

CleanAIR Chemical 2F Ex

READ MORE ON PAGE 15



5-7

News & Products

16-21

Safety Lighting

33-35

ATEX inspection & Certification



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Flash 2 Explosion Suppression System

The latest version of the industry leading StuvEx Flash suppression system has many advanced features.



- Single and multipoint injection suppressors capable of handling 4 ducts from one suppression bottle
- New Master Control Unit can handle up to 16 Zones.
- A range of explosion detectors for various applications.
- New Gas Generator - no pressure vessels used.
- Atex Certified.

Earthing Control

There are two Earthing Monitors within the StuvEx range for Gas and Dust applications.



- Competitively priced.
- Very easy to install.
- Failsafe operation – visual confirmation of correct earthing through green/red lights.
- Automatically recognises the object to be earthed.
- Atex Certified.

An extensive range of explosion protection equipment. From supply to full turn-key solutions

Explosion Isolation

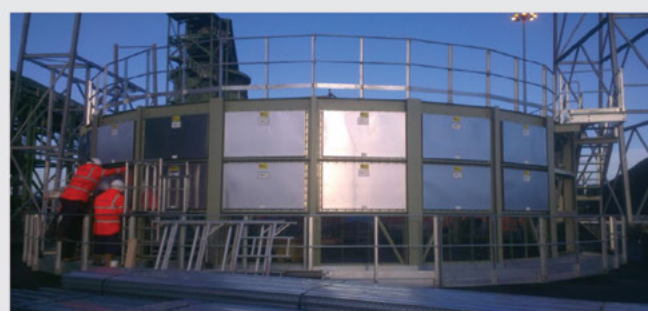
Isolating an explosion is vital. There are five different explosion isolation devices in the StuvEx range.



- NOVEX valve. Designed for filter inlet ducts, though can be used elsewhere.
- Can handle organic dusts and metal dusts ST-3 K_{st} max 440 bar. m/s
- Ventex Valve. For installation to a filter air intake.
- Fast Shutting Gate Valve. The most efficient way to isolate an explosion.
- Diverter Valve. Used to divert a potential ignition source to a safe area.
- Fire Trap Valve. Protects 'Down-Stream' machinery in the event of a fire or explosion.

Explosion Venting

StuvEx supplies a range of explosion venting devices.



- StuvEx Explosion Vent. A 100% efficient vent for silos, bins, filters etc.
- StuvEx DQS. A maintenance free, flameless vent for installation to an internally located vessel.
- StuvEx Flameless Indoor Vent. Allows an explosion to safely occur inside a building.

StuvEx Safety Systems Ltd, Abbey Studio, Church Walk, Chertsey, Surrey, KT16 8RE - United Kingdom

Tel: +44 (0)1932 571303 - Fax +44 (0)1932 570548 Email: info@stuvex.com - www.stuvexuk.com

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Contacts



Publisher

Michael Dominguez



Advertising

Steve Pheasant

Email

stevep@mslmedialtd.com

Editorial:

info@hazeng.com

Website

www.hazeng.com

Telephone:

+44(0)203 575 1170



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In This Months Issue



P:4 Introduction

P:5-7 News & Products

P:8-12 Explosion Protection

P:13 News & Products

P:14-15 Cover Story

P:16-21 Safety Lighting

P:22-26 News & Products

P:27-28 Control, Instrumentation & Temperature Measurement

P:29 News & Products

P:30-31 Fumes, Dust & Extraction

P: 32 News & Products

P: 33-35 ATEX Inspection & Certification

P: 36-38 News & Products

P:39 Buyers Guide

Increase in construction injuries and fall in prosecutions raises concerns for long term safety

Unite, the UK’s construction union, has warned that new figures from the Health and Safety Executive (HSE) of a rise in construction injuries and a fall in prosecutions is a ‘dangerous cocktail’ and undermines recent improvements in safety.

The HSE’s figures show that the number of non-fatal injuries per 100,000 workers rose from 359 in 2017/18 to 366 in 2018/19.

During the corresponding timeframe there was a 22 per cent decrease in the number of construction prosecutions being undertaken by the HSE which fell from 202 in 2017/18 to just 158 in 2018/19.

The rise in injuries and the sharp decrease in prosecutions has only just emerged, while the news that 30 construction workers were killed in 2018/19, a record low for the industry, was released in July.

Unite national officer Jerry Swain said: “These

figures are deeply worrying. While of course we welcome that the number of deaths has decreased, this has to be tempered with the fact that construction injuries have gone up.

“The increase in injuries is likely to in part be a result of employers failing to comply with safety laws.

Unite firmly believes that a major contributory factor to this is the sharp decline in prosecutions, which clearly indicate that the HSE’s enforcement activities are decreasing.

“This is a dangerous cocktail and it will likely to result in a greater number of workers being injured and possibly killed unless urgent action is taken to

reverse this trend.

“Too many employers in construction remain prepared to ignore safety laws, to boost profits, as they believe that they won’t be caught.

“These figures show the importance of having a strong, active and interventionist HSE.

“The Conservative government’s swingeing cuts to the HSE are now resulting in workers paying for the decrease in enforcement with their health.”

For more information visit:
unitetheunion.org

New BEKA catalogue

BEKA associates have published a new catalogue which contains data sheets and background information for their extensive range of hazardous and safe area display products.

The 332 page catalogue introduces stainless steel loop powered indicators, plus field and panel mounting tachometers, totalisers, counters and timers.

It is a useful reference for all process engineers and supplements the BEKA website at www.beka.co.uk where safety certificates, application guides, instruction manuals and a list of BEKA overseas agents can be viewed.



For further information please visit <https://www.beka.co.uk/literature.html> or phone the BEKA sales office on 01462 438301.



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www.beka.co.uk

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Svantek UK Splits Sales Team With Appointment Of Applications Engineer For The North

Aaron Priestley brings extensive sales and client relationship management experience to newly created role

In line with an ambitious growth strategy, Bedford-based Svantek UK – leading manufacturer of advanced noise and vibration instrumentation for environmental and health & safety analysis and monitoring applications – has divided its sales team into two distinct territories with the appointment of Aaron Priestley as its Applications Engineer for the North.

Aaron joins Svantek UK from testing, inspection and certification business, British Engineering Services, where he spent five years in a variety of sales and customer service roles, most recently as Business Development Manager.

“I feel like I am joining Svantek UK at an exciting time,” comments Aaron. “I am looking forward to working with the rest of the team and developing sales in the North.”

Aaron’s appointment follows the recent addition of Matthew Lunn as Svantek UK’s Applications Engineer covering the South and the promotion of Aidan Hubbard to Sales Manager.

Paul Rubens, General Manager at Svantek UK says: “Svantek UK’s continued growth has made it increasingly evident that a geographical split of the sales function was the best way forward to ensure renewed focus on individual territories. Aaron’s calibre and background make him a great addition to the team and will help further strengthen customer relationships for Svantek UK in the North.”

Svantek’s noise and vibration instrumentation is ideal for a wide range of applications including sound measurements, environmental noise, occupational noise, building acoustics, ultrasound/ infrasound, high level / low level noise, hand-



arm vibration, whole-body vibration, machine vibration, building / ground vibration and tonality measurement.

Svantek’s UK based laboratory can provide traceable calibrations using state-of-the-art calibration technology and instrumentation backed by the highest levels of knowledge and competence.

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

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Ion Science Launches TVOC 2 Fixed Photoionisation Detector

Latest TVOC 2 incorporates well proven MiniPID 2 sensor technology for continuous detection of total volatile organic compounds

Further strengthening its position at the forefront of gas detection instrumentation for global occupational health and environmental monitoring applications, Ion Science has redesigned its TVOC fixed photoionisation detector (PID). Developed for continuous monitoring of total volatile organic compounds (TVOCs), the TVOC 2 features eye-catching new branding and incorporates the company's latest market-leading long life MiniPID 2 sensor.

Ion Science's TVOC 2 has three selectable detection ranges of 0 – 10, 0 – 100 and 0 – 1000 parts per million making it ideal for monitoring applications in a range of industries including manufacturing, processing, offshore, refineries, petrochemical, chemical, waste and water treatment, indoor air quality and pharmaceutical.

By incorporating Ion Science's MiniPID 2 sensor, TVOC 2 boasts Fence Electrode Technology for increased resistance to humidity and contamination allowing extended operation in the field. A robust and rugged design helps ensure accurate results in the harshest of working environments.

Ion Science's TVOC 2 utilises a diffusive sample technique resulting in less contamination issues compared to pumped systems which reduces lamp cleaning and servicing requirements. The 4-20 mA analogue output enables TVOC 2 to be integrated into a Distributed Control System (DCS) to give warning or control of high VOC levels in the working environment.

The ATEX approvals enable a three wire TVOC system to be used in Zone 2 hazardous areas,



without safety barriers. Plus, ATEX and IECEx approvals allow TVOC to be used in Zone 1 hazardous areas, with safety barriers.

Ion Science's TVOC 2 is simple to install, service and calibrate and does not require a hot work permit. The MiniPID 2 sensor is accessible and changeable in a matter of seconds.

Find out more about Ion Science here:
www.ionscience.com

Hydra-Cell® Pulse-less MT8 Metering Pump has ATEX Certification

The Hydra-Cell MT8 low-flow, high-pressure metering and dosing pump is now available with ATEX Zone 2 certification.



Conforming to ATEX Group II, Category 3, Zone 2, gas group (IIC) and temperature class (T5 or T4 depending on process liquid temperature), the MT8 is classified for use within explosive atmospheres consisting of a mixture of air and flammable substance in the form of gas, vapour or mist that is not likely to occur in normal operation, but if it does occur will persist for a short time only

that enables easy monitoring by the end user.

As with all ATEX approved Hydra-Cell pumps, the MT8 features an ATEX nameplate fixed to the pump housing that displays the markings of conformity to prove the pump is "suitable for use" in the zones for which it is certified. The nameplate also indicates the specific ATEX Zone classification. Each pump is also fitted with an earth stud to test for earth continuity.

For Category 3, Zone 2, a protective system isn't always required. In this case, an oil level sight bowl is fitted to the drive side of the Hydra-Cell pump

To achieve its low flow accuracy, the MT8's flow

rate is controlled by altering the pump RPM by an ATEX precision variable gear box. Keeping a constant diaphragm stroke length ensures a constant compression ratio and excellent accuracy in very large turndown applications. The variable gear box also has a lock option to stop unauthorised adjustments.

For more information visit:
www.hydra-cell.co.uk

Gardner Denver publishes free guide on ATEX directive and IECEx certification

Gardner Denver has created a new guide exploring how ATEX regulations and IECEx standards for controlling explosive atmospheres in plants and refineries can impact on compressor systems.

Available to download for free from bit.ly/2OFauGe, the guide covers the most important aspects of ATEX and IECEx certification, with an explanation of key concepts, and a list of countries where the standards apply. It also includes top tips to minimise risks and costs regarding air compressors.

