PURGE SOLUTIONS®

Protective Gas Inlet Kits

IOM Manual

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A	Initial Release	25-Aug-14
B	Added Storage Temperature Range	21-May-15
C	Change of Address	27-May-16
D	Addition of UKEx Certification	23-Mar-2021

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This shipment has been thoroughly inspected at the factory prior to its delivery to the carrier. After the shipment is picked up by the carrier, it becomes their responsibility. When the shipment arrives, make certain that it is undamaged and complete.

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Table of Contents

Legal Notices and Revision History Inside front cover

Section 1
How to Use This Manual

Safety Considerations:

This chapter includes important information that must be read and understood by all persons installing, using, or maintaining this equipment. While this manual is designed to aid personnel in the correct and safe installation, operation, and maintenance of the systems described. Personnel must consider all actions and procedures for potential hazards or conditions that may not have been anticipated in the written procedures. If a procedure cannot be performed safely, it must not be performed until appropriate actions can be taken to ensure the safety of equipment and personnel. The procedures in this manual are not designed to replace or supersede required or common sense safety practices. All safety warnings listed in any documents applicable to equipment and parts used in or with the system described in this manual must be read and heeded before commencing work on any part of the system.

NOTE: ***Refer to all ATEX, CEC, IECEx, NEC, NFPA and UKEx certificates for any Special Conditions of Use. If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule of the certificate.***

NOTE: ***Review all material and safety information in this manual and install in accordance with this document and all other applicable ATEX, CEC, IECEx, NEC, NFPA and UKEx standards.***

WARNING: ***Failure to follow appropriate safety procedures or inappropriate use of the equipment described in this manual can lead to injury of personnel or equipment damage.***

WARNING – EXPLOSION HAZARD – Do not disconnect equipment unless power has been removed or the area is known to be non-hazardous.

The following symbols are used throughout this manual to alert users to potential hazards or important information. ***Failure to heed the warnings and cautions listed herein can lead to injury and equipment damage.***

Document Label Definitions Used To Indicate Potential Hazards		
Symbol	**Label**	**Description**
	**WARNING:**	Consists of conditions, practices, or procedures that must be observed to prevent injury or equipment damage.
	**CAUTION:**	Risk of electric shock or high temperature parts may result in injury if proper precautions are not taken.
	**NOTE:**	Emphasizes important or essential information.

Locating Information:

NOTE: ***In the interest of completeness, manuals and drawings included with the system may provide information pertaining to options not included with your equipment. Information in application notes supersedes general information in these documents. Information can be located in this manual using any of the following aids.***

1. Table of Contents
2. Getting Help

General Safety and Operating Information:

This section contains general safety and operating information applicable to electrical equipment installed within hazardous locations. This information must be understood by all persons installing, using, or maintaining the electrical equipment. This information is designed to aid personnel in safe installation, operation, and maintenance of any Protective Gas Inlet Kits offered by Purge Solutions, Inc. It is not designed to replace or limit appropriate safety measures applicable to work performed by personnel. Any additional safety and operating measures that are required must be determined by and followed by personnel performing work on the electrical equipment.

WARNING: ***Deviation from the specified instruction or procedure steps can result in equipment malfunction, equipment damage, or injury to personnel.***

WARNING: ***Return unit to factory for any repairs or replacement of parts, customer not permitted. This will void all warranties and hazardous area certification(s).***

General Precautions:

Protective eyewear ***(glasses with side shields or goggles as appropriate*****)** must be worn when servicing any part of electrical equipment. Hot components should be allowed to cool before servicing if possible. Other appropriate equipment or clothing must be used as required by the type of work performed. All applicable regulations and procedures must be followed for the work performed. ***Before*** beginning any work on the equipment, carefully consider all the potential hazards and ensure that appropriate measures are taken to prevent injury to personnel or equipment damage.

CAUTION: ***Electrical equipment components may be hot even when power is not applied. Take appropriate precautions to prevent injury from contact with hot items.***

CAUTION: ***Applicable permits must be obtained and appropriate precautions must be taken to prevent possible injury to personnel or equipment damage when installing or maintaining this equipment.***

Electrical Power:

Some of Purge Solutions, Inc. Protective Gas Inlet Kits use AC power of 115 or 230 volts. Appropriate precautions must be taken to prevent sparks that may ignite combustible materials that may be present in the Purge Solutions, Inc. Protective Gas Inlet Kit environment. Precautions must also be taken to prevent electrical shock if the electrical equipment's enclosure is being supplied by the Purge Solutions, Inc. Protective Gas Inlet Kits are opened.

The power to any Purge Solutions, Inc. Protective Gas Inlet Kits must be free from noise, surges, sags, and spikes for proper operation of any Purge Solutions, Inc. Protective Gas Inlet Kit. AC power circuit breakers and wiring must be sized properly for the required current. All wiring installations must meet applicable electrical codes.

System Location:

All Purge Solutions, Inc. Protective Gas Inlet Kits must be installed in a suitable location. All Purge Solutions, Inc. Protective Gas Inlet Kit must not be installed in an area classification for which it is not rated and must be protected from temperature extremes. All Protective Gas Inlet Kits from Purge Solutions, Inc. should not be mounted in an area with potentially high vibration. All Protective Gas Inlet Kits from Purge Solutions, Inc. must be attached securely and appropriately at its final installation as instructed in this manual. All Protective Gas Inlet Kits from Purge Solutions, Inc. must be mounted in a location to permit adequate viewing of gauges and available area for required adjustment and servicing.

Electrical equipment may use purging to ensure safe operation when installed within a hazardous location. The protective gas purge supply must be clean, dry, and free from hydrocarbons or corrosive materials. All protective gas purge supply pressures must be set correctly and all electrical equipment enclosure doors must be closed securely. Purged enclosures must not be opened unless power is removed from the electrical equipment or the area is known to be non-hazardous.

CAUTION: ***Electrical equipment enclosures using any Purge Solutions, Inc. Protective Gas Inlet Kits must not be opened unless power is removed from the electrical equipment or the area is known not to contain explosive materials.***

Section 2

Specifications

Features and Certification
All Small Protective Gas Inlet Kits are sized to supply enclosures with a combined volume of up to 25 cubic feet (708 liters). All Medium Purge Gas Inlet Kits are sized to supply enclosures with a combined volume of up to 100 cubic feet (2,832 liters). All Large Purge Gas Inlet Kits are sized to supply enclosures with a combined volume of up to 300 cubic feet (8,495 liters).
Protective Gas Inlet Kits are certified for installation and use in ATEX, IECEx and UKEx when used with Purge Solutions, Inc. Type X, Y and Z Purge Units for II 2 G Ex mb II T5 – T4, Gas Hazardous Areas II 2 D Ex mbD 21 IP65 T100°C - T135°C, Dust Hazardous Areas
Protective Gas Inlet Kits are certified for installation and use to CEC, NEC and NFPA when used with Purge Solutions, Inc. Type X, Y and Z Purge Units for Class I, Division 1, Group A, B, C & D, T6 – T3, Gas Hazardous Areas Class II, Division 1, Group E, F & G, T6 – T3, Dust Hazardous Areas
Automatic Leakage Compensation Protective Gas Inlet Kit Solenoid Valves are Certified for installation and use in ATEX, IECEx and UKEx for II 2 G Ex mb II T5 – T4, Gas Hazardous Areas II 2 D Ex mbD 21 IP65 T100°C - T135°C, Dust Hazardous Areas
Automatic Leakage Compensation Protective Gas Inlet Kit Solenoid Valves are Certified for installation and use to CEC, NEC and NFPA for Class I, Division 1, Group A, B, C & D, T6 – T3, Gas Hazardous Areas Class II, Division 1, Group E, F & G, T6 – T3, Dust Hazardous Areas

Environmental Conditions	
Operating Temperature Range ***(For all stainless steel models)***	- 40°F to 150°F (- 40°C to 65°C)
Operating Temperature Range ***(For all anodized aluminum models)***	- 40°F to 126°F (- 40°C to 52°C)
Storage Temperature Range	- 58°F to 167°F (- 50°C to 75°C)
Used and Mounted	For Indoor and Outdoor Use

Normal Operating Conditions	
Dilution Cycle Time to Energizing Electrical Equipment	Typically, dilution cycle time is to ensure that at least five (5) times the volume of free space in the enclosure of protective gas supply is exchanged before power is applied to the electrical equipment. Ten (10) times volumes for motors, generators and other rotating electrical machinery.
Enclosure Minimum Overpressure	Minimum overpressure being maintained above 0.30 inch H_2O (0.75 mbar) for Gas Hazardous Locations or 0.50 inch H_2O (1.25 mbar) for Dust Hazardous Locations in electronics enclosure being monitored.

WARNING: ***The number of exchanged volumes may be higher in some situations.***

Utility Requirements	
Minimum Protective Gas Supply Pressure to Protective Gas Inlet Kit Pressure Regulator	20 psig (1.4 Bar) ***(Minimum suggested to compensate for enclosure leak rate)***
Maximum Protective Gas Supply Pressure to Protective Gas Inlet Kit Pressure Regulator	150 psig (10.3 Bar) ***(Certification maximum pressure rating)***
Minimum Protective Gas Supply Pressure to Back-Up Gas Kit	80 psig (5.5 Bar) ***(Minimum pressure to operate)***
Protective Gas Supply Quality	Water and oil-free, - 40°F (- 40°C) dew point, particles ≤ 5µ, ISA grade hydrocarbon free
Automatic Leakage Compensation Protective Gas Inlet Kit Solenoid Valves Voltage	115VAC or 230 VAC, 50/60 Hz, 10.1 Watt Coil
Mains Supply Fluctuation	Not to Exceed 10%
Over Voltage Category	II IEC 60364-4-443

Material Specifications	
Anodized Aluminum Ingress Protection	NEMA 4 (IP66)
316 Stainless Steel Ingress Protection	NEMA 4X (IP66)

NOTE: ***Purge Solutions, Inc. is NOT responsible for any misuse or improper installation of product, assumes no liability for special or consequential damages caused by use or misuse or improper installation of its products sold and assumes no liability for injury from use or misuse or improper installation of its products or attached products.***

Continuous Dilution Gas Inlet Kit Model Number Matrix			
Size	**Material**	**Weight**	**Model Number**
Small	Anodized Aluminum	1.8 lbs. (0.8 kg)	PSO-SCD-A
Medium	Anodized Aluminum	2.6 lbs. (1.2 kg)	PSO-MCD-A
Large	Anodized Aluminum	2.6 lbs. (1.2 kg)	PSO-LCD-A
Small	316 Stainless Steel	3.0 lbs. (1.4 kg)	PSO-SCD-S
Medium	316 Stainless Steel	4.4 lbs. (2.0 kg)	PSO-MCD-S
Large	316 Stainless Steel	4.4 lbs. (2.0 kg)	PSO-LCD-S

Manual Leakage Compensation Gas Inlet Kit Model Number Matrix			
Size	**Material**	**Weight**	**Model Number**
Small	Anodized Aluminum	2.2 lbs. (1.0 kg)	PSO-SMLC-A
Medium	Anodized Aluminum	3.0 lbs. (1.4 kg)	PSO-MMLC-A
Large	Anodized Aluminum	3.0 lbs. (1.4 kg)	PSO-LMLC-A
Small	316 Stainless Steel	3.8 lbs. (1.7 kg)	PSO-SMLC-S
Medium	316 Stainless Steel	5.2 lbs. (2.4 kg)	PSO-MMLC-S
Large	316 Stainless Steel	5.2 lbs. (2.4 kg)	PSO-LMLC-S

