

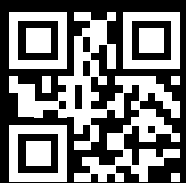
The International Magazine For Hazardous Area Professionals

HAZARDOUS Engineering Solutions

September/October 2024 Issue 77

www.hazeng.com

Raising The Bar In High-Level Cleaning Solutions



Also In This Edition: • ATEX • Fire Safety • Gas Detection
• Control and Instrumentation • Explosion Protection •
Materials Handling • Lighting • Subsea • Latest Events
Test & Measurement + More...

ES
Hazardous Engineering Solutions

SOUTHERN

25 Manufacturing & Electronics

4–6 February 2025 Farnborough
International Exhibition Centre

One show, a thousand solutions

9000+

attendees

27

years as the South's
leading industry show

600+

exhibitors

“

This has been absolutely fantastic — far beyond our expectations! The turnout has been incredible, with more visitors than we ever anticipated. We've attended other shows across Europe in recent months, and this one is by far the largest. The energy has been amazing right from day one, with a constant flow of enthusiastic visitors. We're thrilled with the outcome!

Agnieszka Radecka
Regional sales manager, TME



Visit the website



southern@easyfairs.com
+44 (0)20 3196 4414

by EASYFAIRS

Features

- *ATEX*
- *Latest Industry Events*
- *News & Products*
- *Cleaning Solutions*
- *Explosion Protection*
- *Hazardous Area Lighting*
- *Gas Detection*
- *Safety*
- *Test & Measurement*

Publisher

Michael Dominguez
editorial@engineeringmaintenance.info

Contributing Editors

Sean Clarke
info@exveritas.com

Mike Meen
www.bureauveritas.com

Advertising

Steve Pheasant
stevep@engineeringmaintenance.info

Website

www.hazeng.com

Telephone

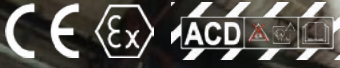
+44(0)207 193 1396

MSL Media Ltd
New Stone Hill Farm,
Stone Hill Road,
Ashford,
Kent,
TN27 9DU

Company Number
05359182

Incorporated
09-02-2005





spacevacinternational.com



Taking Cleaning to All New Heights!

SpaceVac's **NEW** range of industrial vacuum cleaners have been developed to meet the demands of heavy industry, the intensity of food manufacturing and the exacting standards within the pharmaceutical sector.

Robust body's and frames are paired with the best filters and motors, offering peace of mind that your SpaceVac system will always be ready to **REACH** new heights in decontamination.

This new range of vacuum systems include ATEX and ACD certified models for the removal of combustible waste and provide the perfect companion to our range of high-level cleaning systems.



Mercury ACD Vacuums

Titan ATEX Vacuums

Suitable for use across a wide range of business sectors and operating environments:



Retail



Manufacturing



Education



FM/BSC



Leisure & Tourism



Healthcare & Pharma



Transport & Logistics



Energy & Construction

Book a free presentation today!

Call us on 01604 968668 or visit spacevacinternational.com

Raising The Bar In High-Level Cleaning Solutions

SpaceVac International, a recognized leader in high-level cleaning solutions, has once again raised the bar with the release of its new line of industrial vacuum cleaners.

Known for pioneering effective and safe cleaning methods, particularly in environments where safety is paramount, SpaceVac's new models offer a range of options that are designed for use in hazardous, ATEX/Div2-rated combustible environments such as woodshops, food processing facilities, and other industrial settings where combustible dust and debris can pose a potential risk.

In total, the expanded range of new vacuums features 23 different models for use across a diverse spectrum of operating environments - from gutter cleaning to removing pharmaceutical waste, with two new lines (the Titan and Mercury models) specifically designed for the removal of combustible dusts. The Titan range, offers five models suitable for use in ATEX/Div2 environments* with options from 1-3 motors and even a three phase powered solution. Meantime - the Mercury range offers five ACD rated vacuums for removing combustible dusts from non-certified areas.

Each of these new models are packed with innovative features including;

Independently Switchable Motors - Allowing operators to adjust the power and performance of the vacuum based on the cleaning task at hand, offering both flexibility and energy efficiency. Whether dealing with light dust or heavy debris, users can select the appropriate motor configuration to maximize efficiency while conserving energy when full power isn't required.

Market-Leading Filtration System - Effective filtration is crucial in hazardous environments where dust and fine particles need to be safely captured and contained. SpaceVac has equipped its new units with market-leading filtration technology that ensures even the finest particles are safely trapped, reducing the risk of airborne contaminants and maintaining compliance with safety standards. This system not only enhances operational safety but also extends the life of the vacuum, ensuring reliable performance even in demanding conditions.

Integrated Tool and Pole Holders - A common challenge when using industrial cleaning equipment is maintaining easy access to all necessary tools. SpaceVac's new design incorporates integrated tool and pole holders directly onto the vacuum itself. This feature provides users

with the convenience of having essential accessories within reach at all times, minimizing downtime and streamlining the cleaning process. Whether switching between attachments or needing additional reach, everything can be stored neatly and securely on the unit, enabling seamless operation.

Designed for Challenging Environments - SpaceVac's commitment to safety and performance is evident throughout this new range. These vacuum cleaners are specifically engineered for combustible environments, making them ideal for industries such as woodworking, food production, and pharmaceuticals, where combustible dust is a constant concern. The vacuums powerful cleaning performance make for the ideal companion to the companies range of fully conductive ATEX cleaning systems; providing the complete solution for removing combustible dust from the safety of the ground floor.

A Trusted Name in High-Level Cleaning

As the global leader in high-level cleaning systems, SpaceVac has built a reputation for innovation, safety, and reliability. The launch of this new industrial vacuum range further solidifies its position at the forefront of the industry. With a blend of cutting-edge features and a clear focus on the specific needs of ATEX-rated environments, these new units are set to make an immediate impact in the market. Find out more and book a free presentation today at the website - spacevacinternational.com

* Certification / rating varies by model. Please consult literature for specific model rating information.



Left: Mercury 2 (ACD), Mercury 2 (ACD) and Titan 2 (ATEX) vacuums, fully loaded with ATEX Cleaning systems.



Hart Faces Climate Challenges

17/08/2015

Business and Climate have to work together says Gordon Kipling, Northern Sales Manager, Hart Door Systems. "Climate Change are two words which are in frequent use certainly as we in Britain inevitably discuss the weather. But there is a serious side effect because adverse weather can have grave implications for business be it buildings on a farm, day to day manufacturing and all that entails or residential in particular tower blocks.

"We take a global view with the development of Hart's Typhoon shutter being a good example of a response to Typhoon storms in the Far East. Typically thanks to Climate Change a major storm hit Northumberland a few years ago inflicting major damage to an isolated grain silo. Here Hart's Typhoon shutters were retrofitted for protection from future storms.

"As more and more Atlantic storms are forecast to hit the British Isles there has been increasing demand for Hart's Speedor Storm doors. Speedor is Hart's trusted, innovative, solution for the 'high-speed' door and it has been developed further for specific manufacturing requirements, hence Cleanroom, Conveyor, Mini and of course Storm. All feature cutting-edge technology and a commitment to excellence in appli-

cations where operational efficiency, safety and reliability are required.

"The Speedor Storm variant offers protection from the elements, withstanding winds of up to 70 mph. The wind resistance is delivered via a unique guide system working in combination with other carefully designed features. Strength is through multi-layered PVC and textile which are both long-lasting and tear-resistant. Horizontal curtain braces add additional wind resistance. Seals are also a key feature provided by PVC extrusion and rubber draught seals. Safety features are paramount and the Speedor Storm includes a pressure-sensitive bottom edge, anti-fall protection and photocell technology.

"Operating methods include floor loops, radar, photo beam, radio, movement sensors, hand-held or vehicle-mounted radio transmitters, push button and pull cords. Operation can be set to include or exclude pedestrians as desired. Warning lights or klaxons can be incorporated and the operation of a Speedor Storm can be integrated into a Building Management system if required.

"Climate Change is with us for the future and in a similar vein so is Speedor Storm."

www.hartdoors.com



Easier Joint Pin Extraction - New Enerpac Hydraulic Pin Pullers

Hydraulic tools specialist, Enerpac, announces the new PPH-Series Hydraulic Pin Puller, providing an efficient, safe, and versatile method for removal of joint pins during the maintenance of heavy machinery. These complete kits use hydraulic power to remove joint pins on vehicles, excavators and heavy machinery used in construction, mining, wind turbine gearbox pins, bogie and truck pin removal for rail and in stationary equipment found in manufacturing facilities.

Until now, operators have relied on pin removal using unsafe methods, such as torching, lancing, or hammering, all of which risk irreparable damage to the joint pin, resulting in extra costs and leading to longer downtime. With a pulling capacity of 40 to 67 metric tonnes, the PPH-Series Pin Puller provides a safer and more efficient removal of joint pins up to 302mm long. It uses a powerful, Enerpac hydraulic cylinder to extract pins with precision and minimal damage, allowing a single operator to remove a multitude of joint pin sizes easily.

Safer Pin Pulling

Supplied in a portable, wheeled carry case, the PPH-Series Pin Puller Kits, PPH40 and PPH66, are ideal for mastering a diverse range of pin-pulling tasks. Each set includes three stacking and locking patented C-Sleeves, with the option of adding an extra two for longer pins up to 508mm long. The C-shape design creates a fitment around the flag of heavy machinery pins, providing a precise and safe pin removal. Improving operator safety, each kit contains a shackle for lifting via a crane or lifting system. The column sections have multiple hoist points, designed to give the user more control over the balance of the tool while it is suspended. The kit also contains a Quick Nut for fast attachment to threaded rods, with alternative thread sizes available to purchase separately.

'Quick Nut' for damaged nut threads

With existing solutions using regular threaded nuts, that require time to run down the rod and cannot be used on damaged threads, the PPH-Series kits are engineered to streamline even on the most demanding pin pulling projects. The innovative split Quick Nut makes it easier and faster to manipulate damaged threads. The easy one-handed closure is quick to assemble around a rod and avoids running the nut over damaged threads.

"Safety on the job site is paramount, which is why these kits offer a safer alternative than old-school, traditional methods involving sparks, heat, hammering, and loose parts. We wanted to provide a safe and efficient way for a single operator to extract pins from construction vehicles that eliminated damage to parts, but also provided a lightweight and potable tool that was practical to move about on-site. The transport and assembly of the PPH-Series Pin Puller Kits is made easier by the robust aluminium construction of the Enerpac Hydraulic Cylinder," said Ejnar Christensen, National Accounts Manager, Enerpac.

Each PPH-Series Kit includes three column sections that lock together. Multiple column sections can be stacked together depending on the length of the joint pin. Up to maximum 5 Column Sections can be locked together.

For more information on the Enerpac PPH-Series Hydraulic Pin Puller visit www.enerpac.com



Mechanical Integrity Practitioner Certificate



Immediate benefits for efficient, safe primary containment

From day one, Learners on the EEMUA MIPC® training build a unique workbook of mechanical integrity know how tailored to each Learner, site and company.

EEMUA's MIPC course helps practitioner-level engineers to be where they are needed – **on-site** and **on top** of the latest industry developments and good practice in **primary containment of hazardous substances, including in pressure systems.**

Flexible, in-depth training for engineers **on-site / on-call**, EEMUA's Mechanical Integrity Practitioner Certificate courses combine: **live online** classes; **I-I** sessions with expert Tutors; **on-demand e-learning**; and more – all enhanced by **Mentor support and guidance** throughout.

