

Hazardous Engineering Solutions



Incorporating Health & Safety

The International Magazine For
Hazardous Area Professionals

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Lighting Up The Darkness, Intrinsically Safe Worklights, Real Or Not?

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Are you a Responsible Person?

The 'Responsible Persons' and 'Technical Persons with Executive Function' is an absolutely key role in the explosion safety of a plant.

The minimum knowledge requirements for a person in such a role are covered by IEC/EN60079-17, these are:

1. A general understanding of relevant electrical engineering;
2. A practical understanding of explosion protection principles and techniques;
3. Ability to assess engineering drawings (area classification, P&ID etc.)
4. A working knowledge and understanding of area classification, installation and repair.
5. A basic knowledge of quality assurance, including the principles of auditing, documentation, traceability of measurement and instrument calibration.

The competency of people in these key safety roles has to be verified and attributed, at intervals not exceeding 5 years on the basis of sufficient evidence

that the person is competent across the specified range of activities and has the relevant knowledge and understanding underpinning the competency.

It is not enough to just conduct Ex Inspections, you must have a strategy for the maintenance and prioritising corrective actions. You must be able to demonstrate that your strategy and Programmes are effective and that they maintain (or ideally reduce) the level of risk which has been deemed as acceptable for your plant, people and inventory.

The competency of people in these key safety roles has to be verified and attributed, at intervals not exceeding 5 years on the basis of sufficient evidence that the person is competent across the specified range of activities and has the relevant knowledge and understanding underpinning the competency.

To assist with competency assessment, the HSE have worked with CompEx to produce the CompEx



Ex14 - Responsible Person Module. This module aims to assist Responsible Persons meet their legal obligations with regard to maintaining an Ex asset and inspection register and implementing a practical approach to the inspection and maintenance of equipment in explosive atmospheres utilising IEC 60079 Parts 14 & 17 and offering the basis of best practice in this regard.

Contact ExVeritas for more information or to book a course: www.exveritas.com
info@exveritas.com
0845 8622447

Dialight's New Green LED Safety Shower Stainless Steel Luminaire Includes Integrated Battery Backup, Offers 5 Years of Maintenance-free Performance

World's First ATEX-Certified, IP 66/67 Rated Green LED Product Improves Safety, Withstands Extreme Conditions, Enables Easy, Stand-Alone Installation on Existing Infrastructure

Dialight (LSE: DIA.L), the innovative global leader in LED lighting technology for industrial applications, today announced the launch of its new SafeSite® Stainless Steel Green LED Linear Safety Shower luminaire that provides 5 full years of maintenance-free performance to ensure site safety. The new product is the first ATEX-certified safety shower luminaire of its kind with a built-in battery backup system for easy installation on existing wiring infrastructure.

The 2-foot stainless steel fitting is highly resistant to corrosive materials, and extremely durable for hot, cold, wet and high-vibration applications, such as offshore drilling platforms, chemical facilities and other harsh environments. An operating temperature range of -20°C to +60°C ensures reliable performance in any extreme climate including a full three-hour duration of emergency green light even at -20°C.

The system is designed to replace conventional fluorescent fittings that require frequent lamp changes and rely on green-coloured lens films that are prone to peeling and fading. Unlike these high-maintenance

products, Dialight's new stainless LED system uses green, long-life LEDs backed by a 5-year, full-performance warranty for exceptional reliability, improved safety and a dramatic reduction in maintenance costs and demands. The essential green colour required for safety shower applications is derived from the green LED's sealed inside, which ensures colour consistency is maintained with no need for externally mounted green films.

The fitting is L70 rated for over 100,000 hours of performance and dependable lumen maintenance, and the product is factory sealed with both IP 66 and 67 ratings for water and dust ingress protection.

The built-in battery eliminates the need for an auxiliary battery or UPS system that requires added wiring, infrastructure and maintenance. The Dialight product can be installed quickly and easily on existing wiring for fast retrofit and upgrade to a more reliable and cost-effective system.



"The rugged, low-profile design of our Stainless Steel SafeSite Linears has already proven to be superior to anything else on the market in a variety of applications," said Stuart Head, Product Manager at Dialight. "The addition of green LEDs and the built-in emergency battery pack make this an ideal product for safety showers, resolving all of the biggest challenges of conventional solutions in critical Zone 1 and 21 applications. Personnel safety is paramount to operators, and this product eases some of those burdens by offering a solid product, requiring minimal maintenance."

The product offers a wide range of mounting options including pole clamp, eyelet and surface mount, plus wall mounting at 30, 45, 60 or 90 degrees.

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



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BSRIA INSTRUMENT SOLUTIONS APPLAUDS THE BOHS BREATHE FREELY INITIATIVE

Instrument Solutions, a key supplier of products into the Health & Safety market, has applauded the newly launched Breathe Freely collaborative initiative, designed to prevent occupational lung disease in the construction industry.



Led by BOHS (The Chartered Society for Worker Health Protection) – in partnership with key organisations – it will provide guidance, tools and resources that facilitate the recognition, evaluation and control of workplace exposures leading to the implementation of a recognised management standard.

UK construction workers are at high risk of contracting lung disease from the work that they do. In 2015, approximately 3,500 will die from cancer caused by past exposures to asbestos, 500 more from silica dust, another 5,500 will be diagnosed with occupational cancer, and – today alone – an unknown but significant number will breathe in the hazardous substances that will one day seriously affect their health or kill them.

The relevant Instrument Solutions are:

The TSI PortaCount Pro+ is part of a portfolio of instruments offered by Instrument Solutions to ensure

users of RPE (Respiratory Protection Equipment) are safe in the workplace. It is complimented with instruments such as background dust monitors including the recently released TSI environmental DustTrak that can be used to monitor ambient levels of pollutants in external environments with information stored in the cloud for immediate access anywhere in the world.

The PortaCount Pro+ respirator fit tester is used for the testing of full facemasks, SCBAs, respirators including disposables (P1 and P2 versions).



Alan Gilbert, BSRIA Instrument Solutions General Manager, said: "The correct fitting of RPE and the background monitoring of construction workers is extremely important aspect of Health & Safety yet is often misunderstood and

ignored in the workplace. Exposure to asbestos and silica dust is daily hazard and everybody involved in the construction process including all levels of management down to the worker sweeping the floor needs to understand the importance of using correctly fitted and tested face masks.

Some of the construction industry statistics are startling. For example: 3,500 occupational cancer deaths are caused by exposures in construction. And the UK construction sector has the largest number of reported cases of occupational lung disease of any industrial sector."

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



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ION SCIENCE REFOCUSSES ON MiniPID SENSOR

Well-proven Plug and Play miniature photoionisation sensor to benefit from several enhancements aimed at further improving performance and efficiency



Further underlining its position at the forefront of gas detection monitoring instrumentation for occupational health and the environment, Ion Science (www.ionscience.com) is refocusing on its range of MiniPID (miniature photoionisation detection) sensors during 2016. As part of this latest R&D initiative, the company is set to introduce a series of enhancements designed to further strengthen the plug and play sensor's performance and efficiency.

Ion Science's well-proven, ATEX accredited MiniPID is a simple plug and play sensor that has been specially developed to deliver a dynamic and dependable response to thousands of VOCs (volatile organic compounds).

The MiniPID is widely used across a range of global occupational health and environmental monitoring applications, including personnel safety, industrial hygiene, site soil and air sampling, fugitive emissions and VOC spills, law enforcement and emergency response.

Available with a 12-month warranty but with an impressive five-year life expectancy (excluding replaceable lamp and pellet), the complete MiniPID series boasts Ion Science's patented Fence Electrode Technology for industry-leading humidity resistance performance. In addition, the sensor's clever anti-contamination design protects it from moisture, dust and aerosol ingress.