For managers, it is crucial to understand what these 'hazardous areas' involve, to determine special precautions that should be taken, and precautions for the construction, installation and use of equipment.

It is particularly important for operators to understand the ATEX and IECEx classification system, where potentially explosive atmospheres are categorised into zones. A zone defines the material's general nature or properties – gas or dust – and its probability of being present in the surrounding atmosphere.

Continuously present hazardous materials present a greater risk, and therefore require greater protective measures.

The guide goes on to explain how equipment categories and protection levels (EPL) are also a key factor, because all inspection, maintenance and repair duties will depend on the 'category' of a product or piece of equipment, not the zone in which it is installed. Furthermore, EPL considers the potential consequences of an explosion.

Byungchul Choi, Country General Manager (Korea and Japan) and Custom Engineered Product Sales Director, explains: "Only by understanding the importance of choosing the right compressor technology and configuration can you hope to successfully minimise costs. Minimise the areas

where equipment has to be modified, move compressors a short distance into a better ventilated area and we would always advise customising compressors from the design stage. Users should also be trained on the relevant equipment and should not work alone.

"Also, ensure moving parts of the compressor are correctly guarded. Undertake risk assessments in hazardous areas, making sure that pressure release valves and air vents are free from obstruction, ensure machine monitoring systems (e.g. for vibration) are provided, and implement safety protection, such as gas and flame detectors, depending on an area's class. Our new guide has been written with this in mind. We hope compressed air users find it useful."

For more information on Gardner Denver, visit: www.gardnerdenver.com/industrials

The most common safety systems

This article gives you brief but comprehensive information about the basics of explosion safety and the available protective systems for this purpose.

Depending on the results of the hazard and risk analysis, a number of proven precautions need to be taken. They are divided into explosion prevention and explosion protection. Preventive precautions are designed to prevent an explosive atmosphere and therefore to reduce the probability of an explosion.

Protective precautions involve reducing the impact of a possible explosion to a more moderate level, so that the resulting damage is less severe. This includes conventional venting through the use of explosion vents, flameless venting, explosion isolation and explosion suppression. This kind of explosion safety is a vital necessity in virtually all plants, because...

- it is in the nature of the relevant processes that there can almost never be any absolute or complete avoidance of effective sources of ignition,
- inerting tends to be too expensive and/or impossible due to the nature of the processes involved. Other preventive precautions may be helpful in parts, but cannot usually eliminate the risk of an explosion completely.

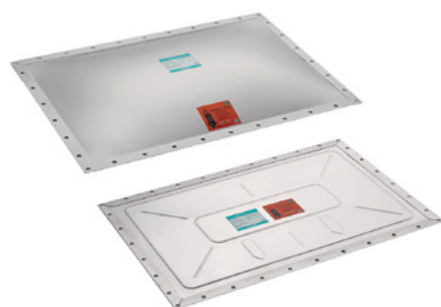


Fig. 1: Explosion vents

As protective precautions are of such high relevance, we shall briefly outline the most common safety systems at this point:

Conventional venting through the use of explosion vents

If a plant is situated outside buildings or if parts of a plant are next to an outer wall, one frequent safety precaution is to install explosion vents. Such precautions are usually applied, for instance, to stationary silos, filters and elevators situated outside of buildings. If an explosion occurs, the explosion vent protects the system by opening. This reduces any overpressure within the vessel, and the explosion is released to the outside. As virtually no processes are the same, there are numerous types of explosion vents which differ in shape and material and also in their resistance to temperature, pressure and vacuum. Even processes with considerable hygiene requirements can be equipped with explosion vents today.

Flameless venting

If a plant is situated within a building, however, explosion vents are not suitable for pressure relief purposes, as the safety area around them is inadequate to relieve the emerging dust and flames. Such an arrangement would pose an enormous safety risk to humans and machinery.

Flameless venting is a solution that is both economical and effective. Different manufacturers use different technologies in flameless venting. Let us have a look at one particular technology at this point: The special mesh filter that is used in a Q-Box, Q-Rohr and Q-Ball efficiently cools down any flames, preventing both flames and pressure from emerging and ensures particulate retention. The typical increase in pressure and noise that accompanies an explosion within a building is reduced to an almost imperceptible minimum, thus protecting both humans and machinery.

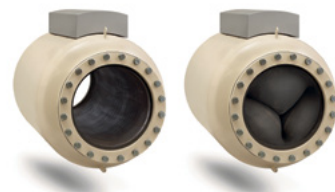


Fig. 2: Quench valves, open and closed

Explosion isolation

In a production facility the individual parts of the plant are always connected by pipelines. The purpose of explosion isolation is to ensure that the pressure and the flames cannot propagate and so that any adjoining parts of the plant are protected. A distinction is made between active and passive isolation systems.

An active system is alerted to an explosion at an early stage, when an explosion begins to develop. This is done through sensors or detectors which register the rise in pressure or the formation of flames and respond by activating the relevant isolator, e.g. a quench valve.

Passive isolation, on the other hand, responds purely mechanically to the spreading or loss of pressure, on account of its structural characteristics. This also applies to explosion valves.

Explosion suppression

It means eliminating the explosion at its very onset. A highly effective extinguishing agent is released within milliseconds, nipping the explosion in the bud straightaway. If required, an explosion suppression system can also be used for explosion isolation purposes.

For more information visit:
www.rembe.de



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Rhein Tacho UK has its full range of eddy current tachometers certified

RHEINTACHO UK, which is celebrating a hundred years of company history this year has recently had its complete portfolio of eddy current tachometers certified according to ATEX standards in order to use these tachometers in hazardous areas.

Eddy current tachometers are the preferred solution when no power supply is to be provided and a reliable, maintenance-free solution is desired. They are used on machines, in flow applications, in transportation vehicles and many other places.

As far as maintenance is concerned, when repairing or servicing machines or equipment in which the speed of a motor is important, RHEINTACHO tachometers are the right solution. We offer our customers different tachometers ranging from a handheld mechanical tachometer

HTM, which is also ATEX certified, to optical and digital ones. Our Rotaro offers optical and digital measurement as well as several options for measuring the length of different materials such as yarn, wire, cable and welding wire.

Another strong leading-edge product family is the stroboscopes. Stroboscopes are used in various industries for the visualisation of media which otherwise would not be visible to the eye. In pulp and paper production for example, quality deficiencies can be made visible along the web width. In printing applications, a stationary image

can make the printed matter visible to help operators adjust the printing units and check quality. In maintenance operations, a conveyor can be visualised to make each conveyor element stationary or let them move by slowly for inspection purposes. This can avoid unplanned interruptions which can be costly.

Finally, Rheintacho is the supplier of choice when it comes to rotational speed sensors offering a wide variety of sizes, signals, insertion depths, temperature ranges, frequencies and much more. Contact RHEINTACHO UK in Leeds with and further questions or inquiries.

For more information visit:
www.rheintacho.com



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- Sizes range from DN71 to DN1000.
- Can handle organic dusts and metal dusts ST-3 K_{St} max 440 bar. m/s
- Can be supplied in painted mild steel or 304 stainless steel.
- Complies with the latest ATEX Directives and EN16447:2014 standard.

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Tel: +44 (0)1932 571303 - Fax +44 (0)1932 570548 Email: info@stuvex.com - www.stuvexuk.com

ecom introduces new smartphone Smart-Ex 02 for hazardous areas

The Pepperl+Fuchs brand ecom introduces the new generation of its intrinsically safe 4G/LTE Android smartphone Smart-Ex® 02.

With a large 12.7 cm (5") display and powerful features, good ergonomics and an optimized accessory concept, the completely newly developed Smart-Ex 02 is the most advanced explosion-proof smartphone for Zone 1/21 and Div. 1. Equipped with the latest Android 9 operating system, the smartphone works particularly fast and secure. It simplifies communication between employees, the control center and backend systems. The Smart-Ex 02 supports 21 different LTE frequency bands and is delivered simlock-free. Global Ex and approval certifications enable worldwide use and global rollouts.

Operational 24 hours a day, worldwide

Designed for an extended temperature range from -20 to +60°C, the Smart-Ex 02 can be operated under extreme conditions. For maximum durability, its display is protected by extremely shock- and scratch-resistant gorilla glass. Even in direct light, the user can easily read the display, forward data and share it in the corporate network. Unwanted breakdowns during work in extensive industrial plants are prevented by a strong, easily replaceable battery with exceptional 4400 mAh power for 24-hour operation. A magnetic USB port protects against wear and tear and damage to PINs and unsecure USB connections.

Intuitive operation paired with optimized peripherals

Operating the Smart-Ex 02 is very easy: push-to-talk and alarm buttons, volume control and the camera release button are intuitive to handle due to their ergonomic design and handy arrangement – even while wearing gloves. Configurable Android keys are available for individual assignment, while

dedicated keys for PTT and alarm functions ensure swift communication in case of emergency. A multi-functional mounting plate concept (belt clip, hand strap, charger, docking station) ensures easy carrying, mounting and charging. Additionally, the Smart-Ex 02 can be supplemented by numerous other, coordinated and optimized peripheral devices including the Cube 800 Ex-camera and the explosion-proof Smart-Ex® Watch 01 as well as headsets, microphones, scanners or Bluetooth beacons by ecom.

Worldwide service and own development team

The quality control of the devices in Germany and the worldwide support of Pepperl+Fuchs also provide safety during operation. Short access to the service technicians guarantees quick help in case of questions and problems. In addition, users benefit from the collaboration with ecom's own system engineers and development teams, who provide advice and support when software requirements change.

Integration to new Digital Products and Services product division

The new Digital Products and Services product line enables staging, management and real-time monitoring of the Smart-Ex 02 and other mobile devices from ecom. It combines automated staging in device manufacturing, mobile device management and device analytics. The solution can be used as a fully-fledged enterprise mobility management system, if desired. This frees IT departments from time consuming routine tasks and ensures even more security during operation: mobile devices can not only be set up and managed easily, but also updated at any time



(over-the-air). Security-relevant events can be made visible by the analysis of historical data.

Additional features:

- Optional integrated cameras (12 MP rear and 5 MP front camera) with autofocus and LED flash
- Bluetooth 4.2 incl. BLE
- GPS / A-GPS / Glonass / Beidou / Galileo
- Up to 128 GB additional storage via microSD
- Wi-Fi 802.11 a/b/g/n/ac/e/e/k/r/h 2.5 + 5 GHz for real-time data acquisition
- Optional software features such as high performance bar code scanners
- Magnetic USB port
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For more information, please visit ecom's website: www.ecom-ex.com and www.pepperl-fuchs.com

Comfort and Safety For Wearers, Great Value for Employers

Part of the Hultafors Group UK's portfolio of premium-branded Workwear, Tools, Protective Wear and Safety Footwear, the Toe Guard range of shoes and boots delivers great value safety footwear for all kinds of working environments and weather conditions.