Covers: Inspection and Test Techniques; Asset Condition; Equipment Design Elements; Legislative Environment; Reporting; Risk and ALARP; Audit; User Responsibilities and Competencies; Postponement; Feedback; WSE; and more.

Adapts to engineering needs of each individual Learner, their company, and their site/s – **via a 2-hour Induction...**

Next MIPC course:
Induction to fit work diaries from September 2024.
Learning starts 21 October 2024.
Registration open now.



For details please contact EEMUA
online-learning@eemua.org
+44 (0)20 7488 0801
www.eemua.org



Southern Manufacturing & Electronics To Return Under New Ownership

The largest and most comprehensive annual industrial exhibition in the UK and a major global showcase for new engineering and manufacturing technology, Southern Manufacturing & Electronics will take place at its usual venue, the Farnborough International Exhibition & Conference Centre, from 4th to 6th February 2025 (www.southern-manufacturing-electronics.com). It will be a pivotal occasion since the show started out in 1997, as it returns for the first time under the ownership of Easyfairs, a pan-European specialist in exhibitions with more than 100 event titles under management.

It will be the place to see all the latest in equipment, components and consumables for mechanical, electrical and electronics manufacturing, as well as a host of ancillary products and services such as labelling, storage and handling, freight forwarding and training. It is a key occasion for anyone involved in design, production, procurement or management who is keen to keep up to date with cutting-edge developments in machine tools, box build assembly, PCB manufacture, automation and robotics, test, inspection, measurement, production planning, engineering and business software, and much more.

Easyfairs says that the show is on course to be larger than last time, in terms of both stand space and the number of visitors, but emphasises that it intends to maintain the intimate feel of the exhibition that has seen companies repeatedly present their wares and expertise for nearly three decades. A distinctive feature is the event's ability to attract major manufacturers as well as small to medium-sized engineering enterprises. As there is an open access policy that discourages large companies from dominating the space, the show nurtures a vibrant atmosphere that fosters collaboration, learning and discovery.

The amalgamation of diverse sectors and vendors under one roof makes it an ideal platform for undertaking multifaceted sourcing requirements. This is made all the easier by an absence of physical barriers between the different areas, which encourages cross-over between the engineering disciplines and enables visitors to find companies they

might not otherwise encounter. Technology Trails guide visitors around the stands, grouping firms with expertise in specific areas and so facilitating efficient exploration.

Over the three days, visitors will be able to take advantage of an extensive programme of technical seminars covering a wide range of topics. It is another aspect of the exhibition that Easyfairs intends to expand dramatically, as education is one of the company's core beliefs. So also is ecology and there will be many examples of energy-saving measures around the show.

Southern Manufacturing & Electronics 2025 will co-locate with AutoAero, a specialist thread that runs through the main programme concentrating on matters important to automotive and aerospace engineering. Both sectors directly contribute billions of pounds to the UK's GDP, while supporting numerous industries and businesses in the supply chains and providing much needed employment for highly skilled people.

There is ample free car parking and the site is well served by road and public transport links. A regular, complimentary bus service runs between Farnborough's two railway stations and the showground. Register today for free admission using code

<https://register.visitcloud.com/survey/00mf6xsmh61zw?action-code=1034>



Wood To Design The DeLa Express Natural Gas Pipeline Project In Texas And Louisiana

Wood, a global leader in consulting and engineering, has been awarded the front-end engineering design (FEED) for a long-haul, large diameter liquids-rich natural gas pipeline project in the United States.

The DeLa Express pipeline project (the 'project') being developed by DeLa Express LLC ('DeLa Express'), a subsidiary of Moss Lake Partners LP ('Moss Lake Partners'), is proposed to deliver liquids-rich natural gas from the Permian Basin of West Texas to the U.S. Gulf Coast and international export markets.

Once complete, the project will act as a highway to supply the growing demand for natural gas and liquids, safely shipping critical energy to the largest demand markets, including the largest liquified natural gas (LNG) demand center in North America - Cameron Parish, Louisiana near the Sabine River Corridor.

The project is being designed for approximately two plus (2.0+) billion cubic feet per day (BCF/d) of natural gas and liquids transportation capacity, enough to supply the daily equivalent demand of the city of Chicago, Illinois.

By aiming to provide much needed natural gas and liquids takeaway capacity, the project will reduce flaring and emissions in the Permian, and by transporting natural gas and liquids in a single mainline, it will minimise the need for right-of-way clearing and have a significantly lower environmental impact.

Jeremy Hall, Senior Vice President of Oil, Gas and New Energies Americas for Wood, said: "As demand for natural gas increases, the project will provide a trans-

formational answer to the strained existing pipeline capacity from the Permian Basin.

"Wood recently completed the design of several long-haul pipeline systems in the United States and has a strong track record of delivering engineering for complex natural gas pipeline systems as well as managing the FERC permitting process. Our team is delighted to work with DeLa Express and Moss Lake Partners on this flagship project that will help to provide increased energy security in the United States and around the world."

Under the contract, Wood will design approximately 645 miles of 42-inch diameter mainline pipeline and approximately 139 miles of associated laterals. The team will also manage the compressor station subcontractor, Burrow Global, LLC.

Eric J. Carmichael, Senior Vice President, EPC Projects for Moss Lake Partners, commented: "Given the remarkable interest from Permian producers, global consumers and private capital markets, Wood is the natural choice to spearhead one of our premiere infrastructure development projects.

"Wood's industry expertise, seamlessly woven with our strategic vision, heralds an exhilarating future for U.S. energy infrastructure and Moss Lake Partners."

Wood's team of pipeline experts have recently delivered engineering for major pipeline projects, such as Grey Oak, ExxonMobil's Delaware Connector and Williams' Regional Energy Access, and designed over 3,000 miles of energy transition pipelines in North America.

www.woodplc.com



EEMUA 194 Subsea Engineering Basics

Materials selection and corrosion control course – with reality built in

Blended online learning for design, commissioning, specification, operation, repair, maintenance, and refurbishment of ageing or new underwater energy production equipment – to optimise cost-effective and reliable long term operation.

EEMUA 194 Subsea Engineering Basics courses encompass the distilled know how of the industry captured in the practical 'how to' guidance of EEMUA Publication 194.

Course Tutors incorporate this industry know how with decades of their own expert materials corrosion experience – for effective learning with reality built in.

- Blended online learning combines live classes, 1-1 tutorials, session recordings, e-learning and more.
- Real-time interaction with Tutors ensures each Learners' immediate, correct understanding.
- In-depth course structured as manageable sessions over 3 weeks to fit busy schedules.
- Enables team members to be where they're needed on-site and using industry's collected experience of real-world subsea engineering.
- Certification by exam to industry requirements.
- Adapts to the engineering needs of individual Learners and their companies, through Induction.
- **Registration open now for the next course.** Induction of 2 hours to fit diaries in October 2024. **Learning starts 4 November 2024.**

Find out more at www.eemua.org,
contact online-learning@eemua.org,
or call EEMUA on +44 (0) 20 7488 0801.





LiftEx 2024

EXHIBITION | LEEA AWARDS



16th – 17th October 2024
Olympia West, London

Includes the LEEA
Accredited Training
Scheme Seminar

2 days of
training
sessions

FREE TO
ATTEND



LiftEx is the premier
networking exhibition for
the lifting equipment and
height safety industries,
now in its 19th year.

*Attended by professionals
involved in operating, inspecting,
and testing lifting equipment in
the Engineering sector.*



REGISTER
YOUR VISITOR
TICKET NOW

Headline Sponsor

RiConnect
Connect to Safety

Gold Sponsor

YOKE
Safety is our first priority™

Badge and Water Sponsor

(rss)
ropeandsling.co.uk

Hosted by:



liftex.org #liftex2024

Find Safe Lifting Solutions For Hazardous Environments At LiftEx 2024

LiftEx 2024, the flagship event of the Lifting Equipment Engineers Association (LEEAA), will take place on 16-17th October 2024 at the new West Hall at Olympia in London.

The free-to-attend show is an essential visit for lifting safety professionals and anyone involved in using or procuring lifting equipment or vital supporting services such as inspection, maintenance and training for hazardous environments.

Challenging lifting applications are frequently carried out in oil and gas, mining, chemical plants, power generation or anywhere where there are potentially explosive atmospheres. Performing these tasks safely and efficiently will often require specific solutions involving developments such as automation, remote operation systems, explosion-proof technology and corrosion resistance. Adherence to best practice will also be needed.

The Lifting Equipment industry is constantly evolving with the onset of new materials, innovative ideas, better ways of doing things and the inclusion of modern technologies. Experts for these services offer the assurance of safety as well as value. For example, the ability to create solutions you might never think about, seeing the long-term implications of a project, saving time effort and money through safe and efficient practice.

A show floor full of lifting innovation

The LiftEx show floor at Olympia will be packed with exhibitors offering expertise and demonstrating innovations to improve productivity, efficiency and safety. They will showcase the latest lifting products including hoists, mobile and overhead cranes, steel chains, wire rope, winches, shackles, web slings, rigging, spreader beams, height safety and load monitoring equipment, IT solutions and more.

Boost your knowledge

Crucially, a visit will contribute to improving safety and best practice with advice from experts on the LEEAA stand, while free training sessions and presentations will be delivered at the LEEAA Accredited Training Scheme (ATS) seminar sessions, held across both days in the

show floor theatre. Check for details and times at events.leeaint.com/liftex-london-2024/ats-seminar.

Network at the best LiftEx yet

The leading annual networking event for the lifting industry is set to be the best yet, supported by sponsors including YOKE, the manufacturer of lifting fittings for chain, wire rope and webbing slings; Rope and Sling Specialists, one of the largest independent companies in the field of lifting equipment engineering in the UK; and Headline Sponsor RiConnect Inc, which offers powerful software known as RiConnect, designed to streamline equipment management and ensure regulatory compliance and traceability.

There will be many chances to network with peers and colleagues, not least on the evening of 16 October 2024 – Day One of LiftEx – when the annual LEEAA Awards ceremony will be held at the iconic Dorchester hotel. This promises to be the Lifting Industry's party of the year. To attend, book at.

All of this means a visit to LiftEx 2024 offers the perfect chance to gain vital hazardous environment lifting related knowledge and insights, as well as an opportunity to meet LEEAA members and discuss ways they can help achieve best lifting practice.

Register now for LiftEx 2024 at events.leeaint.com/liftex-london-2024.





Digitalisation In The Verification Of Safety And Environmentally Critical Elements

Digitalisation in the verification of safety and environmentally critical elements in the energy, chemical and process industries.

Mike Meen, Technical Director at Bureau Veritas, highlights the crucial role that safety and environmentally critical elements (SCE) play in energy, chemical and process industries, and how evolving digitalisation is improving the monitoring of this equipment.

Safety and environmentally critical elements (SCE) are a risk-management tool within equipment and software across several industries, used to prevent or limit the effects of a major accident.

A common example of this is a relief valve on a pressure-containing device. The relief valve (the SCE) is installed on the equipment to prevent a rupture, safeguarding the plant or local area from potential hazardous leaks or explosions. As a vital piece of equipment, it's critical that the element is well-maintained and regularly monitored to ensure its value and reliability.

Condition monitoring forms part of the risk mitigation process and has been undertaken in the chemical and energy industries for decades. The concept and thinking behind condition-based maintenance dates back to World War II, where the RAF used the predecessor to 'Nowland and Heaps' reliability-centred maintenance (RCM) to look at particular components across its fleet of similar aircraft to assess the pass, fail and degradation of specific parts.