Specially developed for both diffusive and in-line pumped sampling, Ion Science's MiniPID delivers an exceptional response and clear down time.

With highly efficient lamps that offer excellent brightness and stability, the MiniPID is able to reliably detect less volatile and readily sensed compounds over an extended period of time. It also features a removable, pneumatically sealed sensing pellet and series four / A1 format.

There are currently several models in the Ion Science MiniPID range. The 0.1 to 6000ppm (parts per million) sensor is configured for a dynamic, accurate

and repeatable response to VOCs at elevated concentrations. The ppb (parts per billion) MiniPID offers a minimum detection limit of 1ppb and is designed to deliver a very low background current for optimum low end sensitivity.

The 10.0 eV MiniPID, which offers a range of 5ppb to 100ppm, is the latest addition to the three pin family and is used for selectivity of VOCs with lower ionisation potentials. A common application for this sensor is the determination of ambient levels of aromatic compounds.

Ion Science also offers an 11.7 eV MiniPID. With a range of 0.1 to 100ppm (isobutylene equivalent), the 11.7 eV lamp extends the amount of VOCs detected to include chloro-carbons, CFC, formaldehyde and chlorine.

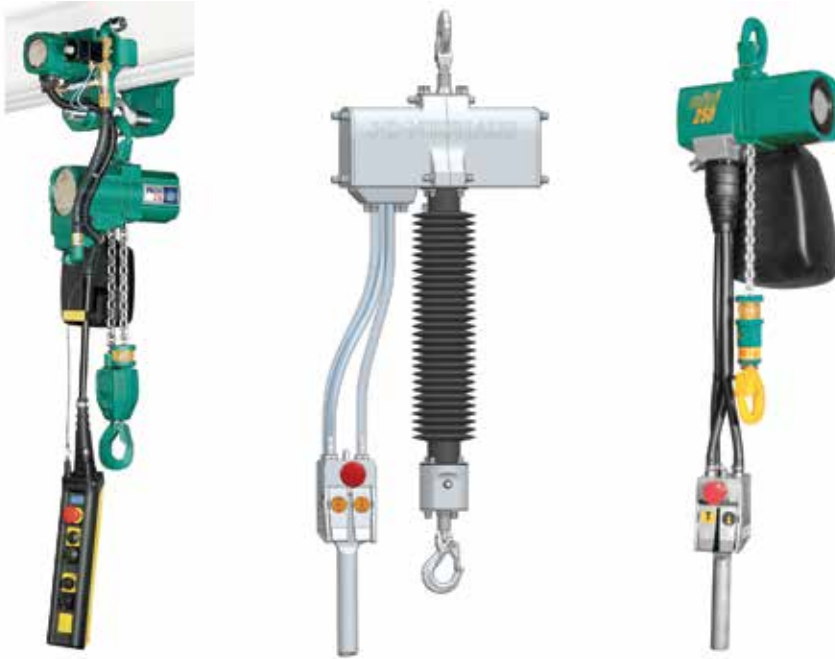
Optional accessories available with the MiniPID range are PPB and 10.0 eV pellets, lamp cleaning kit, pellet removal tongs and 10.6 eV lamp and HPPM stack.

Ion Science's Managing Director, Duncan Johns, comments: "Our MiniPID has been extremely successful since its launch in 2007. However, as a technological leader in the gas detection instrumentation market, we felt it was time to refocus on this key sensor. As a result, we are currently investing in several enhancements that we believe will further improve its sensitivity and reliability."

For more information visit:
www.ionscience.com

NEW STAINLESS STEEL AIR HOIST CONCEPT TO BE PREMIERED AT LOGIMAT 2016

Materials handling specialists J D Neuhaus will present their concept study of a stainless steel air hoist for the first time at the LogiMAT 2016 exhibition, taking place in Stuttgart from 8 – 10 March 2016.



Exhibiting in Hall 6, Stand No. 6G60, the service side of the company will also present information on their comprehensive project planning and maintenance facilities.

Under the motto “engineered for extremes”, J D Neuhaus (JDN) pneumatic and hydraulic hoists and crane systems are used worldwide under the harshest of conditions: on drilling platforms, underground, in foundries, in arctic temperatures as low as -45°, or even under water. Extreme environmental conditions, no matter what the temperature, hot or cold, the performance of JDN products is not impeded.

But indoor uses can be just as extreme as these outdoor ones, namely in areas requiring extreme cleanliness and hygiene. JDN will present the conceptual study of a stainless steel air hoist at LogiMAT for exactly these areas. The sectors JDN is targeting with this study, which also provides for the use of food safe plastics, include for example, the food and drinks industry, chemical and pharmaceutical companies, together with medical and aerospace technology. The study combines the advantages of using compressed air as a method of operation with the hoist construction material of stainless steel. The products will therefore be

resistant to corrosion and high levels of humidity, and also easy to clean and disinfect.

Even high-pressure cleaners pose no problem. As the out-going air is extracted and the chain is protected by a bellows, they can also be used in clean rooms (optical and semiconductor industries). And because compressed air is used as a method of operation, the hoist will also be explosion protected (ATEX) so that they can be used in potentially dangerous atmospheres or areas where organically flammable chemicals are handled.

JDN Service will also present its comprehensive offer for planning a project involving the maintenance and general work including overhauls of JDN products. For optimal parts supply, the JDN team has designed spare parts kits and general overhaul kits, which offer the customers a vastly improved service for ordering spare parts. The JDN Service Programme also offers training courses and, where necessary, rented hoists.

In addition, the company will also exhibit examples of standard JDN hoists with an extensive range of accessories and look forward to welcoming visitors to their stand.

Company Information

At its plant in Witten, Germany, J D Neuhaus GmbH & Co. produces pneumatically and hydraulically-operated hoists and crane systems with over 200 employees across the group. Thanks to this globally unique specialisation, J.D. Neuhaus has not only set the quality standard, but are also the world market leader with customers in more than 90 countries around the globe. The products particularly set themselves apart in their resilient and reliable operation thanks to their protection against explosions even in the most extreme operating conditions and capacities of up to 115 tonnes. For example, in oil and gas exploration in arctic temperatures as low as -45 °C, under water carrying out repairs on ships, in mining, in the chemical industry, in heavy plant construction and in many areas of logistics. J.D. Neuhaus supplies around 70 branches in total.

Production takes place exclusively at the Witten plant. The broad range of services provided includes equipment assembly, inspection, maintenance, and general overhaul, as well as running courses for customers.

For distribution, JDN companies in France, Great Britain, Singapore and the USA have created a tight-knit global network, in collaboration with international partners. The export rate is over 80%.

The founding of the company goes back to the year 1745, and it is now in its seventh generation of being family-run. At the Hebezeug-Museum (Hoist Museum) in Witten, one can see the history of this company as a living part of the business culture.

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Playing with Fire Water? Closing in on Pollution Containment

By Phil Collins, National Water Pollution Sales Manager, Hydro International



Image courtesy of Hertfordshire Fire and Rescue Service

The most likely environmental damage caused by fire at an industrial site is not a result of the fire itself, but the huge quantities of fire water used to fight it.

In the early stages of a fire, thousands of litres of water are discharged into the environment every minute. The surface water runoff created will pick up the pollutants and contaminants of whatever burning or hazardous substances are present, and if a site is not fully contained, they will escape into the local environment.

Such a pollution incident can lead to crippling costs to pay for the cleanup. The "Polluter Pays" principle allows for the recovery of costs needed to put the environment back to how it was before the incident. Fines can be significant. In the worst cases, a pollution conviction can even include the option of custodial sentences for company directors. Most companies believe that they are fully insured under their standard material damage liability policy, but an incident involving the regulator is unlikely to be fully covered.

