the UK).

We will teach you not only how to conduct area classification, but how area classification integrates with explosion protection levels to provide an overall acceptable risk level.

"Many area classification courses only teach you what area classification is, not how to do it. When you leave our course, you will know how to determine zone types and distances for most common situations."

Our unique integrated teaching approach to area classification, ignition safety and mitigation makes sure the delegates understand the relationship of each element and their effect on project costs and plant safety.

This course is 3 days' classroom theory with an option for competence verification by project review (additional charge depending on the scope of competence to be assessed).

This course is run by a Chartered Engineer with 20 years' practical experience in Area Classification and Explosion Risk Assessment. Full details and syllabus at www.exveritas.com/services/atex-training/dsear/

About ExVeritas

ExVeritas specialises in Explosive Atmosphere Safety and is an ATEX Notified Body and IECEx Certification Body. We provide internationally recognised accredited safety and certification services including



IECEX, ATEX, CE Marking and North American Certification. We also offer accredited explosive atmosphere training such as CompEx and site safety consultancy on DSEAR, area classification, design, installation, inspection (UKAS accredited to EN60079-14) and risk assessment.

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Arc Energy Resources Announces Acquisition Of CLG Engineering

Gloucestershire-based Arc Energy Resources, the weld overlay cladding and fabrication specialist, has acquired precision machining company CLG Engineering, based in Stonehouse, Gloucestershire.



from design and material supply through to welding, cladding, machining, NDT, pressure testing, surface finishing and project management."

He goes on to say that the cultures of the two companies are highly compatible, from a focus on quality, attention to detail and customer service, to the way they treat their staff. "I have great plans for the future growth of the group, and am looking forward to supporting our clients on new and larger projects," says Andrew.

Arc Energy Resources was supported in the acquisition by Gloucestershire-based BPE Solicitors. Commenting for the practice, corporate partner Tim Ward says: "We were delighted to represent Arc Energy Resources at such an important time. With our head office in Cheltenham, we opened an office in Stonehouse just two years ago, so this is a great opportunity to work with two successful Stroud businesses, providing them with legal services at a very exciting time. We wish them every success."

The acquisition follows a record trading year for Arc Energy Resources, which grew its turnover in 2015 by 14% to £6.5M and invested heavily in new equipment and facilities including a bi-cathode rotary head cladding cell, a robotic welding cell and a 6,000 square foot extension to its workshop.

Arc Energy Resources provides corrosion-resistant weld overlay cladding services to a variety of clients in industry sectors ranging from oil and gas to defence, power generation, petrochemical, water and nuclear. Its versatile processes provide a practical combination of readily-available, cost-effective base materials and corrosion-resistant alloys to protect any critical area, providing cost savings and reductions in lead times. Its fabrication department holds ASME U and U2 Stamps, and manufactures radiographic-quality specialist equipment, including pressure vessels, spools, pig launchers, wellhead equipment and nuclear devices.

CLG Engineering provides CNC milling, CNC turning and assembly services to, amongst others, the oil and gas, automotive and rail industries. Certified to ISO 9001, and with over 40 years' engineering experience, its knowledgeable team can produce parts from 25mm to 1.25 metres in length, and up to

18" diameter, within tight tolerances.

The acquisition means that Arc Energy Resources' 80 employees are supplemented by CLG Engineering's 14, to create a stronger team with a wider mix of skills. Both companies are supported by teams of experienced project managers, inspectors and welding engineers, with access to a wide range of auxiliary processes in-house, including heat treatment, NDT and CMM inspection.

Commenting on behalf of both companies, group managing director Andrew Robinson, says: "This is a fantastic opportunity for both companies. CLG Engineering's precision machining capability perfectly complements Arc Energy Resources' cladding and fabrication offering.

"The group structure enables us to offer a one-stop shop for all our clients' engineering requirements,

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Hoists And Cranes – The Captains Of Industry

The importance of an ever-expanding industrial world should not be underestimated. After all, long-term, sustained industrialisation is a key driver for economic development, a fact recognised by the world's most important leaders.



It was no accident, for example, that President Obama made a personal appearance to open the planet's largest industrial exhibition, Hannover Messe, earlier this year, becoming the first US president ever to do so.

Technological innovation, such as that exhibited at Hannover Messe, is paramount in helping industrial companies achieve competitive gain and accrue market share. These technologies must be robust, reliable and require little maintenance. Only this way can the industrial sector maximise its output. For example, take humble hoists and crane systems such as those manufactured by J D Neuhaus (JDN). These lifting mechanisms have become the mainstay of material handling operations the world over as so many industrial tasks require lifting and manoeuvring, which without mechanical assistance would prove unproductive.

Even hoists and cranes, however, are constantly evolving. Today's iterations place great emphasis on long service life, ecological compatibility and recyclability – all of which is achieved without any detriment to safety or performance. And perform they must. The wide ranging demands of industrial applications for these products mean that at crane and hoist manufacturers such as JDN, their products are all engineered for extremes.

For instance, imagine the cold, dark, isolated, dangerous conditions in which underwater divers have to operate, or the fast-paced, high temperature, heavy atmosphere that foundry workers must endure. Or how about the howling gales and driving rain environment encountered by oil rig operatives. Even under extreme operating conditions such as these, JDN hoists and cranes, which are available with individual lifting capacities up to 100 tonnes, move loads reliably and with precision, day after day, year after year. They are in use in more than 70 different commercial sectors, including oil and gas, mining, the chemical industry and heavy plant construction. The 100% duty cycling of the equipment, which can either be used directly in applications or as sub-components of other OEM material handling devices, allows workers around the world to work longer and harder with maximum safety and the minimum of stress and physical effort.

A further benefit is the streamlined design of the latest cranes and hoists, which ensures that maintenance is non-invasive and both quick and simple to perform, thus minimising non-productive downtime. In practice, benefits such as these have had a resoundingly positive impact at countless industrial companies, where huge increases in productivity have been achieved.