Automatic Leakage Compensation Gas Inlet Kit Model Number Matrix				
Size	**Certification**	**Voltage**	**Material**	**Model Number**
Small	Division 1	115 VAC	Anodized Aluminum	PSO-SALC-D1A
Medium	Division 1	115 VAC	Anodized Aluminum	PSO-MALC-D1A
Large	Division 1	115 VAC	Anodized Aluminum	PSO-LALC-D1A
Small	Division 1	115 VAC	316 Stainless Steel	PSO-SALC-D1S
Medium	Division 1	115 VAC	316 Stainless Steel	PSO-MALC-D1S
Large	Division 1	115 VAC	316 Stainless Steel	PSO-LALC-D1S
Small	Division 1	230 VAC	Anodized Aluminum	PSO-SALC-D2A
Medium	Division 1	230 VAC	Anodized Aluminum	PSO-MALC-D2A
Large	Division 1	230 VAC	Anodized Aluminum	PSO-LALC-D2A
Small	Division 1	230 VAC	316 Stainless Steel	PSO-SALC-D2S
Medium	Division 1	230 VAC	316 Stainless Steel	PSO-MALC-D2S
Large	Division 1	230 VAC	316 Stainless Steel	PSO-LALC-D2S
Small	Zone 1	115 VAC	Anodized Aluminum	PSO-SALC-Z1A
Medium	Zone 1	115 VAC	Anodized Aluminum	PSO-MALC-Z1A
Large	Zone 1	115 VAC	Anodized Aluminum	PSO-LALC-Z1A
Small	Zone 1	115 VAC	316 Stainless Steel	PSO-SALC-Z1S
Medium	Zone 1	115 VAC	316 Stainless Steel	PSO-MALC-Z1S
Large	Zone 1	115 VAC	316 Stainless Steel	PSO-LALC-Z1S
Small	Zone 1	230 VAC	Anodized Aluminum	PSO-SALC-Z2A
Medium	Zone 1	230 VAC	Anodized Aluminum	PSO-MALC-Z2A
Large	Zone 1	230 VAC	Anodized Aluminum	PSO-LALC-Z2A
Small	Zone 1	230 VAC	316 Stainless Steel	PSO-SALC-Z2S
Medium	Zone 1	230 VAC	316 Stainless Steel	PSO-MALC-Z2S
Large	Zone 1	230 VAC	316 Stainless Steel	PSO-LALC-Z2S

Automatic Leakage Compensation Gas Inlet Kit Model Number Weights Matrix		
Size	**Material**	**Weight**
Small	Anodized Aluminum	3.8 lbs. (1.7 kg)
Medium	Anodized Aluminum	5.2 lbs. (2.4 kg)
Large	Anodized Aluminum	5.2 lbs. (2.4 kg)
Small	316 Stainless Steel	5.4 lbs. (2.5 kg)
Medium	316 Stainless Steel	7.4 lbs. (3.4 kg)
Large	316 Stainless Steel	7.4 lbs. (3.4 kg)

Back-Up Protective Gas Kit Model Number
PSO-BUPG-K

Protective Gas Loss Indicator Kit Model Number
PSO-PGLI-K

Section 3

Introduction

Description:

Purge Solutions, Inc. offers two different purge methods to dilute the electronics enclosure and maintain at least 0.30 inch H_2O (0.75 mbar) for Gas hazardous locations or 0.50 inch H_2O (1.25 mbar) for Dust hazardous locations; continuous dilution or leakage compensation. Continuous dilution is a method of maintaining pressure in an electronics enclosure in which after the electronics enclosure has been diluted below the required lower explosive limit (LEL) the protective gas is passed continuously through the electronics enclosure at a pressure above that of the required hazardous location and discharged to the outside atmosphere through an exhaust vent. The same volume of purge gas is maintained during and after the dilution time cycle. Continuous dilution is normally used for maintaining and controlling heat buildup from the electronics within the pressurized enclosure by continuously exchanging purge gas through the electronics enclosure to atmosphere. Purge Solutions, Inc. offers three sizes of continuous dilution models a Small Continuous Dilution Gas Inlet Kit for enclosures with a volume up to 25 cubic feet (708 liters), a Medium Continuous Dilution Gas Inlet Kit for enclosures with a volume up to 100 cubic feet (2,832 liters) and a Large Continuous Dilution Gas Inlet Kit for enclosures with volumes up to 300 cubic feet (8,495 liters). All Small, Medium and Large Continuous Dilution Gas Inlet Kits are available in materials of anodized aluminum or 316 stainless steel.

The second purge method offered by Purge Solutions, Inc.; leakage compensation allows a higher volume of protective gas supply to be manually or automatically selected to speed up dilution time of potentially flammable materials to an acceptable level, permitting a more-rapid application of initial power, or restoration of power to protected electrical equipment, after service. When the dilution cycle has completed, the large volume of purge gas can be manually or automatically turned off. A volume of protective gas larger than the leak rate of the electronics enclosure will be introduced into the now protected electronics enclosure to maintain at least 0.30 inch H_2O (0.75 mbar) for Gas hazardous locations; Leakage Compensation should not be used for Dust hazardous locations because purging could produce a dust cloud caused by flow from exhaust vent. Leakage compensation is normally used to conserve protective gas when utilities are at a premium. Purge Solutions, Inc. offers three sizes of leakage compensation models a Small Leakage Compensation Gas Inlet Kit for enclosures with a volume up to 25 cubic feet (708 liters) a Medium Leakage Compensation Gas Inlet Kit for enclosures with volumes up to 100 cubic feet (2,832 liters) and a Large Leakage Compensation Gas Inlet Kit for enclosures with volumes up to 300 cubic feet (8,495 liters). All Small, Medium and Large Leakage Compensation Gas Inlet Kits are available in materials of anodized aluminum or 316 stainless steel.

For purged electronic enclosures using a Purge Solutions, Inc. indicator or controller, which has electrical components with higher surface temperatures than the temperature class of the hazardous area in which the electrical equipment is located, Purge Solutions, Inc. offers a Back-Up Purge Gas Kit, which is used in the event that the initial protective gas supply is lost, a back-up source of protective gas is automatically applied to the protected enclosure. Electrical equipment protected with this feature is allowed to cool adequately, while preventing the ingress of flammable materials in the surrounding atmosphere from entering into the electronics enclosure as long as positive pressure is maintained.

For purged enclosures using the Back-Up Purge Gas Kits, a Protective Gas Loss Indicator can be installed for remote protective gas purge supply monitoring. By installing one Protective Gas Loss Indicator on the initial protective purge gas supply line, an alarm signal can be sent if the initial protective purge gas supply has been lost. A second Protective Gas Loss Indicator installed on the protective back-up purge gas supply line will send an alarm signal if the protective back-up purge gas supply has been depleted, as might be the case when bottled gas is used as a back-up gas source.

WARNING: ***Failure to heed the following information may lead to injury of personnel or equipment damage.***

CAUTION: ***Electrical equipment components may be hot even when power is not applied. Take appropriate precautions to prevent injury from contact with hot items.***

WARNING: ***Failure to allow adequate cooling of electrical equipment components with hot surfaces before opening the purged enclosure can lead to injury of personnel or equipment damage.***

Section 4

Installation

Small, Medium and Large Continuous Dilution Gas Inlet Kit Installation Procedure:

Continuous dilution is a method of maintaining pressure in an enclosure in which after the enclosure has been pre-purged the protective gas is passed continuously through the enclosure at a pressure above that of the specified minimum and discharged to the outside atmosphere through an exhaust vent. The same volume of protective gas is maintained during and after the dilution cycle.

Purge Solutions, Inc. offers three sizes of continuous dilution gas inlet kit models, the first size is our Small Continuous Dilution Gas Inlet Kit for enclosures with a volume up to 25 cubic feet (708 liters). Model number PSO-SCD-A is our small aluminum version and model number PSO-SCD-S is our small stainless steel version. Protective gas supply inlet to Small Continuous Pressure Air Inlet Kit regulator is 1/4-18 FNPT.

The second size we offer is our Medium Continuous Dilution Gas Inlet Kit for enclosures with volumes up to 100 cubic feet (2,832 liters). Model number PSO-MCD-A is our medium aluminum version and model number PSO-MCD-S is our medium stainless steel version. Protective gas supply inlet to Medium Continuous Dilution Gas Inlet Kit regulator is 3/8-18 FNPT.

The third size we offer is our Large Continuous Dilution Gas Inlet Kit for enclosures with volumes up to 300 cubic feet (8,495 liters). Model number PSO-LCD-A is our large aluminum version and model number PSO-LCD-S is our large stainless steel version. Protective gas supply inlet to Large Continuous Dilution Gas Inlet Kit regulator is 1/2-14 FNPT. All Continuous Dilution Purge Gas Inlet Kits include input fittings, regulator, gauge, manifold and mounting hardware.

WARNING: ***Before attempting to install any Purge Solutions, Inc. Gas Inlet Kits, review all the material and all safety information in this manual and all other applicable documents.***

WARNING: ***Applicable permits must be obtained and appropriate precautions must be taken to prevent possible injury to personnel or equipment damage when installing any Purge Solution, Inc. Gas Inlet Kit.***

NOTE: ***Refer to all ATEX, CEC, IECEx, NEC, NFPA and UKEx certificates for any Special Conditions of Use. If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule of the certificate.***

Review all of the material in this manual prior to installing and interfacing the Continuous Dilution Gas Inlet Kit to the enclosure it will be supplying protective gas. If you have any questions, please contact your local Purge Solutions, Inc. representative or the factory (refer Getting Help page 36) or view installation video, which can be found on our web site www.purgesolutions.com. Refer to Small Continuous Dilution Gas Inlet Kit Mounting Hole Pattern, drawing number PSO-SCD (page 15), Medium Continuous Dilution Gas Inlet Kit Mounting Hole Pattern, drawing number PSO-MCD (page 16) or Large Continuous Dilution Gas Inlet Kit Mounting Hole Pattern, drawing number PSO-LCP (page 17) for over all unit dimensions, hole sizes and locations required to interface and mount system to enclosure.

Step 1:

Make sure that area surrounding the enclosure the Continuous Dilution Gas Inlet Kit to be installed is known to be non-hazardous.

Step 2:

Make sure that all power is removed from the electrical equipment located in the enclosure where the Continuous Dilution Gas Inlet Kit will be installed.

Step 3:

Choose a mounting location for the Continuous Dilution Gas Inlet Kit on the enclosure in a location that would best dilute enclosure as specified in the type X, Y or Z purge unit users manual for lighter or heavier than air hazardous material for single or multiple enclosure applications. The chosen location should permit adequate viewing of the Continuous Dilution Gas Inlet Kit pressure gauge and interface with pressure regulator for required adjustment.

Step 4:

Use Mounting Hole Pattern (drawing number PSO-SCD, page 15, PSO-MCD, page 16 or PSO-LCD, page 17) to accurately locate the mounting holes. Use the Mounting Hole Template to draw and a 1 to 1 scale drawing. Tape the 1 to 1 drawing to the ***outside*** of enclosure. The required hole locations can then be transferred and/or marked using the centers of the holes as shown on the 1 to 1 drawing.

Step 5:

Drill or punch all holes, per the sizes specified on the Mounting Hole Pattern (drawing number PSO-SCD, page 15, PSO-MCD, page 16 or PSO-LCP, page 17).

Step 6:

After required holes have been drilled or punched into enclosure, align the Continuous Dilution Gas Inlet Kit to the mounting holes fabricated in Step 5.

