



MiniPurge Type Z(Y) CF Manual

ML432

This manual covers Mini-Z(Y)-Purge Continuous Flow

Size: **1 & 2**

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

Output Options: **IS, PO**

CONTENTS:

1. Specification Sheet - MiniPurge Type Z(Y) Systems
2. Application Suitability
3. Installation, Operation and Maintenance for CF Systems
4. Drawings
5. Certificates

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

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

Purge System Type

07 = MiniPurge

Size

1 = Sub MiniPurge

Purge flow rate: 4 - 8 scfm / 10 - 225 NI / min

2 = MiniPurge

Purge flow rate: 8 - 16 scfm / 255 - 450 NI / min

Approval / Certification

Z =

ATEX (Europe)
EN60079-0, EN60079-2

Sira 01ATEX1295X

CE 2804 Ex II 2 (2) G D

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

IECEX (International)
IEC 60079-0, IEC 60079-2

IECEX SIR 07.0027X

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

USA / Canada NFPA 496

FM 1X8A4AE

Class I Div 2
Groups A, B, C & D
Tamb = 60°C

UL E190061

Class I Div 2
Groups A, B, C & D

INMETRO (Brazil)

TÜV 12.1462X

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

CCC (China)

CNEX 2020312304000830

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

EAC TR CU 012/2011 (Russia)

RU C-GB.АЖ58.B.00906/20

1Ex [pz] IIC T6 Gb
Ex [pz] IIIC T85°C Db
-20°C ≤ Ta ≤ +55°C

Y =

CE 2804 Ex II 2 (2) G D

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

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

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

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

1Ex [py] IIC T6 Gb
Ex [py] 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

Umax = 30 Vdc, Imax = 101 mA

Umax = 19.2 Vdc, Imax = 350 Ma

Hermetically Sealed Switch (ATEX only)

Ex mc IIC T5 Gc

Ex mc IIIC T100°C Dc

Vmax = 254 Vac, Imax = 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

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

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

ss = 316L Stainless Steel
Neoprene "Top" Mount Gasket, loose

Purging Method

CF = Continuous Flow

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

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

Flow & Pressure Sensor

One sensor for both “Low Pressure and Flow”: 1”WC / 250 Pa (2.5 mbarg)

Spark Arrestor Unit:	MiniPurge Size 1	MiniPurge Size 2
Model No:	SAU25	SAU40
Purge / Dilution Flow Rate:	0.4 to 8 scfm / 10 to 225 NI/min	8 to 16 scfm / 255 to 450 NI/min
	8 User selectable orifice plates	4 User selectable orifice plates
	Stainless Steel	Stainless Steel

Relief Valve	MiniPurge Size 1	MiniPurge Size 2
Model No:	RLV25/ss	RLV36/ss
Opening Pressure:	4”WC / 1 kPa (10 mbar)	4”WC / 1 kPa (10 mbarg)
Material:	316L Stainless Steel,	
Spark Arrestor:	Stainless Steel	
Gasket:	Neoprene	

Action on “Loss of Pressure”: ALARM ONLY

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 CF 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 ML383, 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 ML383 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	*ZCF	/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				✓	✓				
MZ-1CF-26-GA						✓	✓		
XBR-8TDO-014								✓	✓
MZ-1CF-02-GA								✓	✓
MZ-1CF-01-CL								✓	✓
MZ-1CF-01-CT		✓	✓	✓	✓	✓	✓	✓	✓
EP80-2-11		✓		✓		✓		✓	
SAU25-GA		✓	✓	✓	✓	✓	✓	✓	✓
XSD-ATDO-003		✓	✓	✓	✓	✓	✓	✓	✓
XSD-RTDO-001		✓	✓	✓	✓	✓	✓	✓	✓

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

Installation, Operation and Maintenance Manual for

MiniPurge® Continuous Flow (Model CF)

conforming to NFPA 496

IMPORTANT NOTE It is essential, to ensure conformity with the standard, that the user of the system observes the following instructions:

Please refer to the latest standard for detailed requirements and definitions.

(N.B. These instructions apply only to the Pressurizing system. It is the responsibility of the manufacturer of the Pressurized Enclosure to provide equivalent instructions for the Enclosure.)

Contents:

Section 0	Description and Principle of Operation
Section 1	Installation of the System
Section 2	Operation of the System
Section 3	Maintenance of the System
Section 4	Fault Finding
Section 5	Annex (if applicable)

Section 0 Description and Principle of Operation

All MiniPurge® pressurization systems provide:

a) a method of pressurizing a Pressurized Enclosure (PE) while at the same time compensating for any leakage, together with

b) a method of purging the enclosure, before power is turned on, to remove any flammable gas that may have entered the enclosure while it was not pressurized.

Continuous Flow Systems, Model CF, allow air to flow through the PE continuously by having a fixed outlet aperture, which does not have any means of closure. The act of pressurizing the enclosure forces air to “leak” through the outlet aperture. The Control Unit admits sufficient air at the inlet to the PE to compensate for the air leaking out of the outlet aperture as well as from any other accidental leakage paths. The flow rate is constant both during purging and thereafter.

The Purging Flow rate is monitored by a separate “Purge Flow Sensor” located in the CU, which detects the differential pressure across the purge flow orifice located directly before the Outlet Orifice. The Purge Flow Sensor is set to operate when the desired differential pressure is exceeded. The output from the Flow Sensor is indicated on the CU and on “X” Pressurization systems, used to operate the automatic purge timer. Both Enclosure Pressure and Purge Flow have to be correct before the Purge Timer can start.

Type CF systems comprises the following major parts:

- A **Control Unit (CU)** containing as a minimum, for “Y” and “Z” Pressurization, a Flow Control Valve (FCV), Minimum Pressure and Purge Flow sensing devices, and a “Pressurized”/“Alarm” indicator. The CU supplies a “Pressurized” signal showing whether the PE pressure is satisfactory or not.

For Type “X” Pressurization, the CU has, in addition, a fully automatic Purging controller with a purge timer and electrical power switch interlock.

Note: For “Y” Pressurization, the electrical equipment inside the protected enclosure shall meet the requirement for Division 2 or Class 2 locations.

- A **Relief Valve (RLV)** fitted to the PE to provide a means of limiting the maximum pressure experienced by the enclosure during operation.

The RLV model number has suffixes giving the diameter of the valve aperture (in millimeters) and material, e.g. RLV **/cs (Carbon Steel) or /ss (Stainless Steel). All RLVs incorporate a Spark Arrestor to prevent sparks being ejected from the PE through the RLV aperture. The Relief Valve is fitted solely as a safety device and does not open in normal operation.

- An **Outlet Orifice**, which has been pre-calibrated so that the pressure drop at the desired flow rate is known. The Minimum Pressure Sensor within the CU will be set to the same figure as the pressure drop. When the PE pressure exceeds the calibrated pressure the Continuous Flow must be taking place.

The system is provided with one of the following types of calibrated Outlet Orifices. Please consult the system specification sheet to determine which has been supplied. The choice:

- **Type SAU**** where the Outlet Orifice disk is removable and can be easily changed by the user to give different flow rates according to the size of the PE and the available air supply capacity. (** denotes the metric thread size of the SAU body)

- **SA**** where the orifice size is fixed and the way to change the flow rate is either to change the setting of the Minimum Pressure Sensor or to replace the SA with one of another size. (** denotes the nominal thread size of the SA body)

- For low flow rates, the Outlet Orifice may be incorporated within the Relief Valve making use of the existing Spark Arrestor. The Relief Valve will then have a suffix /CF**, where ** is the orifice size in millimeters.

Section 1 Installation of the System

The installation of the MiniPurge® system, the protective gas supply, any alarm device should be in accordance with the requirements of NFPA 496.

The electrical installation associated with the MiniPurge® system shall conform to the local codes and the relevant clauses of NFPA 496.

All electrical parts of the MiniPurge system shall be installed in accordance with the applicable requirements of the NEC for USA and CEC for Canada.

1.1 Installation of the Expo CF System

1.1.1 The Expo system should be installed either directly on or as close as possible to the Pressurized Enclosure (PE). It should be installed so that the system indicators may be readily observed.

1.1.2 All parts of any system carry a common serial number. If installing more than one system, ensure that this commonality is maintained on each installation.

1.1.3 Any tubing, conduit and fittings used to connect to the PE should be metallic, or, if non-metallic, conform to the local codes for flammability ratings. No valve may be fitted in any tube connecting the Expo system to the PE.

1.1.4 The user or manufacturer of the PE shall determine the volume of the PE, the necessary purging volume, and the time to be allowed for purging, using the chosen Expo system purging flow rate. It is the user's responsibility to verify or enter this data on the PE and/or Expo system nameplate. Ask Expo if in doubt.

Example calculations:

a) If the PE external dimensions give a volume of 20 cubic feet, and it is NOT a motor, multiply the volume by four to get the Purging Volume i.e. 80 cubic feet. Divide the Purging Volume by the purge rate e.g. 32 cubic feet per minute, and round up to the next even minute above, i.e. purging time would be 4 minutes.

b) If the PE is a motor, multiply the internal free volume by ten to get the Purging Volume. For the above example, the Purging time would be 8 minutes.

For Type "Y" or "Z" Pressurization, the protected equipment may be permitted to be energized immediately where 25 Pa (0.1"WC) exist in the enclosure and the enclosure is known to be below the ignitable concentration of combustible material.

1.1.5 If the PE contains an internal source of release of flammable gas or vapor, the procedures for assessment of the release as given in NFPA 496 shall be observed. User must take precaution if abnormal release of flammable gas or vapor within the enclosure can affect the external area.

1.1.7 Where a release of flammable gas or vapor within an enclosure can occur either in normal condition or abnormal operation, protection shall be provided by one of the step as specified in NFPA 496.

For more information on enclosure containing internal source of release or enclosure containing an open flame, contact Expo Technologies.

The user must verify that the specification of the Expo system e.g. pressures, continuous flow (dilution) rate and type of protective gas are correct for the specific application.