To ensure this advantageous position continues moving forwards, the Global Service offered by J D Neuhaus helps industrial users guarantee the continuous operational availability of hoists and cranes, aiding the delivery of product longevity. With JDN Global Service it is possible to diagnose, find a solution and fix the problem, in any remote corner of the world.

Ultimately, for long-term structural change, industry plays a pivotal role. It creates many productive, formal jobs at an early stage of development. It also drives technological development and innovation to sustain productivity and growth in manufacturing and other commercial sectors. In short, the prosperity of the global economy relies on industry, and industry relies on technology. Only by selecting optimised, proven technologies engineered for extremes, can worldwide industries continue to grow.

Further information is available on request to:
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 e-mail: info@jdnngroup.com
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The Leading Manufacturing Technology Exhibition in the North

Over 300+ national and international suppliers will gather in Manchester this September for Northern Manufacturing & Electronics 2016 together with the RoadRailAir event. The exhibition will feature live demonstrations and new product launches of machine tools & tooling, electronics, factory & process automation, packaging & handling, labelling & marking, 3D printing, test & measurement, materials & adhesives, rapid prototyping, ICT, drives & controls and laboratory equipment.

Free industry seminar programme online @ www.industrynorth.co.uk
 The exhibition is free to attend, free to park and easy to get to. Doors open at 9.30am on Wednesday 28th September.

Pre-register online now for your free entry badge and show preview at www.industrynorth.co.uk

NORTHERN MANUFACTURING & ELECTRONICS is an ETES event organised by European Trade & Exhibition Services Ltd
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New DVD training aid for Boom Lift operators.

The new 'MEWPs Safety – Boom Lifts' DVD is a comprehensive training aid for everyone involved in training Boom Lift operators.

The hazards involved with operating Boom Lifts (aka Cherry Pickers) are legendary in the construction and allied industries: being trapped against a structure; the machine tipping over; falling from the platform - to mention a few. YouTube has some pretty horrendous examples of the potential for disaster. So this DVD 'MEWPs Safety – Boom Lifts' can only be a welcome addition to the safety training aids that can be used by everyone involved in the training of operators. The DVD is also suitable for use by company Health & Safety Managers as a refresher session for existing operators.

Created and produced Blue Slate Videos, the DVD is for trainers, and complements all recognised training courses. It has 10 chapters to suit individual training

needs; alternatively there's a 'Play All' function to automatically play from start to finish. Topics covered include: PPE, familiarisation, pre-operation checks, emergency lowering, safe operation, planning the task, shutdown and general safety.

'We've produced this DVD specifically for trainers of Boom Lift operators. The information is presented in a clear, logical and concise fashion, which can be easily absorbed by would-be operators; so we're hoping that it'll be a valuable additional training aid,' said Bob Hylton, Film Director at Blue Slate Videos.

The DVD is available from Blue Slate Videos website: www.blueslate.co.uk priced £99 including P&P.



A short preview of the DVD can be found on the company's website: <http://www.blueslate.co.uk/boom-lifts.html>



Blue Slate Videos.

Tel: 01423 564441

Email: Bob.Hylton@blueslate.co.uk

Visit: www.blueslate.co.uk

Dialight Introduces High Efficiency Zone 1 SafeSite® High Bay

New Certification Allows for Use in New Hazardous Environments in Europe, Middle East, and Australia

Farmingdale, NJ (June 8, 2016) – Dialight (LSE: DIAL), the global leader in LED lighting technology, today unveiled the first-ever High Efficiency ATEX/IECEx Zone 1 SafeSite® High Bay. Each high bay feature Dialight's latest world class in-house designed power supply and a full 10-year, full performance warranty and up to 110 lm/W efficiency.

The high output 23,500 to 9,650 lumen SafeSite ATEX/IECEx Zone 1 High Bays offer superior illumination and efficiency for oil, gas, chemical,

petrochemical, pharmaceutical and other hazardous area applications. The ATEX Zone 1 certified SafeSite High Bays include an integrated power supply with 6kV surge protection, and their light weight and low profile makes for easy installation. Options for 3 meter cable or integrated wiring junction box. With typical mounting heights up to 13 meters, the SafeSite LED High Bays represents the ideal retrofit for conventional 400W HID fixtures. The ATEX/IECEx SafeSite LED High Bays are L70 lifetime rated for more than 150,000 hours and operates in temperatures ranging from -40oC to +60oC.



For more information about Dialight's complete line of SafeSite LED lighting solutions for hazardous locations including IES files, LM79 reports and technical datasheets, visit www.dialight.com. Or call: +44 (0)1638 665161

SPM Instrument UK Hosts International Management Meeting

On the 20th to 22nd of June, Manchester based condition monitoring specialist SPM Instrument UK Ltd. hosted a meeting with the CEO of SPM International and Managing Directors of its fourteen subsidiaries in Europe, USA, Singapore, and India.



The biannual SPM Management meeting is an integral component of the SPM International corporate structure and an important part in setting the course for the further development of the Group and its activities. The meeting is an itinerant event which the different SPM companies take turns organizing. This time, SPM Instrument UK was chosen to host the meeting, held at the Hilton in Manchester and rounded off with a social event at the Lakeside Hotel & Spa in Newby Bridge.

This year's Management meeting was a follow-up after a period of intense activity in 2014 and 2015 when SPM Instrument launched multiple important condition monitoring products to the worldwide market. Senior management colleagues from all SPM subsidiaries attended the event to reflect on the past couple of years, discuss future strategies and develop a strong business plan for the coming years, enabling the Group to unify sales and marketing efforts.

'In a global, competitive market, it is essential of course that business opportunities are recognized and acted

on. Our product portfolio is stronger than ever and will continue to develop as we align innovation efforts with business strategies. The Management meetings are an important and much-appreciated opportunity for us to focus on our joint development and continued growth in the markets where the Group is active', says Stan Jackson, Managing Director of SPM Instrument UK.