Step 7:

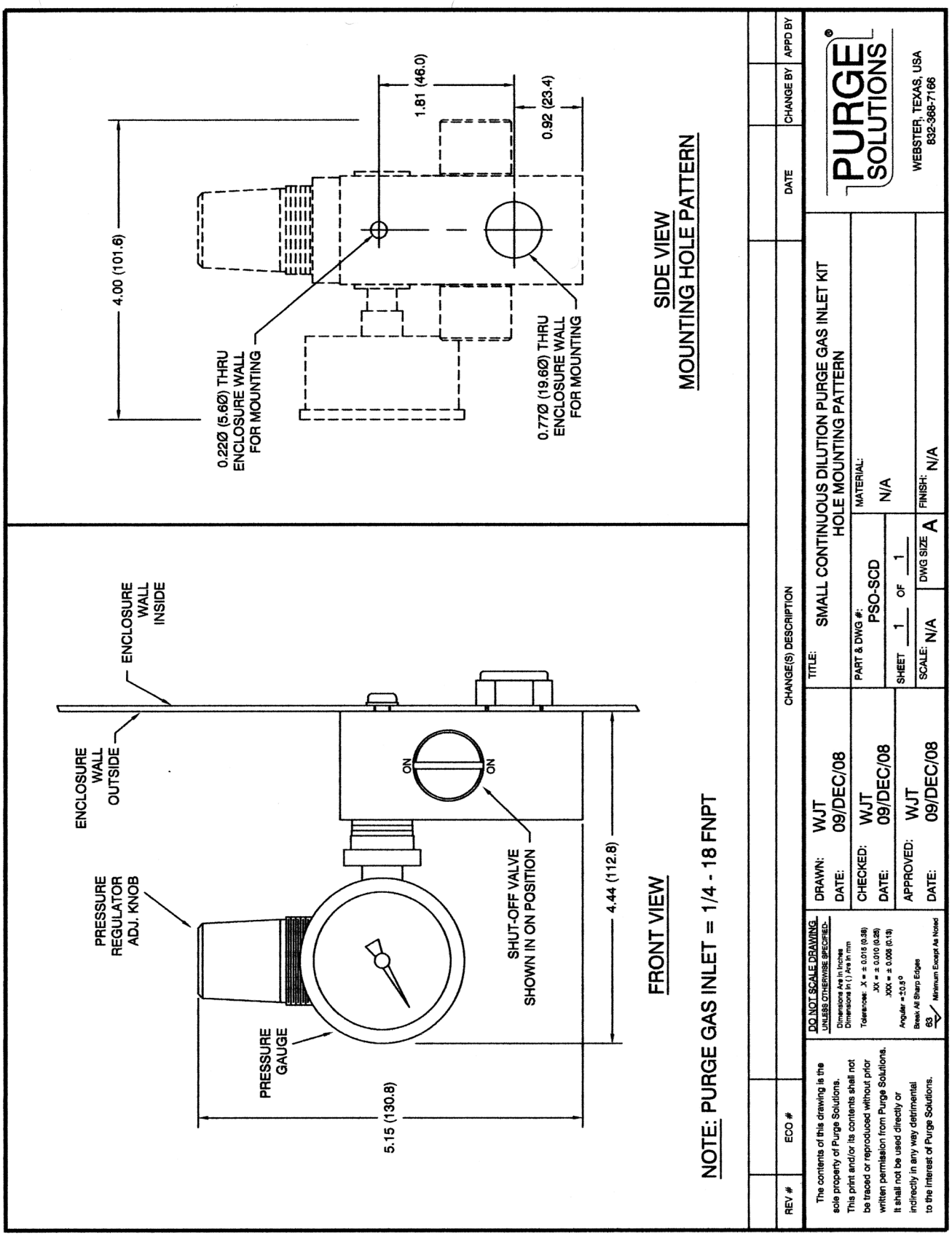
Using the interface fitting provided with the unit, mount the Continuous Dilution Gas Inlet Kit to enclosure. Tighten fitting and hardware until the seals are completely compressed against the surface of the enclosure.

Step 8:

After Continuous Dilution Gas Inlet Kit fittings have been properly tightened, connect supply purge gas to the pressure regulator inlet port of the Continuous Dilution Gas Inlet Kit. Refer to drawing number PSO-SCD, page 15, PSO-MCD, page 16 or PSO-LCD, page 17) for purge gas supply inlet size.

Step 9:

Once the protective gas supply has been connected to the pressure regulator inlet port of the Continuous Dilution Gas Inlet Kit, it is ready to supply protective gas to the enclosure.


4.00 (101.6)
1.81 (46.0)
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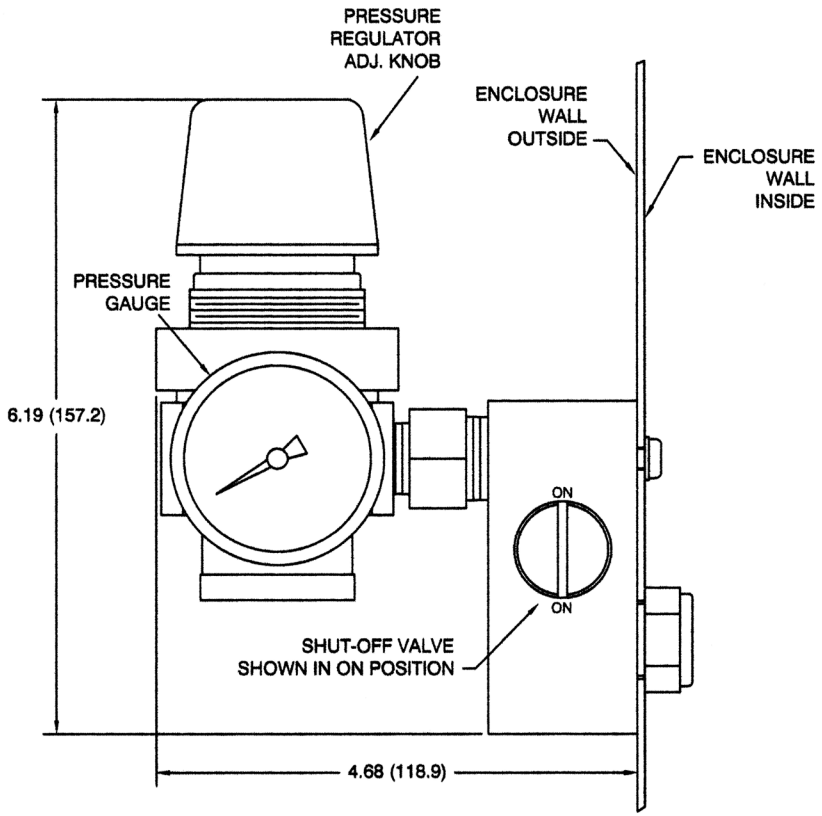
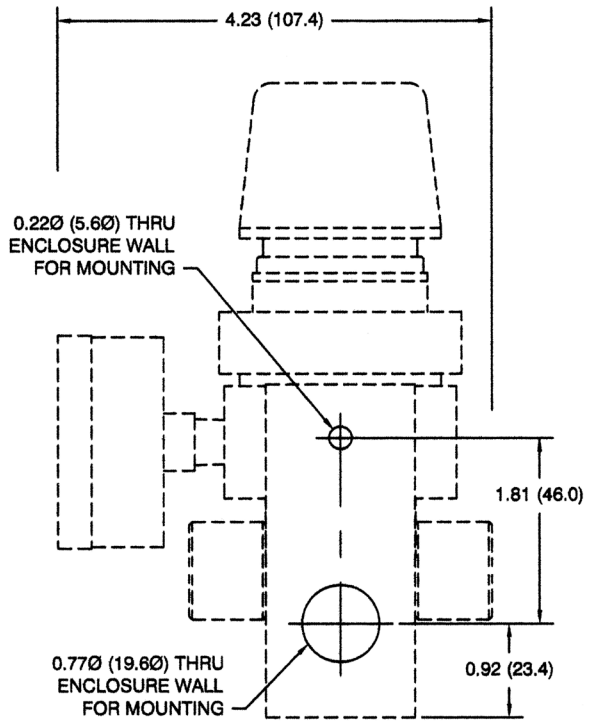
0.220 (5.60) THRU
ENCLOSURE WALL
FOR MOUNTING
0.770 (19.60) THRU
ENCLOSURE WALL
FOR MOUNTING
SIDE VIEW
MOUNTING HOLE PATTERN
ENCLOSURE
WALL
INSIDE
ENCLOSURE
WALL
OUTSIDE
PRESSURE
REGULATOR
ADJ. KNOB
PRESSURE
GAUGE
ON
ON
SHUT-OFF VALVE
SHOWN IN ON POSITION
4.44 (112.8)
5.15 (130.8)
FRONT VIEW
NOTE: PURGE GAS INLET = 1/4 - 18 FNPT
REV #
ECO #
CHANGE(S) DESCRIPTION
DATE
CHANGE BY
APPD BY
DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED:
Dimensions Are in Inches
Dimensions in ( ) Are in mm
Tolerances: .X = ± 0.015 (0.38)
.XX = ± 0.010 (0.25)
.XXX = ± 0.008 (0.19)
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted
DRAWN: WJT
DATE: 09/DEC/08
CHECKED: WJT
DATE: 09/DEC/08
APPROVED: WJT
DATE: 09/DEC/08
TITLE: SMALL CONTINUOUS DILUTION PURGE GAS INLET KIT
HOLE MOUNTING PATTERN
PART & DWG #: PSO-SCD
MATERIAL: N/A
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
FINISH: N/A
PURGE SOLUTIONS
WEBSTER, TEXAS, USA
832-368-7166
The contents of this drawing is the sole property of Purge Solutions. This print and/or its contents shall not be traced or reproduced without prior written permission from Purge Solutions. It shall not be used directly or indirectly in any way detrimental to the interest of Purge Solutions.



FRONT VIEW

NOTE: PURGE GAS INLET = 3/8 FNPT



SIDE VIEW
MOUNTING HOLE PATTERN

REV #	ECO #	CHANGE(S) DESCRIPTION	DATE	CHANGE BY	APPD BY

DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED-
Dimensions Are In Inches
Dimensions In ( ) Are In mm
Tolerances: .X = ± 0.015 (0.38)
.XX = ± 0.010 (0.25)
.XXX = ± 0.005 (0.13)
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted

DRAWN: WJT
DATE: 08/DEC/08
CHECKED: WJT
DATE: 08/DEC/08
APPROVED: WJT
DATE: 08/DEC/08

TITLE: MEDIUM CONTINUOUS DILUTION PURGE GAS INLET KIT
HOLE MOUNTING PATTERN

PART & DWG #: PSO-MCD
MATERIAL: N/A
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
FINISH: N/A

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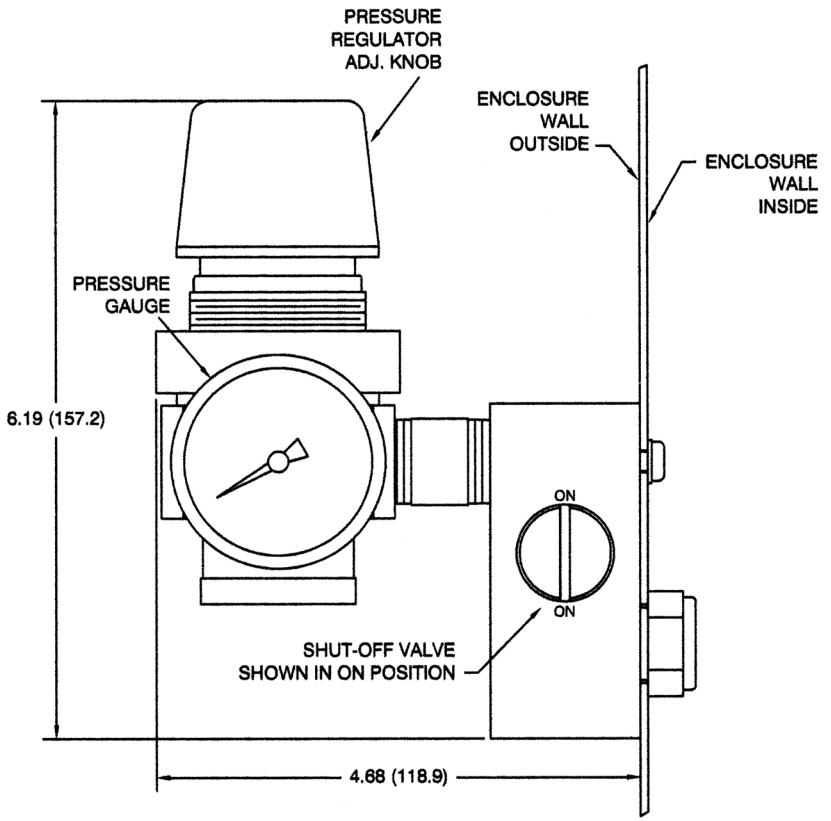
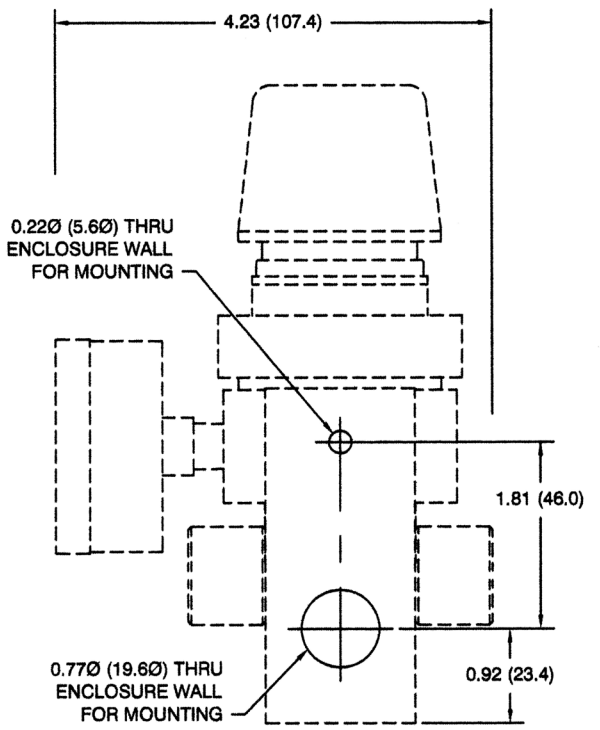