With a RRP that starts at only £31.45 plus VAT a pair, this footwear is one of the fastest growing brands in Scandinavia where demands for safety, quality and value keep their shoes and boots one step ahead of the competition.

With a variety of shoes and boots available in the range, every product has in-built hi-tech designs that deliver S3-certified comfort and safety

that includes robust fiberglass toecaps, shock absorption, flexible puncture resistant composite plates, ESD protection, oil resistant friction soles and water resistance.

"The Toe Guard product family compliments our portfolio of premium brands perfectly," says Peter Dumigan, the Hultafors Group UK managing director. "It combines top-specification safety

footwear technology with exceptional value for money – an ideal solution for H&S managers, PPE buyers and specifiers."

To get more information on Toe Guard range of Safety Footwear, check out the website at www.toeguard.com or call the Hultafors Group UK Helpline on 01484 854788.

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Hazardous Engineering Solutions

CleanAIR® Chemical 2F Ex



CleanAIR® Chemical 2F is now available in Ex version and can be used in potentially explosive atmospheres.



CleanAIR Chemical 2F Ex

The most versatile and durable respirator is newly available in ATEX version which can be used in potentially explosive atmospheres.

Despite its compact design and low weight, Chemical 2F is characterized by outstanding durability, chemical resistance and increased ingress protection. The thought-out design with smooth surface allows easy decontamination by shower or even full immersion. The unique automatic closing system prevents unwanted contamination while the filters are being changed. The smart Flow Control system maintains the airflow constant regardless filter clogging or low battery charge. The audiovisual alarm indicates when the battery charge and/or filter replacement is required. The airflow is individually adjustable from 120 liters per minute up to 235 liters per minute.

The Chemical 2F Ex unit has a black conductive plastic body, it comes with a special ATEX conductive belt and the lithium-Ion battery is fixed with a screw to prevent battery change in ATEX

areas. The battery has an operating time of up to 10 hours (tested at 160 lpm with new P3 filters and a fully charged battery) and the battery is charged in less than 3 hours. The system can be used with CleanAIR P3, combined class 1 and combined class 2 filters. The compact design and low weight of less than a kilogram make it a pleasant for the user to wear. The user can change the language in the settings and set a timer to notify him when filter change is necessary. The full colour display clearly shows all the relevant information, the airflow which can be set from 120 till 235 liter per minute, the battery charge and filter clogging. The unique patented automatic closing system of the valves in the filter openings prevents unwanted contamination while the filters are being changed. The thought-out design with a smooth surface allows easy decontamination by the shower or even full immersion due to the maximized water ingress protection IP68.



Features and benefits

- Compact design and low weight of only 960 grams including battery
- Specially adapted for use in potentially explosive atmospheres – approved to Zone 2
- Compatible with a hood, mask or ventilated protective suit
- High mechanical and chemical resistance Increased ingress protection allows decontamination by shower or even full immersion (IP64/IP65/IP68)
- Full colour display clearly shows all the relevant information - airflow, filter clogging, battery charge,
- Flow Control system maintains constant airflow regardless of the level of filter clogging or battery charge
- Short battery recharging time, less than 3 hours
- Audiovisual alarm Multilingual user interface

Areas of application

- Potentially explosive atmospheres – approved to Zone 2
- Heavy industrial environments including chemical and pharmaceutical industry
- Remediation operations, laboratories
- First responders and emergency teams
- Biological protection

For more information visit:
www.clean-air.cz

Technical data	
Weight	960 g (including battery)
Dimension	240 mm / 110 mm / 120 mm
Airflow adjustable	120 -235 lpm
Alarm	audio, visual
Operation time*	< 10
Charging time	< 3 h
Battery	Li-Ion 14,4 V / 2,6 Ah (standard)
Hose connection	CA40x1/7"
Certification	EN 12941 TH3 EN 12942 TM3
ATEX classification	II 3 G IIB T4 Gc II 3 D IIIC 135°C Dc
Ingress protection	IP64 Shower decontamination – full protection from splash of liquids from any angle, when the system is ON, fitted with CleanAIR® filters. IP65 Shower decontamination – full protection from water jets from any angle, when the system is ON, fitted with CleanAIR® filters with placed pre-filter holders and spark arresters. IP68 Immersion disinfection – full protection from continuous submersion in water/disinfection solution. Disinfection of CleanAIR® Chemical 2F is feasible e.g. with sodium hypochlorite solution and peroxyacetic solution (Persteril). When the system is OFF, fitted with decontamination plugs.

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Beam Distance (max) 130m
Run Time (max) 45hrs

ZONE
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EX7R

Lumens (max) 200lm
Beam Distance (max) 130m
Run Time (max) 45hrs

ZONE
1/21



EXH8

Lumens (max) 180lm
Beam Distance (max) 120m
Run Time (max) 40hrs

ZONE
0/20



EXH8R

Lumens (max) 200lm
Beam Distance (max) 130m
Run Time (max) 45hrs

ZONE
1/21



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Ledlenser Atex Series – Uncompromising Illumination for Hazardous Areas

The newest additions from Ledlenser, the world leader in LED portable lighting, is a range of intrinsically safe ATEX compliant torches and headlamps designed for those that work in any hazardous area yet who demand the very best in safety illumination.



As expected from a brand that is renowned and trusted worldwide by millions of users, the Ledlenser Atex Series of lights are a cut above the rest. Powerful enough to light up even the darkest of crevice's or turn night into day, each light is stylishly designed and packed full of class leading features that combine harmoniously together thanks to precision German engineering. To further reinforce the quality of these lights, a 5-year standard warranty is extended to 7-years with online registration of the product for complete peace of mind.

Ledlenser's Patented Advanced Focusing Optics feature for spot (distance) or flood (near) illumination is a stand out technology from their core range of torches and headlamps, valued highly by users. This key feature has also been incorporated into the majority of the Atex series models enabling total beam focusing flexibility in a single light.

Each light is certified in accordance with European Union ATEX safety regulations, impervious to dust,

water resistant to an extremely high level and specifically engineered for coming into contact with explosive gases, fumes and dust as defined in groups IIC and IIIC.

Each of the three Gas Zones (0, 1, 2) and the three Dust Zones (20, 21, 22) have dedicated lights within the Ledlenser Atex Series range.

Zone 0/20

EX4 - A handy slimline, lightweight (65g with batteries), 50 lumen intrinsically safe ATEX Zones 0/20 compliant inspection torch with a useful integrated pocket clip that is powered by the supplied 2xAAA batteries.

EX7 - a powerful 200 lumen Zone 0/20 Atex compliant intrinsically safe handheld torch.

EXH8 - a powerful 180 lumen Atex Zone 0/20 complaint intrinsically safe headlamp for premium hands-free illumination.

Zone 1/21

EX7R - first intrinsically safe, rechargeable Atex compliant handheld torch with Advanced Focus System optics for Zone 1/21 and gas/dust groups (IIC/IIIC) which delivers an imperious 220 lumens on full beam and 40 lumens on low beam.

EXH8R - first intrinsically safe rechargeable headlamp with a charging cradle and renowned Advanced Focusing Optics that is certified for use in Atex Zones 1/21.

Zone 2/22

iL4 - a handy little intrinsically safe pocket torch, perfect for the pocket or toolbox and ideal for use in Atex classified Zones 2/22.

iL7 - stylish and powerful, this 3xAAA battery powered intrinsically safe handheld torch is certified for use in Atex Zones 2/22.

iL7R - rechargeable intrinsically safe Zone 2/22 Atex complaint handheld torch with a powerful beam to match its stylish looks.

iLH8 - the hands-free option for Atex Zone 2/22 lighting, this intrinsically safe headlamp delivers a 280-lumen high power beam or a 60 lumen low light beam.

iLH8R - rechargeable, focusable intrinsically safe Atex Zone 2/22 compliant headlamp.

For more information:

www.ledco.co.uk

www.ledlenser-store.co.uk

01344 876 222

mail@ledco.co.uk



Generations of Experience — Technology of Tomorrow

Glamox is the world market leader in the manufacture and supply of lighting solutions for the global marine and offshore markets. The company is involved in lighting studies, design and calculation for large offshore greenfield projects as well as offshore and onshore maintenance and modifications projects.

www.glamoxluxo.com/gmo



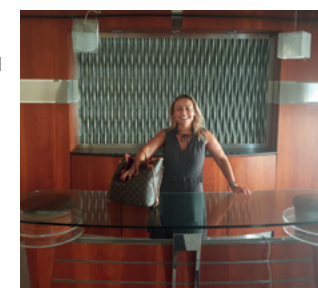
Please refer to our website for information about our 5 year warranty.

Cortem Group: new factory location and ICV certification for the sister company in Dubai Cortem Gulf Fzco

Cortem Gulf, the sister company of Cortem Group placed in Dubai, achieved two important milestones: it has recently moved to a new and bigger factory location in Jebel Ali Free-Zone and it has completed the ICV certification.

The new location covers an area of 2.000 m2 with sales, administrative and engineering offices, assembling, stock and FAT area.

Furthermore, Cortem Gulf joined the ADNOC In-Country Value program and obtained the local certification in 2019. "We are proud to announce this important achievement – says Mrs Marianna Saragaglia, Managing Director of Cortem Gulf - This portrays Cortem Gulf's significant presence in the UAE market, strong ties with local and foreign businesses, sound investment plans in UAE, local talent, presence in business and future growth scope in the UAE market".



www.cortemgroup.com

Glamox awarded long term contract with Aker BP

LED lighting specialist Glamox is pleased to announce the signing of a framework agreement with the Norwegian oil company Aker BP. The duration of the Frame Agreement is six (6) plus four (4) years.

The contract includes design, manufacturing and supply of LED lighting systems to future Aker BP projects, including both new development projects and modification projects for existing installations.

Aker BP has taken the lead in the digitalisation of the oil and gas industry, developing and utilising new technology and solutions, which are key success factors for Aker BP.

Senior Vice President at Glamox, Frode Scott Nilsen comments: "The future of offshore lighting is rapidly changing. Innovative LED technology and light management systems secure energy efficient and sustainable solutions.

Glamox is proud to be partnering with one of the most innovative and largest independent oil companies in Europe."



For more information, please visit www.glamox.com/offshore

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Abtech's Gamma LED Luminaires are Meeting Extreme Requirements

Suitable for use in ambient locations that can reach up to +70°C, this new version allows LED technology to be adopted in areas that were previously off limits.

Abtech's range of Gamma LED luminaires has been further enhanced with the release of the new high-temperature Zone 2 floodlight.

ATEX and IECEx compliant for use in hazardous gas and dust environments, the Gamma range has been designed with consideration for the rigours of operation in extreme locations. Constructed from marine grade stainless steel, with toughened glass and stainless steel fixings throughout, the luminaire body is rugged enough to last as long as

the lifetime of the LED light source.