In today's competitive climate, many industries are under pressure to continuously reduce operating costs and improve the cost effectiveness of their production. A condition-based maintenance strategy with a well-managed condition monitoring program can be a crucial piece of that puzzle. Yet, the condition monitoring industry is largely immature.

'As a leading condition monitoring technology and services provider, SPM Instrument is in a position to offer the most cost effective solutions with the latest technologies available. I believe that it is very important that SPM continues to lead the way, not only in product and technological development but also that SPM

keeps and maintains the core and strength of a very successful, family-owned business', Stan Jackson says.

SPM Instrument is the inventor of the SPM HD® shock pulse technology for condition monitoring of industrial machinery. In 2015, this revolutionary technology was joined by HD ENV®, a new groundbreaking vibration monitoring technology based on the same patented algorithms for digital signal processing. Together, these technologies offer a complete condition monitoring solution for typical machine problems - such as bearing and gear damage, unbalance or misalignment - providing forewarning times considerably longer than those offered by other monitoring technologies.

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



INTELLINOVA® parallel MB

Stand-alone or Modbus integration

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

Measurement techniques:

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

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



SPM
condition monitoring solutions

Do you have questions and want to know more? Please call
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BSRIA comments on A Level results

BSRIA has commented on the country's A Level results.

Skilled engineering graduates are essential to BSRIA and the industry workforce of tomorrow. The construction sector's demand for suitable skilled workers is paramount. However, it's clear that A Levels, TechBacc programmes and apprenticeships are all vital.

Our economy relies on students progressing to engineering.

BSRIA acknowledges the hard work and achievement of those receiving today's A Level and AS Level results and congratulates all students for their grades. All of which is good news for the science subjects and the future of engineering.

Julia Evans, Chief Executive, BSRIA, said: "BSRIA is encouraged that there has been an increase in students taking maths over arts subjects. Learning the STEM (science, technology, engineering and maths) subjects forms the building blocks of a career in engineering and construction. Lose this and you lose the very foundation of this discipline.

It was especially encouraging to see applications to study chemical engineering at university have increased this year – applications to study this at the University of Bath shot up by 50 per cent this year – with computer science courses also high in demand. A record number of students have got into university overall too which is excellent news."



More information at www.bsria.co.uk.

Bespoke IECEx and ATEX approved resistors

Resistor manufacturer Cressall has demonstrated its design and manufacturing capabilities by producing specialist neutral earthing resistors (NERs) suitable for use in explosive atmospheres.

The NERs meet the international IECEx and European ATEX specifications and allow generator manufacturers and end users to protect distributed generation systems. This ensures regulatory compliance and peace of mind for companies operating in explosive environments.

vapours or liquids are not likely to exist under normal operating conditions. However, flammable materials are likely to be present in a leak.

NERs are used in medium-voltage AC distribution networks to limit the current that would flow through the neutral point of a generator in the event of an earth fault. The resistors limit fault currents to a value high enough to be detected but low enough to prevent damage to switchgear or generators.

Cressall reduced the element temperature of the NERs to meet the requirement of the T3 classification: less than 200 degrees Celsius, but could design to meet other T classifications if required.

Cressall's IECEx and ATEX approved NERs are tested and approved to operate safely for the specifications of Zone 2, T3 classified locations. Zone 2 locations are defined as areas where ignitable concentrations of flammable gases,

"As well as adhering to IECEx and ATEX certifications, the enclosure and electrical components had to be compliant with the customer specified requirements," explained Martin Nicholls, sales director of Cressall. "In addition, the unit needed to successfully pass inspection and testing by a certified laboratory to ensure compliance. "This is not the first time Cressall has successfully designed and manufactured IECEx/ATEX certified



Cressall ATEX neutral earthing resistor (NER) undergoing an IP-water test.

equipment, but it was one of the more challenging cases. It is not possible to standardise a range because of the specific requirements customers bring to us. Each project is unique, so we work closely with our customers and partners to make sure we provide the best solution on the market."

For more information about the company's products, or to talk to Cressall about a bespoke project, go to www.cressall.com.

Northern Manufacturing & Electronics maintains its lead

The Northern Manufacturing & Electronics Show returns to Manchester's EventCity on September 28th and 29th 2016. Now in its fourth year, the show continues to grow in stature as a key event for the region's engineers.



For maintenance professionals, Northern Manufacturing & Electronics is the most important marketplace in the North for components, both electronic and mechanical, consumables and industrial hardware such as drives & controls, storage & handling, labelling & marking, and industrial cleaning systems. Some of the more notable firms exhibiting this year include MecWash, SSI Schaeffer, Lemo, Scaglia Indeva, Rolla V, Oerlikon Leybold, Waldemann Industrial Lighting and Quickgrind. A full searchable list of exhibitors can be found on the show's website at www.industrynorth.co.uk

The 2015 show set a new record both for visitor attendance and the number of businesses taking part. 2016 promises more of the same, with around 3,000 visitors expected over the two day event, which hosts an impressive array of machinery manufacturers, tool suppliers, subcontractors and vendors catering for almost every possible production and maintenance need. The beauty of having such a diversity of suppliers gathered under one roof is the ease by which it's possible to address multiple sourcing issues in a single visit – something that's very difficult to do at more specialised events.