1.1.8 More than one PE can be protected by a single system. If PEs are connected and purged in "series" e.g. "Daisy Chained", the Outlet Orifice must be fitted on the last enclosure with the Purge Inlet to the first enclosure. The Relief Valve may be fitted at any convenient location except when it has the option code /CF in which case it must be fitted on the last enclosure. The bore and length of the tube or conduit used to interconnect the enclosures is critical and will determine the maximum pressure experienced by the first enclosure in the series. Advice on sizing can be obtained from your Expo Technologies, sales office. The test pressure for all the enclosures should be 3 times the pressure inside the first enclosure when purging is taking place.

If PE's are to be connected in parallel each enclosure must have its own Outlet Orifice/Spark Arrestor, Relief Valve, Purge Flow Sensor and Pressure Sensor. System "Models" can be mixed e.g. Model LC for one enclosure and Model CF for another. An example would be a Gas Chromatograph instrument. Expo systems with this facility have option code /TW.

1.2 Quality and Installation of the Pressurizing Air or Inert Gas Supply

1.2.1 The source of the compressed air must be in a non-classified area. Inert gas may be used as an alternative to compressed air.

1.2.2 All pipe connection for the protective gas shall be protected from mechanical damage; where the source of the compressed air intake line passes through a classified location, the construction shall be of non-combustible material, and designed to prevent leakage of flammable gases, vapours, or dust into the protective gas. It must be protected against mechanical damage and corrosion.

1.2.3 Unless a supply shut-off valve has been specially fitted within the Expo system, a valve with the same, or larger, thread size as the Control Unit (CU) inlet fitting shall be fitted externally. In addition, for "Y" and "Z" Pressurization systems, a suitable nameplate shall be provided:

Note: To conform to NFPA: Any protected enclosure that can be isolated from the protective gas supply shall be equipped with an alarm and shall have this warning:

WARNING: PROTECTIVE GAS SUPPLY VALVE
This valve must be kept open unless the area atmosphere is known to be below the ignitable concentration of combustible materials or unless all equipment within the protected enclosure is de-energized.

1.2.4 The tubing and fittings used must conform to 1.1.3 above.

1.3 Provision and Installation of Alarm Devices

Expo Technologies systems have a Minimum Pressure Sensor set to a pressure of at least 0.1" WC (0.25 mbar). When the PE pressure is above this set point the Sensor produces a positive "Pressurized" signal. This is displayed on the Red/Green indicator. This signal can be used to operate an electrical contact for a remote "Alarm". The pneumatic signal may be supplied either

a) to a pressure operated switch (MiniPurge® Option Code /IS) suitable for an Intrinsically Safe circuit, in accordance with Expo drawing EP80-2-11 (or for a Non-Incendive circuit in Division 2), or

b) to a bulkhead fitting where it is available to the user (MiniPurge® Option Code /PO). It can then be used to operate an external electrical switch either local e.g. explosionproof, or remote in a non-classified area, or

c) to an external terminal box (MiniPurge Option® Code /PA). This option is available with an auxiliary switch(es) for signal and circuit control, assessable to user via the external junction box. This switch is suitable for use in the Hazardous Location in accordance to NEC500/505 requirements.

When the enclosure pressure falls below the set point of the Sensor, the "Pressurized" signal is removed, i.e. the absence of the signal indicates an "Alarm" ("Pressure Failure") condition. If the system "Alarm" indicator is not located in a place where it can be readily observed, the user must make use of this external alarm facility in accordance with NFPA 496 requirements.

Example: The "Pressurized" signal can be used to produce an "Alarm" action by means of a conventional "pressure switch" set to operate at around 15 psi (1 bar). The "Pressurized" signal from the CU at 30 psi (2 bar) or more will hold the switch in the operated position until the CU detects a low pressure in the PE and removes the "Pressurized" signal. The Alarm switch will reset and its contacts can be used to operate a remote electrical alarm.

If the switch is located in the hazardous area it must either be part of an Intrinsically Safe circuit, or be suitably protected e.g. explosionproof. The pressure switch should be IS or explosionproof even if it is fitted within the PE.

Expo Technologies Tip: Exception: For a "Z Purge" system fitted in a Division 2 area a non-classified switch inside the PE can be used to operate a remote Alarm provided its electrical supply comes from within the PE (i.e. NOT PROVIDING DRY CONTACTS). When the PE is in use the Alarm can operate normally in response to the pneumatic signal from the CU with option /PO. When the PE is switched off there is no need for an alarm! Ask Expo for the circuit diagram.

The Alarm switch can also be located in a nearby non-classified location. To get the best response

time the switch should be as close as possible to the CU and the maximum length of tubing between the CU and the Alarm switch should not exceed 150 feet (45 m) unless "Quick Exhaust Valves" are used (please ask Expo if in doubt.)

Note: No valves may be fitted between the Expo system and the alarm switch.

1.4 Power Supplies and their Isolation

1.4.1 All power entering the PE shall be provided with a means of isolation. This requirement also applies to any external power sources that are connected to "dry contacts" or "volt-free contacts" within the PE.

1.4.1 Electrical power for the protective gas supply shall be from a separate power source. If the same power source for the pressurized enclosure is used, it shall be power off before any service disconnects for the enclosure.

Exception: Power to Intrinsically Safe, or other apparatus, which is already suitable for the location need not be isolated by the Expo Technologies system.

Expo Technologies Tip: It is recommended to fit dry or volt-free contacts in the non-classified area or inside an explosionproof box rather than inside the PE. Please ask Expo about "MiniPurge® Interface Units" (MIU).

In the case of "X" Pressurization, the isolation of the power must be controlled by the Expo system using the "Purge Complete" pneumatic signal to operate a "Power Switch" in a similar manner to that described in 1.3 above.

In the case of "Y" or "Z" Pressurization the power may be controlled manually by the operator using a local isolating switch.

1.4.2 In accordance with *NFPA496; Mini-X-Purge system shall be used on protected equipment requiring automatic shutdown, such as motors or transformers that could be overloaded or equipment that can develop higher temperature than the marked Temperature Class (temperature detector devices shall be provided to detect any increase in temperature)*. Expo Mini-X-Purge® systems can have the "Action on Pressure Failure" (normally "Alarm and Trip") adjusted by the user to "Alarm Only". In case of an alarm, it is the responsibility of the user to de-energize the protected equipment as soon as possible. The system may require the addition of an "Alarm Only Kit" (/AO) to perform this function. Please contact Expo Sales office for further details.

Exception: The power may remain connected for a short period if immediate cut-off could result in a more hazardous condition and if audible and visual alarms are provided in a constantly attended location.

1.4.3 The Power (cut-off) Switch must be approved for the location or located in a non-classified area.

1.4.4 No valves are permitted between the Power Switch and the Expo system.

1.4.5 For "X" Pressurization, the PE door shall have fasteners that can be opened only by the use of a tool or key. Otherwise the additional requirements from NFPA 496 should apply.

1.4.6 Protection equipment containing hot parts requiring a cool-down period shall require the use of key or tool for opening.

Note: The door switch provided with the Expo system (when requested) can be either pneumatic or electric.

1.5 Marking

1.5.1 The MiniPurge® system carries a nameplate and a specification sheet, which give specific data such as serial and models numbers, Pressure Sensor settings, flow rates and purge time.

1.5.2 Other marking, for the PE, required by the standard includes:

"WARNING - PRESSURIZED ENCLOSURE - This enclosure shall not be opened unless the area is known to be free of flammable materials or unless all devices within have been de-energized"

"Power shall not be restored after the enclosure has been opened until the enclosure has been purged for ___ minutes at a flow rate of ___."

Expo note: It is understood that NFPA 496 requires the de-energization of all devices that are not suitable for the hazard e.g. devices that are not Explosionproof or Intrinsically Safe. For example, an explosionproof anti-condensation heater would not have to be de-energized.

1.5.3 If Inert Gas is used as the Protective Gas and a risk of asphyxiation exists, a suitable warning plate should be fitted to the PE.

Section 2 Operation of the System

2.1 Check that the system has been installed in accordance with Section 1 of this manual.

2.2 Disconnect the supply pipe from the inlet to the Control Unit (CU) and blow clean air through for at least 5 seconds per foot of length (15 sec/metre) to remove any debris, oil and condensation.

2.3 Connect a temporary pressure gauge or liquid manometer to the PE or CU "Pressure Test Point" (on the Low Pressure Sensor, by the removal of the Red plug - 4mm OD nylon tube).

2.4 Open the supply shutoff valve. On "X" Purge systems check that the internal gauge reads 30 psi (2 bar). If not, adjust the logic pressure regulator to suit (lift the red ring to unlock the knob first.)

2.5 Adjust the Flow Control Valve (FCV) so that the enclosure pressure rises to the point where the "Pressurized" indicator turns Green.

2.6 Continue to raise the PE pressure until the Relief Valve (RLV) opens. Verify that the RLV opens at or below

the figure specified in the documentation. Repeat the test several times.

2.7 Lower the PE pressure until the "Pressurized" indicator turns Red. Verify that the indicator turns Red at or above the pressure specified in the documentation. Check the external alarm contacts (if fitted).

Note: On Expo CF systems the Minimum Pressure Sensor set point may be significantly above the minimum of 0.1"WC (0.25 mbar) since it doubles as both the Pressure and the Purge Flow Sensor Set points of 1"WC (2.5 mbar) are common. Please check the documentation for the actual setting.

2.8 Open the FCV again and set the PE pressure to a level somewhere between the Minimum Pressure Sensor set point and the RLV opening pressures. This "working" pressure is not critical. Enough pressure to keep the "Pressurized" indicator Green is sufficient.

2.9 On "X" CF Purge systems the purge timer will start as soon as the "Pressurized" indicator turns Green. Check that the time delay between the indicator turning Green and the application of power to the PE is not less than the minimum time required to purge the PE. Times in excess of the minimum are permitted and a tolerance of +25% is normally acceptable. If the time is shorter than the minimum permitted, it must be adjusted accordingly.

MiniPurge® uses a pneumatic incremental timer which is adjusted by fully opening or closing one or more of five screwdriver-operated valves, arranged in a block on the control logic manifold – see GA Drawing. The opening of each valve incrementally provides a fixed number of minutes of purging time as in the following table

Valve:	1	2	3	4	5
Minutes:	2	4	8	8	16

Thus for a 12 minute purge time, valves 2 and 3 would be open and the others closed. For twenty-four minutes, 4 and 5 would be open and the others closed. At least one valve must always be open and the screws must be at the appropriate limit of travel.

