


Product Data Sheet

Mini-X-Purge

Control System for **Continuous Flow**

For enclosures up to
1XCF/___/___ 17 cu ft, 0.39 m³

Ex [px] Zone 1 (21) IECEx Category 2 GD ATEX
X-Purge Class I Division 1 FM cULus





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, the system controls purge and pressurization process. The initial purge flow removes the gas, which may be present in the area when the enclosure is closed. After the purge cycle has been completed it continues to maintain pressure and flow 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 enclosures with an internal source of flammable gas release, the continuous flow can be set to reduce the gas concentration to below 25% of the LFL (LEL). Reference must be made to the codes and standards for this application.

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

COMPONENTS

The system consists of three components. The Control Unit CU controls the supply, measurement and flow of the protective gas, and provides the outputs to indicate status. The Spark Arrestor Unit SAU allows the flow of purge gas, and provides the measurement of the flow through the enclosure. The Relief Valve RLV provides overpressure protection.

FEATURES

- + **One Model number:** includes the Control Unit (CU), the Spark Arrestor Unit (SAU) and the Relief Valve (RLV.)
- + **Direct Mount:** no interconnecting pipe work. Reduced material and labor cost.
- + **Size:** Compact Control Unit, Relief Valve and Spark Arrestor Unit (No real-estate wastage around the purged enclosure.)
- + **316L Stainless steel housings and fittings** for use in harsh environments.
- + **Purge Flow:** measured at the Spark Arrestor 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.

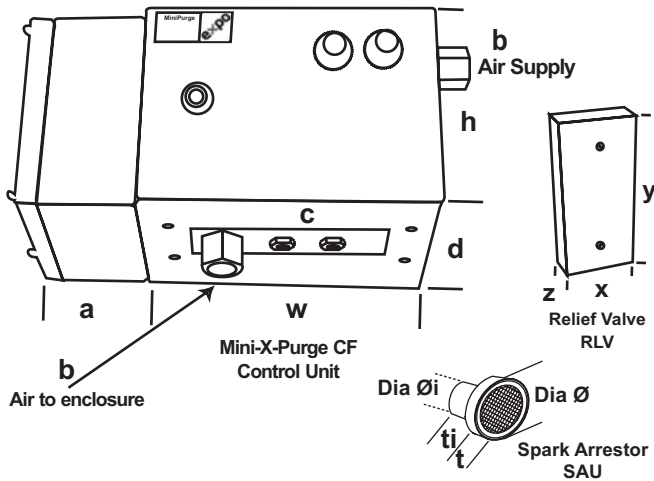
www.expoworldwide.com



Technical Specification

MiniPurge

1XCF/___/___



Dimensions/Spec.	1XCF/ss/___		
Width w	9.4"	240mm	
Height h	7.1"	180mm	
Depth d	6.0"	150mm	
T- Box (PA only) a	4.0"	102mm	
RLV Width x	2.4"	62mm	
RLV Height y	5.2"	133mm	
RLV Depth z	1.3"	33mm	
Fitting $1/2$ " NPT b	1.3"	33mm	
Signals $1/8$ " PTC c	0.3"	8mm	
SAU Ext Diam. \varnothing	2.2"	55mm	
SAU Ext Depth t	1"	25mm	
SAU Int Diam. \varnothing_i	1.2"	32mm	
SAU Int Depth ti	1.4"	36mm	
Weight	12.1lb	6.1kg	

Selection of Orifice Plate				
Orifice Plate #	Purge Flow		Enclosure Volume	
	scfm	NI/min	ft ³ (4 VC*)	m ³ (5 VC*)
1	0.4	10	3.0	0.06
2	0.9	25	8.3	0.15
3	1.4	40	10.5	0.24
4	2.3	65	17.2	0.39
5	3.2	90	24	0.54
6	4.8	135	36	0.81
7	6.4	180	48	1.08
8	8.0	225	60	1.35

*VC = Volume Changes (based on 30 minute purge time)

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 / Flow sensor	250 Pa, 2.5 mbar, 1.0"wc
Temperature	-20°C, -4°F to 55°C, 131°F
Materials of construction	CU, SAU and RLV enclosures, 316L stainless steel
Relief Valve (RLV)	Magnetic operation (patented)
Opening pressure	1kPa, 10 mbar, 4" wc
Spark arrestor	Integral to RLV and SAU, 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	(IECEX & ATEX Only) Ex e IIC T5 Junction Box and Integral Ex d IIC T5, Power (DPNO) and Alarm (SPCO) switches 6A AC1, 4A AC15

OPERATION

Type Number (example)
07 1 X CF/ss/PO/AO

Size

1 Purge flow rate selectable from 10 - 225 NI/min, 0.4 - 8 scfm

Certification / Approval

X IECEX SIR 07.0027X Ex [px] Ex pD Europe, ATEX Category 2 GD Cert no SIRA 01ATEX1295X USA/Canada NFPA496(1998) CI I Div 1 cUL E190061, FM 1X8a4AE

Pressurization method

CF Continuous Flow

Housing

ss Stainless Steel

Output see above

PO Pneumatic Output

IS Intrinsically Safe Output

PA Power and Alarm Output (IECEX & ATEX only)

Options

AO Alarm Only on loss of pressure

WM Wall Mounting bars

Expo Technologies Ltd

Summer Road, Thames Ditton, Surrey, KT7 0RH, UK

T +44 (0) 20 8398 8011

F +44 (0) 20 8398 8014

E sales@expoworldwide.com

Expo Technologies Inc

9140 Ravenna Road Unit 3, Twinsburg, OH 44087, USA

T 888-NFPA-496 (Toll Free)

F +1 440 247 5409

E sales.na@expoworldwide.com

www.expoworldwide.com

Expo Technologies reserve the right to amend data given here without prior notice. ©2007 Expo Technologies. Mini-X-Purge™ is a trademark of Expo Technologies.