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# Simplifying Purge & Pressurization




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- *PPE*
- *SUBSEA*
- *OIL & GAS*
- *FUME & DUST EXTRACTION*
- *CHEM UK*
- *EXPLOSION PROTECTION*
- *NEWS*
- *PRODUCTS*
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# Simplifying Purge & Pressurization

Expo Technologies is excited to announce the latest addition to our range of purge & pressurization systems – the SmartPurge Z.

While Purge & Pressurization is one of the simplest approved protection methods for electrical enclosures in hazardous areas, many purge systems are complicated to specify, and even more complex to install and commission.

The SmartPurge Z has been designed to be one of the simplest systems while offering all the capabilities electrical panel builders and OEMs are looking for.

**One unit**

Many purge systems comprise multiple elements, typically the control system, vent valve, and inlet valve. The SmartPurge Z has combined all of these elements into one unit, avoiding potential errors in specifying, and allowing for simple, fast installation.

**One input**

With the SmartPurge Z there is no complex set-up process, with flow curves and multiple parameter inputs. There is only one thing to set – the purge time – and that only takes a few seconds.

**One size**

The purge flow rate of the SmartPurge Z has been optimised to suit the most frequently used enclosure sizes. For ATEX/IECEx certified applications, requiring 5 air changes, the system can purge enclosures up to 2.1m3 in volume in 30 minutes or less. Purge times up to 99 minutes can be selected, allowing it to purge even larger enclosures.

**No further adjustment**

After the purge is complete, a key capability of the SmartPurge Z is to automatically adjust the leakage compensation flow rate to maintain a constant enclosure pressure. This eliminates time-consuming manual set-up, as well as reducing the consumption of purge gas.

Expo Technologies has redefined Purge and Pressurization through the development of the SmartPurge Z. Visit our website to find out more.

**www.expoworldwide.com**




**About Expo Technologies**

Expo Technologies are experts in electrical protection by purge and pressurization. With 70 years of experience and a deep knowledge of hazardous area standards, Expo Technologies develops and delivers simple, robust, certified solutions that improve safety and save our customers time and cost.

We work with end-users, integrators, and OEMs across a wide range of industries, including oil & gas, chemical & petrochemical, pharmaceutical & biotechnology, and power generation.

Our purge and pressurization systems provide protection to more than 9,000 large electric motors and generators all around the globe, and we have built more than 2,500 pressurized enclosures. Our products are certified and approved to national and international standards (IECEx, ATEX, cULus, cFMus, INMETRO, KOSHA, EAC).

We have manufacturing centres in the UK, USA & China, and offer sales and service support through a global network of authorised channel partners.

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# Access To Compressed Air More Convenient And Cost-Effective Than Ever Before





The new Contain-Air solution from FPS Air Compressors will transform the way companies gain quick and economic access to compressed air systems. As a turnkey product, the ground-breaking Contain Air portable compressed air room arrives on-site pre-installed and ready to use, providing unparalleled convenience, cost reductions and space savings to boost the competitiveness of UK businesses.

Adopting Contain-Air avoids the complex installation, high costs and considerable space demands associated with conventional compressed air systems. This exciting innovation overcomes these challenges by delivering a complete solution that streamlines the entire installation and commissioning process.

By integrating all components into one compact unit, the new containerised solution reduces the need for on-site assembly and minimises the risk of errors. Factories, food plants, hospitals and scientific research facilities - or any other site with a requirement for compressed air - can begin using Contain-Air immediately upon delivery thanks to connect-and-go functionality. This quiet and efficient system requires only power and connection to the air network to get started, ensuring seamless integration into existing infrastructure. Businesses can instead focus on core operations without the hassle of complex set-up procedures, knowing that they are compliant and efficient.

The complete compressed air station includes all the air treatment necessary to meet the demands of any air quality standard: industrial, food production, medical, scientific instrument, breathing air and more. As well as new installations, the system will suit companies experiencing a compressed air bottleneck or unexpected compressor downtime. The convenient Contain-Air ensures users can take advantage of resource-conserving production, process reliability and quality – in double-quick time.

Available in oil-free and lubricated formats, this compressed air cube offers working pressure of 6 to 400 bar, capacity from 1500 to 20,000 l/min and installed power from 11 to 160 kW. Notably, the compact dimensions of Contain-Air minimise the physical footprint required, which is particularly advantageous for businesses with limited space. Firms can optimise their facility layout without compromising any essential equipment.

Each self-contained unit features lighting, excellent service access, heating and ventilation. These weather-proof and extremely durable units also provide maximum security and safety for site personnel.

As a market leader in compressed air solutions, FPS Air Compressors offers innovative solutions that address evolving industry requirements. Contain-Air mirrors this commitment, delivering a product that fuses advanced technology with practicality to set a new benchmark in compressed air system convenience.

**For detailed information on the new Contain-Air solution please visit: www.fps-compressors.co.uk/contain-air**





# Bespoke Electric Winch Ensures Safe And Smooth Loading Of HGVs

The recent supply by Hoist & Winch of a bespoke electric-powered winch to a UK building products company is allowing the safe and smooth lifting and lowering of a large telescopic export chute that loads heavy-goods vehicles (HGVs) with a media byproduct from the customer's production process. Importantly, raising and descending takes place in a level and precise position thanks to adjustable turn-buckle jacking screws.

Conceived by Hoist & Winch, one of the UK's leading lifting equipment companies, a 400 V three-phase Haacon wire rope winch providing a swl (safe working load) of 1,500 kg sits at the heart of this innovative solution. The advanced winch offers a special triple rope lead-off design that raises and lowers the export chute via one vertically and two horizontally orientated diverter pulleys. A purpose-made frame and bolted connections facilitate mounting of the winch to the steel floor, ensuring level rope pay-off from the winch drum to the three diverter pulleys serving the system.

The final wire rope connection to the export chute is via adjustable turn-buckle jacking screws and swivelling eye bolts, a design that not only provides accurate chute levelling adjustment, but also extends the service life of the wire rope by eliminating any twisting action.



Winch control arrives courtesy of a switchgear enclosure and a two-button, single-speed, hard-wired pendant control station located remotely in an environmentally protected operating cubicle. Environmental protection is vital due to operating temperatures of over 40°C in summer months, as well as excessive dust in the atmosphere and surrounding work areas.

The new winch system, which replaces an original obsolete solution that had reached the end of its service life, offers a number of further beneficial features to the customer, many relating to safety. For instance, the winch has a pressure roller to ensure secure retention of the wire rope on the drum. This capability is particularly important in the event of a slack wire rope, which might occur due to accidental over-lowering of the chute on to the HGV bed, for example.

Further safety-oriented features include an inverter controlled winch motor to provide very smooth and slow speed control, and grooves in the winch drum to ensure even and secure wire rope winding.

Notably, the scope of supply provided by Hoist & Winch was extremely comprehensive, as Andy Allen, Director of Hoist & Winch, explains:

"We provided all pre-installation survey work to ensure correct alignment of the winch, diverter pulleys and associated equipment. In addition, we performed installation commissioning and load testing, all field wiring and the issue of a LOLER (Lifting Operations and Lifting Equipment Regulations) Thorough Examination Report for the complete system, including diverter pulley support steelwork. We take our responsibilities very seriously in all customer projects, ensuring the delivery of robustly engineered, high-performance solutions that are safe, reliable and fit-for-purpose."

Delivered on-time and on-budget, the installation took place over a two-day plant shutdown. Hoist & Winch also provided thorough operator training on topics such as winch operation and control functions, as well as daily maintenance checks.

**Visit www.hoistandwinch.co.uk for further information and to view recent case studies**





# An Increasing Range Of Sectors Choose Hart

Hart Door Systems of Newcastle upon Tyne, the industrial door and security shutters manufacturer and market leader best known for its world-class technology through its leading brands such as Speedor high-speed doors, Firebrand fire shutters and Terror Screen and Typhoon industrial roller shutters, reports multi-sector success so far this year.

"Looking at a handful of current projects we are currently involved with international airports, automotive and general manufacturing, security and confectionary , many of which are major contributors to the UK's economy," says Nick Hart, Hart's managing director.

"Clearly there are situations across all sectors where solutions to door and shutter requirements are similar but in very many cases solutions are uniquely different which is where Hart's design and manufacturing originality is essential. We are delivering an important asset for our clients.

"Just as our clients thrive on innovation so must we. In particular the pressure on us all in respect of Climate Change means Hart has a crucial role to play through its leading Speedor brand which is in use throughout the UK and on seven continents globally," adds Mr Hart.

Why is Speedor and its several sub-brands so popular with industry and commence?

"Apart from its proven track record over the years for energy saving and general efficiency, each Speedor can be customised according to specific requirements in addition to its general reputation for durability and reliability, speed of operation and in these times of Climate Change, a very important reduced environmental impact.

"Presently Hart is involved in projects at a major UK airport, a specialist manufacturer, a regional retailer, a national food ingredients producer and an overseas high-value retailer. "So from protection from storms to protection from villains, we deliver the right door systems for each project," says Mr Hart.

**www.hartdoors.com**



# Electrical Sector Calls For Safer Public EV Charge Points

Leading electrotechnical and engineering services trade body ECA supports the Government's desire to increase the number of public EV Charge Points (EVCP). Its current approach, however, poses serious concerns about electrical safety in the public domain.

A Freedom of Information request by ECA in 2022 found that two thirds (66 per cent) of local authorities either did not have any strategy for EVCP installation or if they did, it failed to mention safety.

**ECA Head of Public Affairs Jane Dawson said:**

"Installing electrical technology, including EVCPs, can be complex and dangerous, with the potential for endangering lives through fire, electric shock or grid outage.

"EVCP Installers without adequate training do not have the level of competence required in other areas of construction. Training courses for local authorities must include installation considerations such as safety and competence."

ECA, which represents nearly 3,000 electrotechnical and engineering services businesses across England, Wales and Northern Ireland, says the fastest way to speed up EVCP installations, and make the most of public monies, is for Government to fund industry recognised upskilling courses such as those with an Electrician Plus kitemark.

At present, too many unrecognised short courses (including so-called boot-camps) and qualifications are getting the green light. These are not fit for purpose and are therefore wasting public funds.

To create consistent, high standards for EVCP installation, the installer voice must be heard on the new EV Infrastructure Forum, launched this week to discuss barriers to the delivery of charging infrastructure.

**For more information, please contact:**

**Omar Khalil, Communications Manager, ECA**
**T: 07971 141 934 | omar.khalil@eca.co.uk.**

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# Compressor From Fps Delivers 46% Less Energy Consumption At Armac Martin

Birmingham-based Armac Martin, a pioneer in design-led luxury brass hardware and accessories, relies heavily on compressed air for its CNC machining requirements. However, the company's existing system was constantly operating at full capacity, leading to unnecessary energy expenditure. By collaborating with FPS Compressors and its preferred local distributor Compressed Air Systems UK - Birmingham, Armac Martin adopted a new system capable of variable compressed air supply. The project led to an impressive 46% reduction in energy consumption compared with the company's previous compressor.

Founded in 1929 as a local brass foundry, Armac Martin is today a fourth-generation family business with a global reputation for exceptional design and craftsmanship. Compressed air is critical to the successful operation of the company's modern CNC machining centres. At the same time, like all manufacturers, Armac Martin is driving to make its operations more sustainable. The company has a strategy to achieve net zero by 2041, making the significant energy drain of its compressed air system a cause of major concern.

Collaborating with FPS Compressors and Compressed Air Systems UK - Birmingham, Armac Martin opted for a new system capable of variable compressed air supply, identified through data logging and energy audit exercises. Monitoring of the system took place using state-of-the-art instruments over several weeks. FPS Compressors and Compressed Air Systems UK - Birmingham explained both the data and the recommend solution to Armac Martin's management team. Notably, the transition to the new compressed air system, which features a NOBEL 18.508 DVF PM variable-speed screw air compressor from FPS at its core, was seamless and without downtime. Comprehensive training ensured proficiency in operation.

With the NOBEL 18.508 DV FPM, compressed air aligns to system requirements by regulating the speed of the electric IE4 permanent magnet motor, which can range from 15-100% of the maximum speed. Notably, the direct-drive system means zero energy losses, whereas standard drive belts may incur losses of 4-11% as the energy transfers from the motor to the compressor. Excellent and precise pressure control extends from 6 to 13 bar, while accurate and optimised cooling of the compressor arrives courtesy of efficient, powerful and quiet radial fans.