After the Buncefield disaster in 2005, the Health and Safety Executive found that protective bunding had many flaws that caused large volumes of fuel, foam and fire fighting water to leave the site. The site's last line of water pollution defence – so-called tertiary containment – amounted only to the sites surface drainage systems which were not designed to cope with any large-scale releases.

Feeling lucky?

Sites that store or use hazardous or polluting substances, in particular, need to take steps to ensure they do not escape into the environment. 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.

Drop Seal Valve

The UK's central industry guidance CIRIA 736 Containment Systems for the Prevention of Pollution

document was significantly revised in 2014 in the light of lessons learned, particularly from Buncefield.

To provide water pollution containment, most companies install isolation valves in the outlets to surface water drainage. We recommend using drop seal valve technology which is the latest technological development and provides a watertight, failsafe solution that is already installed at more than 150 sites across the UK. The latest is called the Hydro Brake® Isolator pollution containment valve.

On more complex sites, operators will also still need to be sure that, even with valves installed, in the case of a fire incident, the surface water drainage won't back up, overtop bunds and storage measures and flow out of the site into the surrounding environment.

Hydraulic Modelling

CIRIA C736 recommends that companies begin with a full assessment based on the source-pathway-receptor model to aid in a holistic containment strategy. Hydraulic modelling can be used to map the surface water pathways on and off a site and to then to test out and prove any valves, bunds or temporary storages measures.



To enquire about Hydro-Brake Isolator® valves or Water Pollution Management hydraulic modelling, contact 01275 878371 or email enquiries@hydro-int.com. www.hydro-int.com.

IP69K: FQ rotational speed sensors from RHEINTACHO, the intelligent continuation of a success story

With its high IP69K protection class, RHEINTACHO is set to introduce a complete new series of plastic sensors for detecting rotational speed and direction from the second quarter of 2016.

Thanks to different sensor lengths, cable outlet directions and connector options, this product line offers users a high degree of flexibility, enabling adaptation to entirely individual requirements.

And even if none of the available models is suitable, RHEINTACHO will be pleased to draw on its recognised expertise in customised solutions to develop the right solution for you.

Why IP69K? RHEINTACHO Sales Manager Wolfgang Sexauer: "There are two main reasons why we were motivated to develop this new series. Firstly, we see a tendency to specify higher IP

classes in many applications for safety reasons, than was the case a few years ago. Secondly, the IP69K protection class enables technical potentials to be realised even more efficiently today. This applies to both available materials and, of course, to intelligent constructions."

The FQ product line is consequently a further development of the current FK product line, which fulfils protection class IP65. In recent years the FK sensors have developed into a genuine success model. Numerous electromotor applications would be inconceivable without these rotational speed sensors. The basic geometrical data for the



RHEINTACHO FK has meanwhile been adopted by significantly larger competitors too.

The electronic design of the FQ product line is successively complemented with different variants in order to fulfil different requirements. In detail: Frequency range, detection distance, EMC and temperature stability. According to the current development plan, all versions will be designed as a two-channel sensor, enabling the detection of rotational speed and direction of rotation.

For further information, please visit, www.rheintacho.de

Compact Field Mounting Indicator Has Large Digits

By adding compact field mounting instruments to their range of 4/20mA loop powered indicators, BEKA have solved the problem of displaying a process variable in a congested area where space is limited.

The new compact 'G' models have a robust, IP66 impact resistant GRP enclosure with an 8mm thick armoured glass window, but retain the easy to read displays from the larger models.

These new 'G' indicators offer a choice of four 34mm high digits, or five 29mm high digits plus a 31 segment bargraph. All have a wide operating temperature of -40°C to +70°C and include a square root extractor, sixteen segment lineariser and internal calibrator. For no additional charge, instruments are supplied calibrated to customer requirements with a novel slide-in scale card showing the units of measurement and tagging information.

Accessories include a backlight that may be loop or

separately powered, dual alarms with isolated solid state outputs, stainless steel legend plates and a pipe mounting kit.

Intrinsically safe models are available with ATEX and IECEx certification permitting installation in gas and dust hazardous areas. For applications in Zone 2 or 22, Ex nA and Ex tc approval permit installation without the need for Zener barriers or galvanic isolators significantly reducing installation cost. General purpose models are also available.

As with all BEKA products, these new indicators have a three year guarantee and for customers wishing to evaluate an indicator on-site, a free three month sale or return evaluation service is available.



For further information including datasheets, certificates and application guides please visit: <http://www.beka.co.uk/compact> or phone the BEKA sales office on: 01462 438301.

Safeguarding Against Over-pressure

Hima-Sella wins contract to design and supply three High Integrity Pressure Protection Systems for a complex subsea gas field development in Indonesia.



Specialist safety instrumentation systems provider Hima-Sella has been awarded a contract to develop and supply three High Integrity Pressure Protection Systems (HIPPS) to protect against over-pressure on a subsea gas field development in Indonesia. Between them, the three HIPPS will protect the product pipes and downstream equipment for almost a dozen subsea wellheads.

Eddy Turnock, Hima-Sella's Sales & Marketing Director, comments: "This is a complex subsea development with several production flow lines, umbilicals, a tethered processing barge close to the field and export pipes for processed gas and condensates. It is essential to protect all equipment downstream of the wellheads against high pressures, and we're delighted that the operator has turned to Hima-Sella to engineer a high-integrity, fail-safe solution."

The overall solution is to meet Safety Integrity Level (SIL) 3, as defined under functional safety standard

IEC-61508, and Hima-Sella is building each HIPPS around a HIMA Planar 4 fail-safe solid-state logic solver. Turnock adds: "As a solid-state logic solver there's no software with which to contend and the Planar 4, which can even be used in SIL 4 applications, offers extremely high reliability and availability."

Each of the three HIPPS will be mounted in a stainless steel cabinet on the processing barge and will interface with a number of actuator-controlled valves and pressure sensors. Each cabinet will have a tile mimic containing lamps, switches and pushbuttons. Information from the HIPPS - including system status, pressure readings and valve closure times - will be made available to other systems via a Modbus communications facility.

The three HIPPS cabinets are currently under construction at Hima-Sella's premises in Stockport, and installation and commissioning of the equipment is scheduled for Q3 of this year.

About Hima-Sella

Established in 1974 as Sella Controls, the company was appointed agent for HIMA Paul Hildebrandt for safety system products in 1983; and became Hima-Sella Ltd in 1994. In 2001, Hima-Sella received the first ever CASS certificate - awarded for functional safety management in accordance with IEC 61508.

Today, Hima-Sella is recognised as a market leader in 'engineered solutions' for safety, control and automation applications in the oil & gas, petrochemical, rail, steel and power industries. Current services include completely integrated systems, panel building, sub assemblies, product development and on-site support.

The company is an active member of First Point Assessment Limited (FPAL, the industry database from which those operating in the oil and gas industries select their contractors and suppliers); Link-Up - the standard database from which companies in the rail sector select their contractors and suppliers; and the Joint Qualification Scheme (JQS, the prerequisite for suppliers to the oil industry in Norway and Denmark, as used by the top 20 oil companies in those countries). Hima-Sella is also a member of several associations and industry-based councils, including the Energy Industries Council, the Institute of Measurement & Control, the Nuclear Industry Association and the Railway Industries Association, keeping the company up to date with the changes in legislation and standards.

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Combilift Wins Irish Exporter of the Year Award for a second time

The Irish Exporters Association (IEA), the voice of the export industry in Ireland, announced Combilift as the Exporter of the Year 2015 at the Export Industry Awards which were held recently in Dublin.