The 96W, Zone 2 Gamma is a compact, low windage floodlight configured for wide area lighting. It utilises four high output LED modules to provide over 13,600 lumens of crisp white light. Its low-profile design with reversible mounting arm and uniform light distribution mean it is equally suited for use as a highbay in Ex-rated warehousing and workshop applications.



All Gamma variants incorporate surge protection to EN61000-4-5 and EMC to EN61204-3 and undergo through burn in tests prior to shipping. All Gamma luminaires are supplied with a five-year complete system warranty.

For further information visit:
<http://www.abtech.eu/>



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Gamma

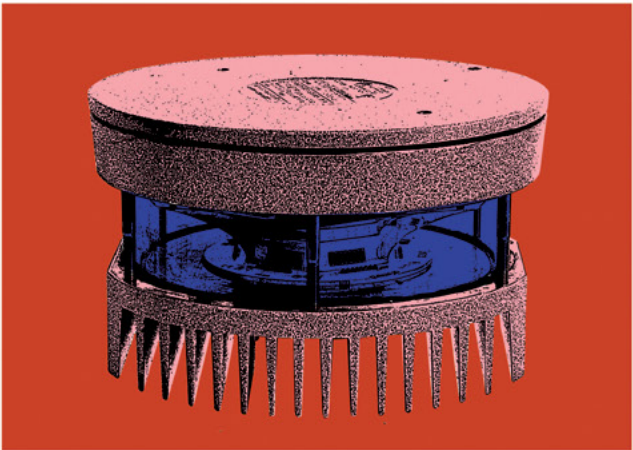
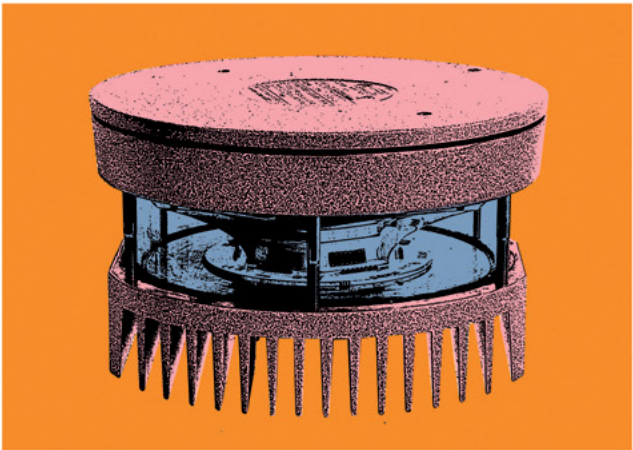
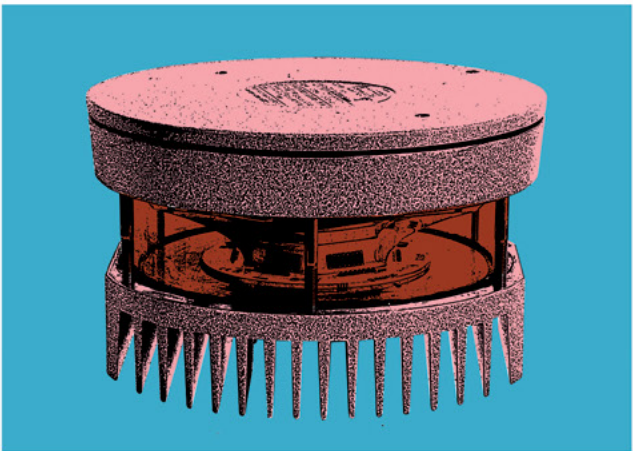
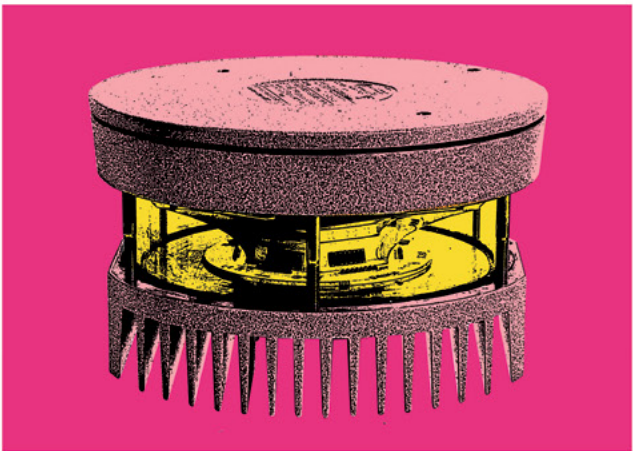
- Low profile LED floodlight for Zone 1 & 2 hazardous areas
- Stainless steel construction for extended life in harsh environments
- 5700K crisp white light
- 5 year complete system warranty
- Ambient temperature range -50° to +70°C

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-  HORIZONTAL COVERAGE OF THE LIGHT BEAM 360°

Cortem Group presents **Safely Light System XLFE series**, the new **lighting fixtures for the signaling of air obstacles**

Thanks to the use of the latest generation of LED source, the new signaling system is characterized by excellent lighting and mechanical properties and an estimated life time of over 10 years.

The XLFE series has been designed for industrial areas with the presence of explosive atmosphere classified as Zone 1, 2, 21, 22 and complies with ICAO and FAA requirements for air navigation.

Glamox supplies energy efficient LED lighting to Team Britannia’s superboat Excalibur

LED lighting specialist Glamox has supplied energy efficient LED lighting to Team Britannia’s 80ft superboat Excalibur. The lighting includes Glamox Series 60 LED navigation lights and TL50 LED luminaires.

Team Britannia is a multi-million pound British bid to design and build the fastest and most fuel efficient semi-wave slicing superboat to circumnavigate the globe for the much-coveted UIM world record, currently held by the New Zealander Pete Bethune at 60 days 23 hours 49 minutes.

The decision to fit energy efficient LED lighting is just one of the many ‘green’ measures taken by the crew to reduce the impact of the record attempt. The superboat’s design is based on a revolutionary semi-wave slicing design by Professor Bob Cripps which will reduce fuel consumption by up to 30 per cent. The marine-grade aluminium construction of the boat is fully recyclable.

In order to meet the ‘green’ design specification of the superboat and to withstand the rigours of the round the world record attempt, every supplier, material,

product and onboard equipment were carefully selected by the crew.

The Aqua Signal Series 60 from Glamox is a long-life LED navigation light with integrated countdown system. These navigation lights eliminate any concerns about failing lanterns. Series 60 navigation lights are designed to last for 100,000 hours at an ambient temperature of 45°C – that’s twice the life of most competing products.

The TL50 LED luminaire is designed to meet maritime requirements and to reduce energy consumption. The combination of materials and lighting design ensures excellent heat management and a long lifetime, making it suitable for a wide range of outdoor marine lighting applications such as workshops, stores and passageways.



Tommy Stranden, General Manager of Glamox commented: “Glamox is delighted to support Team Britannia’s round the world record attempt, as we see the boat as a symbol for the future of the maritime industry. A future where technological innovation will help to enhance productivity while minimising the impact on the environment. Our energy efficient LED lighting products and smart light management solutions are an important part of this future.”

On 2nd October 2019, Excalibur hit the water for the first time and was moved to the Hayling Yacht Company for final fit out. Team Britannia will launch their record from Europa Point in Gibraltar following sea trials in one of the two annual weather windows (March or October 2020).

For more information, please visit www.glamox.com/offshore

Featuring London Electronics Limited’s latest range of Hazardous Area Displays.

Simple set-up menu, fast to install and commission, high precision and measurement accuracy.



The EX range allows for London’s Market leading displays to be installed into hazardous area environments multiple input types and functions. The most common being: Loadcell, Process (0-10V, 4-20mA), Serial RS232, RS485, Pulse, Quadrature, Ethernet, Clock/Timer, Profibus, Thermocouple, Modbus and many more.

Viewing distances of 25m up to 300m with indoor and outdoor legible LED’s. Common Power supply options of 95 – 265V AC, 48V AC, 11-30V DC. Available in multiple colour options with digits from 4 to 8 in 7 segment versions and up to 42 characters in alphanumeric versions.

The new housing systems permit use of the FUSION series and TITAN series of alphanumeric displays to the following certifications.

- Zone 1 ii 2 G Ex px iiC T6/T5/T4 Gb - Requires pressurised air system
- Zone 2 ii 3 G Ex nR iiC T6/T5/T4 Gc - Any product in the range
- EXD Zone 2 on request

Sealed to a minimum of IP66 with options of 304, 316 stainless steel painted or unpainted. There are also a wealth of output options available to interface with your process. These include serial transmission, 4-20mA, 0-10V, Alarm Control, Modbus and many other field types.

All display technology has the option to interface with a cloud based datalogging option to view measurement data from anywhere. Available on PC, iPhone, Android, Windows devices to permit analysis of trends, histories and make comparison of data

over time. Software is configurable to each user’s requirement.

All products are manufactured here in the UK at their Bedfordshire HQ, the display technologies are all supported by their 3 year manufacturer warranty.

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Further technical information can be found here: https://www.london-electronics.com/ExnR_FUSION_Displays.pdf

For more information please see page 21 or contact: james@london-electronics.com or call the office on line on 01767626444

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Conker launches SX50 barcode scanner and drives productivity

Scanner improves data capture, analytics and efficiency for teams

Conker, a British producer of business rugged tablet, touch screen and mobile devices, announces the availability of its SX50 barcode scanner. The SX50 is designed for hard-wearing environments, where accurate and reliable barcode scanning devices are required to improve data capture, data analytics and productivity.

The SX50 has been ergonomically designed for repetitive tasks and forms part of Conker’s SX range. It operates effectively within warehouse and logistics scenarios where organisations are trying to replace paper-based processes and improve team productivity. This includes managing receipt and delivery of goods, ‘pick packing’ or during inventory management and ‘fulfilment’ scenarios where a digital audit trail is necessary for firms.

Conker’s Android 7.0 handheld device is IP67 rated. It features an integrated 2D barcode scanner; an Octa-core processor; 32GB storage; has dual SIM

capabilities and includes an optional pistol grip for control and comfort during repetitive scanning related tasks.

James Summers, CEO and founder, Conker says, “When you provide staff with the right tools to do their work, they will undoubtedly do a great job. Our scanners are designed to be fit-for-purpose for clients’ working environments. They are cost-effective, ergonomic, easy-to-use, robust and capable of forming a key component within any supply chain strategy. Our installation and post-sale customer service is second to none too.”

Cottage Farms, a Conker customer, has used the SX50. Georgi Belov, Cottage Farms says, “Conker’s devices enable us to accurately track our apple deliveries. We use its devices during inventory management, fulfilment and delivery. Since using Conker’s devices, we’ve noticed an uptick in staff productivity and efficiency. The devices are easy

to use and we’ve noticed our staff are also more satisfied with the technology they use while doing their jobs. The scanners are also rugged enough for our working environment and our IT team has valued Conker’s fast, efficient and personable customer service.”