The science of maintenance has improved over time, as has the reliability of components. However, despite the ever-evolving development of products and technologies, condition monitoring has always been a process-heavy task, requiring hours of resource to analyse individual pieces of data.

Turning data into information

Digitalisation has significantly improved the ways in which we can undertake condition monitoring. Machine learning and artificial intelligence has enabled us to move away from simply interrogating those millions of data sets – i.e. counting how many times a certain piece of equipment has passed or failed, and instead move into trending the data – looking at performance analysis, product degradation and lifecycle predictions.

Factoring in the multiple SCEs in situ in

plants across the UK, including offshore plants, we are able to collect terabytes of data, whereby we're able to start recording things such as manufacturer's details of the SCE, the type of equipment or SCE, faults and failures within the device; this is where data, turns into useable information.

With the advent of sophisticated interfaces, we can tap into multiple existing databases across numerous plants and industries, both for onshore and offshore installations, and crucially, predict failure before it's too late.

Utilising the information that is already readily available, AI servers can connect the dots and reports can be instantly created to advise companies on the risks posed within their facility, based on the manufacturer's products used, regularity of maintenance and dormancy of the SCEs. This could not only prevent an accident occurring, but crucially save lives; all from a computer.

For operators of industrial facilities, this offers peace of mind that continuous reporting can be done to predict any potential outages, ensuring a consistent 'state of play' for the plant.

www.bureauveritas.com



Fire-Rated Vs. Fire-Resistant Storage: What A Lot Of People Get Wrong And Why It Matters

Mike Brodie, Managing Director of Chemstore UK, outlines the critical differences between fire-rated and fire-resistant storage and emphasises the importance of correctly distinguishing between them. As the UK experiences increasingly extreme weather patterns and record-breaking temperatures, the importance of proper fire safety measures has never been more critical.

With rising temperatures and heatwaves becoming more frequent, the risks associated with improper storage of flammable materials are amplified. This makes it imperative to understand the difference between fire-rated and fire-resistant storage, as the consequences of getting it wrong can be devastating.

When it comes to protecting valuable or hazardous items, the terms "fire-rated" and "fire-resistant" are often used interchangeably. This common misunderstanding can lead to dangerous consequences, especially when products that require fire-rated storage are mistakenly placed in less effective fire-resistant units. To avoid these pitfalls, it's crucial to understand the differences between the two and why choosing fire-rated storage from trusted experts like Chemstore is essential.

Understanding Fire Rated vs. Fire Resistant Storage

The confusion often starts with the assumption that "fire-rated" and "fire-resistant" are synonymous. Many believe that a fire rating simply means the storage unit can stop the passage of flames. However, the reality is more complex, especially when safety is on the line.

Fire-resistant storage typically refers to materials or structures that can physically resist the passage of flames but this falls well short of the rigorous standards required for fire-rated storage. Fire-rated storage is designed to not only resist passage of flames but also to control the internal temperature of a storage module, preventing thermal heat transfer that could ignite the contents within.

According to HS(C)51, an essential guideline on fire safety in the workplace, fire walls (and by extension, fire-rated storage units) must be impermeable and provide a minimum of 30 minutes of fire resistance in terms of integrity, insulation, and load-bearing capacity where applicable. This means that a fire-rated storage unit must be capable of maintaining its structural integrity, insulating against heat, and bearing loads even under intense fire conditions.

In terms of spotting the difference between a fire-resistant panel and a fire-rated panel, a fire-resistant panel made of single sheet steel is thin, smooth, and solid, often with a shiny or matte finish but lacking visible insulation. Its primary function is to resist flames, but it provides minimal insulation and may warp or fail under intense heat.

In contrast, a fire-rated panel featuring non-combustible insulation such as Rockwool is much bulkier, with insulating material encased between protective layers. This panel offers superior structural integrity and high insulation performance, effectively delaying heat transfer and maintaining a barrier against flames for extended periods. The key differences are in thickness and construction, which impact how each panel performs in fire situations.

The importance of temperature control in fire-rated units

One of the critical benefits of a fire-rated storage unit is its ability to control the temperature inside the unit. This feature is often overlooked but is vital in scenarios where the stored materials are sensitive to heat. In the case of highly flammable substances or lithium-ion batteries, even a slight increase in temperature can lead to disastrous outcomes.

The assumption that stopping flames is enough to protect the contents of a storage unit can lead to tragic mistakes. For instance, a single-skin metal box, which many mistakenly believe to be fire-rated, offers minimal insulation. In direct sunlight or during a fire, such a box can act like an oven, leading to the overheating and possible ignition of the materials inside. This risk is especially pronounced during hot weather when ambient temperatures can already push the limits of what stored items can safely endure.

It is good practice to maintain lithium-ion batteries at 19°C ±1.5°C to maximise safety yet is not possible for a single skin storage module to provide this level of environmental control as it will consistently overheat and freeze throughout the year.

The dangers of mislabelling and the importance of expert advice

A significant issue in the UK market is the influx of products labelled as "fire-rated" without meeting the necessary standards. Many of these products are sold based on the misconception that fire rating merely involves preventing flames from passing through. This misunderstanding can lead to businesses and individuals purchasing storage solutions that are woefully inadequate for their needs.

The consequences of using improperly rated storage can be severe. In the event of a fire, a unit that does not provide sufficient insulation and temperature control can allow heat to build up inside, potentially causing primary containers to fail and lead to the release of harmful fumes, or the destruction of critical materials.

To ensure safety, it's imperative to purchase fire-rated storage from trusted experts like Chemstore. We are a BSIF Registered Safety Supplier and our products are designed and tested to meet the rigorous requirements set out in HS(C)51, ensuring that you have the highest level of protection.

Conclusion

Understanding the difference between fire-rated and fire-resistant storage is not just a matter of semantics—it's a matter of safety. In scenarios where the contents of a storage unit are sensitive to heat or flammable, relying on inadequate storage can lead to catastrophic consequences. By choosing fire-rated storage solutions from reputable providers like Chemstore, you can ensure that your materials are protected not just from flames, but from the heat that can be just as deadly. Don't take risks with fire safety; understand what you're buying and why it matters.

For more information, visit www.chemstore.co.uk



DOORS READY FOR ACTION



British design and manufacture, wide range of models covering high security, large doors with high wind resistance (3,000 to 5,000 pascals), fire and high speed automation with systems' interface.

One stop door shop for new installation and/or repairs and maintenance.

**speedor®
firebrand
Terror Screen**

Globally recognised Hart's high speed doors and shutters deliver options and solutions for industry wherever you are.

**Take control of your business environment.
Call 0191 214 0404
info@hartdoors.com**

HART
DOOR SYSTEMS
www.hartdoors.com



Bright Future For Hi-Line Industries Following Acquisition By Ingersoll Rand

Hi-line Industries, a UK-based leader in the design, manufacture and installation of energy-efficient compressed air purification equipment, is announcing its acquisition by US multinational Ingersoll Rand. Important to note is the assurance of complete customer continuity. Hi-line will continue to build and sell all of its products with no price increases. Steve Smith will also remain as Managing Director to maintain the next-day delivery expectations of customers.

The acquisition, effective from 1 July 2024, marks the start of a new and exciting chapter in the history of Hi-line as a progressive UK man-

ufacturing business. It follows 12 months of intensive negotiations and due diligence. With Steve Smith as the sole owner of Hi-line, funding was always going to be the issue in reaching the next level. Now, with the backing of Ingersoll Rand's financial might, the Burton-upon-Trent based company can grow quickly to become the market's number one in compressed air treatment solutions.

To celebrate the bright future that the acquisition promises, Hi-line staged a launch day in July at nearby St George's Park, home of the Football Association's national football centre. The football analogy is quite pertinent.

"At the launch day I explained to our staff that the acquisition by Ingersoll Rand was akin to a wealthy investor buying a football club," says



via a new recruitment drive that will deliver even more support for our broad product range."

Energy-efficient compressed air equipment available from Hi-line includes desiccant and refrigeration air dryers, nitrogen/oxygen separators, filtration equipment, and condensate systems. A five-year warranty reflects Hi-line's confidence in its high-quality workmanship and materials. Supplying both standard and bespoke solutions, the company serves customers in sectors that include food and beverage, medical, general manufacturing, automotive, breathing air, and laser cutting to list but a few. The company is a member of the British Compressed Air Society and carries accreditation to the ISO 9001:2015 quality management standard.

Further information is available from: Hi-line Industries Ltd,

Green Street, Burton on Trent, Staffordshire DE14 3RT

Telephone: 01283 533377

Fax: 01283 533367

e-mail: enquiries@hilineindustries.com

www.hilineindustries.com



Steve Smith. "The investor recognises potential in the team, invests in the purchase of the club, and provides funding to buy players and grow."

Among the first results of the Ingersoll Rand investment will be the addition of Industry 4.1 IoT capabilities to all Hi-line controllers by the end of 2024. Another change will see Ingersoll Rand companies gain access to Hi-line's highly popular range of alternative filter elements and its coveted series of Hi-PLEX dual technology dryer skids (fridge and desiccant on the same skid).

"What will not change is our outstanding level of customer service," states Steve Smith. "Headed up by Craig Watson and Oliver Loewenbach, these guys work tirelessly to support our distributors. In fact, we are looking to grow our ACRIB-registered team of service technicians





Electric Hoist Leaves Large Distillery In High Spirits

The world's largest producer of spirits is now benefiting from a turnkey package of three Italkrane ATEX-rated electric chain hoists supplied by Hoist & Winch Ltd. Operational within a new extension of the Scotland-based distillery, the 2-ton swl (safe working load) hoists raise and lower sealed vessel lids and baskets containing raw materials used in the production of gin.

Among the challenges of this demanding project was a restriction in the overall height of the new building due to local planning laws. In turn, only limited headroom is available for lifting operations over the vessels. Critical for the application, therefore, was the specification by Hoist & Winch of Italkrane YY series electric chain hoists featuring a low-headroom design. The ATEX specification of the hoists is necessary due to the vapours and fumes produced in the manufacture of alcohol-based products.

Italkrane YY series electric chain hoists feature an Ex d electrical enclosure design to contain any explosions and stop flames, sparks and hot gases from escaping. Full anti-spark features are in place for

all components subject to sliding friction, including the brass trolley wheels. Also present is a non-sparking load hook, brass anti-tip device and polycarbonate pendant control ensuring explosion protection up to Zone 1 II B T4 classification.

The power supply to each hoist unit is via a festoon cable track system complete with sliding trolleys and support arms clipped to the top flange of the hoist runway beam. Each hoist unit also features an Italkrane heavy-duty geared top/bottom limit switch and friction-type slipping clutch overload protection device.

"Although we provide a full spectrum of lifting equipment services, Hoist & Winch is particularly at home supplying equipment for demanding industries, including the distillery sector," explains Hoist & Winch Director Andy Allen. "We have extensive knowledge of this industry, where our quality of service and flexible approach ensure the highest levels of customer satisfaction."

Due to the critical nature of the project and the risk of explosion throughout the high-risk site, it was clear that very stringent planning and close monitoring of working practices would be necessary at all times. In addition, the site work was subject to Construction Design and Management (CDM) Regulations, supported by a requirement for

all site engineers to hold a valid CCNSG Safety Passport/CSCS competency certification.