In their 15th year, the Awards are the premier event to recognise the remarkable achievements of companies working in the export industry in Ireland. Combilift took home the overall Exporter of the Year Award 2015 after also winning the hotly contested Multinational Exporter of the Year Award category earlier in the evening. This is the second time the award was scooped by Combilift as it won the same accolade in 2008 as an SME.

Monaghan-based Combilift developed the world's first IC engine-powered all-wheel-drive multidirectional forklift and today exports its wide range of handling products to over 75 countries. Sales in the period from 2012 to 2014 rose by 48%, underlining the company's almost unprecedented success in its industry sector.

Speaking at the Awards Ceremony, Hugh Kelly, President of the Irish Exporters Association said: "We are delighted to announce Combilift as the winner of the overall Exporter of the Year 2015. Since it was established in 1998 by Martin McVicar and Robert Moffett, Combilift has grown to become a global leader in its field. The standard of Award entrants this year was higher than ever before but our judges were struck by the energy, ability and ambition of Combilift's management and employees to deliver strong results, year after year. They commended the continuous innovation evident in the company's product range, its standards of excellence in manufacturing and its contribution as a substantial employer in the Monaghan region. We wish Combilift every success in the years to come."



Combilift MD Martin McVicar commented: "We are very honoured to have our achievements recognised by the IEA with the overall Exporter Award. We are also particularly proud to have come out on top in the Multinational Category where we were up against some very tough competition from major concerns such as Irish Distillers, Valeo Vision Systems and ABP Food Group."

Combilift Ltd, Co. Monaghan, Ireland.
Tel: + 353 (0) 47 80500 | info@combilift.com
www.combilift.com

Compact field mounting 4/20mA indicator can be installed in limited space

BEKA have added compact field mounting instruments to their range of 4/20mA loop powered indicators.



The new 'G' models have a large easy to read display housed in a compact, IP66 impact resistant GRP enclosure which can be installed where space is limited.

'G' indicators offer a choice of four 34mm high digits, or five 29mm high digits with a 31 segment bargraph. All have an operating temperature of -40°C to $+70^{\circ}\text{C}$ and include a root extractor, lineariser, calibrator and slide-in scale card. Backlighting, dual alarms, and a pipe mounting kit are available as accessories.

Indicators are available with ATEX and IECEx intrinsic safety gas and dust certification and, for applications in Zone 2 or 22, Ex nA and Ex to approval permits installation without Zener barriers or galvanic isolators significantly reducing loop cost. General purpose models are also available.

For further information including datasheets, certificates and application guides please visit <http://www.beka.co.uk/compact> or phone the BEKA sales office on 01462 438301.

THREE DECADES OF PROBLEM SOLVING FOR PROCESS INDUSTRIES

DuPont™ Kalrez® perfluoroelastomer parts (FFKM) were developed some three decades ago and have delivered outstanding sealing reliability throughout, even in the most aggressive production and processing environments.

These high performance products are available in the UK from authorised distributor Dichtomatik Ltd.

The Kalrez® parts improve sealing reliability particularly in conditions where high heat, aggressive chemicals and plasma are utilised. Aerospace and downhole oil and gas applications were some of the first successful applications of Kalrez® products where seal failure was unacceptable. An outstanding resistance to fuels, additives, lubricating oils and corrosive chemicals has ensured the high durability expected and achieved with Kalrez® products. They also provide a broad chemical and high temperature resistance to acids, amines, ultrapure de-ionised water and strong bases etc. This ensures that chemical/hydrocarbon processing plants can run hotter, longer and with a wider range of chemical products while also providing substantially increased MTBR times and improved operating safety.

With a combination of thermal and chemical performance as well as rubber-like sealing ability Kalrez® FDA compliant seals offer the pharmaceutical, food and beverage industries the highest level of

protection against product contamination and seal failure. Within electronics manufacturing operations, unplanned maintenance due to incompatible sealing materials can also be dramatically reduced.

A typical example for the application of the Kalrez® products is their use as replacements for metal 'O' rings in a gear pump application, operating at temperatures up to 327°C and 100 bar pressures within the chemical process industry. The installation involved exposure to highly aggressive media, as well as fluctuating internal sealing forces within asymmetric pump housings when pumps were situated within reactor environments. Long-term reliability and stringent performance were an absolute necessity, and operating times in excess of 10 years have been achieved without the occurrence of production problems through the loss of sealing performance. The changeover to Kalrez® seals was so successful that they are now fitted as standard equipment to the manufacturer's extensive range of gear pumps. The need for regular dismantling and re-assembly of pumps through seal failures has been eliminated, leading to cost savings through reduced



maintenance and significant savings in production downtimes.

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Further information is available from:

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Fax: 01332 524425
kalrez@dichtomatik.co.uk
www.dichtomatik-kalrez.co.uk

MAINTEC 2016 SET TO TAKE THE NEC BY STORM

Maintec 2016, the UK's leading maintenance, plant and asset management event, will be returning to the NEC, Birmingham on 22 - 24 March with a new seminar programme, an expanded show floor and the latest industry innovations.

maintec 2016
NEC, Birmingham
22 - 24 March 2016



Exhibitors

Some of the biggest UK suppliers are on board, including show regulars such as Atlas Copco Compressors, Fluke, Flotech Performance Systems, Hansford Sensors, Shire Systems, AV Technology and UE Systems. They will be using the show to launch products to the UK market or unveil their very latest upgrades designed to cut costs, increase productivity, improve reliability and deliver a better ROI.

Shire Systems will be launching its new Pirana CMMS. Its fully integrated maintenance management system has cost saving and strategic decision making functionality. Plus, it has also introduced new mobile applications for work orders, materials and data collection, which can be used both online or offline.

UE Systems will present its new The Ultraprobe 401 Digital Grease Caddy Pro, which has the ability to measure, data log and trend the amount of lubricant used in order to optimise equipment maintenance.

Hansford Sensors will showcase its selection of market leading vibration monitoring solutions. This includes the HS-100 series – an AC industrial accelerometer that enables quick and easy measuring of vibrations in rotating machine components. It will also present the HS-620 Vibration Monitoring Kit, which enables maintenance technicians to measure bearing condition and levels of velocity, acceleration and displacement.

Keytracker will showcase its products including its original Peg in-Peg out board, Electronic Key Management Systems, Key Control Software and iLockerz Intelligent locker Systems

Technical Training Solutions will present its practical industrial engineering skills training courses, including Electrical and Mechanical Maintenance Skills, PLC Faultfinding, Instrumentation, 17th Edition Wiring Regulations, Pneumatics and Hydraulics.

Exel Computer Systems Plc will exhibit its Eagle Field Service system. The mobile management solution provides real-time information and resources to field based engineers directly to their mobile device.

Seminar Programme

New for 2016, the Maintec seminar programme will feature two keynote speakers every day, alongside a host of exhibitor presentations. Those in attendance will therefore have plenty of educational opportunities to hear about the latest industry trends and innovations throughout the three day show.

The keynote sessions will include Phil Reeves, Vice President of Stratasys Consulting who will discuss the 'Potential for 3D printing in the maintenance function'. Paul Hingley, CMR Business Manager at Siemens Customer Services, will look at 'Where maintenance collides with Industry 4.0 and the internet of things'. While Alan Gane Maintenance Manager at Jaguar Land Rover will explore 'Developing Maintenance Skills', with more to be announced.

Complimentary shows

The show will once again be running alongside two highly practical co-located shows. The first of these is Facilities Management 2016, the UK's only event to focus on the large scale and multi-site facilities industry, which features a Cleaning Zone. This zone focuses on buyers and suppliers from within the cleaning industry and will include the top innovations at the heart of the facilities industry.

The second co-location is the Health and Safety Event, run by Western Business Exhibitions, a leader in the health and safety sector. As many Maintec visitors now have a wider FM and health & safety remit, these co-locations provide a perfect fit.

