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The International Magazine For  
Hazardous Area Professionals

Mar / April 2015 | Issue 22

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# SVANTEK LAUNCHES NEW INTRINSICALLY SAFE SV104 PERSONAL NOISE DOSIMETER

**ATEX and IECEx approvals means well-proven instrument can now be used in potentially explosive atmospheres including mines and petrochemical plants.**



World leading manufacturer of occupational health and environmental noise and vibration monitoring instrumentation – has launched the new ATEX and IECEx Intrinsically Safe (IS) SV104 personal noise dosimeter for use in potentially explosive work environments. To support this high performance instrument, the company is offering free octave band and audio record until the end of the year.

Svantek's IS SV104 is a cable-free personal noise dosimeter and 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. It is powered using built-in rechargeable batteries or through the USB interface which also enables easy connection between the SV104 and a PC.

John Shelton, Managing Director at Svantek comments: "The original SV104 was a revolutionary new approach to occupational health and safety noise monitoring offering voice comments and audio events recording functions which were a new concept in an instrument of this size. It has been a tremendous success with customers quick to recognise its superior functionality, value for money and accurate and reliable measurement capability.

He continues: "Getting ATEX and IECEx approval for the SV104 was the obvious next step and will help open up previously untapped business in global markets such as petrochemical, oil and gas and mining."

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mob: 07815 087905  
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# Notified Body Status for ExVeritas

ExVeritas, a UKAS and IECEx accredited Test Laboratory have also become UKAS accredited as a Certification Body and a 'ATEX Notified Body' under the ATEX Directive.

Sean Clarke, Managing Director of ExVeritas, commented "we are delighted to have achieved notification from the UK Secretary of State and to be able to offer a direct route to all types of ATEX Product and Quality System Certificates to our growing customer base".

ExVeritas are also launching their unique online 'Certification Management System' (CMS) which will allow customers to log on to the system to request and track quotes, track certification projects in real time, request fast certificate concessions or variations and view all of their certificates and reports. The system will also automatically inform customers if Standards used for their product certification change or are withdrawn, simplifying

their ongoing compliance management for CE Marking.

The Welsh Secretary Stephen Crabb, who had recently visited ExVeritas said "I am not surprised that ExVeritas won 'Welsh Exporter of the Year' in 2014, businesses like ExVeritas demonstrate the world beating knowledge and technical expertise that we have in North Wales."

ExVeritas have over 250 years of collective experience in their ATEX team with the average experience of a project Engineer being over 10 years, ExVeritas are poised to be a leading force in ATEX Certification.



ExVeritas are an ATEX Notified Body number 2585 who provide internationally recognised accredited safety and certification services including ATEX, IECEx, CE Mark testing and North American Certification. We also offer accredited hazardous area training including CompEx certification and site safety services such as area classification, Ex inspection and explosion risk assessments.

For further information, please visit [www.exveritas.com](http://www.exveritas.com)

# MSC Take A Step Forward

MSC Industrial Supply Co is extending its range of PRO-SAFE safety products with the launch of their new safety footwear range available in April 2015.

PRO-SAFE is exclusive to MSC Industrial Supply and offers a trusted brand of personal protective equipment (PPE) and facility safety products. The PRO-SAFE brand is used every day by professionals and is of the highest quality, meeting or exceeding applicable EN ISO 20345 European standards, and priced competitively for cost conscious customers.

"Workplace safety is an important issue for our customers - it is critical to their continued productivity and overall success," said Phil Sault Supply Chain Manager at MSC. "As a comprehensive supplier of metalworking and MRO products, we understand the importance of proving the highest quality in safety products. As an exclusive supplier of the PRO-SAFE brand, we can help our customers maintain the highest safety standards day in and day out."

MSC understand their customers and the need to

achieve value for money. That's why they've made a huge investment to supply and extend the selection of safety footwear at a cost customers want to pay. There are many different types of risks within a workplace so as with all footwear there are additional safety features available. From water and penetration resistance, to steel toe caps, anti-slip and static soles, the PRO-SAFE range is manufactured and designed with comfort and protection in mind. This investment is just the beginning of expansion to the PRO-SAFE range. A further extension of the products offered will also be available later on in the year.

## About MSC Industrial Supply Co

MSC Industrial Supply is a nationwide distributor of over 90,000 items, from leading brands such as Castrol, 3M, Kennametal, Dormer, Mitutoyo, WD40



and Stanley. In-stock availability is approximately 99%, with next day standard delivery on qualifying orders up until 6.30pm over the phone or 7pm online. MSC provides an impeccable service throughout the UK via its central distribution Centre based in Wednesbury, West Midlands. You can rest assured that MSC is working constantly to further develop its product offering and refine services that simplify companies' purchasing processes.

To find out more please visit [mscdirect.co.uk](http://mscdirect.co.uk) or call 0800 66 33 55

## New Synatel Digimatic Probe Conforms to EN 60079

Synatel have launched a new version of their Digimatic level probe conforming to the latest ATEX standard, EN 60079 for dust hazard applications.

The EN 60079 standard is much more onerous than the EN 50281 standard which it replaces and Synatel have overcome a number of technical challenges to provide the same functional capability whilst operating at the lower energy levels required and providing a greater degree of protection.



All the well know Digimatic features are retained including the four digit display for calibration and operational purposes, the "Power Shield" to overcome the effects of material sticking to the probe rod and universal operation on 24V dc, 110/230V ac supplies. The unit can be calibrated automatically or manually and settings once determined can be reproduced on other units in similar applications.

As well as ATEX, the new Digimatic is approved to IECEx standards for countries outside Europe. The Digimatic is designed and manufactured in the UK by Synatel and is available from stock.

Synatel Instrumentation Ltd  
Phone 01543 277003 Email sales@synatel.co.uk Web www.synatel.co.uk

## New compact high output D2x explosion proof horn sounders and horn/beacon units from E2S

The new D2x family from E2S Warning Signals, the world's largest independent warning device manufacturer, is based on a high output 116 dB(A) SPL 64-tone 4-stage horn sounder, which can be combined with a powerful 5 or 10 Joule Xenon strobe in a compact 130 mm wide, 125 mm deep die-cast marine grade aluminium housing. Designed for use in Zone 2, 22 and Division 2 hazardous locations, the D2x is a truly global product range, with multiple approvals permitting use in regions covered by IECEx, ATEX, NEC and CEC regulations.



With four remotely triggered alarm stages the D2x can signal multiple safety warnings or process events. In the combined units, the Xenon strobe beacon and the alarm horn sounder can be activated individually via separate terminations or linked for simultaneous operation from a common power supply. The horns offer 64 internationally and nationally recognised alarm tones plus continuous, intermittent, sweeping and alternating tones with an effective range of up to 125m (410ft); multi-sounder systems are automatic synchronised. In combined audible/visible units the polycarbonate beacon lenses are user-changeable, with a choice of Amber, Blue, Clear, Green, Magenta, Red and Yellow colours.

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# J D NEUHAUS HOISTS GIVE TANK CLEANING A LIFT

More and more companies are turning to air-operated hoists for effective ways to clean storage tanks.

These innovative lifting devices, which offer precise load placement control through convenient hand pendants, are being used successfully for truck tank cleaning operations worldwide. In fact, J D Neuhaus air-operated hoists are deployed in a wide variety of transport tank cleaning applications, including road and rail transit tankers and marine transporters.

Typically, injector heads with nozzles are used to clean inside these inherently dirty vessels by dispensing hot/cold water or steam at high pressures. If required, sometimes solvents are also included in the cleaning solution. JDN hoists lift, support and accurately position the injector heads to ensure a thorough clean. For ease of traversing, overhead rail trolleys are mounted to the hoists, to ensure the entire internal area of the tank is efficiently washed and cleaned.