Using Conker’s SX50 devices to improve and replace antiquated paper-based systems can contribute towards digital transformation and reduce an organisation’s carbon footprint. Conker offers a strong and compelling sales and after sales support. Throughout the entire purchase lifecycle, including repairs and support, customers liaise with an efficient person.

Conker will exhibit the SX50 at IMHX, 24-27 September 2019, NEC, Birmingham (Stand 6D26). If you would like to book a meeting with Conker at IMHX to learn more about its devices please contact: conker@elatecommunications.com.

Ion Science Tigerlt Voc Detector Succeeds Where Others Have Failed For Lone Star Hazmat Response

Handheld photoionisation detector helps Texas-based emergency spill response specialist ensure the safety of first responders

Texas-based Lone Star Hazmat Response is using a handheld TigerLT volatile organic compound (VOC) monitor from Ion Science (www.ionscience.com) – leading manufacturer of advanced gas detection instrumentation for global occupational health and environmental monitoring applications – to identify the presence of potentially harmful VOCs at hazardous materials incidents. Chosen for its ease of use, quick start and humidity resistant design, the entry-level photoionisation detector (PID) is helping the emergency spill and land remediation specialist to increase efficiencies by quickly and accurately determining the level of protection required by first responders.

For more than 15 years, Lone Star Hazmat Response has excelled at providing industry-leading emergency spill response as well as safe and effective environmental remediation services. The company has steadily added to its capabilities and now maintains four strategically located rapid response centres in eastern Texas, which allows it to deploy rapidly whenever an emergency requires its services.

The Lone Star Hazmat Response team, which comprises hazmat specialists and incident commanders, works closely with first responders including firefighters, police and paramedics to provide critical support across a range of hazardous materials incidents. These include roadside emergency spills involving oil, diesel fuel and gasoline, product transfer for situations where fluid must be moved from a compromised vehicle to another or in the unfortunate event of an oil, gas or salt water release.

As part of its commitment to ensuring the safety of first responders, Lone Star Hazmat Response is using the Ion Science TigerLT PID to identify the presence of potentially harmful VOCs on scene and advise on the level of protection required.

Lone Star Hazmat Response uses PID instruments to quickly identify the presence of gases and vapours. Monitoring the ambient air for parts per million (ppm) and parts per billion (ppb) concentrations of VOCs allows the company to quickly evaluate the danger and determine if leaking fugitive gases are toxic.

Richard Lenius, General Manager at Lone Star Hazmat Response comments: "After meeting Ion Science at the TCEQ trade conference and learning more about its products, we chose the TigerLT handheld PID as it met our cost and functionality

requirements. During testing the instrument proved extremely easy to operate and ready to use immediately after powering on. As we get called out to all kinds of environments, I was also particularly drawn to the instrument's humidity resistance and anti-contamination design especially as our other PIDs had failed on humid days."

Ion Science's TigerLT, which offers worldwide Intrinsic Safety (IS) certification for use in potentially explosive atmospheres, is a streamlined, low cost version of Ion Science's well proven Tiger PID model.

Like all Ion Science PID instruments, the TigerLT incorporates the company's market-leading PID technology with advanced patented fence electrode system. This three- electrode format ensures increased resistance to humidity and contamination for ultimate reliability and accuracy in the field.

With a detection range of 0.1 - 5,000 ppm utilising a standard two-point calibration protocol, Ion Science's robust TigerLT also offers an unrivalled industry response time of just two seconds and equally quick clear down.

Although a PID is not specific in terms of gas selection, it offers a continuous and almost instant response rate enabling first responders to carry out their duties secure in the knowledge that their exposure to hazardous chemicals is limited.

"By its very nature, emergency response work carries an element of the unknown which can sometimes hinder our ability to quickly provide the vital information needed by first responders to ensure their own protection as well as that of bystanders and the wider community," Richard adds. "Even in the most challenging environments, a single PID like the Ion Science TigerLT gives fast, accurate and reliable results and a true reading rather than a percentage of mixed air."

Both simple to operate and service, the TigerLT offers easy access to the lamp and sensor with batteries that can be safely replaced in hazardous environments. The intrinsically safe instrument also meets ATEX, IECEx, UL and CSA standards.

The key advantage of TigerLT over other similar, low cost handheld PID instruments is its market leading accuracy and run time due to its anti-contamination and humidity resistant design. Another attribute is its global Intrinsic Safety certification. Although



the accreditation process can differ from country to country, the TigerLT can be used in explosive hazardous areas such as within petrochemical plants that are located anywhere in the world.

The TigerLT six pin MiniPID detector cell with anti-contamination design dramatically extends run time in the field. Low cost filters and lamps can be easily changed in minutes, minimising downtime.

It features long life rechargeable Li-ion batteries which give up to 24 hours usage. Fast battery charging allows the instrument to be fully charged in 6.5 hours, while eight hours of use can be achieved from 1.5 hours of charging time.

Richard continues: "The clear, back lit display with large font enables those members of the team that require glasses to see air readings better than the other PIDs we have used. It is

also quick and ready for use in comparison. One of the features that we particularly like is the quick button for zeroing the air."

TigerLT features a protective, removable boot for harsh environments while a large, clear back-lit display allows for easy viewing in any light condition. It is IP 65 rated against water ingress. An integrated torch is designed for directing the instrument's probe into dimly lit areas. Other features include a loud 95 dB audible alarm and multiple language support.

Ready to use, straight out of the box, the TigerLT does not require complicated set up procedures via a PC to perform basic functions.

Richard concludes: "Overall we have been really pleased with the TigerLT and the service provided by Ion Science. We would definitely recommend the instrument to other emergency hazmat response companies. In fact, I have already demonstrated the TigerLT to multiple fire department hazmat teams."

For more information visit:
www.ionscience.com

BSRIA Instrument Solutions gets personal for worker safety in hazardous environments

Now available to buy or hire from BSRIA Instrument Solutions is the TSI SidePak AM520i personal aerosol monitor, a small, lightweight, single-channel, portable, battery operated, datalogging, light-scattering laser photometer that provides real-time aerosol mass concentration readings of dusts, fumes, mists, smoke and fog within a workers' breathing zone.

The innovatively designed inlet conditioners increase the mass concentration capability and provide size fraction cut points including PM10, PM4 (Respirable), PM2.5 and PM1 by using the various interchangeable impactors supplied with the kit.

The AM520i is IECEx and ATEX certified, meaning that combined with its robust and unobtrusive design it can help achieve continuous compliance for worker protection in a variety of volatile environments. It is ideal for use in a range of industry applications, including but not limited to aerospace, bulk material handling, chemical manufacturing and processing, confined

spaces, mining, oil and gas, petrochemical and pharmaceutical.

With a large easily readable screen, the AM520i displays real-time readings and has data logging capabilities for additional, offsite reporting. The user friendly TrakPro software allows the operator to download logged data and quickly analyse the findings, allowing for the identification of source problems and corrective action to be taken in less time, helping to improve safety and comply with regulations. Where more immediate monitoring information is required there is also an alarm function (both audible and visual) that can be triggered if a threshold concentration is breached,



paramount for worker protection when personnel are operating potentially hazardous processes.

The AM520i combines proven instrument design and intuitive controls, with portability, long battery life (up to 20 hours) and rapid rechargeability (within 4 hours for a fully depleted battery) for long-running real-time monitoring in environments requiring intrinsically safe instrumentation.

Contact BSRIA Instrument Solutions on 01344 459314 or instruments@bsria.co.uk for further details or a price.

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Straightpoint launches Subsea Link

Straightpoint (SP), a Crosby Group company, has launched the Subsea Link, a standard product for applications up to 2,000m (6,562 feet) beneath the water's surface.

The product can be rigged with Crosby's remotely operated underwater vehicle (ROV) shackles (tested to the same depths) and the company's Trawlex shackle range, amongst others. The IP68 / NEMA 6P-rated Subsea Link also boasts components from SubConn, a specialist manufacturer of pluggable electrical connectors to the demanding underwater industry.

SP staged a soft launch at the Offshore Energy Exhibition and Conference in Amsterdam, where attendees noted its potential in subsea and submersible projects where accurate load monitoring is required. However, the advantages of a standard product where a fully engineered solution has been the only option to date will endear the concept to a wider audience.

Until now, oceanography project decision makers, or aquaculture professionals, might have had to engage in lengthy dialogue with a load monitoring specialist to acquire an engineered solution that might arrive weeks later. With the Subsea Link, they can source an ROV load shackle as they would any other standard product.

Renewable energy and offshore personnel will be among those to note the Subsea Link's construction from 17-4PH stainless steel and resistance to saltwater, temperature variations and the incredible water pressure experienced at such sea depths. As stated, it can be handled and rigged via an ROV where a location may be inaccessible or it deemed cost-prohibitive to use divers. Several output options are available: mV/V



to the SP Handheld plus, 4-20mA or 0-10v analog to a PLC or data-logger; and the multi operation survey system (MOSS), RS485 or an integral data-logger, powered by an internal battery all located with the load cell itself.

SP worked with Portsmouth University, where a testing laboratory supports diving and underwater engineering courses.

For more information visit: www.straightpoint.com

TVOC 2 Continuous PID Detector

New from Ion Science and exclusive to Shawcity in the UK & Ireland, TVOC 2 is a fixed PID detector for fast, accurate and continuous detection and measurement of total volatile organic compounds (TVOCs).

TVOC 2 continually measures and updates the output every second. Its photoionisation detection (PID) sensor capabilities utilise advanced patented

Fence Electrode Technology with increased resistance to humidity and contamination.

Suitable applications for TVOC 2 include:

Manufacturing, processing, offshore, refineries and petrochemical, chemical, waste water

treatment, pulp and paper, pharmaceutical, indoor air quality, solvent recovery systems and industrial paint and coatings.

A robust fixed PID detector, TVOC 2 has multiple detection ranges of 0 – 10 ppm, 0 – 100 ppm or 0 – 1000 ppm and is ideal for use in manufacturing and process industries where VOCs are typically present.

With a 4-20 mA analogue output, TVOC 2 can be simply integrated into a Distributed Control System (DCS) to provide warnings and enable control of high VOC levels in the working environment.

Simple to install service and calibrate, TVOC 2 requires no hot work permit and the PID sensor is accessible and changeable in a matter of seconds. The design has in-built humidity resistance, with no need for compensation, as well as anti-contamination features for extended field operation. Rugged and robust, TVOC 2 can withstand the harshest of environments.

The instrument's ATEX approvals enable a 3 wire TVOC system to be used in Zone 2 hazardous areas without safety barriers, whilst its ATEX and IECEx approvals allow TVOC 2 to be used in Zone 1 hazardous areas with safety barriers.

The TVOC 2 utilises a diffusive sampling technique resulting in less contamination issues compared to pumped systems, reducing lamp cleaning and servicing requirements, and has an optional sensor cap which allows for a pipe connection. However, it can be used as a pumped system if required, by using an adapter.