FRONT VIEW

NOTE: PURGE GAS INLET = 1/2-14 FNPT



SIDE VIEW
MOUNTING HOLE PATTERN

REV #	ECO #	CHANGE(S) DESCRIPTION	DATE	CHANGE BY	APPD BY

DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED-
Dimensions Are In Inches
Dimensions In ( ) Are In mm
Tolerances: .X = ± 0.015 (0.38)
.XX = ± 0.010 (0.25)
.XXX = ± 0.005 (0.13)
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted

DRAWN: WJT
DATE: 08/DEC/08
CHECKED: WJT
DATE: 08/DEC/08
APPROVED: WJT
DATE: 08/DEC/08

TITLE: LARGE CONTINUOUS DILUTION PURGE GAS INLET KIT
HOLE MOUNTING PATTERN

PART & DWG #: PSO-LCD
MATERIAL: N/A
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
FINISH: N/A

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WEBSTER, TEXAS, USA
832-368-7166

Small, Medium and Large Manual Leakage Compensation Gas Inlet Kit Installation Procedure:

Manual leakage compensation allows a higher volume of protective gas supply to be manually selected to speed up dilution of potentially flammable materials to an acceptable level, permitting a more-rapid application of initial power, or restoration of power to protected electrical equipment, after service. When the dilution cycle is completed, the large volume of purge gas can be manually turned off. A volume of protective gas larger than the leak rate of the enclosure will be introduced into the now protected enclosure to maintain the required minimum overpressure.

Purge Solutions offers three sizes of manual leakage compensation gas inlet kit models, the first size is our Small Manual Leakage Compensation Gas Inlet Kit for enclosures with a volume up to 25 cubic feet (708 liters). Model number PSO-SMLC-A is our small aluminum version and model number PSO-SMLC-S is our small stainless steel version. Protective gas supply inlet to Small Manual Leakage Compensation Gas Inlet Kit regulator is 1/4-18 FNPT.

The second size we offer is our Medium Manual Leakage Compensation Gas Inlet Kit for enclosures with volumes up to 100 cubic feet (2,832 liters). Model number PSO-MMLC-A is our medium aluminum version and model number PSO-MMLC-S is our large stainless steel version. Protective gas supply inlet to Medium Manual Leakage Compensation Gas Inlet Kit regulator is 3/8-18 FNPT.

The third size we offer is our Large Manual Leakage Compensation Gas Inlet Kit for enclosures with volumes up to 300 cubic feet (8,495 liters). Model number PSO-LMLC-A is our large aluminum version and model number PSO-LMLC-S is our large stainless steel version. Protective gas supply inlet to Large Manual Leakage Compensation Gas Inlet Kit regulator is 1/2-14 FNPT. All Manual Leakage Compensation Gas Inlet Kits include input fittings, regulator, gauge and manifold block.

WARNING: ***Before attempting to install any Purge Solutions Gas Inlet Kits, review all the material and all safety information in this manual and all other applicable documents.***

WARNING: ***Applicable permits must be obtained and appropriate precautions must be taken to prevent possible injury to personnel or equipment damage when installing any Purge Solutions Gas Inlet Kits.***

NOTE: ***Refer to all ATEX, CEC, IECEx, NEC, NFPA and UKEx certificates for any Special Conditions of Use. If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule of the certificate.***

Review all of the material in this manual prior to installing and interfacing the Manual Leakage Compensation Gas Inlet Kit to the enclosure it will be supplying protective gas. If you have any questions, please contact your local Purge Solutions representative or the factory (refer Getting Help page 36) or view installation video, which can be found on our web site www.purgesolutions.com. Refer to Small Manual Leakage Compensation Gas Inlet Kit Mounting Hole Pattern, drawing number PSO-SMLC (page 21), Medium Manual Leakage Compensation Gas Inlet Kit Mounting Hole Pattern, drawing number PSO-MMLC (page 22) or Large Manual Leakage Compensation Gas Inlet Kit Mounting Hole Pattern, drawing number PSO-LMLC (page 23) for over all unit dimensions, hole sizes and locations required to interface and mount system to enclosure.

Step 1:

Make sure that area surrounding the enclosure the Manual Leakage Compensation Gas Inlet Kit to be installed is known to be non-hazardous.

Step 2:

Make sure that all power is removed from the electrical equipment located in the enclosure where the Manual Leakage Compensation Gas Inlet Kit will be installed.

Step 3:

Choose a mounting location for the Manual Leakage Compensation Gas Inlet Kit on the enclosure in a location that would best dilute enclosure as specified in the type X, Y or Z purge unit users manual for lighter or heavier than air hazardous material for single or multiple enclosure applications. The chosen location should permit adequate viewing of the Manual Leakage Compensation Gas Inlet Kit pressure gauge and interface with pressure regulator for required adjustment.

Step 4:

Use Mounting Hole Pattern (drawing number PSO-SMLC, page 21, PSO-MMLC, page 22 or PSO-LMLC, page 23) to accurately locate the mounting holes. Use the Mounting Hole Template to draw and a 1 to 1 scale drawing. Tape the 1 to 1 drawing to the ***outside*** of enclosure. The required hole locations can then be transferred and / or marked using the centers of the holes as shown on the 1 to 1 drawing.

Step 5:

Drill or punch all holes, per the sizes specified on the Mounting Hole Pattern (drawing number PSO-SMLC, page 21, PSO-MMLC, page 22 or PSO-LMLC, page 23).

Step 6:

After required mounting holes have been drilled or punched into enclosure, align the Manual Leakage Compensation Gas Inlet Kit to the mounting holes fabricated in Step 5.

Step 7:

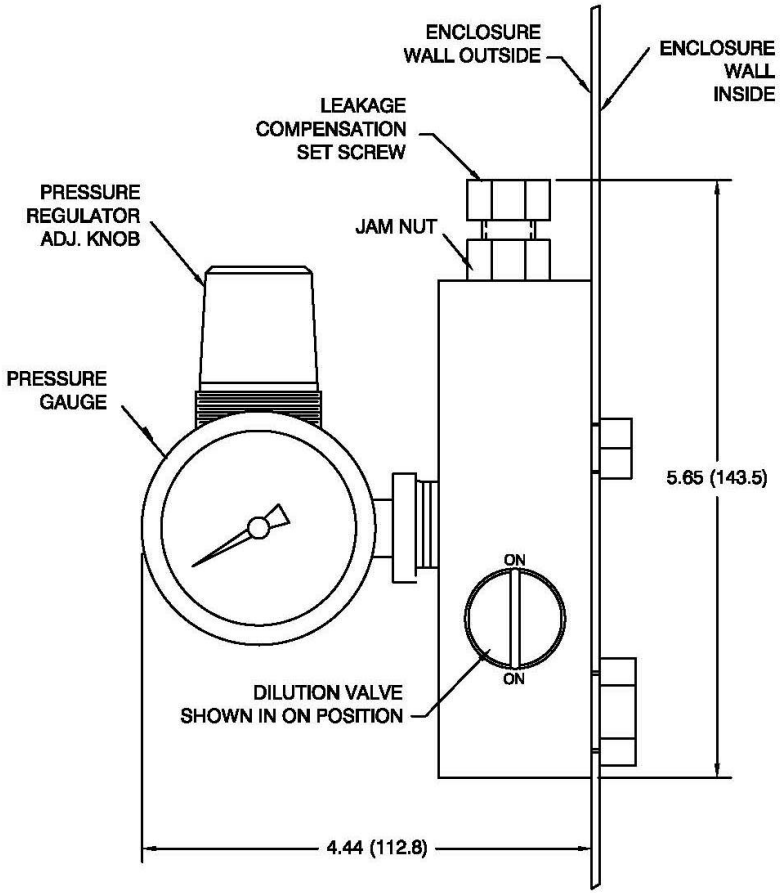
Using the interface fitting provided with the unit, mount the Manual Leakage Compensation Gas Inlet Kit to enclosure. Tighten fittings until the o-ring seal is completely compressed against the surface of the enclosure.

Step 8:

After Manual Leakage Compensation Gas Inlet Kit fittings have been properly tightened, connect supply protective gas to the pressure regulator inlet port of the Manual Leakage Compensation Gas Inlet Kit. Refer to drawing number PSO-SMLC, page 21, PSO-MMLC, page 22 or PSO-LLC, page 23) for purge gas supply inlet size.

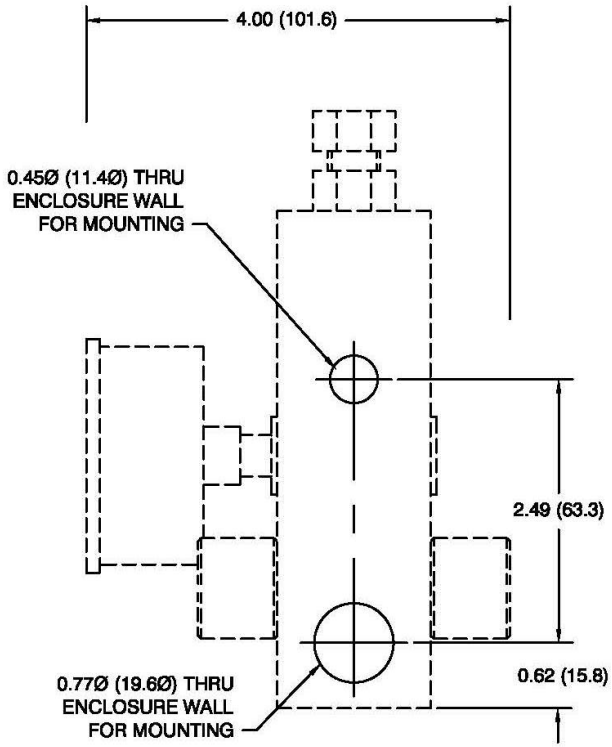
Step 9:

Once the protective gas supply has been connected to the pressure regulator inlet port of the Manual Leakage Compensation Gas Inlet Kit, it is ready to supply protective gas to the enclosure.