J D Neuhaus air operated hoist in operation for precise handling of pressure injection head during tank cleaning operation.

Another reason JDN air hoists are being used is because the compressed air power used for all operations is intrinsically safe. In fact, JDN air-operated hoists are Ex-rated, which makes them suitable for deployment wherever highly volatile liquids or chemicals are transported or stored.

JDN equipment also incorporates increased spark protection for use in hazardous areas that are in potentially combustible or explosive atmospheres.

For heavy duty applications, JDN Profi TI series hoists are quicker and more energy efficient than ever before. Available with different controls to suit specific customer requirements, Profi TI hoists operate at an air pressure of 4-6 bar and are suitable for loads from 250kg to 100 tonnes. Infinitely variable speed control is supplemented by a host of features that make Profi TI hoists increasingly popular for tank cleaning duties, such as explosion protection, fail-safe starting conditions, easy operation, low headroom, sound absorption and insensitivity to dust, humidity and temperatures from -20°C to +70°C. Furthermore, upkeep costs are alleviated thanks to design factors like the low maintenance vane motor and dust-proof, maintenance-free ball bearings. The hoists are also suitable for lube-free operation. The standard safety rating for these products is EX II 2 GD IIA T4 / EX II 3 GD IIB T4. Increased spark protection is also available to achieve EX II 2 GD IIC T4 accreditation.

For lighter duty applications the JDN Mini represents a handy, flexible and universally deployable series

of hoists.

Functioning at 6 bar air pressure, the Mini series

can carry loads

up to 980kg and

makes for an attractive and economic alternative

to hoists driven by

other means. Available with lifting heights of 3, 5

and 8 metres, Mini hoists are lightweight for easy handling

and feature extremely

sensitive lever control (with emergency shut-off valve)

so that injector heads can be positioned with precision

inside the tank during cleaning.

Despite the attractive price tag, the hoists offer much of the functionality of the larger Profi series, such as explosion protection, easy maintenance and suitability for lube-free operation. The standard safety rating for the Mini products is EX II 3 GD IIA T4.

Thanks to J D Neuhaus' Profi and Mini series hoists, cleaning tanks on trucks and many other types of transport is now easier, safer and more cost effective than ever before.



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# Next time you need Certified Equipment, ask the Ex-PERT!

A new website Ex-PERT has launched this year, allowing End-Users to more quickly and easily find and filter Hazardous Area Equipment based upon their specific demands.

Ex-PERT enables users of the site to filter products based on Certification, Hazardous Atmosphere, and Zone, right down to the Temperatures that the equipment must be suitable for.

This resource links you not only to the products, but to their suitability for your application, their datasheets, and other supporting documentation where available. Ex-PERT work closely with supplier's to produce quality listings that are informative, accurate and unbiased. The site gathers together key technical information and then presents

it in a uniform, easy to understand format. The result is a really easy to use tool that makes the relevant information much more accessible and the search much less laborious.

The HES Website will now feature Ex-PERT as their Ex Equipment Search Directory, so that site users can access the same information directly from the HES site. Kerry Norcross, Ex-PERT MD, explains - 'It's an absolute privilege to have our search site feature on HES. We see Ex-PERT as a real resource for anyone looking for Hazloc Equipment and so



to have HES as an outlet for this information is fantastic'.

Manufacturers wishing to list their products on Ex-PERT should contact the Ex-PERT team directly:  
Email: [info@ex-pert.com](mailto:info@ex-pert.com)  
Call: +44 (0)1244 555044

## LCM Systems Announce a New Range of ATEX Certified Load Cells and Accessories

Specialist load measurement equipment manufacturer, LCM Systems Ltd, is pleased to announce the launch of a brand new range of ATEX/IECEx certified, hazardous area load cells and enclosures.

This ATEX/IECEx certification authenticates that LCM Systems' load cells can be used in Zone 1 and 2 hazardous areas without danger of causing or contributing to an explosion when used in flammable gas and dust environments. These environments include offshore drilling platforms, petrochemical plants, flour mills and any other industries where there is a possibility of a mixture of potentially explosive gases, vapours, mists or dusts being present in the air.

As well as a standard range of ATEX load cells including load pins, load cells, load shackles and load links ranging in capacity from 2 to 1000+ tonnes, LCM Systems can also provide customised products designed specifically to meet exact customer requirements. All ATEX load cells

are supplied with full environmental protection, ATEX certification and a certificate of calibration. Additionally, amplifiers and displays that can form a complete measurement system for potentially explosive atmospheres can also be supplied. Details of these new products are available on a dedicated website [www.atexloadcell.com](http://www.atexloadcell.com).

Speaking about the introduction of these new products, Steve Sargeant, Managing Director says: "Everyone at LCM Systems has been working hard towards the launch of this important new range. As with all our products, these load cells are manufactured to the highest industry standards to ensure that our customers can be completely confident they are getting the best in terms of quality, reliability and accuracy. We are delighted that



we can now deliver load measurement solutions to industries around the world that have a requirement to measure loads within Zone 1 and 2 hazardous areas."

Customers interested in the range can visit the new website or contact LCM Systems' sales team direct on +44 (0) 1983 249264 to discuss any aspect of their ATEX load cell requirements.  
LCM Systems  
E-mail: [info@lcmssystems.com](mailto:info@lcmssystems.com)  
Website: [www.lcmssystems.com](http://www.lcmssystems.com)



# STS BESPOKE HANDLING EQUIPMENT LTD.

Producing innovative materials handling products for numerous applications within the chemical, petrochemical, paints, inks, offshore and pharmaceutical industries among others, STS (Bespoke Handling Equipment Ltd) is enjoying ongoing growth, taking on new staff and building two new factory buildings to house the expansion.



"We put this down to the continuing development of specialist drum handling systems and bespoke solutions. Every time we come across a new drum handling problem we design a product to solve that problem. This new unit is then put into our standard range," says technical sales director Colin Jones.

In addition to serving the needs of UK customers, STS regularly fields orders from across the globe, STS products frequently destined for use in the US, Israel, Australia and Kazakhstan to name but a few, with paint manufacturers in Indonesia, Dubai and India all purchasing units in recent months.

A lot of operators who used STS equipment in the

North Sea oil industry are now asking for equipment to be supplied to the Caspian and oilfields further afield.

## BUILT TO LAST

The company first hit the headlines in 1999 with the launch of the DTC01 Universal Drum Trolley, which allows an operator to move a 300 kg filled drum with a force of less than 20 kg. "We won quite a few awards for the DTC01 Drum Trolley, including the British Safety Industry Federation award for avoiding back injury and the BBC Tomorrow's World Inventors of the Year award. This was some time ago but the product has continued to sell well. The main

advantage of our trolley is it allows a drum to be picked up with very little operator effort. It also picks the drum up vertically and does not tilt the drum towards the operator. This makes it excellent for handling hazardous materials. The trolley is built of stainless and lasts a long time. We have been selling the trolley for over 14 years and recently supplied new wheels for one of these trolleys that is still going strong despite twelve years of continuous use on an offshore oil platform. "The standard trolleys they used to buy lasted six months in the salt spray environment."

Further adding to its unique range of drum handling products, STS is enjoying success with its range of Drum Mixing units. The standard models tumble 200 litre drums end over end through 360 degrees offering a fast and efficient way of mixing chemicals.

Most recently units have been supplied for a brand new factory being built in Baku (Azerbaijan) for the Shah Deniz stage 2 project.