By partnering with industry experts and embracing innovative technologies, Armac Martin is seeing a remarkable 46% reduction in compressor energy consumption, translating to an impressive £23,637 in annual savings. The return-on-investment [ROI] for this sustainable initiative was achieved in just 14 months.

"The use of compressed air represents a large chunk of electricity costs at machine shops such as Armac Martin, just like it does at any manufacturing plant, food production facility or packaging plant," says Nick Poole, Managing Director at FPS Air Compressors. "To make gains, users of compressed air must get smart about specifying the optimal technology, notably the compressor. Armac Martin is a great example of what this strategy can deliver. While the company's previous compressed air system ran constantly at full capacity, the new solution reduces power requirements by only meeting actual demand. The result? Significant improvements in energy efficiency without any compromise in manufacturing performance."

**For additional information on this case study please visit: www.fps-compressors.co.uk/fps-case-study-armac-martin.html**









# Seaports Of Niedersachsen Present Themselves At WindEurope In Bilbao

Seaports of Niedersachsen and Niedersachsen Ports are jointly using the renowned trade fair as a platform to present their pioneering wind energy projects in the seaports of Niedersachsen. They are represented on site with five co-exhibitors and a strong delegation from the port locations.

The importance of wind energy for the German ports is undeniable. The seaports of Niedersachsen are essential for a sustainable and independent energy supply in Germany."In view of the current energy policy situation, the importance of the seaports of Niedersachsen with their high level of specialization in the field of wind energy is of enormous significance.

Our participation in this wind energy trade fair is therefore important and appropriate," emphasizes Andreas Bullwinkel, Managing Director of Seaports of Niedersachsen GmbH. "We very much hope that the federal government will not forget the seaports in fulfilling their national task for the country's energy supply and will support the states with investments."

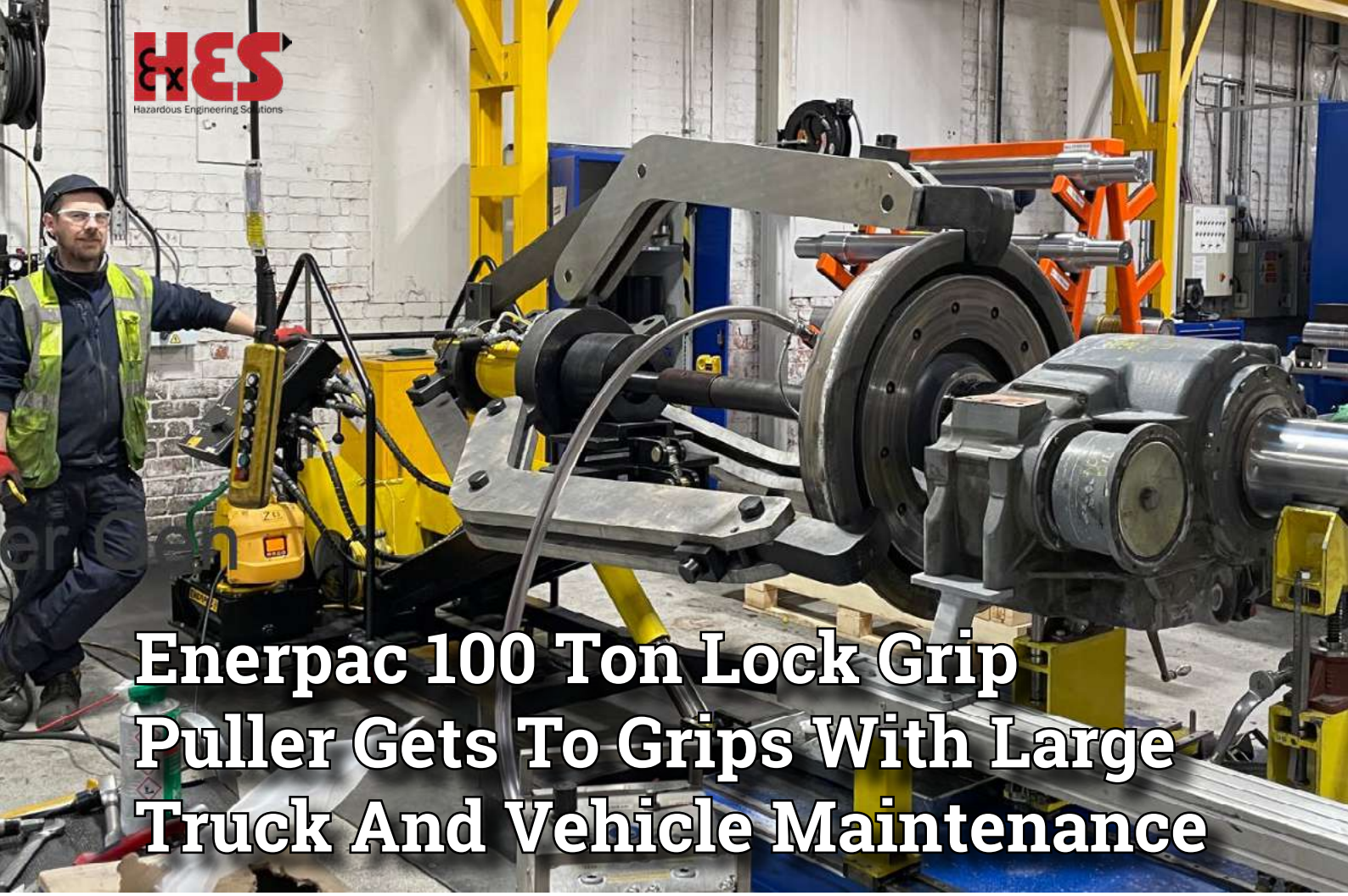
Wind power remains the driving force among renewable energies in the German electricity mix. The trade fair appearance underlines Niedersachsen's strong commitment to promoting the use of wind energy by the seaports of Niedersachsen and supporting the federal government's ambitious targets for covering all energy requirements with renewable energies by 2035.

The state is providing considerable funding of around EUR 100 million to drive forward the expansion of offshore wind power in Cuxhaven. The planned expansion of berths 5-7 will significantly increase the handling capacities for wind power components and thus make a decisive contribution to the energy transition. "Our ports are key hubs for sustainable energy sources of the future.

To keep it that way, we must and will continue to invest in a future-proof port infrastructure. To ensure this, the issue of financing the ports in particular must be clarified in order to achieve the expansion targets that have been set," says Holger Banik, Managing Director of Niedersachsen Ports GmbH & Co. KG (NPorts) and JadeWeserPort Realisierungs GmbH & Co. KG. WindEurope acts as the leading voice of the wind industry and actively promotes wind energy throughout Europe.

With over 400 members from the entire wind energy value chain, it is an important platform for wind turbine manufacturers, component suppliers, energy suppliers, wind farm developers, financial institutions, research institutes and national wind energy associations.

More than 12,000 visitors and 500 exhibitors are expected at WindEurope in Bilbao from March 20 to 22. Seaports is looking forward to many visitors and fruitful discussions with other industry players about the latest developments and innovations in the wind energy sector at its stand 1-F52.



# Enerpac 100 Ton Lock Grip Puller Gets To Grips With Large Truck And Vehicle Maintenance

Enerpac announces the LGH3100 synchronous lock grip system delivering up to 100 tons of hydraulic force for pulling medium to large size wheels, sprockets, bearings and other similar shaft-mounted parts. The puller's self-centring closing "Lock-Grip" system moves all jaws simultaneously, allowing a single operator to safely handle removal of large wheels, bearings, and couplers with ease.

Removing large, shaft mounted, components that may have become seized and corroded can be challenge for maintenance operators. Dangerous practices such as torching, cutting and hammering are liable to damage expensive parts leading to maintenance delays and extended equipment downtimes. The 3-jaw LGH3100 Lock-Grip Puller gives operators the ability to detach heavy and stubborn, large shaft mounted components efficiently and without damage.

The 100 ton lock grip puller is mounted on an ergonomically designed rolling cart with a low centre of gravity that minimises the physical effort needed to position and operate the puller. The cart features large industrial castor wheels and pockets for use with a forklift. The hydraulic pulling power is provided by the onboard Enerpac ZE3-Series electric two stage pump and remote operating control pendant.

Removed components are captured and held securely within the synchronous locking jaws. With a maximum reach of 1219 mm, the smooth action, hydraulic scissor lift on the LGH3100 cart provides effortless centre height adjustment from 698 mm to 1679 mm. When both space and budgets are tight, the 3-jaw LG3100 is easily converted into a 2-jaw, 70 ton capacity configuration, avoiding the need to use valuable budget on a separate 2 jaw puller.

"The LGH3100 Lock-Grip Puller is the safe and productive way to remove large shaft mounted components without damage," says Diego Rossi, Commercial Director Rail Markets EMEA, Enerpac. "The combination of a smooth action scissor lift, synchronized grip jaws and an intuitive operator station creates a stable and efficient pulling tool, allowing a single operator to remove, for example, large wheels, bearings, and couplers with unmatched ease."

**For more information on the Enerpac LGH3100 Lock-Grip Puller, visit**

**www.enerpac.com**



# Championing Safety And Efficiency In Utility Infrastructure

A focus on safety can expand work opportunities and open up a contractor to new and innovative business areas. KM Group, a prominent civil engineering contractor based across Wales and the South West of England, has carved a niche for itself in the industry through its specialisation in multi-utility mains installation, repair, and maintenance. Renowned for its commitment to safe working practices and ethical operations, KM Group partly puts its success down to its longstanding partnership with the supply chain risk management experts, Veriforce CHAS.

In this case study, Murray Ambler-Shattock, Group Strategic Operations Manager at K M Group, explains how working with Veriforce CHAS has helped KM Group enhance its industry presence. He also discusses their shared objective to enhance safety and efficiency in the civil engineering sector, including through investment in the very latest technology.

**CHAS accreditation and market access**

For several years, KM Group has been a proud partner of Veriforce CHAS, which has helped us to showcase our commitment to being a responsible and reliable contractor and enabled us to work with major contractors in our sector. Being accredited to CHAS Elite – which includes the Common Assessment Standard – shows we adhere to high standards across a wide range of risk areas, from health and safety to environmental management to equality, diversity, and inclusion. It also gives us a tool to set standards for our supply chain, so the contractors we work with are typically accredited to CHAS Standard or CHAS Advanced. Like Veriforce CHAS, at KM Group we are strong advocates of the Common Assessment Standard and its potential to improve efficiency and risk management standards in the construction sector. Veriforce CHAS was the first accreditation body to offer the assessment, and we were one of the first companies to complete it.

**Accreditation isn't complicated - it's the golden ticket**

Achieving accreditation is not a daunting task but a demonstration of our efficient business systems. In our experience, many organisations unknowingly already possess these systems in some form, and accreditation merely involves certifying their functionality.
Veriforce CHAS has been instrumental in conveying this message to our supply chain and supporting our contractors on their accreditation journey. This support is particularly beneficial for our smaller contractors, as CHAS Standard provides an entry-level accreditation that forms a solid foundation for future growth.

We view accreditation as the golden ticket, enabling business expansion and fostering collaboration with reputable employers. It establishes credibility and opens doors to valuable opportunities.

**Raising industry standards**

Veriforce CHAS collaborates with clients like us to enhance overall compliance within supply chains. As contractors within our supply chains embark on their accreditation journey, they often aspire to achieve higher levels of accreditation, making them more appealing partners. This increased accreditation assures supply chain partners that these contractors are responsible businesses with effective risk management systems. This helps to raise standards overall and positively impacts the entire sector, creating a more conducive working environment for everyone involved.

Furthermore, there is a substantial effort through the Common Assessment Standard to enhance efficiency. This initiative aims to streamline the accreditation process, eliminating the need for contractors to undergo multiple assessments. Once contractors have completed the Common Assessment Standard through CHAS Elite, their certification becomes accessible through any of the accreditation providers, opening up even more opportunities for them.