FRONT VIEW
SHOWN IN FAST DILUTION ON POSITION

NOTE: PURGE GAS INLET = 1/4-18 FNPT



SIDE VIEW
MOUNTING HOLE PATTERN

REV #	ECO #	CHANGE(S) DESCRIPTION	DATE	CHANGE BY	APPD BY

DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED-
Dimensions Are In Inches
Dimensions In ( ) Are In mm
Tolerances: .X = ± 0.015
.XX = ± 0.010
.XXX = ± 0.005
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted

DRAWN: WJT
DATE: 19/JAN/2019
CHECKED: WJT
DATE: 19/JAN/2019
APPROVED: WJT
DATE: 19/JAN/2019

TITLE: SMALL MANUAL LEAKAGE COMPENSATION PURGE GAS INLET KIT
HOLE MOUNTING PATTERN

PART & DWG #: PSO-SMLC
MATERIAL: N/A
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
FINISH: N/A

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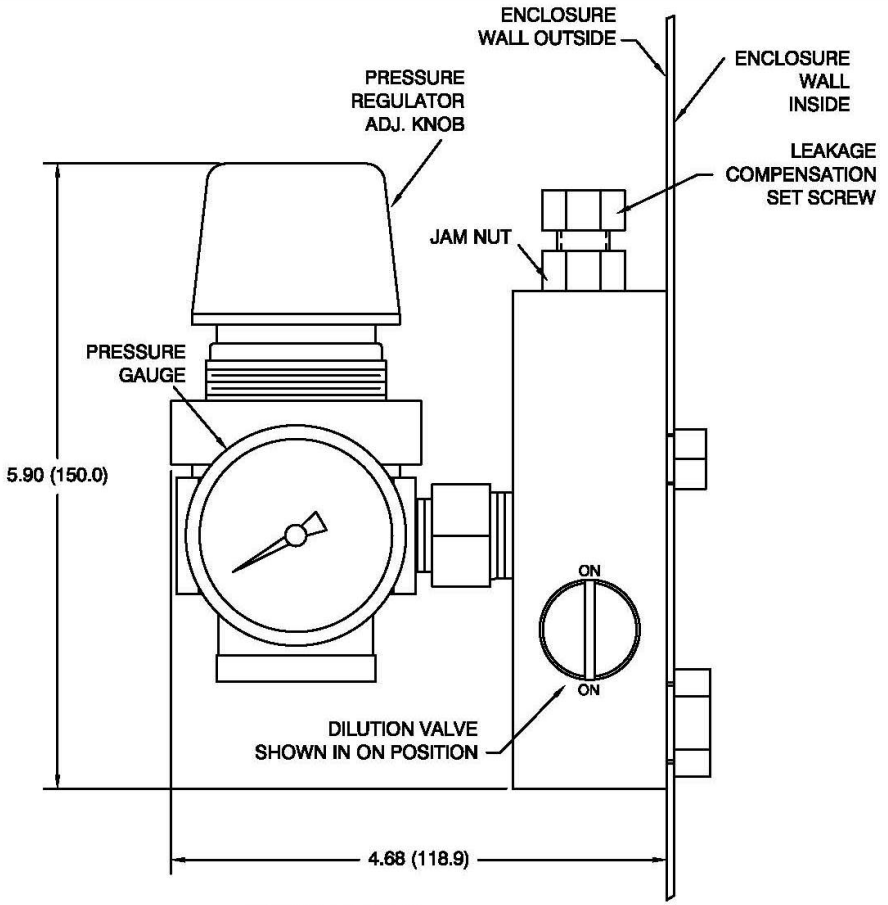
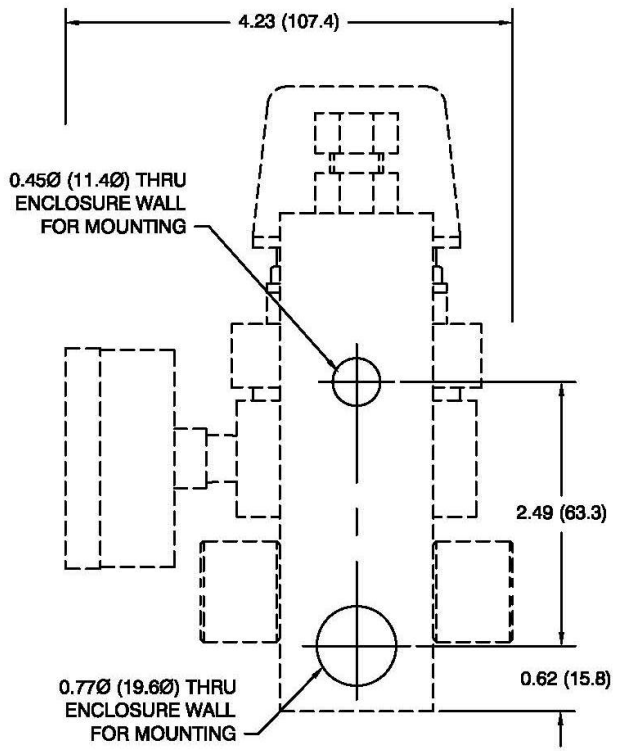


FRONT VIEW
SHOWN IN FAST DILUTION ON POSITION

NOTE: PURGE GAS INLET = 3/8-18 FNPT



SIDE VIEW
MOUNTING HOLE PATTERN

REV #	ECO #	CHANGE(S) DESCRIPTION	DATE	CHANGE BY	APPD BY

DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED-
Dimensions Are In Inches
Dimensions In ( ) Are In mm
Tolerances: .X = ± 0.015
.XX = ± 0.010
.XXX = ± 0.005
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted

DRAWN: WJT
DATE: 19/JAN/18
CHECKED: WJT
DATE: 19/JAN/18
APPROVED: WJT
DATE: 19/JAN/18

TITLE: MEDIUM MANUAL LEAKAGE COMPENSATION
PURGE GAS INLET KIT, HOLE MOUNTING PATTERN

PART & DWG #: PSO-MMLC
MATERIAL: NOTED
SHEET N/A OF 1
SCALE: N/A
DWG SIZE A
FINISH: N/A

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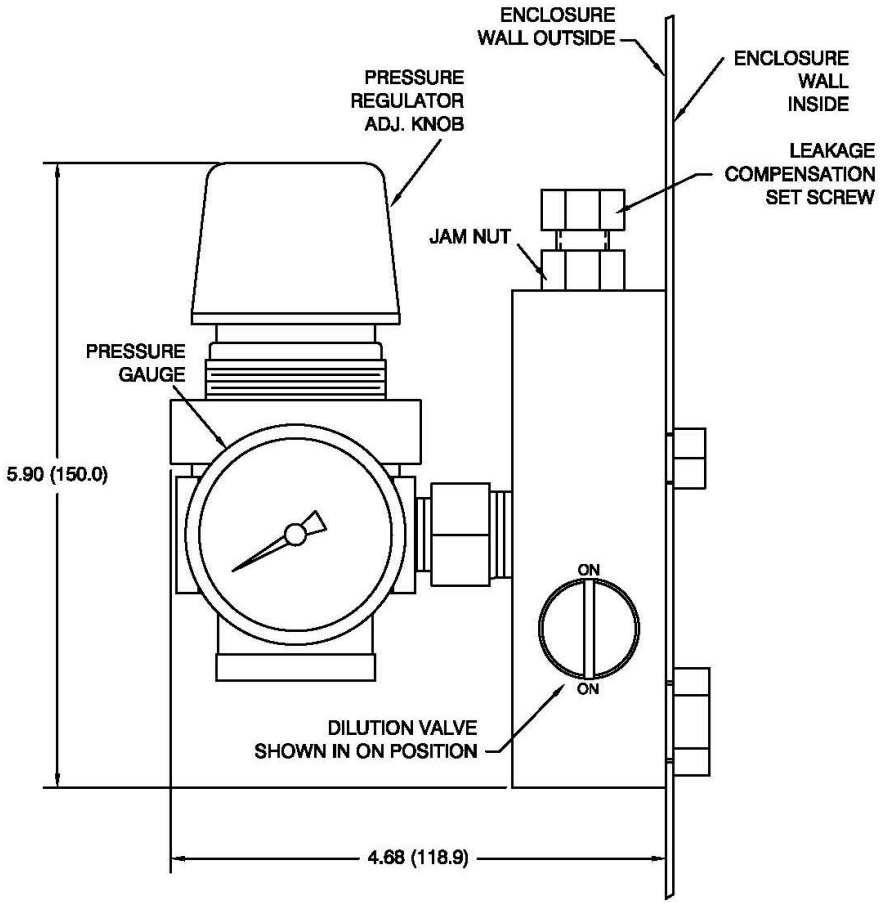
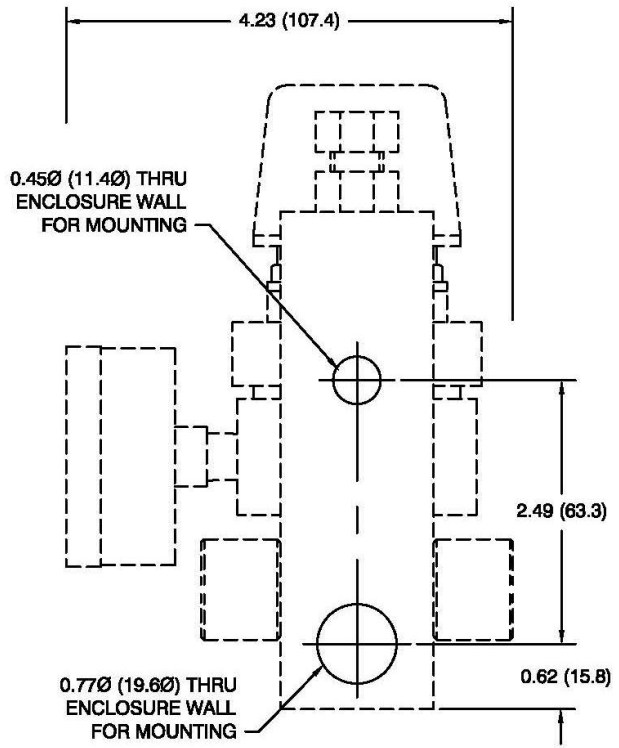


FRONT VIEW
SHOWN IN FAST DILUTION ON POSITION

NOTE: PURGE GAS INLET = 1/2-14 FNPT



SIDE VIEW
MOUNTING HOLE PATTERN

REV #	ECO #	CHANGE(S) DESCRIPTION	DATE	CHANGE BY	APPD BY

DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED-
Dimensions Are in Inches
Dimensions in ( ) Are in mm
Tolerances: .X = ± 0.015 (0.38)
.XX = ± 0.010 (0.25)
.XXX = ± 0.005 (0.13)
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted

DRAWN: WJT
DATE: 19/JAN/18
CHECKED: WJT
DATE: 19/JAN/18
APPROVED: WJT
DATE: 19/JAN/18

TITLE: LARGE MANUAL LEAKAGE COMPENSATION
PURGE GAS INLET KIT, HOLE MOUNTING PATTERN

PART & DWG #: PSO-LMLC
MATERIAL: NOTED
SHEET N/A OF 1
SCALE: N/A
DWG SIZE A
FINISH: N/A

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832-368-7166

Small, Medium and Large Automatic Leakage Compensation Gas Inlet Kit Installation Procedure:

Automatic leakage compensation allows a higher volume of protective gas supply to be automatically selected by the Purge Controller to speed up dilution of potentially flammable materials to an acceptable level, permitting a more-rapid application of initial power, or restoration of power to protected electrical equipment, after service. When the dilution cycle is completed, the large volume of purge gas can be automatically turned off by the Purge Controller. A volume of protective gas larger than the leak rate of the enclosure will be introduced into the now protected enclosure to maintain the required minimum overpressure for hazardous location.

Purge Solutions, Inc. offers three sizes of Automatic Leakage Compensation Gas Inlet Kit models, the first size is our Small Automatic Leakage Compensation Gas Inlet Kit for enclosures with a volume up to 15 cubic feet (425 liters). Model number PSO-SALC-D1A is our small, Division, 115VAC, aluminum version, model number PSO-SALC-D2A is our small, Division, 230VAC, aluminum version, model number PSO-SALC-D1S is our small, Division, 115VAC, stainless steel version and model number PSO-SALC-D2S is our small, Division, 230VAC, stainless steel version. Model number PSO-SALC-Z1A is our small, Zone, 115VAC, aluminum version, model number PSO-SALC-Z2A is our small, Zone, 230VAC, aluminum version, model number PSO-SALC-Z1S is our small, Zone, 115VAC, stainless steel version and model number PSO-SALC-Z2S is our small, Zone, 230VAC, stainless steel version. Protective gas supply inlet to Small Automatic Leakage Compensation Gas Inlet Kit regulator is 1/4-18 FNPT.

The second size we offer is our Medium Automatic Leakage Compensation Gas Inlet Kit for enclosures with volumes up to 75 cubic feet (2,125 liters). Model number PSO-MALC-D1A is our medium, Division, 115VAC, aluminum version, model number PSO-MALC-D2A is our medium, Division, 230VAC, aluminum version, model number PSO-MALC-D1S is our medium, Division, 115VAC, stainless steel version and model number PSO-MALC-D2S is our medium, Division, 230VAC, stainless steel version. Model number PSO-MALC-Z1A is our medium, Zone, 115VAC, aluminum version, model number PSO-MALC-Z2A is our medium, Zone, 230VAC, aluminum version, model number PSO-MALC-Z1S is our medium, Zone, 115VAC, stainless steel version and model number PSO-MALC-Z2S is our medium, Zone, 230VAC, stainless steel version. Protective gas supply inlet to Medium Automatic Leakage Compensation Gas Inlet Kit regulator is 3/8-18 FNPT.