The STS DME01 Electric Drum Mixer and the STS DTP04 and DTP05 De-palletisers are in the heart of the project, as the specialised engineering chemical system needs mixing before being introduced to the machines which then add thermal insulation to the subsea pipe line, joints, bends and manifolds.

The mixers were supplied to CTM Equipment who were selected as the machinery supplier for this installation, working with Trelleborg Offshore UK, who is working with Bos Shelf and BP as their operators out in Baku for an estimated 5 years.

The Shah Deniz project is the biggest Offshore energy project in the world at the moment, as part of Stage 2 they are running over 4,000 km of gas pipeline from Azerbaijan to Europe.

All in all a proud moment for British Engineering and manufacturing.

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www.sts-trolleys.co.uk

# Drive your insurer to REDUCE your premiums!

IAMTech and BakerRisk have teamed up to produce a groundbreaking risk management software solution for the Oil, Gas, Power and Chemical industries – ‘IAMRisk’.



IAMRisk allows your single plant or entire asset portfolio to quickly determine the quality of fire risk for a range of asset types – Oil Refinery, Onshore Terminal, Offshore Gas and Oil Platforms; enabling improved safety, risk reduction and insurance premium reduction.

Risk empowers you to identify where money can be best spent on improvement and modification to your plant, processes and personnel via effective improvement management.

Using the expertise and experience of BakerRisk we have created a custom set of questions designed specifically for individual asset types, such as oil refineries, chemical plants, onshore terminals, offshore gas platforms and oil platforms.

Each question set is accompanied with the appropriate guidance to assist answering and each answer is attributed a weighting. Upon completion of answering the applicable question set a risk score for the asset is generated, showing you where your asset sits amongst other similar asset types within your organisation. It is also possible to compare your asset anonymously against other similar asset types in the system, to see where you fit on a global standard.

IAMTech have used their vast experience and understanding of the Oil, Gas, Power and Chemical industries to design Risk as a web based application – which also works offline, pushing any data entered into the application into the cloud the next time the device is connected to the internet. This is particularly useful when working in internet restricted zones, during air travel or asset types such as offshore platforms.

Upon completion of the process you will be able to produce a demonstrable risk reduction plan to drive

your insurer to reduce your premiums AND have quantifiable dates on improvement costs to assist in budget planning asset improvements.

**IAMTech Managing Director, Ross Coulman:**

Quantifying risk in an industrial setting is always tough and demonstrating to an insurer that you are capable of accurately measuring and controlling that risk is even tougher.

With our partnership with BakerRisk I am confident we will give our clients the necessary tools to actively drive down their insurance premiums by demonstrating measure, control and showing actual improvement in their risk management.

The expertise IAMTech have in producing high quality software for leading players across experience of BakerRisk in calculating and evaluating risk will give our customers the confidence to start measuring and controlling risk.

**BakerRisk VP and Director Process Safety, William Mather:**

Our clients benefit from our knowledge and vast experience, innovative research, and unique engineering capabilities. We help clients understand and prioritize their risks, and offer cost-effective solutions to manage them. IAMRisk provides an excellent platform to evaluate fire risks and mitigation capabilities against worldwide, industry-accepted criteria.

**IAMTech**

IAMTech is a leading hub for the development of innovative technology solutions for the Oil, Gas, Power and Chemical industries.

For over the past forty years, IAMTech has developed working partnerships with world-leading organisations, building an impressive portfolio of products, which have been well received by industry professionals globally.

Our first-hand knowledge and experience of the Oil, Gas, Power and Chemical industries has proved invaluable to the success of our hardware and software solutions – which are currently in use in twenty three countries around the world for clients including Air Products, BP, CERTAS Energy, Hertel, Huntsman, INEOS Nitriles, Jupiter Insurance, Neste Oil, Oiltanking, Petronas, Perenco, and Redhall Engineering, to name a few.

**BakerRisk**

For more than thirty years, Baker Engineering and Risk Consultants, Inc. (BakerRisk) has provided quality engineering, R&D, investigation, and field testing services to industries and government agencies handling explosive, flammable and toxic materials.

BakerRisk's clients benefit from our knowledge and vast experience, our innovative research, and unique engineering capabilities. We help clients understand and prioritize their risks, and offer cost-effective solutions to manage them.

For more information on IAMTech, please visit [www.iamtech.com](http://www.iamtech.com)

And for BakerRisk, please visit: [www.bakerrisk.com](http://www.bakerrisk.com).



# No Matter How Challenging, Keep the Ore Flowing

Abrasion can create one of the most arduous service environments and remains a major challenge for mining operators, going from mineral excavation to metal refining.



Above: Pump casing disassembled for repair

It is one of the most common problems for hydraulic transport systems operating at high throughput rates and conveying velocities, and it can lead to premature failure causing lengthy downtimes and significant revenue loss.

## Hyperabrasive environment for slurry pumps

Slurry pumps are one of the most susceptible pieces of equipment to abrasion wear throughout the beneficiation process. Due to the harsh operational environments and the tough heavy duty surface and underground mining processes, the early failure of slurry pumps used in the transportation of abrasive



Above: Profile loss of pump cutwater

solids in large volumes is a common issue. When a critical slurry pump goes offline unexpectedly, a large mine can lose as much as US \$100,000 per hour in revenue.

Even though in recent years there has been significant progress with regards to the mechanical design of slurry pumps, they are still plagued with erosion issues and abrasion is considered to be the main threat to their longevity and performance. Commonly constructed of erosion resistant exotic alloys such as Inconel®, Monel®, duplex, superduplex and Ni-hard and hence characterised by their ability to handle rocks, gravel and mud, slurry pumps still fail on a large scale due to the high slurry abrasion rates.

Depending on the properties of the abrasive particles, i.e. solid size, solid concentration, hardness and temperature, as well as the operating conditions and process parameters, i.e. flow rate and inlet velocity, the wetted parts of the slurry pump can be tremendously impacted. The components of



Above: Pump cutwater rebuilt and protected against abrasion and high temperature

the impeller, casing and suction liner can be worn significantly within just a few hours and are therefore in need of replacement at regular intervals. This sets the financial loss of downtime and replacement at very high levels, since the purchase expenses of a slurry pump are many times that of a standard water pump.



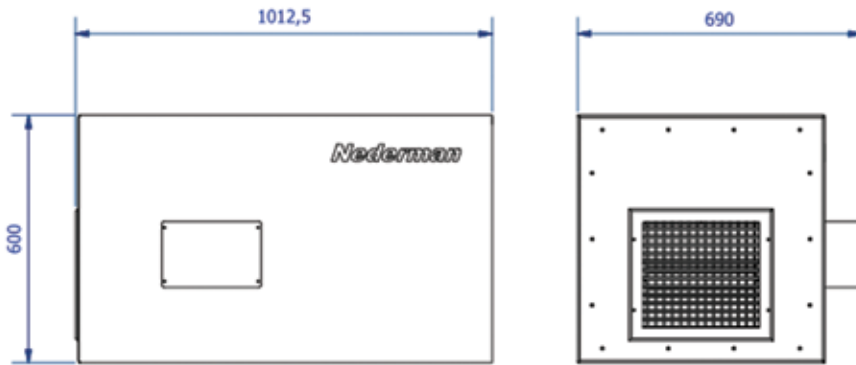
Above: External surface protected against high temperature

As a result, the use of a protective coating that slows down the abrasion process in the pump is of paramount importance. Specifying the coating materials for slurry pumping applications is not a standard procedure and must account for all variable characteristics, such as the type and speed of the pump and the nature of the solids. Even though handling abrasive fluids presents a tremendous challenge to any protective material, a carefully selected abrasion resistant coating can reduce impact wear effects, extend the life of the pump and optimise the overall performance of the pumping process.