Installation took place over seven days, with a Hoist & Winch ComPEX-certified electrical installation engineer completing all connection work. The load testing of each hoist unit and complete runway beam took place using a dynamic test load of 2t + 125% proof load. Additional functional testing using the vessel lids and raw material baskets proved system functionality in line with customer requirements.

Following the issue of a LOLER (Lifting Operations and Lifting Equipment Regulations) Thorough Examination Report for all installation work, Hoist & Winch provided on-site training for the distillery's operating personnel.

Although providing the optimal solution for this large distillery, Italkrane ATEX-rated electric chain hoists are also suitable for many other applications requiring safe lifting operations in explosion risk environments. In addition, Hoist & Winch can offer ATEX wire rope hoists for longer lifting tasks, heavier loads up to 50t swl and higher duty applications.

Visit www.hoistandwinch.co.uk



Safe & Efficient Drum Handling In Hazardous Areas

Do you have a need to lift or move drums, de-palletise or just generally move drums around a workshop or factory site in Hazardous Areas.

The St Clare Engineering range of Grab-O-Matic ATEX fork attachment and pedestrian drum handlers will provide a safe and efficient solution for you.

The popular and versatile Grab-O-Matic DLR range of rim grip fork attachment drum handlers are suitable for all types of steel drums, plastic 'L' ring drums and most fibre drums.

The extensive drum handling range includes the SC10 for lifting and rotating drums to dispense the contents, scissor grabs, base gripping units and waist grippers, the whole range can also be fitted to pedestrian stackers for use in confined spaces and places where fork trucks are banned. Bespoke units can be manufactured to suit customer specification.

We also have a range of Drum Cages for off-shore use and fork attachment Whiskey/Wine Barrel Base Grippers for use in the drinks industry.

We have also developed a Quick Attach/Release drum handler fork attachment for use in ATEX hazardous areas.

All Grab-O-Matic models can be Quick Attach/Release units and are securely attached to the forks and released without the need for the truck driver to dismount from his cab, saving time and increasing safety!

The drum handlers can be manufactured completely from stainless steel or part stainless steel to suit customer requirements and the spark proof area the units are operating in.

All Grab-O-Matic fork attachments are issued with Test Certificates, CE marked and manufactured entirely in the UK to ISO 9001:2015 and will be certified for use in ATEX spark proof areas.

For more information on our extensive range of drum and materials handling equipment please contact Andy Bow on 02380 643402 or email sales@stclare-engineering.co.uk



Drum & Material Handling Equipment

Handle your drums Safely, Simply & Efficiently with the Grab-O-Matic Range of Stainless Steel /ATEX Drum Handling Equipment



Our Stainless Steel/ATEX Product Range Includes:

- Drum Handling Attachments (Rim and Waist Gripping)
- Drum Cages
- Pedestrian Drum Carriers
- Drum Rotation Units (Fork Mounted and Crane Slung)
- Self Dumping Hoppers
- Pallet & Stacker Trucks
- Pedestrian Drum Rotators
- Scissor Grab Drum Handler

St Clare Engineering Ltd (Grab-O-Matic)

Unit 1, Brookwood Industrial Estate, Brookwood Avenue, Eastleigh, Hampshire SO50 9EY

Tel: 02380 643402 Fax: 02380 642189 Email: sales@stclare-engineering.co.uk Web: www.stclare-engineering.co.uk

Always a step ahead!

Innovative mobile devices for ATEX/IECEX with the most advanced technology.



i.safe MOBILE

isafe-mobile.com



peppers™

END—TO—END PERFORMANCE



peppers.co.uk





The Unnecessary Shroud And Why Peppers Stands By Its Design

In the world of electrical installations, the conversation often turns to protection and how best to shield components from the elements and ensure longevity and safety. One common solution that has emerged over the years is the use of shrouds to cover cable glands. However Peppers has taken a different approach, one rooted in a commitment to excellence and a belief that the right design renders such coverings unnecessary.

Shrouds are typically used with the intention of providing an extra layer of protection, shielding the cable gland from dust, moisture, or corrosive substances. The idea is that by covering the gland, the installation is better protected. But at Peppers, they believe that the need for a shroud often points to a deeper issue: the base product itself should be designed to withstand these challenges without requiring an additional layer.

Their ethos revolves around engineering cable glands that are inherently robust and capable of performing in the most demanding environments. This is achieved through superior design, high-quality materials, and rigorous testing. They design their products to be naturally resistant to the very conditions that shrouds are meant to protect against. Whether it's exposure to harsh chemicals, extreme temperatures, or the risk of mechanical damage, Peppers' cable glands are built to endure without the need for further covering.

The protection offered by a shroud is, at best, marginal when compared to the built-in durability of a well-designed gland. In fact, in some cases, shrouds can even create issues rather than solve them. They can trap moisture, leading to corrosion over time, or allow for the accumulation of dust and debris, which can compromise the integrity of the installation. These potential drawbacks as unnecessary risks when the right 'fit for purpose' product, designed for the job, can offer all the protection needed.

Crucially, Peppers' products enhance the overall installation, both in

terms of performance and appearance. A shroud, while functional, often detracts from the clean, professional look that is achieved when using a well-crafted cable gland. By eliminating the need for shrouds, Peppers' allows their products to contribute to a more streamlined and aesthetically pleasing installation.

Peppers fully support the principle that true protection comes from within the product itself. By focusing on the core design and manufacturing of their cable glands and accessories, ensures that they perform under the most challenging conditions without the need for additional coverings. It's a philosophy that prioritises reliability, simplicity, and aesthetic integrity, and it's why Peppers believe that shrouds are simply not necessary.

For more information on how Peppers Cable Glands can enhance your hydrogen infrastructure, visit www.cableglands.com or contact us at +44 1276 64232





WORKER SAFETY IS OUR BUSINESS



FULLY
GUARANTEED

CORROSION
RESISTANT

EXCEEDS
ANSI & EN
STANDARDS

DELIVERS
TEPID
WATER

MADE IN
BRITAIN

Explore the full range at www.aqua-safety.com

Protect Your Team and Stay Compliant with Aqua's 5-Step Maintenance Plan

Crafted in-house in the UK, our range of mains-fed, self-contained, and portable safety showers can be tailored to meet your specific site requirements.

Our 5-Step Maintenance Plan keeps your equipment compliant with ANSI & EN safety standards, letting you focus on what you do best.

Connect with our friendly experts today:

+44 (0)1942 318096

sales@aqua-safety.com





Ensuring Safety In Hazardous Environments : ATEX Safety Showers

In industries where flammable gases, vapours, and dusts are present, ensuring the safety of employees is of paramount importance. The European Union's ATEX Directive 2014/34/EU, aim to regulate equipment used in potentially explosive atmospheres, requiring companies to implement safety measures that mitigate the risk of ignition and protect personnel.

Background

All chemical manufacturing facilities that handle or specialise in the production of volatile chemicals should adhere to ATEX regulations to protect employees from potential hazards. One of the key aspects of ATEX compliance is the provision of safety equipment, including safety showers and eye wash stations.

The Challenge and Solution

Compliance with ATEX Regulations: The company needs to comply with ATEX Directive 2014/34/EU, which requires the implementation of safety measures to prevent explosions in areas with potentially explosive atmospheres. This includes providing ATEX-compliant safety

showers.

Employee Safety: The safety of employees is a top priority. You need to ensure rapid and effective decontamination in case of chemical exposure.

Equipment Selection: Choosing the right ATEX-compliant equipment is essential. You must evaluate the specific requirements of your facility, including location, potential hazard levels, and the number of showers needed.

The Solution

Get peace of mind knowing that safety showers from Aqua Safety Showers will be manufactured from corrosion resistant materials and come with a two-year warranty, further promoting a safety-conscious workplace culture.





Brilliant Peli Lighting For Hazardous Areas

Only torches and lights that are certified under the ATEX Directive can be used in hazardous areas; where special precautions are required when using electrical equipment due to the presence or chance of explosive atmospheres. Peli Products (UK) Ltd offer a wide range of ATEX certified, robust safety torches and work area lighting. Developed and evolved over 30 years, Peli™ professional lighting products are designed for rugged offshore use in the toughest operating conditions.

Peli Safety Torches

The first choice for professionals, Peli torches and headlamps are bright, compact, lightweight and exceptionally hard-wearing. These ATEX certified models are ideal for such hazardous areas as silos, tanks and chambers where an individual may be exposed to a range of potential hazards.

The Peli 3415 Zone 0 right angled torch can be clipped to clothing while the 2755 Zone 0 head torch is secured on a hard hat, using the rubber strap. Peli headtorches also come with hardhat mount and cloth strap. This enables the user to climb a ladder safely using both hands, while still having two light beams directed where required.

Peli™ 3335 Zone 0 R

Built tough to perform in the harshest environments, the 3335 Zone 0 is rechargeable and offers 58 hours run time. There are 3 light modes: High, Low and flashing and a built-in battery level indicator to ensure you never get left in the dark. A right-angle adaptor is available as an accessory for hands-free use, it allows the head to articulate, directing the light exactly where required.

Beyond its industrial benefits, this model champions environmental sustainability. The rechargeable feature eliminates the need for disposable batteries, minimizing waste and environmental impact. The lithium-ion rechargeable battery offers a life expectancy of over 2000 cycles, 4 times more than the usual amount and the long battery life further contributes to resource conservation, promoting a more sustainable approach to lighting solutions.

Work Area Lighting

Peli Area Lighting provides portable, powerful LED light where there is no mains power. Ideal for maintenance in both on and offshore industries, these rechargeable units deliver a safe, economic and convenient alternative to generator powered lighting. There are no trailing cables to create a trip hazard, no fumes are emitted and no liquid fuel is required, thus improving worker safety and adding to the environmental benefits of this range.

The Peli™ 9455 Zone 0 is a portable work light offering wide area illumination in high risk, hazardous areas. This rechargeable unit is easily carried and can be set up in seconds. It has a retractable mast; the head can be rotated 360° and it also pivots to angle the light direct-

ly where required.

A ten-hour run time (economy mode) ensures light duration for a full shift. Featuring a category leading light output of 1600 lumens and manufactured with a rugged, water resistant (IP54) body; it is ideal for heavy duty, industrial use.

Peli Products (UK) Ltd is an ISO registered company with a nationwide sales team. Located throughout the UK, the sales team are hugely experienced and can advise on the most suitable lighting and protective packaging options.

For more details go to www.peliproducs.co.uk or ring the Peli Products (UK) team: 01457 869999.



**RUGGED & RELIABLE.
BUILT TO PERFORM. BUILT TO LAST.**

- Rechargeable - 2000 Cycle Battery Life
- Atex Certified
- Waterproof - IP67 Rated
- 246-Lumen Output
- 58 Hour Run Time



**PELI™ 3335R Z0:
CHAMPIONING SUSTAINABILITY**

The Li-on battery offers 4x the typical amount of long battery life, eliminating the need for disposable batteries, minimising waste and environmental impact.