Thanks to the success of previous years, and of course the huge success of its Southern sibling event, Northern Manufacturing & Electronics has quickly achieved credibility with the big manufacturers, resulting in a very respectable roster of major machinery and hardware demonstrations. Some of the names to look out for include Igus, Renishaw, Amada, Trumpf, Variohm Eurosensor, Kabelscheppe Metool, Haas Automation, Unison, XYZ Machine Tools, Bystronic, Faro, Nikon and many more. But with the format of the show deliberately designed to create an even playing field with smaller companies, the show is not dominated by a few big brands. Given that more than 80% of UK engineering companies are regarded as micro or small businesses, this rich diversity gives a real reflection of the needs of regional firms it serves. Key local industries include Food & Beverage and PharmaBio, together with a very strong Aerospace and Automotive sector. Supporting them is vast supply chain of many hundreds of firms. With its central location, very close to the heart of Manchester, the Northern Manufacturing show has quickly become the key regional meeting place for these vital, high-value engineering enterprises

In addition to the thousands of components and products on show, Northern Manufacturing & Electronics is also a great chance to acquire new know-how, thanks to the complimentary technical seminar programme that runs over the two days of the event. A series of one-hour long workshops brought to you by foremost industry specialists within their spheres will address a wide variety of technical and business topics, for example Lean, CE Marking, product development, designing for hazardous environments, 3D printing and much more. The full programme and pre-registration is available on the show's website at www.industrynorth.co.uk.

Entry to Northern Manufacturing & Electronics 2016 is completely free. Event City offers 3000 free on-site car parking spaces, with easy access by road, rail or air. To register online for tickets visit: www.industrynorth.co.uk. Visitors can follow all the latest news from the show on Twitter by following @industrynorth_co_uk #northmanf or on its blog page at: <http://blog.industrynorth.co.uk>

Radiolink Plus Load Cell for Zone 0,1&2 Explosive Environments

Straightpoint has launched an ATEX and IECEx version of its most popular product – the Radiolink plus wireless load cell.

The explosion proof product will be assembled on a brand new production line ensuring that the force measurement, load monitoring and suspended weighing load cell manufacturer can continue to provide quick delivery to job sites around the world.

Meeting Zone 0 classification (an area in which an explosive gas atmosphere is present continuously or for long periods) is unprecedented in wireless below-the-hook force measurement technology with other suppliers providing products for use in areas categorised only as hazardous as Zone 2 (an area in which an explosive gas atmosphere is not likely to occur in normal operation and, if it occurs, will only exist for a short time).

Roshan Divakaran, design engineer at Straightpoint, who has overseen the product's development, said: "We don't believe there is another wireless

load cell on the market that is Zone 0 certified, which makes this a tremendously significant product launch for the sectors that require such technologies. The requirements of the oil and gas industry were a primary focus throughout the design and certification process."

The criteria of ATEX and IECEx are broadly similar, although the former is widely accepted throughout Europe, while the latter is required in many other global markets.

The ATEX version of the load cell and wireless handheld unit contains several safety components that permit its use in Zone 0 environments. A separate storage area has been created at Straightpoint's Havant, UK headquarters and all production personnel have been specially trained in the assembly of the explosion proof units.

Straightpoint director David Ayling said: "We made a decision in early 2014 to introduce the benefits of our best selling product—the Radiolink plus—to industries and applications where products that meet the requirements of ATEX are required to work in extremely hazardous environments. I am delighted for Roshan and the team that we have executed our ambitious plan to launch the product early in 2016. It has been one of the biggest development projects in the history of the company and the interest we've already received suggests that our new production line will be kept extremely busy."

Divakaran, working in close collaboration with the Sira Certification Service, an independent certification body, has been working on the ATEX and IECEx project since he joined the company last year.

He said: "Developing a Zone 0 product has been very challenging given the extent of the standards and safety regulations that we have had to meet as we produced documents, prototypes and the final product. Our goal was to meet this criteria whilst making minimal changes to an already excellent, well-renowned product; we feel we have been successful in achieving that."

Ayling concluded: "A significant amount of our business comes from the oil and gas sector. The explosion proof certification will vastly increase the scope of application we can serve and provides our distributors with unique selling points both in terms of the classification level and our ability to deliver the product within a few days."



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LEEA, SIRA, ASME, IECEx, CE, sira CERTIFICATION

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Straightpoint Expands ATEX Range as New Guidance Becomes Effective

Straightpoint's expanded range of ATEX products conform to a new directive—2014/34/EU—that became effective recently, updating 94/9/EC.

At the turn of the year, the force measurement, load monitoring and suspended weighing load cell equipment manufacturer launched an ATEX and IECEx version of its most popular product, the Radiolink Plus wireless load cell, which met Zone 0, 1 and 2 hazardous area classification.

An ATEX version of the wireless Handheld Plus followed, while other wireless products including compression cells, shackle cells, load pins and the Running Line Dynamometer (or TIMH), part of the manufacturer's tension in motion range, are also in accordance with the new 2014/34/EU directive and boast classification in the three zones, including 0 (an area in which an explosive gas atmosphere is present continuously or for long periods)—unprecedented in wireless below-the-hook force measurement technology.

Roshan Divakaran, design engineer, Straightpoint, said: "We have been in close collaboration with the Sira Certification Service, an independent certification body, for more than two years and it has been very helpful with the new directive implementation and certifications for the new products we've introduced. We have not only expanded our ATEX range of products, but we were in a position to supply them from the first week of May—almost simultaneous with the new directive becoming effective."

Divakaran explained that the notable changes to the directive largely centre on terminology, citing references to an EU Declaration of Conformity rather than EC Declaration of Conformity, prevalent in 94/9/EC. He also pointed to the EC type examination certificate becoming an EU type examination certificate in 2014/34/EU.

David Ayling, director, Straightpoint, said: "We have come a long way since making a decision in early 2014 to introduce the benefits of our best selling product, the Radiolink plus, to applications where products that meet the requirements of ATEX are required to work in extremely hazardous environments. To launch the expanded range as the 2014/34/EU directive becomes effective is testimony to the dedication of Roshan and his team in addition to the strength of our relationship with the Sira Certification Service."



Divakaran said: "We are experiencing growing demand for the ATEX products and anticipate continued interest in the Radiolink plus and the expanded range, heightened by 2014/34/EU becoming effective as we speak."