**Innovation in utility infrastructure**

In recent years, KM Group has embarked on a journey of innovation by investing in Vacuum Excavation, a revolutionary technique transforming the Construction, Utility Infrastructure, and Civil Engineering sectors. This non-destructive digging method uses compressed air and a high-powered vacuum to excavate soil and materials gently. This is safer for operators and avoids the classic challenge of damaging pipes and cables, which can be extremely dangerous, as well as both costly and disruptive to a project. KM Group's adoption of vacuum extraction aligns with the industry trend of adhering to PAS 128 standards, significantly improving utility detection accuracy in the UK.

**Pioneering vacuum excavation**

KM Plant Hire & Groundworks Ltd, a subsidiary of KM Group, stands out as a leader in innovation within the Utilities Sector. Successfully implementing Vacuum Extraction in various locations, we have been championing safety, efficiency, and reliability in utility detection processes. This forward-thinking approach provides exceptional value to clients and positions KM Group as a pioneer in adopting innovative practices for safer and more efficient operations.

**Conclusion**

The journey of KM Group serves as a compelling case study in how strategic partnerships, such as our relationship with Veriforce CHAS, can propel a company to new heights. Through accreditation, KM Group has not only gained access to major industry projects but also uncovered hidden efficiencies within our operations. The adoption of Vacuum Excavation further solidifies our commitment to innovation and safety, and we believe it establishes us as a trailblazer in the ever-evolving landscape of utility infrastructure.

**Find out more at: http://www.chas.co.uk/ or call 0345 521 9111.**



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# Why Should You Service And Maintain A Safety Shower

Maintaining a safety shower is crucial for ensuring its optimal performance and effectiveness during emergency situations. Here are several reasons why maintaining a safety shower is essential:

**1. Reliable Emergency Response:**

Regular maintenance ensures that the safety shower is in proper working condition and ready to be used when needed. By conducting routine inspections and maintenance activities such as testing water flow, checking water temperature, and inspecting valves, any potential issues can be identified and addressed promptly, ensuring that the safety shower will function reliably during an emergency.
Regular inspection and testing also ensures the area around the safety shower is always checked and clear from obstructions.
2. Employee Safety:

The primary purpose of a safety shower is to provide immediate decontamination in case of exposure to hazardous substances. Regular maintenance helps ensure that the safety shower is fully operational and ready should it be needed.

**3. Compliance with Regulations:**

Safety showers are often subject to regulatory requirements and standards that specify their maintenance and inspection. By adhering to these regulations, companies demonstrate their commitment to compliance and workplace safety. Regular maintenance helps ensure that the safety shower meets the required standards and ensures the company is meeting its legal requirement.

**4. Extended Lifespan:**

A safety shower should have a lifespan of approximately 15-20 years. Proper maintenance and care can significantly extend the lifespan of a safety shower. By promptly addressing any issues, replacing worn-out components, and conducting regular cleaning, you can prevent major breakdowns and costly repairs.

Regular maintenance helps keep the safety shower in optimal condition, reducing the need for premature replacements.

Maintaining a safety shower is essential for its reliable performance, employee safety, regulatory compliance, and overall operational readiness. Regular maintenance and inspections help identify and address any issues promptly, ensuring that the safety shower is always ready for use during emergencies.

**For more information on service and maintenance, please contact Aqua Safety Showers on +44(0)1942 318096 or sales@aqua-safety.com**






# Hi-Line Technical Division: Nationwide Coverage, Local Presence

Hi-line Industries, a UK-based leader in the design, manufacture and installation of energy-efficient compressed air purification equipment, has established a new Technical Division that further elevates the level of support available to its valued nationwide distribution network. With highly qualified and accredited technicians, Hi-line's Technical Division uses an unbranded fleet of vehicles whenever the need arises to provide support for a third party.

As an ISO9001-accredited UK manufacturer of class-leading air filters, adsorption dryers and air treatment ancillaries, Hi-line is a major supplier to the compressed air industry. One of Britain's largest stockists and a proud member of the 'Made in Britain' campaign, the company has a responsibility to support its extensive distribution network, which includes compressed air service companies, compressor OEMs and local industrial suppliers/agents.

Hi-line's new Technical Division employs only experienced compressed air treatment service personnel, with engineers trained in all aspects of compressed air and gas generation. Every technician is ACRIB (Air Conditioning and Refrigeration Board) registered and an approved 'safe refrigerant handler' in accordance with REFCOM (Register of Companies Competent to Handle Refrigerants). The company is also affiliated to BCAS (British Compressed Air Society) and works in association with DEFRA (Department for Environment, Food and Rural Affairs).

To support its broad portfolio of class-leading solutions for the compressed air industry, Hi-line's Technical Division offers an extensive list of services. The servicing of compressed air dryers made by Hi-line and other manufacturers (refrigeration and desiccant models) is clearly a core activity - involving tasks such as filter element replacement, desiccant changes and condensate separator maintenance - but there is

plenty more to Hi-line's new service offer.

For instance, the company can provide air treatment total care agreements, energy audits (compressed air flow analysis), breathing air analysis, leak surveys, compressor data logging (with reports) and dewpoint measurements. In addition, the company has a long list of retrofit services available, including the ability to add dewpoint control to any make of dryer via the company's high-capability AEMS (Automatic Energy Management Systems). Hi-line can also update dryer analogue control to touchscreen panels and provide dial-in retrofits for digital monitoring. Even pipework installations and modifications (including hygiene-grade stainless steel pipes) are no problem for the company's Technical Division. Importantly, discretion is a priority whenever required.

"Many of our products are 'unbranded' at the request of compressor companies and other OEMs," explains Hi-line's Managing Director Steve Smith. "To support these products, we have an unbranded fleet of vehicles and can even adopt plain overalls and customer service report sheets upon request. Whatever your service requirement, we have discreet, well presented and qualified engineers to support compressed air treatment equipment made by Hi-line and others."

**Further information is available from:**

**Hi-line Industries Ltd**

**Green Street**

**Burton on Trent**

**Staffordshire**

**DE14 3RT**

**Tel: 01283 533377**

**Fax: 01283 533367**

**enquiries@hilineindustries.com**

**www.hilineindustries.com**




# IFS Ultimo And ALLIANT RIGSERV Sign Partnership To Optimize Maintenance And Improve Safety

IFS Ultimo and global professional services provider ALLIANT RIGSERV have signed an agreement that offers customers access to IFS Ultimo's Enterprise Asset Management (EAM) Software as a Service (SaaS) solution. ALLIANT RIGSERV's subject matter experts (SMEs) have deep knowledge of best industry practices for asset management in the healthcare and oil and gas industries. Through this partnership, they can offer an even more comprehensive and streamlined approach, professionalizing asset management, enhancing maintenance, and increasing safety.

Located in Houston, Texas, ALLIANT RIGSERV is strategically positioned to connect with businesses from the same key sectors wherein IFS Ultimo is a proven leader of EAM services. Therefore, companies in the medical, manufacturing, and energy sectors will now be able to benefit from IFS Ultimo's flexible, easy to implement EAM solution to optimize maintenance and improve safety. This partnership further equips end users with built-in integrations to established Enterprise Research Planning (ERP) systems.

Josh Leachman, VP Sales, ALLIANT RIGSERV comments: "IFS Ultimo's established presence in diverse markets opens doors for ALLIANT RIGSERV, allowing us to reach new customer segments. This enables us to cater to a wider range of customers' asset-specific needs with shorter implementations and faster time to value. Our customers will benefit from IFS Ultimo's robust reporting tools and real-time actionable insights into their assets."

Freddy Vos, VP International Sales & Channel, IFS Ultimo, adds:
"Through this partnership, asset-intensive companies in the USA will benefit from our solution. Adding ALLIANT RIGSERV's knowledge and network to our community enables us to profit from its local expertise. We are confident that we strengthen each other and look forward to a new exciting chapter in our international growth strategy."

ExVeritas®



## 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 word 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.

### 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.



### 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.



### 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.




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# The 'Competence' Requirements For 'Ex Manufacturers' Who Self-Certify...Who Checks?

There are many schemes that check the competence of 'Ex' equipment installers and inspectors (such as CompEx) but those schemes 'assume' that the equipment certificates are correct. In the UK and EU however, a lot of equipment can be 'self-certified' by the manufacturer. This includes all Zone 2 equipment, Zone 1 non-electrical equipment and even equipment for Zone 0 if the manufacturer declares that the device is a simple apparatus. In addition to this, there is equipment which is put on the market as an 'assembly' using certified equipment but often introducing new (often non-electrical) ignition sources.

**So how does the end user know these 'self-certified' items of equipment are safe?**

As an end user, you are taking the final responsibility for the equipment you use, it is vital that you have sufficient diligence in accepting certification that has no accreditation or independence. 'Ex' matters, if something goes wrong the result can be catastrophic, so you should accept nothing at 'face value'.

**Specify 3rd party certication (and check it is legitimate)**

Although the manufacturer does not legally always need to obtain 3rd party certication, the buyer can make it a condition of purchase. This is the safest and simplest as method as the buyer can be assured of the independence and competence of the Certification Body (assuming the body is accredited for 'Ex', schemes like 'IECEx' who have global recognition and Certification Bodies status can be checked on line.)
Caveat Emptor (Let the Buyer Beware)

Remember, anyone can produce a certificate and many manufacturers and non-accredited bodies and counterfeiters issue certificates that look very much like officially Notified Body or IECEx Body Certification. Only accept certification from reputable bodies who's certification can be verified (that can be done by the end user online with IECEx).

**Be an 'intelligent' customer.**

No certification should be taken at face value, so you should always have the competence to check the certificate you are being presented with 'before' purchase, for example:

• Are the certificates to the correct Standards and are all necessary standards included. For example, a fan may be certified to generic standards when it should be certified to the standard specifically for Ex fans.
• Are the certificates to the 'current' level and at least to the 60079 series standards (as required by the installation standard, 60079-14).
• Is the manufacturer an 'Ex' specialist and have you audited or reviewed them as a body with the 'competence' to self-certify (for example, do they have a test facility, do their staff have the relevant competence and independence).
There are suitable training courses to help become be an 'intelligent customer' or a 'competent manufacturer' for explosion safety. These courses can help with the design and certification (self certication or 3rd party certication) and will ultimately save time and money as well as make 'safer' product and installations. For example, courses run by ExVeritas include:
• 'Ex' Electrical Equipment Design and Certification: How to select a design with appropriate protection concepts, prepare certication drawings, test samples and quality systems (QAN/QAR/FUS).
• Advanced Intrinsic Safety Circuit Design: A five-day workshop-based training covering the most advanced intrinsic safety design techniques.
• Ex Assemblies and Non-Electrical Equipment: How to design 'Ex' assemblies and non-electrical equipment for ATEX, UKCA and IECEx Certification (from simple pump skids to diesel engine generators)

**ExVeritas are a UK Government Appointed Body for UKCA 'Ex', an ATEX Notified Body and an IECEx Certification Body and Test Laboratory, we are also a MET Partner Laboratory for North American Certification. Our training is delivered by Senior Certification Body Engineers who are industry experts, you will learn from our vast experience in this field. www.exveritas.com**

Links for courses that address the competence issues discussed in this article:
Ex Certification Process for ATEX and IECEx is explained here (exveritas.com) :

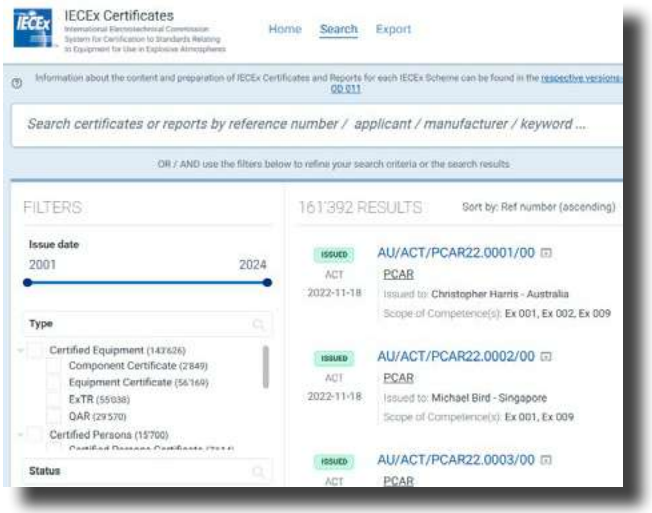
**https://www.exveritas.com/ex-certification-product-manufacturers-2/**

Advanced Intrinsic Safety Circuit Design from an ATEX/UKCA and IECEx Body (exveritas.com):

**https://www.exveritas.com/advanced-intrinsic-safety-circuit-design/**

ATEX and IECEx Ex h Non-Electrical Equipment and Assemblies training for Designers (exveritas.com):

**https://www.exveritas.com/non-electrical-ex-h-design-course/**



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# Lighting An Environmentally Responsible Way: The New Peli™ 3335 Zone 0 R

The latest addition to the Peli range of rugged safety torches is the 3335 Zone 0 rechargeable model. Built tough to perform in the harshest environments, with an IP67 waterproof body this torch is a testament to reliability and safety. Providing an impressive 246-lumen output, it effortlessly pierces through darkness, providing clarity in the most challenging workspaces.

