



Product Data Sheet

Mini-X-Purge

Control System for Leakage Compensation

For very large enclosures or large motors

4XLC/ /
5XLC/ /
6XLC/ /

Ex [px] Zone 1 (21) and 2 (22) IECEx, Category 2 G D ATEX
X-Purge Class I Division 1 FM



Mini-X-Purge
Control Unit

OPERATION

The MiniPurge system provides a full purge and pressurization system for Class I Division 1, Zone 1 (21) or Zone 2 (22) 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 IEC, European and American 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 coming in to 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

- + **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/EN60079-2 and NFPA 496 Chapter 3-4. "have passed through the purge enclosure".
- + **Independent of supply voltage.**
- + **Global approvals** so ideal for the OEM.
- + Flange mounted Relief Valve range.
- + For motors where pressure profile is static.

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, or dry contacts for connection to Intrinsically safe or flameproof circuits, or (for IECEx/ATEX only) increased safety terminals, model /PA.

APPLICATION NOTES

These larger systems may be used on large motors only when the air pressure in the motor has little or no variation between running and static. Expo's D758, D771 and D779 with Closed Loop Automatic Pressurization (CLAPS) and powered Relief Valves are the **preferred** systems for large motors.

Great care must be taken to **match** the required purge flow with the expected enclosure pressure during purge, motor static and motor running.

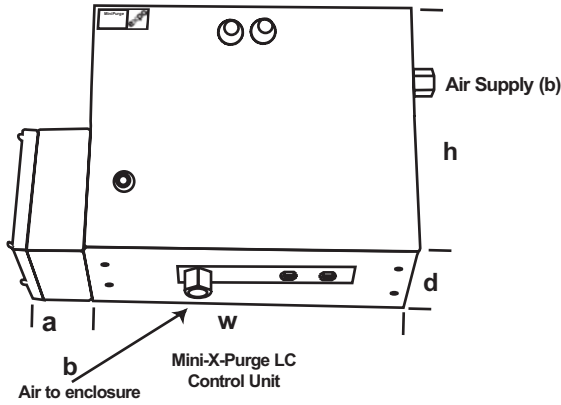
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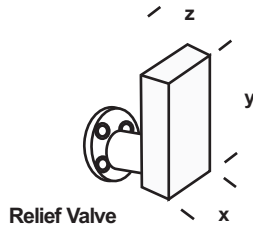
Technical Specification

MiniPurge

4XLC/___/___, 5XLC/___/___, 6XLC/___/___



Dimensions/Spec	4XLC/ss/___		5XLC/ss/___		6XLC/ss/___	
Width w	14.2"	360mm	18.9"	480mm	18.9"	480mm
Height h	14.2"	360mm	14.2"	360mm	18.9"	480mm
Depth d	5.9"	150mm	5.9"	150mm	5.9"	150mm
T-box PA only a	4.0"	102mm	4.0"	102mm	4.0"	102mm
Fitting b	3/4" NPT		1"NPT		1"NPT	
Weight	12.1lb	5.5kg	17.6lb	8.0kg	40.7lb	18.5kg
Purge Flow rate	32-56 scfm	900-1580 NI/min	98-126 scfm	2775-3580 NI/min	159-225 scfm	4500-6370 NI/min



RLV	52		75 low		75 high		104	
Width X	4.57"	116mm	6.30"	160mm	6.30"	160mm	8.66"	220mm
Height Y	7.28"	185mm	10.55"	268mm	10.55"	268mm	14.57"	370mm
Depth Z	6.14"	156mm	6.57"	167mm	8.70"	221mm	10.35"	263mm
Flow rate range	32-71 scfm	900-2000 NI/min	71-124 scfm	2000-3500 NI/min	124-159 scfm	3500-4500 NI/min	159-282 scfm	4500-8000 NI/min
Flange Opt A	2" ANSI 150#		----		4" ANSI 150#		4" ANSI 150#	
Weight	12.1lb	5.5kg	----		27.6lb	12.5kg	35.3lb	16.0kg
Product code	RLV52/ss/2"ANSI		----		RLV75/ss/4"ANSI/HF		RLV104/ss/4"ANSI	
Flange Opt B	3" ANSI 150#		3" ANSI 150#		3" ANSI 150#		----	
Weight	16.5lb	7.5kg	22.5lb	10.2kg	24.3lb	11.0kg	----	
Product code	RLV52/ss/3"ANSI		RLV75/ss/3"ANSI/LF		RLV75/ss/3"ANSI/HF		----	

COMMON SPECIFICATION

Purge Supply medium	Instrument quality compressed air.
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 RLV specification.
Low pressure sensor range	0.5 - 5mbar, 0.2 - 2"wc
Temperature	-20°C, -4°F to 55°C, 131°F
Materials of construction	CU and RLV enclosures , 316L stainless steel.
Relief valve (RLV)	Magnetic operation (patented)
Opening pressure range	20 - 30mbar, 8 - 12" wc
Spark arrestor	Integral to RLV, Nickel Chrome
/PO "Power Output"	2 bar 30 psi when power enabled
"Alarm Output"	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) Exe IIC Junction Box and Integral Exd IIC T5 Power (DPNO) and Alarm (SPCO) switches 6AAC1, 4AAC15	

OPERATION

Type Number (example)

07 4 X LC/ss/PO

Size

- 4 Purge flow rate 32-56.2 scfm
- 5 Purge flow rate 98.4-126.5 scfm
- 6 Purge flow rate 126.5-225 scfm

Certification / Approval

- X IECEx SIR 07.0027X Ex [px] Ex pD
- Europe, ATEX Category 2 G D
- USA/Canada NFPA496 C I, Div 1
- IEC 61241-4 ATEX Cat 2

Pressurization method

- LC Leakage Compensation after initial purge

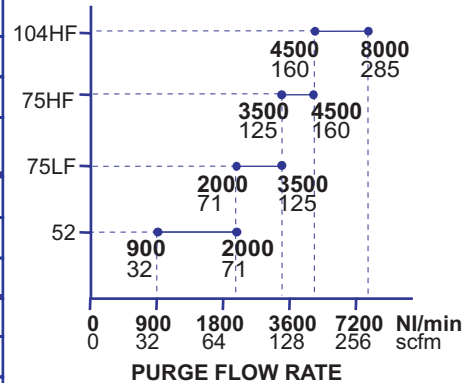
Housing

- ss Stainless steel 316L

Output see above

- PO Pneumatic output
- IS Intrinsically safe output
- PA IECEx/ATEX only Power and Alarm output

RLV TYPE



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