

MiniPurge Type X, Y, Z DP Manual

ML449

This manual covers MiniPurge Type X, Y, Z Dust Protection

Size: **1**

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

Output Options: **IS, PO**

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2. Application Suitability
3. Installation, Operation and Maintenance for DP Systems
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 - Section 1. Installation of the System
 - Section 2. Operation of the System
 - Section 3. Maintenance of the System
 - Section 4. Fault Finding - DP Systems
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5. Certificates

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 dust.

Mini-X-Purge® Dust Systems may be used in IECEx, ATEX Zone 21 - Category 2 and NEC 500/CSA C22.2 Class II, Div 1, Groups E, F & G.

Mini-Y-Purge® Dust Systems may be used in IECEx, ATEX Zone 21 - Category 2 and NEC 500/CSA C22.2 Class II, Div 1, Groups F & G.

Mini-Z-Purge® Dust Systems may be used in IECEx, ATEX Zone 22 - Category 3 and NEC 500/CSA C22.2 Class II, Div 2, Groups F & G.

MiniPurge® Dust Systems may be used for hazards of the dust groups given above. 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 dust 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 gas is 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 DP Systems

For IEC / ATEX applications, references to the NFPA 496 within the ML386, should be replaced by the equivalent clause in IEC / EN 60079-2.

4. Drawings

Consult the appropriate drawings according to the selected system.

SYSTEM	*XDP,ZDP	/bp/IS	/bp/PO	/pm/IS	/pm/PO	/nm/IS	/nm/PO	/ss/IS	/ss/PO
XBR-8TDO-012		✓	✓						
MZ-1CF-17-CL		✓	✓						
SD7568		✓	✓						
XBR-8TDO-010				✓	✓				
MZ-1CF-23-GA				✓	✓				
XBR-8TDO-014								✓	✓
MZ-1CF-02-GA								✓	✓
MZ-1CF-01-CL								✓	✓
MZ-1CF-01-CT		✓	✓	✓	✓	✓	✓	✓	✓
EP80-2-11		✓		✓		✓		✓	
XSD-RTDO-001 sht 1		✓	✓	✓	✓	✓	✓	✓	✓
XSD-RTDO-001 sht 2		✓	✓	✓	✓	✓	✓	✓	✓

5. Certificates

Certificates can be found in the accompanying booklet (ML569) or downloaded the certificates at www.expoworldwide.com

EU-Declaration of Conformity - SC004-CE*

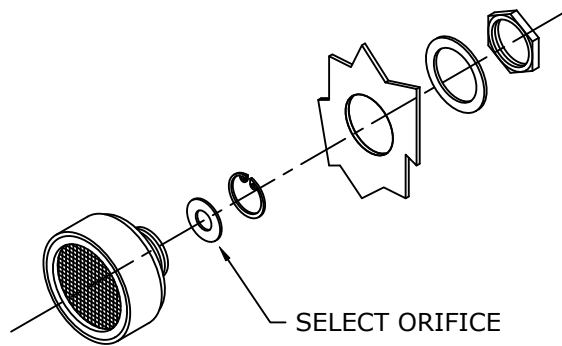
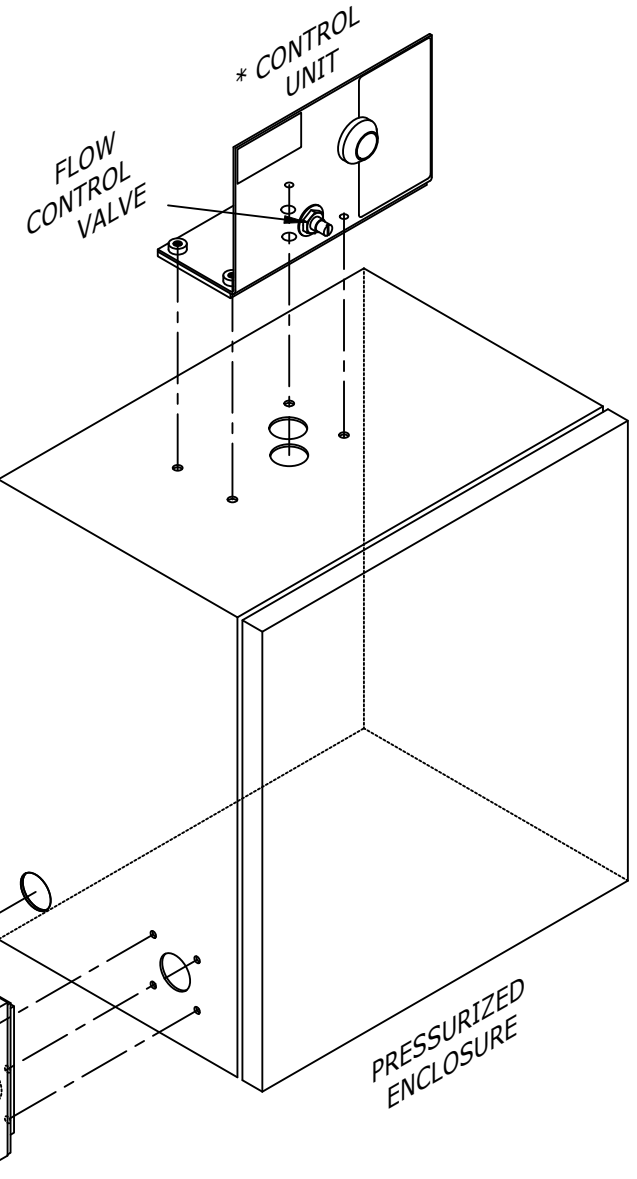
* Documents are attached to the manual


Quick Installation Guide for CF or DP systems:

1. With aid of supplied mounting template cut mounting holes into the enclosure.
2. Fix MiniPurge Control Unit to enclosure.
3. Fix Relief Valve to enclosure.
4. For CF systems only, select orifice for required purge flow rate and fit into Spark Arrestor with circlip. Fix Spark Arrestor to enclosure ensuring that Control Unit and Spark Arrestor Unit are diagonally opposing.
5. Connect Output option, /IS or /PO as required, refer to manual.
6. Connect isolated air supply to MiniPurge Control Unit
7. Ensure enclosure door is closed and sealed from leaks.
8. Turn on air supply 60 psig (4 barg).
9. Slowly increase Flow Control Valve until Alarm Indicator turns from RED to GREEN.
10. After Purge time has been completed power can be applied to enclosure.
11. All queries refer to manual for assistance in the first instance.

NOTE: Spark arrestors are only used in CF systems.