Designed for longevity, the 3335 Zone 0 boasts an extraordinary 58 hours of run time, ensuring prolonged usage without compromising performance. The ATEX Zone 0 certification signifies its capability to operate in potentially explosive atmospheres, making it an indispensable tool for industries with stringent safety standards.

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 to allow the user to attach it to a jacket for hands-free use. This adaptor also 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.

Sales Director David Smith commented "This torch is very impressive; a high-quality rechargeable product that combines a compact design with a rugged yet lightweight body offering resilience, efficiency, and a commitment to environmental responsibility."

The Peli Products (UK) range of tough safety torches is certified to ATEX Zone 0 and Zone 1 and includes head torches, right angled models, compact versions and large hand lamps; all designed for use in hazardous areas. All these Peli torches carry the legendary "You break it, we replace it" lifetime guarantee.

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







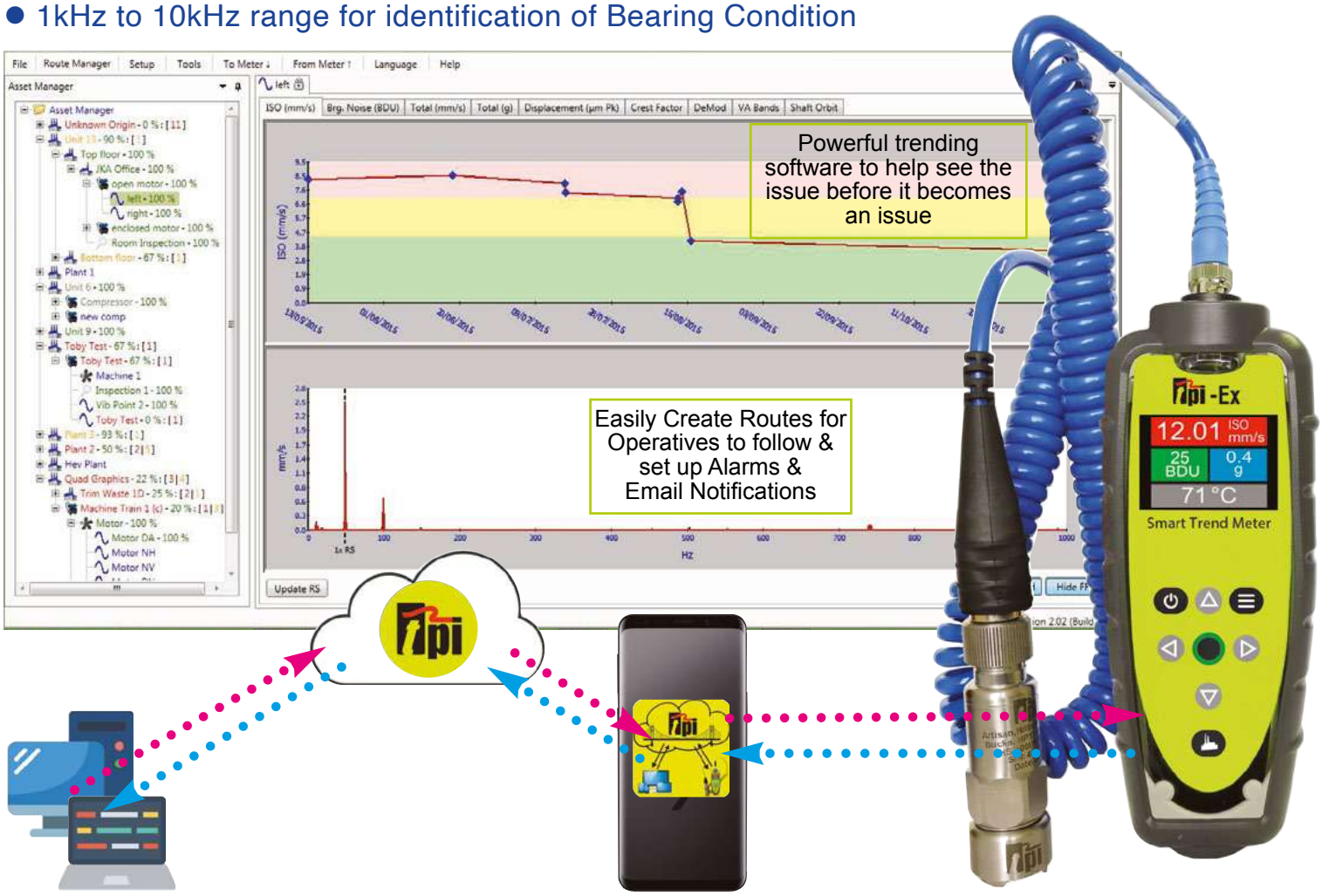
# Test Products International Inc.

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



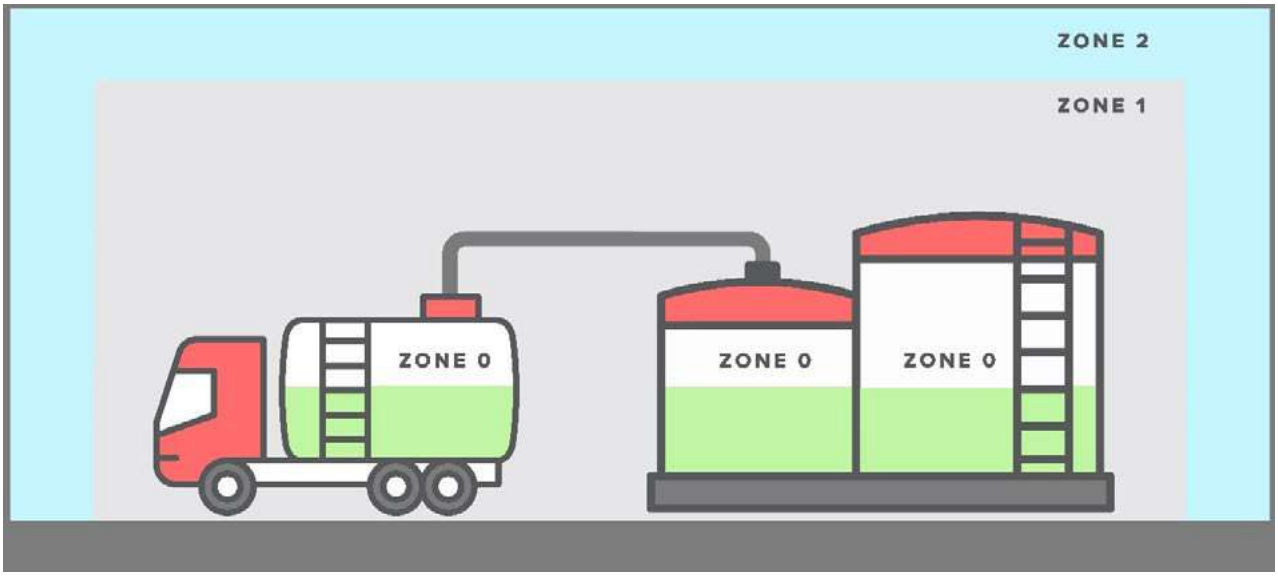

## Then let TPI's 9085-Ex Vibration, Bearing Wear & Instantaneous Temperature Analyser HELP!!!

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- 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




# What Is The Real Benefit Of Zone 0 Certification?

In many hazardous locations there is a need to use condition monitoring equipment, e.g. for measuring the vibration levels and temperatures of rotating machinery to diagnose faults such as misalignment, unbalance or impending bearing failure. The equipment 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) require employers to control the risks to safety from fire and explosions. Consequently, this entails compliance with BS EN 1127 (Explosive atmospheres - explosion prevention and protection), which requires that any electrical equipment used is intrinsically safe and complies with IEC 60079.

The likelihood of an explosive atmosphere existing is dealt with in these standards by the definition of various "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 but, if it does occur, will persist for a short period only. With Zone 1 the "grey area" in between these two extremes.

Importantly, it is the responsibility of the plant operator to decide which parts of their plant are in which zones. But this can pose something of a problem. For example, these days there are many Zone 2 certified devices available, such as mobile phones or tablet PCs in special casings. These are fine when used in an area that is clearly Zone 2. But what if someone left a door or a hatch open to a Zone 0 area? Does our Zone 2 now become Zone 1, or worse still Zone 0? Does our previously certified safe, Zone 2 device now constitute a potential hazard?

This is where the real benefit of Zone 0 certification comes in. Basically, you don't have to think because Zone 0 devices can literally be used anywhere!

There is a price to pay however, as Zone 0 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) believes it has achieved a significant Zone 0 cost breakthrough with the very affordable TPI 9085Ex vibration analyser.

Costing from as little as £4,250 the TPI 9085Ex combines on-meter diagnostics with the all-important ability to TREND readings over time to simplify condition-based maintenance (CBM). Certified for Zone 0 with IECEx, ATEX and North American approval, the TPI 9085Ex can be used in ANY hazardous location anywhere in the world.

The TPI 9085Ex offers on-meter analysis for the detection of machine faults such as unbalance, misalignment, looseness and bearing wear. With full colour OLED display and Bluetooth communications, the TPI 9085Ex features colour coded alarms and zoomable on-screen vibration frequency plots with cursor readout. It can store lists (routes) of up to 1000 machines, each with up to 10 measurement points, with full waveform and frequency spectrum (FFT) capture and transfer to PC-based software.

Additionally, the TPI 9085Ex with its uniquely designed sensor, SIMULTANEOUSLY captures both VIBRATION and TEMPERATURE readings. So, if the indicated level of bearing wear is high and it's hot then you can be sure that what you have is a worn bearing and not for example pump cavitation.

The included C-Trend PC-based trending and reporting software features all the high-end benefits, such as automatic email notification of alarms and report generation, to implement a full CBM strategy. Routes and readings can also be transferred to/from the TPI 9085Ex via Bluetooth using a smart phone or tablet running the free TPI Cloud Bridge App. This allows service personnel to be sent routes and return readings over the Internet, no matter where they are in the world.

**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**



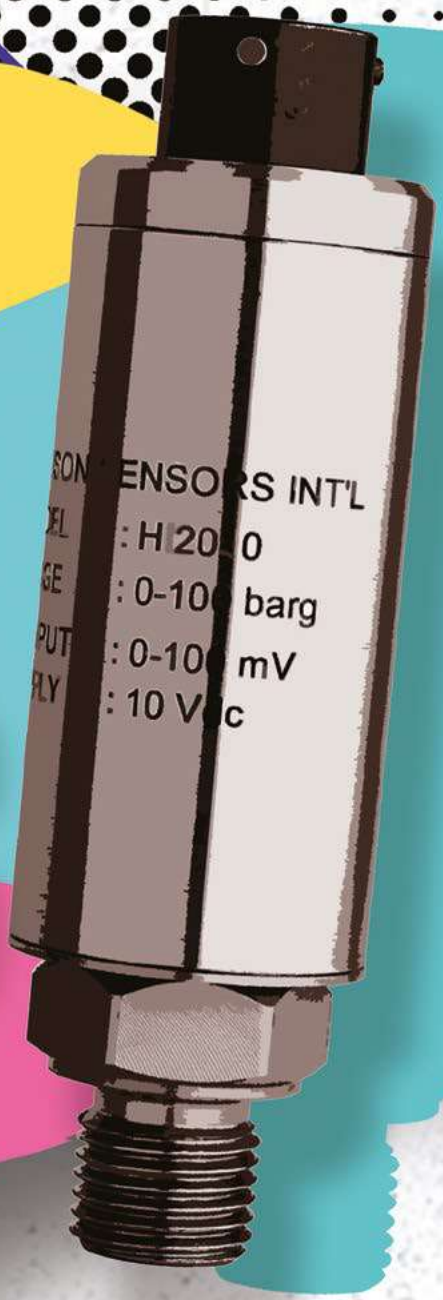
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# ESI Proudly Commemorates Three Decades Of Excellence With The 30th Anniversary Celebration Of The Sos Sensor!