The system also contains the Ion Science PID sensor which has been independently verified as the best on the market. With inexpensive consumables and parts, it also comes with a two-year warranty when registered online.



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

Chemical Storage: Safe Ventilation

Many industries require a number of potentially hazardous chemicals in day to day maintenance, manufacturing, cleaning, sterilization, testing and operating applications. The safe storage of these chemicals involves a number of considerations in terms of temperature, ignition control, ventilation and segregation.

The ventilation of chemical storage areas is of paramount importance to ensure clean air and a safe working factory environment. Ventilation is needed for chemicals and their containers as they have the potential to release dangerous quantities of vapours or gases that are damaging, flammable, corrosive, irritating or toxic. These vapours quickly accumulate and present a considerable hazard if left unventilated.

Well ventilated storage is particularly key for those substances classed as fuming or highly volatile.

It is recommended that such ventilation be by air extraction from the storage room or cupboard to an external exhaust at a safe distance from any openings (windows or doors) back into the building.

The fume extraction system needs to be suitable for handling air that is potentially corrosive, given the nature of the chemical vapours to be carried from the storage area. Axair offers a range of fans designed specifically for extracting corrosive air, due to their polypropylene construction. In

addition to standard corrosive fume extraction, Axair also provide polypropylene fans suitable for ATEX Zone 2 applications. These applications will have been assessed by an official ATEX specialist and deemed to have a risk of the accidental presence of explosive fumes.

In such chemical fume extraction systems, it is best practice to site the fan at the end of the ductwork system. The reasoning behind this is to keep the ductwork under negative pressure which means, in the event of a leak, the system would draw in clean air rather than blowing out fumes into the building. This would limit any damage caused by the leak before it was identified



In order to accurately specify a fan, there are two key pieces of information required; the airflow rate and the system resistance. Airflow rate is based on the number of air changes per hour needed in the storage area. From the airflow rate, the size the ductwork is determined and so the system resistance is calculated. There may be a requirement to control the fan with a sensor to switch the fan on and off. This can be achieved with the use of an inverter. The sensor sends a signal to the inverter, which in turn controls the power source to the fan.

Please note that if there is a possibility the installation needs to be ATEX rated, then an expert needs to determine the Zone classification for the area. The information they provide will cover the size of the Zoned area and the standard of equipment to be used in the Zone.

For further information or to specify a solution for a chemical fume extraction application, please contact Axair on 01782 349 430, email sales@axair-fans.co.uk or visit www.axair-fans.co.uk

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Silica Dust And Its Effect On The Construction Workforce

Many workers in the construction workforce are at continuous risk of a respiratory illness caused by exposure to a harmful dust known as silica.

What is silicosis?

Silicosis is a progressive disease affecting the lungs, which is caused by the inhalation of large amounts of silica dust over a prolonged period of time.

Once present in the lungs, the respirable crystalline silica (RCS) particles attack the immune system and cause inflammation, with the main symptoms being a persistent cough, shortness of breath, weakness and tiredness.

How you can protect your workforce against silica dust?

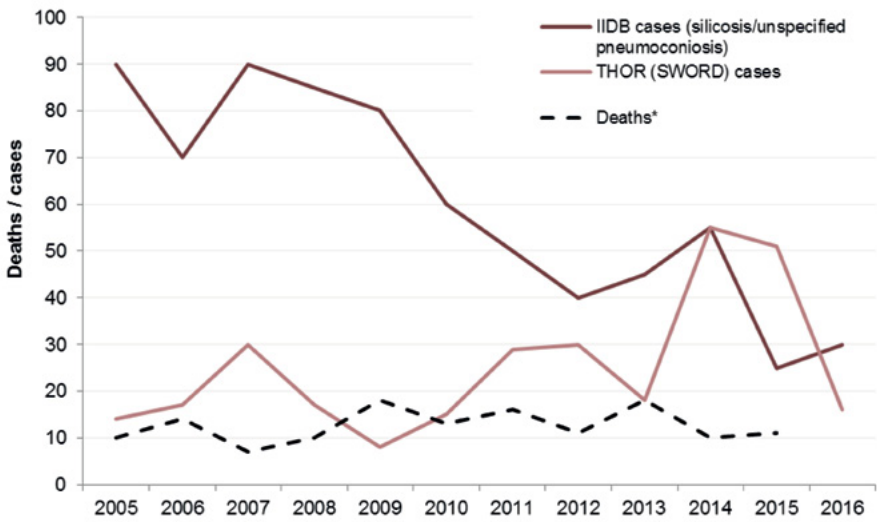
In order to protect against silica exposure for your workforce, there are a few steps that you can take. These include:

- Using a silica substitute
- Putting in place engineering controls
- Improving work practices so that exposure is reduced where possible
- Ensuring that your team use the relevant personal protective equipment
- Washing hands and face before eating or drinking

In addition to the above precaution measures, all workers breathing crystalline silica dust should have a medical examination, so that any issues can be detected as early as possible.

As an employer, it is worth seeking professional legal advice if you are unsure about how to further protect your workforce from the harmful effects of silica dust. The Health and Safety Executive also provides further information on this condition and relevant safety initiatives.

For further information please visit: <http://www.dustcheck.com/>



Above: The above graph shows the number of deaths and cases of silicosis between 2005 and 2015.

* Deaths not yet available for 2016

Exposure to silica dust can lead to a condition called silicosis, which if gone untreated, could lead to fatigue, loss of appetite, pains in the chest and in some severe cases, death. In this article, dust control experts, Dustcheck, discuss the signs of silicosis and how you can protect your workforce against the threat.

What is silica dust?

Silica dust is made up of a number of components including sand, granite, soil and other minerals, which if breathed in can cause fatal respiratory problems. The most common form of crystalline silica is quartz and the two other forms are known as Cristobalite and Tridymite. All three of these may be broken into particles small enough to be breathed in during the process of workers operating machinery for bag filling, vibratory feeders, milling and unloading, to name but a few.

How can silica dust be harmful?

Exposure to silica dust poses a high-risk threat to a large number of workers in the UK and high-risk industries associated with this exposure including construction material manufacturing e.g. bricks, cement and concrete, quarrying and mining. Crystalline silica has been classified as a human carcinogen and the breathing in of this can cause a condition called silicosis, which in some cases can be fatal.

Dynamic Duo for Protection in Hazardous Areas Panels & Enclosures

STEGO Heater CREx 020, Compact Thermostat REx 011:

Air as a medium can be malicious to electrical and electronic appliances. Absorption and release of water in the air within control cabinets creates the potential for the formation of condensate. Condensate, in turn, carries out corrosion processes on sensitive components and can freeze at minus degrees. Thermal Man-agement specialist STEGO also offers the right answer for hazardous environments.

With the proven expertise as heating manufacturer for panels & enclosures, STEGO meets the requirements of the Ex industry. The Ex heater series CREx 020 safeguards heating of switchgear and control cabinets as well as measuring devices in explosive atmospheres of zone 1 (gas atmospheres) and zone 21 (dust atmospheres) according to Ex protection class Ex II 2 GD. The maintenance-free convection heaters are available in three temperature classes (T3/T200 °C, T4/T135 °C and T5/T100 °C) and reliably prevent the harmful formation of condensate, temperature fluctuations and frost in explosive atmospheres. The CREx 020 series achieves dust and splash protection according to protection type IP66.

The aluminium profile heating body in anodised silver is equipped with a high-performance heating cartridge. CREx 020 models are available with heating capacities from 50 W up to 250 W. The aluminium heating body features a sophisticated geometry of the convection surface which ensures

perfect temperature distribution to avoid local overheating. The CREx 020 heaters are designed with minimal width and are ideal for conventional heating installation. The overall size is perfectly matched to the performance and therefore only as big as absolutely necessary.

CREx 020 heaters can be mounted by means of a clip for 35 mm DIN rails according to EN 60715 or anchored firmly with screw flanges. The universal screw flanges fit all heater sizes and can be inserted tool-free into the heaters' profile. This enables sideways mounting in addition to the standard mounting position, giving room for optimal placement in the application.

STEGO's Ex thermostat REx 011 is the fitting partner for control of the convection heater CREx 020 in hazardous areas. With temperature class T6/T85 °C the mechanical compact thermostat is the standard solution for temperature control in explosive environments of protection class Ex II 2

GD. The REx 011 is available in versions with two different switch-off temperatures (+15 °C or +25 °C). Technically sophisticated, the Ex thermostat has a high response accuracy and response speed, a low switching temperature difference (5 K) and a very long service life. The maximum switching capacity of up to 10 A ensures high reserves for direct control of more than one device with one Ex thermostat. Compact in its construction, the REx 020 can be installed in small niches. It mounts by means of screw flanges or DIN clip. In addition to its standard mounting position the REx 020 can also be mounted sideways. So, finding a neutral and stand-alone position becomes an easy task. Connection via PE cable according to DIN EN 60079 is simplified with a universal screw terminal, which is suitable for almost all types of conductors (up to 2.5 mm² diameter).

STEGO Ex products have the industry-specific approvals ATEX (according to Directive 2014/34 / EU) and IECEx, offering comprehensive, certified security for applications in hazardous environments.

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



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IEC publishes new guidance for the avoidance of hazards due to static electricity

The International Electrotechnical Commission has published a new Technical Specification called IEC 60079-32-1: "Explosive atmospheres - Part 32-1: Electrostatic hazards - Guidance", which is designed to limit fires and explosions caused by electrical malfunctions within hazardous areas.

It is the first of two documents under the "60079-32" designation and covers a broad range of process scenarios that can lead to the generation of electrostatic charges, provides examples of what measures can be taken to reduce charge generation and accumulation and outlines how process equipment should be grounded and bonded.

The second part, IEC 60079-32-2, is entitled "Electrostatics hazards – Tests" and outlines test methods to determine factors like surface resistance, earth leakage resistance, powder resistivity, liquid conductivity, capacitance and the incendivity of electrostatic discharges.



Overview of the Technical Specification: The Technical Specification is sub-divided into "clauses" that highlight the electrostatic hazards associated with various categories:

- 1) The handling of solids.
- 2) The storage and handling of liquids.
- 3) The handling of gases and vapours.
- 4) The storage and handling of powders.
- 5) The storage and handling of explosives.
- 6) Electrostatic problems caused by people.
- 7) Avoidance of electrostatic shock.
- 8) Earthing and bonding of plant and machinery.

