

Ex p Solutions for Gas Analysers and Detectors

Gas detection in a Zone 2 Hazardous Area



Application

Gas analysis and detection systems are in widespread use across chemical and petrochemical processing industries. Many of the operating environments are classified as hazardous, so Ex protection and certification for the equipment is required.

Due to operational requirements & constraints, many of the possible Ex protection concepts are not suitable. Ex p (Purge & Pressurisation) provides the most flexible and cost-effective solution.

Solution

The client needed to install several Honeywell SPM Flex detectors around their zone 2 classified facilities to detect any leakage of toxic gases. The detectors were not certified, so required an Ex protection solution, with a purged and pressurised enclosure as the best option. However, there was an additional complication in that the sample being drawn into the detector might also contain flammable gases, which potentially meant that the system would be classified as having an internal source of release (ISOR) under BS/EN 60079-2.

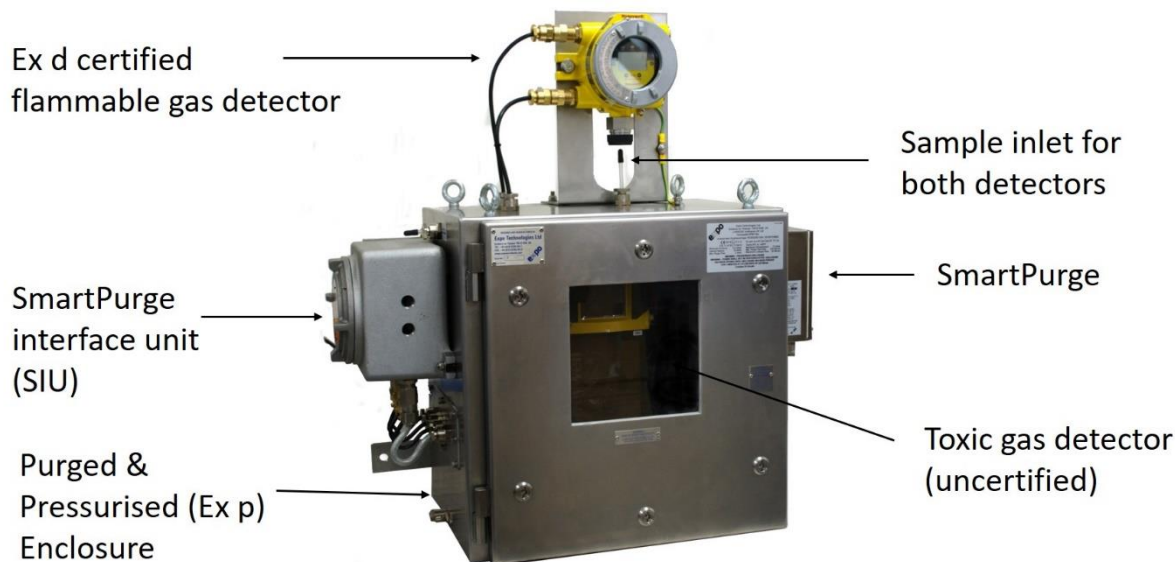
To mitigate that risk, a secondary detector was located at the primary toxic gas sample point to simultaneously monitor for flammable gas. If flammable gas was detected, then the overall system was shut down. This method permitted the complete system to be certified by Expo under its populated enclosure certificate, thereby avoiding significant costs and time from Notified Body involvement.

Hazardous Area Considerations

- Certification: suitable for ATEX/IECEx: Zone 1 & 2; NEC Class 1 Div 1 & 2 depending on configuration.
- T4 (135°C) typical
- Tamb -20°C to +55°C

Expo Products and Services

Typical System



SmartPurge II

IECEX, ATEX & FM certified intelligent purge & pressurization system



Features

- Global approvals
- Purge flow capacity up to 540 NI/min
- Can be configured as Type X, Y or Z purge
- Leakage Compensation or Continuous Flow
- Stainless steel enclosure construction

The SmartPurge II (SP2) is a highly flexible electronic purge and pressurization system suitable for a wide range of flow rates and duties. It can operate as either X, Y or Z purge, and in leakage compensation (LC) or continuous flow (CF) modes.

[Click here](#) for more information.