



Back-Up Vents

IOM Manual

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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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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 and NFPA 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 and NFPA 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 Back-Up Vents 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:

Appropriate precautions must be taken to prevent sparks that may ignite combustible materials that may be present in the enclosure environment that the Back-Up Vents will be installed. Precautions must also be taken to prevent electrical shock if the enclosure is opened. 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. Purge Back-Up Vents must be installed in a suitable location. All Purge Solutions, Inc. Back-Up Vents must not be installed in an area classification for which it is not rated and must be protected from temperature extremes and potentially high vibration. All Back-Up Vents from Purge Solutions, Inc. should not be mounted in an area with potentially high vibration. All Back-Up Vents from Purge Solutions, Inc. must be attached securely and appropriately at its final installation as instructed in this manual.

Section 2

Specifications

Features and Certifications

Back-Up Vents are certified for installation and use in ATEX and IECEx when used with Purge Solutions, Inc. Type X, Y and Z Purge Systems for
II 2 G Ex e IIC Gb, Gas Hazardous Areas

II 2 D Ex tb IIIC Db IP66, Dust Hazardous Areas

ATEX Certificate Number = DNV 09 ATEX 48607X

IECEx Certificate Number = IECEx DNV 09.0001X

Standards = IEC / EN 60079-0, IEC / EN 60079-2, IEC / EN 60079-7,
IEC / EN 60079-11, IEC / EN 60079-18 and IEC / EN 60079-31

Back-Up Vents are certified for installation and use to CEC, NEC and NFPA when used with Purge Solutions, Inc. Type X, Y and Z Purge Systems for
Class I, Division 1, Group A, B, C & D, T6, Gas Hazardous Areas
Class II, Division 1, Group E, F & G, T6, Dust Hazardous Areas

Normal Operating Conditions

Back-Up Vent Cracking /
Opening Pressure

Between 0.8 to 1.0 Inch H₂O (2.0 to 2.5 mbar)

Back-Up Vent Mounting
Orientation

Can be mounted vertical on top, left or right side of enclosure.



WARNING: To help avoid damage to Type X, Y or Z Purge and Pressurization System; maximum protective gas overpressure inside enclosure should not be more than 5 psig (0.35 bar).

Utility Requirements

Maximum Protective Gas Supply
Pressure to Pressure Regulator

150 psig (10.3 bar)

(Certification maximum pressure rating)

Minimum Protective Gas Supply
Pressure to Pressure Regulator

20 psig (1.4 bar) **(Suggested to compensate
for enclosure leak rate.)**

Protective Gas Supply Quality

Water and oil-free, - 40°F (- 40°C) dew point,
particles ≤ 5μ, ISA grade hydrocarbon free

Environmental Conditions	
Operating Temperature Range	- 40°F to 150°F (- 40°C to 65°C)
Storage Temperature Range	- 58°F to 167°F (- 50°C to 75°C)
Used and Mounted	For Indoor and Outdoor Use
Ingress Protection	NEMA 4X (IP66)

Material Specifications	
Covers, Bodies, Fasteners and Fittings	Anodized Aluminum or 316 Stainless Steel
O-Rings or Gaskets	EPDM



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.*

Back-Up Vent Model Number Matrix				
Size	Mounting	Material	Weight	Model Number
Small	Top Mount	Anodized Aluminum	1.3 lbs. (0.6 kg)	PSO-SBUV-TA
Small	Top Mount	316 Stainless Steel	2.4 lbs. (1.1 kg)	PSO-SBUV-TS
Medium	Top Mount	Anodized Aluminum	2.3 lbs. (1.0 kg)	PSO-MBUV-TA
Medium	Top Mount	316 Stainless Steel	4.0 lbs. (1.8 kg)	PSO-MBUV-TS
Large	Top Mount	Anodized Aluminum	4.9 lbs. (2.2 kg)	PSO-LBUV-TA
Large	Top Mount	316 Stainless Steel	11.8 lbs. (5.4 kg)	PSO-LBUV-TS
Small	Side Mount	Anodized Aluminum	1.3 lbs. (0.6 kg)	PSO-SBUV-SA
Small	Side Mount	316 Stainless Steel	2.4 lbs. (1.1 kg)	PSO-SBUV-SS
Medium	Side Mount	Anodized Aluminum	2.3 lbs. (1.0 kg)	PSO-MBUV-SA
Medium	Side Mount	316 Stainless Steel	4.0 lbs. (1.8 kg)	PSO-MBUV-SS
Large	Side Mount	Anodized Aluminum	4.9 lbs. (2.2 kg)	PSO-LBUV-SA
Large	Side Mount	316 Stainless Steel	11.8 lbs. (5.4 kg)	PSO-LBUV-SS

Section 3

Introduction

Description:

For installations that require a back-up pressure relief vent for the purged and pressurized enclosures, Purge Solutions, Inc. offers three sizes of back-up pressure relief vents; Small Back-Up Vents, Medium Back-Up Vents and Large Back-Up Vents. All three Back-Up Vents are constructed with an option of mounting on the top or sides of an enclosure and comes with all mounting hardware.