* /PO option shown



REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED	DRAWN DATE	CONTROLLED	MATERIAL	WEIGHT (Kg)	Expo Technologies Limited SURREY TW16 5DB UNITED KINGDOM		DRAWING No.	
05	DQN-12452	07/10/20	CE	RJ	AR	05/01/04						XBR-8TD0-012	
04	5979	25/11/13			SM	DRAWING STATUS	REVISION						
03	4442	18/03/08			MLC	RELEASED	05	FINISH					
						SCALE	N.T.S	A3	TITLE Z(Y)CF & DP /bp QUICK INSTALLATION GUIDE			SHEET No. 1 OF 1	

8 7 6 5 4 3 2 1

3RD ANGLE PROJECTION

DIMENSIONS IN mm
[] DENOTES IMPERIAL

TOLERANCES UNLESS OTHERWISE STATED
DECIMALS X ±0.5
X.X ±0.2
X.XX ±0.1
X.XXX ±0.05
ANGLE STD ±1°
FLATNESS TO BE LESS THAN 0.4 OVER ANY 100mm LENGTH

DO NOT SCALE
IF IN DOUBT ASK

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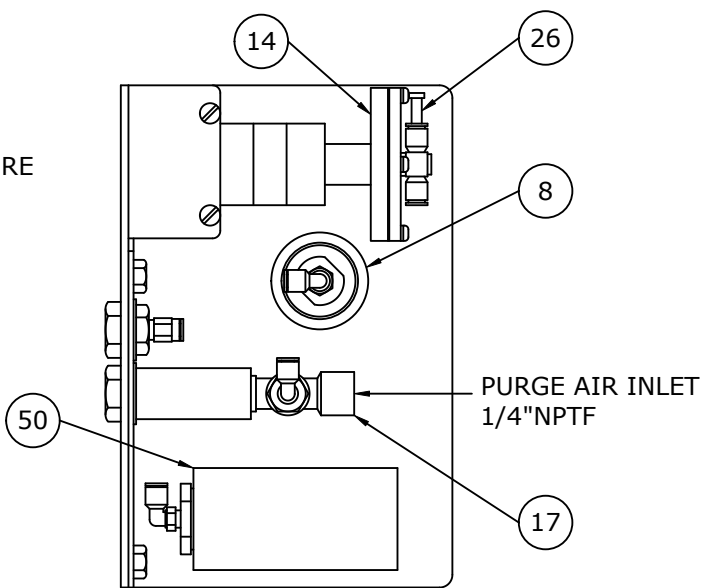
ENCLOSURE LOW PRESSURE
ALARM/PRESSURIZED
PURGING INDICATOR

FLOW CONTROL VALVE

PURGE ENCLOSURE
OUTLET 1/8"NPTF

ALARM/PRESSURIZED OUTPUT
1/8" NPT(F) (PO OPTION)

ENCLOSURE PRESSURE
1/8"NPTF



- NOTES:
1. APPLICABLE MODEL NUMBERS:
1Z(Y)CF/bp/IS
1Z(Y)CF/bp/PO
1Z DP/bp/IS
1Z DP/bp/PO
1X DP/bp/PO

17	FLOW CONTROL VALVE
8	INDICATOR "ALARM/PRESSURIZED"
14	SENSOR, MINIMUM PRESSURE
26	PLUG 4mm (PE TEST POINT)
50	IS PRESSURE SWITCH (IS OPTION)

REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED
04	DQN-12452	07/10/20	CE	RJ	AR
03	4406	08/02/08			MLC
02	1962	03/02/98			MLC

DRAWN DATE	CONTROLLED	MATERIAL	DRAWING STATUS	REVISION	FINISH	SCALE
08/07/97			RELEASED	04		N.T.S
						A3

Expo Technologies Limited
SURREY TW16 5DB UNITED KINGDOM
TITLE
MINIPURGE 1Z(Y)CF&DP/bp/IS & PO

DRAWING No.
MZ-1CF-17-CL
SHEET No. 1 OF 1



8 7 6 5 4 3 2 1

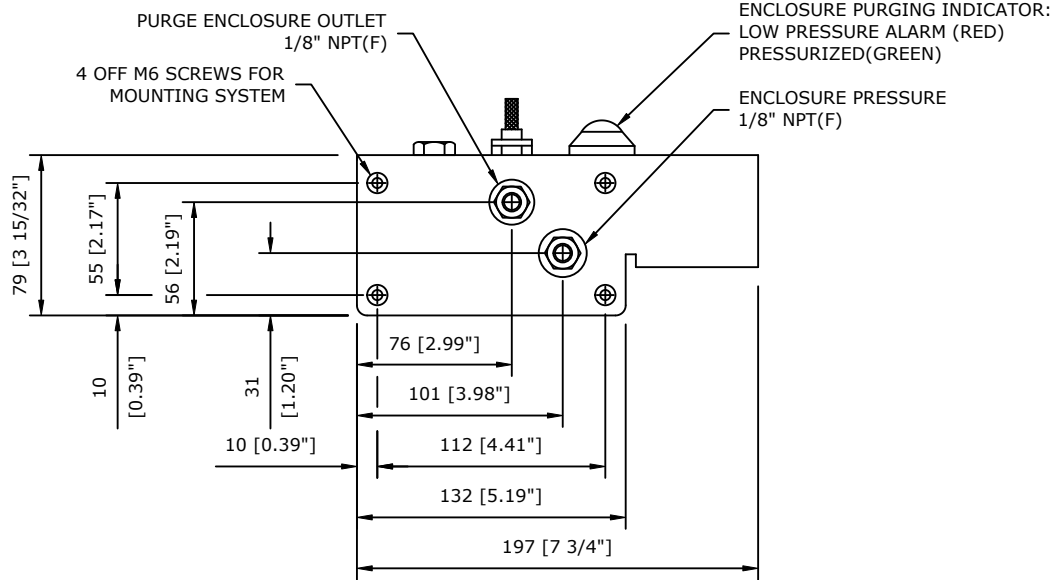
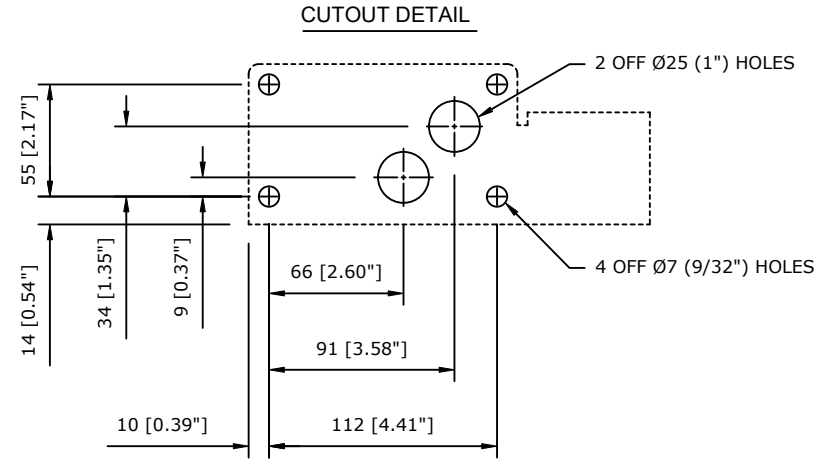
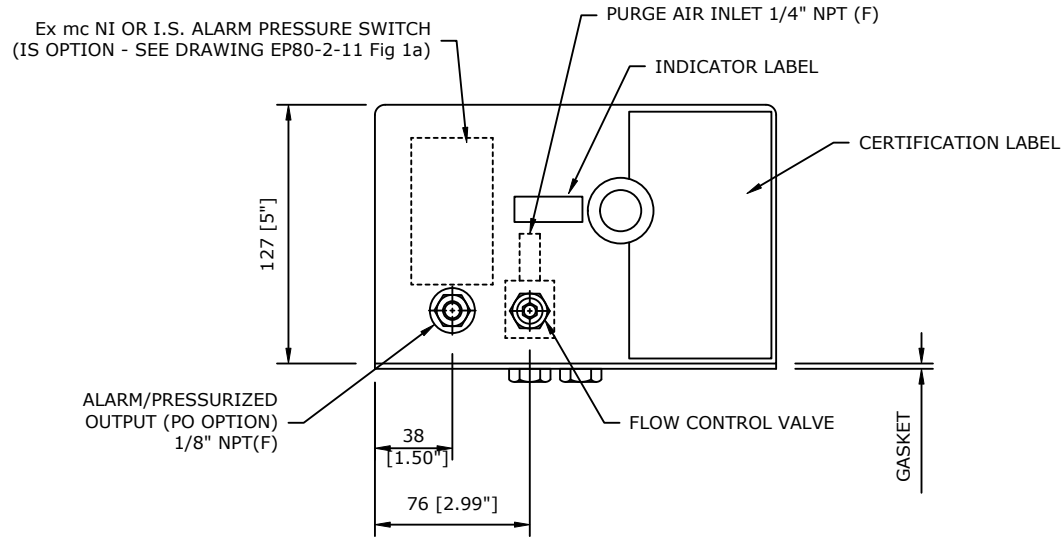
3RD ANGLE PROJECTION

