



MiniPurge Type Z(Y) LC Manual

ML 447

This manual covers Mini-Z(Y)-Purge Leakage Compensation

Sizes: 1, 2 & 3

Mounting Options: **bp, pm, nm, ss**

Output Options: **IS, PO**

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1. Specification Sheet – MiniPurge Type Z(Y) Systems

Model No. (Example): 07 1 ZLC / ss / IS (Note: Not all codes are applicable)

Purge System Type

07 = MiniPurge

Size

- 1** = Sub MiniPurge
Purge flow rate 8 scfm, 225 NI / min
- 2** = MiniPurge
Purge flow rate 16 scfm, 450 NI / min
- 3** = Super MiniPurge
Purge flow rate 32 scfm, 900 NI/min


Approval / Certification

Z =

Europe

EN 60079-0, EN 60079-2

Sira 01ATEX1295X

2813  II 3 (2) G D
Ex [pzc] IIC T6 Gb
Ex [pzc] IIIC T85°C
T_{amb} -20°C +55°C

IEC

IEC 60079-0, IEC 60079-2

IECEX SIR 07.0027X

Ex [pzc] IIC T6 Gb
Ex [pzc] IIIC T85°C
T_{amb} -20°C +55°C

USA / Canada NFPA 496

FM 1X8A4AE

Class I Div 2

Groups A, B, C & D

T_{amb} = 60°C

UL E190061

Class I Div 2

Groups A, B, C & D


Brazil

INMETRO - TUV

TÜV 12.1462X

Ex [pzc] IIC T6 Gb
Ex [pzc] IIIC T85°C Db
-20°C ≤ Ta ≤ +55°C

Y =

2813  II 2 (2) G D
Ex [pyb] IIC T6 Gb
Ex [pyb] IIIC T85°C Db
T_{amb} -20°C +55°C

Ex [pyb] IIC T6 Gb
Ex [pyb] IIIC T85°C Db
T_{amb} -20°C +55°C

Class I Div 1
Groups A, B, C & D
T_{amb} = 60°C

Class I Div 1
Groups A, B, C & D

Ex [pyb] IIC T6 Gb
Ex [pyb] IIIC T85°C Db
-20°C ≤ Ta ≤ +55°C

Alarm (Signals)

IS = Internal Switch
'Alarm' : Dry, VFC, SPST N/O Contact

For Intrinsically Safe Circuits:

Install to EP80-2-11

Ci = 0 Li = 0

U_{max} = 30 Vdc, I_{max} = 101 mA

U_{max} = 19.2 Vdc, I_{max} = 350 Ma

Hermetically Sealed Switch (ATEX only)

Ex mc IIC T5 Gc

Ex mc IIIC T100°C Dc

V_{max} = 254 Vac, I_{max} = 0.7 A

PO = Pneumatic Output

'Alarm' : Loss of Pressure = No signal

"Pressurized" = at supply pressure

MiniPurge Housing

bp = Back Plate (Top/Side Mount) 316L
Stainless Steel (NROB finish)

pm = Panel Mount (Side/Front Mount) 316L
Stainless Steel (NROB finish)

nm = Non Metallic (Top/Side Mount)
Polystyrene c/w clear cover

ss = 316L Stainless Steel (NROB finish)
Neoprene "Top" Mount Gasket

Purging Method

LC = Leakage Compensation

UKEX Certificate

CSAE 21UKEX1067X

UK

CA0518  II 2(2) GD

Ex [pxb] ia IIC T5 Gb

Ex [pxb] ia IIIC T100°C Db

T_{amb} -20°C to +55°C

For limitations and conditions of use refer to the applicable certificate at the back of this manual.

