



Expo
Technologies
– your hazardous
area partner

Simplifying
Complexity.

Delivering
Safety.



Ex e

Ex p

Ex i

Ex m

Ex d

With more than 70 years' experience and in-depth 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.

We are experts in electrical protection by purge and pressurization (Ex p), having been involved from the very beginning and helping to write the first standards. 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 pressurised enclosures for panel builders and OEMs.

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.

Expo Technologies Vision

Creating a safer world through elegant design that systematically reduces complexity and risk.

Expo Technologies Mission

Our mission is to provide world-class, engineered solutions that deliver our clients' capabilities into hazardous and extreme environments. To continuously drive excellence through the development of our people and enhance our trusted position by projecting our expertise into new markets.





Around 2,500 hazardous area enclosures built and certified by Expo



Around 9,000 large electric motors protected by Expo systems



Around 100 hazardous area product certificates held



Purge system flow rates from 225 to >20,000 NI/min



We work with customers in more than 50 countries



We have been in business for more than 70 years



We have facilities in 3 continents



We have one goal - to solve customers' hazardous area problems

Hazardous areas - how Expo solves customers' problems

A hazardous area is a location where the potential for fire or explosion exists, due to the presence of ignitable gases or dusts in the atmosphere. Examples of these locations include oil & gas facilities, chemical processing plants, and pharmaceutical manufacturers.

Detailed safety codes and standards apply throughout the world, imposing strict rules on how equipment, particularly electrical equipment, can be used and defining acceptable protection methods. Systems are assessed against these codes and standards by recognised authorities to gain certification for use in the hazardous location.

In simple terms, the various protection methods can be summarised as follows:

Containment	Prevention	Exclusion
Any flame or explosion is contained within the equipment and cannot ignite an explosive atmosphere outside	Elimination of sparks, limitation of electrical energy	Any potentially explosive atmosphere is prevented from coming into contact with the electrical equipment.
Flameproof/ Explosion-proof Ex d	Increased safety Ex e Intrinsic safety Ex i	Encapsulation Ex m Pressurization Ex p

All of the methods have pros and cons, and not all are suitable for every application. While Expo has experience in developing custom solutions across the full range of methods, our particular expertise is in the application of Purge & Pressurization (Ex p).

The key advantage of Ex p is that it enables standard industrial equipment to be used in hazardous areas, giving customers multiple options in the choice of equipment, limiting costs, and providing simpler maintenance and upgrade capabilities. For OEMs, it provides a fast and low-cost route to enter hazardous area markets, without complex product development.





Upstream oil and gas

In the upstream oil and gas sector, Expo understands that 100% performance of safety systems is of paramount importance, often in harsh or remote offshore environments. Thousands of our purge systems perform reliably year after year, with minimal intervention, at hundreds of locations around the globe.

Waste and wastewater treatment

Aside from physical, chemical, and biological hazards, many stages of the water treatment process can generate methane or flammable dusts, while corrosive atmospheres from treatment chemicals can damage electrical systems and instrumentation.



Power generation and distribution

As power generation moves to lower-carbon sources such as natural gas, distribution infrastructure such as pipelines is expanding, requiring more and larger compressing capability. Applications for alternative fuels like biomethane and hydrogen are developing rapidly, often with local generation.



Pharmaceutical manufacturing

Hazardous area technologies are required widely across facilities, from incoming bulk material handling, through processing equipment, to packaging and labelling, and the protection of analytical equipment.



Chemical and Petrochemical processing

Petrochemical processing plants and speciality chemical facilities have large areas classified as hazardous. Expo works across the industry, with EPCs, construction companies, plant operators, service companies and OEMs.



Analysers and OEM systems

Expo works with Original Equipment Manufacturers (OEMs) to develop the best purge and pressurization solution for their products. Expo can certify the complete system or help with submittal to a Notified Body. When finalised, we can supply the purge systems OEM branded.



Hazardous area solutions for large electric motors & generators

Expo Technologies is the world leader in protection systems for large electric motors and generators. With the largest installed base of any manufacturer, we are a trusted partner to most of the world's leading manufacturers.

Ex p machines- certified purge and pressurization systems with flow rates from 1,500 -20,000 NI/min and beyond, and operating temperatures between -60°C and +60°C.



Ex e machines- certified pre-start ventilation systems with flow rates from 1,500 -14,000 NI/min and operating temperatures between -50°C and +60°C



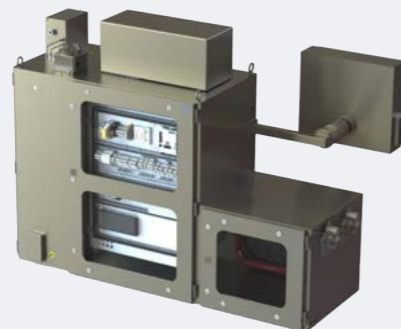
Expo's purge and pressurization systems will allow your electrical equipment to be used in most hazardous areas with virtually no limitations on the type of equipment that can be protected.

Purge & pressurization systems for electrical enclosures & OEM equipment

Our systems are approved for use in gas and dust environments under virtually every certification scheme, and operate in Leakage Compensation (LC) or Continuous Flow (CF) modes making them suitable for all applications, including gas analysers with the potential for internal release.

We also offer a range of non-certified Environmental Pressurization Systems to prevent damage to electrical equipment in corrosive and dirty environments.

Hazardous area enclosures



Expo designs and manufactures a wide range of hazardous area electrical enclosures that can be certified for use in both gas and dust environments. We offer a PressurEx enclosures for simple Ex p solutions, certified & ready to go or a Fully Custom service for complex projects.

N₂ buffer systems are used to minimise gas leakage in reciprocating compressors, and to dilute vent gases. Building on our expertise in motor purge, Expo's pre-packaged systems make compliance with API618 straightforward. With active pressure control, they can feed up to 10 dual compartment cylinders.



Nitrogen buffer systems

Know-how services



Certification & consultancy

Expo's certification department will guide you through the certification process for your product. We have a highly flexible "Umbrella Certificate" that allows most products to reach the market quickly and cost-effectively. Alternatively, where a custom certificate is necessary, we work closely with the appropriate Test House or Notified Body to ensure the project runs as smoothly and quickly as possible.

For special projects, our consultancy service can:

Assess equipment for use in potentially explosive atmospheres and advise on suitable protection methods and any re-design requirements.

Carry out verification and testing of equipment to ensure compliance with applicable standards, such as IECEx, ATEX, NFPA, CSA, etc.

Prepare the required documentation for certification and compliance.

Manage your certification projects through Notified Bodies, reducing complexity and time.

Equipment lifecycle management

Expo provides support throughout the lifetime of your systems. We ensure that your installation and commissioning run smoothly; we offer planned maintenance services directly or through approved local partners; and respond on-site or remotely where un-planned issues arise. And, of course, we back this up with a comprehensive and fast spare parts service.

Training

Expo offers a range of training courses from basic hazardous area familiarisation to in-depth product maintenance. User training covers the basics of hazardous areas, the various protection methods that can be used, and provides a full introduction to Expo's purge and pressurization systems. For maintenance training, we run courses for those requiring more in-depth knowledge of the maintenance and service of Expo products.



Expo operates in more than 50 countries worldwide. To find out more about how Expo can help you solve your hazardous area problems, get in touch via our website www.expoworldwide.com or through your local channel partner.

Alternatively, speak to an applications engineer at one of our manufacturing centres.

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