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

# Nederman Launches New Media Filtration System

To control light airborne dust/smoke in potentially hazardous environments, Nederman has now developed its new MF 12-15 media filtration system.



Above:  
Fig. 1 Media Filter with system of mounting brackets and without.

The cost effective solution has been designed for free hanging applications to control light airborne particulate. The new MF12-15 units are ideal for applications that include the removal of diesel smoke, grinding dust, welding fumes and other airborne contaminants.

Considered a complete all-rounder for maintaining a high level of air quality in virtually all industry sectors, the MF12-15 has been designed specifically for indoor installation and must be protected from excessive moisture. The powerful new system has a 0.33kW motor that efficiently draws airborne particulate through the fan and into the air cleaner. The contaminants flow through the filters located at the front of the unit. The cleaned air is discharged at the rear of the unit via a double deflection grill. With an air volume of 2550m<sup>3</sup>h and a pre-filtration

efficiency above 90% and a main bag filtration efficiency between 90-95%, the new MF12-15 guarantees to clean up the workshop. By employing this high powered system, the MF12-15 also maintains a high air quality in the workshop, which is beneficial to the health and wellbeing of staff. Furthermore, by removing particulate from the workshop environment, the MF12-15 contributes to a cleaner facility by drastically reducing surface dust.

The MF12-15 works with a standard 230V supply that simplifies installation whilst the compact 1012 by 690 by 600mm frame can be easily fitted with the Nederman range of mounting brackets. In addition, the MF12-15 is available with a media filtration indicator that enables the customer to monitor the efficiency of the filters. This ensures that the customer can maintain optimal air quality

levels and monitor filter life with ease. The pre-filter and main filter units are easily exchangeable and Nederman holds considerable stock levels to ensure rapid delivery of the filters. As an environmentally conscious manufacturer, Nederman has developed the MF12-15 with an extremely efficient motor that provides maximum particulate removal rates with a remarkably low power consumption that keeps running costs to a minimum.

For More Details Contact:

Nederman Ltd  
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# Are you Keeping your Business Warm This Winter? Hazardous Area Air Warmers will help to Protect your Business.

## Are you preparing your business for the winter season?

At this time of year we notice our clients getting ready for the cold season and as a result, the demand for our hazardous area air warmers increases. Our customers most commonly use these heaters to protect enclosures, cabinets, rooms or stores.

EXHEAT Industrial's range of air warmers ensure that your business doesn't suffer as a result of cold and icy weather. If you haven't yet reviewed your current systems or started to prepare your business then don't worry - we provide fast track solutions with Next Day Delivery available on selected products. All heaters are certified to be used in hazardous areas, however if you need any advice on your specific solution then please don't hesitate to contact us for assistance.

All heaters manufactured by EXHEAT for use in Hazardous Areas are supplied fully certified to meet the latest requirements of the IECEx scheme, CSA, CU TR (formerly GOST) or the European ATEX Directive as appropriate.

Our range of air warmers includes Fan Heaters, Anti Condensation Heaters, Space Heaters, Liquid Filled Radiators and Convector Heaters.

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The FAW range offers a versatile lightweight air warming solution for small work and storage areas located in Zone 1 and Zone 2 Hazardous Areas.

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The self-regulating properties of the HEF enclosure heaters eliminate the requirement for a thermostat.



Coupled with the compact design, this makes the HEF ideal for anti-condensation, frost protection and temperature control where the enclosure is located within Zone 1 and Zone 2 Hazardous Areas.

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# Leak Detection on Hydrogen Cooled Turbogenerators

FLIR Systems reports on how its FLIR GF343 Optical Gas Imaging camera is being used for monitoring leak detection on Hydrogen cooled turbogenerators.



Hydrogen cooled generators, used in power stations for electricity production, are very carefully monitored for their Hydrogen concentration for safe and efficient operation. There is a constant effort to monitor and maintain any leaks, not only for operational efficiency but also from a safety perspective, as concentrations of Hydrogen (4 -75%) in air can be explosive.

Today the Power Generation industry performs leak detection and repair (LDAR) of the generators during a shutdown period. This shutdown could be over a 2 to 3 week period with 3 to 4 days dedicated to leak detection and repair. However, by adding a small concentration of CO<sub>2</sub> (< 5%) as a tracer gas to the Hydrogen, the generator will still operate at a safe and efficient level and the operator and maintenance teams can now monitor for leaks during full

operation using a FLIR GF343 CO<sub>2</sub> Optical Gas Imaging (OGI) camera.

In recent tests the FLIR GF343 was shown to accurately visualise a small amount (~2.5%) of CO<sub>2</sub> tracer gas in the system when there is a leak, therefore helping maintenance crews find and pinpoint leaks. Beneficially leak detection on Hydrogen cooled turbogenerators can now be performed under full operation, therefore saving time and money by significantly reducing shutdown time. The FLIR GF343 is an optical gas imaging camera that lets you detect and visualize Carbon Dioxide (CO<sub>2</sub>) leaks quickly, easily, and from a safe distance. Reliable, non-contact CO<sub>2</sub> detection using the FLIR Systems GF343 lets power plants prevent unplanned outages by allowing them to inspect equipment while it is still online in the course of

## About FLIR Systems

FLIR Systems, Inc. is a world leader in the design, manufacture, and marketing of sensor systems that enhance perception and awareness. FLIR's advanced systems and components are used for a wide variety of thermal imaging, situational awareness, and security applications, including airborne and ground-based surveillance, condition monitoring, navigation, recreation, research and development, manufacturing process control, search and rescue, drug interdiction, transportation safety, border and maritime patrol, environmental monitoring, and chemical, biological, radiological, nuclear, and explosives (CBRNE) threat detection.

normal operations. It also helps keep operations safe while moving towards carbon-neutral capture and storage operations.

Optical imaging using FLIR GF-Series thermal cameras offers a number of benefits compared to traditional "sniffers" because they scan a broader area much more rapidly and in areas that are difficult to reach with contact measurement tools. Infrared displays a leak as a plume of vapor in the infrared image. Once a leak is found from a safe distance, you can use your TVA to quantify the concentration.

For further information

Please visit [www.flir.com/](http://www.flir.com/)

or contact FLIR Systems

on telephone +32-3665-5100

or email [gasimaging@flir.com](mailto:gasimaging@flir.com).

# New ATEX and IECEx Intrinsically Safe Infrared Temperature Sensor

The new ExTemp series of intrinsically safe infrared temperature sensors from Calex Electronics is designed for use in ATEX and IECEx explosive atmospheres up to and including Zone 0 (gas) and Zone 20 (dust), in conjunction with a suitable safety barrier or isolator.



This range of pyrometers is available with a choice of pre-set temperature ranges from -20°C to +1000°C. All models have a two-wire 4 to 20 mA output that may be rescaled via the optional USB interface and software.

A choice of optics is available so that small or large targets may be measured at short or long distances.

All ExTemp sensors are supplied pre-configured for general-purpose use and may be used in many applications without the need for additional configuration. However, all models are fully configurable: the emissivity setting, averaging, peak and valley hold processing and reflected energy

compensation parameters may be adjusted if required via the configuration software.

The robust stainless steel 316 housing is sealed to IP65 and is ideal for offshore applications.

The sensor is available with factory-fitted cable lengths from 5 to 25 metres, and the cable may be extended even further (subject to safety requirements) if required.