Visitors will be able to access all three shows with one badge, further demonstrating the commitment Maintec 2016 has to providing an educational and industry focused event.

Networking opportunities

In addition to having three shows under one roof, those in attendance will have full access to the Networking Bar throughout the event, where they will have the opportunity to meet with industry peers and network with like-minded individuals. Don't miss the Maintec 2016 official networking drinks on Tuesday 22nd March.

Registration is now open for Maintec 2016. Please visit the website or call: +44 (0)20 8843 8800 to register for free.

For exhibiting opportunities at Maintec 2016 contact Daniel Gray on: +44 (0)20 8843 8800 or email daniel.gray@easyfairs.com.

For more information on the show, visit www.maintecuk.com.



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Lighting Up The Darkness, Intrinsically Safe Worklights, Real or Not?

Performing routine and emergency maintenance, inspection, quality control or any number of equally critical tasks required to keep a plant running is a daunting task indeed, especially in low light.



LEDs offer much better efficiency which in turn increases runtime.

Battery or mains powered?

No matter which lighting option we choose, the source of power will always be a major, limiting factor, in particular where it applies to the runtime of a luminaire when compared with the anticipated amount of time a particular task requires to complete.

Mains powered lighting solutions have the benefit of being constantly powered, no need to recharge batteries, as much light as the job requires for as long as it is needed. Mains powered lighting is the obvious solution for fixed luminaires and also for long term construction projects, although to refer to them as Intrinsically Safe is probably in the majority of cases untrue. Mains powered systems tend to use Flameproof (Exd) as a protection concept, although this is by no means exclusively the case.

However, for unscheduled or limited time maintenance work, installing temporary cables for mains powered lighting is generally deemed overkill. So, in this instance battery powered systems are the obvious choice. Unfortunately, battery powered systems have their own limitations, two in particular;

Now add to this the restrictions required of personnel operating in potentially hazardous (explosive) atmospheres and such a seemingly simple function as creating well-lit work space becomes a difficult challenge to overcome.

First things first, how much light do we need?

Enough to do the job! This is the correct answer, but how do we quantify that.

Lighting solutions are measured in "Lumens" and range from relatively low power torches and flashlights with just a few lumens to more powerful

Fig 1.0. A typical Intrinsically Safe Worklight with LED array

worklights with outputs measured in hundreds of lumens.

The more lumens, the more light is being provided by the luminaires, which in turn makes the job site safer and easier to work within. Obviously, light output is proportional to power usage which in turn defines what is referred to as "runtime".

Today's high end lighting solutions tend to lean towards LED technology rather than filament bulbs.

1. Weight. Battery packs are generally heavy which means the lighting solution being powered is also heavy which in turn restricts the areas battery powered systems can be deployed to,
2. Runtime. Batteries provide power yes, but as we all know, in time, batteries become depleted. At this stage, the battery either requires changing and/or charging but herein lies the problem. To change a typical battery pack, the luminaire must be physically removed from the hazardous area, have its pack removed and a fully charged one installed before being taken back to the worksite, that is if the pack is removable at all.



Fig 2.0. A lithium ion I.S. battery pack being hot swapped

The ideal solution to this problem would be the versatility of a battery powered luminaire without the restrictions associated with returning to the safe area to replace or recharge a battery pack. What is needed is a portable lighting solution with the ability to "hot swap" its batteries in situ.

Weight and transportability.

Not all tasks are performed at ground level, or in locations easily accessible. Access restrictions affect both mains and battery powered alike but in different ways.

Mains powered systems have to be "plugged in" to a supply of some kind, ultimately located in a safe area which could mean cable runs measuring hundreds of meters if not more. Not to mention the weight and ungainly design common with many mains powered systems means that such systems are not the obvious solution for job sites in areas that are not immediately accessible.

As briefly mentioned, battery powered lighting solutions can indeed be heavy. Traditional systems tend to incorporate sealed lead acid batteries, also referred to as SLABs, or large banks of small Nickel Metal Hydride (NiMH) cells which can provide adequate capacity but at the cost of being heavy and comparatively large.

Recently, developments in battery chemistry have yielded "high density" options such as lithium ion. Lithium Ion battery packs offer excellent capacity to weight/size ratio when compared to SLABs and when properly designed into packs can be extremely robust.

Conclusions

"Ex" lighting solutions are arguably the most important tool choice for any engineer operating within a potentially hazardous environment. Why? Simple, in most parts of the world, it gets dark every day but we cannot limit unscheduled failures or repairs to daylight hours. In certain geographical locations, the absence of natural light for most of the day is the norm rather than the exception. As such, making the correct choice for your Ex lighting solution will pay dividends in the long run, ensuring maintenance, repair and operations can continue day or night.

Large, heavy, mains powered luminaires are the obvious choice for fixed and or long term lighting requirements but what about unscheduled failures or the need for short term scheduled lighting during operations? In this instance a battery powered, transportable solution makes perfect sense.



Fig 3.0 A lightweight, transportable I.S. worklight

Unfortunately, traditional SLABs or banks of Nickel Metal Hydride (NiMH) packs are both bulky and heavy. High energy density Lithium Ion packs which combine capacity with small form fit are the ultimate in portable power, but the issue of removing the pack either for charging or replacement means a sometimes lengthy trip back to the safe area to perform a battery change which takes only seconds when the entire time, the job is halted due to zero light.

Runtime is also key for a battery powered solution. The balance between light output and runtime is a constant battle for luminaire designers. The only real solution is LED technology. LEDs provide a high level of light output for comparatively little by ways of power consumption. White light LEDs tend to perform better than "warm white" LEDs, providing a greater level of contrast to the work site.

Finally, weight. Carrying one or more luminaires to high levels, or across extended distances means weight is key. One person lift is essential as a minimum when in reality, a luminaire weighing in at less than 2kg is a must for a transportable solution.

The logical conclusion therefore is a lightweight luminaire which has the ability to have its battery pack changed within the potentially hazardous area, a process known as "hot-swapping". A high energy density lithium ion pack provides the best power to weight ratio. Such a luminaire would ideally utilise Intrinsic Safety as opposed to the heavier Flameproof and incorporate multiple white light LEDs as the light source.

About the Author

Tony is a pioneer in the development, sales and marketing of intrinsically safe portable and transportable tools. A trained Engineer, Tony began his career designing intrinsically safe fiscal metering systems for the petrochemical industry before moving into automated switchgear design and commissioning destined for telecommunications facilities across Europe. The holder of numerous patents, including the use of RFID chips embedded within IR Windows to increase inspection efficiency, Tony's thought leadership and innovation ensure that products developed under his guidance are cutting edge. Currently holding the position of CEO at CorDEX Instruments Limited. Tony is now ultimately responsible for the design, sales, marketing and production of the next generation of intrinsically safe handheld tools including luminaires, thermal imagers, ultrasonic testers and digital cameras.

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Downtime: the Hidden Cost of Coatings

When determining the cost of a coating protection system, one needs to not only look at the cost of a unit, but a total expenditure.



Left: Fig 1. PTFE lining removed
Above: Fig 2. Belzona 1593 applied

This can include a coverage rate, length of downtime, costs of application based on its simplicity or difficulty among others. The list goes on, and ultimately, a system that is cheaper to procure may turn out to be more expensive once total expenses are tallied. Here, we review an example of this occurrence in action.

A Polyolefins petrochemical plant based in Ferrara, Italy, was looking for a new coating system for their reactor, operating between 70°C (158°F) and 80°C (176°F) and processing salt, caustic and titanium tetrachloride. The original hot applied PTFE lining required maintenance due to localised disbondment,

caused by minor abrasion of the titanium compound. As a result, the plant was facing a long downtime, between two and four weeks, as it was not possible to conduct an in-situ repair.

