

Large format monitors in hazardous areas

Working with a customer in the Czech Republic to develop a large format display screen system for hazardous areas



Overview

While small format display screens are available certified for hazardous area use, such as workstations, larger displays suitable for sharing information across wider manufacturing areas are not readily available.

Project Brief

Design, build & certify a simple 43" dual-monitor display with IP66 protection for installation in a large paint shop classified as a Zone 2 area.

Challenges

Ventilation of standard monitors to make them suitable for purge & pressurization in line with the appropriate standard (EN 60079-2)

Thermal calculations to check that the monitors would stay within their normal operating temperature range, to ensure long term operation

Design of pressurisable enclosure with large transparent viewing areas

Outcome

Large 2.4m x 1.0m x 0.3m enclosure subdivided into two parts by an internal partition - each part housing one 43" monitor with its power supply. The internal partition not only added strength to the enclosure, but also allowed compliance with Expo's populated enclosure certificate (which limits the maximum window size per enclosure).

Type Z purge and pressurization system providing series purge to the 2 sections of the enclosure

Additional ventilation of the monitor housings to meet the purge standard criteria

Wall mounting with additional spacers to ensure the rear of the enclosure contributed to the required heat dissipation. No additional cooling was required in this case.

ATEX Zone 2 populated certificate for the completed system

Expo Products and Services

Type Z Purge

IECEX, ATEX & UL certified purge and pressurization systems for Zone 2, Class I Div 2 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 Z range provides a full purge and pressurization solution for electrical enclosures and other equipment installed in Zone 2 or Class I Div 2 hazardous environments. Physically the same, Y purge systems are for use in Zone 1 / Class I Div 1 hazardous environments where the equipment to be protected already carries Zone 2 or Class I Div 2 certification.

[Click here](#) for more information.

Custom Enclosure Service



With Expo's fully custom process, a dedicated engineer will work with you to develop exactly what you need and agree on a detailed budget and project timeline with milestones. As this is a highly flexible service, we can adapt the plan if your project requirements change.

[Click here](#) for more information.

Design and Consultancy services

Expo Technologies' team of consultants and certification engineers have the experience and knowledge to support our customers through the certification process for equipment to be used in Hazardous Areas.

From concept design through to maintenance, Expo Technologies works with you to reduce the risks and accelerate your entry into global markets.

[Click here](#) for more information.



Certification consultancy

Our Certification Engineer works with the customer through a standard, well-proven process to make sure the design is compliant with the Expo's Schedule of Limitations (SoL), ensuring successful project completion. The SoL defines the scope of what can be certified under Expo's populated enclosure certificate and is broad enough to cover most applications.

[Click here](#) for more information.