Optional accessories include mounting brackets, air purge collar and a UKAS traceable calibration certificate.

The ExTemp is ideally suited for applications in the petrochemical, pharmaceutical, food, automotive painting, and gas cylinder filling industries, among many more. The hazardous area classification is as follows:

Ex II 1GD, Ex ia IIC T4 Ga (Gas), Ex ia IIIC T135°C IP65 Da (Dust)

Sensors and accessories are available to order now. For more information, contact Calex at [mail@calex.co.uk](mailto:mail@calex.co.uk) or call +44 (0) 1525 373178 Visit: [calex.co.uk/extemp](http://calex.co.uk/extemp)



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# FLIR Systems Is Marking Its Return To Maintec With An Impressive Display Of New Technology.

The company is by far the market leader, a position that is underpinned by its continued and high commitment to research and development.



In the last year alone, the company applied for 60 patents and many of these innovations are featured in the two new series of thermal imaging cameras that will be introduced at the show.

Ease of use and intuitive operation are the overarching attributes of both the new FLIR Ex and Exx Series thermal imaging cameras. The FLIR Ex Series provides a highly cost efficient gateway to thermal imaging. These are entry-level models that pack a powerful punch with features that were initially only available in higher end models.

The most of important of these is FLIR Systems' patented MSX technology that provides exceptional quality in real time. It adds definition to the image, making troubleshooting quicker and easier.

A built-in visual camera is also included and all but one of the models in the series also includes the fusion function, picture-in-picture. And naturally the FLIR Ex Series with a fixed, focus free lens, is exceptionally easy to use. Just point, shoot and all the required temperature data, up to +250°C, is automatically embedded.

For those who want a more advanced camera that is thermally tuneable and has manual lens focus, FLIR Systems has introduced a new generation of its FLIR Exx Series. Three models provide resolutions up to 320 x 240 pixels and naturally they all come complete with MSX technology.

Other important features are the new intuitive keypad, touch screen and menu. The camera allows thermal, visual, MSX and picture-in-picture images to be saved with a single click. All thermal data is automatically embedded and the image can also be edited in the camera. Auto orientation is another useful feature introduced with this range.

FLIR Tools software is available as a free download for all FLIR Ex and Exx Series users but for those needing greater analysis capability FLIR Tools+ is a new option. This multi-platform software has been developed in line with the new GUI and supports unique features such as FLIR Panorama intelligent image stitching.

FLIR Systems now has the broadest range of camera models, accessories and software available

to suit every budget and predictive maintenance application. Indeed every level of camera will be represented on the FLIR Systems stand at Maintec 2014. And supporting them is FLIR Systems' industry leading warranty provision – two years on the camera, five years on the battery and ten years on the detector.

While FLIR Systems will demonstrate the very latest in smart thermal imaging at the show, it will also emphasise the importance of training. Good thermography is only possible with a sound understanding of the science behind it so representatives from FLIR Systems' training arm, ITC, will also be at Maintec to advise on the wide choice of courses available.

**MAINTEC 2014, NEC Birmingham**  
**11th – 13th March 2014**  
**Stand number: M7F**

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Email: sales@flir.uk.com  
Web Site: www.flir.com

# New AUMA Solutions For Oil And Gas Applications

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

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

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

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

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

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

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



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

For More Information Visit:

[www.auma.com](http://www.auma.com)

**AUMA - the leading manufacturer & global supplier of modular electric actuators.**

# Ashland first out with Leonova Diamond IS in Benelux

Ashland Industries Nederland takes the help of Leonova Diamond IS in its efforts to meet the strict environmental and safety requirements imposed on so-called BRZO companies in the Netherlands.

Ashland is a worldwide specialty chemicals company. One of its largest production facilities for cellulose derivatives is located in Zwijndrecht on the outskirts of Rotterdam in the Netherlands. This Ashland plant is a long-standing SPM customer, using various Intellinova systems and the T30 portable instrument.

Dutch companies storing large quantities of hazardous substances - such as toxic, flammable or explosive substances - are subject to the Dutch implementation of the EU directive for Major Accidents Risks Decree (abbreviated BRZO in Dutch). The BRZO covers laws and regulations relating to safety at work, external safety and disaster response for the purpose of preventing and managing serious accidents with hazardous substances.

Due to their chemical production process, Ashland is categorised as a 'BRZO' company. As such, they are required to have fixed and approved

maintenance and disaster response plans in order to fulfil local regulations. Local authorities have the power to shut down a plant if regulations are not complied with and may also impose penalties. The chemical production process at Ashland also means that parts of the plant are ATEX classified and thus require ATEX certified equipment.

When SPM Instrument launched the Leonova Diamond IS portable instrument, Sr. Reliability Specialist John Bervaes at Ashland was very interested. New functionality, such as the SPM HD measuring technique, Quick Mode and Pseudo Tach, were strong arguments for the Leonova Diamond IS budget request. Since Ashland has a huge database of historical measurement data, the fact that the software is backward compatible was also important.

Ashland's fixed and dedicated Condition Monitoring program with the existing Intellinova system and the new Leonova Diamond IS has convinced local



authorities that everything is done to keep assets under control. With upgrade of the Condmaster diagnostic software, replacement of older vibration and shock pulse transducers and training of staff, Ashland is well equipped to handle all of its condition monitoring needs.

SPM Instrument UK Ltd.

Tel +44 1706 835 331

[info@spminstrument.co.uk](mailto:info@spminstrument.co.uk)

[www.spminstrument.co.uk](http://www.spminstrument.co.uk)

# Protection and Prevention from Dust Explosions in Bucket Elevators

A global provider of bespoke explosion vents and flameless venting units for bucket elevators warns process industries of the dangers of dust explosions originating from the commonly used bucket elevator.



Fike UK, based in Kent, urges companies to ensure appropriate equipment and technologies are in place to mitigate the disastrous effects caused by grain elevator explosions.

Keith Avila, General Manager at Fike UK said: "In the food process industry alone, approximately 50% of explosions have originated in bucket elevators. Installing appropriate prevention and protection measures will eliminate the potential risks associated with dust explosions, such as severe plant destruction and downtime, loss of production and in worse case scenarios, injury or loss of life."

Dust explosions can occur when a high concentration of dust is present in the atmosphere. These dusts can either be created from the product that is being processed or the by-product of attrition from materials handled. Being unseen, dust is often not treated with the degree of caution that is required.

There are two methods to avoid dust explosions – prevention and protection. As independent concepts, prevention systems help to minimise

the risk of an event happening, whilst protection systems reduce the effects of the explosion when it does happen. According to Fike it is best to have both regimes in place.

Keith said: "If a dust explosion occurs, the cost in terms of time, upheaval and any financial implications incurred due to both production downtime and plant damage - can be huge - for any company. A decision has to be made by every company based on how substantial the hazard is in relation to how far you go to mitigate the resultant risk."

Fike recommend companies follow best practice in health and safety by utilising the hierarchy of hazard control. According to the industry experts this will assist in determining the level of equipment needed to protect against dust explosions originating in bucket elevators.

The hierarchy consists of – elimination, isolation, control, PPE and discipline (ERIC PD) – which has a direct correlation to the levels of protection currently available for elevator protection. A company's safety

record is significantly improved at each level as they move further along the ERIC PD hazard control path.

Keith added: "Fike UK is celebrating 30 years in the industry of protecting processes. One of our biggest achievements to date is our invention of bespoke explosion vents and flameless units specifically designed for elevator protection. We also offer a comprehensive selection of active and passive explosion protection devices.

"Our highly trained representatives advise companies on the most cost effective solutions in relation to the hierarchy of hazard control and ensure the most effective measures are installed to mitigate dust explosions."