2.10 On "Y" and "Z" Purge systems the purge timing and power control is performed manually by the user.

Never turn on the power without purging first, unless you have proved that the interior of the PE is gas free and checked that the "Pressurized" indicator is green!

2.11 On "X" CF Purge systems, once the purge time is completed the "Purge Complete" indicator turns Green. With both indicators Green, the power will be turned on by the CU. Using the FCV reduce the PE pressure to the point where both indicators turn Red and check that the power is automatically turned off. When the PE pressure is restored the system should

re-purge the PE before power is once again turned on.

2.12 After initial commissioning, the system is ready for normal operation:

a) "X" CF Purge systems: Turn the air supply valve On or Off to start or stop the system. After this, the Pressurizing and Purging sequence is entirely automatic.

b) "Y" and "Z" Purge systems are started and stopped in the same way as "X" Purge system but the user must close the Power Switch only after the enclosure has been pressurized and purged sufficiently to ensure that the interior of the enclosure is gas free. The power should be shut off as soon as possible after a pressure failure. This is also the user's responsibility.

Section 3 Maintenance of the System

The maintenance recommended for the system consists of the following, supplemented by any additional local requirements imposed by the authority having jurisdiction.

3.1 Initial Maintenance

Expo recommends that the commissioning test be repeated at least every six months. They include checking the opening pressure of the Relief Valve, setting of the Minimum Pressure Sensor, the "Normal Working Pressure" of the enclosure and, for "X" Purge systems, the setting of the purge timer (as described in Section 2 of this manual).

In addition, the following checks are also recommended at that time:

- Check the RLV and any other Spark Arrestors. Remove any debris or corrosion, or replace the Spark Arrestor with a spare.
- Check the condition of the air supply filter element. Clean or replace it as necessary.

3.2 Routine Maintenance

At least every two years, the following additional checks are recommended:

- Apparatus is suitable for the Hazardous Location
- There are no unauthorised modifications
- The source of air is uncontaminated
- The interlocks and alarms function correctly
- Approval labels are legible and undamaged
- Adequate spares are carried
- The action on pressure failure is correct

Section 4 Fault Finding for CF Systems

4.1 General

If the system does not behave in the manner described above there is a fault. Some of the more likely faults are dealt with below. If a cure cannot be effected by following the procedure shown below, please call Expo (24 hour answering) or your supplier for further assistance.

The system has been designed for ease of fault finding and many of the components fitted are plug-in or sub-

base mounted. Check components by substitution only after establishing that such action is necessary. If the system is less than 12 months old, parts under warranty should be returned to Expo Technologies for investigation, with a full report of the fault and the system serial number.

As with any pneumatic system the greatest enemies are water, oil and debris in the air supply. For this reason a dust and water filter may be fitted. But debris can enter from other sources and it is vital therefore that the procedures described in Section 2 are carried out before using the system for the first time, or following any disconnection of the pipework. Failure to perform this work may cause damage which will not be covered under warranty.

Fault Finding

NOTE: Before making the following checks verify that the main supply pressure is between 60 and 115 psi (4-8 bar) at the Control Unit (CU) and, for "X" Purge systems, the regulated pressure on the logic gauge is 30 psi (2 bar)

4.2 Minimum Pressure Alarm is ON Continuously ("Pressurized" Indicator is Red)

Possible cause 1: The PE pressure is too low. Try increasing the setting of the Flow Control Valve (FCV) to raise the pressure in the PE.

Possible cause 2: Enclosure fault?

- Is the ACTUAL PE pressure below the setting of the Minimum Pressure Sensor? Check it with a manometer or gauge.

- Is the Outlet Orifice (if separate from the RLV) fitted correctly?

- Is debris stuck on the face of the Relief Valve disk, holding the valve open?

- Has the PE door been closed and all conduit/cable glands sealed?

Possible cause 3: Insufficient purging Flow due to inadequate air supply pressure. Check the air supply pressure **at the inlet to the CU** when flow is taking place. Excessive pressure drop in the supply pipe is a very common cause of this problem. The supply pipe must be at least as big as the CU inlet fitting, i.e. at least 1/2" NB.

Possible cause 4: Excessive PE leakage. Check around the PE when flow is taking place. Any significant leakage must be cured. Has a Leakage Test been done? The total leakage should not exceed 10% of the Continuous Flow rate.

Possible cause 5: PE not strong enough. Repeat the PE pressure test. FM recommend that the PE is tested to three times the Relief Valve opening pressure e.g. 12"WC (30 mbar) for standard systems. Has this test been done?

Possible cause 6: System fault?

Has the pressure sensing tube been damaged?

If checks above reveal that the PE is correct the fault probably lies in the CU. The basic operation of the

Minimum Pressure Sensor can be checked by unscrewing the 2.4" diameter diaphragm and, by using a finger, blocking the threaded hole in the top of the valve module. The valve should operate and the indicator should turn Green. If this works correctly and the enclosure pressure is above the setting of the Minimum Pressure Sensor it is likely that the Pressure Sensor diaphragm needs re-calibrating or replacing (See 4.5).

4.3 Relief Valve Opens (Continuously or Intermittently)

Possible Cause 1: The PE pressure is too high. The Flow Control Valve (FCV) is too far open. Adjust the FCV as described in Section 2 above.

Possible Cause 2: Debris on the RLV disk allowing air to leak from the valve. Remove the RLV cover and clean the valve disk. The disk and spring may be removed from the RLV without affect the calibration.

4.4 System Fails to Switch Power On after the Purge Time has Elapsed? ("X" Purge Systems Only)

Possible cause 1: Is power available? Is the power disconnect closed? Are the fuses or circuit breaker OK?

Possible cause 2: System fault? Timer not timed out?

- a) Has the "Pressurized" indicator been Green for the whole of the purge time?
- b) Is the logic pressure gauge at 30 psi (-0, +10%)
- c) Is there pressure at the Power Switch output bulkhead and at the Power Switch itself? Is the Switch set at 15 psi?
- d) Is the pipe to the Power Switch airtight? The signal to the Power Switch bulkhead has a restrictor that limits the permissible leakage from the pipe.
- e) Note the timer setting and reduce the time down to a low setting to check operation on a short purge time. If it works OK, gradually increase the time until either the time is correct, or it ceases to time out at all. In the latter case, there is an air leak in the timer circuit.

If possible establish the source of the leak with soapy water and retest the system. This will involve removing the chassis from the CU –be sure this is the cause before starting the work. It is VERY unusual!!

Ensure that the timer is returned to its original setting and the purge time checked before putting the system back into service.

Possible cause 3: Faulty Power Switch. Check the operation of the Power Switch. It should close above 20 psi (1.4 bar).

4.5 Pressure Sensor Calibration If it is decided that the Minimum Pressure Sensor needs recalibrating it can either be returned to Expo Technologies for this service or it can be done by the user as follows:

Disconnect the pressure sensing pipe from the top of the diaphragm. (It is a "push-in" quick release fitting; firmly push inwards the collar surrounding the pipe where it enters the fitting and then pull the pipe outwards while maintaining the pressure on the collar). Unscrew the 2.4" (60mm) diameter diaphragm housing from the top of the Sensor. Invert it and note the brass adjusting screw in the centre. Turning the screw inwards (clockwise) will lower the setting. It is likely that the screw will be very stiff due to the locking sealant. If the screw cannot be moved the application of gentle heat in the area of the brass screw can often help. **DO NOT OVERHEAT!**

4.6 Filter Cleaning If the filter element needs cleaning the transparent bowl can be unscrewed and removed. The filter element also unscrews and can then be cleaned in soapy water. Do not use solvents on any part of the filter assembly.

Expo Technologies Tip: If the bowl is very tight, it is easier to remove the filter by undoing the fitting that holds the filter into the CU. On Sub-MiniPurge® systems it may be necessary to remove the Minimum Pressure Sensor diaphragm first.