Supply Pressure : 60 psi / 0.4MPa / 4 barg must be regulated at inlet.
Maximum supply pressure 115 psi / 0.8MPa / 8 barg. Compressed Air / Nitrogen

Flow & Pressure Sensors

"Low Pressure Sensor" : 0.2 "WC / 50 Pa (0.5 mbarg)
"Flow Sensor" : 1.1 "WC / 280 Pa (2.8 mbarg)

Leakage Compensation : Size 1: Variable up to 2 scfm (60 NI/min) to compensate for Enclosure Leakage
: Size 2: Variable up to 9 scfm (250 NI/min) to compensate for Enclosure Leakage
: Size 3: Variable up to 28.3 scfm (800 NI/min) to compensate for Enclosure Leakage

Relief Valve

	MiniPurge Size 1	MiniPurge Size 2	MiniPurge Size 3
Model No	RLV25/ss/FS	RLV36/ss/FS	RLV52/ss/FS
Opening Pressure	: 4" WC / 1 kPa (10 mbarg)		
Material	: 316L Stainless Steel, Spark Arrestor: Stainless Steel mesh, Neoprene Gasket		
Action on "Loss of Pressure"	: ALARM ONLY		

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2. Application Suitability

MiniPurge[®] Systems are certified for use in Hazardous Areas, where the Hazardous Area is non-mining (i.e. above ground) and the hazard is caused by flammable gasses, vapours or dust.

Mini-Z-Purge[®] Systems may be used in IECEx, ATEX Zone 2(22) - Category 3 and NEC 500 Class I, Div 2.

Mini-Y-Purge[®] Systems may be used in IECEx, ATEX Zone 1(21) - Category 2 and NEC 500 Class I, Div 1.

MiniPurge[®] systems may be used for hazards of any gas group. However, apparatus associated with the MiniPurge[®] system, such as Non-Incendive, Intrinsically Safe signalling circuits and flameproof enclosures containing switching devices may be limited in their gas group. The certification documentation supplied with any such devices must be checked to ensure their suitability.

This system is designed for use primarily with compressed air. Where other inert compressed gasses are used (Nitrogen, for example) the user must take suitable precautions so that the build up of the inert gas does not present a hazard to health. Consult the Control of Substances Hazardous to Health (COSHH) data sheet for the gas used. Where a risk of asphyxiation exists, a warning label must be fitted to the Pressurized Enclosure.

The following materials are used in the construction of MiniPurge[®] systems. If substances that will adversely affect any of these materials are present in the surrounding environment, please consult Expo for further guidance.

Materials of construction:

• Stainless Steel	• Aluminium	• Acrylic
• Mild (carbon) Steel	• Nylon	• Silicone Rubber
• Brass	• Polyurethane	• Neoprene

3. Installation, Operation and Maintenance for LC Systems

This MiniPurge® is designed for use under normal industrial conditions of ambient temperature, humidity and vibration. Please consult Expo before installing this equipment in conditions that may cause stresses beyond normal industrial conditions.

The MiniPurge® system shall be installed and operated in accordance with relevant standards, such as IEC / EN 60079-14, NEC 500, NFPA 496 and any local codes of practice that are in force.

For IEC / ATEX applications, references to the NFPA 496 within the ML384, should be replaced by the equivalent clause in IEC / EN 60079-2.

For IEC / ATEX applications, the "Example calculations:" in section 1.1.4 within ML384 should read:

If the PE external dimensions indicate a volume of 500 Litres then,
500 litres enclosure volume x 5 volume changes = 12 minutes purge time
225 litres/minute purge flow rate

4. Drawings

Consult the appropriate drawings according to the selected system.

SYSTEM	*ZLC	/bp/IS	/bp/PO	/pm/IS	/pm/PO	/nm/IS	/ss/IS	/ss/PO
XBR-8TD0-011		✓	✓					
XBR-7TD0-030		✓	✓					
XBR-8TD0-009				✓	✓			
XBR-7TD0-029				✓	✓			
XBR-7TD0-031						✓		
XBR-8TD0-013							✓	✓
XBR-7TD0-028 (1 & 2)							✓	✓
XBR-7TD0-032		✓	✓	✓	✓	✓	✓	✓
EP80-2-11		✓		✓		✓	✓	
XSD-RTD0-004 (1 & 2)		✓	✓	✓	✓	✓	✓	✓

5. Certificates

For certificates refer to ML569

6. D890 Appendix