



## Product Data Sheet

## Mini-X-Purge

Control System for Leakage Compensation

For enclosures up to

1XLC/\_\_\_/\_\_\_ 60 cu ft, 1.35 m<sup>3</sup>

2XLC/\_\_\_/\_\_\_ 120 cu ft, 2.7 m<sup>3</sup>

3XLC/\_\_\_/\_\_\_ 240 cu ft, 5.4 m<sup>3</sup>

Ex [px] Zone 1 (21) IECEx Category 2 GD ATEX

X-Purge Class I Division 1 FM cULus

**IECEX  
& ATEX  
Certified!**



Mini-X-Purge  
Control Unit

### OPERATION

The MiniPurge system provides a full purge and pressurize system for Class I Division 1 Gp A-D, Zone 1 (21) IIC applications. When fitted to a suitable enclosure the system enables regular electrical equipment to be operated safely in a hazardous location.

Certified in compliance with IEC, European and American standards and codes, the system controls purge and pressurization process. Initially the system provides a high 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.

For dust applications [Ex pD] see certificate for "conditions for safe use".

### 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 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).
- + **316L Stainless steel housings and fittings** for use in harsh environments.
- + **Purge Flow:** measured at the Relief Valve, outlet. Gives full compliance with standards. See IEC / EN 60079-2, NFPA 496 Chapter 3-4. "have passed through the purge enclosure".
- + **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 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, model /PO, or dry contacts for connection to Intrinsically Safe, model /IS or (IECEX & ATEX only) flameproof circuits, model /PA.

### ACCESSORIES

Expo manufactures a range of interface units which will provide additional isolation either from the pneumatic output, or from the electric contacts. The most popular is the MIU dA (Ex d IIC T5) which provides 4 pole 12 Amp (UL) or 16 Amp (IEC) contacts for power, and a 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.

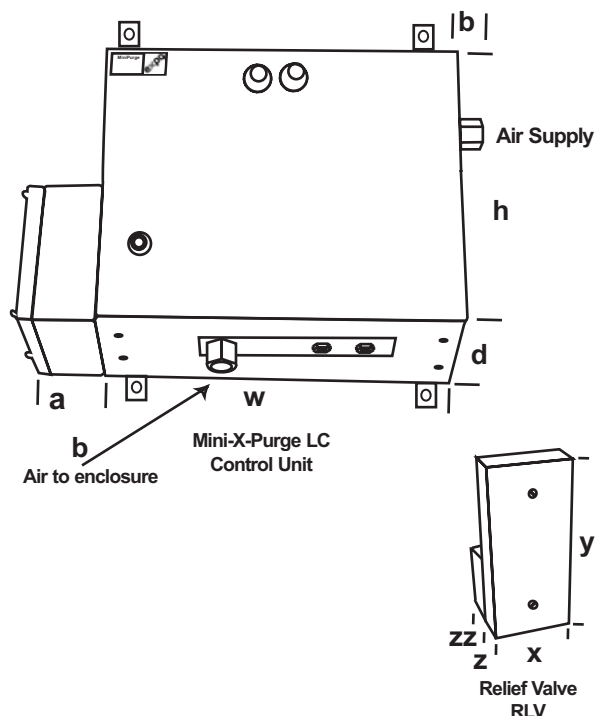
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# Technical Specification

## MiniPurge

1XLC/\_\_\_/\_\_\_, 2XLC/\_\_\_/\_\_\_, 3XLC/\_\_\_/\_\_\_



Dimensions/ Spec	1XLC/ss/___		2XLC/ss/___		3XLC/ss/___	
Width <b>w</b>	9.5"	240mm	9.5"	240mm	14.2"	360mm
Height <b>h</b>	7.1"	180mm	9.5"	240mm	14.2"	360mm
Depth <b>d</b>	6.0"	150mm	6.0"	150mm	6.0"	150mm
RLV Width <b>x</b>	2.5"	62mm	3.5"	88mm	4.3"	110mm
RLV Height <b>y</b>	5.2"	133mm	6.7"	170mm	7.3"	185mm
RLV Ext Depth <b>z</b>	1.3"	33mm	1.5"	38mm	1.7"	42mm
RLV Int Depth <b>zz</b>	0.67"	17mm	0.67"	17mm	0.67"	17mm
T-box PA only <b>a</b>	4.0"	102mm	4.0"	102mm	4.0"	102mm
Fitting 1/2" NPT <b>b</b>	1.3"	33mm	1.3"	33mm	1.3"	33mm
Signals 1/8" NPT <b>c</b>	0.3"	8mm	0.3"	8mm	0.3"	8mm
Weight	12.1lb	5.5kg	13.3lb	6.1kg	33lb	15kg

### COMMON SPECIFICATION

Purge Supply medium	Instrument quality compressed air or Inert gas Flammable gas free
Purge Supply pressure	Regulated pressure between Min 4 bar ( 60 psi ) and Max 8 bar ( 115 psi )
Purge supply capacity	At least 1.5 times certified flow rate. See product code
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	CU and RLV enclosures , 316L st. steel
Relief Valve (RLV)	Magnetic operation (patented)
Opening pressure	1kPa, 10 mbar, 4" wc
Spark arrestor	Integral to RLV, 316 Stainless Steel mesh
/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.
/PA	<b>(IECEX &amp; ATEX Only)</b> Ex e IIC Junction Box and Integral Ex d IIC T5 Power (DPNO) and Alarm (SPCO) switches 6AAC1, 4AAC15

### OPERATION

Type Number (example)

07 1 X LC/ss/PO/--

#### Size

- 1 Purge flow rate 8 scfm, 225 NI/min
- 2 Purge flow rate 16 scfm, 450 NI/min
- 3 Purge flow rate 32 scfm, 900 NI/min

#### Certification / Approval

**X** IECEx SIR 07.0027X Ex [px] Ex pD  
Europe, ATEX category 2 GD  
Cert no SIRA 01 ATEX 1295X  
USA/Canada NFPA496(2003) CII Div 1  
cUL E190061, FM 1X8a4AE

#### Pressurization method

**LC** Leakage Compensation after initial purge

#### Housing

**ss** Stainless Steel

#### Output see above

**PO** Pneumatic Output  
**IS** Intrinsically Safe Output  
**PA** Power and Alarm Output (IECEX & ATEX only)

#### Options

**WM** Wall Mounting bars

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