For over 30 years, Silicon-on-Sapphire (SOS) sensor technology has stood as a cornerstone within ESI's lineup, defining the very essence of reliability and precision in intrinsically safe pressure transmitters. This innovative technology has played a pivotal role in ensuring steadfast and accurate measurements amidst the challenges posed by hazardous environments. Through the symbiotic fusion of silicon's sensing prowess and sapphire's unyielding resilience, the SOS sensor has emerged as an unparalleled solution, conquering the harsh realities of hazardous applications.

The SOS sensor harnesses the extraordinary properties of both silicon and sapphire, culminating in unparalleled performance. Sapphire, renowned for its exceptional durability, chemical inertness, and resistance to extreme temperatures, provides an impervious shield against corrosive chemicals, abrasive substances, and soaring temperatures. Meanwhile, silicon, meticulously grown onto the surface of the sapphire substrate, furnishes the sensor with unmatched sensitivity and precision. This harmonious marriage of materials ensures long-term reliability, even in the most unforgiving environments.

Intrinsically safe pressure transmitters, fortified with Silicon-on-Sapphire Technology, assume a pivotal role in hazardous environments where the spectre of explosion looms large. In such precarious settings, safety reigns supreme, and intrinsically safe devices stand as guardians against potential calamities. ESI's pressure transmitters, not only meet stringent safety standards, but also deliver unwaveringly accurate and dependable pressure measurements, instilling confidence in even the most challenging conditions.

The intrinsic electrical insulation properties of sapphire serve as a linchpin in achieving intrinsic safety. With its exceptional insulating characteristics, sapphire forms an impenetrable barrier, thwarting the passage of electric current and mitigating the risk of sparking or overheating. This inherent safety feature renders SOS sensors inherently safer for use in explosive atmospheres compared to their conventional counterparts.

Furthermore, Silicon-on-Sapphire technology empowers ESI to craft pressure transmitters boasting a compact footprint without compromising performance. The slender yet robust nature of the SOS sensor facilitates the development of smaller, lighter devices, simplifying installation and maintenance in confined spaces within industrial settings.

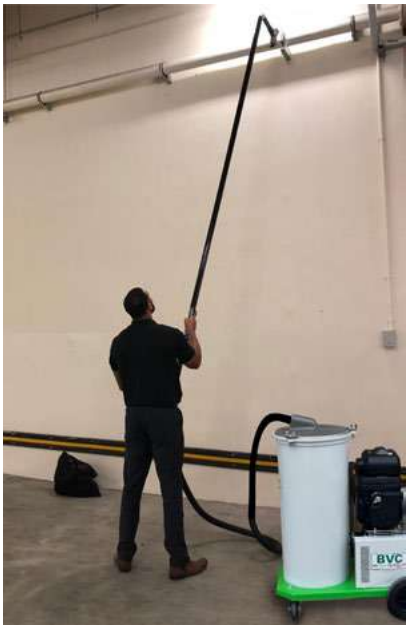
As industries steadfastly prioritise safety and precision in their operations, ESI's SOS technology stands poised at the vanguard of intrinsically safe pressure transmitter solutions, offering a steadfast and enduring solution for critical applications. With three decades of innovation behind us, ESI remains committed to pushing the boundaries of excellence, ensuring that our SOS sensors continue to set the standard for reliability and precision in hazardous environments.



# British Made Industrial Vacuum Cleaners For Hazardous Dusts

Hazards from dusts and spilled product fall in to two distinct categories; the first is dusts that are hazardous to health. This category includes obvious products like asbestos and silica dust, but any dust that can be breathed in by the operator or other personnel in the workplace is likely to be hazardous to health to a degree. Industrial Vacuum Cleaners with M-Class and H-Class filtration ensures hazardous dusts are appropriately handled when being recovered.

The second category is dusts that are hazardous in the environment. The obvious category is dusts that can potentially cause an explosive atmosphere, particularly organic products like sugar and flour. Some products fall in to both categories such as wood dusts, which are both hazardous to health and potentially explosive. ATEX rated Industrial Vacuum Cleaners must be specified for use in ATEX zones.




Selecting an appropriate Industrial Vacuum Cleaner requires careful consideration of the potential hazards which then informs the specification of the machine. BVC – British Vacuum Cleaners is the leading brand of British manufactured industrial vacuum cleaners. Manufactured by Quirepace in Fareham, Hampshire the range includes both M-Class and H-Class machines for dusts hazardous to health and ATEX rated equipment suitable to operate in potentially explosive atmospheres.

Quirepace's extensive knowledge combined with our experienced sales team, UK manufacture, and local service and spares support, means that BVC UK manufactured Industrial Vacuum Cleaners, with their 5-year parts warranty, deliver excellent durability and value for money in the industrial environment.

In addition to portable equipment, Quirepace also design and install fixed installations for Central Vacuum Cleaning, where multiple outlets are served by central plant through a network of fixed pipework.
Contact us today to arrange an initial consultation meeting.

**www.quirepace.co.uk www.bvc.co.uk**
**sales@quirepace.co.uk**
**023 9260 3700**






# Cleaning Up In ATEX Zones

In Great Britain, the Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR) require employers to eliminate or control the risks from explosive atmospheres in the workplace. This includes adhering to two European Directives including Directive 2014/34/EU, also known as the ATEX Equipment Directive, which concerns equipment and protective systems intended for use in potentially explosive atmospheres.

Production facilities that use combustible powders as part of their production process, or those which create a very fine waste which is classed as combustible dust, should all use ATEX rated equipment.

Kerstar's UK manufactured ATEX certified industrial vacuum cleaners are suitable for use in Gas Zones 1 & 2 and Dust Zones 21 & 22 – as specified on the rating plate on every unit. All of Kerstar's compressed air (KAV range) and electric (KEVA range) ATEX vacuums provide three-stage filtration which includes a specially designed microfibre bag with a cap which, when closed, cannot be re-opened, and a HEPA H14 filter – offering 99.995% efficiency for dusts and powders as fine as 0.3 micron.

All KAV and KEVA models offer stainless steel canisters mounted on a stainless steel caddy fitted with conductive braked castors and wheels - this ensures each vacuum is antistatic and conductive from top to bottom. Every machine is supplied with a fully conductive hose and accessory kit, and a full earth path continuity certificate.

Kerstar Business Development Manager, Brian Folland, comments, "It's really important that employers ensure they are providing equipment which is fit for purpose – particularly in potentially explosive atmospheres. This is just as important for cleaning equipment as it is for production machinery. Everything used in an ATEX rated Zone must be certified to meet the ATEX Directives."

**Find out more about Kerstar's ATEX certified and Type H (suitable for use with hazardous dusts) vacuum cleaners by visiting www.kerstar.com.**




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# Airbench WB Wet Bench Is Now Available With H13 HEPA Final Filtration

AirBench have released an upgraded version of their WB wet filtration bench, with final H13 HEPA grade filtration.

AirBench WB is designed specifically for flammable dusts which produce sparks when worked – for example titanium. WB uses a unique double-pass system of baffles to quench sparks in the integral water bath; filtering dust by passing through multiple water sprays.

Airflow is generated using a high-efficiency centrifugal fan, selected specifically for the high pressure needed to induce a water spray.

The new WB models include final H13 HEPA filtration, enabling use for welding in addition to grinding and similar processes. This allows users to centralise mixed-metal processing at a single workstation.




AirBench WB

The UK's most advanced solution to titanium dust extraction, now available from AirBench Ltd.

**Visit www.airbench.com/wb for more information, or contact Air-Bench Ltd to discuss your extraction issues.**

# Argeo signs "Certificate of Delivery and Acceptance" with CSI for second Kongsberg Discovery HUGIN Superior AUV

Ocean surveying and inspection specialist Argeo Subsea, CSI Nordics and Kongsberg Discovery have signed a three-party Certificate of Delivery and Acceptance for a new HUGIN Superior AUV. The agreement, confirmed at Oceanology International in London, supports Argeo's ambitious fleet expansion plans, as the firm looks to build the world's most advanced AUV fleet, with seven high specification units. Argeo already has one HUGIN Superior in service.

CSI Nordics, a subsidiary of CSI Leasing, one of the largest independent equipment leasing companies in the world, will purchase the unit from Kongsberg Discovery, entering into a long-term leasing agreement with Argeo.

**Integrated excellence**

Argeo CEO Trond Crantz says the deal will amplify the company's operational capacity, putting it in "a unique position within both the marine minerals, oil and gas and the renewables segment, increasing efficiency and productivity substantially."

He comments: "Our expansion plans will establish us as the premier authority in AUV technology worldwide. The strategic combination of Kongsberg's highly advanced AUVs with Argeo's proprietary cutting-edge electromagnetic sensor system, Argeo LISTEN, propels us ahead of competitors.

"Argeo LISTEN allows for efficient inspection of cables and pipelines, both buried and on the seafloor, as well as rapid estimation of cathodic protection status and remaining lifetime. By integrating this state-of-the-art system into the Hugin Superior, our clients can expect expedited project completion and access to comprehensive data derived from multiple sensors concurrently, ensuring unparalleled quality and efficiency."

**Partnering for success**

Speaking on behalf of CSI, Kenneth Mitsem, General Manager at CSI Nordics, adds: "We specialize in crafting leasing solutions that are both flexible and sustainable, designed to meet the rapidly changing needs of the modern market. Our strategic approach focuses on making advanced technology readily accessible, enabling businesses to quickly respond to new challenges and maintain a competitive edge.

"We're proud to collaborate with Kongsberg and Argeo to develop smart leasing options, facilitating easier access to innovations like the HUGIN Superior from Kongsberg Discovery. This partnership underscores our shared commitment to enhancing the acquisition of technology critical for thriving."

**Raising the bar**

The Superior sits at the top of Kongsberg Discovery's HUGIN AUV family of products, which, after 30 years of developmental milestones, is the world's most commercially successful range of AUVs.

The unit's standard specifications are second to none. It includes a HISAS 1032 dual receiver, EM2040 Mk2 Multibeam Echosounder, a UHD still image camera, laser profiler, sub-bottom profiler, magnetometer, in addition to sensors for methane, carbon dioxide, oxygen, and more. Combined with the latest in navigation technology, including MicroNavigation systems for enhanced accuracy, the Superior raises the bar for AUV capability.

**Competitive advantage**

Stene Førsund, EVP, Kongsberg Discovery, says: "We're delighted to be consolidating our relationship with Argeo and CSI, with the leasing of this advanced, high specification technology.

"With their second HUGIN Superior onboard they'll be able to offer clients excellence in high-resolution seabed mapping and imaging, with the functionality needed for a broad range of applications, and the precision and reliability to go further, deeper and into more detail on missions, delivering powerful competitive advantage. Argeo can look forward to achieving some Superior results in the very near future."

In addition to the Superior, the HUGIN family of AUVs includes a variety of models customised to meet diverse markets, budgets and operational flexibility. This includes the HUGIN Endurance, capable of conducting missions over a range of 1,200 nautical miles, and the soon-to-launch HUGIN Edge, weighing only 300kg and less than 4m in length.

Kongsberg Discovery is a standalone business within the KONGSBERG Group, focusing exclusively on cutting-edge underwater robotics and sensor technology innovations.

**For further details please see https://www.kongsberg.com/discovery/**




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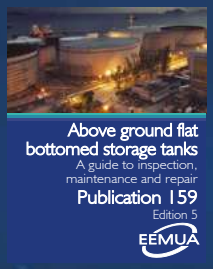
**15-18 April 2024** – in **German** – classroom – Hanover, DE

**20-23 May 2024** – in **English** – classroom – London, UK

**27-30 May 2024** – in **English** – live online – **Riyadh** time

**3-6 June 2024** – in **Dutch** – classroom – Rotterdam, NL

**10-13 June 2024** – in **French** – classroom – Paris, FR






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# Upwardly Mobile With ATEX-Approved Pumps

**A Mobile Pump?**

If the first picture that pops into your head is that of a diesel-powered, generator-type unit, then fine; there will always be a need – but aside from diesel not striking the right environmental chords, what if your mobile pump has to meet the demands of ATEX?