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Continually Evolving SIL Relay Range to be complemented by a New GMI Surge Protection Units This Autumn

Exloc Instruments UK Ltd are the sole UK distributor of GM International products including SIL certified relays and switch repeaters designed and engineered to meet the requirements of modern niche projects.



The GM International D1000 / D5000 series of universal mount Intrinsically Safe galvanic isolators provide a most simple and cost effective means of implementing Intrinsic Safety into YOUR Hazardous Area applications.

This Autumn we will also be introducing the new range of DIN rail mounted and field mounted surge protectors from GMI which will protect 4-20mA HART, Digital I/O, World FIP and Fire & Gas signals and we hope to expand on that in the next issue.

Meanwhile, the switching of Safety-Related circuits demands the use of specific SIL certified Relay Output modules, capable of delivering the highest rate of availability and functional safety. The original SIL relay by GM International was the D5293S, a relay output with a normally energised load and with load and line diagnostics which achieves SIL3 according to IEC61508:2010 Ed.2.

The D5294S and D5295S modules are both 4Amp modules (normally open and normally closed contacts respectively) which again achieve SIL3 and are suitable for Normally Energised or Fire & Gas / Normally De-energised load with open/short circuit diagnostics.

Both modules also provide full Load & Line Internal Diagnostics: load voltage and current, load resistance (patented), leakage from load to earth, coil integrity and internal faults. Moreover, MODBUS communication allows the units to be remotely interrogated and configured.

Hardware is SIL 3 certified, while diagnostic functions are now also SIL 2 certified by TUV: they remain two independent features, which can be used separately or together. All models are ATEX, IECEx and SIL certified and are suitable for installation in Zone 2 / Div. 2 Hazardous locations.

The range of GM International modules which are SIL capable continues to expand and also includes the single channel D5093S and dual channel D5093D Loop Powered Switch Repeater. These modules operate at 24 to 220 Vac/Vdc and are suitable for safety related system applications requiring SIL 3 in high risk industries.

Each channel is able to reflect the presence of a 24 to 220 Vac/Vdc input signal to the output by closing an optically coupled Normally Open open-drain transistor (solid-state relay, MOSFET output).

Mounting of the units can be via standard DIN-Rail or on customized Termination Boards, in Safe Area or in Zone 2, group IIC T4. All models are ATEX, IECEx and SIL certified.

The additional GM International D6000 range offers all the safety features of the D5000 range but provides the most simple and cost effective means of implementing isolation in non Hazardous applications whilst still maintaining high integrity and achieving SIL2 according to IEC61508 / IEC 61511.

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|--|--------------------------------------|
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Our activities extend beyond just certification; we offer an accessible source of expertise in many related areas. With over 300 years collective experience, we have extensive knowledge of the application of industry standards in many areas. We actively participate in the committees formulating standards both at European and International level.

Technical Advice:

Our customers value our unbiased advice on how the standards apply to their particular product or service. We believe that customers value direct access to the individual engineers who will be working with them, and we encourage contact by email, telephone or face-to-face meetings.

Making expert knowledge available to all our customers is an absolute priority for us. We are happy to offer advice on an "as needed" basis, as part of the Technical Advice Service we provide alongside our certification work, or through selected modules contained in our training programmes.

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Our portfolio of training courses is unsurpassed and includes courses for those new to the Ex environment or needing a brush-up in the basics to courses covering detailed subjects such as Area Classification, ATEX/DSEAR, and QA System Planning.

Recent customer feedback has indicated 95% of our customers are positive about our services and that our staff are 'helpful' and 'knowledgeable'.

TO LEARN HOW WE CAN HELP YOU, VISIT US AT:
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High Performance Seals For Challenging Oil & Gas Environments

Dichtomatik Ltd, an approved supplier for the DuPont™ range of high performance O-ring seals and gaskets, has extended their stock range of sealing components, including specifically designed items for the high pressure / high temperature (HPHT) conditions as encountered in the demanding oil and gas production and development environments.



processes, ensuring budget reductions particularly for down-hole applications which can involve particularly hard access conditions.

The Kalrez® parts are particularly suitable for HTPT seal applications, providing long-term performances over a wide spectrum of oil and gas industry working requirements. These perfluoroelastomer (FFKM) parts are highly resistant to aggressive chemicals and solvents, including sour multi-phase fluids. O-ring seals retain high levels of elasticity and recovery, even after long-term exposures at elevated temperatures. The Kalrez® parts for HPHT down-hole environments also provide outstanding rapid gas decompression (RGD) resistance. In fact, rigorous third party laboratory testing for RGD resistance have recorded Kalrez® 0090 AS568-312 O-rings with the highest possible rating of 0000 per the NORSOK M-710 Rev 2 standard.

The performance benefits that have been achieved by the DuPont™ range of products have also extended the MTBR duration from days for some installations to months and even years for other specific applications. These results ensure considerable savings on site downtimes and loss of production, together with savings on manpower costs as plant repair times can be drastically reduced as well as loss of process products through leakages resulting from sealing failures.

Further information is available from:
Dichtomatik Ltd, Donington House,
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DE24 8HX
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Fax: 01332 524425
e-mail: kalrez@dichtomatik.co.uk
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High performance seals such as Viton® fluoroelastomers have been used in extraction, refining and upgrading industries for over five decades.

Typical installations have successfully solved critical sealing problems where elastomers such as nitrile or EPDM have failed to provide an effective long-term sealing performance. Later developments have seen the introduction of DuPont™ Kalrez® perfluoroelastomer parts which can withstand operating conditions involving attack from a range in excess of 1800 chemicals, solvents and plasmas,

even where incorporating working conditions up to 327°C (620°F) are utilised.