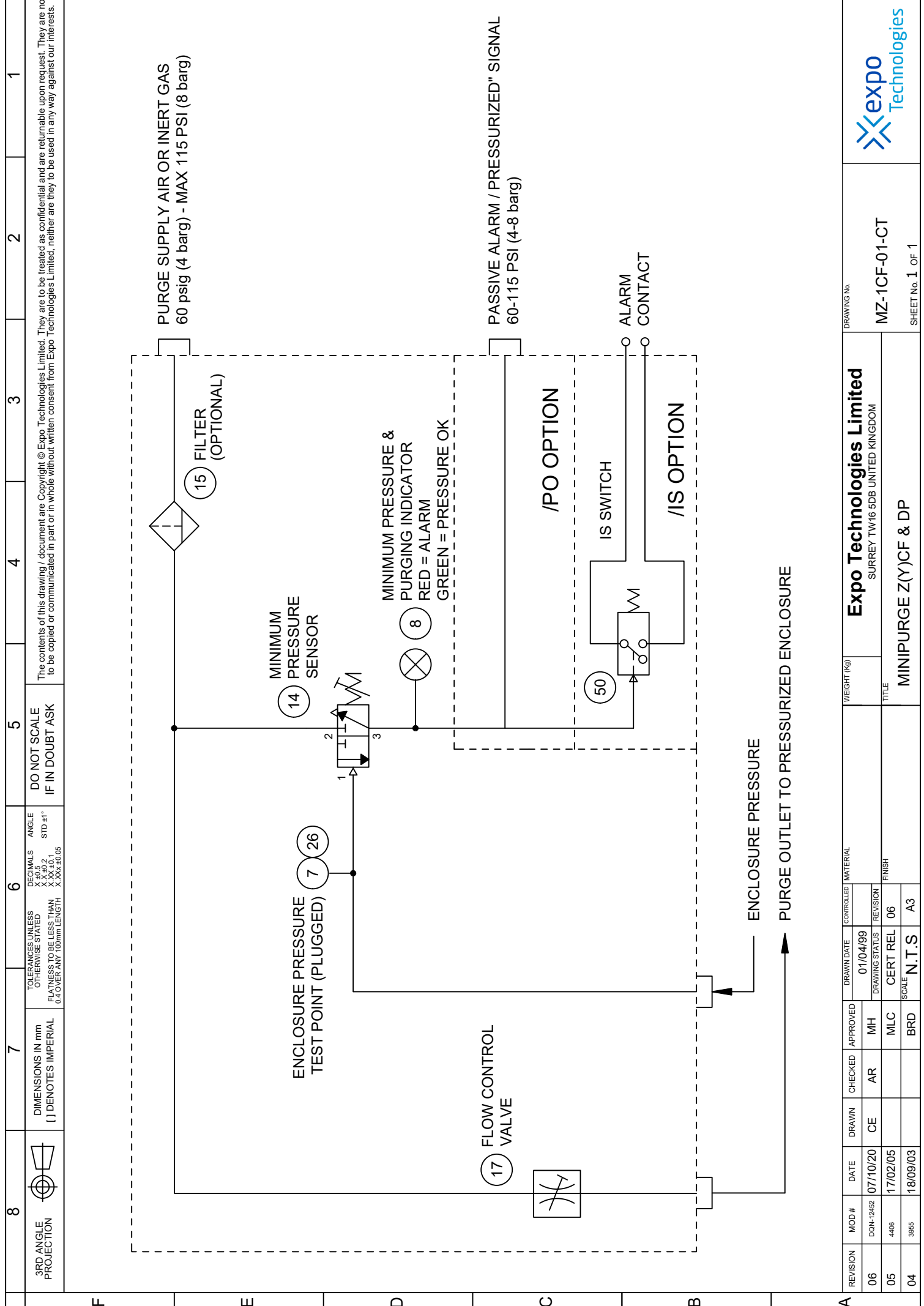
Section 5 Annex of Options Fitted

Refer to the annexes of this manual for any options fitted as designated by the model code of the system.

Expo Technologies Ltd
Unit 2 The Summit,
Hanworth Road,
Sunbury-On-Thames,
TW16 5DB. UK.

Expo Technologies Inc,
9140 Ravenna Road Unit #3,
Twinsburg,
OH 44087,
U.S.A.

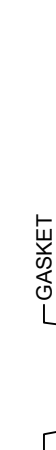

8	3RD ANGLE PROJECTION	DIMENSIONS IN mm () DENOTES IMPERIAL	7	6	5	4	3	2	1																																								
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F	<p>Quick Installation Guide for CF or DP systems:</p> <ol style="list-style-type: none"> 1. With aid of supplied mounting template cut 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. <p>NOTE: Spark arrestors are only used in CF systems.</p> <p>* /PO option shown</p>																																																
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		ANGLE STD ±1°					
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05	4406	17/02/05			MLC				MINIPURGE Z(Y)CF & DP		
04	3955	18/09/03			BRD				SCALE N.T.S A3		SHEET No. 1 OF 1
									FINISH		
									TITLE		



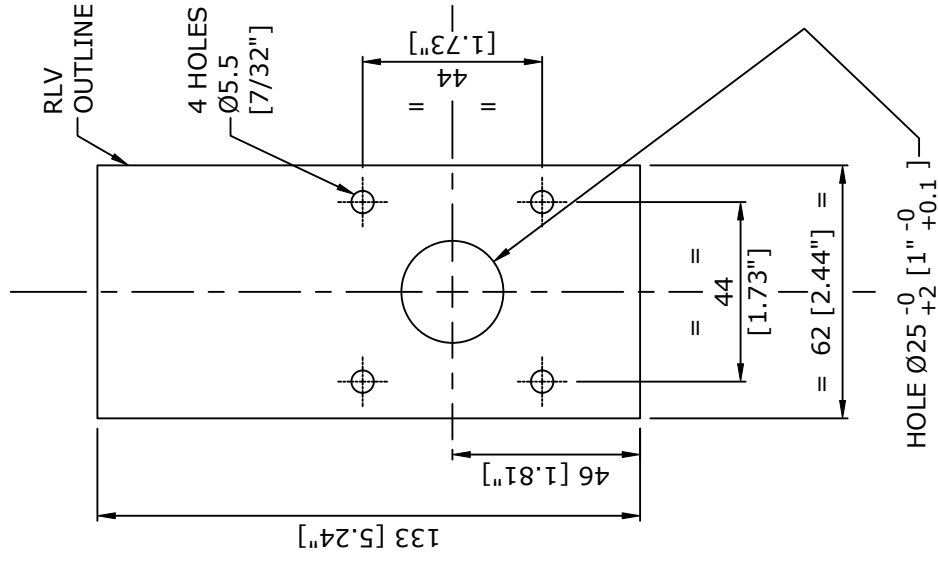
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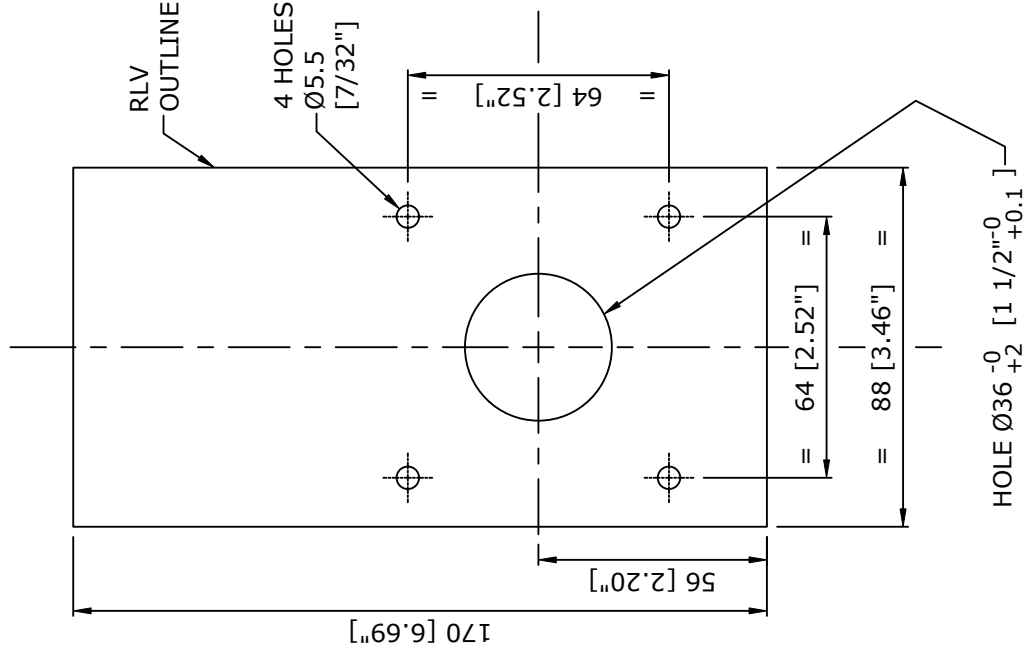
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05	4406	08/02/08			MLC	SCALE	N.T.S	A3																																										
SHEET No. 1 OF 2																																																		

8	7	6	5	4	3	2	1
3RD ANGLE PROJECTION	DIMENSIONS IN mm () DENOTES IMPERIAL	TOLERANCES UNLESS OTHERWISE STATED X .002 X .01 X .02 X .05 X .1 X .15 X .2 X .3 X .5 X 1 X 1.5 X 2 X 3 X 4 X 6 X 10 X 15 X 20 X 30 X 40 X 50 X 60 X 80 X 100 X 150 X 200 X 300 X 400 X 500 X 600 X 800 X 1000	DO NOT SCALE IF IN DOUBT ASK				
		DECIMALS X .002 X .01 X .02 X .05 X .1 X .15 X .2 X .3 X .5 X 1 X 1.5 X 2 X 3 X 4 X 6 X 10 X 15 X 20 X 30 X 40 X 50 X 60 X 80 X 100 X 150 X 200 X 300 X 400 X 500 X 600 X 800 X 1000					
		ANGLE STD .1°					
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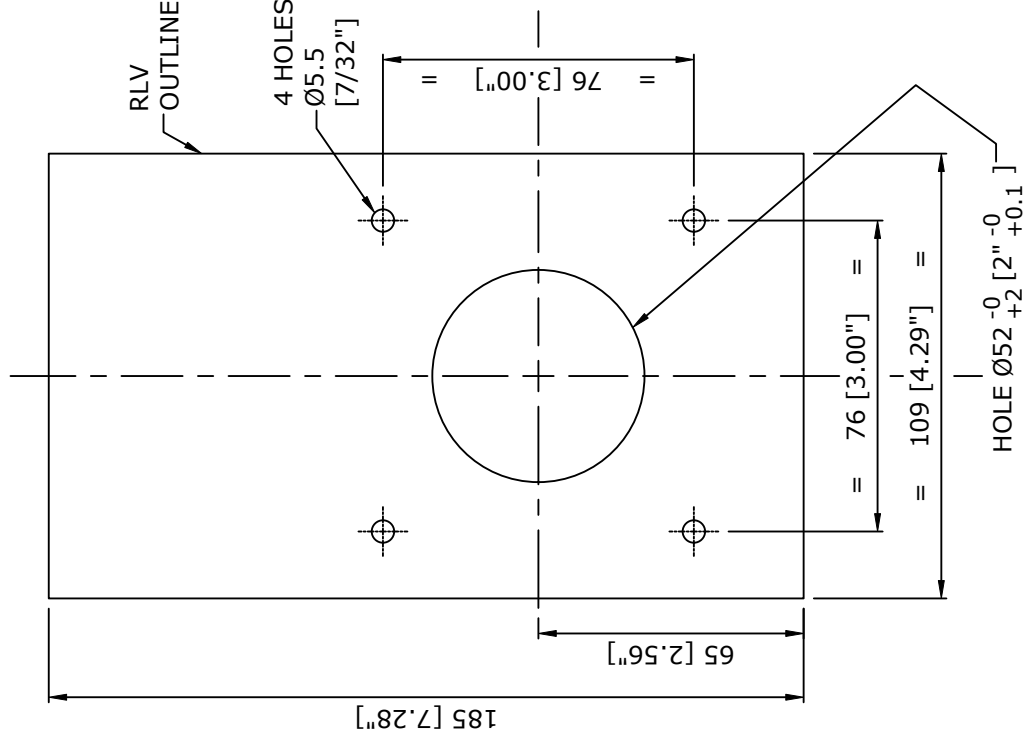
DETAIL 'A'
RLV25 CUTOUT