Fike is a global leader in supplying products and services which protect people and critical assets from fire, explosion and over/under-pressurisation. As a manufacturer of solutions for a diverse range of process industries, Fike provide products ranging from bursting discs and explosion protection systems to energetic oil and gas products for the offshore markets. Other UK branches of Fike also provide fire suppression systems, fire detection devices and alarm panels.

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## Functional Safety Engineer (TÜV Rheinland) Training - Manchester, October 5-8.

In some cases the requirement for hazardous area equipment is teamed with the requirement for an overall site or application to meet certain functional safety requirements, such as Safety Integrity Levels.

Whilst the IEC 61508 / IEC 61511 standards have been published for some time there continues to be confusion as to where the responsibility for the different aspects of safe working practices lie.

As such, we are pleased to recommend Functional Safety Engineer (TÜV Rheinland) vocational training, presented by Worldwide renowned Functional Safety Expert, Tino Vande Capelle.

The 4 day course is aimed at Safety Instrumented System professionals and focuses on functional safety aspects of the process industries. The main objective is to provide all engineers involved in safety instrumented systems (SIS) with vital knowledge about functional safety, based on the leading international functional safety standards IEC 61508 and IEC 61511.

### ..... So Why Should YOU Attend?

IEC 61508 ed2.0, released in April 2010, clearly indicates as a 'normative' requirement, that anybody involved in safety lifecycle activities shall be competent to carry out the activities for which they are accountable. The standard has gone from advocating a recommendation to being a requirement.

This course provides you with the opportunity to gain certification by the TÜV Rheinland to prove to your clients, peers and management, your knowledge and competency in the field of Functional Safety.

Success in the final examination certifies your functional safety knowledge, adding great value to your professional career.



### Participant eligibility requirements:

- Minimum 3 years experience in the field of functional safety.
- University degree (Masters or Bachelors degree in Engineering) or equivalent engineer level responsibilities status certified by employer.

Course duration is 3.5 days with a 4 hours closed book exam in the morning of the on the final day.

Please contact Exloc Instruments directly for further details on 01457 239301 or 07557 371373.

## Exloc Instruments Sign Distribution Agreement with CorDEX.

Exloc are continually striving to source products and manufacturers who will genuinely improve the supply chain process for our customers.

We seek solutions that will simplify hazardous area and safety critical requirements whilst maintaining only the highest levels of protection.

As such, Exloc Instruments are pleased to have become an official distributor for CorDEX.

Focussing on the critical issues of maintenance testing, CorDEX understand and embrace the challenges associated with hazardous areas and bring simplified, unambiguous designs to the marketplace through a range of intrinsically safe and rugged digital cameras, infra-red cameras, ultrasonic testing equipment and IR windows.

CorDEX invest in product development and certification to give you the confidence that you need to provide comprehensive asset protection.

In addition to the Intrinsically safe features, all products have the usual advanced functionality you would expect from an industrial instrument with a comprehensive warranty and support team.

### The ToughPix II Digital camera

ATEX and IECEx Certified for Zone 1 IIB+H2 T6 explosive (vapour) atmospheres  
16 megapixel, 16GB memory SLR style with armoured 2.7" LCD screen

### TC7000 Thermal Imaging Camera

ATEX/IECEx certified for Zone 1, 2, 21, 22 and M2 explosive areas. Built-in RFID tag reader for use with the CorDEX Intelligent IR Windows



### UT5000 I.S. thickness gauge

Measures metal thickness for Non-Destructive Testing (NDT) and Predictive Maintenance (Pdm) on pipelines and fixed equipment within hazardous locations. The unique corrosion mode helps identify spots of thinning; MultiECHOTM technology improves accuracy on uneven surfaces.

Please contact Exloc Instruments directly for further details on 01457 239301 or 07557 371373.





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## Functional Safety Engineer (TÜV Rheinland) Training Manchester, UK, 5 - 8 October 2015

Ideal for gaining crucial IEC 61508 / IEC 61511 knowledge

Following the success of our training course earlier this year, Exloc Instruments offer the next presentation of Functional Safety Engineer (TÜV Rheinland) training for Safety Instrumented System professionals, presented by renowned Functional Safety Expert, Tino Vande Capelle.

The course focuses on functional safety aspects for the process industries with the main objective of providing all engineers involved in safety instrumented systems (SIS) with vital knowledge about functional safety, based on the leading international functional safety standards **IEC 61508** and **IEC 61511**.

### Why Should YOU Attend?

IEC 61508 ed2.0, released in April 2010, clearly indicates as a 'normative' requirement, that anybody involved in safety lifecycle activities **shall** be competent to carry out the activities for which they are accountable.

Take advantage of this course, examination and TÜV certification to prove to your clients, peers and management, your competency in the field of Functional Safety. Success in the final examination certifies **your** functional safety knowledge, adding great value to your professional career.

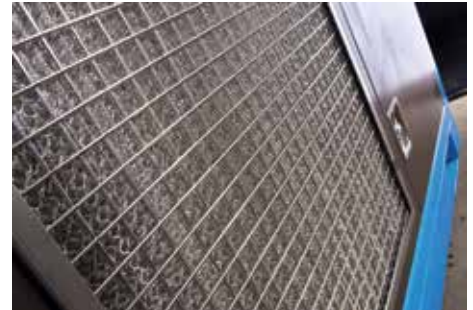


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Tel + (0) 1457 239301 sales@exloc.co.uk Company Registration no:7737802 VAT no 138 6571 86



# Sabre Safety Delivers New Compressor Technology To Improve Safety And Process

Sabre Safety, the global H2S safety service provider, has recently delivered four of its self-contained ATEX Approved Zone 1 LP breathing air compressors to Sureclean, the international industrial cleaning and waste management specialist, based in Aberdeen and AIness.



not only decommissioning projects where these systems will be used; the international contractor is now widely using the compressor, within its wider tank cleaning operations including Inshore rig maintenance, offshore works and FPSO upgrade projects globally and to meet Lloyds, DNV and ABS standards.

## Bespoke design for optimum performance and safety

Sureclean approached Sabre Safety with the company's requirements for a bespoke system, requesting a 4 outlet LP BA Compressor. Sureclean had a number of specific requirements for a failsafe system which included constant air monitoring and a temperature controlled system providing quality breathing air for up to 4 people simultaneously which can be used in all working environments.

Sureclean is enhancing its technologies to provide its services in a safer, more efficient and cost effective way, and this order from Sureclean is part of the company's equipment investment.

The compressor is ATEX certified for use in Zone 1 hazardous areas, allowing the compressors to be as close to the working environment as possible. Sureclean were looking for a BA compressor that would provide product up-time, with operations able to start immediately. Within the system, air is continuously available 24/7, even if scopes grow - and there is no downtime waiting on air bottle delivery, refilling or charging.

Easy to use and simple to deploy in operations, the ATEX Zone 1 compressor from Sabre comes with an auto shutdown facility that activates in the event of any ingress of gas into the Zone 1 area. It is a patented system that has been designed by Sabre's own in-house gas safety team in Aberdeen, and it

gives operators complete confidence in working in a Zone 1 location. Escape air is automatically supplied in the event of an auto shutdown, again providing air quality that exceeds the breathing air requirements of BS:EN12021:1999. By way of contrast, other 'designated' Zone 1 compressors run trunking into a Zone 1 area, which can require to be routed from 60 - 70 feet away in a typical scenario, and the installation of a fan (and associated cabling) to pressurise the trunking. Monitoring is carried out to ensure that positive pressure is being maintained, but this is at a distance from the compressor. Measures such as these mount up and make such systems harder to maintain and operate.