Viton® outlasts nitrile rubber and other general-purpose elastomers and is ISO 9000 registered worldwide. The ability of this product to withstand both high heat and low temperatures as well as attack from aggressive fuels and chemicals, makes it an ideal medium for the production of protective coatings as well as O-rings, together with gaskets in a wide variety of custom shapes and sizes. This proven versatility ensures that user customers can utilise longer maintenance intervals for production

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A schematic showing a typical Central Vacuum Cleaning System systems. They provide vacuum connection points for cleaning around the factory, plant or lab. Dust and debris is conveyed through the pipe system to a filter separator for safe disposal.



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Ion Science Tiger VOC Detector Used By Leading Thai Indoor Air Quality Monitoring Specialist

High performance handheld PID chosen for anti-humidity design

When its existing photoionisation detectors (PIDs) proved ineffective in high humidity, indoor air quality monitoring specialist, Clean Air (Thailand) Company Ltd turned to Ion Science (www.ionscience.com) and its high performance Tiger instrument. The handheld detector is being used by the Bangkok-based business as part of its audit programme to measure potentially harmful total volatile organic compounds (TVOCs) in a wide range of buildings including offices, hospitals, hotels and residential properties.

Established since 2007, Clean Air Thailand designs and manufactures specialist Ozone and UVGI equipment to improve indoor air quality (IAQ). The company also offers an IAQ test service which helps building managers understand what is happening in their properties. The scientific information provided can then be used to introduce IAQ improvement programmes, often without the need for extra equipment.

Philip North, Director at Clean Air Thailand comments: "Even though a building's IAQ might seem fine, it is essential that all the parameters which make up the air being breathed are regularly assessed. As part of our IAQaudit service, we measure TVOCs present within buildings but our previous monitoring instrument proved unreliable in Thailand's humid conditions. We provide solutions to customers based on high levels of TVOCs being detected so needed a device we can completely trust when we show before and after readings. "Following recommendation from another business, we chose the Ion Science Tiger VOC detector due

to its revolutionary PID sensor technology offering excellent humidity resistance and anti-contamination design. As well as providing highly accurate readings, we were impressed with the system's response time of just two seconds and opted for the data logging function for easy reporting."

Providing market-leading accuracy and run time, the Tiger's PID sensor capabilities utilise advanced patented Fence Electrode technology, a three-electrode format with increased resistance to humidity (up to 99% RH) and contamination. Combined with 24-hour battery life, these features maximise usage by minimising erroneous readings in high humidity and drift in harsh environments. The anti-contamination design also reduces calibration frequency.

Independently verified as the industry's best performing PID for its speed of response, accuracy and linearity, the Tiger provided the most stable, repeatable readings when tested against competitor instruments in humid and contaminated environments.

The instrument's well proven MiniPID is a simple plug and play sensor that has been specially developed by Ion Science to deliver a dynamic and reliable response to thousands of VOCs.

Designed for rapid detection, with an unrivalled response time of just two seconds, and the widest measurement range of one part per billion (ppb) to 20,000 parts per million (ppm)*, the robust Tiger is ready to use, straight out of the box, and extremely simple to set up. It offers worldwide Intrinsic



Safety (IS) certification, making it suitable for use in potentially explosive, hazardous environments, and also meets ATEX, IECEx, UL and CSA standards.

Inexpensive disposable parts such as filters and lamps are easy to change, minimising downtime. Simple connectivity to a PC via the USB allows data to be downloaded quickly.

Philip adds: "The service from Ion Science's UK operation has been very good. Most importantly, I would give the Tiger instrument top marks for reliability and accuracy. It has proved entirely fit for purpose and can easily cope with the Asia's extreme humidity."

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

Saving Money As Well As Lives - Continuous Risk Assessment and Management

An estimated 3,000 companies within the UK's process industries operate thermal fluid systems to transfer heat around their manufacturing plants.



Degradation can cause a fluid's flash point to decrease, so that fluids that were not flammable at the operating temperature at installation become flammable.

DSEAR demands that the risks inherent in the use of flammable fluids are assessed and eliminated or reduced. Regular fluid sampling and analysis is required to ensure that flash points are not exceeded. If necessary, oil must be replaced or conditioned so that a safe flash point is restored.

Thermal Fluid Solutions has been helping firms within the process industry to achieve and maintain legislative compliance for 20 years, minimising and managing their risk. It has clients across a range of sectors, including food, wood panel, petrochemicals and fine chemicals, such as Premier Foods, Dow Chemical Company, Pfizer and Airbus.

While TFS' development of bespoke comprehensive continuous improvement plans enables clients to meet DSEAR standards, the explosion protection documents that form part of the plans also enable clients to prove their safety credentials to insurers and so reduce their premiums.

One of the main elements of TFS' work is the reconditioning of customers' thermal oil in order to maintain appropriate flash points. The company was the first to offer this service, which is a quick, cost-effective, environmentally sustainable alternative to total fluid replacement: HTfluidfit extends fluid life by a factor of at least 10, saving customers up to 70% of their thermal fluid costs.

TFS provides a comprehensive range of thermal fluid system support, maintenance and risk-management services to process industries worldwide. It was established in 1996 as Heat Transfer Systems, rebranding to Thermal Fluid Solutions in 2012.

For further details, please visit www.thermalfluidsolutions.com.

ATEX and DSEAR legislation stipulate that these firms must proactively manage the risk associated with their systems in order to protect their employees from risk of explosion.

Managing director of Derbyshire-based Thermal Fluid Solutions, Richard Franklin, explains why these companies need to adopt a continuous risk assessment and management programme, and how doing so can save money as well as lives.

The heat transfer media used in thermal fluid systems is typically mineral or synthetic oil. The systems' operating temperatures are invariably higher than the "closed cup flash point" of the media; in the presence of a source of ignition, the fluids could ignite.

Where such systems operate under high pressure, any leaks from the pipework at points such as flanged joints, valves and connection points, can

create mists or sprays, which result in the creation of an explosive atmosphere outside the system.

Thermal fluids operating above their flash points are classified as hazardous substances, as are those handled below their flash points but under pressure.