The Maintenance Manager was keen to keep the downtime to an absolute minimum and ultimately decided to replace the PTFE with a 100% solids modified epoxy novolac system, Belzona 1593, designed for high temperature immersion up to 160°C (320°F). Belzona 1593 was hand applied onto the reactor in April 2015, facilitating its return to service within only four days. An added benefit, which was considered during material selection, was

the servicing of the lining. As this system is applied at ambient temperatures and adheres well to metal and itself, it can be repaired in situ when necessary. A similar epoxy system, for instance, has now remained in service on a test separator at a North Sea platform for 20 years, being patch repaired once every decade.

The reactor was opened for inspection in September 2015 and the Maintenance Manager was very satisfied with the result. Moreover, they were able to save time by steam-cleaning the reactor, which was not previously possible with the PTFE. They are now looking at replacing the lining on other existing reactors as well as protecting new reactors with the same 100% solids modified epoxy novolac system.

Savings resulting in reduced downtime along with simplified cleaning and maintenance protocols in this case significantly outweighed the initial cost of material.

Belzona 1593, introduced in 2014, is the latest addition to the range of Belzona lining materials, designed for high temperature immersion. Incorporation of rubbery domains into the polymer matrix of this modified epoxy novolac material allows the material to display a greater flexibility and creep resistance, improving in-service performance.



Above: Fig 4 and 5. Reactor inspected after 6 months in service

For more information about the material discussed in this article, visit:
Belzona.com/1593

Belzona SuperWrap II Saves Failing Seawater Filter Vessel

During March 2015, an offshore Oil and Gas platform contacted Belzona requiring a unique solution for the repair of a seawater bulk media filter vessel.

Located in the Gulf of Mexico, USA, the bottom of the vessel was suffering from an internal leak due to internal corrosion at coating holidays. Furthermore, the damage involved a combination of both thin and a through-wall defect, posing a repair dilemma without emptying the entire vessel's contents.

In terms of functionality, seawater bulk media filter vessels simply remove the sediment and grit from the seawater pumped up to the platform. As the seawater enters at the top of the vessel, it passes through the bulk media, leaving the unwanted remains trapped in the beads of the media. Subsequently, this lean liquid is collected and drained for many uses that cover both on board and off procedures; in this case water flood injection.

Suspended particles in the seawater can cause continuous abrasion to the vessel lining, which in combination with the highly corrosive salt water, creates an extremely destructive environment. In this



Above: Leaking seawater filter vessel



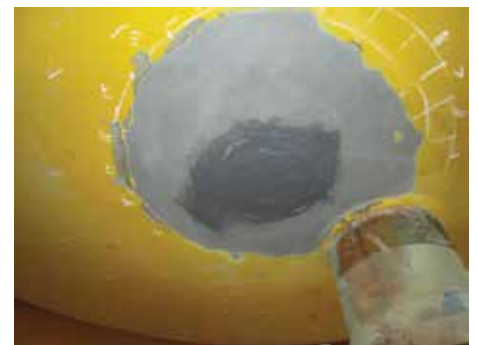
Above: Belzona 1212 heals thin and through-wall defects

instance, it had caused the vessel to leak due to a failure with the underdrain system. Consequently, the asset owner decided to use a bolt to arrest the leak, until a permanent compliant solution was implemented. Following investigation of alternatives, evidence suggested that competitor products were unable to provide a sufficient composite patch; therefore the customer selected Belzona SuperWrap II in order to complete the repair.

After careful selection, supported by an engineered design, the application was carried out in compliance with ASME standards. At the outset, the bolt plugging the hole was removed, allowing the remainder of the filtered water to be drained and complete access to the defected area. The through-wall defect was plugged first using Belzona 1291 (ES-Metal), a malleable epoxy compound that was shaped to fit the prescribed affected area. Highly adhesive and water resistant, the compound provided an excellent temporary solution to stop the vessel's leak. The original vessel coating was then removed by hand sanding before the carbon steel substrate's thin and through-wall failings were rebuilt with Belzona 1212. Designed to adhere to wet, oil contaminated and underwater substrates, this surface tolerant material was the most suitable repair solution for the aqueous environment.

Following the thin and through-wall repair, the substrate was then cleaned to the requirements of SSPC SP 10 (Near-White Metal) by abrasive blasting. In reference to the design, three wraps (6 layers) of Belzona SuperWrap II were applied to the repair area to reinforce the bottom of the filter vessel. This composite wrap was chosen because of its application versatility and proven efficiency with repairing weakened and holed vessel walls. Using Belzona 1121 (Super XL-Metal) epoxy resin to create a mould of the vessel's surface, the Belzona SuperWrap II repair was consolidated by applying pressure against the template, creating a secure and tight seal around the defect.

The customer chose Belzona SuperWrap II because of the long design life and overall ease of the repair



Above: Belzona SuperWrap II applied as per engineered design

process versus traditional welding methods, which can incur a number of health and safety issues. By using a composite patch they were able to avoid emptying the entire vessel, including filter media, hence saving a considerable amount of downtime and labour.

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

DICKIES HAVE 2016 COVERED

Dickies will be introducing a number of exciting new products and ranges for 2016, with style, functionality and quality being paramount in driving the Dickies business forward: with over 90 years' experience in workwear manufacturing, generations of workers have found Dickies to be a brand they can trust.



Employing the latest developments in fabric technology and manufacturing techniques, Dickies' high performance workwear is suited for even the harshest working environments.

Dickies are focusing on their new ED24/7 trousers, which was launched late last year they are not only practical for the everyday working environment but also comfortable and stylish. Made from 245gsm fabric ensures they are tough but light enough to retain agility. Every Day trousers (ED24/7), are free of any exposed metals such as zips, and buttons making them scratch free and suitable for use across all industries. With cargo pockets to ensure you have direct access to your tools enabling you to finish the job quickly and easily.

Also new for this year is the Eisenhower Premium shorts which follows the popular Eisenhower premium trouser which was the must have work trouser for 2015 with a mix of the premium fabrics, rip stop and cordura, with a clever design of pocket details (zip off holster pockets). The fit has been ergonomically designed to be able to move and provide maximum comfort. The new shorts are available in black with additional tool pockets, cordura with Teflon coating.

Following on from the popular two tone range is the two-tone high visibility range, which includes a jacket, hoodie, trousers, T-shirt and waistcoat. The new styles are all certified to the new high-visibility standard EN ISO 20471.

The high quality two-tone high vis soft-shell jacket with or now without a hood has been launched alongside a matching two-tone micro fleece and polo shirt. Available in a selection of colour options, they are a great option for an outer layer for employee uniforms. The piping detail on the arms and waist areas are reflective to give a level of visibility in low light conditions. The cuffs feature an adjustable strap and internal hem adjusters are also featured allowing you to adapt the garment for maximum comfort. Finally the chest pocket and both side pockets are zip fastening to ensure safekeeping of your belongings.

To offer warmth while working, Dickies have introduced the Lewiston jacket, power stretch softshell black with grey contrast a two way mechanical stretch and comes with a bonded fleece. Lastly is the Dickies Preston in black and brown, which is a steel-toe cap boot, with steel midsole. The uppers are a high quality full grain leather, which also benefits from water resistant properties and the product also feature a breathable mesh lining. These boots also provide a comfortable walk, with a cemented rubber outsole and a shock absorbent heel.

Dickies will also be launching their 2016 catalogue in March this year.

For more information on Dickies workwear, visit:
<http://www.dickiesworkwear.com>

E2S Warning Signals launches GRP IECEx & ATEX Xenon strobe beacons at CIPPE, 29 – 31 March

E2S Warning Signals, the world's leading independent manufacturer of audible and visual warning signals, will launch its new GNEEx GRP Xenon strobe beacons, www.e2s.com/products/range/gnex, on Booth W1002E at CIPPE 2016 in Beijing, China 29 - 31 March.