Chalwyn valves and Spark Arrestors certainly do their job to meet Health & Safety requirements, but they do not, for example, control surface temperatures in the T4 range of 135°C. Such are the rigorous and sometimes complicated demands of ATEX that it is not uncommon for pump users to position control panels away from the ATEX area in order to comply with the regulation. Not the end of the world, but hardly what you'd call convenient.

For an increasing number in industry though, that first picture of a mobile pump is beginning to change instead to that of one with an electric-drive.

"I think there's still some lack of awareness that ATEX-approved electric-drive mobile pumps are available", said David Brown, Managing Director of Borger.

"There must be", he added, "because I'm quite shocked to see non-ATEX units still in use at some petrochemical sites".

**'Electric-driven mobile pumps leave costly diesel units lagging way behind'**

Borger sells mobile pumps that are diesel as well as electric, so Brown is keen to stress that he's not on an anti-diesel crusade. Where needs must, especially for emergency use where no power supply is available, there are no end of Borger pumps in operation, including, for example, in the Republic of Ireland, where they are used to combat flooding. However, believes Brown, where mains power is available, electric-driven mobile pumps – lighter, far less cumbersome and so much better for the environment – leave costly (storage, transportation, labour) diesel units lagging way behind,

"Diesel usually has to be bought in bulk too", continued Brown, "and there's the time involved of having to keep topping up a diesel mobile pump - plus the fact that such a large amount of fuel is used. But in a potentially explosive environment, an ATEX-approved mobile pump is a must. Just recently for a petrochemical company, we built a customized ATEX-compliant mobile pump for transfer operations and removal of residues from storage tanks in an Ex zone 2 of their refinery".

Brown explained how in order to be able to use the pump everywhere on the rough refinery premises, the mobile unit (including the drive) is mounted on a base-frame equipped with fork-lift openings and crane lifting eyes. A telescopic loader or a crane transports the pump to its respective application site. The fluids are often polluted with organic solids, so a filter system is in place to separate them out. Without hardly any pulsation, tri-lobe screw rotors pump the medium, with only the lobe tips of the rotors needing replacement in case of wear.

"The unit is operated from a fully ATEX-compliant control cabinet on the actual mobile unit", says Brown. "This makes everything so much more convenient for the operator. If defined pressures or tempera-

tures are exceeded, the pump switches off automatically. And in order to protect against uncontrolled pressure surges, the mobile pump is equipped with a Variocap and a bypass with rupture disks. Knowing that everything is ATEX-compliant provides great peace of mind".

Borger has also recently supplied mobile pumps for a mineral oil company's refinery. The entire pump unit, including the pump itself, the drive and the control technology had to be manufactured in ATEX-compliant design. For flexible use on the premises, the mineral oil company need to convey changing media and use the mobile pumps for "pigging" the pipelines – on the basis that the highest degree of safety would be met for the potentially explosive atmospheres.

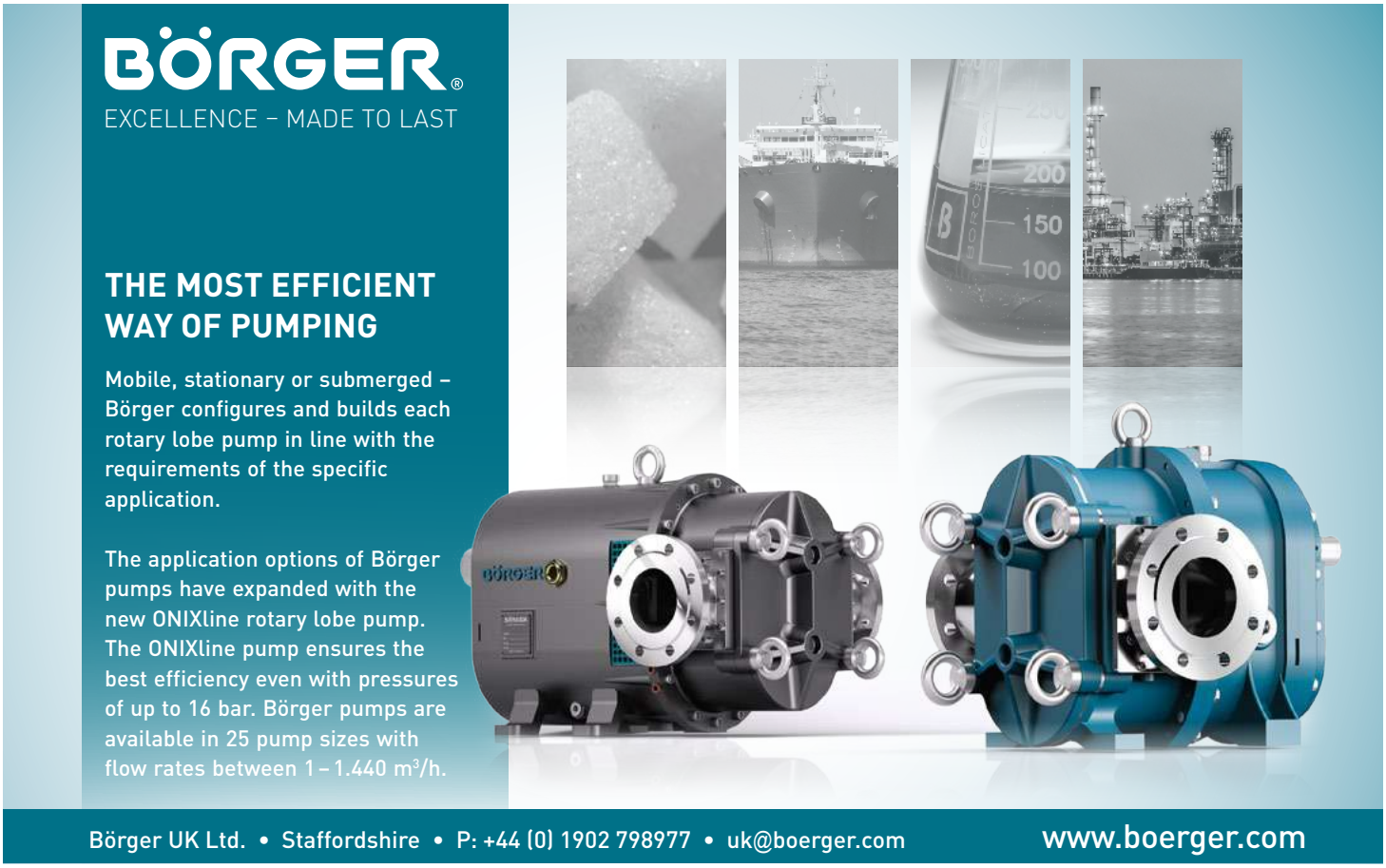
**'Moved through narrow aisles for transfer operations'**

'Mobile' is self-explanatory of course, so there is no end to the number of uses of a mobile pump. A world away from the strict ATEX requirements at refineries, mobile pumps from Borger are also in use at..... French vineyards. Custom-built, the stainless-steel pumps are moved through narrow aisles for transfer operations, with the wine producers able to set the required flow rate very easily via the control unit. Screw rotors convey the wine with low pulsation so that it does not foam up – whilst temperature sensors in the pump's cover and pressure sensors in the suction and pressure lines ensure the highest level of safety and quality. The pump can be operated via the Borger control unit or the supplied remote control.

David Brown concluded: "Diesel-powered mobile pumps will always have an important role to play. But from refineries with their strict ATEX requirements - to vineyards – and for all types of applications, electric-driven, plug-in-and-play mobile pumps offer big advantages. For being lighter, far more cost-effective, safer and so much better on the environment, they are an attractive investment – and a very good hire option too".

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# The Trade Show For Process & Chemical Engineers! Chemuk 2024 Expo Announces The Process & Chemical Engineering Show Zone

The CHEMUK 2024 EXPO will return on 15th & 16th May at the NEC in Birmingham. Running as part of the trade show, event organiser, UK Industry Events, has announced the launch of the new Process & Chemical Engineering Show Zone.

The Process & Chemical Engineering Show Zone will be the UK's only event that brings process engineers from the Chemical, Food & Beverage, Pharma, Oil & Gas, and Water & Wastewater industries together to experience the very latest innovation that is shaping and inspiring the process industries under one giant roof.

The new focused event zone will present hundreds of specialist process engineering suppliers to attending process professionals that are involved directly in the design, development, management, and maintenance of operations in the processing of liquid, solid, powder, and gas-based process engineering industries.

Managing Director of UK Industry Events, Ian Stone, explained the decision to introduce the focused show zone, 'The Process & Chemical Engineering Show Zone' will give attendees the ability to survey the wealth of new technology and products that are available but also to be able to share that knowledge across the various vertical industries that are the application areas for process engineering.'

**Speaker Programme**

Running as part of the show will be the Process & Chemical Engineering speaker programme. Highlights from this year's show will include a series of 90-minute Mini Conferences, including:

• 'Scale-Up' challenges, towards Sustainable Production - IChemE Mini Conference
• Bioprocess Scale up: From Bench Top to Commercialisation - IBioIC Mini Conference
• Process Intensification Symposium: Unlocking the Potential of Process Intensification for Net Zero - Hosted by Process Intensification (PI) Group - Newcastle University Mini Conference
• Technologies that will disrupt chemical manufacturing - Hosted by Innovate UK & Biotechnology and Biological Sciences Research Council (BBSRC) Mini Conference

In addition, the speaker programme will present several expert presentations and keynotes, including:
• IChemE Presidential Address
• Supporting your journey to Net-Zero - Innovate UK KTN on behalf of Dept for Energy Security and Net Zero/ DESNZ
• Is it just yet another fieldbus? Ethernet conquers instrumentation in process industry – ABB
• Process Intensification of Batch Chemistry Production - Thermal Fluid Systems
• New technologies from the Solvents Industry on the road to net zero – Solvents Industry Association

**Industry Support:**

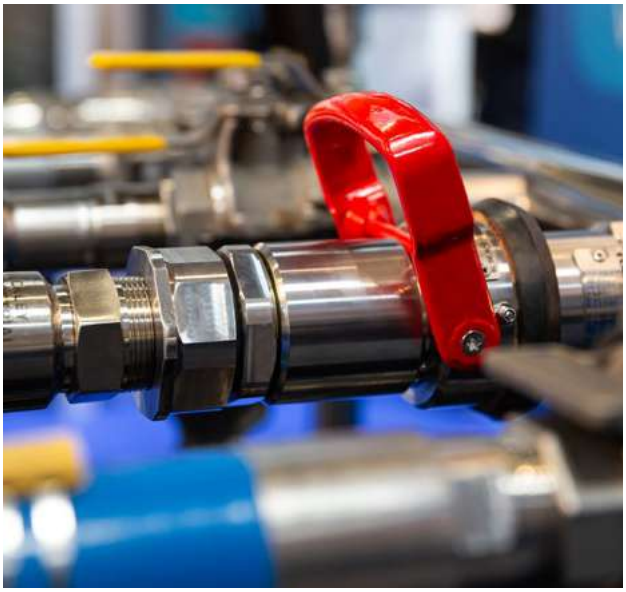
The Process & Chemical Engineering Show is partnered with the major trade bodies and industry associations supporting the process engineering sector including, the IChemE - The Institute for Chemical Engineers, BVAA - British Valve & Actuator Association, BPMA - British Pump Manufacturers Association, UKGSA - UK Gaskets & Sealants Association, Process Intensification Network, NEPIC, and Chemicals Northwest, amongst others.

**Dates for the Diary**

**CHEMUK 2024 takes place on Wed 15th & Thu 16th May 2024**
**Venue: Hall 1, NEC - National Exhibition Centre, Birmingham, B40 1NT**

**Wednesday 15th May: 9.30am – 5.00pm**
**Thursday 16th May: 9.30am – 4.00pm**

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# Safe And Sustainable – The Next Generation Of Flameless Explosion Venting

## As the inventor of flameless explosion venting, REMBE is once again challenging the status quo with the new Q-Box R3leaf, the world's first sustainable device for flameless explosion venting.