DIMENSIONS IN mm
[] DENOTES IMPERIAL

TOLERANCES UNLESS OTHERWISE STATED
DECIMALS
X ±0.5
XX ±0.2
XXX ±0.1
XXX ±0.05
ANGLE
STD ±1°

DO NOT SCALE
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- NOTES:
- APPROX WEIGHT: 2kg (4.4 lbs)
 - APPLICABLE MODEL NUMBERS:
1Z(Y)CF/bp/IS
1Z(Y)CF/bp/PO
1Z DP/bp/IS
1Z DP/bp/PO
1X DP/bp/PO

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REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED	DRAWN DATE	CONTROLLED	MATERIAL
02	DQN-12452	07/10/20	CE	AR	MH	06/02/08		
01	DRAWN	06/02/08	IS	MLC	MLC	CERT REL	02	
						N.T.S	A3	

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TITLE
MINIPURGE Z(Y)CF & DP/bp/IS & PO

DRAWING No.
SD7568

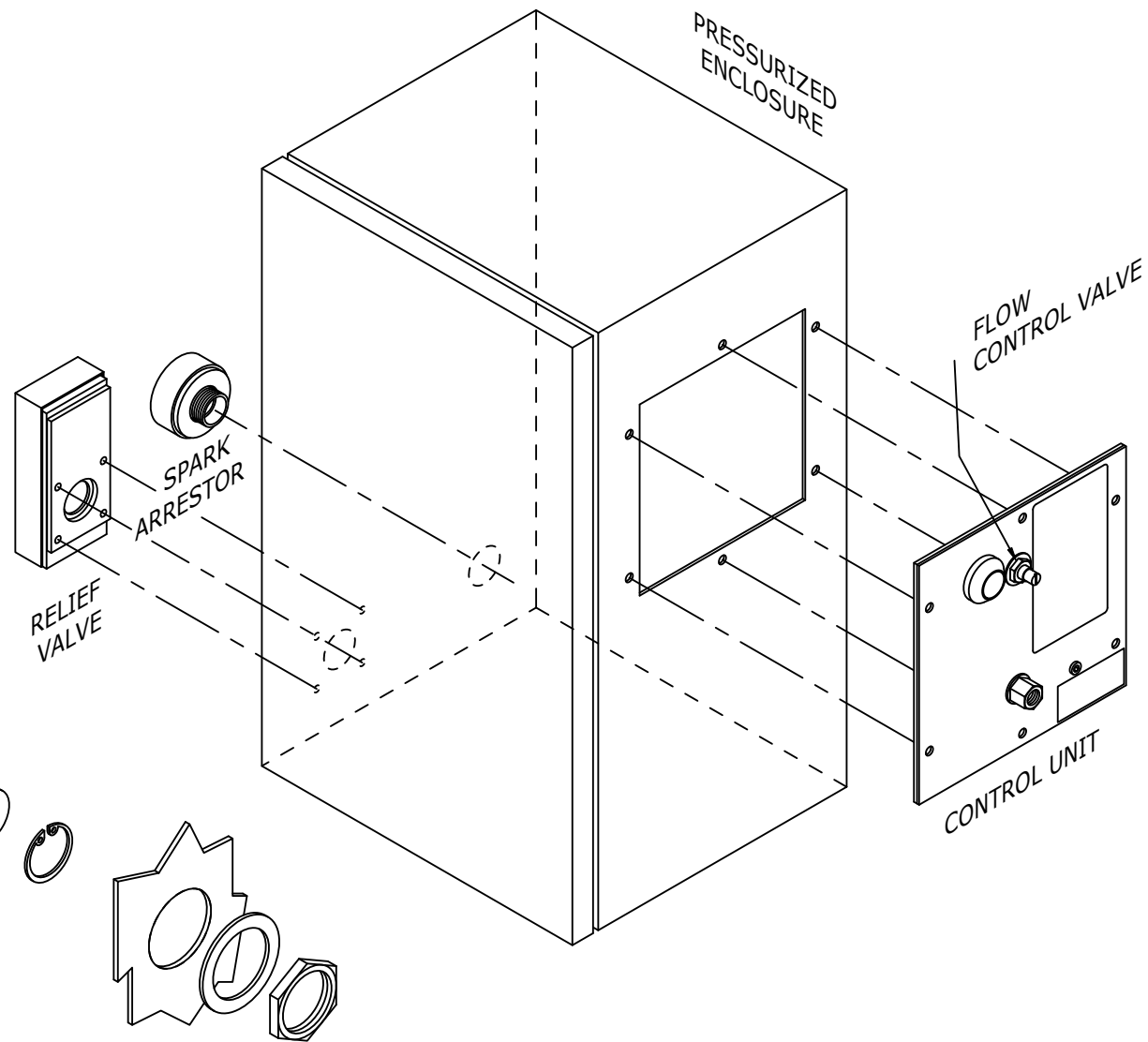
SHEET No. **1** OF 1



Quick Installation Guide for CF or DP systems:

1. With aid of supplied mounting template cut mounting holes into the enclosure.
2. Fix MiniPurge Control Unit to enclosure (use 6mm Nut and Bolt [1/4"]).
3. Fix Relief Valve to enclosure.
4. For CF systems only, select orifice for required purge flow rate and fit into Spark Arrestor. Fix Spark Arrestor to enclosure ensuring that Control Unit and Spark Arrestor Unit are diagonally opposing.
5. Connect Output option, /IS or /PO as required, refer to manual.
6. Connect isolated air supply to MiniPurge Control Unit
7. Ensure enclosure door is closed and sealed from leaks.
8. Turn on air supply 60 psig (4 barg).
9. Slowly increase Flow Control Valve until Alarm Indicator turns from RED to GREEN.
10. After Purge time has been completed power can be applied to enclosure.
11. All queries refer to manual for assistance in the first instance.

NOTE: Spark arrestors are only used in CF systems.