T: 01457 869999
WWW.PELIPRODUCTS.CO.UK

**SAFETY IS
NON-NEGOTIABLE**



**CHOOSE WOLF SAFETY
ATEX LIGHTING FOR
UNPARALLELED PROTECTION.**



WOLF SAFETY LAMP COMPANY - SAXON ROAD WORKS, SHEFFIELD S8 0YA T: +44 (0) 114 255 1051 | INFO@WOLFSAFETY.COM | W: WOLFSAFETY.COM 



International Gas Detectors
Detectably Better

TOC-903-X5: The Most **Versatile Gas Detector** Transmitter on the Market



Pole-Mounted with Sun
Shade (Shown Here)



3 Interfaces: Digital,
4-20mA and Relays



ATEX/IECEx Zone 1 & 2
and, Dust 21 & 22



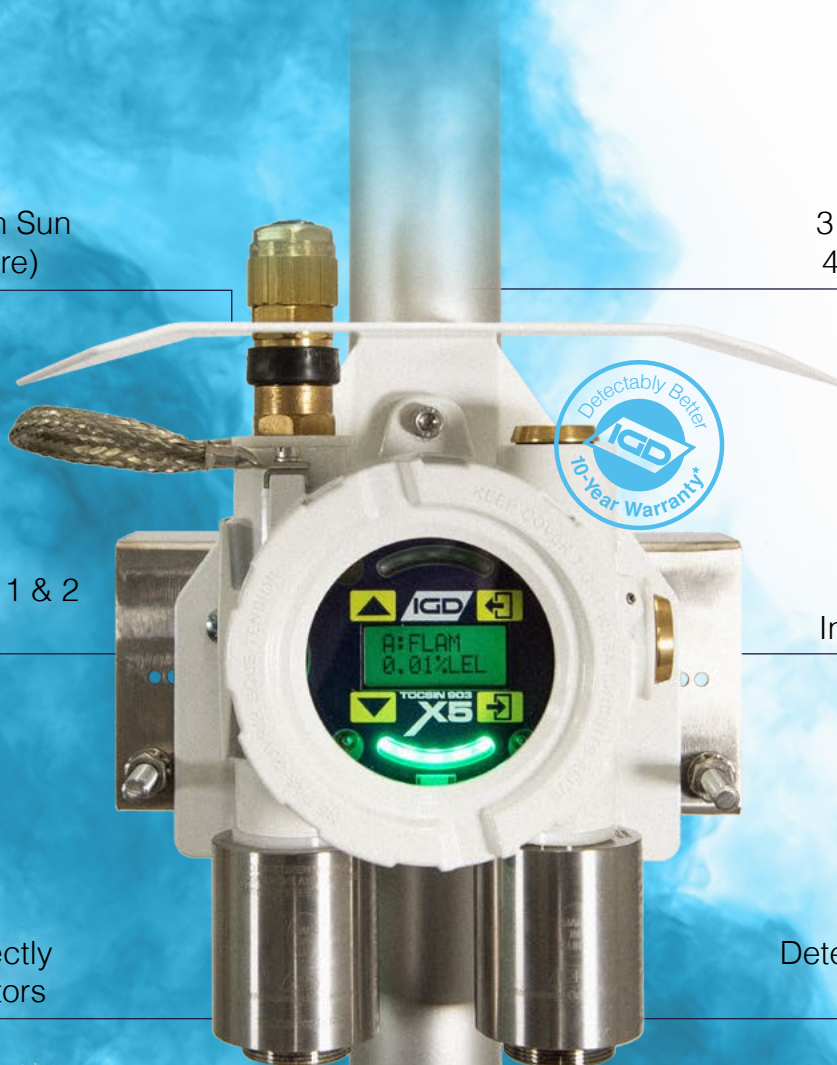
One-Person, Non-
Intrusive Calibration



<2 Remote or Directly
Connected Detectors



Detection for Over 400
Gases & Vapours



To find out more, contact us or scan the QR code



+44 (0) 161 483 1415



sales@internationalgasdetectors.com



[/international-gas-detectors-ltd](https://www.linkedin.com/company/international-gas-detectors-ltd)

Triton House
Stockport
SK2 6SH



*Terms and Conditions apply, check IGD website



A Standalone Detector Approved For Zone 1 & 2

This is the TOC-903-X5 from IGD – a standalone detector approved for Zone 1 & 2 (Gas) and Zone 21 & 22 (Dust) environments that offers dual gas detecting capabilities in one compact housing. When it comes to keeping you and your personnel safe, the TOC-903-X5 brings a variety of useful new tools to the table, none more important than its dual-gas detection capabilities.

When operating in a dangerous and potentially explosive environment there's a good chance that you'll encounter more than one hazardous gas. Our TOC-903-X5 provides you with the capacity to attach two of our Plug-and-Play smart sensors to monitor two different gases in the same space from one unit, simplifying the process and cutting costs.

Dual-gas detection is just one of the reasons that we've come to call the TOC-903-X5 "The World's Most Versatile Gas Detector Transmitter". Versatility is what sets the TOC-903-X5 apart from other ATEX gas detectors. It's the best option for a vast range of use cases and the multitude of potential installation options enables it to shine in almost any role and environment. Each of our huge range of sensors presents the opportunity for a different bespoke setup but, broadly speaking, there are five ways that the TOC-903-X5 can fit into your system and provide the solutions you need:

1. If you only require accurate, reliable detection for a single gas and you already have a system installed, then the standalone TOC-903-X5 and any one of our compatible plug-and-play sensors is all you will need
2. Adding one more sensor allows you to take advantage of the dual sensor capabilities by testing for two different gases from one point.
3. You can directly attach a sensor to the unit whilst running a remote sensor at another point. This is the easiest way of testing for two different gases residing at different levels.

4. ATEX environments often require gas monitoring in places that would present serious dangers to personnel, like the inside of an electrolyser. When combined with any remote sensors from our TOC range, the TOC-903-X5 can be placed in a safe area and used as a transmitter for the additional TOC ATEX Gas Detectors. This enables you to remotely monitor two different gases at a distance of up to 1km from the source.

5. The addition of IGD's Sentinel+™ 2-Wire addressable system introduces a huge range of potential set-up options. It also equips you with comprehensive digital monitoring, At-a-Glance status readings, digital readings, and simple calibration through the onboard Wi-Fi. Integrating our 2-Wire Addressable solution is the best option if you require multiple points of gas detection.

When you add our magnetic wand-enabled, one-person, non-intrusive calibration to the mix, you're left with one powerful, complete solution to almost any imaginable ATEX gas detection requirement.

Get in touch today to find out how our century of expertise and innovation and our 10-year electronics warranty can offer you and your personnel, ultimate protection against diverse gas risks.





Impact Of Air And Gas Leaks In Industrial Systems

A

ir and gas leaks in industrial systems, such as those in biotech facilities or manufacturing plants, pose significant challenges that can affect safety, operational efficiency, and environmental conditions. Proper detection and management of these leaks are crucial to maintain system integrity, minimize costs, and ensure the well-being of personnel.

Negative Impacts of Air Leaks

Process Control Issues: In environments where air and gas systems regulate temperature and humidity, leaks can cause instability, potentially ruining sensitive processes such as bio-genetic research. Components like tubing, connections, and valves must be routinely inspected to ensure they are secure and functioning properly.

Energy Wastage: Compressed air systems rely on maintaining specific air pressures. Leaks force compressors to work harder, consuming more energy and increasing costs. Critical components, such as relief valves, solenoid valves, and thread connections, should be regularly checked for leakage.

Equipment Degradation: Water condensation in air systems can cause rust, dirt accumulation, and corrosion, further degrading the equipment. Drain traps need regular ultrasonic testing to ensure they are functioning correctly. A failure in the traps, whether they are stuck open or closed, can result in either energy wastage or equipment damage due to water ingress.

Challenges Posed by Gas Leaks

High Costs and Safety Risks: Gases like nitrogen, helium, and natural gas can be more expensive and dangerous. A small nitrogen leak, for example, is significantly more costly than an air leak. If the leaking gas is volatile, the risk of explosions and other safety hazards increases.

es, requiring immediate attention and repair.

Health Hazards: Inert gases, while non-toxic, displace oxygen in enclosed areas. In high concentrations, they pose asphyxiation risks, potentially leading to injury or death if undetected.

Conducting Effective Leak Surveys

An effective leak survey involves knowledge, planning, and follow-through:

Knowledge: Understanding the components and operation of the compressed air system, including the capabilities of ultrasonic instruments used in leak detection.

Planning: Creating a detailed map of the system, scheduling periodic surveys, and preparing for potential safety issues. Leaks should be tagged and documented for monitoring and reporting purposes.

Follow-Through: Ensuring identified leaks are repaired promptly, tracking repair effectiveness, and maintaining records of leak man-

agement activities.

Implementing Leak Awareness

Employees should be encouraged to report audible leaks, which may not require ultrasonic equipment to detect. Investing in quality leak detection tools and training personnel can enhance awareness and promote efficient leak management. Recognizing air/gas leak auditors as “energy conservation champions” can further support leak detection initiatives.

Conclusion

Addressing air and gas leaks through comprehensive and planned surveys can significantly reduce energy wastage, prevent equipment degradation, and enhance safety. The resultant cost savings and productivity improvements bolster a company’s competitiveness and sustainability.

www.hazeng.com





Keep Emergency Communication Out Of The “Dead Zone”

First responders such as fire, EMS and police depend on reliable two-way radio communication when lives and property are at risk. That's not always an easy task in many buildings. In-building radio signals are often absorbed or blocked by structures that are larger, underground or constructed of concrete or metal. Additionally, building features designed to create more sustainable facilities such as low-E glass windows can attenuate the signal from public safety radio systems. When this occurs, weak or non-existent signals result in radio communication “dead zones” within commercial structures that can jeopardize coordination among and the safety of first responders during an emergency.

As a result, most fire codes now mandate the installation of Emergency Responder Communication Enhancement Systems (ERCES) for both new and existing commercial buildings. These advanced systems boost the signal inside the building, providing clear, two-way radio communication without dead spots.

“The challenge is that first responders operate on many different frequencies which vary significantly from city to city, so the ERCES equipment must be designed to amplify only the specific assigned channels,” says Trevor Mathews, Wireless Division Manager at Cosco Fire Protection, a provider of business fire suppression and life safety systems for more than 60 years. The company has offered dedicated in-building radio communication system installation services for the past four years.

Mathews adds that this design usually involves tuning the ERCES to prevent signal interference with other frequencies and avoid running afoul of the FCC, which can levy significant fines when violations occur.

In addition, companies often must install the entire system before the certificate of occupancy is issued. To meet the tight deadlines, installers rely on ERCES OEMs to quickly deliver the system components.

State-of-the-art ERCES are available that arrive “custom-tuned” by the OEM to the specific required UHF and/or VHF channel. The contractor can then further optimize the device onsite to the actual band frequencies with channel selective adjustments. The approach facilitates meeting all codes and requirements while reducing overall installation cost and complexity.

Effective ERCES Equipment

ERCES were first introduced in the 2009 International Building Code. The latest codes – such as IBC 2021 Section 916, IFC 2021 Section 510, 2019 NFPA 1221 Section 9.6, NFPA 1 2021 Section 11.10, and 2022 NFPA 1225 Chapter 18 – require all buildings to have an approved level of emergency communication coverage for first responders.

ERCES systems function by connecting through an over-the-air link that the installer optimizes to the public safety radio communications tower network, using a rooftop directional antenna. This antenna is then connected via coaxial cable to a bi-directional amplifier (BDA), which increases the signal level to provide sufficient coverage within the building, based on life safety standards. The BDA is connected to a distributed antenna system (DAS), a network of relatively small antennas installed throughout the building that serve as repeaters to improve the signal coverage in any isolated areas.

In larger buildings of 350,000 square feet or more, multiple amplifiers may be required to drive an adequate signal level across the system. Besides the building's square footage, other criteria can also affect the

number of amplifiers required, such as the building design, type of construction materials used, and the density of construction.