DETAIL 'B'
RLV36 CUTOUT

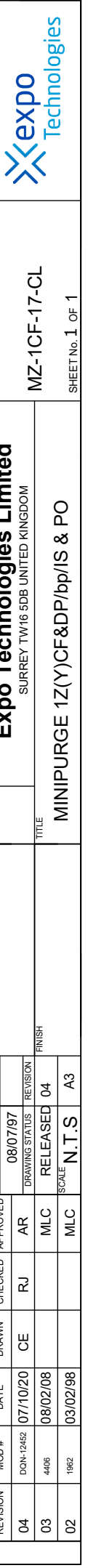


DETAIL 'C'
RLV52 CUTOUT

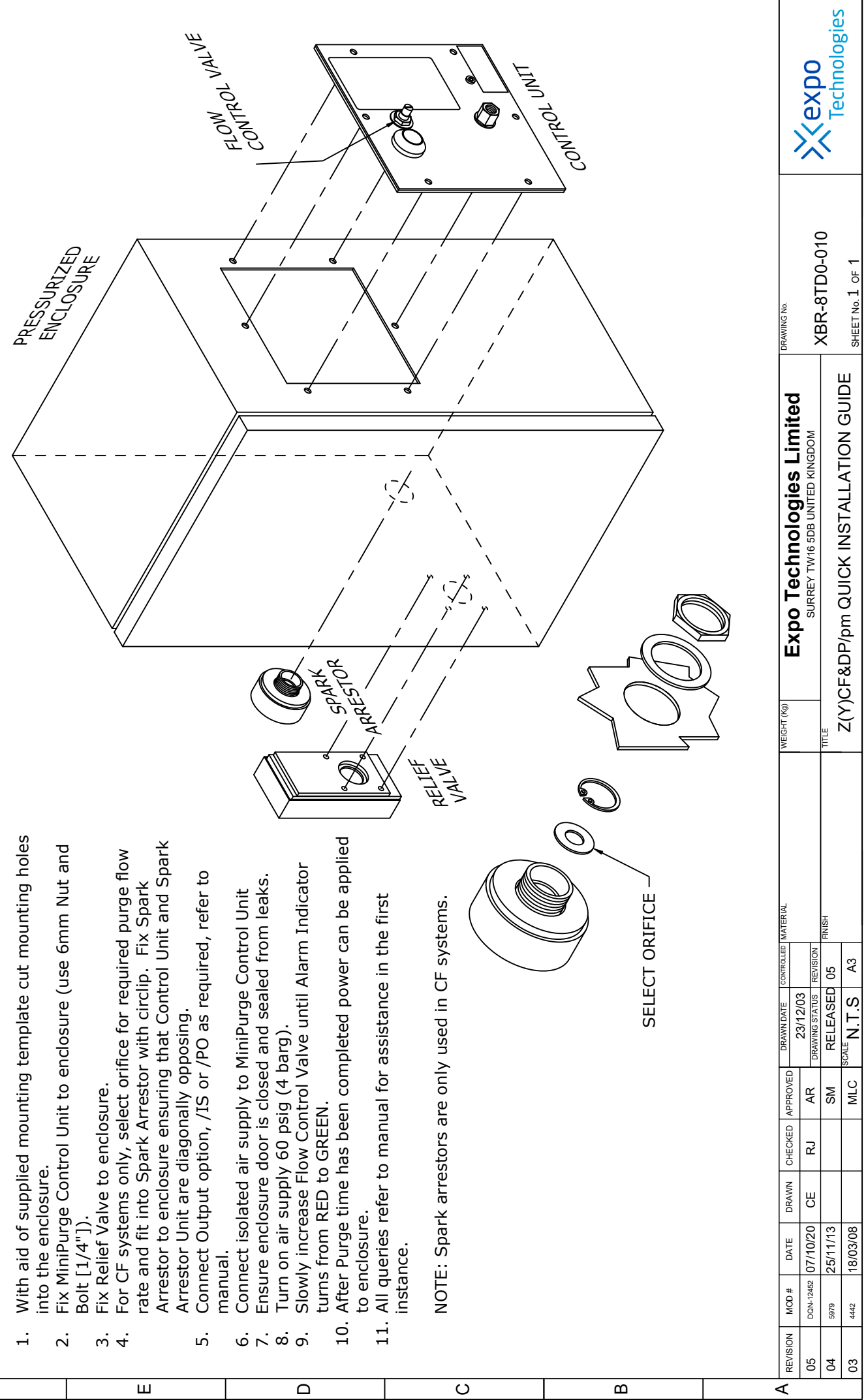


REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED	DRAWN DATE	CONTROLLED	MATERIAL	WEIGHT (kg)	Expo Technologies Limited		DRAWING No.
07	DGN-12452	08/10/20	CE	AR	MH	14/03/01				SURREY TW16 5DB UNITED KINGDOM		XSD-RTD0-001
06	4442	18/03/08		MLC	MLC	CERT REL 07				RELIEF VALVES FOR Z(Y)CF & DP SYSTEMS		
05	4406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



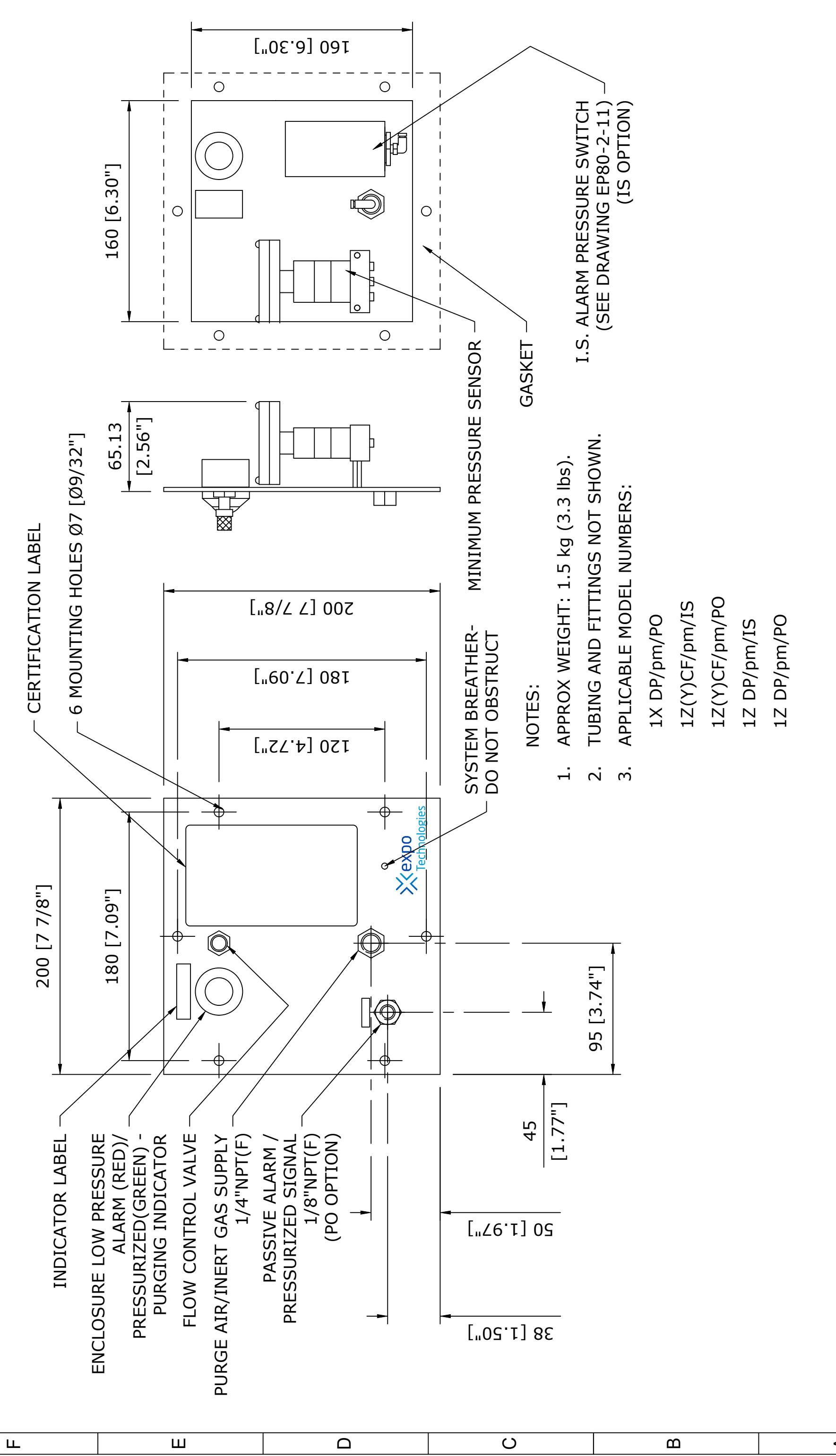
8	3RD ANGLE PROJECTION	DIMENSIONS IN mm [] DENOTES IMPERIAL	TOLERANCES UNLESS OTHERWISE STATED FLATNESS TO BE LESS THAN 0.4 OVER ANY 100mm LENGTH	DECIMALS ANGLE X .0, .2 STD .1° X .XX ±0.1 X .XXX ±0.05	6	DO NOT SCALE IF IN DOUBT ASK	5	4	3	2	1																																																				
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F																																																															
E																																																															
D																																																															
C	<p>NOTES:</p> <p>1. APPLICABLE MODEL NUMBERS:</p> <p>1Z(Y)CF/bp/IS</p> <p>1Z(Y)CF/bp/PO</p> <p>1Z DP/bp/IS</p> <p>1Z DP/bp/PO</p> <p>1X DP/bp/PO</p>																																																														
B	<table border="1" data-bbox="874 250 1257 936"> <tr> <td>17</td> <td>FLOW CONTROL VALVE</td> </tr> <tr> <td>8</td> <td>INDICATOR "ALARM/PRESSURIZED"</td> </tr> <tr> <td>14</td> <td>SENSOR, MINIMUM PRESSURE</td> </tr> <tr> <td>26</td> <td>PLUG 4mm (PE TEST POINT)</td> </tr> <tr> <td>50</td> <td>IS PRESSURE SWITCH (IS OPTION)</td> </tr> </table>											17	FLOW CONTROL VALVE	8	INDICATOR "ALARM/PRESSURIZED"	14	SENSOR, MINIMUM PRESSURE	26	PLUG 4mm (PE TEST POINT)	50	IS PRESSURE SWITCH (IS OPTION)																																										
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02	1962	03/02/98			MLC	SCALE	N.T.S	A3																																																							
																																																															