On ignition, volatile atmospheres result in explosions, and European ATEX (Atmosphère Explosible) legislation - implemented in the UK via DSEAR (Dangerous Substances and Explosive Atmospheres Regulations) - stipulates requirements for the protection of workers against such incidents arising from the presence of hazardous substances in the workplace.

While most companies are aware that thermal fluid systems operating above the flash point of the fluid must be maintained according to DSEAR, many do not appreciate that organic thermal fluids based on mineral oils degrade over time.

SICK Launches Next-Generation microScan3 Safety Laser Scanner

With the launch its next-generation safety laser scanner, the microScan3, SICK is promising a new era of improved personal safety and productivity.



hazard points, hazardous areas and other critical safety duties."

The microScan3 achieves up to 30mm object resolution, a protective field range of up to 5.5 metres and a warning field range of up to 40 metres. Up to eight fields can be programmed with two monitoring cases and there are three universal I/O connections which can be assigned various signals.

With a bright multi-colour clear-text display and additional status LED's, the microScan3 provides on-the-spot operational status and easy to understand diagnostics information to allow adjustments or corrections to be made locally.

SICK's new Safety Designer software makes commissioning almost intuitive and the Smart core memory retains configurations allowing for rapid device changeover. SICK microScan3 has a lightweight, rugged metal housing with vibration resistant brackets, enabling easy installation and adjustment. M12, 8-pin connectors, mini USB interface and system plug with integrated configuration memory ensure simple, low cost, smart connectivity.

For more information on the SICK microScan3, please contact Andrea Hornby on 01727 831121 or email andrea.hornby@sick.co.uk.

The microScan3 is the first safety laser scanner to use SICK's patented scanning technology, safeHDDMTM (High Definition Distance Measurement), based on advanced time of flight measurement

SafeHDDMTM enables the microScan3 to operate reliably in difficult ambient light, dirty or dusty conditions where other technologies can fail. The microScan3 packs unprecedented performance into its compact size, with excellent resolution and detection of difficult-to-see materials with a wide range of 5.5 metres and 275 degrees.

The uniquely-developed and patented high definition distance measurement algorithms used for the safeHDDMTM scanning technology use multi-signal evaluation to achieve a level of measurement

reliability never before seen in safety scanners. Even a very dark object with just 1.8 percent remission, e.g. black clothing, is reliably detected.

"SICK has led the way in reliable safety laser scanners for more than 20 years," says Dr Martin Kidman, SICK UK's safety specialist. "Developing the microScan3 was all about making it easy for users to optimise workflow efficiency and productivity without compromising the safety of personnel.

"SICK has revised and optimised every detail of its laser scanner technology to set a new benchmark for machinery safety. The microScan3 is a rugged, high-performing and unobtrusive laser scanner, ideal for multi-sided machinery and production line protection at access and loading/unloading points,

E2S showcase new premium STEx family at ONS Norway 2016

E2S Warning Signals is showcasing its new STEx premium stainless steel flameproof warning device family for use in aggressive onshore and offshore environments on Stand 5250, Hall 5 at ONS, held from 29 August – 01 September in Stavanger, Norway.



E2S, the world's leading manufacturer of audible and visual warning devices, has developed the STEx family specifically for use in environments where corrosion is a particular issue. The family is launched with ATEX and IEC IECEx approvals; testing to other relevant global standards is currently under way.

The STEx family consists of 117 and 123 dB(A) alarm horn sounders with either flared or omnidirectional radial horns, 15 and 25 Watt PA loudspeakers, 21, 15 and 10 Joule Xenon strobe beacons, rotating halogen beacons, LED beacons

and combined units. Also immediately available are stainless steel junction boxes. All sounder and strobe enclosure bodies are manufactured from 316L stainless steel with ancillary components such as dome guards, mounting brackets and stopping plugs in 316, giving enhanced corrosion resistance over other widely used materials such as 304. Beacons and junction boxes have four M20 entries; sounders and combined units have three M20 entries. 1/2" and 3/4" NPT and M25 adaptors are available.

The E2S stand will be manned by personnel from Marin Supply, E2S's long established Norwegian distribution partner, who will be supported by international sales manager Darren Mann and central Europe sales manager Joachim Ebert from E2S.

E2S Warning Signals
Tel: + 44 (0)20 8743 8880
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www.e2s.com

Audible and visual warning devices for fire, gas and security systems on show at Security Essen

E2S Warning Signals, the world's leading independent manufacturer of audible and visual warning devices, will be on Booth 1E34 in Hall 1.0 at Security Essen, 27 to 29 September 2016, showing a selection of products from its comprehensive range of sounders, loudspeakers, beacons, combined AV units, plus push button and break glass manual call points suitable for use in fire, gas and security systems.

The extensive E2S product portfolio includes high output devices to suit noisy or brightly lit environments and wide area coverage, plus intrinsically safe and explosion proof units for use in hazardous areas. Whatever the application, there are E2S products which provide effective delivery of status indications and alarm warnings for fire, gas, security or disaster, to maximise life and property safety.

In addition to its general purpose and industrial fire and security devices, such as Alert-alarm, Alert-alight and Sonora, the booth will also feature some of its latest new products such as the STEx family which complements the well-established BEX

(low copper Aluminium) and GNEx (GRP) families to satisfy an increasing demand for optimum combinations of robust build and resistance to corrosion. Constructed in Stainless Steel (gr. 316L & 316), rated IP66 for ingress protection and certified (ATEX and IEC IECEx) for Zone 1, 2, 21 & 22 explosion proof signalling, the new STEx family includes alarm sounders, PA loudspeakers, Xenon strobe beacons, Rotating Halogen beacons, LED beacons and combined (beacon and sounder in single assembly) units.

Central Europe sales manager Joachim Ebert and Sirena GmbH (E2S Distributor) Managing Director Thomas Schardt will be manning the stand.



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Do Your Emergency Shower Systems Meet The Internationally Recognised ANSI Performance Standard?