The new products add visual signalling to the explosion proof and corrosion resistant GNEEx family. Suitable for all Zone 1, 2, 21 & 22 hazardous location applications the GNEEx beacons have extended temperature range with IECEx and ATEX Ex d approvals. For high ambient light or long distance signalling the GNEExB2 beacon is available in 10, 15 and 21 Joule variants producing up to 902cd - a very high output Xenon strobe.



E2S will also have a preview of the new STEx family of stainless steel enclosure devices plus a selection of other explosion proof and intrinsically safe warning devices from the company's portfolio of more than 350 different products.

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JSP's Press to Check™ Filters – Supreme Compatibility with Faceshields and Visors

Wearing face-protection equipment such as faceshields and visors is no problem when they are used with JSP's Press To Check™ filters on a half-mask.

The low-profile, swept-back design of the Press To Check™ filters enables excellent visibility, allowing the filters to be worn effectively behind all types of faceshield and welding visor.

End users are now therefore able to achieve a truly compatible half-mask solution with their faceshields whilst also receiving the award-winning functionality benefits of the Press To Check™ face fit check system. The unique hinging system on JSP's Press To Check™ filters enables the wearer to quickly determine whether a correct face-fit has been achieved every single time they put on their half-mask before entering a hazard area, without

disturbing the fit to the face, so providing daily face-fit reassurance. This is one of the features that led to the product winning the BSIF Product Innovation of the Year Award in 2014.

The Force 8™ half-mask fitted with Press To Check™ filters has enabled many end users to upgrade their respiratory protection programmes away from paper-style disposable masks where impractical, intrusive, claustrophobic and inefficient annual qualitative fit tests are required to be carried out with a bag on the head and taste spray fired into the bag to detect leakage. Press To Check's™ built-in fit checking is both simple and convenient. The



added compatibility with faceshields and welding visors makes Press To Check™ the most beneficial system on the market.

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

SVANTEK TO SHOW WIDE RANGE OF NOISE AND VIBRATION MONITORING INSTRUMENTATION

Svantek will be showing a wide range of high performance noise and vibration monitoring instrumentation, including its SV103 personal vibration dosimeter and ATEX and IECEx Intrinsically Safe (IS) SV104 personal noise dosimeter for use in potentially explosive work environments. The company will be exhibiting its newly launched SV100A wireless whole-body exposure meter & analyser in a seat-pad which is designed to automatically detect the operator and is capable of taking unattended whole-body measurements in line with ISO 8041 requirements.



In addition, the Gilian personal air sampling pumps from US-based Sensidyne and newly launched Heat Shield from LSI Lastem will also be on display.

Developed for the estimation of the effects of vibration on workers' health, comfort, perception and motion sickness, Svantek's easy to operate SV 100A can take measurements both on a vehicle's seat-pad and seat-back. It is equipped with four push buttons and a small OLED colour display that allows basic configuration in the field. The bluetooth interface allows current results to be previewed on a smartphone or tablet using Svantek's Assistant Android Application. The smartphone app can also signal an alarm when set vibration limits are exceeded.

The SV 100A enables the automatic detection of an operator in the workplace. By default, the instrument is configured for seat measurements in a horizontal direction but this setting can be easily changed.

It incorporates both RMS and RMQ detectors which allows the calculation of daily vibration exposure based on RMS and VDV simultaneously. All measurement results are stored in a large 8GB internal memory which allows continuous recording over long periods. The standard 2.0 USB interface allows fast data download and is also used for battery recharging.

Amongst the Gilian personal air sampling pumps on display will be the high performance GilAir Plus, specially designed for simultaneous high and low flow personal measurement of particulates, vapours, gases and metal fumes. Widely recognised as the most versatile personal air sampling pump available, the compact and lightweight GilAir Plus offers an unrivalled air sampling range from 1ml/min up to 5000ml/min - without the need for any external adapters. Delivering superior design for ultimate worker comfort, it operates with all common media, offers multi-language capability and has an outlet port for bag sampling.

The compact Heat Shield system is designed to help reduce the risk of employees overheating whilst working in hot environments, such as bakeries and foundries, where the use of ovens and furnaces mean that heat stress is a constant concern for employees. As well as measuring WBGT (wet bulb temperature – the most widely used and accepted index for assessing heat stress in industry), it can also monitor Heat Index, PMV (predicted mean vote), PPD (percentage people dissatisfied), PHS (predicted heat strain) and many more parameters.”

Svantek's IS SV104 is a cable-free personal noise dosimeter that can be easily attached to the user's shoulder, close to the ear using assorted mounting clips. It sets a new benchmark in personal noise measurement by offering a wide range of unrivalled features including octave band analysis for helping to select hearing protection and audio recording.

The full colour OLED screen displays information in both text and graphical form plus offers excellent visibility even in full daylight. Svantek's SV104 also incorporates a virtually indestructible MEMS microphone enabling easy calibration using most commonly available acoustic calibrators and inbuilt tri-axial accelerometer for vibration shock detection. Measurement data is safely stored in the large eight GB memory and the instrument works with Svantek's specialist Supervisor health and safety software package.

Svantek's SV103 is a small, rugged instrument which simply attaches to the user's arm whilst the lightweight MEMS accelerometer straps to the hand. This innovative device features an easy to read colour OLED screen and all data can be quickly downloaded to a computer for analysis. The SV103 also has a unique additional contact force transducer that measures how firmly the tool is being gripped.

**The Health & Safety Event 2016
NEC, Birmingham - Stand no: G52
22-24 March 2016**

For product information please contact
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tel: 01296 682040
mob: 07815 087905
email: paulrubens@svantek.co.uk
web: www.svantek.co.uk
Twitter: @Svantek_UK

BE SAFE AND LOOK THE PART

Providing workers with personal protection equipment (PPE) and workwear is just as important as giving them the correct equipment to safely and efficiently carry out daily tasks.

Workwear and PPE manufacturers spend considerable research and expense in ensuring they provide equipment, which will perform, should the worst occur. Not all workwear and PPE is equal however, achieving certification to the relevant EN standards is only a base point. You need to look for manufacturers that go the extra mile, for example innovation in design and technical features, the support of experts who can train and instruct workers in how to wear and most importantly care for their kit.



PPE & safety accessories have been an area that Dickies have placed much focus over the last couple of decades. With hi-visibility clothing, safety footwear and workwear being core to the Dickies offering it is a logical extension to provide a variety of safety equipment to wear alongside these products.

For more information on Dickies products visit:
www.dickiesworkwear.com.



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Introducing the Aegex10 Intrinsically Safe Tablet

The Aegex10 Intrinsically Safe tablet is the world's first Windows 10 enterprise tablet to be universally certified for use in the most hazardous industrial environments worldwide.



and optimized operations for increased safety and productivity.

With a uniform platform and Intel architecture, the devices are customisable for any team member in a HazLoc operation, from personnel in explosive zones to their managers off-site. In addition to running enterprise programs such as Microsoft Azure, Office and Outlook, customers can select task-specific applications and accessories from the Aegex portfolio to tailor the tablets for their particular workforce needs.

Aegex Technologies' intrinsically safe, Windows 10, Intel-based tablet, is certified for ATEX and IECEx Zone 1 areas of hazardous locations throughout Europe, Africa, the Middle East and Asia Pacific, as well as UL 913 Class 1 Division 1 areas in the United States and CSA 22.2 in Canada. These approvals make the Aegex10 the first Windows 10 enterprise device to hold global intrinsic safety certifications for HazLoc operations, where high concentrations of flammable gases, vapors or dusts are likely to occur in normal operation.