8	7	6	5	4	3	2	1	
3RD ANGLE PROJECTION	DIMENSIONS IN mm [] DENOTES IMPERIAL	TOLERANCES UNLESS OTHERWISE STATED X.XX ±0.2 XX.X ±0.1 XXX ±0.5 0.4 OVER ANY 100mm LENGTH	DECIMALS 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.			
F	E	D	C	B	A			
<p>CUTOUT DETAIL</p>								
<p>NOTES:</p> <ol style="list-style-type: none"> 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 								
REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED	DRAWN DATE	CONTROLLED MATERIAL	
02	DGN:12462	07/10/20	CE	AR	MH	06/02/08		
01	DRAWN	06/02/08	IS	MLC	MLC	CERT REL 02	FINISH	
					SCALE	N.T.S	A3	
DRAWING No.				SD7568				
SHEET No. 1 OF 1				TITLE				
Expo Technologies Limited				MINIPURGE Z(Y)CF & DP/bp/IS & PO				
SURREY TW16 5DB UNITED KINGDOM				WEIGHT (kg)				
DRAWING No.				SD7568				

8	3RD ANGLE PROJECTION	DIMENSIONS IN mm () DENOTES IMPERIAL	TOLERANCES UNLESS OTHERWISE STATED FLATNESS TO BE LESS THAN 0.4 OVER ANY 100mm LENGTH	DECIMALS ANGLE X .01 2 STD .1° X .001 1 X .XXX .010	6	7	8	5	4	3	2	1
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F	<p>Quick Installation Guide for CF or DP systems:</p> <ol style="list-style-type: none"> 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 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. <p>NOTE: Spark arrestors are only used in CF systems.</p>											
E												
D												
C												
B												
A	REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED	DRAWN DATE	CONTROLLED	MATERIAL	WEIGHT (kg)	TITLE	DRAWING No.
05	DON-12452	07/10/20	CE	RJ	AR		23/12/03				Z(Y)CF&DP/pm QUICK INSTALLATION GUIDE	XBR-8TD0-010
04	5979	25/11/13		SM	MLC	RELEASED	05	FINISH	N.T.S	A3		
03	4442	18/03/08										SHEET No. 1 OF 1
<p align="center">Expo Technologies Limited SURREY TW16 5DB UNITED KINGDOM</p> <p align="right">expo Technologies</p>												

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		

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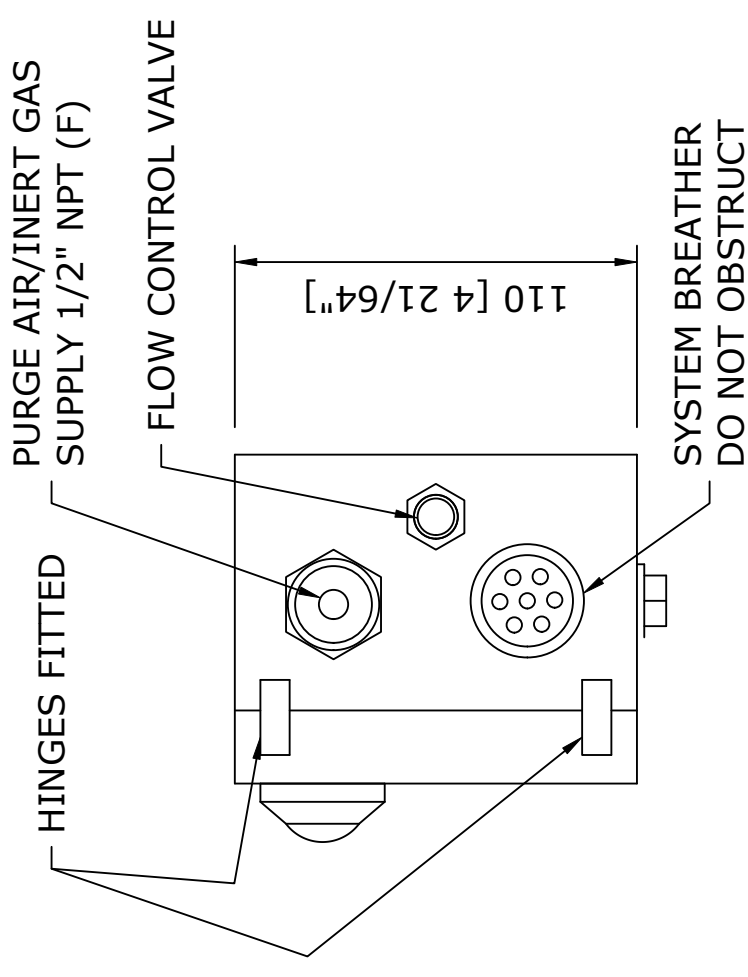
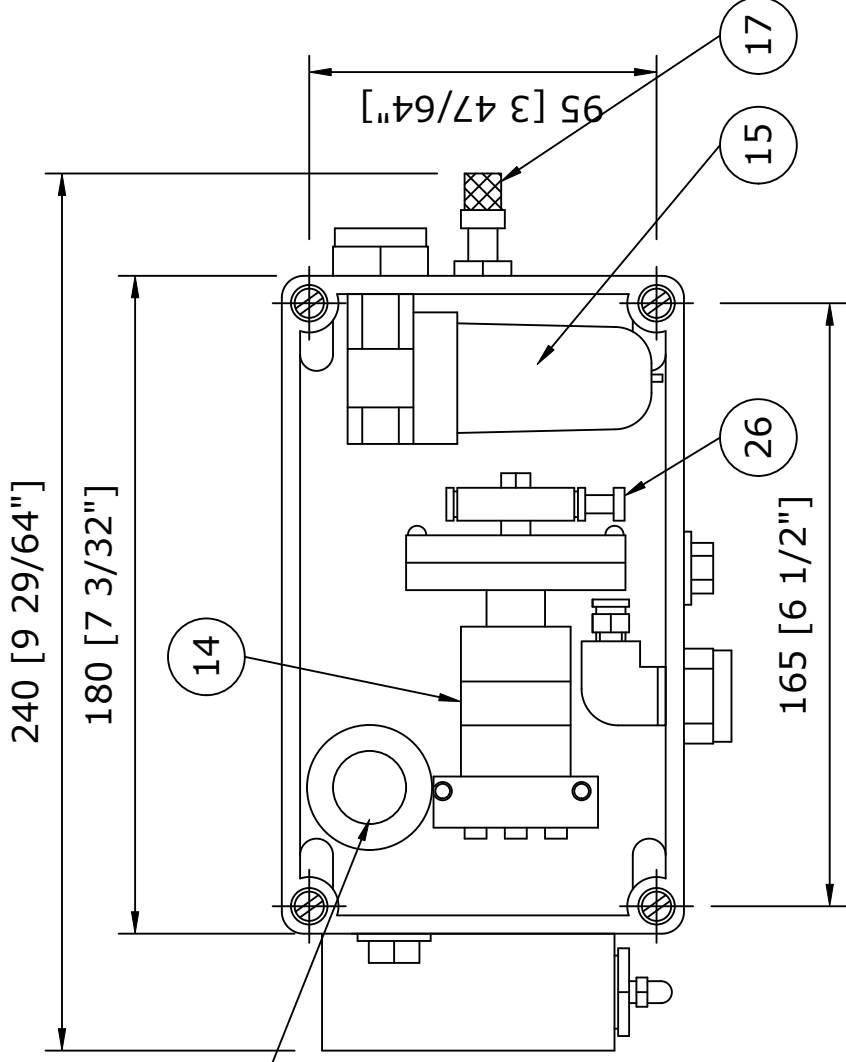


REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED	DRAWN DATE	CONTROLLED	MATERIAL	WEIGHT (kg)	Expo Technologies Limited SURREY TW16 5DB UNITED KINGDOM MINIPURGE 1Z(Y)CF&DP/PM/IS & PO	DRAWING No. MZ-1CF-23-GA SHEET No. 1 OF 1
04	DON-12452	06/10/20	CE	AR	MH	16/07/99					
03	4406	19/08/20			MLC	CERT REL	04	FINISH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

