Hazardous area update from Expo - August 2023

Welcome to this update from Expo Technologies - your hazardous area partner.

In this edition:

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1. Featured Article – Gas Analysers in hazardous areas (why the sample characteristics are important)

Process analysers for gases and liquids are frequently required to be installed in hazardous areas. In many cases, proximity to the process is critical to reduce sample line length and to ensure a fast response. Purge and pressurization is one of the best protection methods, however delivering a safe, reliable, and fully certified analyser system requires know-how and experience.

Depending on whether the sample is a gas or a liquid, and its degree of flammability, different solutions may be required.

Expo can review your specifications and advise on the best protection system and route to certification.

Follow this link to read more.

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2. Featured Article – Purge & pressurization : An overview of proposed changes to IEC standard 60079-2

With multiple protection options for hazardous area equipment that may cause ignition, engineers must determine the most cost-effective method to mitigate the risks, while ensuring compliance with local certification schemes and standards, such as UKEX, ATEX, IEC, and many others.

One of the simplest and most flexible protection methods is Purge and Pressurization (Ex p) which is covered by IEC standard 60079-2, currently in its Edition 6. The 7th edition has been in preparation for some time and is due to be published in January 2024. While there are many changes, this article examines two aspects of the new draft standard where additional flexibility is proposed that could make some Ex p projects more straightforward and, potentially reduce execution cost and time, without compromising safety.

Read the full article here.

3. Featured Application – Purging multiple enclosures

When designing a purge & pressurized system, purging multiple enclosures in series is an option that may arise when a single enclosure is impractical, for instance through overall size or potential problems with thermal management, or a complex piece of equipment requires separate interconnecting modules.

Purging & Pressurization of multiple enclosures in series is permitted under ATEX & IECEx (IEC/EN60079-2) standards. Our application note gives general guidance and illustrates a typical system configuration with two enclosures; however, we advise that the application should be discussed with your local Expo representative to eliminate potential issues.

Read Expo's notes on best practice for purging multiple enclosures.

4. Featured Case Study – Spraying robots

Painting robots apply coatings with great precision and evenness and are increasingly a feature in many manufacturing environments. In particular, the automobile industry has used painting robots for many years.

Modern painting robots employ arms with multiple degrees of freedom. This means they can paint not only the outside of a car, but they can also reach inside, for example. Also, complex parts with angular or curved surfaces can be painted or coated.

Many paint formulations are solvent based; hence the immediate area will be classified as hazardous, and the robots will require some form of explosion protection.

Purge & pressurization is the most appropriate protection method, and Expo has developed a range of purged & pressurized solutions for robot arms.

See our Case Studies area for more details - select "Robotics" from the drop-down menu.

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