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REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED
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04	5979	25/11/13			SM
03	4442	18/03/08			MLC

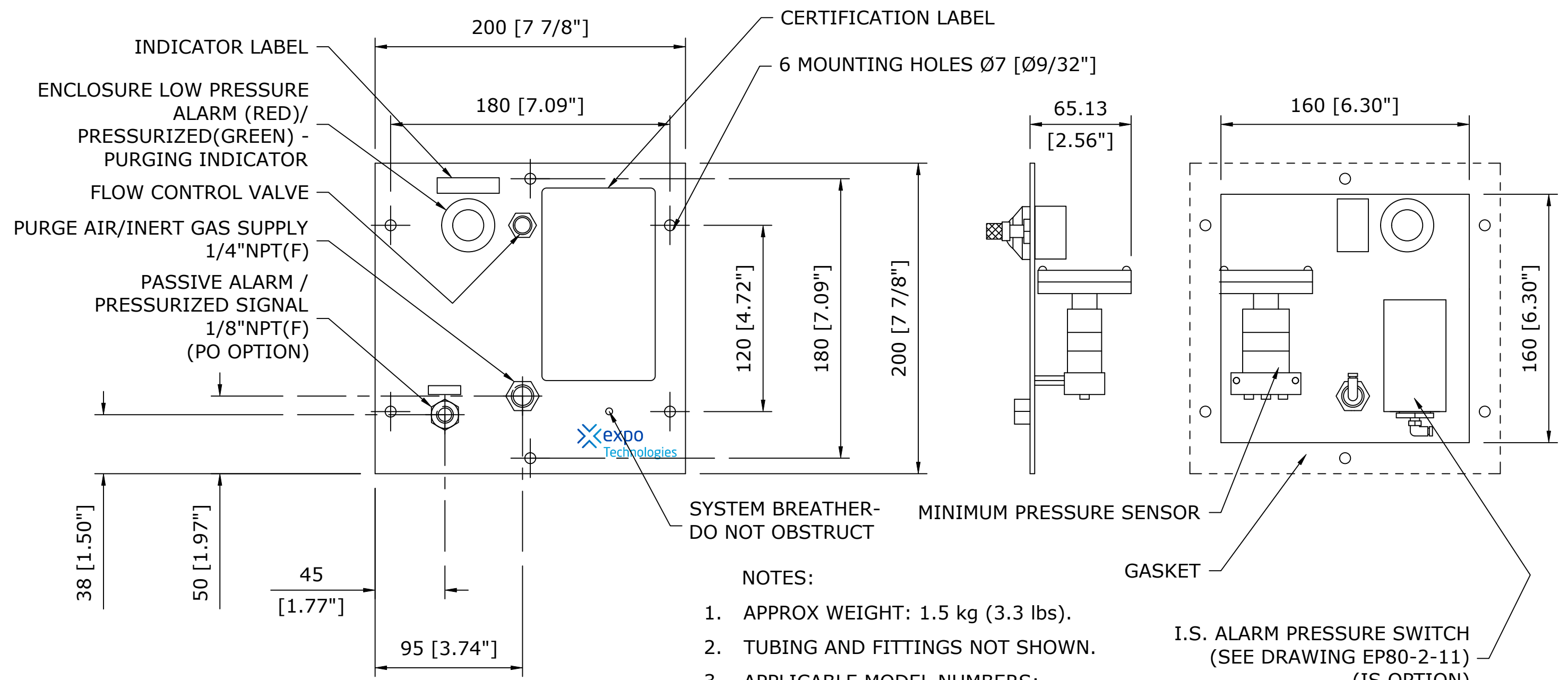
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SCALE		
N.T.S	A3	

WEIGHT (Kg)	Expo Technologies Limited SURREY TW16 5DB UNITED KINGDOM
TITLE	Z(Y)CF&DP/pm QUICK INSTALLATION GUIDE

DRAWING No.	XBR-8TD0-010
SHEET No.	1 OF 1



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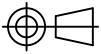


NOTES:

1. APPROX WEIGHT: 1.5 kg (3.3 lbs).
2. TUBING AND FITTINGS NOT SHOWN.
3. APPLICABLE MODEL NUMBERS:
 - 1X DP/pm/PO
 - 1Z(Y)CF/pm/IS
 - 1Z(Y)CF/pm/PO
 - 1Z DP/pm/IS
 - 1Z DP/pm/PO

A	REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED	DRAWN DATE	CONTROLLED	MATERIAL	WEIGHT (Kg)	Expo Technologies Limited SURREY TW16 5DB UNITED KINGDOM	DRAWING No.		
	04	DQN-12452	06/10/20	CE	AR	MH	16/07/99					MZ-1CF-23-GA		
	03	4406	19/08/20			MLC	CERT REL	04	FINISH					SHEET No. 1 OF 1
	02	3955	01/03/05			HE	SCALE	N.T.S	A3			TITLE		MINIPURGE 1Z(Y)CF&DP/PM/IS & PO

3RD ANGLE PROJECTION



DIMENSIONS IN mm
[] DENOTES IMPERIAL

TOLERANCES UNLESS OTHERWISE STATED
FLATNESS TO BE LESS THAN 0.4 OVER ANY 100mm LENGTH

DECIMALS X ±0.5
X.X ±0.2
X.XX ±0.1
X.XXX ±0.05

ANGLE STD ±1°

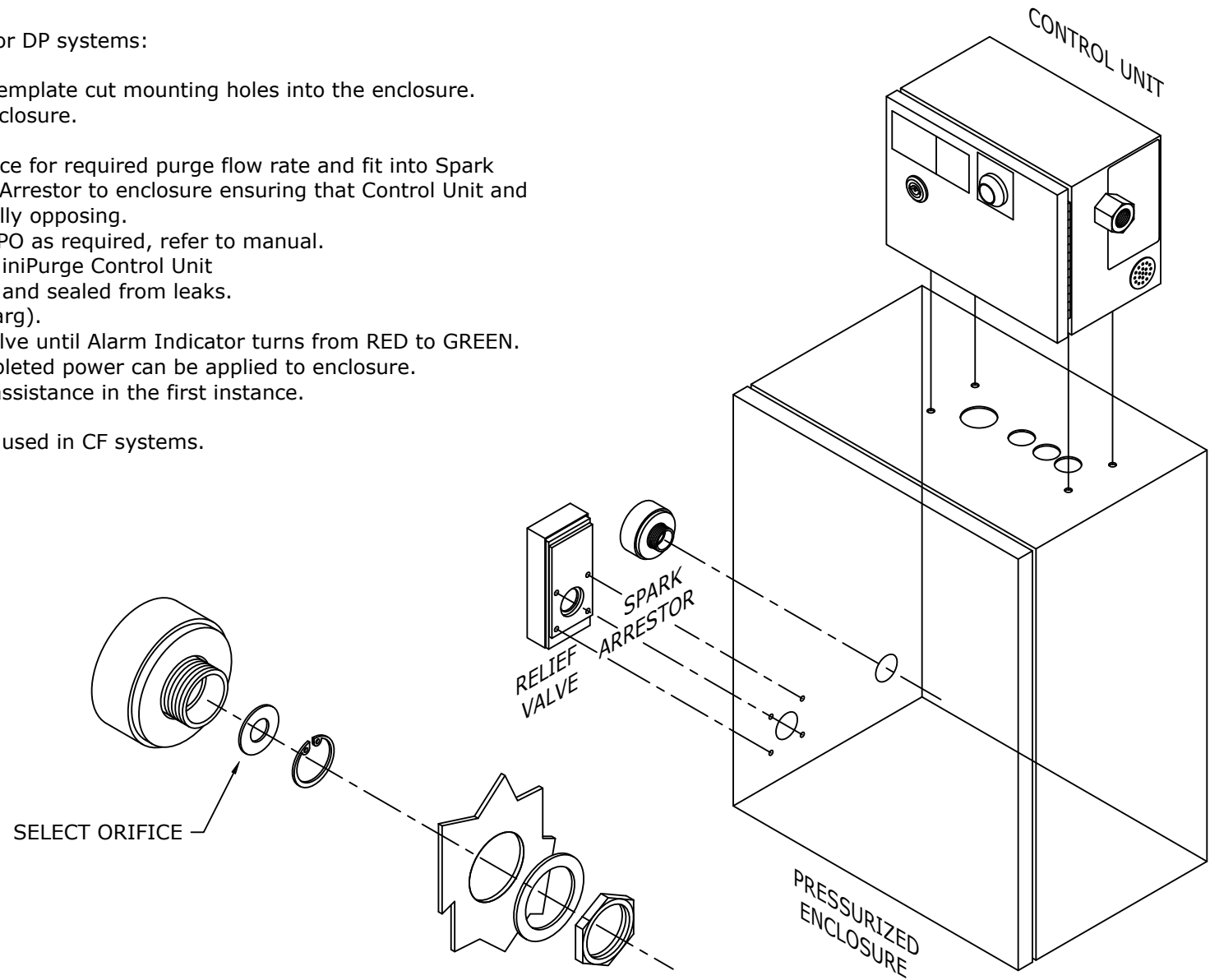
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NOTE: Spark arrestors are only used in CF systems.