The third size we offer is our Large Automatic Leakage Compensation Gas Inlet Kit for enclosures with volumes up to 200 cubic feet (5,663 liters). Model number PSO-LALC-D1A is our large, Division, 115VAC, aluminum version, model number PSO-LALC-D2A is our large, Division, 230VAC, aluminum version, model number PSO-LALC-D1S is our large, Division, 115VAC, stainless steel version and model number PSO-LALC-D2S is our large, Division, 230VAC, stainless steel version. Model number PSO-LALC-Z1A is our large, Zone, 115VAC, aluminum version, model number PSO-LALC-Z2A is our large, Zone, 230VAC, aluminum version, model number PSO-LALC-Z1S is our large, Zone, 115VAC, stainless steel version and model number PSO-LALC-Z2S is our large, Zone, 230VAC, stainless steel version. Protective gas supply inlet to Large Automatic Leakage Compensation Gas Inlet Kit regulator is 1/2-14 FNPT. All Automatic Leakage Compensation Gas Inlet Kits include input solenoid valve, fittings, regulator, gauge and manifold block.

Review all of the material in this manual prior to installing and interfacing the Automatic Leakage Compensation Gas Inlet Kit to the enclosure it will be supplying protective gas. If you have any questions, please contact your local Purge Solutions, Inc. representative or the factory (refer Getting Help page 36) or view installation video, which can be found on our web site www.purgesolutions.com. Refer to Small Automatic Leakage Compensation Gas Inlet Kit Mounting Hole Pattern, drawing number PSO-SALC (page 29), Medium Automatic Leakage Compensation Gas Inlet Kit Mounting Hole Pattern, drawing number PSO-MALC (page 30) or Large Automatic Leakage Compensation Gas Inlet Kit Mounting Hole Pattern, drawing number PSO-LALC (page 31) for over all unit dimensions, hole sizes and locations required to interface and mount system to enclosure.

Step 1:

Make sure that area surrounding the enclosure the Automatic Leakage Compensation Gas Inlet Kit to be installed is known to be non-hazardous.

Step 2:

Make sure that all power is removed from the electrical equipment located in the enclosure where the Automatic Leakage Compensation Gas Inlet Kit will be installed.

Step 3:

Choose a mounting location for the Automatic Leakage Compensation Gas Inlet Kit on the enclosure in a location that would best dilute enclosure as specified in the type X purge unit users manuals for lighter or heavier than air hazardous material for single or multiple enclosure applications. The chosen location should permit adequate viewing of the Automatic Leakage Compensation Gas Inlet Kit pressure gauge and interface with pressure regulator for required adjustment.

Step 4:

Use Mounting Hole Pattern (drawing number PSO-SALC, page 29, PSO-MALC, page 30 or PSO-LALC, page 31) to accurately locate the mounting holes. Use the Mounting Hole Template to draw and a 1 to 1 scale drawing. Tape the 1 to 1 drawing to the ***outside*** of enclosure. The required hole locations can then be transferred and/or marked using the centers of the holes as shown on the 1 to 1 drawing.

Step 5:

Drill or punch all holes, per the sizes specified on the Mounting Hole Pattern (drawing number PSO-SALC, page 29, PSO-MALC, page 30 or PSO-LALC, page 31).

Step 6:

After required mounting holes have been drilled or punched into enclosure, align the Automatic Leakage Compensation Gas Inlet Kit to the mounting holes fabricated in Step 5.

Step 7:

Using the interface fitting provided with the unit, mount the Automatic Leakage Compensation Gas Inlet Kit to enclosure. Tighten fittings until the o-ring seal is completely compressed against the surface of the enclosure.

Step 8:

After Automatic Leakage Compensation Gas Inlet Kit fittings have been properly tightened to enclosure, install solenoid valve as shown in (drawing number PSO-SALC, page 29, PSO-MALC, page 30 or PSO-LALC, page 31).

Power Source Specification
115 Volt Model: 85 to 160 VAC, 47 to 63 Hz 230 Volt Model: 190 to 265 VAC, 47 to 63 Hz
Use 16 AWG stranded, 3 conductor copper or tin-plated copper power wire rated for at least 250 VAC, of the required length.

WARNING: ***This apparatus must be earth grounded!***

CAUTION: ***Electrical power must be free of spikes, sags, surges, or electrical noise.***

Power Connection from Type X – Purge Controller to Automatic Leakage Compensation Gas Inlet Kit Solenoid Valve	
WIRE	**PURGE CONTROLLER TERMINAL NUMBER**
Hot 1 or + Supply	Terminal Block - 1 Position - 7
Neutral or Hot 2 Or Return	Terminal Block - 1 Position - 8
Ground, Earth, or Chassis	Terminal Block - 1 Position - 9

Step 9:

With solenoid valve mounted, Install properly rated cable connection in the 1/2 - 14 FNPT holes located on the Purge Controller and to the Automatic Leakage Compensation Gas Inlet Kit. Plug any 1/2 - 14 FNPT holes not used with properly certified plugs rated for hazardous area location.

WARNING: ***Poured seals, conduit, cable glands, cable and hole plugs should not be installed in a hazardous area classification for which it is not rated.***

NOTE: ***For Division 1 installations when selecting enclosure Purge Controller will be installed insure that there is enough space available for poured seals and associated conduit bringing power from Purge Controller housing to Automatic Leakage Compensation Gas Inlet Kit.***

NOTE: ***For Division 1 installations conduit must be sealed within 18 inches of Purge Controller housing and the Automatic Leakage Compensation Gas Inlet Kit. All cable entries in Automatic Leakage Compensation Gas Inlet Kit solenoid valve are 1/2-14 NPT.***

NOTE: ***For Zone 1 installations when selecting enclosure Purge Controller and Automatic Leakage Compensation Gas Inlet Kit will be installed insure that there is enough space available for cable glands and associated cable bringing power from Purge Controller housing to Automatic Leakage Compensation Gas Inlet Kit.***

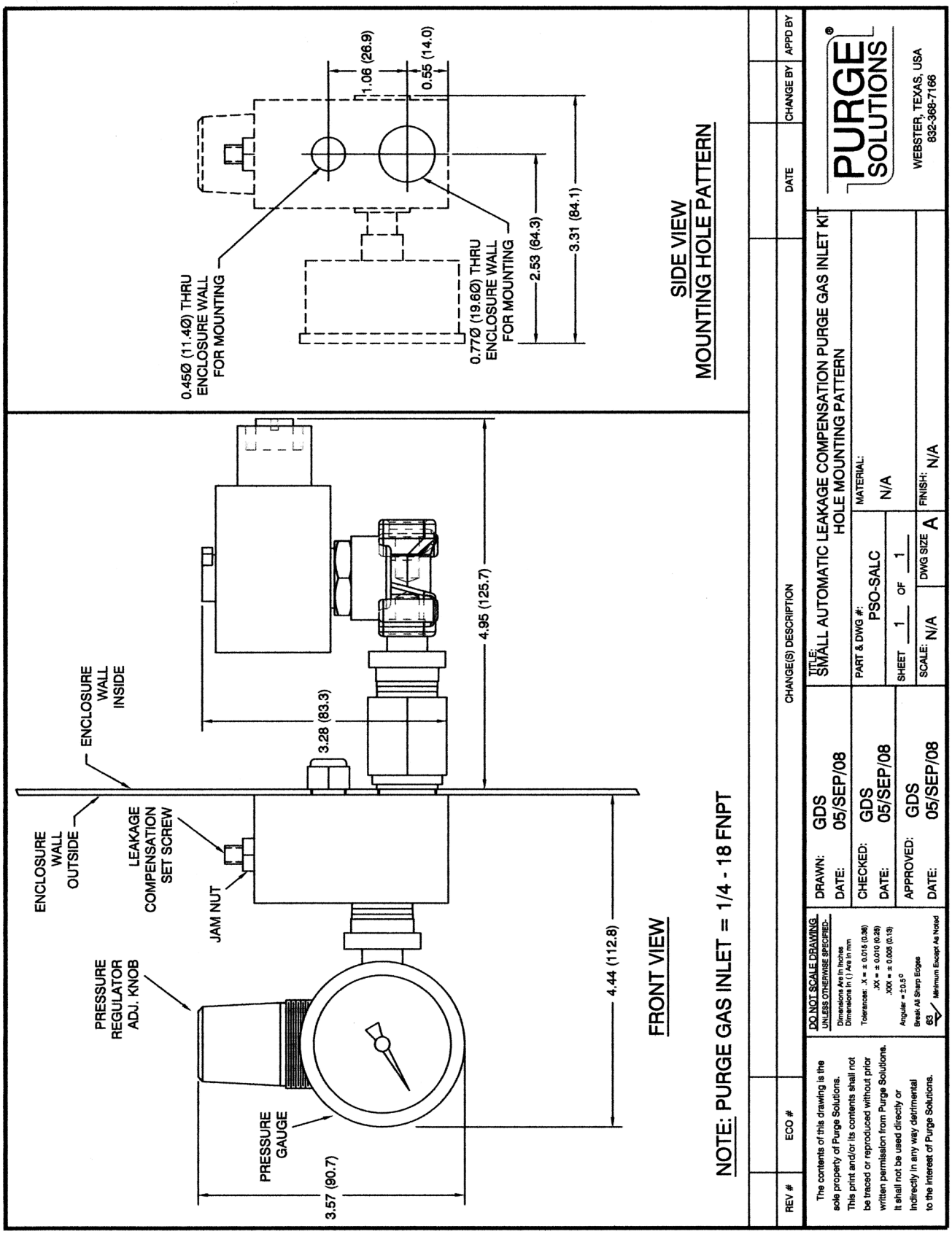
NOTE: ***For Zone 1 installations cable must be sealed at Purge Controller housing and Automatic Leakage Compensation Gas Inlet Kit. All cable entries in Automatic Leakage Compensation Gas Inlet Kit solenoid valve are 1/2-14 NPT.***

Step 10:

After Automatic Leakage Compensation Gas Inlet Kit fittings have been properly tightened, connect supply protective gas to the pressure regulator inlet port of the Automatic Leakage Compensation Gas Inlet Kit. Refer to drawing number PSO-SALC, page 29, PSO-MALC, page 30 or PSO-LALC, page 31) for purge gas supply inlet size.

Step 11:

Once the protective gas supply has been connected to the pressure regulator inlet port of the Automatic Leakage Compensation Gas Inlet Kit, it is ready to supply protective gas to the enclosure.


