



Hazardous Location Information

Global: Three Types of Purge Ex px, py, pz (X-Y-Z)

OVERVIEW

Purging is a technique that has been used since Roman times, where mines were "ventilated" to remove hazardous gas. It is used extensively today for purged electrical / instrument enclosures. A purge and pressurized enclosure allows easy maintenance of the internal equipment and there is no limit to the power that can be supplied, other advantages include windows to enable easy viewing of instruments, screens, external push buttons, switches, etc.

The purge medium, usually compressed air is used to keep the enclosure at a higher pressure than the outside of the enclosure preventing the entrance of explosion gas. After closing the enclosure there must be a purge to dilute any gas that may be present within the enclosure before applying the power. Hence the term "Purge and Pressurization".

Class I (Explosive Gas - Vapors) Applications

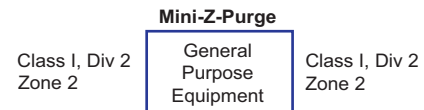
The IEC 60079-2, EN 60079-2 and NFPA496 defines three types of Purge and Pressurization Systems for hazardous locations. The protection method depends on the location of the equipment, either Div 1 / Zone 1 or Div 2 / Zone 2, and the type of equipment inside the purged enclosure.

Purge & Pressurization ADVANTAGES:

- + No Enclosure size limitation.
- + No Power limitation.
- + Large Windows for viewing instruments.
- + Weight similar to a normal Enclosure.
- + Robust and Durable.
- + Active ALARM on loss of pressure.
- + Environmental Protection from corrosive atmosphere.
- + Ease of internal equipment maintenance.

Type Z Purge & Pressurize:

Reduces the area classification within the purged enclosure from Class I, **Div 2 / Zone 2** to non-classified where general purpose equipment can be fitted within the enclosure.

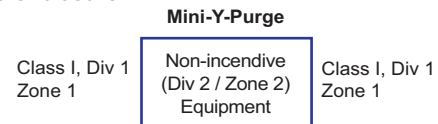


The enclosure must be purged at least 5 Volume Changes (VC) for IEC / European or 4 VC for NFPA before the electrical supply can be applied to the general purpose equipment. This is a manual function completed by the plant

On loss of pressure there is not a need to disconnect the electrical supply if the Div 2 / Zone 2 area is known to be non-hazardous but there **MUST** be a Visual OR Audible ALARM. The Mini-Z-Purge is normally fitted with an Alarm Indicator and Dry Contacts (VFC) as standard.

Type Y Purge & Pressurize:

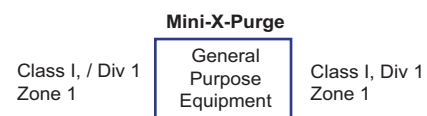
Reduces the area classification within the purged enclosure from a Class I, **Div 1 / Zone 1** to Class I, **Div 2 / Zone 2**, where non-incendive (Div 2 / Zone 2) equipment can be fitted within the enclosure.



The requirements for the operation of the Y Purge are the same as the Z Purge. The difference is the application and contents of the purged enclosure.

Type X Purge & Pressurize:

Reduces the area classification within the purged enclosure from Class I, Div 1 / Zone 1 to non-classified where general purpose equipment can be fitted within the enclosure



The enclosure must be purged at least 5 Volume Changes (VC) for IEC / European or 4 VC for NFPA, timed automatically before the electrical interlock supplies power to the general purpose equipment. On loss of pressure the power must be disconnected. Or see *Exception Clause within the standards* for special conditions allowing the power to remain on.

"The Purge + Pressurizing Specialists"

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