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REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED
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04	5979	25/11/13			SM
03	4442	18/03/08			MLC

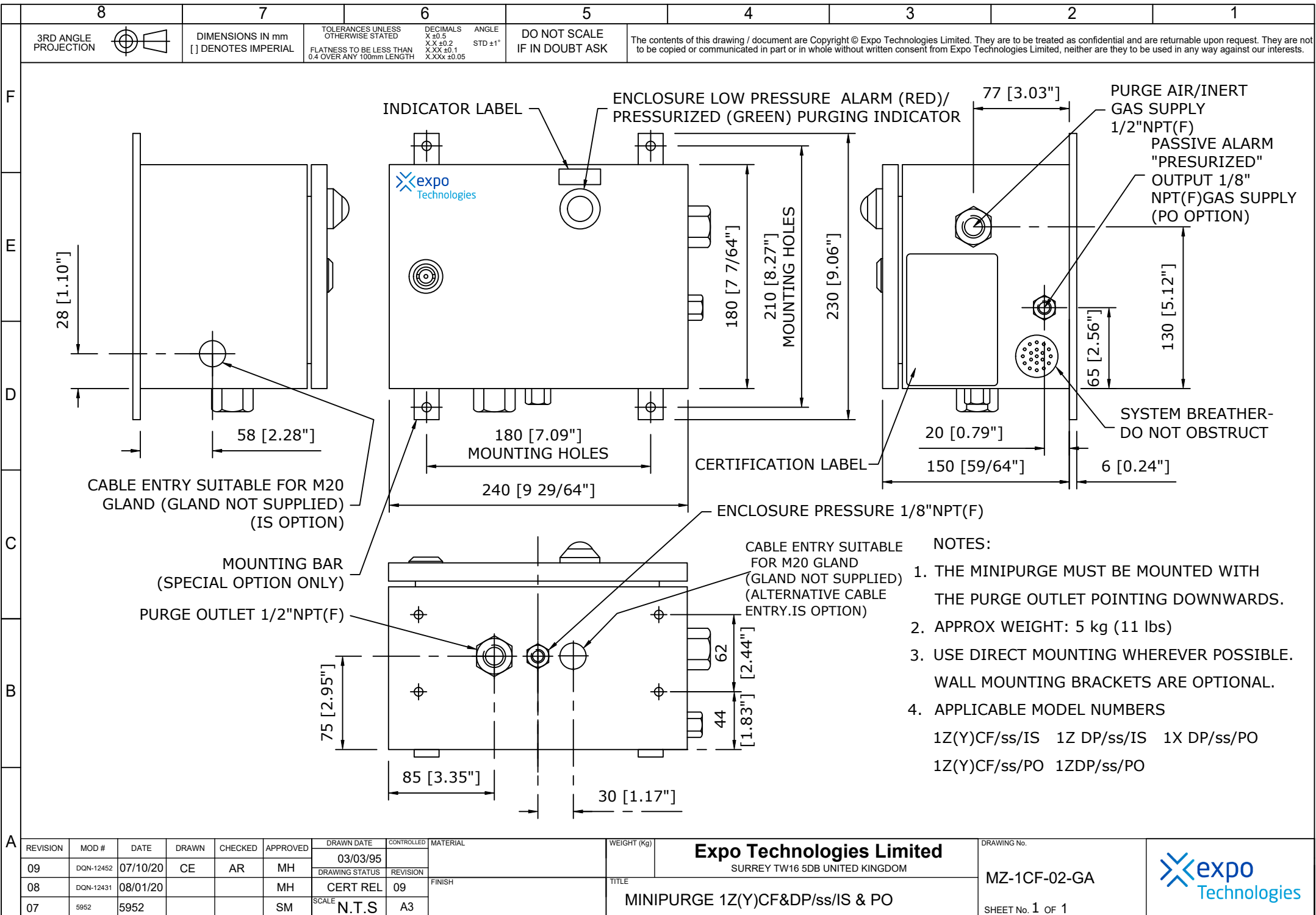
DRAWN DATE	CONTROLLED	MATERIAL
12/01/04		
DRAWING STATUS	REVISION	FINISH
RELEASED	05	
SCALE		
N.T.S		

WEIGHT (Kg)	TITLE
	Z(Y)CF & DP/ss QUICK INSTALLTION GUIDE

Expo Technologies Limited
SURREY TW16 5DB UNITED KINGDOM

DRAWING No.
XBR-8TD0-014
SHEET No. 1 OF 1





8	7	6	5	4	3	2	1
3RD ANGLE PROJECTION	DIMENSIONS IN mm [] DENOTES IMPERIAL	TOLERANCES UNLESS OTHERWISE STATED FLATNESS TO BE LESS THAN 0.4 OVER ANY 100mm LENGTH	DECIMALS X ±0.5 X.X ±0.2 X.XX ±0.1 X.XXX ±0.05	ANGLE STD ±1°	DO NOT SCALE IF IN DOUBT ASK	The contents of this drawing / document are Copyright © Expo Technologies Limited. They are to be treated as confidential and are returnable upon request. They are not to be copied or communicated in part or in whole without written consent from Expo Technologies Limited, neither are they to be used in any way against our interests.	

A	REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED	DRAWN DATE	CONTROLLED	MATERIAL	WEIGHT (Kg)	Expo Technologies Limited SURREY TW16 5DB UNITED KINGDOM MINIPURGE 1Z(Y)CF&DP/ss/IS & PO	DRAWING No.	
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	08	DQN-12431	08/01/20			MH	CERT REL	09					
	07	5952	5952			SM	N.T.S	A3					

