



## Product Data Sheet

# MiniPurge

Leakage Compensation Purge Control system

For enclosures up to

**1XLC/\_\_\_/\_\_\_ 60 cu ft, 1.6 m<sup>3</sup>**

**2XLC/\_\_\_/\_\_\_ 120 cu.ft 3.4 m<sup>3</sup>**

Zone 1 and 2 Category G2 ATEX

Class I Division 1 FM cUL



### OPERATION

The MiniPurge system provides a full purge and pressurization system for Class 1 Division 1, Zone 1 or zone 2 applications. When fitted to a suitable enclosure the system enables regular electrical equipment to be operated safely in a hazardous area or hazardous location.

Certified in compliance with European, American and Australian standards and codes, the system controls purge and pressurization process. Initially the system provides a large flow of protective gas- usually compressed air. The flow through the enclosure is verified by measuring where it exits at the relief valve. Provided the flow is sufficient the indicator shows yellow and the purge timing proceeds. At the end of the purge time the purge flow is switched off and only a small air flow is used to compensate for any leaks in the enclosure. This keeps the pressure inside the enclosure slightly higher than the outside pressure, preventing flammable gas entering the enclosure. Whilst this safe condition is maintained the system output enables power to be applied to the equipment, either directly or via a separate interface unit.

### COMPONENTS

The system consists of two components- the Control Unit (CU) and the Relief Valve (RLV). The CU controls the supply, measurement and flow of the protective gas, and provides the outputs to indicate status. The RLV allows the flow of purge gas, and provides the measurement of the flow flowing **through** the enclosure then closes the outlet at the end of purging.

### Features

- **One Model number:** includes the Control Unit (CU) and Relief Valve (RLV)
- **Direct Mount:** no interconnecting pipe work. Reduced material and labor cost
- **Size:** Compact Control Unit and Relief Valve (No real-estate wastage around the purged enclosure)
- **Stainless steel housings and fittings** for use in harsh environments
- **Purge Flow:** measured at the Relief Valve, outlet. Gives full compliance with standards. See EN50016, AS2380 pt4, NFPA 496 Chapter 3-4. "have passed through the purge enclosure", ensures fully effective purging.
- **Multiple enclosures** may be purged in series
- **Independent of supply voltage**
- **Global approvals** so ideal for the OEM

### OUTPUTS

The system provides outputs for power interlock and remote alarm. The power output interlocks the power to the enclosure, and the alarm indicates if there is a failure of pressurization. The outputs can be either a pneumatic signal to operate a suitable interface unit, or dry contacts for connection to Intrinsically safe or (ATEX only) flameproof circuits.

### ACCESSORIES

Expo Manufactures a range of interface units which will provide additional isolation either form the pneumatic output, or from the electric contacts. The most popular is the MIU DA which provides 4 pole 16 Amp contacts for power, and SPCO contact for alarm, operated from the pneumatic outputs.

Expo also supplies enclosure cooling, operator interfaces, custom built and standard enclosures and a full technical support facility.



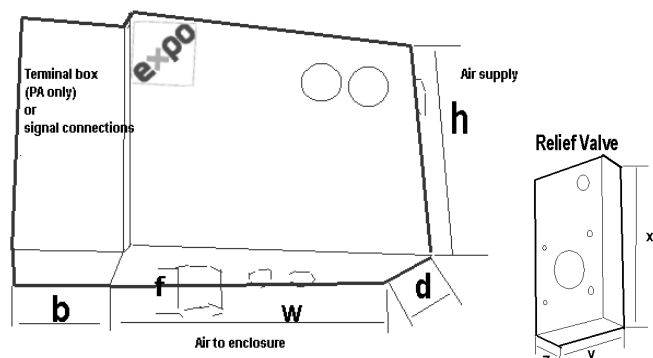
ATEX



# Technical Specification

## MiniPurge

1XLC/\_\_\_/\_\_\_, 2XLC/\_\_\_/\_\_\_



Dimension/ Spec.	1XLC/SS/--		2XLC/SS/--	
Width <b>w</b>	240 mm	9.5"	240 mm	9.5"
Depth <b>d</b>	150 mm	6.0"	150 mm	6"
Height <b>h</b>	180 mm	7.1"	240 mm	9.5"
Fitting 1/2"NPT <b>f</b>	33 mm	1.3"	33 mm	1.3"
T-box PA only <b>b</b>	102 mm	4.0"	102 mm	4"
Relief valve <b>x</b>	133 mm	5.3"	170 mm	6.6"
Relief valve <b>y</b>	62 mm	2.5"	88 mm	3.5"
Relief valve <b>z</b>	33 mm	1.3"	33 mm	1.3"
Purge flow rate	225 l/min	8scfm	450 l/min	16scfm
Maximum leakage compensation	90 l/min @4 bar	3scfm @60psi	90l/min @4bar	3.scfm @60psi
Approx Weight	6.5 kg	14 lbs	9.0 kg	20 lbs

### Common Specification

Purge Supply medium	Instrument quality compressed air or Inert gas Flammable gas free
Purge Supply pressure	Regulated pressure between 4 Bar, 60 psi Min 8 Bar 115 psi max
Purge supply capacity	At least 1.5 times certified flow rate. See product code
Purge Time	Up to 35 minutes
Low pressure sensor setting	50 Pa, 0.5 mbar, 0.2"wc
Temperature	-20°C, 4 °F to 55°C, 131°F
Materials of construction	RLV and CU enclosures , stainless steel
Relief valve (RLV)	Magnetic operation (patented)
Opening pressure	1kPa, 10 mbar, 4" wc
Spark arrestor	Integral to RLV, Nickel Chrome

### Output Specifications

/PO	"Power Output"	2 Bar 30 psi when power enabled no output for trip/disconnect
	"Alarm Output"	No output pressure = Alarm 2 bar 30 psi when pressure OK
/IS	Dry contacts for switching intrinsically safe circuits "Power " contact closed to enable power, contact open for trip disconnect. " Alarm" open on loss of pressure.	
/PA	<b>(ATEX Only)</b> EExe IIC Junction Box and Integral EExd IIC T6 Power (DPNO) and Alarm (SPCO) switches 5A AC1	

### Product Code

Type Number ( example)

**1 X LC / SS / PO**

#### Size

- 1 Purge flow rate 225 L/min, 8scfm
- 2 Purge flow rate 450 L/min, 16 scfm

#### Certification/ Approval

- X Europe, ATEX category G2  
Cert no Sira 01ATEX1295X  
USA/Canada NFPA496(1998) CII Div 1  
FM 1X8a4AE, cUL E190061

#### Pressurization method

LC Leakage compenstaion after initial purge

#### Housing

SS Stainless steel

#### Output see above

- PO Pneumatic output
- IS Intrinsically safe output
- PA ATEX only Power and alarm output.

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