

## Cleaning Up: Purge and Pressurised Sample Container Washing System

**Working with an Automation and Control company to create a custom solution for sample bottle washing systems**



### Overview

The client designs, manufactures and installs factory automation. Their product needed a hazardous area control system for washing sample bottles within a refinery. The area is designated Class I Div 1, with a significant risk that potentially combustible gases are present in the air.

### Project Brief

An industrial washing system for use in refineries had already been created by the client, although it was only suitable for use in Safe Areas. They required a custom purge and pressurised enclosure for upgrading to Class 1 Div1 (Zone 1) area. The enclosure needed to contain the controls and electronic connections to prevent potential combustible gases in the environment from interacting with the control panel.

### Challenges

Comprehensive certifications were needed as their equipment will be used globally in refineries.

The solution needed to meet both Class I Div 1 & International Zone 1 specifications.

The application requires the ability to cut power if the pressure inside the control enclosure is lost, in order to remain compliant with the applicable codes and standards.

The customer also required the ability to depressurize the enclosure without cutting the power, due to routine maintenance of the industrial washing system.

### Solution

Explosion-proof enclosures could not be considered as the client need constant access to the controls. The Purge and Pressurisation solution gives them the ability to access to the inside of the enclosure, whilst protecting the electronics from combustible gases. Having an Ex p solution also reduced costs associated with installing an HMI.

## Expo Products and Services

### MiniPurge Type X

IECEx, ATEX & UL certified purge and pressurization systems for Zone 1, Class I Div 1 applications



#### Features

- Global approvals
- Purge flow capacity up to 900 NI/min
- Leakage Compensation or Continuous Flow
- Stainless steel enclosure construction

Expo's Minipurge type X range provides a full purge and pressurization solution for electrical enclosures and other equipment installed in Zone 1 or Class I Div 1 hazardous environments. With a range of flow capacities up to 900 NI/min, the systems are suitable for large enclosures up to 5.4m<sup>3</sup> volume.

[Click here](#) for more information.

### MiniPurge interface unit (MIU)

IECEx, ATEX & INMETRO Ex d certified solutions for enclosure power and signal isolation.



#### Features

- Global Ex d approvals
- Isolates low power signals and up to 32 A power
- Compatible with MiniPurge & SmartPurge II
- Aluminium construction

Expo's Interface Units provide switching of power and signals to the pressurized enclosure, using a control signal from the purge system. This capability is required for enclosures installed in Zone 1/21 or Class I/II Div 1 hazardous locations.

[Click here](#) for more information.