The Aegex tablets are the first to bring Windows 10 capabilities into industries such as oil and gas,

chemical, pharmaceutical, public safety and others that operate highly explosive environments. While most mobile devices are not permitted in highly volatile zones of hazardous locations because they could cause a spark, Aegex's 10.1-inch tablets are certified intrinsically safe, or incapable of igniting an explosion.

Aegex10 Intrinsically Safe tablets synchronize with an organization's Internet of Things to allow users to transmit real-time data from within the most hazardous zones of their operations. Such cloud-based IoT connectivity improves efficiency and lowers risk, resulting in decreased downtime

Aegex tablets run on a future-proof Windows 10 operating system, offering seamless and secure integration with existing IT infrastructure. The tablets are highly customizable and are rated IP65 for rugged industrial application. Offered at prices near those of consumer-grade devices, Aegex10 IS tablets can provide real-time connectivity for an entire hazardous industry workforce.

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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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Web: www.nederman.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 Straightpoints 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 bestselling 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 by the end of 2015. 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."

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High Definition Infrared Camera sets new benchmark

FLIR Systems announces the new FLIR 1030sc High Definition (HD) Longwave Infrared (LW-IR) camera featuring the industry's highest resolution.

Designed to help researchers and scientists tackle some of the world's most pressing challenges the FLIR 1030sc delivers outstanding thermal sensitivity, clarity and high-speed streaming. Coupling an extraordinarily sensitive detector, with new FLIR OSXTM Precision HD-ready optics, the T1030sc routinely detects temperature differences of less than 20 mK at 30°C.

For research and development professionals, accuracy matters. Whether you are looking to make thermal measurements in the field to identify stress failures in engines or in the lab measuring textiles to ensure a fabric will hold up in harsh weather conditions, your thermal imaging camera needs to be durable, portable and precise.

Designed for versatility, the T1030sc is a high-performance infrared camera in a flexible, portable, handheld package. The T1030sc functions as a stand-alone data collection and analysis system in the field or as a fixed-mount thermal measurement solution in the lab.

Able to record 1024 x 768 full frame video at 30 Hz on just battery power, and stream raw data at 120 Hz via a high-speed interface (HSI), the T1030sc records and delivers high-speed data how you need it. FLIR ResearchIR Max software is included with the T1030sc providing users with unmatched capabilities to analyze and share data.



The T1030sc also comes backed by FLIR's Global 2-5-10 Warranty, the industry's best protection for any infrared camera.

For more technical details about the T1030sc for research and development please visit www.flir.com/T1030sc or contact FLIR Systems on: +32-3665-5100 or research@flir.com.

The Multi-Talented Q-Rohr And Q-Box – New Applications For Flameless Explosion Venting In The Bulk Materials Industry

REMBE continues to develop and refine Q-Rohr and Q-Box, the original flameless explosion venting solutions.

This work has already generated exciting new application areas: with metal dusts, generators, ships' engines and pneumatic conveyors for bulk materials. Another new feature is a service camera, which can be used to inspect the interior of the Q-Box quickly and easily during explosion safety checks without the need to dismantle inspection hatches. REMBE has recently adopted a new motto "Consulting. Engineering. Products. Service." Find out more at the end of this article.

Q-Rohr – much more than flameless explosion venting

Downtime is lost time – and it is also boring. This is why the busy engineers at REMBE are constantly working to develop new products. They love finding answers to their customer's unsolved problems. Recent innovations include sound insulation solutions which are integrated into explosion safety products, e.g. for mills or similar plants, and devices for protecting suction lines in pneumatic conveyors. Both these areas are top priorities in the bulk materials industry. The former is particularly of interest for plants located close to residential areas or other buildings where noise reduction is a major issue.

Until now, suction lines have been protected using air filters to prevent the entry of particulate contaminants and heavy non-return valves or explosion isolation valves, which lead to a significant loss of pressure. A modification to the Q-Rohr changes all that: the filter and isolation valve can simply be replaced by the Q-Rohr – a more cost-efficient solution both in terms of purchase price and maintenance.

However, the specialists in Brilon also lead the field in areas other than explosion safety for bulk materials. The Q-Rohr is the first flameless explosion venting product to be certified for use with metal dusts in accordance with DIN EN 16009. In addition, it can also be used to protect LNG or dual fuel marine engines in the case of an explosion.

Servicing the Q-Box just got even easier

A special camera now allows you to inspect the interior of the Q-Box in situ. This new accessory gives users almost instant view of the condition of the installed explosion vent. Moreover, it can be used to inspect the interior of the Q-Box quickly after an explosion.

Consulting. Engineering. Products. Service. Simple and to the point

The biggest problem with most slogans is that they are developed in marketing departments and more a case of wishful thinking than a reflection of reality.

REMBE thinks differently. With just four words, its specialists express what they have been doing for years in explosion safety for the bulk materials industry: inspecting plants, developing customer-specific safety concepts and products and supporting them during start-up and maintenance.

The company's rush order service is growing in popularity: for a supplementary charge, the customer can order goods to be manufactured immediately. An attractive proposition in the age of just-in-time logistics. REMBE has a favourite festive story about one unusual rush order: three years ago REMBE received an order at Christmas (customers can contact the company all year round by telephone). One employee from sales, the production manager and two of his staff cut short their Christmas celebrations and started up production immediately. But the story does not end there – the goods were collected by the buyer in a private jet. "It seems to have been really urgent," remembers Friedhelm Kesting, Production Manager, with a wink.

Further displayed products

EGV HYP

The smooth surfaces, in combination with the patented, full surface and tapered sealing concept, enables this special explosion vent to be implemented in previously critical plants, e.g. spray-dryers with/without wet cleaning, fluidized bed dryers, filters and mixers.

EGV HYP successfully passed the cleanability tests conducted by the commission of the EHEDG (European Hygienic Engineering & Design Group) and confirmed its suitability for CiP cleaning.

TARGO VENT

TARGO-VENT is an opening angle limiter developed especially for bursting discs, which guides the pressure relief specifically into areas, in which there is no danger for the adjoining infrastructure.

TARGO-VENT dynamically and progressively cushions the bursting disc situated beneath it, and can therefore also assimilate large kinetic forces resiliently. The damper absorbs the enormous repulsive forces of the explosion energy and guides the flames and shock wave in the desired direction.

EXKOP

The EXKOP® system provides safe, economic and easy explosion-, spark and flame front isolation. The quench valves protect interconnected equipment by high speed closure of a fast acting pinch valve.



Above: Q-Rohr: offering a wide range of applications in the bulk materials industry, including sound insulation – integrated into standard explosion safety equipment it is also popular with residents in neighbourhoods adjacent to industrial plants

You can find REMBE in Hall 3, Stand 207

About REMBE:

REMBE is a safety specialist in pressure relief and explosion safety. It provides customers in all industries with safety systems for their plants and equipment. All products are made in Germany and meet the requirements of national and international regulations. REMBE customers include market leaders in numerous sectors, such as the oil and gas, food, wood, chemical, pharmaceutical and petrochemical industries. REMBE takes a comprehensive approach, primarily developing and making its own products while also providing the relevant consultancy, engineering and service.

The independent family enterprise, founded in 1973, employs a global workforce of around 180. REMBE has its headquarters in Brilon, in the hills of the Sauerland region (Germany), and runs eight subsidiaries to support its worldwide customers right where they are. Thanks to its short lines of communication, the company can respond quickly and find customised solutions for all applications, ranging from standard products to special high-tech designs. Its most important proprietary products and processes include the KUB reverse acting buckling pin bursting disc and flameless venting technology- REMBE has active worldwide engagements on various professional bodies and is also involved in planning and setting up international standards and regulations.

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