The technology has already been deployed to the Murchison Platform in support of vessel entry projects. The single enclosed unit has the benefit of providing one unit for all BA needs, delivering clean breathable air, at a desired temperature and constant air monitoring for enhanced safety. It is

Designed for use during confined-space entry works, the compressor provides real-time air quality monitoring and is easily deployed, complying with Sureclean's 'plug and play' philosophy. With an inbuilt failsafe system, it delivers air at the desired temperature, with the integrity of the air constantly monitored, simultaneously providing a more comfortable and a safer system.

The new Zone 1 compressor from Sabre Safety will be of use across a wide range of applications - from shotblasting and spraypainting to welding and confined space working including decom and leg entry work on rigs.

To find out more or to request a demonstration, just call:

Sabre Safety on 01224 729081  
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# All Chemicals Labelled?

Free CLP/GHS Solutions Guide!



In June 2015, the transition period ends for mandatory CLP (Classification, Labelling and Packaging) chemicals labelling in the European Union. After June, all dangerous chemical substances and mixtures need to carry a predefined CLP-label. Brady's quality printing systems provide companies with compliant CLP label templates and symbols, creating a flexible and easy to use in-house CLP Label printing solution.

## Now is the time to act!

### CLP for all dangerous substances

CLP is a mandatory European Union regulation which requires, amongst other obligations, the clear identification of products containing dangerous chemicals. The EU's CLP regulation is based on the United Nation's Globally Harmonised System for chemical substances and, from June 2015 onwards, compliance to CLP is required for dangerous chemicals and mixtures in all EU member states. Every substance listed as dangerous, and every mix containing one of these dangerous substances, also needs to carry a CLP label as of June 2015.



### CLP Labels

To warn employees, handlers, customers and everyone who could get exposed, a system of pictograms and safety messages has been developed to label dangerous chemicals and chemical mixtures. Almost all chemicals in the EU need to adhere to the CLP-identification language to ensure the risks of exposure are equally understandable throughout Europe, because these chemicals are part of everyone's daily life.

To comply with regulation, a CLP label needs hazard pictograms, the relevant signal word, hazard & precautionary statements, the name, address and telephone number of the supplier, the nominal quantity of a substance or mixture in the package, and product identifiers. It also communicates how to avoid health risk or to remedy exposure.

### Successful CLP-labelling

The CLP chemicals labels wizard, integrated in Brady's Markware™ Signmaking Software, offers a straightforward way to create compliant CLP-labels in a limited number of easy steps. In combination with Markware™, every Minimark™ Industrial Label Maker, BBP™31, BBP™33 and BBP™85 Sign and Label Printer, or GlobalMark™ Colour & Cut, offer on-site CLP label creation capabilities that are always compliant and ready on demand.

For more information about Brady printing systems for easy CLP-labelling, email: [emea\\_request@bradycorp.com](mailto:emea_request@bradycorp.com) and request our free CLP/GHS Solutions Guide!

Visit: [www.bradyeurope.com/safetyexpert](http://www.bradyeurope.com/safetyexpert)

## More Light for Less Power - Low Voltage LinkEx™ LED Floodlite

Wolf Safety, the world's leading manufacturer and supplier of hazardous area portable and temporary lighting, enhances its ATEX and IECEx certified Low Voltage LinkEx™ LED Floodlite with the very latest LED technology to produce more light using less power.

Using an array of 48 high power LEDs to deliver an impressive flood of brilliant white light, the new Low Voltage LinkEx™ LED Floodlite produces 60% more light output than previously, increasing from 3,300 to 5,200 lumens, allowing hazardous area workers to carry out tasks quicker and more safely as a result of better illumination and visibility. With each unit illuminating a greater working area, fewer units are required to undertake tasks resulting in lower initial equipment investment costs. The latest LED technology offers a 65% increase in LED lumens per watt, from 57 to 88 and provides lower operating costs by using an efficient power consumption of only 59 watts.

The cable powered Low Voltage LinkEx™ LED Floodlite now benefits from a wider input voltage range of 18 to 54 volts compared to the previously limited 24 volts, offering greater power input supply options for applications using 42-48V, which is a preferred voltage on some sites and similarly 32V too. Critically the Floodlite is only safe when used within its voltage tolerance so the broader range now offers greater application flexibility and in turn overall product safety, plus enables longer cable lengths and facilitates the linking of units together in a chain.

The Low Voltage LinkEx™ LED Floodlite is used extensively by terminal operators, tank cleaning



contractors, maintenance and inspection engineers throughout the world, primarily in Wolf's LinkEx™ Tank Lighting Kits, to maximise efficiency and illumination, and minimise risk to allow safe work in confined hazardous area empty storage tank spaces.

For More Information  
Visit: [www.wolf-safety.co.uk](http://www.wolf-safety.co.uk)

# All chemicals labelled?

June 2015 is just around the corner!

### Successful CLP Labelling

How do you get that CLP label you need by the end of June 2015? Get a Brady printing solution and be compliant!



### The time to act is now!



Request our free CLP/GHS Solutions Guide!

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# ENVIRONMENTAL NOISE CONSULTANTS WILL DIG SVANTEK'S NEW MOLES

Low cost yet powerful Miniature Outdoor Logging of Environmental Sound system operates for up to four weeks on a single charge



Further underlining its commitment to reducing the impact of noise on the environment, Svantek UK Ltd (tel: 01296 682040; [www.svantek.co.uk](http://www.svantek.co.uk)) has launched the MOLES (Miniature Outdoor Logging of Environmental Sound) system. Low cost yet powerful, this new outdoor noise monitoring solution can operate for up to an impressive four weeks on a single charge\*.

Using Svantek's market leading Class 1 SVAN 971 sound level meter and featuring a weatherproof, robust and compact design with IP65 protection level, the MOLES is a fully autonomous environmental noise monitoring solution that can be easily deployed in the field.

Lightweight and long-lasting, the MOLES' internal batteries can be swapped without interrupting

measurement. External batteries can be added to extend life to eight weeks or more.

Svantek's new MOLES system is available with options for 1/1 and 1/3 octave real-time analysis and triggered audio recording. It also offers two in 10 audio recording making it ideal for measuring levels of noise from wind turbines.

John Shelton, Managing Director at Svantek comments: "The MOLES is based on our diminutive and well proven SVAN 971 instrument. It is an integrated kit with long-term rechargeable battery and outdoor protection for both meter and microphone. Extremely cost effective, it is perfect for independent environmental noise assessors or larger consultancies, and reinforces Svantek's aim of developing high performance solutions that offer real value for money."

Svantek's MOLES is available with free SvanPC++ software with the option of environmental calculations / tonal assessment. MOLES provides 4GB storage capacity and data can be stored on an easily downloadable micro SD card.

Svantek's SVAN 971 sound level meter is ideal for general acoustic, occupational health and safety and environmental noise measurements. It is easy to use with predefined setups and operated using a simple Stop / Start mode. It also incorporates an OLED colour display with excellent brightness and contrast.

For product information please contact  
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# New Zealand Defence Force Doubles Number Of Tiger Voc Detectors Used During Field Inspection & Overseas Deployment

Additional handheld PID instruments which help protect military personnel are chosen for compact & robust design, reliability and ease of use.



The New Zealand Defence Force (NZDF) has doubled the number of Ion Science ([www.ionscience.com](http://www.ionscience.com)) handheld Tiger volatile organic compound (VOC) detectors it uses to monitor hazardous gas concentrations during domestic field inspections and overseas deployment.