SIDE VIEW
MOUNTING HOLE PATTERN
0.450 (11.40) THRU
ENCLOSURE WALL
FOR MOUNTING
0.770 (19.60) THRU
ENCLOSURE WALL
FOR MOUNTING
1.06 (26.9)
0.55 (14.0)
2.53 (64.3)
3.31 (84.1)
FRONT VIEW
NOTE: PURGE GAS INLET = 1/4 - 18 FNPT
ENCLOSURE
WALL
OUTSIDE
ENCLOSURE
WALL
INSIDE
LEAKAGE
COMPENSATION
SET SCREW
JAM NUT
PRESSURE
REGULATOR
ADJ. KNOB
PRESSURE
GAUGE
3.28 (83.3)
4.95 (125.7)
4.44 (112.8)
3.57 (90.7)
REV #
ECO #
CHANGE(S) DESCRIPTION
DATE
CHANGE BY
APPD BY
DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED:
Dimensions Are in Inches
Dimensions in ( ) Are in mm
Tolerances: .X = ± 0.015 (0.38)
.XX = ± 0.010 (0.25)
.XXX = ± 0.005 (0.13)
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted
DRAWN: GDS
DATE: 05/SEP/08
CHECKED: GDS
DATE: 05/SEP/08
APPROVED: GDS
DATE: 05/SEP/08
TITLE:
SMALL AUTOMATIC LEAKAGE COMPENSATION PURGE GAS INLET KIT
HOLE MOUNTING PATTERN
PART & DWG #:
PSO-SALC
MATERIAL:
N/A
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
FINISH: N/A
PURGE SOLUTIONS
WEBSTER, TEXAS, USA
832-368-7166
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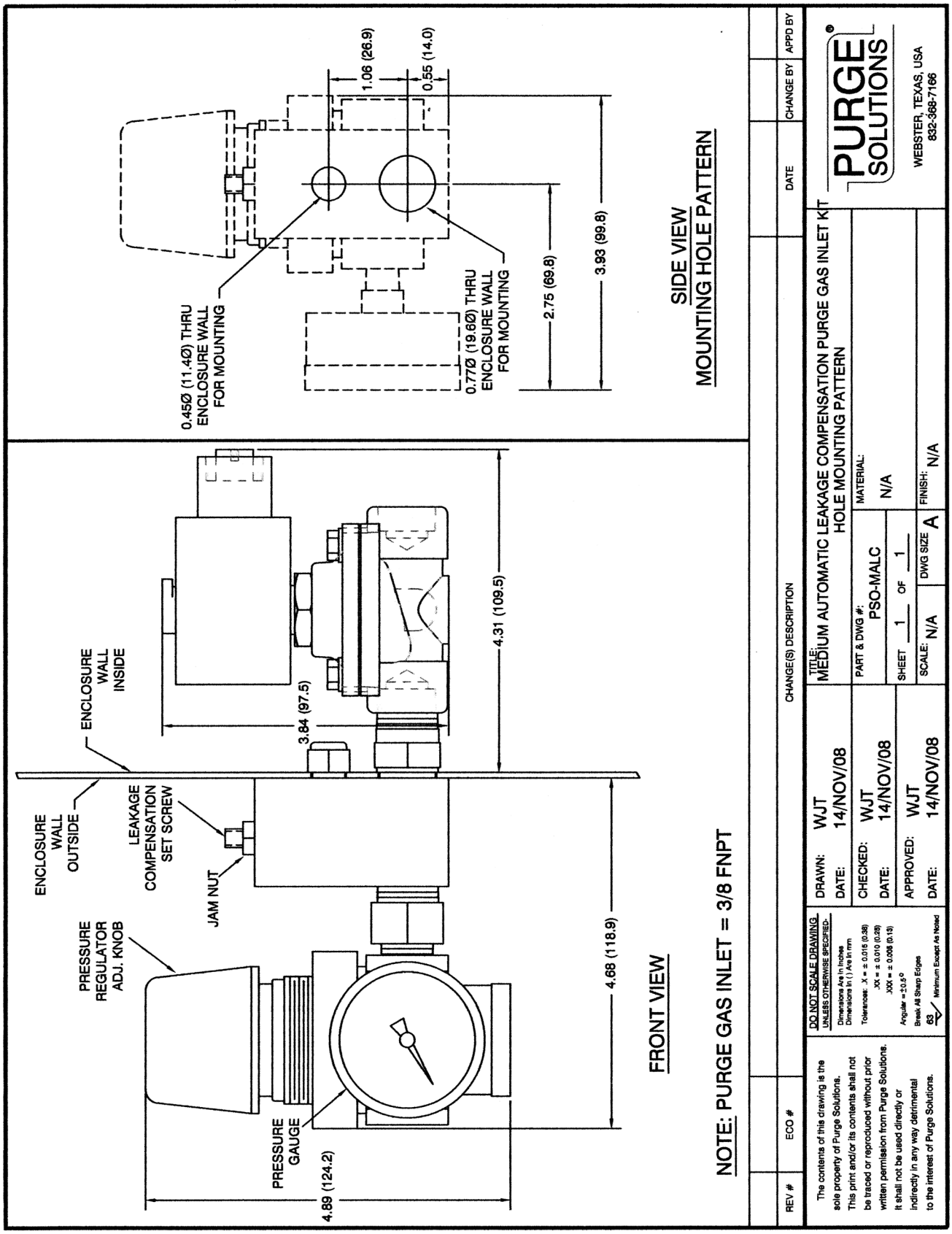
SIDE VIEW
MOUNTING HOLE PATTERN
0.450Ø (11.40) THRU
ENCLOSURE WALL
FOR MOUNTING
0.770Ø (19.60) THRU
ENCLOSURE WALL
FOR MOUNTING
1.06 (26.9)
0.55 (14.0)
2.75 (69.8)
3.93 (99.8)
NOTE: PURGE GAS INLET = 3/8 FNPT
FRONT VIEW
ENCLOSURE
WALL
INSIDE
ENCLOSURE
WALL
OUTSIDE
LEAKAGE
COMPENSATION
SET SCREW
JAM NUT
PRESSURE
REGULATOR
ADJ. KNOB
PRESSURE
GAUGE
3.84 (97.5)
4.31 (109.5)
4.68 (118.9)
4.89 (124.2)
REV #
ECO #
CHANGE(S) DESCRIPTION
DATE
CHANGE BY
APPD BY
DRAWN: WJT
DATE: 14/NOV/08
CHECKED: WJT
DATE: 14/NOV/08
APPROVED: WJT
DATE: 14/NOV/08
TITLE:
MEDIUM AUTOMATIC LEAKAGE COMPENSATION PURGE GAS INLET KIT
HOLE MOUNTING PATTERN
PART & DWG #:
PSO-MALC
MATERIAL:
N/A
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
FINISH: N/A
PURGE SOLUTIONS
WEBSTER, TEXAS, USA
832-368-7166
DO NOT SCALE DRAWING
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Dimensions In ( ) Are In mm
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.XXX = ± 0.008 (0.15)
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted
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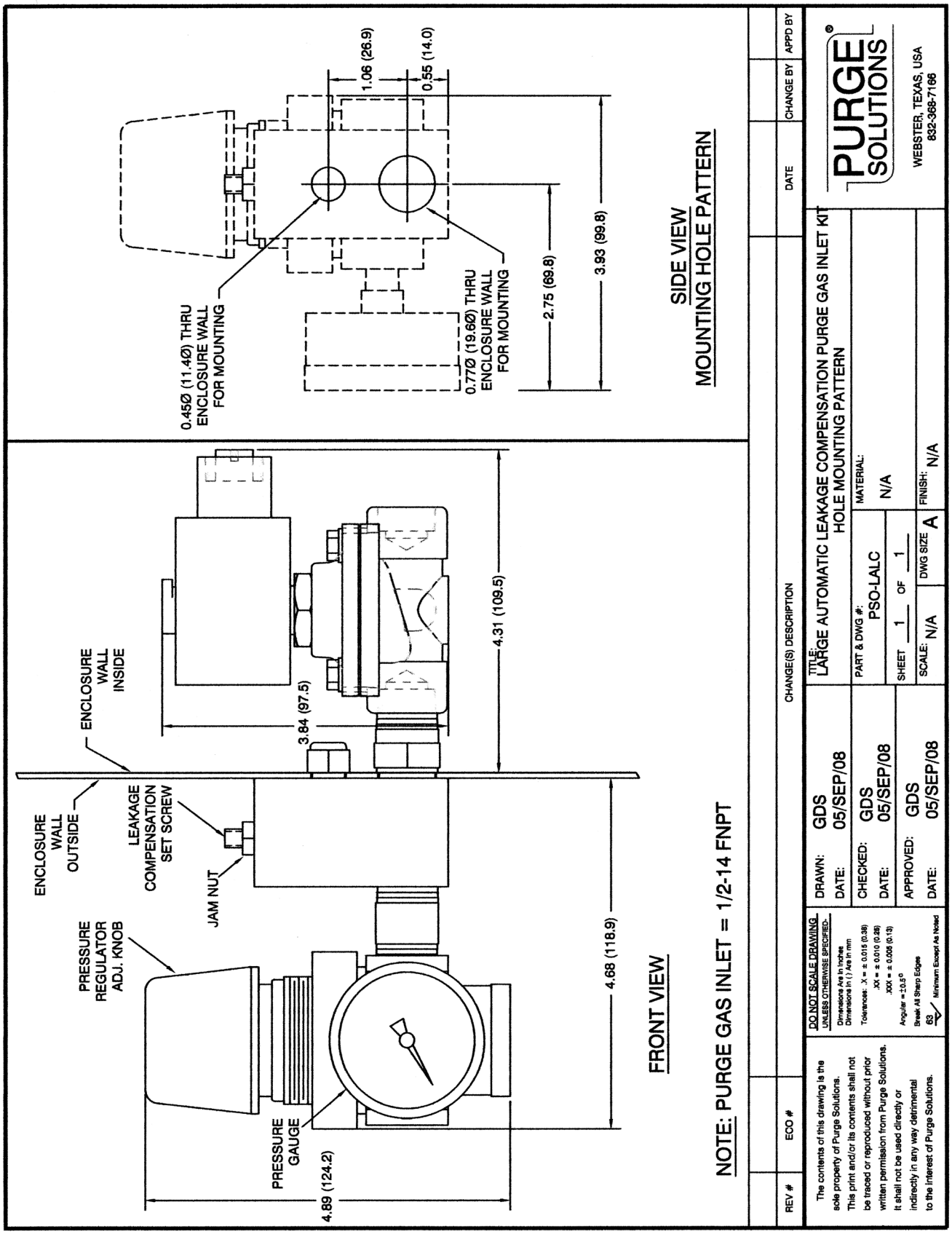
SIDE VIEW
MOUNTING HOLE PATTERN
0.450Ø (11.40) THRU
ENCLOSURE WALL
FOR MOUNTING
0.770Ø (19.60) THRU
ENCLOSURE WALL
FOR MOUNTING
1.06 (26.9)
0.55 (14.0)
2.75 (69.8)
3.93 (99.8)
FRONT VIEW
NOTE: PURGE GAS INLET = 1/2-14 FNPT
ENCLOSURE
WALL
INSIDE
ENCLOSURE
WALL
OUTSIDE
LEAKAGE
COMPENSATION
SET SCREW
JAM NUT
PRESSURE
REGULATOR
ADJ. KNOB
PRESSURE
GAUGE
3.84 (97.5)
4.31 (109.5)
4.68 (118.9)
4.89 (124.2)
REV #
ECO #
CHANGE(S) DESCRIPTION
DATE
CHANGE BY
APPD BY
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Tolerances: .X = ± 0.015 (0.38)
.XX = ± 0.010 (0.25)
.XXX = ± 0.005 (0.13)
Angular = ±0.5°
Break All Sharp Edges
63 Minimum Except As Noted
DRAWN: GDS
DATE: 05/SEP/08
CHECKED: GDS
DATE: 05/SEP/08
APPROVED: GDS
DATE: 05/SEP/08
TITLE:
LARGE AUTOMATIC LEAKAGE COMPENSATION PURGE GAS INLET KIT
HOLE MOUNTING PATTERN
PART & DWG #:
PSO-LALC
SHEET 1 OF 1
SCALE: N/A
DWG SIZE A
MATERIAL:
N/A
FINISH: N/A
PURGE SOLUTIONS
WEBSTER, TEXAS, USA
832-368-7166

Back-Up Protective Gas Inlet Kit Installation Procedure:

In the event the initial protective gas supply is lost, this kit insures that a back up source of protective gas is automatically applied to the enclosure. Purge Solutions model number PSO-BUPG-K has inlets and outlet which are 3/8 – 18 FNPT.

NOTE: The Back-Up Protective Gas Inlet Kit requires a minimum air supply pressure of 80 psig (5.5 bar) to function properly.

Review all the material in this manual prior to installing and interfacing Back-Up Protective Gas Inlet Kit. If you have any questions, please contact your local Purge Solutions representative or the factory (refer Getting Help page 36). Refer to Back-Up Protective Gas Inlet Kit, drawing number PSO-BUVG-K (page 34) gas line sizes and locations required to interface and mount unit to purge gas system.

Step 1:

Make sure that area surrounding the enclosure the Back-Up Protective Gas Inlet Kit to be installed is known to be non-hazardous.

Step 2:

Make sure that all power is removed from the electrical equipment located in the enclosure where the Back-Up Protective Gas Inlet Kit will be installed.

Step 3:

Choose a mounting location for the Back-Up Protective Gas Inlet Kit on or near the enclosure in a location that the protective supply gas lines can be viewed and serviced.