In a recent application, Cosco Fire Protection was tasked with installing an ERCES along with a comprehensive fire and life safety system at a large distribution center in Washington. To meet municipal requirements, Cosco Fire needed to install an ERCES tuned to VHF 150-170 MHz for the fire department and UHF 450-512 for police. The building was due to receive its certificate of occupancy in several weeks, so installation needed to be completed quickly.

To streamline the process, Cosco Fire selected the Fiplex by Honeywell BDA and fiber DAS system, from a leading manufacturer of commercial building fire and life safety systems.

The compliant and certified system was developed to reliably provide superior RF amplification and coverage without noise, enhancing two-way radio signal strength inside buildings, tunnels and other structures. The system is specifically designed to meet NFPA and IBC/IFC code compliance with the UL2524 Second Edition listing.

According to Mathews, one vital aspect that sets the ERCES apart is the ability of the OEM to "tune" the device to the channels used before shipping. The contractor can then further optimize the BDA's RF tuning onsite to the precise frequency required with channel selective, software programmable or adjustable bandwidths. This eliminates the issue of wideband transmission in highly congested RF environments, which can otherwise cause outside interference and potentially lead to FCC fines.

Mathews points out another aspect that distinguishes Fiplex BDAs from other digital signal boosters: the availability of a dual-band option for dedicated UHF or VHF models.

"Combining the UHF and VHF amplifiers simplifies installation because you have one panel instead of two. It also reduces the necessary wall space, the power requirements, and potential points of failure. Annual testing is also easier," says Mathews.

With conventional ERCES systems, fire and life safety companies must often source third party components to supplement the OEM's package.

For a previous application, Mathews found it "difficult to get conventional ERCES equipment to work. We ultimately had to turn to a third party for the [signal] filters needed because the OEM wouldn't provide them." Mathews also said the lead time to receive the equipment was several months when he needed it in weeks.

In contrast, the Fiplex by Honeywell equipment was delivered in only a few weeks.

"With other suppliers, it could take 8-14 weeks to receive an amplifier," explains Mathews. "Now we can get a custom tuned amplifier and install it with the DAS in 5-6 weeks. That is a game changer for contractors, particularly when there is a tight window for the installation," says Mathews.

For building developers, architects or engineering firms wondering if an ERCES will be required in a new or existing building, the first step is to consult with a fire protection/life safety company that can conduct

an RF survey of the space.

The RF Survey is accomplished by measuring the downlink/uplink signal strengths in decibels-milliwatts (dBm) using special measuring devices. Results are submitted to the authority with jurisdiction to determine if an ERCES system is required or if a waiver is appropriate.

"Testing early is preferable to reduce cost, complexity and simplify installation if an ERCES is required. If the building fails an RF survey at any point in time, whether completed construction is at 50%, 80% or 100%, the ERCES system will have to be installed, so testing earlier is better before installation becomes more difficult," says Mathews.

He notes there can be additional challenges when conducting RF testing in structures like warehouses. An empty warehouse may not require an ERCES, but the signal strength can change dramatically in areas of the facility after racking and other equipment is installed, and merchandise is added. If a system is installed once a warehouse is already operational, the fire and life safety company must work around the existing infrastructure and any personnel.

"It is much harder to install ERCES components in an occupied building versus an empty warehouse. Installers may need to use lifts to reach the ceiling, fix cable or place antennas, which is difficult to do in a fully operational structure," says Mathews.

If installation of the system interferes with the issuance of a certificate of occupancy, this bottleneck can significantly delay a project.

To avoid delays and technical challenges, commercial building developers, architects and engineering firms can benefit from an expert contractor's familiarity with the ERCES requirements.

With quick shipment of an advanced ERCES tuned by the OEM to the required RF channel, a skilled contractor can install and further optimize the device to the specific local band frequencies used with channel selective adjustments. The approach expedites the project and compliance, enhancing safety during an emergency.

For more information, contact Dawn Wotapka, Director of External Communications at Honeywell, 715 Peachtree Street, N.E., Atlanta, GA 30308; email: dawn.wotapka@honeywell.com.





New Solar Control Cabinet For Safety Even In Blackouts

The Lutz-Jesco "Solarhub" enables the off-grid operation of pumps and disinfection systems in developing or emerging countries

Wertheim, 17 September 2024 – In developing or emerging countries, blackouts can seriously impact upon the building services of hospitals, schools and public buildings. By launching the Solarhub, Lutz-Jesco is marketing added supply reliability. Among other things, the new solar control cabinet enables the off-grid operation of disinfection systems for safe drinking water.

While blackouts are still rare in Germany, in many developing or emerging countries such as Haiti or Venezuela, they're an everyday occurrence. Fragile mains networks make for regular power failures in hospitals, schools and public buildings. Emergency diesel-powered generators often only provide enough power to keep the most critical building service functions going, such as the lighting in operating theatres. "To mitigate serious situations like this, we've developed a new product called the Solarhub – a solar control cabinet that supplies our pumps and disinfection systems with solar energy independently of

the mains network," explains Heinz Lutz, CEO of Lutz Holding GmbH. This control cabinet is ideal for Lutz-Jesco disinfection systems used in schools, public buildings and hospitals to remove germs and bacteria from piping so that people all around the world can enjoy safe drinking water. "Thanks to the Solarhub, we can ensure the reliability of these health-critical systems even in the case of a blackout – without depending on fossil fuels."

Plug-and-play solar energy

Lutz-Jesco designed the Solarhub as a plug-and-play product to make using solar energy as easy as possible. "Our control cabinet is supplied fully pre-configured with all the components required for solar operation," says Lutz. These components include solar panels, a battery charge controller, an inverter and the cabling. "All the components are perfectly aligned so that there's no need for users to get to grips with complex technical information – they can use the control cabinet straight away and depend on its reliability."

The Solarhub will be available in two variants from spring 2025. The Solarhub 300 has a 110 Ah battery, a power output of 350 W and two MC4 connectors suitable for commonly used solar panels. The larger

version – the Solarhub 600 – is equipped with a 165 Ah battery, a power output of 560 W and three MC4 connectors. An adapter can be used to double the number of panel connections on each version. "This allows users to optimise energy generation to suit the amount of sunlight at their location, the desired charging time and their consumption."

Gel batteries ensure reliability in demanding conditions

Lutz-Jesco has designed the Solarhub so that reliability is ensured even in challenging environments. Gel batteries are used, offering resistance to impacts and vibrations and ensuring that batteries do not leak even if installed at a slant or if the housing is damaged. These batteries are robust, temperature-resistant and can last up to four times longer than conventional batteries. They are also maintenance-free, which reduces on-site servicing expenses and lowers operating costs. Lutz: "This allows us to ensure that the Solarhub can be operated reliably and cost-effectively even in challenging conditions in developing or emerging countries."

About the Lutz Group

Established in 1954, the internationally active family business Lutz has advanced to become synonymous for professional fluid management. Today, the Lutz group of companies includes a number of top-performing, medium-sized companies located in Germany and abroad, which operate in the broad field of pump technology, water treatment and disinfection. The Lutz Group has 13 branch offices and representatives in over 80 countries.

The high-quality and reliable pumps, systems and accessories are deployed for dosing, conveying, emptying and mixing a wide variety of media from containers and in systems and processes. The product range includes drum and container pumps, flow rate meters, double diaphragm pumps, centrifugal pumps, solenoid and motor-driven dosing pumps, gas dosing devices, measurement and control systems and disinfection systems for industry and swimming pool water.

Corresponding with the broad range of services provided by the Lutz Group, the products and solutions provided by its companies are deployed in a wide variety of industries and commercial sectors. Leading examples include the chemicals industry, the automotive and vehicle industry, electroplating and surface treatment, the food industry, the paint and varnish

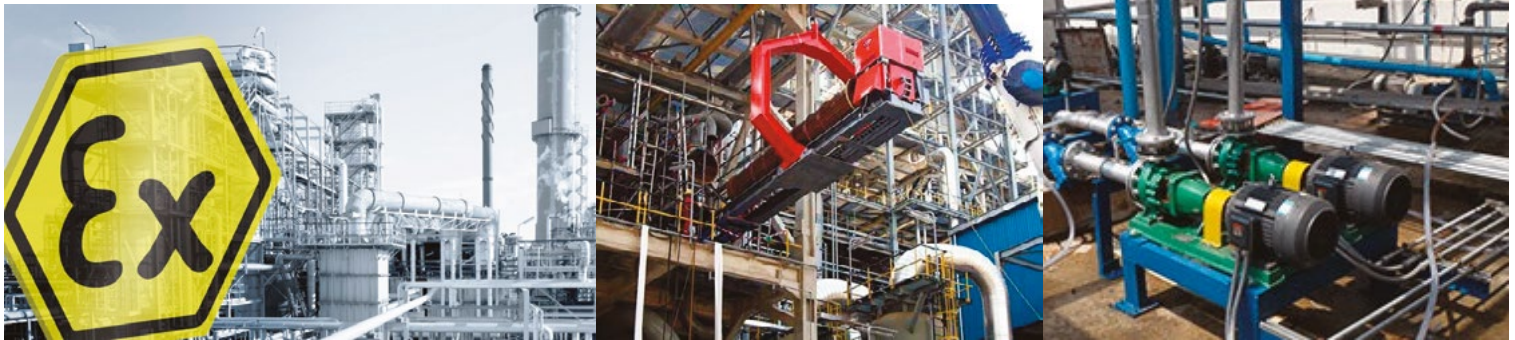
industry, agriculture, water and wastewater treatment and the paper and ceramics industry.





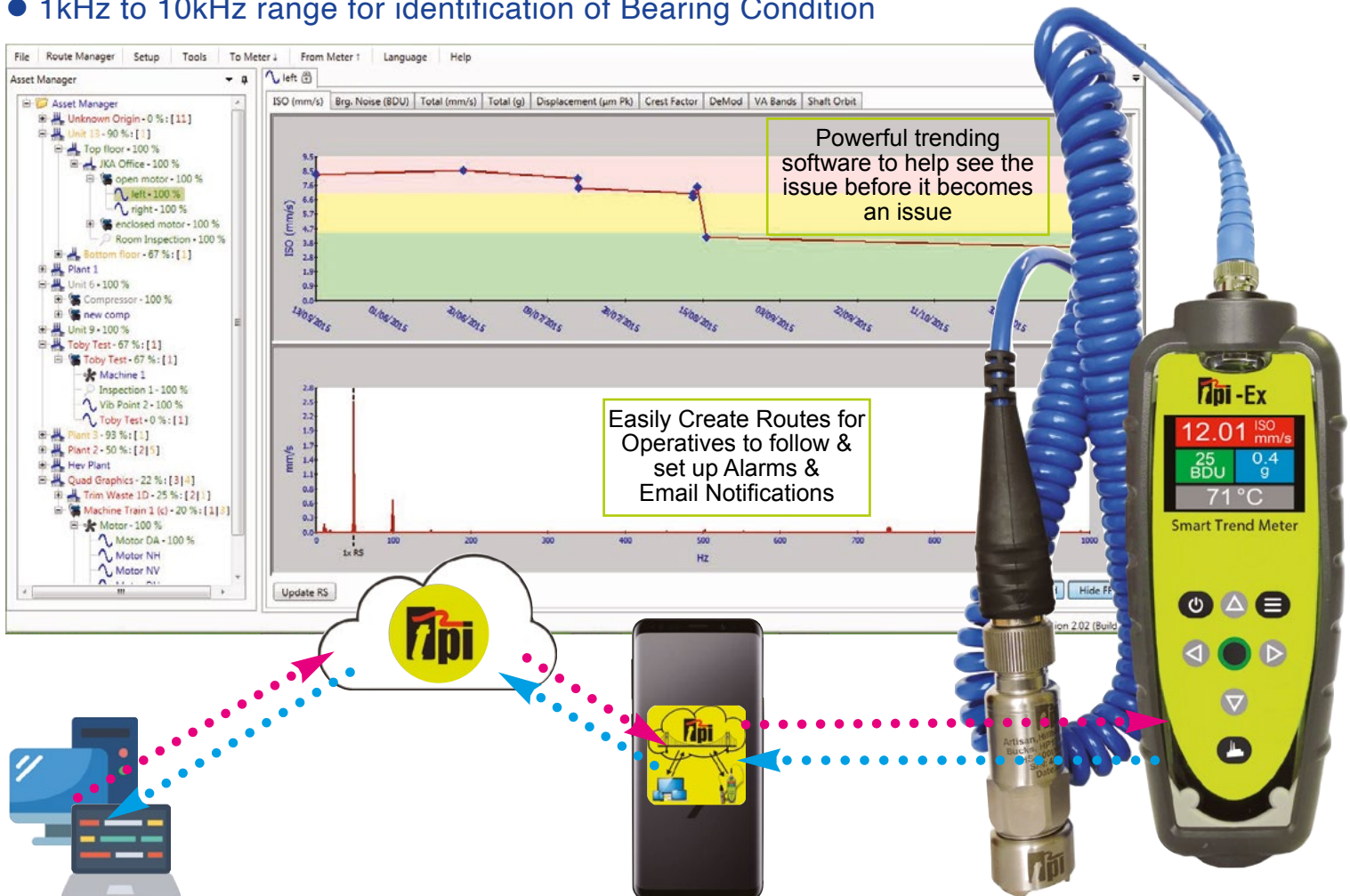
Test Products International Inc.