As part of the philosophy at Empteezy®, when we launch a new range not only do we ensure the products are of the highest quality, we ensure that they are fully compliant with the appropriate standards/regulations.



Our new range of Emergency safety showers & eyewash basins is no exception, conforming to both European and International standards, the most comprehensive of which is ANSI Z358.1 2014.

The ANSI Z358.1-2014 standard establishes universal minimum performance and use

requirements for emergency eyewash & drench shower equipment used for the treatment of the eyes, face, and/or body of a person who has been exposed to hazardous materials and/or chemicals. First implemented in 1981 the standard was modified in 1990, 1998, 2004, 2009, and most recently in 2014.

Equipment covered by the standard includes: Drench showers, eyewash, eye/face wash, portable eyewash, and combination eyewash & drench showers. The standard also covers equipment performance and use of personal wash units and drench hoses, which are considered to be supplemental equipment to emergency eyewash and drench shower units.

In addition to performance and use requirements, the ANSI Z358.1 standard provides requirements for test procedures, employee training, and the maintenance of the equipment.

Tepid water:

The requirements have been moved into the definitions section and are clearly defined with a range of 16°C - 38°C.

Water Temperature & Tepid Water:

Tepid water is crucial, but often overlooked when providing compliant eyewash and drench shower stations. The ANSI standard specifically mentions the delivery of tepid water and defines it as "A flushing fluid temperature conducive to promoting a minimum 15 minute irrigation period, the suitable temperature range is 16°C - 38°C".

Medical professionals recommend that tepid water be used to treat chemical injuries to eyes and body tissue because temperatures that exceed 38°C can enhance chemical interaction with the eyes and skin.

Additionally, flushing liquid temperatures below 16°C can cause hypothermic shock. The standard further states that while cooler flushing fluids may provide immediate relief after chemical contact; prolonged exposure to cold fluids affects the ability to maintain adequate body temperature and can result in the premature cessation of first aid treatment.

Tepid water can be delivered to emergency eyewash and showers in different ways, the most common is to install a thermostatic mixing valve or water tempering valve to blend hot and cold water and provide a temperature within the range defined. These valves should include a hot water shut-off to prevent accidental scalding, and a cold-water bypass to ensure the delivery of flushing liquids in the event that the hot water supply fails. It's also important to note that standard water mixing valves should not be used.

Most facilities located in the UK have outside temperatures that can drop to below 0°C during the winter, therefore emergency stations that can be exposed to freezing temperatures need protection, the standards state that "Where the possibility of freezing conditions exists, equipment shall be protected from freezing or freeze-protected equipment shall be installed". Conversely locations where the ambient water temperature can exceed 37°C will require anti-scald valves to purge potentially scalding water from the feed lines. This will include outdoor locations that are exposed to direct sunlight, or indoor locations exposed to extremes of temperature created by a manufacturing process.

Simultaneous Operation:

Units which combine a drench shower with an eye/eye face wash must be capable of being used simultaneously.

Activation:

Emergency showers shall be designed, manufactured and installed in such a manner that, once activated, they can be used without requiring the use of the operator's hands.

Equipment Location:

All emergency stations must be located in areas that are accessible within 10 seconds, roughly 17m this is referred to by the industry as the "10

second rule". Best practice is to check the travel time to determine if you have the emergency station located within 10 seconds, keeping in mind that an injured person may require extra time/support to reach the designated station. Where highly corrosive chemicals are used, thought should be given to installing the emergency station as close as possible to the potential hazard. Remember to check the routing of any electrical supply which might then be within the contamination zone.

Obstructions:

Emergency stations must be located on the same level as the hazard and the pathway between them must be clear of any obstruction. If your site has a hazard that is located on a different level to your current emergency station, you will have to install an additional station on the same level as the hazard. Again there must be no obstructions between them. Please note that a door is classed as an obstruction, but if the hazard is non-corrosive, one door is acceptable between the hazard and the emergency station so long as it opens in the direction of travel of the person requiring its use.

'A single step up into an enclosure where the equipment can be accessed is not considered to be an obstruction. Additionally, installers should allow for adequate overhead clearance to accommodate the presence of cabinets over counter, or faucet mounted emergency eyewashes so as not to create an additional hazard that could be encountered when using the device.'

Identification:

Eyewash and drench shower stations must be installed in a well-lit area and identified with a highly visible safety signs.

Supply Lines:

All water supply lines must be provided to meet minimum flow requirements at 30-90 psi. The recommended incoming pipe sizes are as follows:

- ½" for eyewash and eye/face wash stations
- 1" for drench showers
- 1¼" for combination eyewash drench showers

Shut-Off Valves:

If shut-off valves are installed on the supply line for maintenance purposes, provisions must be made to prevent an unauthorised shut-off to ensure valves are always open.

Waste Disposal:

Proper disposal of the contaminated water must be considered when installing new equipment. Drainage, freezing temperatures and pollutants, should be considered. We recommend that you consult your Local Authority, Water provider or Environment Agency for additional guidance on the correct wastewater disposal method for your site.

Training:

All employees who may be exposed to hazardous or corrosive materials must know the locations of, and be instructed in the proper use of the eyewash and/or drench shower equipment on site and in addition site plans showing the exact locations of all emergency stations should be freely available to anyone entering the site.

Maintenance & Testing:

Planned maintenance is necessary to ensure that all emergency equipment is functioning safely and correctly. Weekly testing will ensure the supply lines are clear of sediment and bacteria build-up that can occur in stagnant water. The standards state that plumbed equipment, "shall be activated weekly for a period long enough to verify operation and ensure that flushing fluid is available" and portable and self-contained equipment " shall be visually checked weekly to determine if flushing fluid needs to be changed or supplemented". Such inspections shall be conducted in accordance with manufacturer's instructions.

Read our Emergency Safety Shower & Eyewash e-Book here: <http://goo.gl/a80tEO>

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