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

Back-Up Vents Installation Procedure:

Review all of the material in this manual prior to installing and interfacing the Back-Up Vent to the enclosure. If you have any questions, please contact your local Purge Solutions, Inc. representative or the factory (refer Getting Help page 16). Refer to Small Back-Up Vent Side Mount, drawing number PSO-SBUV-S (page 10) or Small Back-Up Vent Top Mount, drawing number PSO-SBUV-T (page 11) or Medium Back-Up Vent Side Mount, drawing number PSO-MBUV-S (page 12) or Medium Back-Up Vent Top Mount, drawing number PSO-MBUV-T (page 13) or Large Back-Up Vent Side Mount, drawing number PSO-LBUV-S (page 14) or Large Back-Up Vent Top Mount, drawing number PSO-LBUV-T (page 15) for over all back up vent dimensions, hole sizes and locations required to interface and mount unit to enclosure.

Step 1:

Make sure that area surrounding the enclosure the Back-Up Vent 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 Vent will be installed.

Step 3:

Choose a mounting location for the Back-Up Vent on the enclosure in a location farthest from the purge supply gas inlet into the enclosure as specified in the type X, Y or Z purge unit IOM Manual for lighter or heavier than air hazardous material for single or multiple enclosure application.

Step 4:

Drill or punch hole, per the sizes specified on drawing numbers PSO-SBUV-S, page 10 or PSO-SBUV-T, page 11 or PSO-MBUV-S, page 12 or PSO-MBUV-T, page 13 or PSO-LBUV-S, page 14 or PSO-LBUV-T, page 15.

Step 5:

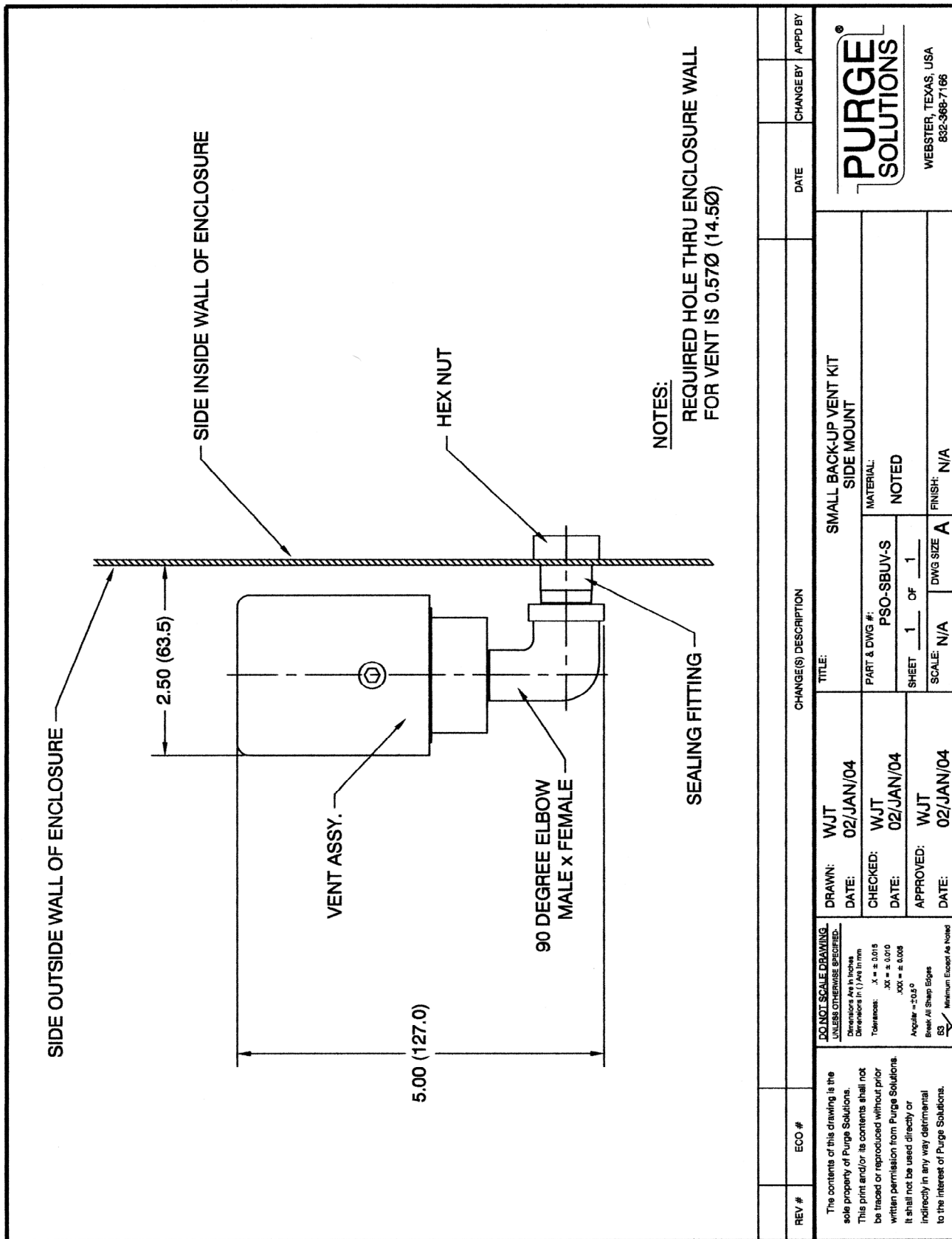
After required hole size has been drilled or punched into enclosure, align the Back-Up Vent to the mounting hole fabricated in Step 5.