Do you need to monitor the condition of your machinery in Hazardous environments, including ZONE 0?



Then let TPI's 9085-Ex Vibration, Bearing Wear & Instantaneous Temperature Analyser HELP!!!

- Use the 9085-Ex literally anywhere in the world, so eliminating the need to question; Do I have the right instrument for the right Zone?
- Traffic light indication of potentially Good or Bad Vibration and/or Bearing Wear
- 2/10Hz to 1kHz ISO standard for assessing Unbalance, Misalignment or Looseness
- 1kHz to 10kHz range for identification of Bearing Condition



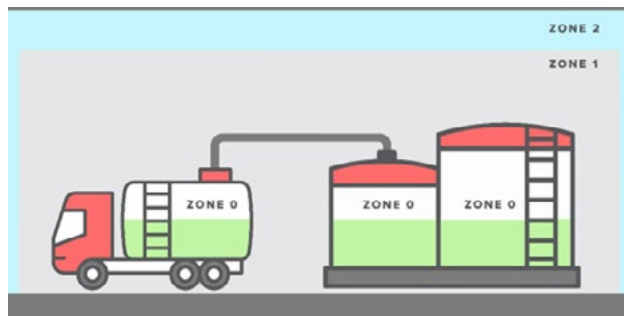
For technical information, solution range, applications, prices and where to buy - Contact TPI Europe on: -
+44 (0) 1293 530196 ♦ cbmsales@tpieurope.com ♦ www.tpieurope.com

How Do You Know Which “Zone” Your Equipment Is In?

There is a need to use condition monitoring equipment in many hazardous locations, to measure vibration levels and temperatures of rotating machinery to diagnose faults such as misalignment, unbalance or impending bearing failure. The instruments needed to do the monitoring must therefore be “intrinsically safe” and incapable of igniting an explosive atmosphere.

The Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) put the onus firmly on the plant operator to decide which “Zone” the equipment is in and therefore what level of certification is required for any instrumentation used there.

This is because the likelihood of an explosive atmosphere existing is dealt with by the definition of a series of “Zones”. These range from Zone 0, where an explosive atmosphere is likely to be present most of the time, to Zone 2, where it is not likely to occur in normal operation, with Zone 1 the “grey area” in between.



Deciding which parts of your plant are in which Zone is not easy and may require expensive surveys to determine. However, this is where the true benefit of Zone 0 certification comes in. Basically, you don't have to think! Because Zone 0 certified devices can be used literally anywhere!

Zone 0 certified devices are typically more expensive due to increased manufacturing costs (e.g. additional safety components and higher levels of redundancy). However, Test Products International (TPI) has achieved a significant Zone 0 cost breakthrough with the very affordable TPI 9085Ex vibration analyser.

The “go anywhere” TPI 9085Ex is certified for Zone 0 IECEx/ATEX with North American approval. This means you simply don't have to think what potentially explosive atmospheres you might encounter. The 9085Ex is certified to be intrinsically safe for ANY atmosphere WORLD-WIDE.

The 9085Ex measures “bearing noise” and displays it in bearing damage units (BDU), which is roughly equivalent to “percentage wear”. In other words, readings above 100 BDU are indicative of a worn bearing. In addition, the 9085Ex uniquely incorporates a directly contacting temperature sensor within its vibration probe.

This gives a highly accurate, virtually instantaneous, surface temperature reading for the bearing, simultaneously as the vibration reading is

being taken. With a high BDU reading and high temperature you know that what you are seeing really is a worn bearing!

Additionally, a lot of machinery is remotely located (e.g. pumping stations), often in the “middle of nowhere”, requiring highly mobile teams of operatives to access them. However, the compact handheld TPI 9085Ex is extremely affordable and simple to use. It can, and indeed should, be included in every operative's basic tool kit. Also by using the FREE TPI Bridge App, “routes” and readings can be transferred to and from the 9085Ex anywhere in the world using mobile devices (e.g. smart phone or tablet PC) and then via Bluetooth to and from the 9085Ex.

“Routes” are simply lists of machines showing exactly what readings need to be taken and where to take them. The readings are then automatically time and date stamped by the 9085Ex and saved in the route for automatic transfer to computer-based trending software.

Trending is the cornerstone of condition-based maintenance (CBM). By looking at trends of bearing noise and temperature readings, you can determine well in advance when a bearing will likely need replacing. The TPI 9085Ex comes with powerful, yet simple to use, subscription free trending software, which includes automatic email notification of alarms and report generation, giving you everything you need for a full CBM strategy.

For more information please contact TPI Europe's head office on +44 1293 530196 or take a look on the website at www.tpieurope.com or email sales@tpieurope.com





PRODUCT CERTIFICATION

ExVeritas offer highly accredited and internationally accepted product certification including UKCA Ex, ATEX, IECEx and North American Listing with award winning 'customer service' levels. Our unique 'CMS' system gives customer 24/7/365 access to their quotes, certification project status, and issued certificates. Whilst we specialise in explosion safety, we also have in house EMC and Electrical Safety testing to offer turnkey global approvals.



TRAINING AND COMPEX CERTIFICATION

ExVeritas are the leading CompEx provider with international practical training centres around the world. We have more experienced lecturers and more benefits than any other Ex training provider, including free software tools and pre-and post e-learning. Our unique speciality courses include 'advance' level Ex Inspector and 'Advanced Intrinsic Safety Circuit Design'. Only a company with ExVeritas depth of experience can deliver courses at this level.



The Explosive Atmosphere Safety Specialist

The ExVeritas Group provides Product Certification, Management System Certification, CompEx Certification and Site Safety Services. We are a UK Government Appointed Body for UKCA 'Ex', an ATEX Notified Body and an IECEx Certification Body and Test Laboratory

Our Product and System Certification is internationally recognised for global markets, and we can parallel issue UKCA, ATEX, IECEx and UKAS ISO9001 Certifications to save our clients time and money. For sites we offer safety consultancy on explosion safety including equipment risk assessments and Ex inspection. We also qualify people with CompEx certification as well as specialist and bespoke training.

ExVeritas is a multi-award-winning company including the 'Queen's Award', the highest honour that can be bestowed on a UK company. We have a proven track record of delivering world class certification, consultancy and training.

With Certification Bodies in the UK, Mainland Europe and North America and training facilities in the UK, Malta, Italy, Denmark and Ireland, we can offer a global service and a cost effective and efficient service.

UK

ExVeritas Limited Units 16-18,
Abenbury Way,
Wrexham Industrial Estate Wrexham
LL13 9UZ

United Kingdom
0845 862 2447

EUROPE

ExVeritas ApS, Severinsmindevej 6,
4420 Regstrup

+45 7734 4638

NORTH AMERICA

3000 Forest Ln, Suite 400,
Garland, TX 75042

+1-877-637-4322

MANAGEMENT SYSTEMS CERTIFICATION

ExVeritas are one of only a handful of companies in the world that can offer a time and cost saving combined audit. We can certify UKAS (ILAC) ISO9001 and other QMS systems, UKCA QAN, ATEX QAN and IECEx QAR audit in one visit. In addition, we can combine other audits such as INMETRO, FUS (for North America) and even IECEx Service Facility Certification for further cost savings. We have redefined the 'one stop shop' for QMS Certification with the customer in mind.



SITE SAFETY

ExVeritas conduct electrical and non-electrical 'Ex' Inspections. We also offer explosion risk assessments, fitness for purpose assessments and even 'on site' UKCA, Notified Body or IECEx Certification. All of this makes us uniquely positioned to deliver full compliant explosion safety solutions, including our unique online and tablet based 'iEx Inspection & Management' solution.



www.exveritas.com
info@exveritas.com

Major Changes In The New IEC 60079-14:2024 Just Published!

IEC 60079:2024 contains the specific requirements for the design of electrical systems, selection, installation and the required initial inspection of electrical installations of Ex Equipment in, or associated with, explosive atmospheres including requirements for documentation and personnel competency.

There are many small changes and clarifications, but the new major technical changes include:

The title is changed to "Electrical installation design, selection and installation of equipment, including initial inspection" to ensure that all areas, including initial inspection are now covered.

- The term "Installation of equipment" is replacing the word "Erection" in the title as more common wording.
- The requirements for simple apparatus have been aligned with IEC 60079-11.
- The flowchart is revised to include consideration of equipment groups, cable lengths and enclosures with a volume cutoff at 2 000 cm³
- The previously informative Annex C to improve details relevant to testing cables and alignment to the selection requirements is now normative.
- The previous normative tables in the section "Initial inspection" are included in the informative Annex O. This allows checklists to be cus-

tomised for specific installations.

The new IEC 60079-14:2024 now ties in with the recently published IEC 60079-17:2023 which is the Standard for Electrical installations inspection and maintenance. IEC 60079-17:2023 applies to users and covers only those factors directly related to the inspection and maintenance of electrical installations specifically designed for hazardous areas, where the hazard is caused by explosive atmospheres. There were two major technical changes

- Further requirements added regarding Type of Protection "o".
- Modified reference in this standard to align all types of inspection with Continuous Supervision terms for example, Skilled Personnel and Technical Persons with Executive Function.

There are also many other small changes such as the change in terminology from previously used 'Special Condition of Safe Use' to current terminology 'Specific Conditions of Use'

ExVeritas are a UK Government Appointed Body for UKCA 'Ex', an ATEX Notified Body and an IECEx Certification Body. ExVeritas offer CompEx and Specialized Courses for Designers, Installers and Inspectors at our multiple centers globally, in addition we have developed new and updated specialist courses covering diverse subjects from advanced intrinsically safe design to non-electrical risk assessment. More on

<https://www.exveritas.com/training-and-competence-certification/>

Quite Fast. Active Explosion Isolation With Q-Bic

Explosion isolation is essential for comprehensive explosion protection. Without isolation, an explosion safety concept is not only incomplete, but is also a waste of money for operators as isolation systems prevent an explosion from propagating, thereby reducing the effects of the explosion to a minimum. Adjacent system components are optimally protected.