8 7 6 5 4 3 2 1

3RD ANGLE PROJECTION

DIMENSIONS IN mm
[] DENOTES IMPERIAL

TOLERANCES UNLESS OTHERWISE STATED
FLATNESS TO BE LESS THAN 0.4 OVER ANY 100mm LENGTH

DECIMALS X ±0.5
X.X ±0.2
X.XX ±0.1
X.XXX ±0.05

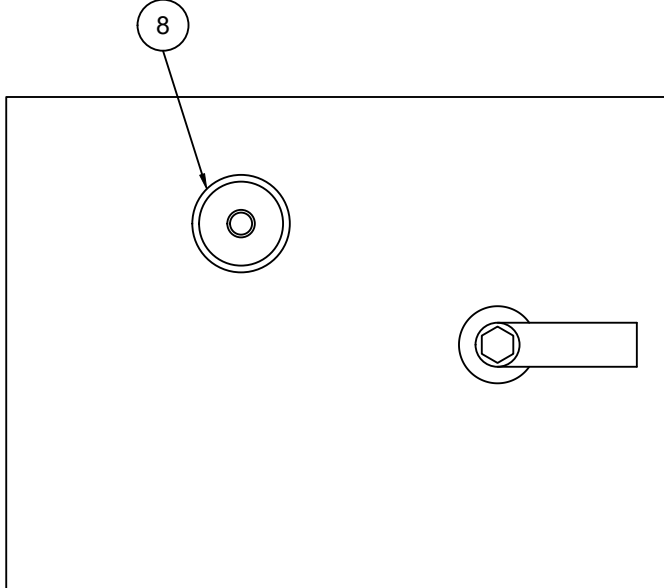
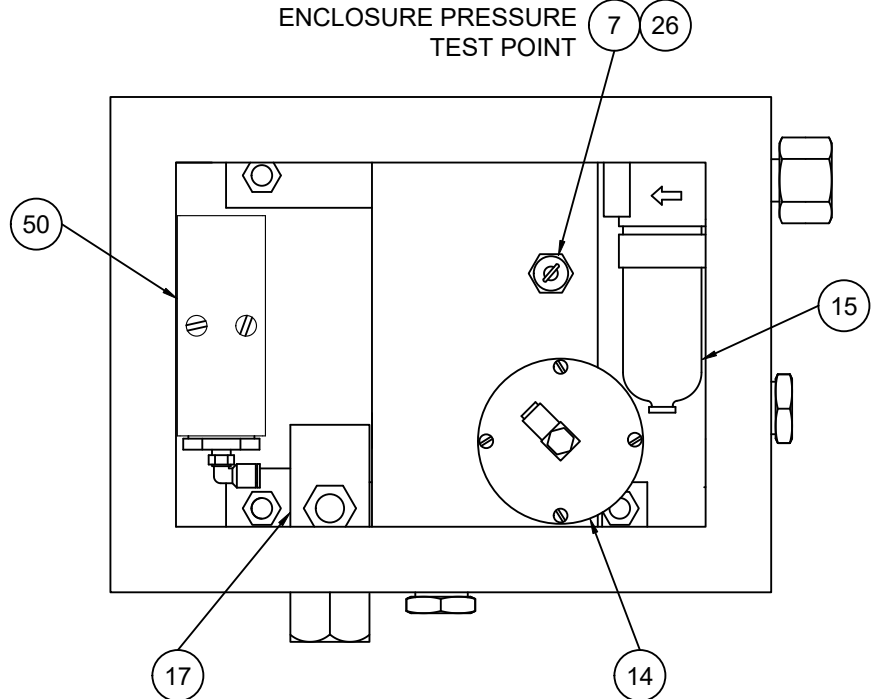
ANGLE STD ±1°

DO NOT SCALE
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ENCLOSURE PRESSURE TEST POINT



DOOR INTERNAL

7	BLACK COLLAR (PLUGGED)
8	INDICATOR "ALARM/PRESSURIZED"
14	SENSOR, MINIMUM PRESSURE
15	FILTER, MANUAL DRAIN
17	FLOW CONTROL VALVE
26	PLUG 4mm (PE TEST POINT)
50	I.S. PRESSURE SWITCH (IS OPTION ONLY)

NOTES:
1. APPLICABLE MODEL NUMBNERS:
1Z(Y)CF/ss/IS
1Z(Y)CF/ss/PO
1Z DP/ss/IS
1Z DP/ss/PO
1X DP/ss/PO

REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED
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05	4406	08/02/08			MLC
04	3935	17/02/05			PAO

DRAWN DATE	CONTROLLED	MATERIAL
12/08/94		
DRAWING STATUS	REVISION	FINISH
CERT REL	06	
SCALE	N.T.S	A3

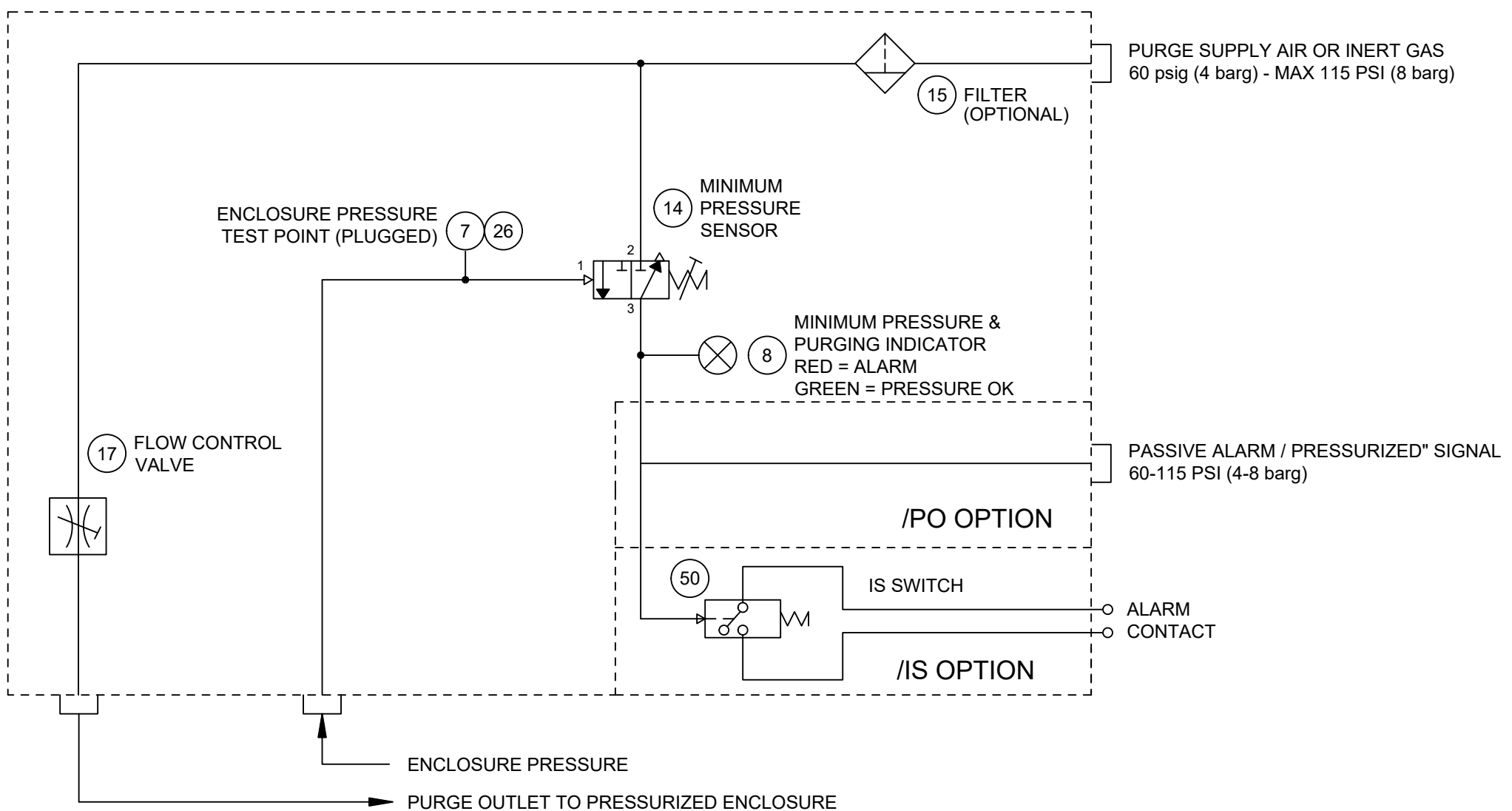
Expo Technologies Limited
SURREY TW16 5DB UNITED KINGDOM

