MiniPurge Type X

Control System for Leakage Compensation for enclosures up to
Size 1: 60 cu ft, 1.35 m^3
Size 2: 120 cu ft, 2.7 m^3
Size 3: 240 cu ft, 5.4 m^3

Zone 1 (21) - Class I Div 1

Output: /PA

Output: /IS

RLV

Features

+ **Simple Order Code**
  One model number defines Control Unit (CU) and Relief Valve (RLV)
+ **Control Unit Direct Mounting on Enclosure**
  No interconnecting pipework, saving time and money
+ **Compact Size**
  Maximum usage of internal space within the enclosure
+ **Series Purge**
  Purge multiple enclosures via one system (application specific)
+ **316L Stainless Steel enclosure and Fitting**
  Excellent resistance to corrosion for harsh environments
+ **Full Compliance with standards**
  Direct purge flow measurement at Relief Valve exhaust
+ **Global Approvals / Global Supply voltage**
  Worldwide design and installation, easy stock control

Operation

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

Certified in accordance with international standards and codes, the MiniPurge system controls the purge and pressurization process. Initially, the system allows a high flow of purge gas, usually compressed air, and measures that flow at the Relief Valve exhaust. Providing that flow is sufficient, the purge timer is started. After completion of the purge time, purge flow is switched off and the system controls a lower flow to compensate for enclosure leakage. Internal pressure is thus maintained above external pressure, preventing potentially explosive gas/vapour from entering the enclosure. In this state, the system interlock allows external power to be supplied to internal equipment, either directly or via a separate interface unit.

For Ex [p] dust applications, please refer to "Conditions for Safe Use" on the enclosure certificate.

Components

The system has two components: Control Unit (CU) and Relief Valve (RLV). The Control Unit contains the logic pneumatic to monitor and control air flow, pressure and purge timing, and provides system outputs (pneumatic or volt-free contact closures). The RLV allows the flow of purge gas and provides the measurement of that flow at the outlet. The RLV closes at the end of the purging period.

Outputs

The system incorporates external outputs for use as power interlock and for alarm indication. For Zone 1 and Div 1 applications, it is required to interrupt the power feed to regular internal equipment under loss of pressurization, and the external alarm allows remote indication (by others). The outputs can be pneumatic (option /PO), volt-free contact closures for use with intrinsically safe circuits (option /IS) or via integral Ex d switches terminated in an Ex e junction box (option /PA - IECEx or ATEX only).

Accessories

Expo manufactures a range of interface units (MIU series) to provide electrical isolation. For example, the MIU/dA is an external enclosure (Ex db IIC T5 Gb) containing a 4-pole contactor for power and a SPCO volt-free contact for alarm, driven by the pneumatic output signals. A variety of interface options are available.

Expo also offer additional services, including full enclosure assembly and certification, operator interfaces, a wide variety of standard and custom enclosures, plus a full technical support facility.

MPXLC 06-16

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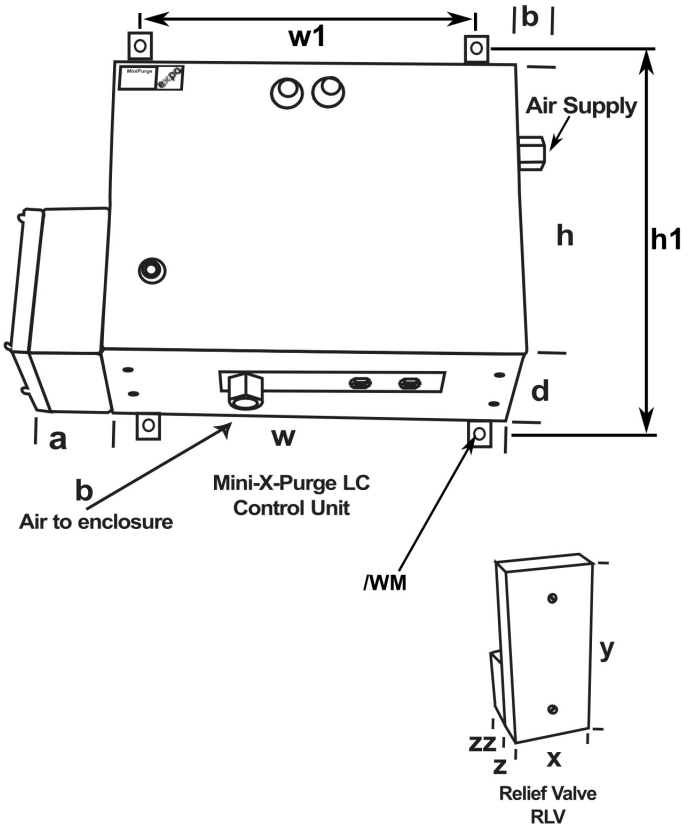
TECHNICAL SPECIFICATION