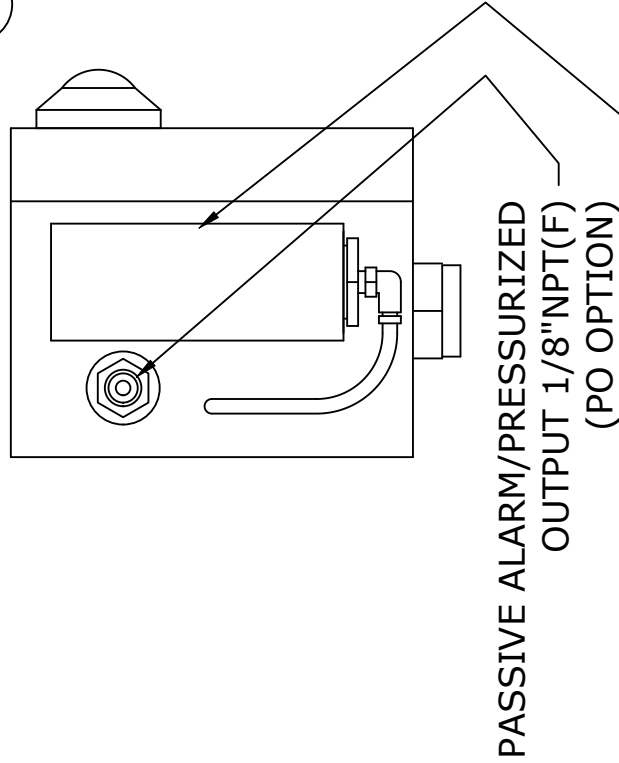
ENCLOSURE
LOW PRESSURE ALARM (RED)
PRESSURIZED (GREEN)
PURGING INDICATOR



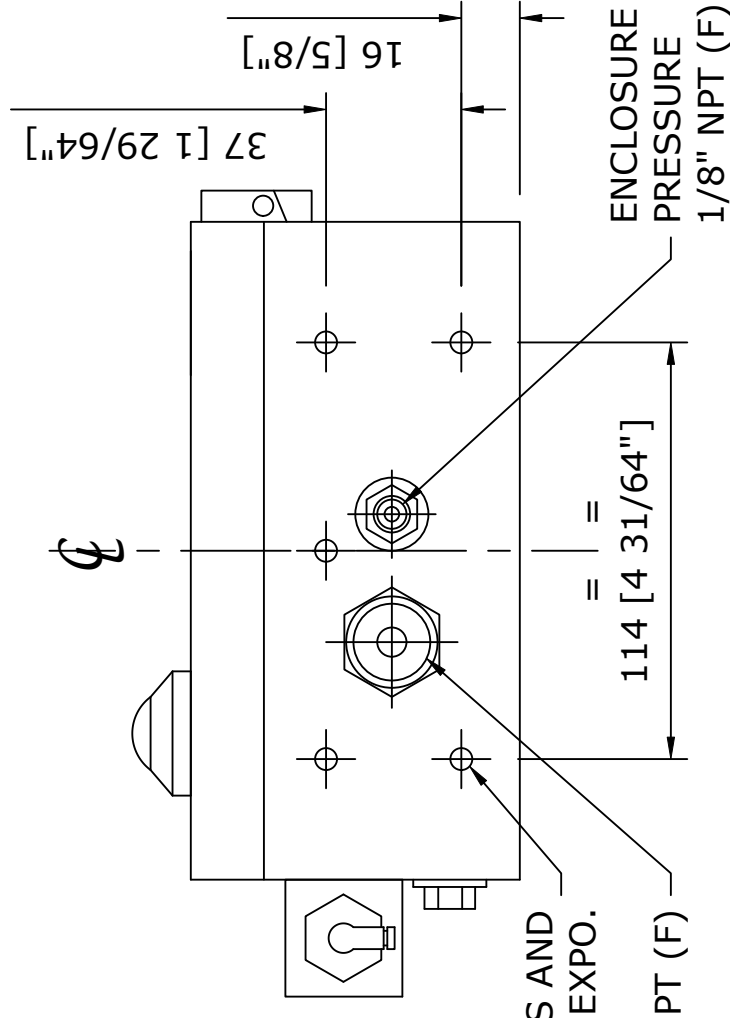
8	INDICATOR "ALARM/PRESSURIZED"
14	SENSOR, MINIMUM PRESSURE
15	FILTER, MANUAL DRAIN
17	FLOW CONTROL VALVE
26	PLUG 4mm (PE TEST POINT)
50	I.S. PRESSURE SWITCH (PO OPTION)

NOTES:

1. SUB MINI-Z-PURGE / SUB MINI-Y-PURGE MUST BE MOUNTED IN THE ATTITUDE SHOWN.
2. APPROX WEIGHT: 1.4 Kg (3 POUNDS)
3. EQUIVALENT IMPERIAL DIMENSIONS ARE SHOWN IN BRACKETS
4. APPLICABLE MODEL NUMBERS:
 1Z(Y)CF/nm/IS 1Z DP/nm/IS 1X DP/nm/PO
 1Z(Y)CF/nm/PO 1Z DP/nm/PO



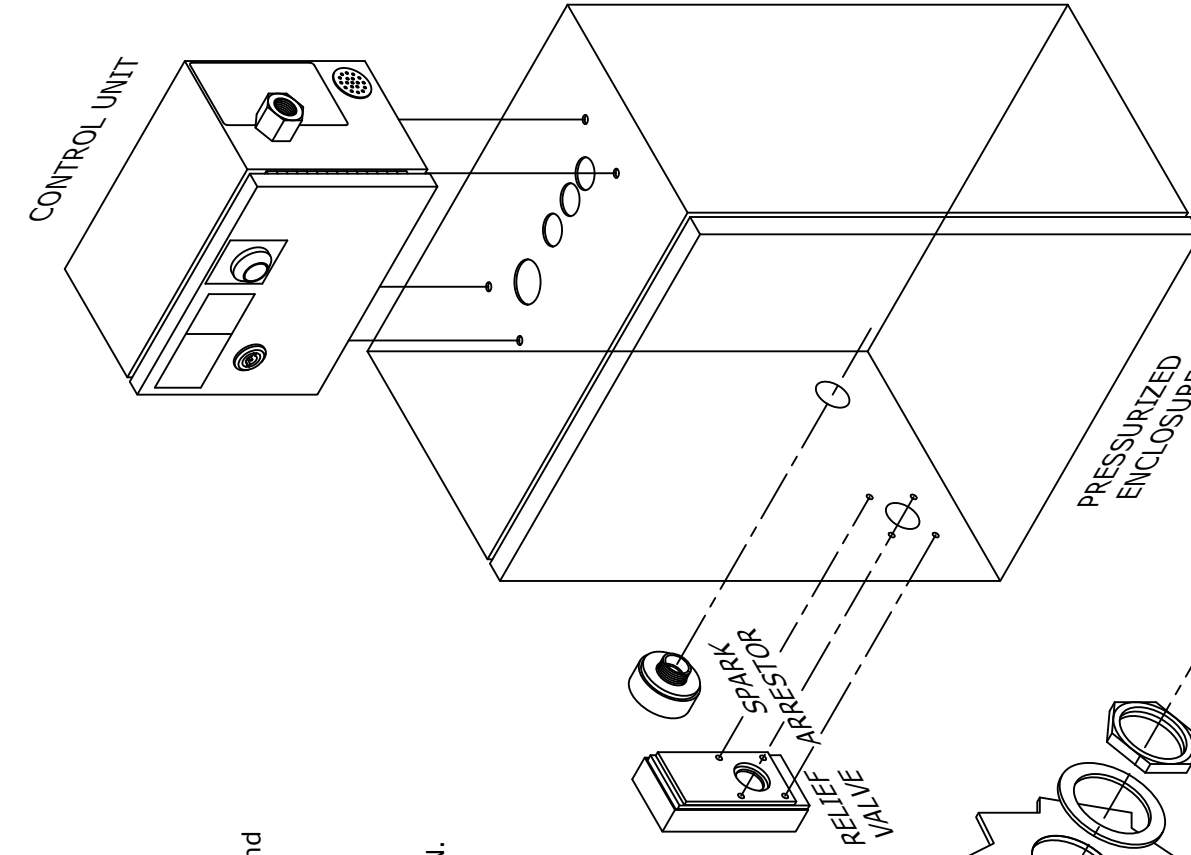
I.S. ALARM PRESSURE SWITCH
 (SEE DRAWING EP80-2-11)
 (IS OPTION)

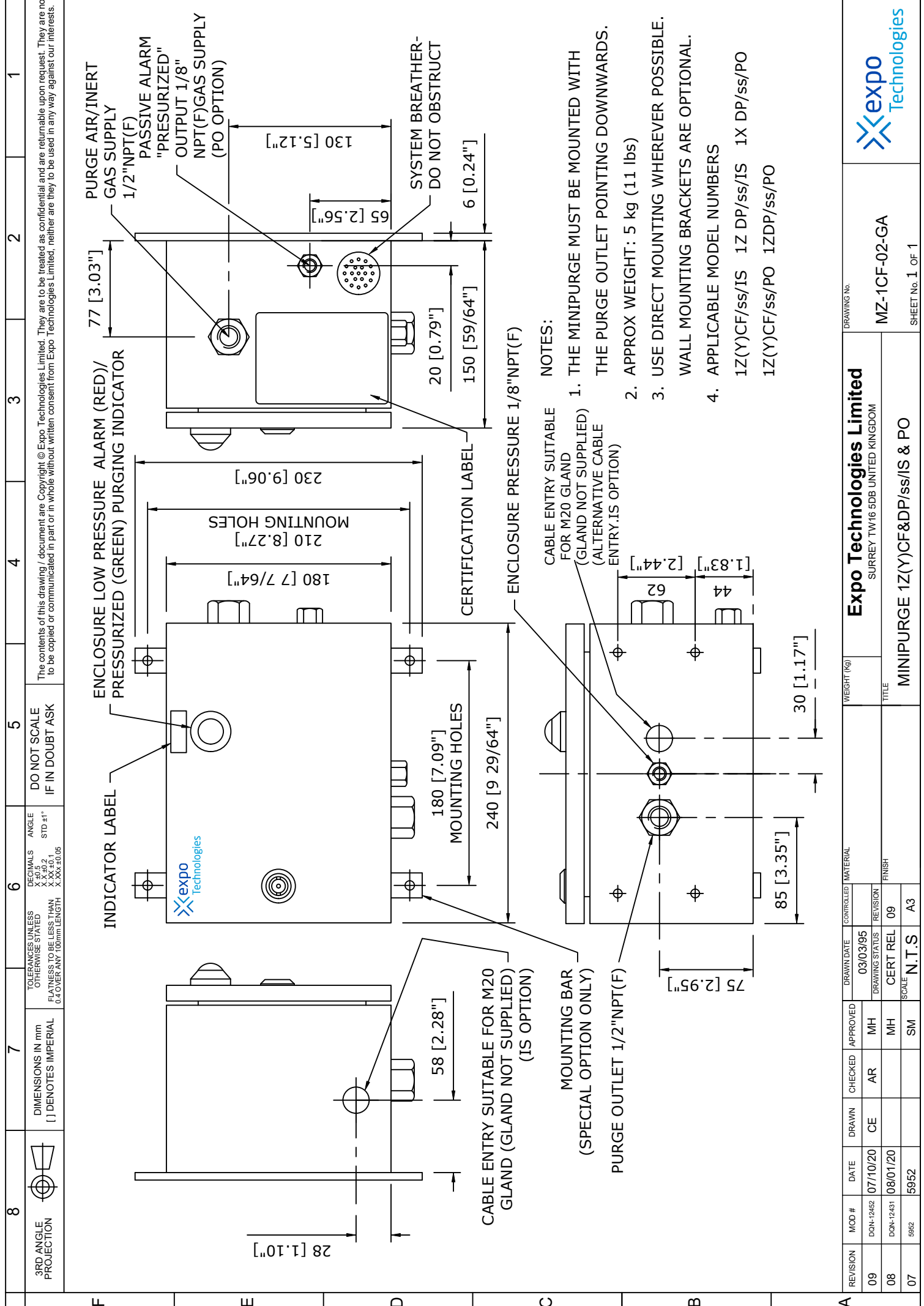


5 OFF M4 MOUNTING HOLES: SCREWS AND SEALOC WASHERS SUPPLIED BY EXPO.
PURGE OUTLET 1/2" NPT (F)

REVISION		MOD #	DATE	DRAWN	CHECKED	APPROVED	DRAWN DATE	CONTROLLED	MATERIAL	WEIGHT (Kg)	Expo Technologies Limited SURREY TW16 5DB UNITED KINGDOM		DRAWING No.
02		DON-12452	07/10/20	CE	AR	MH	18/02/08				MZ-1CF-26-GA SHEET No. 1 OF 1		
01			18/02/08	NRB	MLC	MLC					MINIPURGE 1Z(Y)CF/NM/IS & PO		
											FINISH SCALE N.T.S		
											A3		