TITLE
MINIPURGE Z(Y)CF/ss/IS & PO

DRAWING No.
MZ-1CF-01-CL
SHEET No. 1 OF 1



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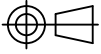


A	REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED	DRAWN DATE	CONTROLLED	MATERIAL	WEIGHT (Kg)	Expo Technologies Limited SURREY TW16 5DB UNITED KINGDOM	DRAWING No.	
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	05	4406	17/02/05			MLC	CERT REL	06					
	04	3955	18/09/03			BRD	SCALE N.T.S	A3					

MINIPURGE Z(Y)CF & DP

8 7 6 5 4 3 2 1

3RD ANGLE PROJECTION



DIMENSIONS IN mm
[] DENOTES IMPERIAL

TOLERANCES UNLESS OTHERWISE STATED
FLATNESS TO BE LESS THAN 0.4 OVER ANY 100mm LENGTH

DECIMALS
X ±0.5
X.X ±0.2
X.XX ±0.1
X.XXX ±0.05

ANGLE
STD ±1°

DO NOT SCALE
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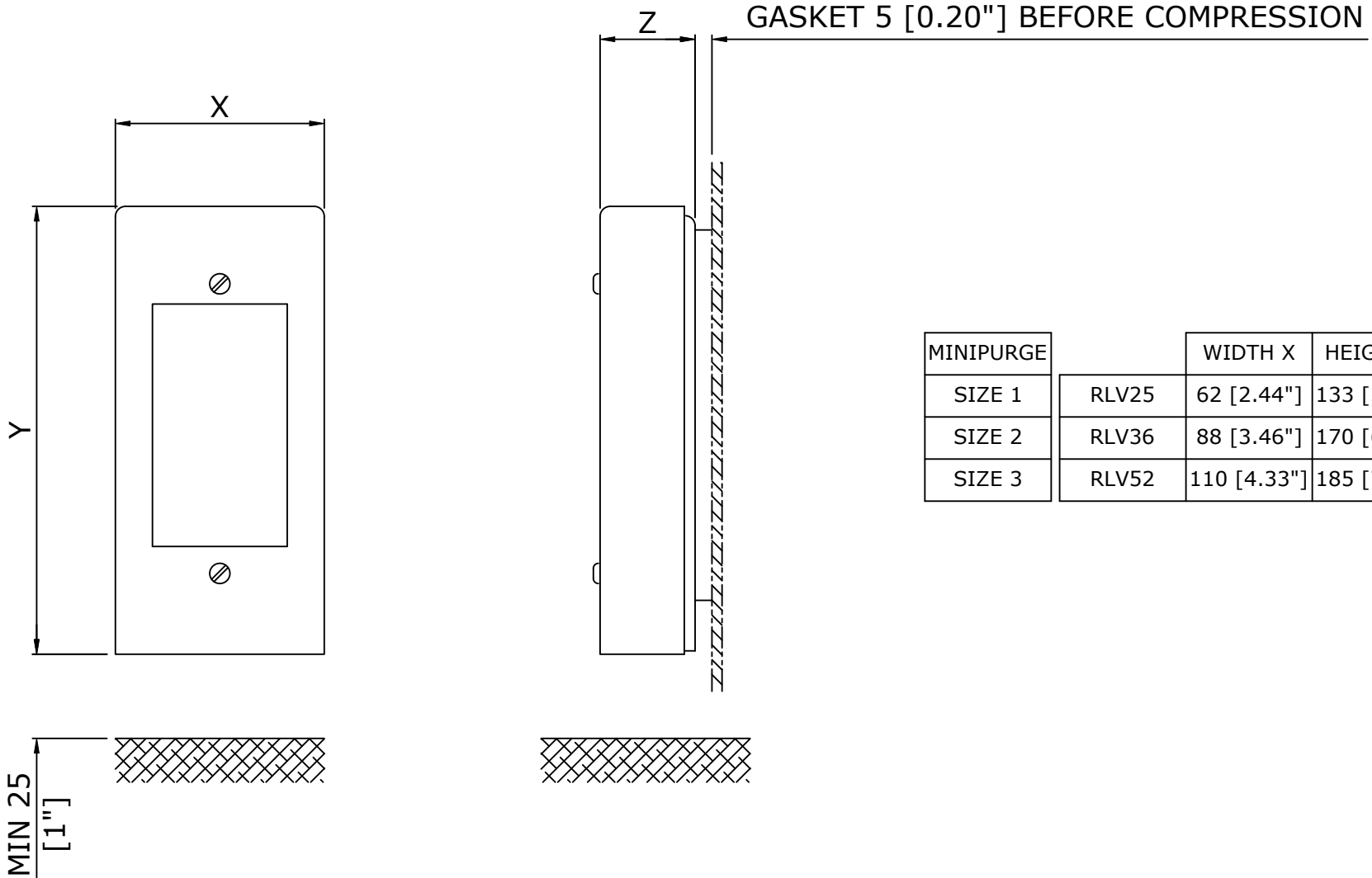
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GASKET 5 [0.20"] BEFORE COMPRESSION

MINIPURGE		WIDTH X	HEIGHT Y	DEPTH Z
SIZE 1	RLV25	62 [2.44"]	133 [5.24"]	28 [1.10"]
SIZE 2	RLV36	88 [3.46"]	170 [6.69"]	33 [1.30"]
SIZE 3	RLV52	110 [4.33"]	185 [7.28"]	37 [1.46"]

REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED
07	DQN-12452	08/10/20	CE	AR	MH
06	4442	18/03/08			MLC
05	4406	08/02/08			MLC

DRAWN DATE	CONTROLLED	MATERIAL
14/03/01		
DRAWING STATUS	REVISION	
CERT REL	07	
SCALE	N.T.S	A3

WEIGHT (Kg)

Expo Technologies Limited
SURREY TW16 5DB UNITED KINGDOM

TITLE
RELIEF VALVES FOR Z(Y)CF & DP SYSTEMS

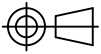
DRAWING No.
XSD-RTD0-001

SHEET No. 1 OF 2



8 7 6 5 4 3 2 1

3RD ANGLE PROJECTION



DIMENSIONS IN mm
[] DENOTES IMPERIAL

TOLERANCES UNLESS OTHERWISE STATED
FLATNESS TO BE LESS THAN 0.4 OVER ANY 100mm LENGTH

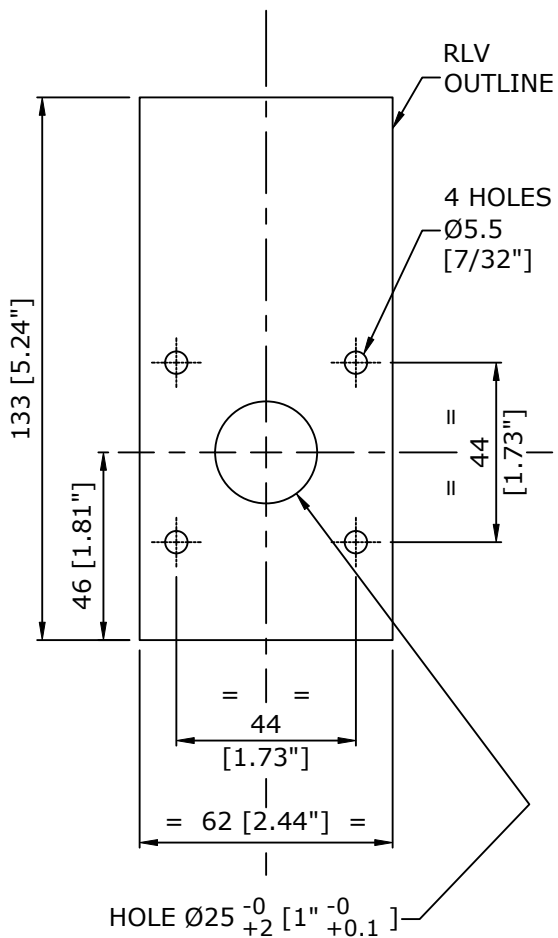
DECIMALS X ±0.5
X.X ±0.2
X.XX ±0.1
X.XXX ±0.05