After years of systematic development, testing and successful approval tests, REMBE is convinced that it has contributed to more than just an improvement in flameless explosion venting technology. Instead, the aim is to set a good example and send a clear signal that everyone can reduce the carbon footprint in our industry.



*Fig. 1: The Q-Box R3leaf as the first sustainable flameless explosion venting device*

During development of the Q-Box R3leaf the focus was on sustainability and the central question: Where can the status quo be further challenged?

The development of the Q-Box R3leaf expands REMBE's line of flameless explosion venting devices with a product optimised in terms of both effectiveness and sustainability.

Thanks to the selection of materials, the geometry of components and appropriate joining processes, it was possible to significantly increase the packaging density, avoid the need for emission-intensive joining and coating processes, and at the same time significantly improve the effectiveness of internal and international logistics processes. These optimisations affect the entire supply chain of the Q-Box R3leaf and thus ensure reduced CO2 emissions.

Thanks to continuous development, it was possible to significantly increase the venting efficiency of the Q-Box R3leaf, allowing plant operators to reduce the number of flameless explosion venting devices required on their plant.

**How does an explosion occur?**

The topic of "explosion protection" is omnipresent for plant operators and machine manufacturers when it comes to handling or transporting flammable and explosive dusts. Contrary to the widespread assumption, the risk of explosion extends beyond gases, as flammable dusts can release enormous forces.

The following conditions, also known as fire triangle or dust explosion pentagon, must exist for an explosion to occur within a production facility or machine:

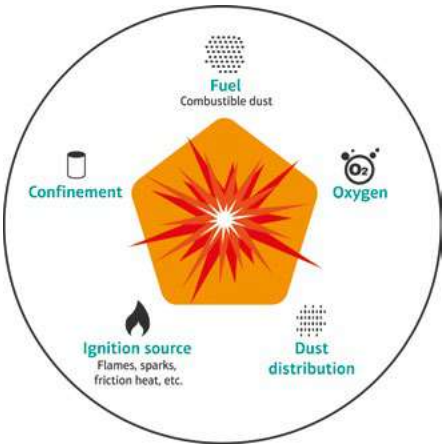



*Fig. 2: Dust explosion pentagon*

If any of the aforementioned conditions are eliminated, explosion protection has essentially been practised. However, if this is not possible at all times and in all operating states, explosion hazards persist. This necessitates categorizing explosion-prone areas into zones and systematically installing protective measures accordingly.

**What is flameless explosion venting?**

Flameless explosion venting devices are primarily used to protect vessels or plants against the main effects of explosions, flames and pressure, which would be released unhindered into the environment if conventional explosion venting was used. To put it simply, they consist of two elements: the explosion venting device, such as an explosion vent and a downstream flame extinguishing element. This decreases the explosive pressure to a level that is harmless for the protected plant, and at the same time reduces the temperature of the combustion gases to a harmless level.

Flameless explosion venting devices are used wherever safe pressure relief in the event of an explosion is not permitted due to the potential proximity to people, other plants or objects.

# Pepperl+Fuchs Becomes Android Enterprise Silver Partner – Global High-Level Service For Mobile Devices



With the increasing interconnection of systems, devices, and sensors in the Internet of Things (IoT), the need for mobile solutions is growing. More and more manufacturers are recognizing the potential and benefits of mobile computing and communication technologies. Android has emerged as the preferred and most advanced operating system for the IoT of the future. Companies that guarantee their customers maximum security and up-to-date devices with first-class support can be certified by Google for its Android Enterprise Partner Program. With the acquisition of the Silver Partnership in 2023, Pepperl+Fuchs is among the very few companies worldwide that have acquired Google's highest certification: not only for the company, but also for its consultants and products.

As part of the Android Enterprise Partner Program (AEPP), Google partners with companies that optimize their solutions for the management, deployment, and support of Android devices in business environments at a high level. Validated partners receive access to Google resources, tools, and support to better integrate and support Android devices in the enterprise. The program includes various certifications and categories corresponding to the specialization and solutions offered by each partner. These include, for example, mobile device management providers, hardware manufacturers, software developers, and system integrators.

**Three Pillars of Certification**

The certification for the Android Enterprise Partner Program comprises three pillars that build on each other. The employees of a company, the company itself and its products are certified. For the individual certifications, the global sales teams and application engineers must complete a predefined training program and confirm the respective certificates with an examination. This certificate consists of three levels: Associate, Expert and Professional. Employees who achieve the certification can call themselves Android Enterprise Associate, Expert or Professional. The training courses cover the entire range of Android-related topics, including mobile device management and security.

**Silver Award**

Companies may get certified only if the expertise of their employees qualifies them to do so. In order to achieve Silver Partner status, companies seeking certification must have a certain percentage of employee certifications in the various expert groups in each active market. Pepperl+Fuchs has achieved this on a global scale and has been a Silver Partner of the Android Enterprise Partner Program since 2023. This means that the pioneer and technology leader in industrial sensor technology and explosion protection fulfills Android's increased requirements in terms of business, products, service, and performance, allowing customers to benefit from numerous advantages.

"We are pleased to welcome Pepperl+Fuchs as a Silver Partner in the Android Enterprise Partner Program," says Ken Schutt, Director of Android Enterprise Partnerships. "By joining the Silver Partner Program, Pepperl+Fuchs demonstrates its commitment to its customers and guarantees that they will receive world-class customer service, support and solutions to help them grow their business."

**Third Pillar: Hardware**

The third pillar of the certification program relates to the Silver Partner's Android products. The certification of products is part of the Android Enterprise Recommended program. Google verifies the hardware and software of the robust mobile devices based on defined requirements and parameters, e. g. suitability for use in an industrial environment, guaranteed 90-day security updates for at least five years after the start of sales, and further commitments by the manufacturer to at least one OS upgrade, in order to guarantee Google's professional users a comprehensive service package.

The intrinsically safe smartphone Smart-Ex® 03 from Pepperl+Fuchs, as well as other product series such as Tab-Ex® 03 and Tab-Ex® 04 Pro, has received Android Enterprise Recommended certification and forms the basis for future-oriented digital application scenarios in potentially explosive atmospheres. In the 6-inch Android smartphone, Pepperl+Fuchs combines its global, customer-oriented support with the expertise of its subsidiaries ECOM Instruments as a pioneer in intrinsically safe mobile devices and Aava Mobile as an expert in industrial tablets and wireless technologies. The smartphone with Android 13 operating system meets the latest technical standards such as 5G/5G SA, WiFi 6 and eSIM and is therefore ideally equipped for flexible use in public and private networks of mobile network providers or companies worldwide.

With the successful certification, Pepperl+Fuchs is listed in the Android Enterprise Solutions Directory as a "Device Manufacturer". All validated companies can be found there, categorized as "Devices, EMM, Device Manufacturer and Mobility Consulting Service".

**Huge Work and Time Savings**

Android tools facilitate the secure, professional use of mobile devices in an industrial environment. Customers can request the required configuration of the basic device from the device manufacturer, who will pre-load the devices in production and then provide the appropriate pre-configuration to the customer. The mobile devices can be integrated into the IT infrastructure manually via Android Zero Touch or a QR code. This way, all new devices are integrated into the customer's MDM system with their IMEI and can then be managed and updated over the air.

The profiles that are uploaded to the mobile device are largely drag-and-drop. The advantage of certification is that the manufacturer can individually respond to customers' wishes and requirements. They do not have to adapt the mobile devices themselves in their IT department. Pepperl+Fuchs discusses the requirements, scope, and type of installation and usage rights with the IT department. The customer can issue the devices directly to the employees for immediate use. This makes work much easier and saves a lot of time. Another advantage is the comprehensive after-sales support.

**Many Parts for a Great Whole**

"Behind the Google certification for people, companies and products is a holistic, coherent concept in which the individual processes interlock like pieces of a puzzle and one fits into the other," says Jörg Hartleb, Head of Product Management at ECOM – A Pepperl+Fuchs Brand. "By certifying the hardware and the company to the highest standards in conjunction with professional staff training, we offer our customers first-class support and service during the initial installation of the mobile devices, as well as during use."

Pepperl+Fuchs has a total of over 60 sales employees in the APAC, EMEA, North and South America regions who have reached Google Associate level. Differences can be seen in everyday life. This is where Pepperl+Fuchs scores with its global expertise. With its own well-staffed support and service network, the company meets all the requirements of a Trusted Advisor.

**About Pepperl+Fuchs**

As one of the leading companies in the automation industry, Pepperl+Fuchs is considered a pioneer in its markets worldwide with groundbreaking technologies. For conventional and future applications, the company based in Mannheim, Germany, offers a comprehensive portfolio for factory automation and for the process industry. At the same time, Pepperl+Fuchs is constantly advancing pioneering technologies and thus paving the way for its customers to meet the coming challenges of Industry 4.0.

**https://www.pepperl-fuchs.com**






# Tightening EU F-Gas Legislation Highlights Need to Leverage Supply Chain Expertise



Following the European Council's endorsement of legislation to phase out hydrofluorocarbons (HFCs) by 2050, temperature control specialist Aggreko is advising manufacturing plant equipment stakeholders to leverage supply chain expertise to best manage any transition.

The Council endorsed texts provided by the European Parliament following a January vote to revise European F-gas regulation (517/2014) removing HFCs from all sectors by 2050 . The move is intended to provide greater clarity to European industry over their emissions reduction plans and encourage investment in greener solutions.

With the reforms setting out a clear roadmap for all sectors operating within the EU, Ruth Martin, Manufacturing Sector Manager at Aggreko UK is imploring industry to engage with the supply chain to minimise potential upheaval. They are encouraging manufacturing company stakeholders to review their current cooling equipment portfolio with this new announcement and ongoing environmental commitments in mind.

"The EU's decision to clarify a full phase-out of HFCs is undoubtedly welcome news and provides a clear picture of the bloc's decarbonisation plans going forward," says Ruth. "This should in turn spark conversations within the manufacturing industry on immediate steps that need to be taken – especially for businesses that make extensive use of temperature control technologies including chillers and coolers.

"While this may lead to some upheaval in existing operations, the transition to greener cooling solutions can be made smoother if manufacturing businesses review their approaches to equipment provision in the immediate future. For this to happen swiftly and effectively, it is vital that key stakeholders capitalise on expertise within the supply chain."

According to Ruth, these F-gas revisions exemplify the acceleration and tightening of sustainability legislation required for the UK and EU to meet net zero goals. With more revisions to sustainability regulations expected in the short, medium and long term, Ruth is highlighting the role of temporary hire to guard against risks of non-compliant or stranded temperature control assets.

"As far as sustainability measures and obligations for manufacturing companies are concerned, the direction of travel has long been clear," Ruth concludes. "To ensure effective decarbonisation in line with 2050 goals such as those set out in these revised EU regulations, environmental obligations will become increasingly strict over time.

"Consequently, the risk that today's solutions may not be fit for tomorrow is clear for those looking to make long-term investments on permanent temperature control installations.

Considering the level of flux that now characterises green legislation and sustainability commitments, it is therefore advised that cooling equipment stakeholders explore new approaches to equipment procurement. Temporary hire in particular may give manufacturing businesses a level of dynamism and the ability to futureproof operations as new legislation and regulations come to the fore."

**For more information on Aggreko's services, click here.**

**www.aggreko.com**



# Pressure Washing Goes Purple With A WJA Code Of Practice

The Water Jetting Association has launched a new code of practice for the safe use of pressure washing equipment.

The code – known as the Purple Code due to its purple cover – has been approved by the HSE and the first of its kind to provide guidance on the use of lower pressure water jetting techniques.
Its full title is the WJA code of practice for the safe use of pressure washers with pressures up to 207 bar and flow up to 22 litres (5 imperial gallons) per minute.

The Purple Code now sits alongside the WJA's two other long-established codes. The Blue Code is for the safe use of high pressure and ultra-high pressure water jetting equipment.