Step 6:

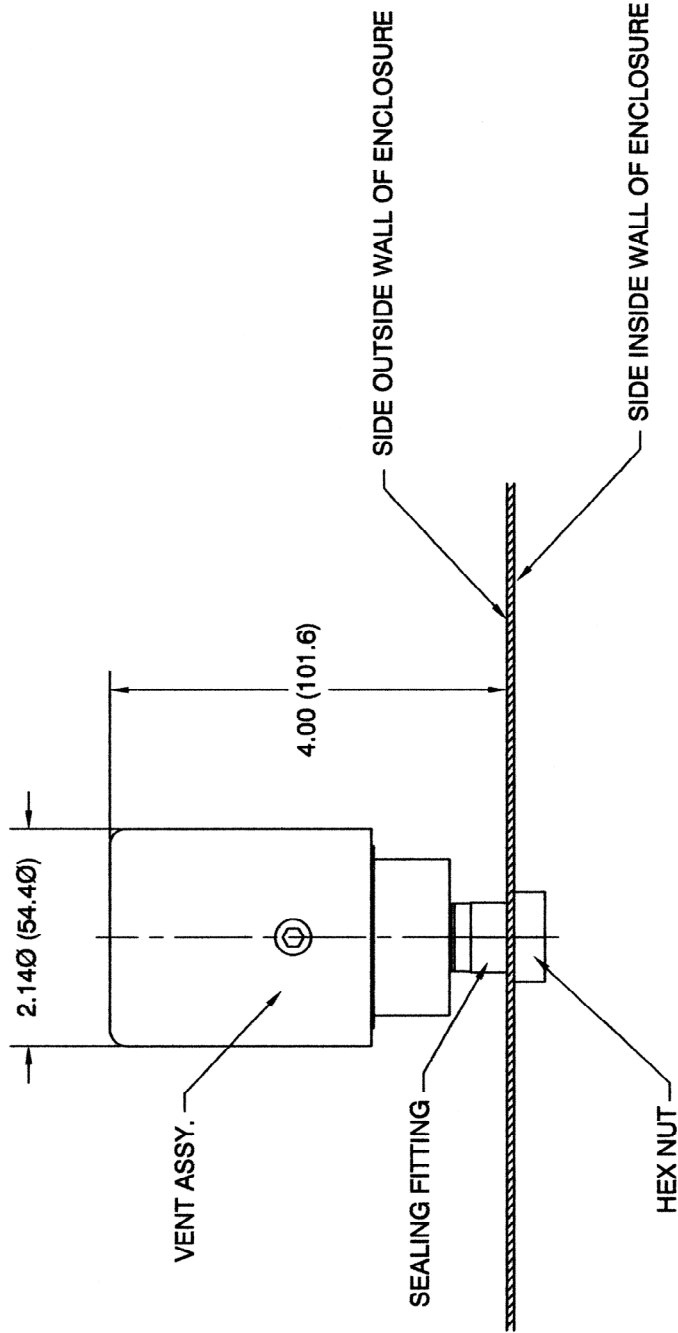
Using the jam nut provided with the unit, mount the Back-Up Vent to enclosure. Tighten jam nut until the O-ring seal is completely compressed against the surface of the enclosure.