8	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 0.02 ANGLE STD .1"	DO NOT SCALE IF IN DOUBT ASK	5	4	3	2	1	
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F	<p>Quick Installation Guide for CF or DP systems:</p> <ol style="list-style-type: none"> 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. <p>NOTE: Spark arrestors are only used in CF systems.</p>										
E											
D											
C											
B											
A	REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED	DRAWN DATE	CONTROLLED	MATERIAL	WEIGHT (kg)	<p>Expo Technologies Limited SURREY TW16 5DB UNITED KINGDOM</p> <p>XBR-8TD0-014</p> <p>DRAWING No.</p> <p>SHEET No. 1 OF 1</p>
	05	DN-12452	07/10/20	CE	RJ	AR	12/01/04				
	04	5979	25/11/13			SM	RELEASED	05			
	03	4442	18/03/08			MLC	SCALE	N.T.S	A3		
TITLE Z(Y)CF & DP/ss QUICK INSTALLTION GUIDE											



8 3RD ANGLE PROJECTION

7 DIMENSIONS IN mm () DENOTES IMPERIAL

6 TOLERANCES UNLESS OTHERWISE STATED
 X .010
 X .005
 X .002
 X .001
 X .0005
 X .00025
 X .000125

ANGLE
 STD .1°

5 DO NOT SCALE IF IN DOUBT ASK

4 ENCLOSURE LOW PRESSURE ALARM (RED)/ PRESSURIZED (GREEN) PURGING INDICATOR

3

2

1

PURGE AIR/INERT GAS SUPPLY 1/2" NPT(F)
 PASSIVE ALARM "PRESURIZED" OUTPUT 1/8" NPT(F) GAS SUPPLY (PO OPTION)

77 [3.03"]

130 [5.12"]

65 [2.56"]

SYSTEM BREATH-ER DO NOT OBSTRUCT

6 [0.24"]

20 [0.79"]

150 [59/64"]

230 [9.06"]

210 [8.27"] MOUNTING HOLES

180 [7 7/64"]

CERTIFICATION LABEL

ENCLOSURE PRESSURE 1/8" NPT(F)

180 [7.09"] MOUNTING HOLES

240 [9 29/64"]

INDICATOR LABEL

85 [3.35"]

30 [1.17"]

75 [2.95"]

62

4

1.83 [2.44"]

CABLE ENTRY SUITABLE FOR M20 GLAND (GLAND NOT SUPPLIED) (ALTERNATIVE CABLE ENTRY IS OPTION)


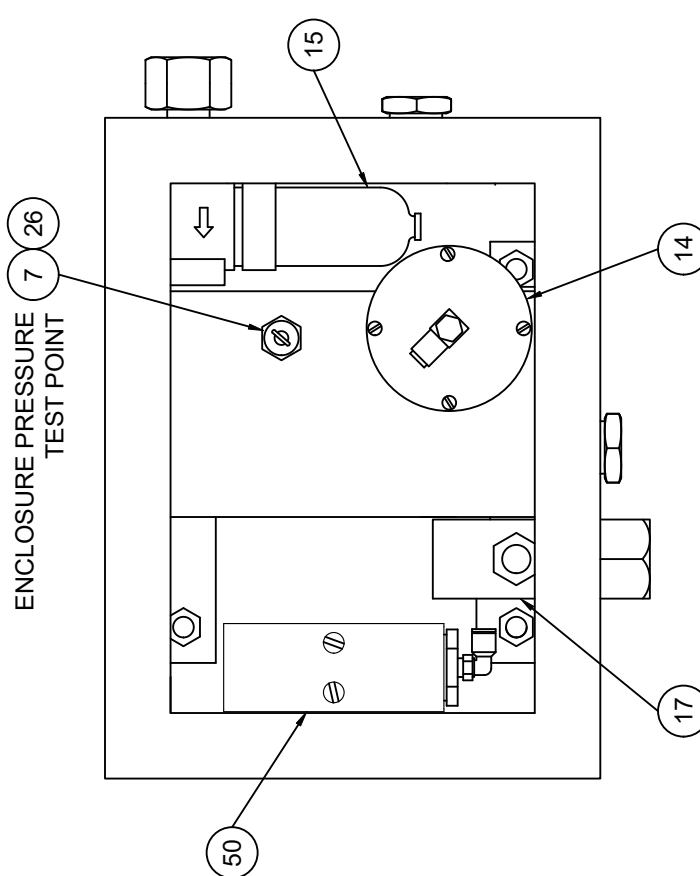
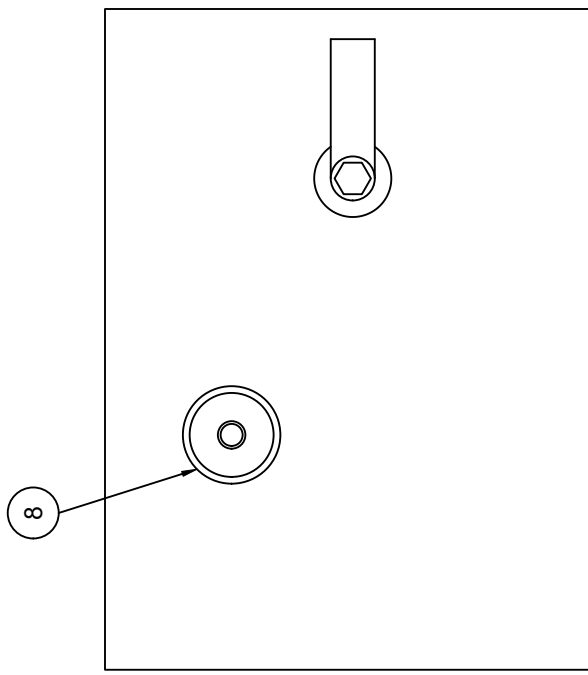
ENCLOSURE PRESSURE 1/8" NPT(F)

NOTES:

1. THE MINIPURGE MUST BE MOUNTED WITH THE PURGE OUTLET POINTING DOWNWARDS.
2. APPROX WEIGHT: 5 kg (11 lbs)
3. USE DIRECT MOUNTING WHEREVER POSSIBLE. WALL MOUNTING BRACKETS ARE OPTIONAL.
4. APPLICABLE MODEL NUMBERS
 1Z(Y)CF/ss/IS 1Z DP/ss/IS 1X DP/ss/PO
 1Z(Y)CF/ss/PO 1ZDP/ss/PO

REVISION	MOD #	DATE	DRAWN	CHECKED	APPROVED	DRAWN DATE	CONTROLLED	MATERIAL	WEIGHT (kg)
09	DON-12452	07/10/20	CE	AR	MH	03/03/95			
08	DON-12431	08/01/20			MH	CERT REL	09		
07	5952	5952			SM	SCALE	N.T.S	A3	



8	7	6	5	4	3	2	1																																																
<p>3RD ANGLE PROJECTION</p> 	<p>DIMENSIONS IN mm DIMENSIONS IMPERIAL () DENOTES IMPERIAL</p>	<p>TOLERANCES UNLESS OTHERWISE STATED FLATNESS TO BE LESS THAN 0.4 OVER ANY 100mm LENGTH</p>	<p>DECIMALS ANGLE X .002 STD .1°</p>	<p>DO NOT SCALE IF IN DOUBT ASK</p>	<p>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.</p>																																																		
F	<p>ENCLOSURE PRESSURE TEST POINT</p> 																																																						
E	<p>DOOR INTERNAL</p> 																																																						
D	<p>NOTES:</p> <ol style="list-style-type: none"> 1. APPLICABLE MODEL NUMBERS: 1Z(Y)CF/ss/IS 1Z(Y)CF/ss/PO 1Z DP/ss/IS 1Z DP/ss/PO 1X DP/ss/PO 																																																						
C	<table border="1"> <tbody> <tr> <td>7</td> <td>BLACK COLLAR (PLUGGED)</td> </tr> <tr> <td>8</td> <td>INDICATOR "ALARM/PRESSURIZED"</td> </tr> <tr> <td>14</td> <td>SENSOR, MINIMUM PRESSURE</td> </tr> <tr> <td>15</td> <td>FILTER, MANUAL DRAIN</td> </tr> <tr> <td>17</td> <td>FLOW CONTROL VALVE</td> </tr> <tr> <td>26</td> <td>PLUG 4mm (PE TEST POINT)</td> </tr> <tr> <td>50</td> <td>I.S. PRESSURE SWITCH (IS OPTION ONLY)</td> </tr> </tbody> </table>							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)																																		
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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 0:2018/AC:2020	EN IEC 60079-0:2018/AC:2020
	Equipment protection by intrinsic safety "i"	EN 60079-11:2012
	Equipment protection by pressurized enclosure "p"	EN 60079-2:2014

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: 17th October 2024

Expo Technologies Ltd.

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