Explosion Isolation System Q-Bic

The explosion isolation system Q-Bic registers the emerging explosion and extinguishes the developing explosion flames within milliseconds by applying the extinguishing powder. The extinguishing powder is optimally distributed in the pipeline via a nozzle system and guarantees reliable isolation. The chemical barrier is particularly well-suited to applications in elevators and spray dryers.



Fig. 1: Explosion isolation System Q-Bic

About REMBE – the REMBE Alliance introduces itself

Most people associate REMBE with REMBE GmbH Safety+Control, the specialist for explosion safety and explosion venting worldwide. The company offers customers cross-industry safety concepts for plants and equipment. All products are manufactured in Germany and meet the requirements of national and international regulations. REMBE customers include market leaders in various industries, including the food, timber, chemical and pharmaceutical industries.

The company's engineering expertise is based on 50 years of application and project experience. As an independent, owner-managed family business, REMBE combines expertise with the highest quality standards and is involved in various specialist committees worldwide. Short coordination paths allow for quick reactions and customer-spe-

cific solutions for all applications, from standard products to high-tech special designs.

In addition to REMBE GmbH Safety+Control (www.rembe.de) with approx. 340 employees worldwide, headquartered in Brilon (Hochsauerland, Germany), and numerous subsidiaries worldwide (Italy, Finland, Brazil, USA, China, Dubai, Singapore, South Africa, Japan), four other companies operate under the REMBE umbrella brand:

- REMBE Research+Technology Center GmbH (www.rembe-rtc.de)

- REMBE Advanced Services+Solutions GmbH
(www.rembe-services.de)

- REMBE Kersting GmbH (www.rembe-kersting.de)

- REMBE FibreForce GmbH (www.argusline.de)





Explosion Protection In Hazardous Areas: Techniques And Standards

In industries where flammable gases, vapors, liquids, or combustible dusts are present, preventing explosions is critical for safety. Various protection techniques are used to minimize the risk of explosions, particularly for electronic and electrical equipment. In Europe, the ATEX directive (94/9/EC) governs such equipment, while North America uses the Class/Division system. Understanding the methods of explosion protection and their applications is essential for maintaining safety in these hazardous areas.

Understanding Explosion Protection

Explosion protection involves measures to prevent the ignition of flammable substances. The goal is to design equipment that:

Eliminates potential ignition sources.

Contains explosive materials.

Ensures equipment cannot release enough energy to ignite the surrounding atmosphere.

Protection Techniques in Europe (ATEX Directive)

Under the ATEX directive, equipment is classified based on the Zone system, which identifies areas where explosive atmospheres may occur. Different protection methods are employed depending on the zone and the type of hazard:

Ex d (Flameproof Enclosure)

Equipment is housed in a pressure-resistant enclosure that contains any internal explosions. The enclosure has defined gaps to safely vent gases and cool flames below their ignition temperature, effectively preventing the spread of explosions.

Ex p (Pressurization)

The enclosure is maintained at a higher internal pressure than the surrounding atmosphere using protective gas (e.g., inert gas or clean air). This prevents explosive gases from entering.

Variants:

Ex pxb: Reduces the equipment protection level (EPL) from Gb (Zone 1) to non-hazardous.

Ex pyb: Reduces EPL from Gb (Zone 1) to Gc (Zone 2).

Ex pzc: Reduces EPL from Gc (Zone 2) to non-hazardous.

Ex m (Encapsulation)

Electrical components are embedded in a compound that prevents sparks or heat from igniting the surrounding atmosphere.

Levels:

Ex ma: No ignition under any conditions (suitable for Zone 0 or 20).

Ex mb: No ignition under normal use or single fault (suitable for Zone 1 or 21).

Ex mc: No ignition under normal use (suitable for Zone 2 or 22).

Ex o (Oil Immersion)

Electrical devices or components are submerged in oil, eliminating the potential for ignition above the oil surface or outside the enclosure.

Ex q (Powder Filling)

The enclosure is filled with a fine-grained material (e.g., sand) to prevent sparks or arcs from igniting the atmosphere. The filler must not escape from the enclosure under any circumstances.

Ex e (Increased Safety)

Equipment is designed to avoid the generation of high temperatures, sparks, or arcs. Components that could spark are excluded, providing a safe environment in hazardous areas.

Ex i (Intrinsic Safety)

Limits the energy within the electronic circuits to prevent ignition. Energy content (voltage, current, power, capacitance, inductance) is kept below the ignition threshold.

Levels:

Ex ia: No ignition under any conditions (suitable for Zone 0).

Ex ib: No ignition under normal use or single fault (suitable for Zone 1).

Ex ic: No ignition under normal use (suitable for Zone 2).

Ex n (Non-sparking)

Designed to prevent sparking or hot surfaces. It includes several categories:

Ex nA: Non-arcing, non-sparking equipment.

Ex nC: Prevents contacts from becoming ignition sources.

Ex nR: Restrictive breathing to limit hazardous atmosphere ingress.

Temperature Classification

Both European and North American standards require equipment used in hazardous areas to be classified by maximum surface temperature under fault conditions. The temperature classification indicates the maximum surface temperature that equipment can reach without igniting the surrounding substances.

Ensuring Safety in Hazardous Areas

Explosion protection is vital to prevent accidents in hazardous environments. By adhering to the ATEX directive in Europe or the Class/Division system in North America, and employing appropriate protection techniques and temperature classifications, industries can safeguard personnel and facilities from potential explosive hazards.

By understanding these methods and implementing them correctly, companies can effectively mitigate risks and ensure a safer working environment in hazardous areas.

www.hazeng.com





Buyers Guide 2024



+44(0)151 356 2322

www.rotechsystems.co.uk

sales@rotechsystems.co.uk

ROTECH SYSTEMS

Rotech End of Shaft or belt driven units are used for monitoring:

- Stop/slip
- Underspeed/overspeed
- Interlocking/sequencing
- Distance/direction
- Rotation control
- Belt weighers



KEEP ON RUNNING WITH ROTECH



**HAZARDOUS AND SAFE AREA
ELECTRICAL CONTROL SYSTEMS**

WWW.JCEGROUP.COM



ATEX



NEC
500



**4² 4 Square Engineering
Consultancy Limited**

ATEX / DSEAR

Inspection-Training-Consultancy-Gap Analysis

DSEAR Compliance & Verification

Explosion Protection Document



Ignition Risk Assessment

Compliance Audits



Tel +44 (0) 1506 823311 Web : www.4sq.co.uk

Mobile 07764 461694

e : info@4sq.co.uk

To Advertise In The Buyers Guide Please

Call +44(0)207 193 1396

or email:

stevep@mslmedialtd.com

SBES

Your 1st Call For Emergency Alarms

LIFE SAVER

- Lone Worker Alarm Systems
- First Aid Alert Systems
- Emergency Help Points
- Leisure Centre & Pool Alarm Systems
- Lockdown Alarm Systems for Schools and Educational Centres

TRACER

RESPONDER



**Call us now on +44 (0) 1737 226622
or visit www.sbes.co.uk**





J.B.Systems

Hazardous Area Specialists for Over 38 Year's
Providing Expert Design and Manufacture of Control Equipment

J.B.Systems is a Renowned Supplier of Brands Worldwide providing Ex systems, Flame Monitoring Systems, and other Hazardous Area Equipment of the very Highest Quality.

Serving the Industry for 38 Year's supplying complete Design and Manufacture of Control Equipment to the Petrochemical Sector.



J.B. Systems Limited,
13 Bridgegate Business Park,
Gatehouse Way, Aylesbury,
Buckinghamshire
HP19 8XN

+44 (0) 1296 489967
sales@jbsystems.co.uk
www.jbsystems.co.uk

GLOBAL TRAINING & CONSULTANCY FOR HAZARDOUS AREAS



The Explosive Atmosphere Safety Specialist

The ExVeritas Group provides Product Certification, Management System Certification, CompEx Certification and Site Safety Services. We are a UK Government Appointed Body for UKCA 'Ex', an ATEX Notified Body and an IECEx Certification Body and Test Laboratory

Our Product and System Certification is internationally recognised for global markets, and we can parallel issue UKCA, ATEX, IECEx and UKAS ISO9001 Certifications to save our clients time and money. For sites we offer safety consultancy on explosion safety including equipment risk assessments and Ex inspection. We also qualify people with CompEx certification as well as specialist and bespoke training.

ExVeritas is a multi-award-winning company including the 'Queen's Award', the highest honour that can be bestowed on a UK company. We have a proven track record of delivering world class certification, consultancy and training.

With Certification Bodies in the UK, Mainland Europe and North America and training facilities in the UK, Malta, Italy, Denmark and Ireland, we can offer a global service and a cost effective and efficient service.

UK

ExVeritas Limited Units 16-18,
Abenbury Way,
Wrexham Industrial Estate Wrexham LL13 9UZ
United Kingdom
0845 862 2447

EUROPE

ExVeritas ApS, Severinsmindevej 6,
4420 Regstrup
+45 7734 4638

NORTH AMERICA

3000 Forest Ln, Suite 400,
Garland, TX 75042
+1-877-637-4322

ExVeritas®

MANAGEMENT SYSTEMS CERTIFICATION

ExVeritas are one of only a handful of companies in the world that can offer a time and cost saving combined audit. We can certify UKAS (ILAC) ISO9001 and other QMS systems, UKCA QAN, ATEX QAN and IECEx QAR audit in one visit.

In addition, we can combine other audits such as INMETRO, FUS (for North America) and even IECEx Service Facility Certification for further cost savings. We have redefined the 'one stop shop' for QMS Certification with the customer in mind.

PRODUCT CERTIFICATION

ExVeritas offer highly accredited and internationally accepted product certification including UKCA Ex, ATEX, IECEx and North American Listing with award winning 'customer service' levels. Our unique 'CMS' system gives customer 24/7/365 access to their quotes, certification project status, and issued certificates. Whilst we specialise in explosion safety, we also have in house EMC and Electrical Safety testing to offer turnkey global approvals.

SITE SAFETY

ExVeritas conduct electrical and non-electrical 'Ex' inspections. We also offer explosion risk assessments, fitness for purpose assessments and even 'on site' UKCA, Notified Body or IECEx Certification. All of this makes us uniquely positioned to deliver full compliant explosion safety solutions, including our unique online and tablet based 'Ex Inspection & Management' solution.

TRAINING AND COMPEX CERTIFICATION

ExVeritas are the leading CompEx provider with international practical training centres around the world. We have more experienced lecturers and more benefits than any other Ex training provider, including free software tools and pre-and post e-learning. Our unique speciality courses include 'advance' level Ex Inspector and 'Advanced Intrinsic Safety Circuit Design'. Only a company with ExVeritas depth of experience can deliver courses at this level.

www.exveritas.com
info@exveritas.com



Safety is for life.™

Sustainable
Explosion
Safety
starts with
trust.



Reliable. German.
Safety. ●●●

rembe.com



REMBE® GmbH Safety+Control

Gallbergweg 21 | 59929 Brilon, Germany

T +49 2961 7405-0

hello@rembe.com