



Confined Space Ventilation Safety

The Saddle Vent® Non-Hazardous Locations

Issue: Performing work in a confined space, like a chemical storage tank, grain silo, or oil barge, requires that continuous fresh air ventilation be supplied to the workers in order to stabilize the atmosphere from harmful or toxic gases. Traditional methods of ventilation have a fan or blower placed outside the confined space with an attached piece of 8" flexible ducting attached and placed in the confined space. This ducting becomes a hazard to the workers by restricting their entry and egress, blocks ambient light, and removing the fresh air duct during egress is potentially harmful to the remaining confined space workers.



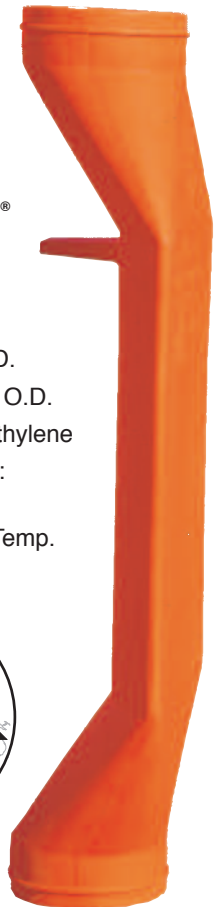
Application: The Saddle Vent® device was developed to overcome the traditional ventilation hazard of obstructing the opening of a confined space. The Saddle Vent® is not only a safety device, but increases worker productivity by eliminating the need to remove the fresh air ventilation duct during occupancy of a confined space. The device sits in the opening of a confined space, either in the vertical or horizontal position depending on the type of tank or structure, and an 8" flexible duct is attached to both ends of the Saddle Vent®. The device takes up approximately 3" of the opening while allowing easy access to the confined space workspace, delivering fresh air through the Saddle Vent® and attached ducting to the confined space.

Recommendation: Non-Hazardous Locations - The non-hazardous location Saddle Vent® is available in standard polyethylene for workers in non-hazardous locations or in conductive polyethylene for work in hazardous locations. Each unit has an optional 90° elbow that attaches with a friction fit to the top of the Saddle Vent® and can be angled to any position away from the confined space opening. Each standard or conductive Saddle Vent® is available in a convenient Saddle Vent® Ventilation Accessory Kit for use with existing 8" fans or blowers; these kits contain 2 sections of ducting, a Saddle Vent®, a 90° elbow, and universal mount. In addition, Air Systems manufactures a full line of portable fans and blowers that can be purchased individually or as a complete Confined Space Ventilation Kit that includes a fan / blower and either a standard or conductive Saddle Vent® Ventilation Accessory Kit.



SV-189 Saddle Vent®

- Length: 43.5"
- Width: 14.5"
- Depth: 3.5"
- Top Opening: 8" O.D.
- Bottom Opening: 8" O.D.
- Construction: Polyethylene
- Temperature Rating:
+250°F Melt Temp.
- 158°F Brittleness Temp.



The Saddle Vent®

| Description | ASI Item # |
|---|------------|
| The Original Saddle Vent® - Orange | SV-189 |
| Tank Saddle Vent® designed to fit oval shipboard hatches - Gray | SV-189T |
| Universal Saddle Vent® mounting bracket | SV-UM |



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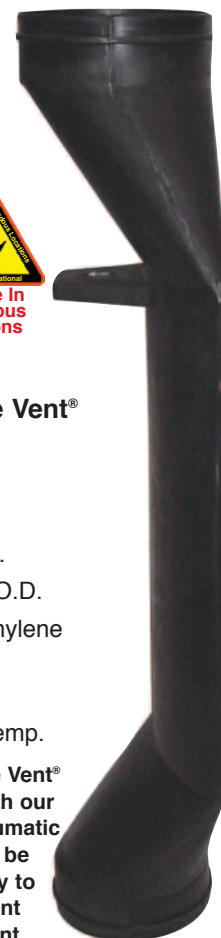
The Conductive Saddle Vent® Hazardous Locations

Recommendation: Hazardous Locations - If a confined space is known to be hazardous or potentially hazardous, recommended that the Conductive Saddle Vent® Ventilation System is used. Properly ground the entire ventilation system and remove the potential build-up of static electricity which can cause ignition and explosion of hazardous gases and dusts. All of Air Systems' explosion-proof electric fans and blower ventilation kits are supplied with the Conductive Saddle Vent® Ventilation Kit. Read and follow the Conductive Saddle Vent® Set Up Procedure listed below. This patented ventilation system is the only method on the market today that allows you to fully test your entire ventilation system and assure that your system will safely remove potential static electricity hazards.



Patents:

United States Patents #6,843,274
#7,467,645
#7,992,593 B2
Canadian Patents #2,561,299
#2,436,809
China Patent ZL200480017833.3
Hong Kong Patent HK1094023
European Patents #1491695
Australian Patent 2004 202394



The Conductive Saddle Vent® System Set Up Procedure

Step 1) Select an electric explosion-proof or pneumatic 8" blower with an installed metal grounding lug.

Step 2) Read and follow recommended work procedures found in ANSI/API 2015 and 2016 prior to entering a tank or confined space.

Step 3) Use only conductive 8" ducting supplied with a continuous metal helix and a static ground wire connected to the helix. The ground wire is connected to the metal ground lug on the blower (See Pic. 1).

Step 4) Attach the conductive elbow to the top of the black Conductive Saddle Vent® (see Pic. 2) and attach the ground wire from the duct to the elbow. If no elbow is used, an alternate ground lug is provided on the top of the Conductive Saddle Vent®.

Step 5) Attach conductive duct to the base of the Conductive Saddle Vent® and attach the ground wire to the Conductive Saddle Vent®.

Step 6) Test the ventilation set-up for conductivity prior to starting ventilation. Use a volt/ohm meter set to read ohms in "thousands". Attach a lead from the meter to the farthest end of the duct's grounding wire and the other lead touching the ground lug on the blower. A reading less than 500K ohms will assure a good ground is achieved to allow any static charges to flow toward the grounded source (See Pic. 3). Pneumatic blowers should have a ground wire run from the blower to a grounded source.

Step 7) The ventilation system is now ready for use. Place the duct and Conductive Saddle Vent® system in the manhole and secure with the universal mount. Follow the "Typical Saddle Vent® set-up procedure found in your blower's instruction manual.



SV-189CND Conductive Saddle Vent®

Length: 43.5"
Width: 14.5"
Depth: 3.5"
Top Opening: 8" O.D.
Bottom Opening: 8" O.D.
Construction: Polyethylene
Temperature Rating:
+250°F Melt Temp.
- 158°F Brittleness Temp.

The Conductive Saddle Vent® System is supplied with our explosion-proof & pneumatic blower kits or it can be purchased separately to upgrade your current ventilation equipment.

The Conductive Saddle Vent®

| Description | ASI Item # |
|---|------------|
| The Conductive Saddle Vent® - Black | SV-189CND |
| Universal Saddle Vent® mounting bracket | SV-UM |

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For work in hazardous locations, read and follow recommended work procedures found in ANSI/API 2015 and 2016 prior to entering a tank or confined space.

Saddle Vent® is a Registered Trademark of Air Systems International, Inc.