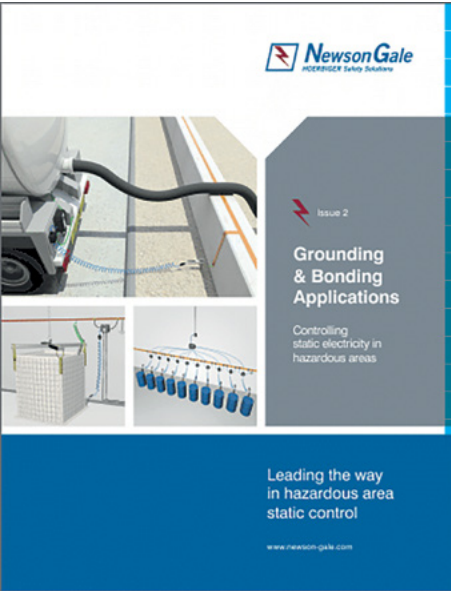
There are several Annexes that provide informative material, such as a description of the various types and assessment of electrostatic discharges within potentially flammable and combustible atmospheres.

The design and monitoring of grounding systems: This section addresses the design and monitoring of systems dedicated to grounding permanent and portable plant equipment. Permanently installed plant equipment like reactors and pumps will most likely be grounded via the electrical grounding system for the plant.

The section for portable conductive equipment recommends that temporary connections using bolts or "pressure-type" clamps are capable of penetrating protective coatings, rust or product deposits that are typically present on the surface of such equipment, e.g. metal drums. It states that pressure type clamps should be capable of establishing a connection resistance of less than 10 Ohms to the base metal of the conductive equipment.

Type C FIBC:

This section describes which hazardous zones the four bag types (A,B,C,D) are suitable for use in. The "zones" are based on the IEC method of hazardous area zoning classification which have been adopted in ATEX legislated countries, the U.S. NEC 505 & 506 and the Canadian CEC. It specifies the types of liners (L1, L2, L3) and FIBC bag type combinations that may or may not be used in hazardous areas. This section heavily references IEC 61340-4-4: "Electrostatics – Part 4-4: Standard test methods for specific applications – Electrostatic classification of flexible intermediate bulk containers (FIBC)" which specifies the construction, testing and labelling criteria for Type A,B,C,D FIBC bags. Under the requirements of this standard, Type C bags must be grounded and for those manufacturing or using Type C bags



the resistance from any part of the bag to a groundable point on the bag shall be less than 10 Meg-ohm. This is a change from CLC/TR: 50404 which recommended a maximum resistance of 100 Meg-ohm.

Road Tankers and Vacuum:

Included in the Technical Specification is guidance regarding the grounding of road tankers as well as precautionary measures for the grounding of vacuum trucks.

Personnel grounding, flooring and footwear: Clause 11 provides guidance on minimising the risk of static electricity accumulating on people and describes various scenarios where this occurs, along with methods to dissipate charge off people.

Conclusion:

Technical Specification IEC 60079-32-1 is probably the most comprehensive guidance produced on avoiding the hazards of static electricity to date. This article provides a brief overview and it is recommended that readers obtain a copy of the full Technical Specification.

For more information visit:
www.newson-gale.co.uk

White Paper: Electrical Considerations for Hazardous Areas

This white paper from C&P Engineering Services was written by:

Dewi Evan - Project Engineer / Senior ATEX Inspector

Tristan Jones - Sales & Marketing Manager

Hazardous Area ATEX Inspections: Industry Oversight

Many companies do not give adequate consideration to the condition of their electrical installations in relation to potentially explosive atmospheres, especially within older plants. Whilst most are concerned with ensuring completion of their hazardous area ATEX inspections and demonstrating compliance with the DSEAR regulations, ATEX 137 directive and BS EN 60079-17 standard, they tend to ignore or forget electrical testing which should be equally considered to the ATEX inspections (BS 7671-part 6 in conjunction with BS EN 60079-14 section 4.1 General Requirements, HSE 2002, HSE: ATEX and explosive atmospheres).

There are a number of reasons why companies focus upon ATEX inspections rather than having a dual focus on both electrical and ATEX inspections. These may include local, regional or national safety authority drive on achieving ATEX compliance; insurance requirements; organisational policy and safety processes, all of which may prioritise the requirement of ATEX inspections over electrical inspections. In fact, it is apparent within some industries and, particularly, within smaller companies that do not possess the resources to maintain awareness of legislative compliance requirements, that there is a clear lack of industrial awareness in order to demonstrate and achieve compliance for electrical and hazardous area ATEX inspections.

Organisations may conduct a hazardous area inspection and gain a satisfactory result as required by the BS EN 60079-17 standard even though the installation remains non-compliant with the required electrical inspection and verification standard BS 7671 due to outdated certification and

condition reports. Moreover, in some situations the installation and verification of electrical systems and overall safety considerations are carried out in-house by the maintenance workforce. The problem may arise that although the workforce is highly skilled and has knowledge of ATEX hazardous area requirements, it may not have complete clarity of the most recent UK amendments to the BS 7671 wiring standard – a valuable tool which is an essential consideration of the electrical risks to new installations, plant maintenance, modifications and for the employees or contractors who install or maintain electrical equipment. The standard provides guidance towards a compliant and a safe electrical installation in line with The Health and Safety at Work Act 1974 and Electricity at Work Regulations 1998.

Furthermore, the capability of the inspectors completing the assessment should also be audited by a competent duty holder or third party organisation proficient in both hazardous areas and electrical inspection. Certified training, experience and tacit industrial knowledge of electrical and hazardous area inspection should all be included in the competency assessment (BS EN 60079-14: 2014, Annex A & IET Guidance Note 3 – 1.2) e.g. possessing a CompEx certificate will demonstrate the operative has received formal training in the basic principles of ATEX electrical installation but this does not necessarily guarantee competency for inspection activities.

Examples of Possible Unsatisfactory Scenarios

Without taking adequate consideration of the risks for the electrical supplies, possible unsatisfactory scenarios could develop resulting in an overall unsatisfactory outcome.



- Lack of up to date electrical installation certificate or electrical condition report.
- Undersized live conductors and voltage drop considerations - cable size and length, additional electrical equipment added to the local circuits, or additional protection by RCDs.
- Main supplying control gear and distribution equipment suitable for any increased load and the condition of control gear supplying the hazardous areas - un-serviced lighting, motors, unmaintained motor overload, spent fuses replaced by ill-fitting and un-monitored ones - overloaded switchgear and distribution equipment.
- Poor type and condition of earthing arrangement.
- Undersized main protective bonding conductors on infrastructure, structural steelwork, fabricated steelwork, process pipe-work, storage and process tanks.
- Secondary supplies - undersized UPS systems and insufficient back-up generators.
- Insufficient use of SWA (steel wire armouring) cable or braid used as a circuit protective conductor.

- Incorrect application of calculations and equations when using the appropriate technical guidance to determine conductor size.
- Lack of considerations with electrical designs when alterations are made after the initial installation - VSDs (Variable Speed Drives) paired incorrectly with specific motors.
- Lack of consideration for insufficient electrical isolation for maintenance purposes in a hazardous area - poor isolation of live conductors entering the hazardous area.
- Suitability of containment systems - use of limited materials and appropriate containment systems in certain classified hazardous area zones.

Electrical and Hazardous Area ATEX Inspections

The list of unsatisfactory electrical considerations is non-exhaustive and experience can dictate that every installation creates a different challenge.

With reference to BS 7671-part 6 in conjunction with BS EN 60079-14 section 4.1 General Requirements, the electrical installations in a hazardous area should also comply with the appropriate requirements for electrical installations in a non hazardous area. However the requirements for non hazardous areas are insufficient for installations in a hazardous area.

In fact, it could be argued that electrical and hazardous ATEX inspections are best suited when completed simultaneously, as it demonstrates that the risks have been considered for both the electrical installation and the electrical equipment within the potentially explosive atmosphere (BS 7671-part 6 & BS EN 60079-14). For the electrical installation, an inspection should be carried out followed by an electrical installation condition report (EICR), as required by BS 7671-part 6. The results of the electrical report are pertinent to the inspections required in BS 60079-17, tables 1-3.

Both the hazardous area and electrical condition reports should be utilised to ensure that the installations are maintained to a satisfactory condition for continual use and for the identification of a pass, fail or non applicable limitation (noting that too many limitations

will devalue the credibility and integrity of the information within the report) (60079-17: 2014-4.3, NICEIC EICR Report: 2013, amendment 2).

Furthermore, issues with electrical installations outside hazardous areas can have a direct effect on systems within the hazardous areas which, in turn, could result in a catastrophic occurrence.

Conclusion

Taking into account the requirements within BS 7671-part 6 in conjunction with BS EN 60079-14 section 4.1, General Requirements, it could be argued within some organizations there is a general lack of awareness of compliance to both electrical and ATEX hazardous area inspections..

There are a number of reasons which have created this industry trajectory and although organizations may have completed their ATEX inspections accurately, the installations may still be non-compliant to the required electrical inspection and verification standard BS 7671.

Organisations may conduct a hazardous area inspection and gain a satisfactory result as to the inspections required in the BS EN 60079-17, although the installation may still be non-compliant. The proficiency of the inspectors conducting the inspections should also be assessed and audited accurately by a competent duty holder or third party. Certified training, experience and tacit industrial knowledge should all be included within such competency assessment.

BS7671 is the UK electrical installation industry standard and is a most valuable tool for the consideration of the electrical risks for new installations, plant maintenance, modifications and for the employees or contractors who install or maintain electrical equipment - the primary reason for ensuring that an electrical inspection is conducted is to ensure that the supplies into the hazardous ATEX area are adequate and safe for the application. Unsatisfactory electrical installation scenarios vary greatly as previously described where the list is non-exhaustive and experience dictates that every installation will pose a different challenge. Condition reports must be utilised to ensure electrical systems are installed and maintained to a satisfactory condition.

Ultimately, whilst electrical installations in a hazardous area must comply with the appropriate standards for a non-hazardous area, the requirements for non-hazardous areas are technically insufficient for installations where potentially explosive atmospheres have been classified. Electrical and hazardous areas ATEX Inspections should be completed simultaneously in order to demonstrate that the risks have been suitably assessed and provide, as far as reasonably practicable, a safe installation. Conducting electrical and hazardous area ATEX inspections as part of any maintenance strategy will minimise the risk of a catastrophic occurrence.

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For further details or if you would like more information regarding this white paper, please contact:

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New Safety Lock Out For Mains Cut Outs

Now available from Martindale Electric – leaders in safe isolation and electrical safety – is the new LOK6W, a simple and effective locking off device for Henley and Lucy mains supply cut outs.

Designed to restrict finger access to live contacts and prevent the reinsertion of a fuse whilst maintenance is in progress, the LOK6W is an essential accessory to keep electricians, installation teams and their customers safe in accordance with Electricity at Work Regulations.

In common with the LOK6, the new LOK6W features an extendable design which also makes it suitable for larger Red Spot type fuse holders rated at 63A and 100A

Manufactured without any metal parts – to reduce the risk of use in live working environments – the LOK6W is constructed from a resilient flame-retardant blend of Polycarbonate and ABS for high

strength and long-term durability. Designed in Martindale's distinctive yellow casing, to make it easily identifiable, the new locking off device from Martindale Electric is quick to install without the need for any tools.