Step 7:

After the Back-Up Vent jam nut have been properly tightened, the Back-Up Vent is ready to protect the enclosure from overpressure.

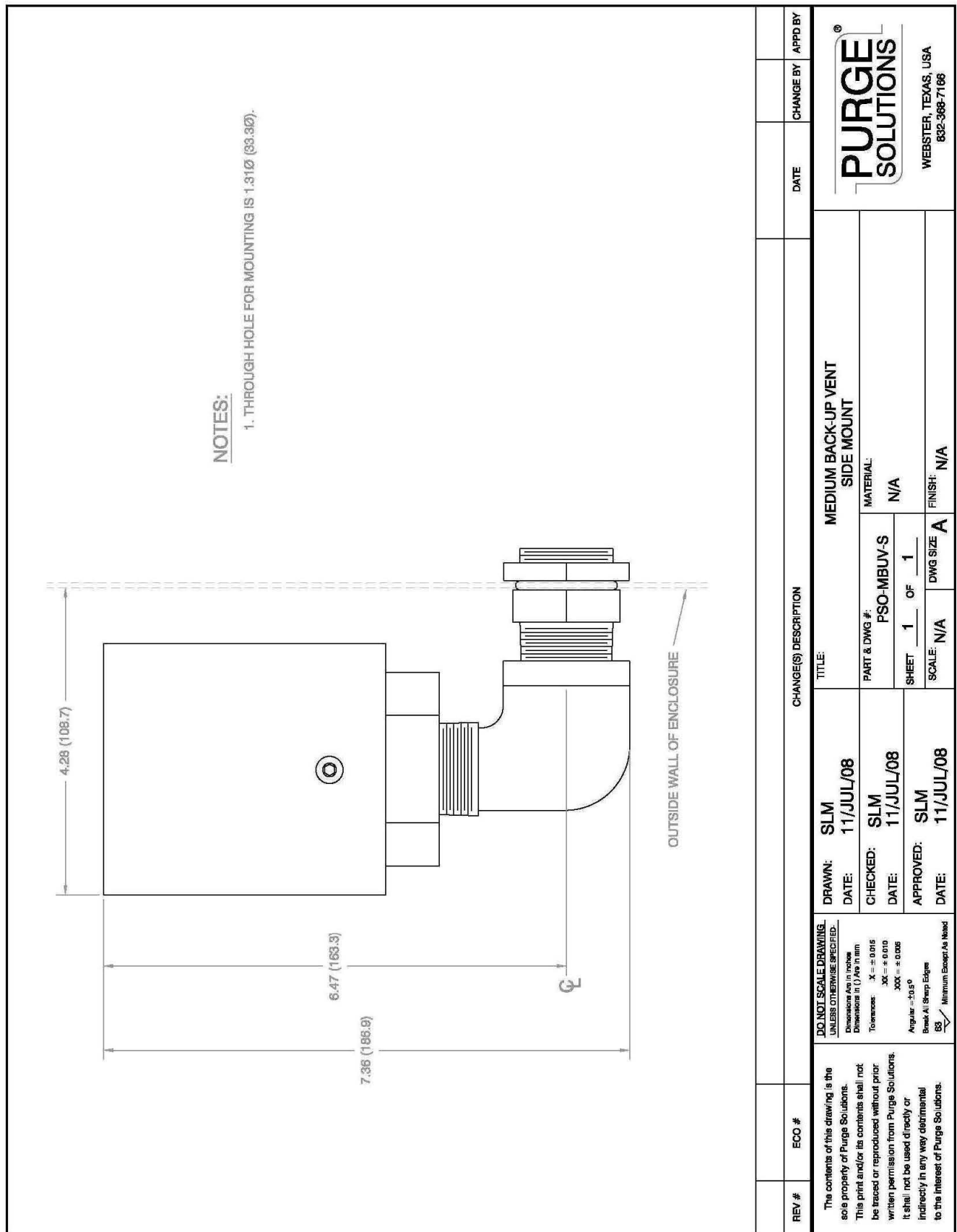


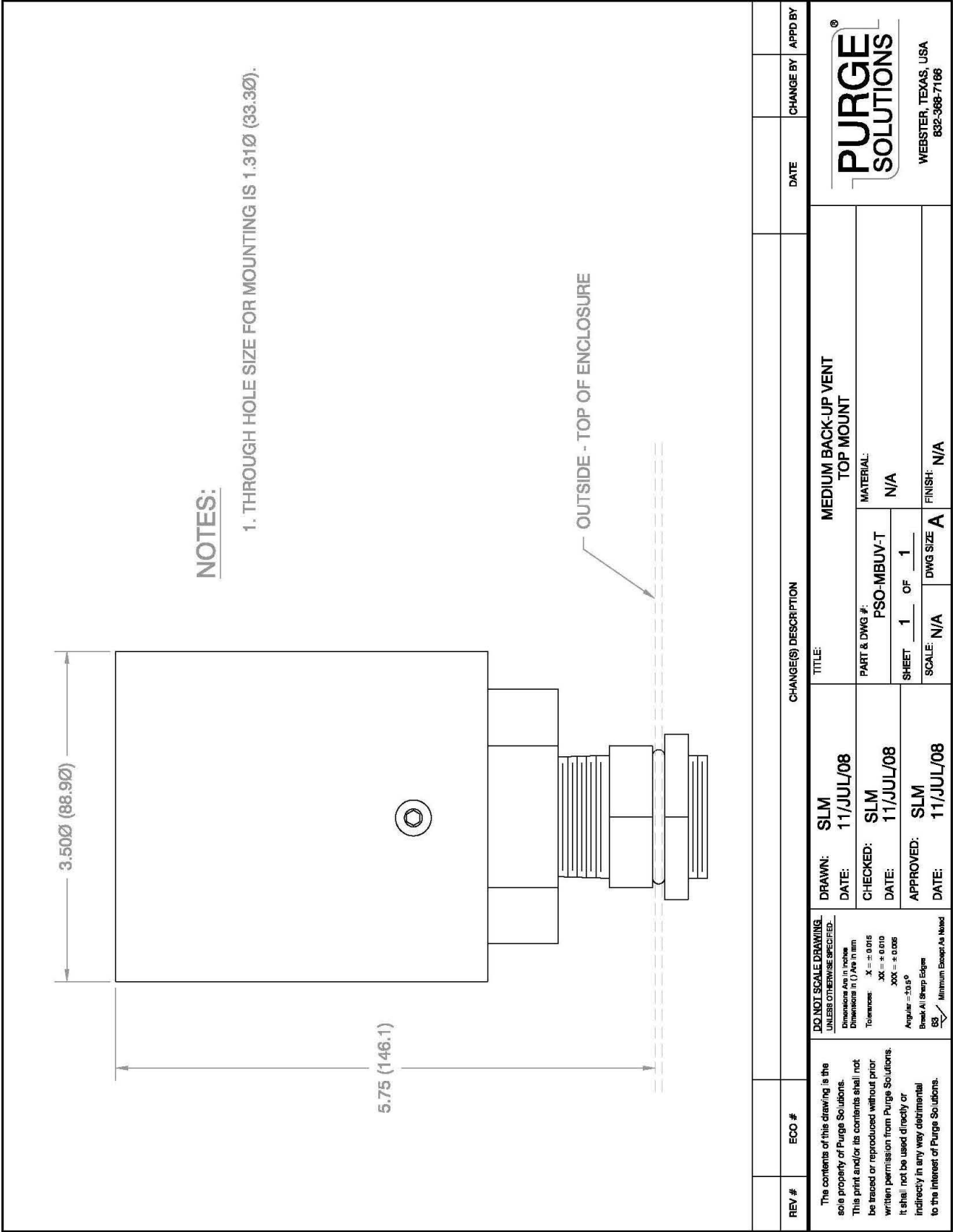
REV #	ECO #	CHANGE(S) DESCRIPTION			DATE	CHANGE BY	APPD BY
<p>The contents of this drawing is the sole property of Purge Solutions. This print and/or its contents shall not be traced or reproduced without prior written permission from Purge Solutions. It shall not be used directly or indirectly in any way detrimental to the interest of Purge Solutions.</p>		<p><u>DO NOT SCALE DRAWING</u> <u>UNLESS OTHERWISE SPECIFIED:</u> Dimensions Are in Inches Converted in 1/4th Inches Tolerances: .X = ± 0.015 .XX = ± 0.010 .XXX = ± 0.005 Angular = 50.0° Break All Sharp Edges ES Minimum Except As Noted</p>		<p>TITLE:</p>		<p>PURGE SOLUTIONS® WEBSTER, TEXAS, USA 832-368-7166</p>	
		<p>DRAWN: WJT DATE: 02/JAN/04</p>	<p>SMALL BACK-UP VENT KIT SIDE MOUNT</p>				
		<p>CHECKED: WJT DATE: 02/JAN/04</p>	<p>PART & DWG #: PSO-SBUV-S</p>	<p>MATERIAL: NOTED</p>			
		<p>APPROVED: WJT DATE: 02/JAN/04</p>	<p>SHEET 1 OF 1</p>	<p>FINISH: N/A</p>			
		<p>SCALE: N/A DWG SIZE A</p>					