Step 4:

After Back-Up Protective Gas Inlet Kit has been properly installed, connect a 3/8-18 FNPT fitting from the primary protective gas supply to normally closed port as illustrated in Back-Up Protective Gas Inlet Kit, drawing number PSO-BUVG-K (page 34).

Step 5:

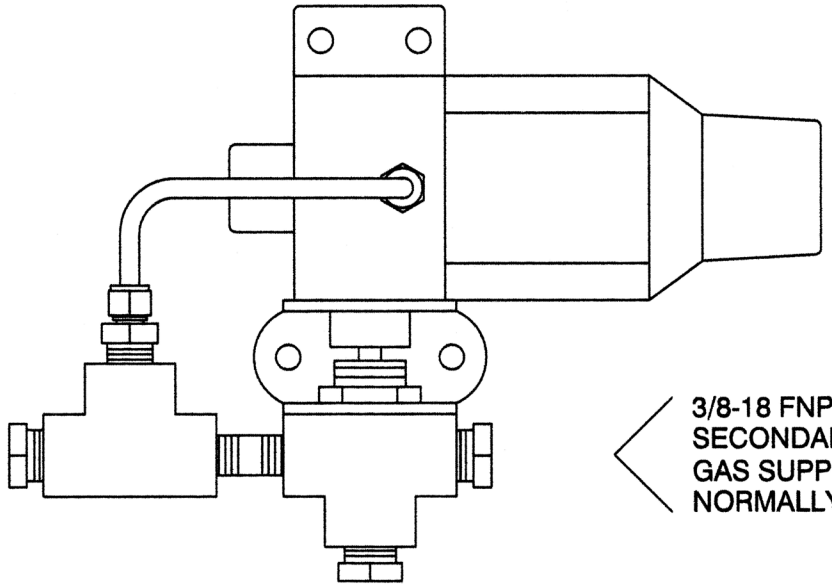
After Back-Up Protective Gas Inlet Kit primary protective gas supply has been connected, connect a 3/8-18 FNPT fitting from the secondary protective gas supply to normally opened port as illustrated in Back-Up Protective Gas Inlet Kit, drawing number PSO-BUVG-K (page 34).

Step 6:

After Back-Up Protective Gas Inlet Kit secondary protective gas supply has been connected, connect a 3/8-18 FNPT fitting from the Back-Up Protective Gas Inlet Kit protective gas supply out to supply enclosure with protective gas as illustrated in Back-Up Protective Gas Inlet Kit, drawing number PSO-BUVG-K (page 34).

Step 7:

After all 3/8-18 FNPT fitting have been properly tightened, the Back-Up Protective Gas Inlet Kit is ready to supply the enclosure if primary protective gas is lost.



3/8-18 FNPT
PRIMARY PROTECTIVE
GAS SUPPLY IN
NORMALLY CLOSED

3/8-18 FNPT
SECONDARY PROTECTIVE
GAS SUPPLY IN
NORMALLY OPEN

3/8-18 FNPT
PROTECTIVE GAS
SUPPLY OUT
TO ENCLOSURE

REV #	ECO #	CHANGE(S) DESCRIPTION	DATE	CHANGE BY	APPD BY

DO NOT SCALE DRAWING
UNLESS OTHERWISE SPECIFIED-

Dimensions Are In Inches
Dimensions In ( ) Are In mm

Tolerances: .X = ± 0.015
.XX = ± 0.010
.XXX = ± 0.005

Angular = ±0.5°

Break All Sharp Edges

63 Minimum Except As Noted

DRAWN: WJT
DATE: 21/JUN/02

CHECKED: WJT
DATE: 21/JUN/02

APPROVED: WJT
DATE: 21/JUN/02

TITLE: BACK-UP PURGE GAS KIT ILLUSTRATION DRAWING

PART & DWG #: PSO-BUPG-K

MATERIAL: N/A

SHEET 1 OF 1

SCALE: N/A

DWG SIZE A

FINISH: N/A

PURGE SOLUTIONS®
WEBSTER, TEXAS, USA
832-368-7166

Protective Gas Loss Indicator Kit Installation Procedure:

An explosion-proof differential pressure switch may be installed to provide an alarm contact output signal to indicate the loss of primary protective gas supply. While a second can be installed to provide loss of back-up protective gas. Model number is PSO-PGLI-K.

Review all the material in this manual prior to installing and interfacing Protective Gas Loss Indicator Kit. Please contact your local Purge Solutions, Inc. representative or the factory (refer Getting Help page 36) for current installation information.

Section 5
Getting Help

Getting Help:

Answers to many questions concerning any optional products we offer are in this manual. If a problem or question is encountered that is not covered in the documentation provided, assistance is available Monday through Friday (except holidays), from 8 a.m. to 5 p.m. United States central time. To obtain assistance by telephone call Purge Solutions, Inc. at **832-368-7166**.

For assistance during times other than normal business hours, consult our World Wide Web Internet site at **http://www.purgesolutions.com**. This site includes equipment information, news releases, videos and other information. E-mail can be sent to **info@purgesolutions.com**.

Purge Solutions, Inc. Standard Terms and Conditions of Sale

The product, equipment, software, material and / or services (collectively the "Product"), which are described in our quotation, purchase order acknowledgment, packing list and / or invoice hereof shall be sold by Purge Solutions, Inc. only upon the following Standard Terms and Conditions of Sale:

1. CONTRACT TERMS AND ACCEPTANCE OF PURCHASE ORDER: These Standard Terms and Conditions of Sale (the "Contract") are the only terms and conditions applicable to the sale of the Products, which are based on qualification and completion of the following: a) Acceptance of any Purchase Order is subject to credit approval by Purge Solutions, Inc. b) Acceptance of completed Purge Solutions, Inc. Customer Information Form. c) Final acceptance of Purchase Order will be Purchase Order Acknowledgment being forwarded to Buyer *(Only until Purchase Order Acknowledgment has been forwarded to Buyer has purchase order been accepted and sent to manufacturing for processing.)*

2. QUOTATION PRICES: Quoted prices are valid for thirty (30) days of quotation date and are exclusive of any applicable taxes, shipping charges and / or any other miscellaneous charges not specified in quote. Prices are subject to change without notice. Any change in quantities, partial release and / or destination may incur a price adjustment.

3. PAYMENT TERMS: Purchase Orders inside the Continental United States; are subject to the approval of Purge Solutions, Inc. Credit Department and unless otherwise agreed in writing, terms of payment are NET thirty (30) days following the date of invoice. Purchase orders outside the continental United States, will be shipped upon receipt of full payment and all costing in US dollars. When the purchase order has been acknowledged, an invoice will be provided. When full payment has been received, including shipping and handling charges, purchase order will be shipped. Purge Solutions, Inc. accepts Visa, MasterCard, Discover and American Express as well as banking transfers. Banking transfer fees are not shared and if banking transfer fees are incorrect; purchase orders will not be shipped. If any Buyer fails to comply with these terms and conditions or sale or if Buyer's credit becomes unsatisfactory to Purge Solutions, Inc., Purge Solutions, Inc. reserves the right to terminate the purchase order without liability to Purge Solutions, Inc. and all future purchase orders of Buyer will be COD or credit card terms before shipping. If a company has an outstanding invoice that is five (5) days past the due date, open purchase orders are subject to being held until such time as the past due status has been brought current.

4. DELIVERY DATES: Quoted delivery dates are approximate estimates determined at the time of quotation and are subject to revisions due to variations in order processing and new purchase orders in manufacturing queue since quoting. Purge Solutions, Inc. assumes no liability for losses arising from inaccurate lead time estimates and is able to make partial shipments against this Contract. The Buyer shall not hold Purge Solutions, Inc. responsible for any delay or damages suffered by the Buyer by reason of any delay due to fires, strikes, riots, Acts of God, priorities, Government orders or restrictions, delays by suppliers or materials or parts, inability to obtain suitable and sufficient labor and / or any other unavoidable contingencies beyond the control of Purge Solutions, Inc. In no case shall Purge Solutions, Inc. be liable for any consequential or special damages arising from any delay in delivery. In the event of such delay, the shipping date shall be extended for a period equal to the time lost by reason of such delay.

5. CANCELLATIONS: Only prior to shipping of Product may Buyer terminate purchase order providing the following: a) Purge Solutions, Inc. is given reasonable notice. b) Purge Solutions, Inc. is compensated for all costs, expenses incurred or committed and for any losses resulting. Once a purchase order has been shipped, all sales are final.

6. CLAIMS, DAMAGE OR LOSS IN TRANSIT: Delivery of Product to carrier from Purge Solutions, Inc. facility or other shipping point shall constitute delivery. Buyer shall bear the risk of loss for damage to or loss of Product from the time Purge Solutions, Inc. delivers Product to carrier, Buyer or Buyer agent. Any claims for damage or loss, which has passed to the Buyer shall be filed with the carrier. Buyer shall give written notice to Purge Solutions, Inc. of any claim for shortage or error in Product shipped within five (5) days of receipt of Product.

7. WARRENTY AND LIMITATION OF LIABILITY: Purge Solutions, Inc. Products are warranted free from defects in material and workmanship at the time of shipment for one year thereafter (One year from date of shipping.). Any claimed defects with Purge Solutions, Inc. Products must be reported within the warranty period and warranty subject to inspection by Purge Solutions, Inc. All warranty inspections are to be performed at Purge Solutions, Inc. facility. Buyer shall ship with shipping charges paid by the Buyer to Purge Solutions, Inc. facility. After inspection by Purge Solutions, Inc. a quotation of proposed work required will be sent to the Buyer. Purge Solutions, Inc. shall be liable only to replace or repair, at its option, free of charge, Products which are found by Purge Solutions, Inc. to be defective in material or workmanship, and which are reported to Purge Solutions, Inc. within the warranty period as provide previously. This right of replacement shall be Buyer's exclusive remedy against Purge Solutions, Inc. Shipment of repaired or replaced products from Purge Solutions, Inc. facility shall be ex-works or FOB Purge Solutions, Inc. facility. Purge Solutions, Inc. shall not be liable for labor charges or other losses or damages of any kind or description, including but not limited to, incidental, special or consequential damages caused by defective Products. This warranty shall be void if product specifications provided by Purge Solutions, Inc. are not followed concerning methods of installation, operation, usage, storage or exposure to harsh conditions (including, but not limited to, temperature and humidity levels outside the approved ranges). Products furnished by Purge Solutions, Inc. by other suppliers shall carry no warranty except that supplier's warranties as to materials and workmanship. Purge Solutions, Inc. disclaims all warranties, expressed or implied, with respect to such Products. The express warranties set forth herein constitute the only warranties with respect to the products sold in connection herewith. Purge Solutions, Inc. makes no representation or warranty of any kind, express or implied (either in fact or by operation of law), with respect to the Products, whether as to their merchantability, fitness for a particular purpose or otherwise. No employee, agent or representative of Purge Solutions, Inc. has any authority to bind Purge Solutions, Inc. to any oral or written representation or warranty concerning the Products over and above that stated herein, except by written amendment signed by Purge Solutions, Inc. and Buyer.

8. RETURNS: Subject to the terms of this Contract regarding CANCELLATION and WARRANTY, All sales are final. Buyer may request a warranty return by contacting Purge Solutions, Inc. and requesting a Return Merchandise Authorization Number. No Product will be accepted for return without a valid Return Merchandise Authorization form and clearly noted on the outside of the shipment. Any return shipment must be made by prepaid freight unless Purge Solutions, Inc. has expressly authorized Buyer in writing to ship such Product to Purge Solutions, Inc. at Purge Solutions, Inc. expense. Any returns of Product authorized by Purge Solutions, Inc. under certain circumstances are subject to a standard restocking charge of 25% of the purchase order's invoice. Non-stock Products are subject to higher restocking charges, if return privileges are extended.

9. SERVICES: Services rendered by Purge Solutions, Inc. whether with or without charge, are only advisory in nature and are only merely incidental to the sales of the Product. When any such services are rendered, Buyer will retain full responsibility for and full control, custody and supervision of the Product, its installation, selection thereof and a representative of Buyer shall be present with full authority to direct operations.