NZDF Equipment Manager, Bryan Geurts comments: "The Health & Safety of military personnel in the field is of paramount importance and last year NZDF started looking for new VOC detectors to replace its obsolete photoionisation (PID) instruments.

He continues: "Both Ion Science and the Tiger model were recommended to us and the device's

compact and robust design was a key point in its favour, since its ruggedness allowed it to be taken into difficult environments where it could be carried around easily by an individual.

"We placed our first order in 2013 and have been so impressed by the Tiger's reliability and simple operation that we took the decision to purchase more units this year," he concludes.

NZDF downloads data from the Tigers onto laptops where it is collated with other measurement information covering weather, heat, humidity and dust.

A robust handheld VOC detector, Tiger provides a dynamic detection range of 1 parts per billion (ppb)

to 20,000 parts per million (ppm), offering the widest measurement range of any other VOC instrument on the market.

The Tiger handheld VOC detector leads the way with its humidity and contamination resistant PID technology, proven to be the best performing against competing instruments when operating in humid and contaminated environments where it provides the most stable, repeatable readings.

Ready to use, straight out of the box, the Tiger requires no complex set up procedures via a PC to perform basic functions and provides the best available VOC detection and software features available.

Ion Science's Tiger also has the fastest response time on the market of just two seconds and can be connected directly to a PC via the USB offering extremely fast data download capabilities.

It has been designed for the safe replacement of batteries in hazardous environments and is intrinsically safe (IS) - meeting ATEX, IECEx, UL and CSA standards.

The NZDF comprises of just over 14,000 people. This includes around 8,900 Regular Force, 2,200 Reserve Force and 2,900 civil staff members across the armed services of Navy, Army and Air Force. The NZDF is spread across camps and bases throughout New Zealand. Its national strategic headquarters are in Wellington and the operational joint headquarters are at Trentham in Upper Hutt.

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# HIGH PERFORMANCE SEALS HANDLE RAPID GAS DECOMPRESSION IN EXTREME ENVIRONMENTS

Increasing oil extraction pressures and temperatures, aggressive chemicals and rapid gas decompression (RGD) in new, more difficult drilling sites are creating operating environments beyond the capabilities of most elastomers.

DuPont™ Kalrez® 0090 (K-312 “A” O-rings) perfluoroelastomer sealing parts, however, were developed to provide enhanced rapid gas decompression resistance in aggressive environments and have received the industry best “0000” rating in accordance with the Norsok M-710 Rev. 2 standard and TOTAL GS EP PVV 142 specification.

These products, which are available from UK authorised distributor Dichtomatik Ltd, provide the optimum balance of chemical, heat and mechanical properties for different chemical and oil and gas sealing applications.

Their superior performance has also been substantiated by further tests conducted at the Centre Technique des Industries Mécaniques (CETIM) of France, in accordance with the TOTAL GS EP PVV 142, Rev. 5 procedure. CETIM found DuPont™ Kalrez® 0090 O-rings 113,67 x 5.33 mm also fulfil the acceptance criterion of the TOTAL General Specification GS EP EVV 142 Rev. 5, concerning O-rings used in the industrial valve industry. Kalrez® 0090 is the latest in a family of DuPont perfluoroelastomer parts for the oil and gas industry that includes Kalrez® Spectrum™ 6375 and Kalrez® Spectrum™ 7090.

DuPont is the only fully integrated perfluoroelastomer seal manufacturer, having total upstream and downstream expertise of monomer, polymer, compounding and finished product. Their Kalrez® 0090 products with enhanced RGD-resistant properties have established proven provenance in commercial service, and are currently in use at several major oil and gas companies. Many leading oil OEMs have also qualified Kalrez® 0090 seals for use in surface and downhole valves, data logging drilling tools, packers, completion tools and mechanical seals.

## The key performance characteristics of Kalrez® 0090 seals include:

- Exceptional resistance to rapid gas decompression, certified to highest 0000 rating in Norsok M-710, Rev. 2 laboratory tests made with Kalrez® 0090 K-312\_ “A\_ O-rings
- Withstands attack by over 1800 chemicals, and resists ageing in sour fluid, including multi-phase fluids containing high concentrations of hydrogen sulphide

- Retains high levels of elasticity, recovery and extrusion resistance even after long-term exposure to temperatures as high as 250°C and as low as -40°C in high pressure environments.
- Although Kalrez® 0090 parts are a high hardness perfluoroelastomer, it remains elastomeric with low compression set under most aggressive HPHT environments.

The spectre of shrinking global oil reserves and the search for new, more difficult sources such as deep water and shale is well documented. Many new exploration sites challenge the oil and gas industry with increasing extraction pressures and temperatures, and by the presence of aggressive chemicals such as ammonia, carbon dioxide, hydrogen sulphide (sour gas), methane, and steam — exacerbated by the phenomenon of rapid gas decompression (RGD).

Often referred to as HPHT (high pressure/high temperature) environments, these more aggressive drilling conditions pose a new set of problems for suppliers and equipment operators within the industry because they create operating environments beyond the capabilities of many commonly used equipment-sealing elastomers like hydrogenated nitrile rubber (HNBR) and fluoroelastomers (FKM).

Combinations of RGD, HPHT, and harsher chemicals can lead to premature seal failure, with the associated risks of costly financial, safety and environmental issues, and possibly resulting in plant premature shut downs. Because of this scenario the industry pressed for the establishment of a test standard to qualify non-metallic sealing materials. Norsok standard M-710, Rev. 2, October 2001, developed by the Norwegian petroleum industry, has been widely adopted internationally as the benchmark of performance for any elastomer seal in critical oil and gas service. Norsok certification for RGD is essential to qualifying performance of elastomer seals in HPHT and aggressive chemical environments, with the objective of reducing the risk of seal failure. TOTAL general specification GS EP PVV 142, Rev. 5, developed by TOTAL, is also widely accepted as an independent test of elastomer seal resistance to RGD in valve applications.

Perfluoroelastomer (FFKM) parts offer the highest temperature and chemical resistance of all elastomers, and are at the very top end of seal performance in the



Above: New oil drilling environments challenge the performance of valve seals.

most aggressive chemical processing and oil and gas applications. “0000” is the highest rating in a Norsok certification, and Kalrez® 0090 achieves and maintains this highest rating.

DuPont has more than 30 years experience serving the oil and gas industry with Kalrez® perfluoroelastomer parts. With oil extraction environments becoming more and more challenging for elastomer seals, DuPont embarked on a new formulation program in 2008 with the primary objective of developing a new compound with enhanced RGD resistance. Due to its fully integrated supply chain, DuPont was able to test hundreds of different formulations — not only using various curing chemistries and fillers but also alternative polymers — leading to the development of DuPont™ Kalrez® 0090 perfluoroelastomer parts. Before launch in 2010, Kalrez® 0090 parts were submitted for rigorous RGD resistance testing in October 2009 by the Materials Engineering Research Laboratory (MERL) in the UK, according to the Norsok M-710 Rev. 2 standard.

The samples were exposed to a test gas of 90% methane and 10% carbon dioxide at 150 bar and 100°C, and a decompression rate of 20 bar/minute.

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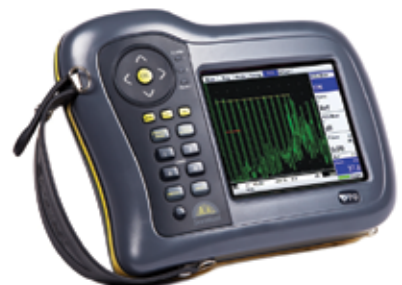
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