The Red Code is for the safe use of water jetting equipment in drains and sewers and surface preparation with a jetting gun at pressures up to 275 bar (4,000 psi) that an operative can comfortably control.
WJA President John Jones said: "Given the wide use of pressure washing equipment, both commercially and domestically, the Purple Code is, arguably, one of the most important documents the WJA has produced in recent years.

"We've worked hard to make sure it is accurate, up-to-date and, above all, easy to follow and practical, so operatives get clear guidance on how to use pressure washing equipment safely and productively.
"Pressure washing is an increasingly important application in many industrial and commercial settings, and in countless gardens and drives up and down the UK. Therefore, it's vital that there is authoritative, expert-led guidance to control the risks associated with it."
Water at pressures as seven bar (100 psi) can puncture skin or damage eyes. At pressures up to 207 bar (3,000 psi), common in pressure washing systems, the damage caused by water jets to the body can be catastrophic. Also, harsh chemicals can be added, and water can be heated to boiling point.

The WJA's Purple Code is thought to be the first pressure washing code of practice published anywhere in the world. It was finalised with the assistance of the Health and Safety Executive (HSE).
WJA Technical Manager Gordon Taylor explained: "The HSE has reviewed the WJA Purple Code and we've incorporated its recommendations to ensure it is fully aligned with latest health and safety laws and regulations.

"We hope it means the HSE will view the document as the UK's foremost authoritative guide to safe pressure washing, in the same way it sees our Blue and Red Codes as setting the industry standards for their water jetting applications.

"Powerful pressure washing equipment is widely available but the risks associated with it are often not well understood by operatives.
"We're very keen to work proactively with contractors and service users to make the WJA Purple Code widely available to address this issue and ensure pressure washing is carried out as safely as possible."
The WJA Purple Code follows the same format as the two other codes. Its 100 pages has 19 sections covering topics that include:

- **Personal protective equipment;**
- **Water jetting team organisation and duties;**
- **Frost precautions;**
- **Water jetting units;**
- **Hose assemblies, including inspection and testing;**
- **Safe use of pressure washing equipment, including training.**

In a series of appendices, the code shows the WJA injury treatment algorithm, which gives clear instruction on treating water jetting injuries from first response to post-hospital rehabilitation.
The WJA Purple Code will be used as an important aid in the delivery of the WJA's City & Guilds-accredited Pressure Washing course.
The one-day course, delivered by WJA-approved coach/examiners provides class-based learning and practical skills assessment. Candidates are then examined on their knowledge using the CLiKAPAD digital response tool, with a 75% pass mark required.

**www.waterjetting.org.uk**

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# Not Just A Hard Hat

When it comes to personal protective equipment (PPE), hard hats are sometimes seen as a box ticking exercise. However, it is important to provide workers with appropriate PPE for their specific requirements. Effectively reviewing what additional helmet enhancements would help to protect the workers and improve their productivity could seriously up your PPE compliance on a day-to-day basis.

There are a lot of hard hat variances and configurations, and selecting the appropriate helmet is just the beginning when it comes to head protection. There are a wide range of accessories and branding options available, which allows a hard hat to be adapted to enhance functionality for a range of different scenarios.

In this article, we suggest a 3-step process in selecting, accessorising, and branding an appropriate hard hat for your specific requirements.

**Step 1: Choosing the appropriate helmet**

Firstly, consider whether it is important that your safety helmet is CE marked, and meets the standards required for your specific working environments.

Primarily, there are two key industry standards to be aware of:

#1 - EN 397: industrial safety helmets

EN 397 is concerned with ensuring protection against falling objects and the consequences thereof, such as brain damage and skull fracture. To achieve this certification, key performance requirements include adequate shock absorption, penetration resistance, flame resistance and chin strap anchorage (whereby the chin strap will release at a minimum of 150N and maximum of 250N).

#2 - EN 50365: electrically insulated helmets

EN 50365 is concerned with ensuring protection against electric shocks and dangerous electric currents passing through the head. This is typically an additional standard required for safety helmets when working on low voltage live electrical installations up to 1,000V A.C. Therefore, helmets in this bracket need to comply with both EN 397 and EN 50365.

**Step 2: Appropriate accessories you might consider**

Once you have considered your working environment, and acquired a helmet that will best meet those regulatory requirements, you can begin to optimise your PPE by applying accessories you deem appropriate.

Hard hats should not hinder, but help, workers by empowering them at work and allowing them to focus on the job at hand. To achieve this, MSA Safety aims to deliver hard hats that are comfortable to wear and complementary to specific jobs, whilst enhancing safety performance.

Accessories can help to achieve this, and here are just a few that are worth considering:

- Sweatbands: Offering an additional layer of comfort. Consider options that have a large width to allow for better comfortability and sweat-absorption using soft, moisture-absorbing, and respiring materials that can be washed, reused, and eventually replaced.

- Winter liners: Winter liners can help protect workers from the cold, contributing to improved comfort. Consider checking whether the liner has been tested and certified for use with the helmet.

- Eye and face protectors: Many environments call for helmet accessories to protect an operative's face and eyes. When selecting a visor, consider whether it has anti-fog and anti-scratch coatings and whether it is suitable for use with or without spectacles.

- Lamp brackets: Lamp brackets can be attached to your helmet's shell, enabling you to attach convenient hands-free lamps that can be ideal for working in dark and confined spaces.

- Chinstraps: Consider whether using chinstraps can help enhance worker safety and the overall fit and comfort of a helmet.

- Ear defenders: Noise cancelling ear protection can be added to your helmet to protect against loud obtrusive noises, whilst still enabling face-to-face communication.

**Step 3: Customising helmets with branding**

While adding accessories can enhance functionality and safety on an individual level, other changes can also be made to enhance company-wide performance. Hard hats are often required in industrial settings where hundreds of workers may be operating.

In such scenarios, multiple sub-contractors are likely to be working in tandem, with each requiring specific hard hats with the right accessories. Electricians may need helmets compliant with EN 50365, while scaffolders may need EN 12492 certified models with four-point chinstraps for an improved fit.

To improve differentiation, hard hats can be customised with different colours and logos, making it easy for workers to immediately identify those models tailored to their specific working needs when they arrive on site. Additionally, further customisation can be added to enhance visibility or promote safety practices on site.

Company branding can be added to helmets which enhances professionalism and can provide subtle branding and marketing opportunities. This can also serve to unify workforces and foster a greater sense of pride and belonging.

With all of this in mind, it's easy to see the importance of selecting the appropriate hard hat for not only your job, but the environment you work in. A hard hat which can then be upgraded with appropriate accessories and customisation can boost worker comfort and productivity.

Once you have settled on exactly what you want, you don't want to be held up by the customisation process. At MSA Safety, our Logo Express service means that you can have branded hard hats manufactured within as little as five days.

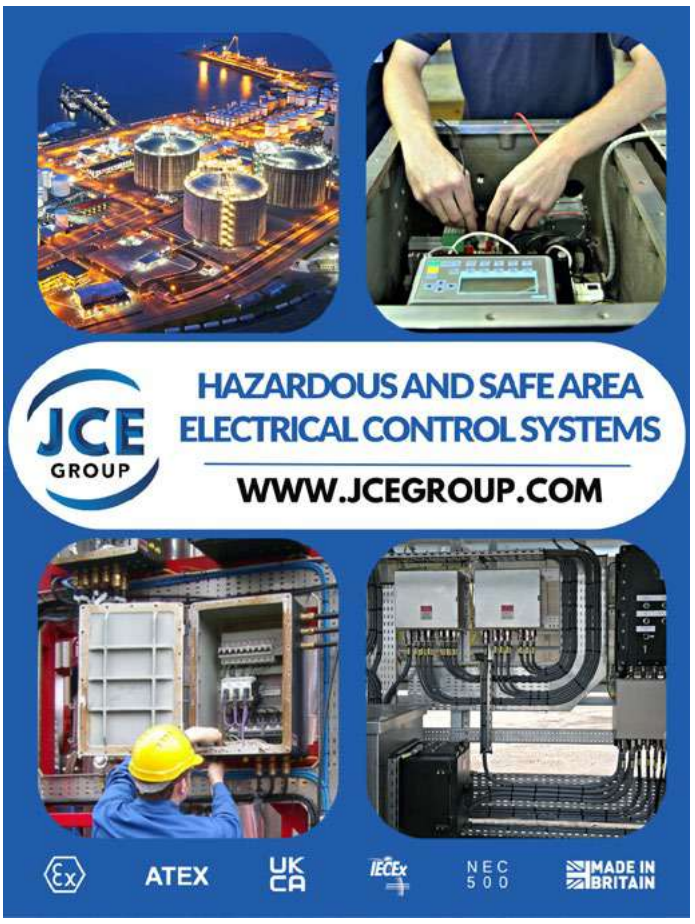
If protecting one of the most vital organs in your body is a top priority for your workforce, consider whether you can make that decision easier by starting with these three simple considerations.

**https://gb.msasafety.com/customhardhats**




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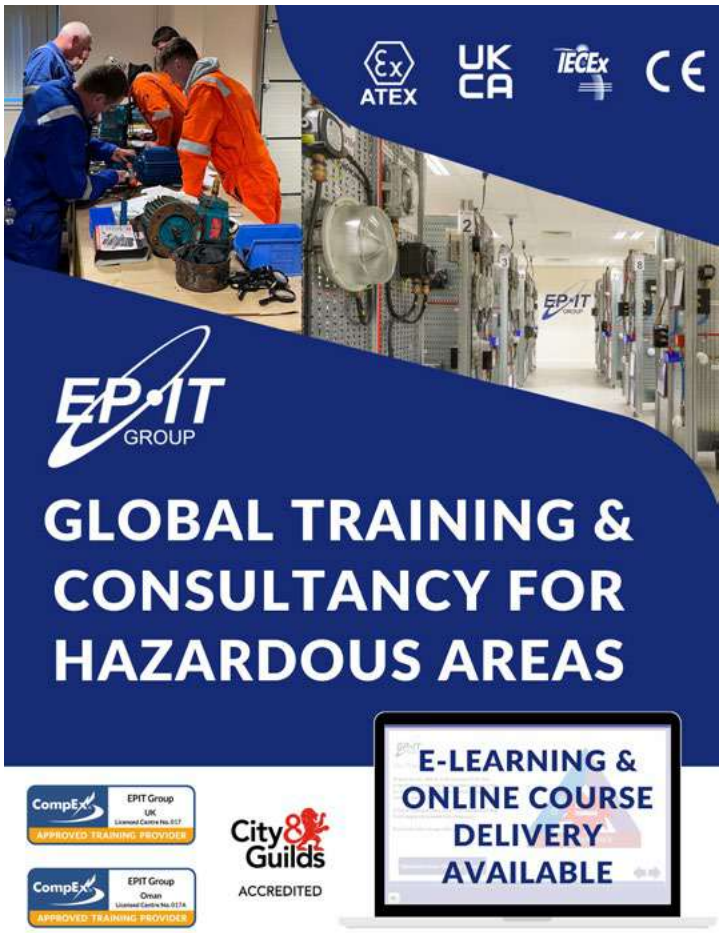
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# HYDROGEN AMERICAS 2024

SUMMIT & EXHIBITION

CO-HOSTED BY: sec Sustainable Energy Council · U.S. DEPARTMENT OF ENERGY

## 11 - 12 JUNE 2024

RONALD REAGAN INT. TRADE CENTER
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The Hydrogen Americas Exhibition will gather the region's leading hydrogen stakeholders to meet technology manufacturers, private sector leaders, policy makers and innovators contributing to hydrogen's critical implementation. Showcase your latest innovative products for an opportunity to discuss, collaborate, and do business with investors looking to drive the hydrogen industry forward.

## WHY SHOWCASE?

- Highlight your products and services to buyers and partners
- A cost and time effective way to discover new business opportunities
- Position your brand as a leader in the growing hydrogen market
- Exchange insights and answer your clients' questions instantly
- Be part of a growing hydrogen community in the region
- Generate new leads for your company in a highly targeted environment
- Host meetings and secure business deals right on your stand

LIMITED STANDS REMAINING




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|---|---|
| TOTAL (US DOLLARS) | PRICE $7,500 |
| ADDITIONAL - SUMMIT DELEGATE PLACES | PRICE $2,199 |
| OPTIONAL - TECHNICAL SESSION SPEAKER SLOT | PRICE $1,500 |

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