ANGLE STD ±1°

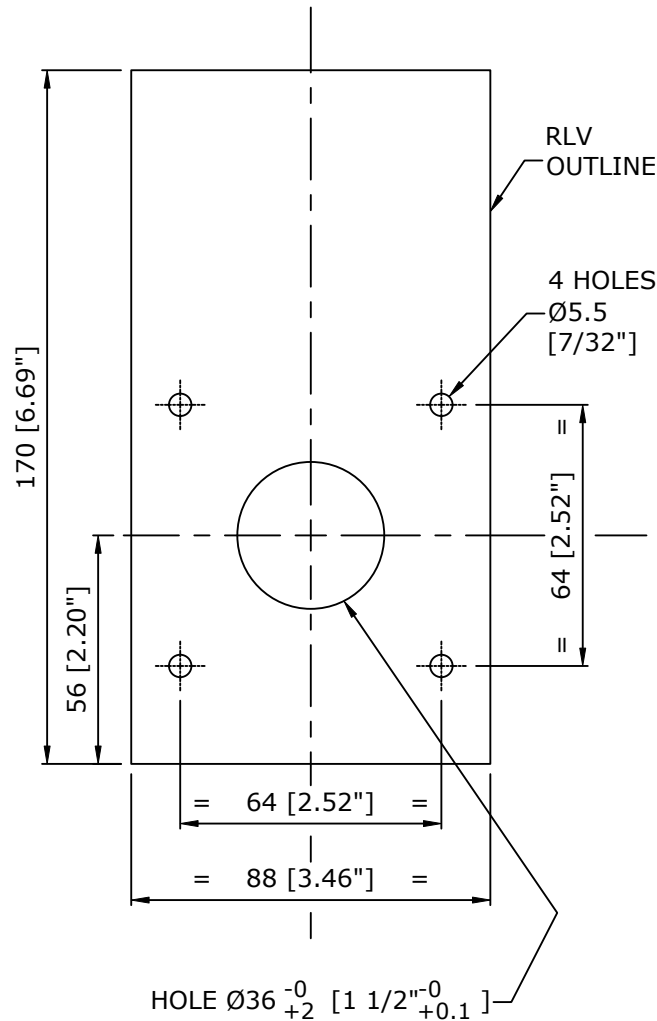
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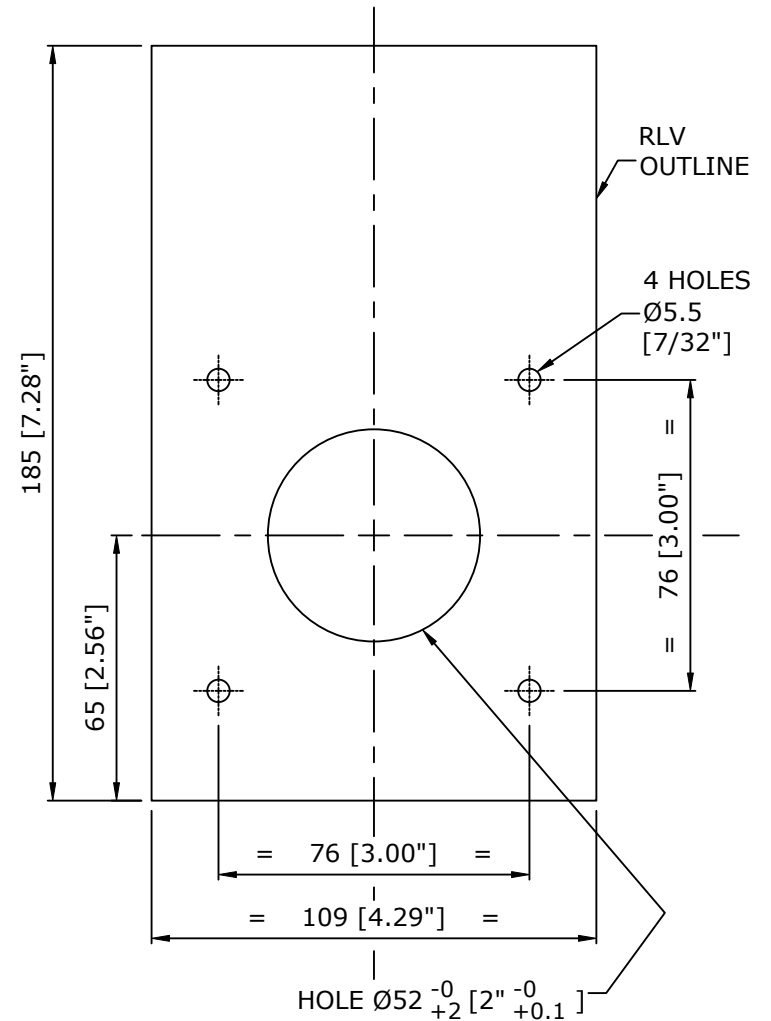
DETAIL 'A'
RLV25 CUTOUT



DETAIL 'B'
RLV36 CUTOUT



DETAIL 'C'
RLV52 CUTOUT



A

REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED	DRAWN DATE	CONTROLLED	MATERIAL	WEIGHT (Kg)	Expo Technologies Limited SURREY TW16 5DB UNITED KINGDOM RELIEF VALVES FOR Z(Y)CF & DP SYSTEMS	DRAWING No.	
07	DQN-12452	08/10/20	CE	AR	MH	14/03/01					XSD-RTD0-001	
06	4442	18/03/08			MLC	CERT REL	07					
05	4406	08/02/08			MLC	N.T.S	A3					
						SCALE					SHEET No. 2 OF 2	

EU Declaration of Conformity



This declaration of conformity is issued under the sole responsibility of the manufacturer and EU authorised representative named above:

Object of the declaration:

Product Name:	MiniPurge Controller System
Product Options:	This declaration covers all variants associated with the above product

The object of the declaration described above is in conformity with the relevant Union harmonization legislation:

Type of Legislation:
Electromagnetic Compatibility Directive (EMC) 2014/35/EU
ATEX Directive 2014/34/EU

The Following harmonised standards and technical specifications have been applied:

Type of Legislation:	General Standard:	Reference Standard:
EMC Directive:	Generic standards - Immunity for industrial environments	EN 61000-6-2:2005
	Generic standards - Emission standard for industrial environments	BS EN IEC 61000-6-4:2007
ATEX Directive:	Equipment general requirements	EN IEC 60079-0:2018/AC:2020
	Equipment protection by intrinsic safety "i"	EN 60079-2:2014
	Equipment protection by pressurized enclosure "p"	EN 60079-11:2012

Notified Body:

NB Name:	ExVeritas
NB Number:	2804

Technical documentation and assessments are in the Expo Technologies confidential technical file SC004.

For and on behalf of Expo Technologies Ltd



John Paul De Beer
Managing Director

Date: 7th May 2024

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