



# Expo Technologies

## Purge + Pressurization + Innovation

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## Press Release: First Certified Pre-Start Ventilation System



Expo Technologies Ltd announces the release of their new Pre-Start Ventilation System for HV electric motors in hazardous locations. The PV System from Expo is the world's first Pre-Start Ventilation system with full IECEx and ATEX approval for use on Ex e motors in Zone 1 and Ex n motors in Zone 2, built from highly corrosion resistant 316L stainless steel and usable in applications from -50° to +60°C

Designers and users of high voltage electrical rotating machines can undertake a risk assessment to determine the likelihood of their machines 'sparking' during start-up; if that risk is high, pre-start ventilation is recommended as a special measure additional to the normal certification for hazardous area installation. The Expo Technologies Pre-Start Ventilation System is the first system purposely designed and independently certified for this application. IECEx is the international standard with the widest acceptability around the world, and ATEX is the European scheme for type examination of equipment for use in potentially explosive atmospheres.

The installation of electrical machines in hazardous locations requires that those machines are evaluated and approved (certified) for those locations. There are a variety of explosion protection techniques which can be used, each with advantages and disadvantages. Manufacturers of large high voltage electrical machines, such as motors driving compressors and pumps, have frequently designed machines for certification to the Increased Safety (Ex e) or Non-Sparking (Ex n) standards. However, there have been several instances of such motors accidentally causing fires and explosions through ignition of entrained flammable gases during the start-up procedure. The latest

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design and use standard (IEC EN 60079-14: 2008) outlines a risk assessment process that manufacturers and users can undertake to evaluate if their particular motor may have ignition-capable sparking during start-up. Where that risk is significant or high, the certification standards allow the use of 'special measures' to eliminate the possibility of an entrained flammable atmosphere within the motor enclosure during the start-up process.

Pre-Start Ventilation is the application of clean air or inert gas to a motor enclosure in order to sweep out any such flammable atmosphere, preventing accidental ignition during start-up. The Expo Technologies PV System is the world's first such system to achieve IECEx and ATEX certification for use in Zone 1, and is typically applied to Ex e (increased safety) motors. The PV System delivers a controlled flow of ventilation air for a precisely defined time to suit the motor & heat exchanger enclosure volume, and then provides local and remote indication that the ventilation process is complete. Users can then safely start that motor, secure in the knowledge that any potential flammable atmosphere has been cleared from the machine enclosure. The standards require the ventilation air flow to be measured at the exhaust point and the Expo PV System incorporates this flow measurement at the Outlet Valve, shown mounted high on the machine. The PV Systems is certified by Sira (UK Notified Body) as Ex e ia IIC T5 Gb under IECEx SIR 13.0030X and SIRA 13ATEX1083X. The system can also be applied to Ex n motors in Zone 2.



Expo Technologies has over 50 years of experience in hazardous area solutions. For more information on this or any other Expo product visit our website at [www.expoworldwide.com](http://www.expoworldwide.com). For more information the Pre-Start Ventilation System visit <http://www.expoworldwide.com/purge-pressurization/motor-purge/>. Or contact us at [sales@expoworldwide.com](mailto:sales@expoworldwide.com) or call +44 208 398 8011 or from the USA (440) 247-5314.

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