Dimensions/ Spec		1 XLC/ss/__		2XLC/ss/__		3XLC/ss/__	
Width	w	9.5"	240mm	9.5"	240mm	14.2"	360mm
Height	h	7.1"	180mm	9.5"	240mm	14.2"	360mm
Depth	d	6.0"	150mm	6.0"	150mm	6.0"	150mm
RLV Width	x	2.5"	62mm	3.5"	88mm	4.3"	110mm
RLV Height	y	5.2"	133mm	6.7"	170mm	7.3"	185mm
RLV Ext Dept	z	1.3"	33mm	1.5"	38mm	1.7"	42mm
RLV Int Dept	zz	0.67"	17mm	0.67"	17mm	0.67"	17mm
T-box PA only	a	4.0"	102mm	4.0"	102mm	4.0"	102mm
Fitting $^1/_2$" NPT	b	1.3"	33mm	1.3"	33mm	1.3"	33mm
Signals $^1/_8$" NPT	c	0.3"	8mm	0.3"	8mm	0.3"	8mm
Weight		12.1lb	5.5kg	13.3lb	6.1kg	33lb	15kg
/WM	h1	8.27"	210mm	10.63"	290mm	15.53"	390mm
/WM	w1	7.09"	180mm	7.09"	180mm	11.81"	300mm

*VC = Volume Changes. Enclosure volume is based on 30 minutes purge time. Volume in ft^3 is based on 4 volume changes. Volume in m^3 is based on 5 volume changes

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

TECHNICAL DATA

07 1 X LC/ss/PO/_

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

Certification / Approval
- **X** IECEx SIR 07.0027X Zone 1 (21) Ex [pxb]
  Europe, ATEX II 2 (2) GD
  Cert no SIRA 01 ATEX 1295X
  USA/Canada NFPA496 Cl Div 1
  UL E190061, FM 1X8A4.AE
  INMETRO TÜV 12.1462X Zone 1 (21) Ex [pxb]

Pressurization method
- **LC** Leakage Compensation after initial purge

Housing
- **ss** Stainless steel

Output See below
- **PO** Pneumatic Output
- **IS** Intrinsically Safe Output
- **PA** Power and Alarm Output (NOT FOR USA/CANADA)

Options
- **WM** Wall Mounting bars
  /WM(1)
  /WM(2)
  /WM(3)

Purge Supply medium: Instrument quality compressed air or inert gas flammable gas free

Purge Supply pressure: 4 - 8 bar (60 - 120 psi) at flow rate
Minimum supply pressure to be maintained during purging

Purge Supply Capacity: At least 1.5 times certified flow rate. See product code

Low Pressure Sensor Setting: 50 Pa 0.5mbar, 0.2" wc

Temperature: -20°C, -4°F to 55°C, 131°F

/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 (NOT FOR USA/CANADA) Ex e IIC Junction Box and Integral Ex d IIC T5 Power (DPNO) and Alarm (SPCO) switches 4A 250Vac AC15.