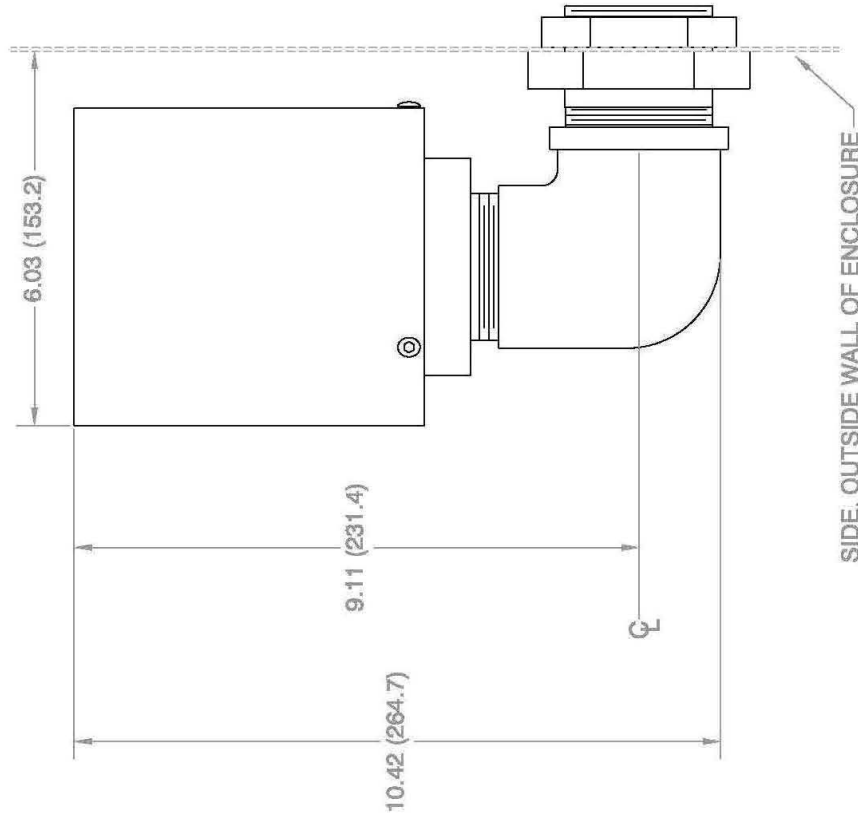


NOTES:
REQUIRED HOLE THRU ENCLOSURE WALL
FOR VENT IS 0.570 (14.50)

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NOTES:

1. REQUIRED HOLE THRU ENCLOSURE
WALL FOR VENT IS 2.38Ø (60.5Ø)

REV #	ECO #	CHANGE(S) DESCRIPTION	DATE	CHANGE BY	APPD BY
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		<p>DRAWN: WJT DATE: 16/OCT/09</p>		<p>TITLE: LARGE BACK-UP VENT SIDE MOUNT</p>	
		<p>CHECKED: WJT DATE: 16/OCT/09</p>		<p>PART & DWG #: PSO-LBUV-S</p>	
		<p>APPROVED: WJT DATE: 16/OCT/09</p>		<p>MATERIAL: 316 STAINLESS STEEL</p>	
				<p>FINISH: N/A</p>	
		<p>SHEET 1 OF 1</p>		<p>DWG SIZE A</p>	
		<p>SCALE: N/A</p>			
<p>PURGE SOLUTIONS® WEBSTER, TEXAS, USA 832-368-7166</p>					

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.