The LOK6W is compatible with a wide range of locking padlocks with shackles up to 7mm wire diameter. Martindale Electric recommends utilising the PAD11R or for added safety the insulated padlock PAD21R, both padlocks are serialised with unique key numbers for safety and simple identification. Also available from Martindale Electric is a full range of locking off kits, voltage indicators, test



lamps and proving units for implementing safe isolation procedures in all installation categories up to 1000V CAT IV.

For more information, please contact Martindale Electric on 01923 441717 or visit: <http://martindale-electric.co.uk/>

NEW PRODUCT: New Anti-Static Air Knife with 30% Better Performance is CE, UL and RoHS Certified

EXAIR's new Gen4 Standard Ion Air Knife eliminates static electricity 30% better at low inlet pressures which saves compressed air and money. Production speeds, product quality and surface cleanliness can improve dramatically.

It eliminates static on plastics, webs, sheet stock and other product surfaces where tearing, jamming or hazardous shocks are a problem. Gen4 products have undergone independent laboratory tests to certify they meet the rigorous safety, health and environmental standards of the USA, European Union and Canada that are required to attain the CE and UL marks. They are also RoHS compliant. New design features include a metal armored high voltage cable to protect against abrasion and cuts, integrated ground connection and electromagnetic shielding.

The Gen4 Standard Ion Air Knife incorporates EXAIR's Standard Air Knife that minimizes

compressed air use by inducing surrounding airflow at a ratio of 30:1. The unique amplified airflow carries the ions to the target, making it possible to eliminate static charges in less than a half second. Air volume and velocity are infinitely controllable from a "breeze" to a "blast" to gently wipe or forcefully blow away debris.

EXAIR's Gen4 Standard Ion Air Knife product line is available from stock in 3" to 48" long. The electrical ion source is shockless and there is no radioactive element. A new selectable voltage power supply has been designed to operate Gen4 products. Visit EXAIR.com to see the entire Gen4 static elimination product line. Applications



include surface cleaning, neutralizing plastics, bag opening, printing machinery, packaging operations and elimination of painful static electricity shocks. Prices start at \$335.

For more details visit: www.exair.com/g4iak.htm

Pyroban gets active on explosion protection in Belgium

Pyroban reaffirms its support for businesses in Belgium with materials handling operations in, or near to, zoned hazardous areas at Transport & Logistics 2019 in Antwerp.

At the event from 15th – 17th October, Pyroban's experts asked visitors 'Are you active?', encouraging organisations to rethink their approach to keeping people safe, in, or adjacent to, Zone 2 potentially explosive atmospheres.

"Explosion protection is needed in a wider range of industries than most people think, such as the chemical, pharmaceutical, coatings, beverage, waste and logistics industries, among many others," says Karolina Kurzawa for Pyroban. "Our goal at this event in Belgium was to highlight the importance of active gas detection for mobile equipment in any materials handling operation with hazardous areas."

"Without active gas detection in Zone 2, equipment operators are left unaware of the presence of potentially explosive gas or vapour," says Karolina. This puts them, their colleagues and the whole supply chain at unnecessary risk."

To show how Pyroban's solutions can help businesses in Belgium to get active on safety, its exhibition stand

included demonstrations of two active gas detection systems: system6000™ and Gascheka™.

Pyroban's system6000 is a materials handling equipment conversion which can be applied to most makes and types of diesel or electric equipment and combines active gas detection with other specialist explosion protection technologies to help keep people safe in Zone 2 hazardous areas.

Gascheka, Pyroban's active gas detection system for designated 'safe areas', can be fitted on site to equipment such as forklifts, cranes, shutters and shrink wrap machines. It can get users active in less than one day, making designated 'safe areas' even safer.

Both system6000 and Gascheka give audible and visible warnings to drivers of potentially dangerous levels of gas or vapour at 10% LEL (propane in air). With these active systems, if 25% LEL (propane in air) is detected, the equipment will automatically be brought to a controlled stop, preventing explosions

and protecting the driver.

"We've been protecting millions of people for five generations with explosion protection safety solutions," says Karolina, explaining that 2019 marks 50 years since the start of the original 'Project Pyroban'.

"Our expert support also helps businesses to keep lifetime equipment costs low," Karolina continues. "With best in class service, we continue to actively support our customers in Belgium with parts, engineer training, technical support and Annual Safety Audits."

Are you active?

Find out more at www.pyroban.com. Or contact Pyroban - call +33 (0)04 8168 2710 or email sales@pyroban.com.



Clean up your compressed air

Potential risks from contamination of compressed air are taken extremely seriously by the food and drink sector. Mark Whitmore from BOGE sums up the contaminant hazards, their sources and how to tackle them.

Compressed air has multiple uses in manufacturing and processing food and beverages, serving applications such as handling, cooling, freezing, labelling, cutting, peeling, bottle filling and packaging. Contaminated compressed air can damage vital machinery, compromise product quality and seriously affect consumer and employee health.

There are three main contamination sources: the atmosphere, the compressor, and the piping for receipt and distribution of air. Contaminants fall into three interacting forms:

- Solid – including dust and microorganisms drawn from the atmosphere and particles from abraded or corroded system components
- Liquid – including atmospheric water pulled into the system, or condensing from vapour, plus

- compressor lubricants and coolants
- Gaseous – including vaporised water, lubricant and coolant

Measures to avoid compressed air contamination should be part of a food and beverage company's HACCP (Hazard Analysis and Critical Control Points) plan. 'BCAS Food Grade Compressed Air Best Practice Guideline 102', a voluntary code agreed by the British Compressed Air Society and British Retail Consortium, should be followed.

A variety of methods can be combined to meet the code's requirements:

- Water separators – for bulk removal of condensed water and liquid oil
- Coalescing filters – dealing with water or oil



- which has formed an aerosol of small droplets
- Drying systems – such as pressure-over-generation, refrigeration, membrane and adsorption (desiccant) dryers
- Dust removal filters – removing dry particulates and other solids
- Sterile air filters – ensuring absolute removal of microorganisms and solid particles
- Routine maintenance – including regular draining, cleaning and sterilisation of pipework

And of course, high-quality, oil-free air compressors with low-wear components should also be chosen wherever food and drink are involved.

For further information, visit: www.boge.com

Ametek Land Gas And Dust Monitors Help Jeld-Wen Achieve Emissions Compliance

JELD-WEN has implemented AMETEK Land's flue gas analysers and opacity and dust monitors at its door manufacturing facility in Penrith, United Kingdom, to help achieve emissions compliance.



JELD-WEN is one of the world's largest manufacturers of windows and doors with operations in 20 countries, including five factories in the UK that manufacture timber windows and interior and exterior doors. The company is seen as a world leader in manufacturing energy efficient products and upholds high standards when it comes to sustainability. JELD-WEN's door manufacturing facility in Penrith produces 35,000 timber and veneered doors every week, and as a result produces a large amount of wood waste.

As a high-volume manufacturer, JELD-WEN was keen to reduce its waste, lower emissions and implement a more sustainable fuel source. Working with a specialist energy contractor, JELD-WEN identified biomass boilers, utilizing waste wood from its manufacturing operations as the most suitable technology. However, as the site is governed by local authority legislation, the company is required to monitor and control the emissions from its boiler. This is where an AMETEK Land emission monitoring solution was required.

The company previously had an old gas fired boiler, which was fitted with an AMETEK Land FGA 930 flue gas emissions analyser and a dust monitor. As part of the upgrade to biomass, the old boiler was decommissioned.

Two industrial biomass boilers were installed that would burn wood waste from JELD-WEN's production process in order to heat its factory and offices, whilst enabling the company to reduce its waste output significantly and lower its carbon footprint. A brand-new steel framed plant room was built to house the new boilers, plus a new two-storey office complex, two new flues and a new fuel delivery system, with fuel stored in an external silo, adjacent to the factory.

The large steam boilers were customised to include a specially designed moving grate combustion chamber, modified to suit dusty fuel. With a continuous self-replenishing fuel source, a large shredder was also installed at the factory to enable the reject wood and timber waste product to be chopped up and transported to the main silos for storage.

Focal-Point Technology, an AMETEK Land distributor, supplied and installed an FGA 930 flue gas analyser and a 4400 opacity and dust monitor on each of the two new stacks. The data acquisition system was provided by EMACCS.

The FGA provides accurate, reliable measurement of carbon monoxide, nitric oxide and oxygen in flue gases. It is an integrated solution for Continuous Emissions Monitoring Systems (CEMS) applications in smaller combustion processes and is ideally suited to JELD-WEN's biomass application. It allows them to benefit from better process control, which lowers fuel costs and keeps emissions within compliance levels.

A pair of sensors is used to analyse each of the species in the sampled flue gas, alternating every 30 minutes, which extends sensor lifetime and ensures a stable baseline, delivering high sensitivity and low drift.

The two new 4400 dust and opacity monitors are a cost-effective solution for the continuous monitoring of dust, smoke and particulates in industrial applications. The 4400 is lightweight design which made installation and positioning simple at the JELD-WEN plant. It offers them low-maintenance as it has no moving parts, which ensures it operates reliably and continuously for immediate cost and performance benefits.

Hamish White, Plant Manager from JELD-WEN in Penrith comments "The installation of the new biomass system was an important investment for us, and we are pleased to receive support from the Government's Renewable Heat Incentive (RHI) scheme, which provides financial payback for the use of renewable fuels such as biomass boilers, air and ground source heat pump and solar thermal. The AMETEK Land flue gas and dust analysers and monitors complete the system by ensuring continuous emissions monitoring."

Derek Stuart, Global Product Manager – Power, Combustion and Environmental, AMETEK Land said: "The simplicity and reliability of the FGA and 4400 make them an excellent choice for emissions measurements on small boilers such as these. The 4400 shares the same optical and electronic design as our industry-leading 4500 MkIII opacity monitor but omitting the automatic calibration check allows us to offer it at a more attractive price."

This new system will help JELD-WEN to improve its sustainability credentials, reducing both its particulate emissions, wood waste levels and carbon footprint. In addition, the company will benefit from lower energy and waste disposal costs as well as additional income from the Renewable Heat Incentive scheme. Emissions levels at JELD-WEN's Penrith facility will be carefully and consistently monitored by the robust FGA 930 and 4400 to ensure compliance with legislation.

For more information visit:
www.ametek-land.com.

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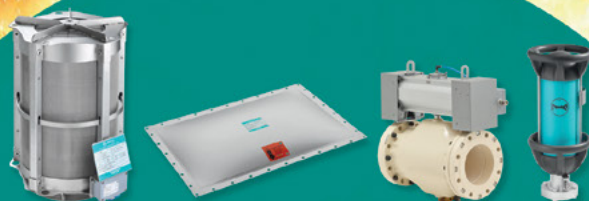
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